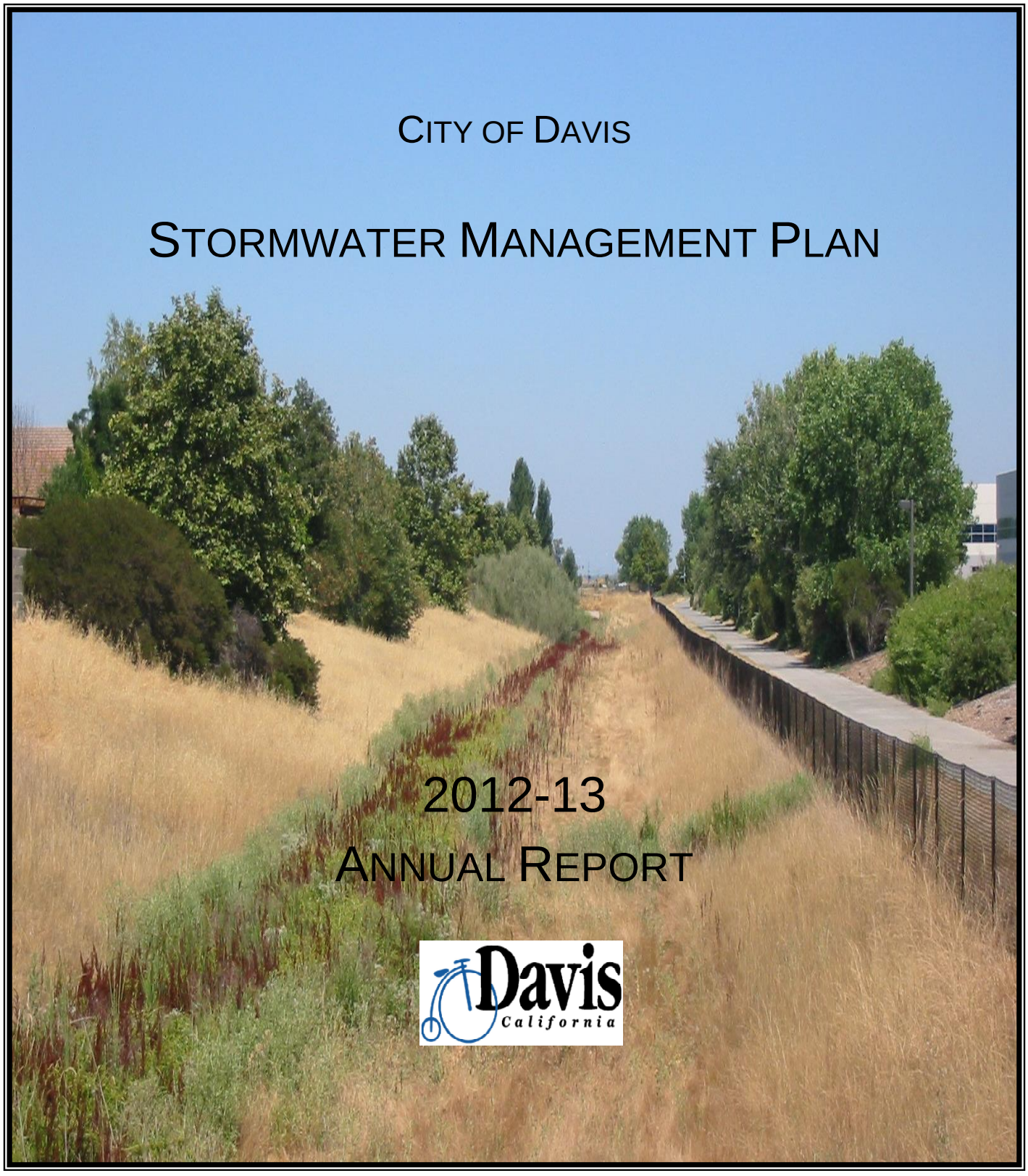

CITY OF DAVIS

STORMWATER MANAGEMENT PLAN

2012-13

ANNUAL REPORT

Davis
California

PERMITTEE INFORMATION

Municipality:	City of Davis
WDID#:	5A57NP00012
Contact Person:	Rhys Rowland, Environmental Program Specialist
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Report Period: July 1, 2012 through to June 30, 2013

Certification by Permittee – Stan Gryczko, Wastewater Treatment Plant Superintendent

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature

9/16/13

Date Signed

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Executive Summary

The City of Davis (City) developed a Stormwater Management Plan (SWMP) to address stormwater quality within the City's jurisdiction. The SWMP represents the five-year strategy for controlling the discharge of pollutants from the municipal storm drain system to the maximum extent practicable (MEP). This Annual Report provides a status of implementation of the City's SWMP and reports activities performed from July 1, 2012 through June 30, 2013.

Several of the City's services result in protecting stormwater quality; however, federal regulations have made this program a requirement. California initiated the second phase of municipal stormwater protection with the issuance of the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (Small MS4). In March 2003, the City submitted a Notice of Intent and a draft SWMP to the Central Valley Regional Water Quality Control Board (RWQCB). The SWMP was updated and resubmitted in September 2006. The SWMP is the City's plan and commitment to managing properties, facilities, and operations within its jurisdiction to protect water resources and comply with the General Permit. The Board deemed the City's SWMP to be adequate and ruled the City to have Small MS4 NPDES Permit (MS4 Permit) coverage in February of 2007.

Many of the City's existing environmental programs and activities have been incorporated into the SWMP as Program Elements. The City's SWMP is comprised of seven Program Elements with corresponding specific goals:

1. **Commercial and Industrial** – Inventories and identifies opportunities for outreach to reduce and control pollutants associated with business activities.
2. **Illicit Discharges** – Establishes a program to identify, reduce, and eliminate illicit discharge to the stormwater sewer system.
3. **Construction Activities** – Establishes controls to identify, reduce, and eliminate pollutants during construction activities.
4. **New Development and Redevelopment** – Identifies opportunities for the installation of permanent stormwater Best Management Practices (BMPs) in new development and redevelopment projects.
5. **Municipal Operations** – Improves and identifies in municipal operations at City facilities and in maintenance practices to reduce pollutant accumulation and discharge into the stormwater sewer system.
6. **Public Education, Outreach, and Participation** – Educates the general population and businesses about stormwater quality, recommend pollution prevention measures that can be implemented, and provides opportunities for public input in the development and implementation of the SWMP.
7. **Public Agency Legal Authority** – Describes the maintenance of adequate legal authority for enforcing requirements of the permit and the SWMP.

Each of the Program Element has corresponding Control Measures (See Table 1 in the Introduction Section). The Control Measure is a brief description of the activities, sources, or pollutants to be addressed. Each Control Measure includes the following:

- Description: A brief description of the activities, sources, or pollutants to be addressed by the Control Measure.
- Existing BMPs and Related Activities: Current activities being conducted by the City that address reducing or eliminating pollutants in urban stormwater runoff.
- Measurable Goals: Current and future activities conducted by the City to comply with the stormwater regulations. Activities include reviewing or developing documents or procedures, providing training, revising schedules, eliminating practices, and may be conducted or implemented by one or more of the City's departments.

- Assessment Tasks: Tasks to be conducted to help assess the effectiveness of the Control Measure to reduce pollutants in urban runoff. Many Assessment Tasks require the collection of data and records that may not directly relate to pollutant reduction in urban runoff. These Assessment Tasks address a qualitative approach to demonstrating pollutant reduction by verifying the good faith effort of the City to reduce or eliminate sources of pollutants in runoff through program implementation.
- Program Effectiveness Assessment Summary: The City assessed program effectiveness by summarizing 2012-2013 accomplishments by the outcome level achieved. The City utilized a modified version of the approach developed by the California Stormwater Quality Association (CASQA).
- Responsibility and Timeline: A timeline and the Departments or positions responsible for implementing the Control Measure are identified.

Considered together, the Program Elements, with Control Measures, form a comprehensive programmatic framework that is designed to reduce pollutants in stormwater to the maximum extent practicable. Full implementation of the SWMP will be a long-term evolutionary process. The City continues to implement the SWMP and to monitor program effectiveness with the annual assessment of the program. The Annual Report serves as the vehicle to communicate the effectiveness of the City's program and initiate appropriate changes in the SWMP as necessary to address areas of identifiable deficiency.

Section 1.0 - Introduction

1.1 BACKGROUND

The City is an incorporated municipality in Yolo County located 15 miles west of Sacramento on Interstate 80 and adjacent to the University of California, Davis. It is a developed, university-oriented community surrounded by farmland, preserves, and greenbelts. The City's jurisdiction covers 9.8 square miles. The 2010 US census data shows that 65,622 people reside in the City, including the transient college population.

The 2006 approved SWMP is a five-year strategy to address a wide variety of activities that affect stormwater quality within the City jurisdiction and portions of the University of California Davis Campus.

1.1.1 Storm Drain System and Receiving Waters

The City's storm drain system is divided into 11 basins (**Figure 1-1**). Stormwater runoff sheet flows to the stormwater sewer system and is directed to detention basins or nearby drainage channels. Detention basin pump stations lift water from these facilities into regional and vegetated drainage channels. These channels consist of Covell, Mace Ranch Park, and El Macero Drainage Channels, and Channel A. These channels ultimately flow to the Yolo Bypass. A portion of the runoff is lifted from Channel A and directed to the City of Davis Restoration Treatment Wetlands.

The Willow Slough Bypass consists predominately of runoff from agricultural lands to the north of the City during the rainy season and tail waters during the irrigation season.

The Yolo Bypass, the main receiving water body, has several designated beneficial uses including irrigation, stock watering, contact and non-contact water recreation, warm freshwater habitat, warm and cold-water fisheries migration, warm water spawning, and wildlife habitat. Other local areas that provide habitat value include: marshy wetlands in slough channels; irrigation and drainage ditches; riparian woodlands along the North and South Forks of Putah Creek; the old channel of Willow Slough; parts of Dry Slough; and the City's detention ponds and the City of Davis Restoration Treatment Wetlands.

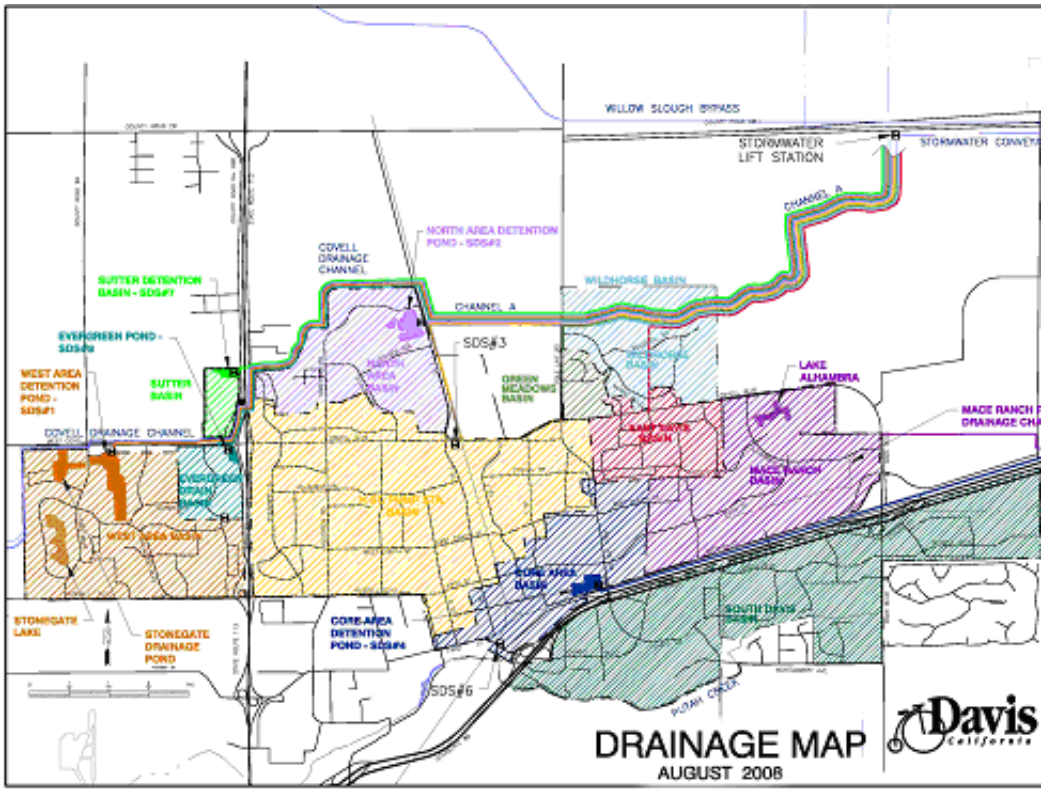


Figure 1-1 City of Davis Jurisdictional Boundary

1.2 ELEMENTS AND ORGANIZATION OF THE PROGRAM

The City's SWMP is a comprehensive environmental program that addresses a wide range of activities and builds upon existing programs and activities. Various City Departments cooperate in implementing different parts of the SWMP under their control. Each of the seven Program Elements contains various Control Measures. Each Control Measure consists of a series of Measureable Goals. Measurable Goals are intended to modify or develop new Best Management Practices (BMPs) and are designed to address regulatory requirements or sources of pollutants that are not adequately addressed through existing activities. BMPs are the standard acceptable practices for controlling, preventing, reducing, or removing pollutants in stormwater. Assessment Tasks for each Control Measure are identified to document the progress of implementation and to measure the effectiveness of implemented BMPs. A table to track the progress of the SWMP has been included and a table of the CASQA assessment factors is included at the end of each Program Element.

Table 1-1 provides the Program Element and the associated Control measure as found in the City's 2010-11 Annual Report.

Table 1-1 The Seven Program Elements and Corresponding Control Measures

Program Element	Control Measure	Control Measure Title
Commercial and Industrial Program	CI1	Business Outreach and Recognition Program
Illicit Discharges Program	ID1	Detection, Elimination, and Training
Construction Activities Program	CA1	Land Development Plan Review Process
	CA2	Erosion and Sediment Control
	CA3	Construction Site Inspection Program
	CA4	Municipal Construction Projects – Contractor Requirements
New Development / Redevelopment Program	NDR1	Private land Development Plan Review Process
	NDR2	Permanent Stormwater BMPs for Municipal Construction Projects
Municipal Operations Program	MO1	Employee Education and Training Program
	MO2	Public Infrastructure Operation, Repair, and Maintenance
	MO3	Green Waste Management
	MO4	Corporation Yard and Fleet Maintenance
	MO5	Parks and Open Space Maintenance
Public Education, Outreach and Participation Program	PEOP1	Residential, Business, and Construction Education and Outreach
	PEOP2	Public Participation Program
Public Agency Legal Authority	PALA1	General Plan Action Items
	PALA2	Legal Authorities

The general purpose of each program element is as follows:

1. **Commercial and Industrial** – Inventories and identifies opportunities for outreach to reduce and control pollutants associated with business activities.
2. **Illicit Discharges** – Establishes a program to identify, reduce, and eliminate illicit discharge to the stormwater sewer system.
3. **Construction Activities** – Establishes controls to identify, reduce, and eliminate pollutants during construction activities.
4. **New Development and Redevelopment** – Identifies opportunities for the installation of permanent stormwater Best Management Practices (BMPs) in new development and redevelopment projects.
5. **Municipal Operations** – Improves and identifies in municipal operations at City facilities and in maintenance practices to reduce pollutant accumulation and discharge into the stormwater sewer system.

6. **Public Education, Outreach, and Participation** – Educates the general population and businesses about stormwater quality, recommend pollution prevention measures that can be implemented, and provides opportunities for public input in the development and implementation of the SWMP.
7. **Public Agency Legal Authority** – Describes the maintenance of adequate legal authority for enforcing requirements of the permit and the SWMP.

City departments are charged with the implementation of various tasks outlined in the SWMP. Many of these SWMP tasks are complimentary to ongoing City programs and efforts. The SWMP provides language that places administrative responsibility to implement the SWMP with the SWMP Administrator position. Formerly, the position of the Environmental Compliance Coordinator (ECC) held the responsibilities of the SWMP Administrator in addition to other broader responsibilities. The ECC position has been vacant since September 2008. The SWMP Coordinator's responsibilities are now the responsibility of the Wastewater Treatment Plant Superintendent. The Wastewater Treatment Plant Superintendent has an Environmental Program Specialist on his staff that is charged with implementing the SWMP. Several other Environmental Programs exist within the City organizational structure and assist with some of the SWMP program activities. Environmental Program staff continues to oversee the implementation of Control Measures and related activities, evaluate their effectiveness, and strive to improve the program.

1.3 ANNUAL REPORT FORMAT

This report includes the following information:

- Evaluation of the SWMP's overall effectiveness and assessment of appropriateness of BMPs identified.
- Status of compliance with permit conditions and progress towards achieving Measurable Goals.
- Update on the City's coordination and implementation of other watershed-based management actions (e.g. partnerships with other programs).
- Identify program modifications.

The Annual Report is organized into the following sections to address the major components of the SWMP:

Section 1: Provides background information on the City and the SWMP.

Section 2: Describes activities conducted under each of the seven Program Elements and corresponding Control Measures implemented during 2012-13. Each Program Element consists of the following:

- An overview of the existing BMPs and related activities
- Control Measures and corresponding Measurable Goals with the progress the City has made towards each of these goals
- Assessment tasks to be conducted to help assess the effectiveness of the Control Measure to reduce pollutants in urban runoff. Many Assessment Tasks require the collection of data and records that may not directly relate to pollutant reduction in urban runoff. These Assessment Tasks address a qualitative approach to demonstrating pollutant reduction by verifying the good faith effort of the City to reduce or eliminate sources of pollutants in runoff through program implementation.
- The City assessed program effectiveness by summarizing 2012-2013 accomplishments by the outcome level achieved. The City utilized a modified version of the Program Effectiveness Assessment (PEA) approach developed by the California Stormwater Quality Association (CASQA). Pursuant to the 2007 CASQA guidance, outcomes for stormwater programs have been categorized into six levels as shown in **Figure 1-2**. The City evaluated its measurable goals within the first four levels. The fifth and sixth levels (Improving Runoff Quality and Protecting Receiving Water Quality, respectively) were not evaluated since the City has not and is not required to collect water quality monitoring data since it was conducted between 1994 and 1998 to help establish the foundation for the SWMP.

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

Figure 1-2 Effectiveness Assessment Outcome Levels

- Proposed modifications to the SWMP are identified to better tailor the plan to changes in the City and BMP technologies and methods for achieving the goals.
- A timeline and the Departments or positions responsible for implementing the Control Measure are identified.

The City utilizes the Program Element's assessments to develop program modifications. Implementation of these modifications will occur unless otherwise directed by the Regional Water Quality Control Board.

Section 3: Describes SWMP funding and responsibilities.

Section 4: Presents an overall SWMP assessment.

Section 2 – Program Elements

Section 2.1 - Commercial and Industrial Program

City of Davis

Partners for a Greener Davis Program

Certificate of Partnership

2009

Business Name

This business has voluntarily committed to making environmentally responsible choices and to operate their business in the most environmentally friendly way possible in order to reduce waste, save resources, prevent pollution and reduce greenhouse gas emissions.

PFGD Program Coordiantor, City of Davis

Date

Davis California

Printed on recycled content paper

"Partners for a Greener Davis" Program Certificate

Section 2.1 - Commercial and Industrial Program

2.1.1 OVERVIEW

Runoff from commercial and industrial areas of the City may contain silt, heavy metals, petroleum hydrocarbons, and pesticides associated with vehicular and business activities. Some of the commercial and industrial activities include material and waste handling, equipment and facility washing and maintenance, and spill response. The control measure and tasks in this section address controlling pollutants associated with these types of activities.

2.1.2 CONTROL MEASURES

The City's control measure and accompanying measureable goals ensure that the Commercial and Industrial Program requirements are effective and appropriately implemented. For each control measure there are accompanying measureable goals which, once accomplished, constitute compliance with the Permit requirements.

The Commercial and Industrial Program control measures consists of the following:

CI	Control Measure
CI1	Business Outreach and Recognition

The next section of this report provides information on the specific tasks of the measurable goals and implementation schedules that have been initiated and/or completed for the Commercial and Industrial Program during 2012-13.

2.1.3 C11 – BUSINESS OUTREACH AND RECOGNITION

This Control Measure specifies that the City will utilize the business license application process to identify new businesses that may be sources of stormwater pollutants. Implement the business outreach program.

The Business Outreach and Recognition program works to reduce the impacts of stormwater quality by providing informational resources and an incentive program to encourage businesses to implement source control BMPs. Existing BMPs and related activities to this Control Measure are the following:

- The Finance Department supplies new businesses with a Going into Business Agency Contact List that identifies the various agencies that may have regulatory or other legal controls over their business activity.
- The Finance Department distributes a list of the new business licenses issued during the previous month to all City departments while maintaining a database of all active business licenses.
- Partner's for a Cleaner Davis was initiated in 1997 and was reintroduced as Partners for Greener Davis in September 2009 to address multiple environmental facets for which the Public Works Department provides a service. The program was redesigned to increase the business community's awareness of not only pollution prevention, but also source control, recycling, and urban wildlife management. The program changes help to provide a measurement within each of the areas the City is work towards to promote sustainability within the community.
- The City participates in the annual regional "May is Bike Month" promotion events, including a hosting of a Bike-to Work Day (mid-May) with a free breakfast for bicycle commuters.

2.1.3.1 Measureable Goals

Measurable Goal 1: Include Environmental Program staff on the distribution list identifying new business licensees.

Environmental Program staff continue to receive monthly updates of new business licenses. The City issued or renewed 146 new business licenses during the report period.

Measurable Goal 2: Identify industries required to be covered by the State's General Permit for Industrial Activities and provide outreach to assist them in complying with State requirements.

For 2012-13, no new businesses were identified for coverage under the Industrial Activities General Permit. The City will continue to review the list of new and revised industries and provide comments regarding permit compliance. The City reviewed 146 businesses licenses applications from July 1, 2012 to June 30, 2013. The City investigated and consulted with the Regional Board regarding one business which completed construction and began operations. With Regional Board help, it was determined their SIC code did not qualify the facility for coverage under the Industrial General Permit.

The City maintains a web link for the new State Industrial General Permit to help increase awareness of the permit. The link can be found in the "What's New?" section of the page.

http://archive.cityofdavis.org/pw/stormwater/

Measurable Goal 3: Revise the *Going into Business Agency Contact List* to include the Environmental Compliance staff, and the City's administrator of the Partners for a Greener Davis Program.

In 2009, the City revised the *Going into Business Agency Contact List* to include the appropriate City staff for environmental compliance including stormwater within the Public Works Department. The contact information puts the caller in contact with our Public Works administrative help, who have been instructed where to route calls related to stormwater. The Partners for a Greener Davis program, active since September 2009 was added to the list as well. The list is made available to each business license applicant.

The list identifies the City's "Pretreatment and Stormwater Controls" programs and can be downloaded through the following weblink:

http://administrative-services.cityofdavis.org/fiscal-services/business-licenses/going-into-business-agency-contact-list

Measurable Goal 4: Continue to implement the Partners for a Greener Davis program.

The City continues to implement the Partners for a Greener Davis program (Partners program).

The program's staff comes from the Public Outreach Group (POG) within the Public Works Department. The POG meets on a regular basis to provide oversight of the Partners program. A major accomplishment of the Partners program is the development of a series of BMP checklists. These checklists indicate Partner requirements and assist businesses in determining actions necessary to achieve Partner status. Individual checklists were completed for different types of businesses such as retail/office, auto service, food service establishments, motels/hotels, medical/dental and light industrial uses. The weblink for the Partners for a Greener Davis was developed and placed on the City's Public Works webpage in September 2009. The BMP checklists and information pamphlet can be downloaded from the Partners for a Greener Davis website.

http://public-works.cityofdavis.org/stormwater/partners-for-a-greener-davis

Additionally, during the first year, the City awarded Partner status to two retail/office businesses and in year two four more business locations signed up for the program. In year three, three more businesses signed up for the program. None were added in this report period. The City has a total of nine certified members. In the program checklists, the potential for reduced stormwater pollution (primarily in outdoor hazardous material and solid waste storage practices) is high. No additional checklists were created during this report period.

Measurable Goal 5: Continue to implement the Transportation System Management Program.

The City Manager's Office and the City's Bicycle Pedestrian Coordinator continues to promote bicycling, walking, and transit as sensible alternatives to driving single-occupancy vehicles. The City's Ride Walk Davis Program hosts events, distributes educational materials, and administers programs and projects that support the Transportation System Management Program. The City of Davis updated the 2009 Bicycle Plan and is continuing to implement a list of action items to enhance Davis' bikeability and livability through the development of new bicycle specific programs, policies, and infrastructure projects.

The City of Davis has a goal of achieving a 25% bicycle mode share for all trips. Information on the program is available on the City's webpages. See the weblink below.

http://community-development.cityofdavis.org/travel-training-program

2.1.4 EFFECTIVENESS ASSESSMENT OF COMMERCIAL AND INDUSTRIAL PROGRAM

Effectiveness assessment is a fundamental component for developing and implementing successful stormwater programs. Outcome levels help to categorize and describe the desired results of the Program Elements and related Control Measures.

In order to determine the effectiveness of the Commercial and Industrial Program, an assessment of the program data is conducted as a part of the annual report. The results of this assessment are used to identify modifications that need to be made to the program. By conducting these assessments and modifying the program as needed, the City ensures that the iterative process is used as an effective management tool.

Effectiveness is determined through a series of Assessment Tasks as identified in the SWMP.

2.1.4.1 Assessment Tasks

Assessment Task CI1.1: Maintain the database of businesses participating in the Partners for a Greener Davis program. Document inspections or visits made to the businesses.

To date, nine locations exist within the City. A simple spreadsheet program suffices to maintain record of the program participants. The Food Service Establishments receive annual inspections as part of the pretreatment FOG program. The other sites do not currently receive annual inspections unless they have permanent stormwater treatment control measures located upon them. The list of businesses will be part of the required inspections in the General Permit for assessment of businesses by 2017. As the program grows in the number of participants, inspections can be scheduled as a work order process for staff to satisfy this requirement. In the future reporting periods, the City will report on inspections or visits made to date.

Assessment Task C1.2: Solicit comments from businesses in Partners for a Greener Davis program and identify opportunities for improvement.

The City contacted 244 businesses throughout the City in 2009-10. The City continues to post the program with contact information on the City's webpage which provides an opportunity to receive comment on the program. Comments received on the program to date have related to the program process rather than content. Many potential applicants are challenged by the length of the application checklist. The City has adjusted to this feedback by offering more resources to help with the certification process.

2.1.4.2 Program Effectiveness Assessment Summary

The City accomplished all of the measurable goals identified for the reporting year, 2011-2012. **Table 2.1-1** summarizes the effectiveness assessment that was conducted for the Commercial and Industrial Program. The City will seek ways to measure additional levels of effectiveness for future report periods.

Table 2.1-1 Effectiveness Assessment for the Commercial and Industrial Program

Measureable Goal	Level 1	Level 2	Level 3	Level 4
	Implement Program	Increase Awareness	Behavior Change	Load Reduction
CI1 – Business Outreach and Recognition				
1. Include the Environmental Compliance staff on the distribution list identifying new business licensees.	✓ City staff received monthly updates. 146 new business licenses were issued.	✓ With each of the business licenses, comes the Going into Business Contact list.	N/A	N/A
2. Identify industries required to be covered by the State's General Permit for Industrial Activities and provide outreach to assist them in complying with State requirements.	✓ No businesses within the City required coverage by the State's General Permit for Industrial Activities	✓ Industrial General Permit link located on City's SW Webpage.	N/A	N/A
3. Revise the *Going into Business Agency Contact List* to include the Environmental Compliance staff, and the City's administrator of the Partners for a Greener Davis Program.	✓ The City revised the Agency Contact List.	✓ The list is located upon the City's Webpage, and provided for all new business licenses.	N/A	N/A
4. Continue to implement the Partners for a Greener Davis program.	✓ The City has continued to implement and further the development of the program.	✓ The list is given to each business license app, located on City's webpage and handed out at public events.	✓ 9 businesses locations have become certified Partners.	N/A
5. Continue to implement the Transportation System Management Program.	✓ The City has continued to implement the program.	✓ Elements of this program are available on the City's webpage.	N/A	N/A

✓ – An effectiveness assessment was conducted during the report period
F – An effectiveness assessment may be conducted in future Annual Reports
N/A – This outcome level is not applicable

2.1.5 SWMP MODIFICATIONS

The City's SWMP received final approval from the Regional Water Quality Control Board (RWQCB) on February 18, 2007. The SWMP includes Implementation Schedules spanning the time period 2003 to 2008. As a result, the City updated and modified the Implementation Schedules for each Program Element beginning with the 2007-2008 report period (see **Table 2.1-2**). These changes were also noted in the 2008-2009 Annual Report. For this element there are no changes in responsibility or revisions to the Implementation Schedule since all measurable goals have been accomplished for this program. The City continued to support continuing activities as identified in Table 2.1-2 through 2012-2013.

Table 2.1-2. Commercial and Industrial Program Implementation Schedule and Responsible Department/Position

Control Measures and Measurable Goals	Implementation Schedule						Responsible Department/Position					
	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	Environmental Program Staff	Public Works	Community Development	Parks	Finance	Other
CI1 Business Outreach and Recognition												
1. Include the Environmental Program staff on the distribution list identifying new business licensees.	■	▒	▒	▒	▒	▒	◐				●	
2. Identify industries required to be covered by the State's General Permit for Industrial Activities and provide outreach.	▒	▒	▒	▒	▒	▒	●				◐	
3. Revise the *Going into Business Agency Contact List* to include the Environmental Program staff, and the City's administrator of the Partners for a Cleaner Davis program.			■				◐	◐			●	
4. Continue to implement the Partners for a Greener Davis program.			■	▒	▒	▒	◐	●				
5. Continue to implement the Transportation System Management Program.	▒	▒	▒	▒	▒	▒	◐	●				

▒ Continuing activity, reviewed or revised as needed throughout implementation
■ One-time activity to develop or implement a measurable goal

● Individual or department to take lead in the development or implementation of an activity.

◐ Individual or department to provide strong support in the development or implementation of an activity.

◔ Individual or department to review and provide comments and guidance during the development or implementation of an activities.

Section 2.3 - Construction Activities Program

Sediment Control and Good Housekeeping BMPs at the Verona Subdivision (Second Street and Alhambra Drive).

Section 2.3 – Construction Activities Program

2.3.1 OVERVIEW

Stormwater runoff from construction sites can be a significant source of pollutants to receiving waters during all phases of construction activities. Failure to implement adequate erosion and sediment and good housekeeping control measures can result in discharges of sediment and other pollutants to receiving waters.

The MS4 Permit requires municipal stormwater programs to implement a Construction Activities Program for construction sites that result in a land disturbance of one acre or more by:

- Implementing an ordinance or other regulatory mechanism to control erosion and sediment from construction sites.
- Establishing penalties or other mechanisms to enforce compliance.
- Addressing discarded building material, concrete washout, and sanitary wastes.
- Conducting pre-construction review of site management plans.
- Developing procedures for receipt and addressing of information submitted by the public.
- Conducting regular inspections during construction.

Construction sites less than an acre can pose a threat of producing an illicit discharge (see Section 2.2) and are subject to the Control Measures of the Construction Activities Program as necessary.

2.3.2 CONTROL MEASURES

The City has developed several Control Measures and accompanying measureable goals to ensure that the Construction Activities Program requirements are effectively developed and implemented. For each Control Measure there are accompanying measureable goals which, once accomplished, constitute compliance with the Permit requirements.

The Planning and Land Development Program Control Measures consists of the following:

CA	Control Measure
CA1	Land Development Plan Review Process
CA2	Erosion and Sediment Control Standards
CA3	Construction Site Inspection
CA4	Municipal Construction Projects – Contractor Requirements

The next section of this report provides information on the specific tasks of the measurable goals and implementation schedules that have been initiated and/or completed for the Construction Activities Program.

2.3.3 CA1 – LAND DEVELOPMENT PLAN REVIEW PROCESS

This control measure specifies that the City will establish standard conditions of approval and engineering design standards and specifications for construction activity stormwater quality measures to be used during the land development process.

Existing BMPs and related activities to this control measure include the following:

- The Public Works Department's Design Standard book summarizes the development application process related to design parameters within the scope of the Department's responsibilities, including document submittal requirements for Public Work's review, comment and/or approval. These design standards, include retention, and capacity for stormwater. The Design Standard book was revised in January 2012 including revisions that includes standards for stormwater concerns.

- The City developed the *Manual of Stormwater Quality Control Standards for New Development and Redevelopment* (New Development Manual) in 2008. The New Development Manual provides as appropriate, specific standards for development of new and redevelopment projects for retention and treatment control measures of stormwater on these projects consistent with the General Permit requirements.
- Specific conditions of approval for land use entitlements are determined for the required stormwater management activities during construction and post construction. In addition, standard conditions are applied for erosion and sediment control for construction activities.
- All discretionary land development applications and building permits are reviewed by the Community Development and Sustainability Department. As appropriate, plans are also circulated to the Public Works Department for Engineering Division review, including review of stormwater BMPs. Environmental Program staff is included in distribution for review and comment as part of Public Works review. Conditions of approval (for discretionary approvals) are established as necessary to ensure City standards and codes to protect the environment. For ministerial applications, plans are reviewed for compliance with design standards and proper engineering practices including stormwater general permit and construction general permit requirements.
- To comply with CEQA requirements for all land development applications, the Community Development and Sustainability Department, in consultation with Public Works and other City Departments, establishes mitigation measures, as appropriate to ensure significant adverse environmental impacts including discharges of pollutants to the stormwater conveyance system will not occur as a result of construction activities.
- Subdivision maps, and improvement plans required for development of public infrastructure for subdivisions are submitted to and reviewed by Public Works in a process similar to development applications processed by the Community Development and Sustainability Department. Infrastructure improvements are outlined in Subdivision Agreements including stormwater retention, treatment and conveyance.
- In January of 2011, the City adopted the Cal Green Code. This code makes provides the City with the legal authority to require both residential and non-residential projects of less than an acre to provide erosion and sediment control plans in addition to a full complement of stormwater construction activity BMPs including good housekeeping measures for the site during construction. A new standard condition has therefore been applied for construction projects to comply with the requirements of the City's green ordinance.
- In June of 2012, the City adopted a Stormwater Management and Discharge Control Ordinance (SWO). This section of code provides the City with the legal authority to require development projects greater than one acre in size to comply the requirements of the State of California's Construction General Permit. As qualifying projects are approved for development, a commensurate condition of approval is applied to comply with the requirements of the City's SWO. In addition, the SWO provides the City the authority to apply the requirements of the General Permit to construction projects less than one acre for illicit discharges.

2.3.3.1 Measureable Goals

Measurable Goal 1: Establish standard conditions of approval for runoff for all phases of construction activities for construction sites that result in a land disturbance of one acre or more, or less if part of a common plan of development (i.e., individual lots of a subdivision) or is deemed appropriate by the City. Conditions include, but are not limited to, requiring proof of coverage (i.e., Notice of Intent) under the State's Construction Activities Storm Water General NPDES Permit (CGP), when appropriate.

The City developed standard conditions of approval that the Community Development and Sustainability Department has been using since approximately 2004. In the standard conditions are two conditions which cover grading and erosion and sediment control. They are the following:

GRADING PLAN REQUIRED. The applicant shall submit a final grading plan concurrent with the initial building plan check submittal to the Community Development Department. All accessibility features and bicycle access routes are to be clearly delineated on the site.

EROSION CONTROL PLAN REQUIRED. An Erosion Control plan shall be prepared by a registered Civil Engineer, for review and approval by the City Engineer prior to the issuance of permits. This plan shall incorporate the following requirements:

a) This plan will include erosion control measures to be applied during the months of October through April. These measures may include limitations on earth moving activities in sensitive areas during this time period.
b) The developer shall implement wind erosion and dust control measures to be applied on a year-round basis. This shall include an effective watering program to be implemented during earth moving activities.
c) The plan will include methods for re-vegetating denuded earth slopes. Re-vegetation will be accomplished by a method which reseeds and temporarily protects the ground so that 90% germination is achieved. Future building pads are not subject to this requirement, although measures will be required to contain sediments.
d) All sediments generated by construction activities shall be contained by the use of sediment traps, such as silt fences, settling basins, perimeter ditches, etc.
e) When building construction will be delayed beyond the next rainy season, the developer shall provide permanent erosion control measures on each individual lot.

The above conditions cover all applicable projects including those which are less than one acre where deemed applicable by City staff. The process of assigning conditions of approval involves the standard practice of reviewing all discretionary permit projects and developing or assigning the conditions as deemed appropriate by staff. During the report period, Public Works staff has continued to review procedure for all discretionary permit projects. The table below shows the number of projects that Environmental Program staff reviewed and provided comment on for the 2011 to 2013 report periods. For the current report period, Environmental Program staff reviewed a total of 13 projects for building permits. Of these 13 projects 2 projects were over 1 acre in size. All projects were in compliance with the City's standard condition for erosion and sediment control. Of the 13 projects reviewed, staff provided comment for 3 of those projects where deemed appropriate related to stormwater BMPs for construction activities. The other 10 projects were improvements to the property which involve no exterior disturbance of soil.

For discretionary permit projects, Environmental Program staff reviewed 7 projects, all of which required some level of comment. Those projects that required comments involved both permanent treatment control measures and BMPs for construction activities.

Description	2011-12	2012-13
# of Discretionary Projects Reviewed and Provided Comment	3	7
# of Ministerial Projects Reviewed and Provided Comment	7	3

Collectively, these conditions should address stormwater goals for construction projects. Other conditions are specific to a project site and its individual characteristics and therefore would not be considered standard. Compliance with the Stormwater Ordinance will address stormwater treatment control measures for both construction and post construction use of a property.

Measurable Goal 2: Modify record keeping to note plans that incorporate standard conditions or measures for stormwater BMPs for construction activity.

Under the City's current process, all construction projects which disturb soil are subject to implementing erosion and sediment control BMPs. The current number of projects coming through the City of Davis remains relatively small. During the report period, of the 13 projects reviewed, 4 projects had grading plans and formal erosion and sediment control plans. There were 9 projects which did not have either a

grading or an erosion and sediment control plan. These were projects which involved no disturbance of soil. All projects that disturb soil had comments requiring construction activity stormwater BMPs.

The City's current process continues to work as follows:

- Developers submit and implement grading and erosion and sediment control plans with building permit applications and construction plans.
- Non-qualifying projects (those disturbing less than 1 acre) are encouraged or required through Cal Green Code, plan check comments or conditions of approval for discretionary projects to implement construction erosion and sediment control BMPs.
- Paper copies and electronic scans of these plans are stored in the City's network filing system by project for access by staff.
- Electronic copies of inspection reports are stored in our network file storage system, but not paper copies. A master spreadsheet is maintained to report out on the number of inspections per active construction site and summarize the main issues to surface out of each inspection.
- Any copies of SWPPPs for qualifying projects are kept for the duration of the project in Public Works files for staff access and reference during wet season inspections.

For the future, the City envisions implementing a database process to schedule, record and report out on construction inspections. In the past, the City had considered using our CSSM database, through the modules for stormwater inspection and work order generation. However, with so few sites to review, inspect and keep records for, a database system is not imperative. For the foreseeable future, the number of development projects within Davis is anticipated to be small rendering such an effort to purchase and develop such a database system as unnecessary.

Measurable Goal 3: Develop standards and specifications for construction activity stormwater quality Control Measures.

All projects that disturb soil submit and implement a grading and erosion and sediment control plan. The City uses the CASQA "Construction BMP Handbook" as standards and specifications for construction activity. The City placed a link to it on its SW webpage in 2011 for standards for construction stormwater BMPs.

http://www.cabmphandbooks.com/Documents/Construction/Section_3.pdf

In the prior report period, the Building Division of the Community Development and Sustainability Department has developed a four page erosion and sediment control handout which outlines common BMPs for construction activities. This handout is provided to all applicable projects for which Cal Green Code applies. This handout was developed with review and input of Public Works Environmental Program staff.

Measurable Goal 4: Train Community Development and Engineering staff how to implement the MS4 Permit during the reviewing and approving processes for development and/or construction projects. Provide control measures training to staff responsible for verifying that construction activity controls are incorporated in the development plans and implemented at the site.

In 2011-2012, all applicable Community Development and Engineering staff had participated in training regarding construction activity BMP training. No training occurred in 2012-13. No turnover in staff occurred nor where there any changes in construction requirements. The training went over the regulatory basis for requiring BMPs and then what to look for in both plan check review and in the field. Within the City, Public Works has the responsibility for inspecting all projects subject to the requirements of the CGP and all other projects are subject to Cal Green Code and inspected by Building Division inspectors.

In addition, the long term plan is to have two State certified QSP inspectors. The City anticipates completing formal training by fall 2014. Currently, the City has one CESSWE certified erosion and sediment control inspector on staff. In addition, over the past several years engineering staff that has been involved in development review process has been trained on the use of the City's New

Development Manual. This document implements the standards of Attachment 4 from the State's General Permit for small MS4s and includes site design control measures relevant to the construction stage including, conserving natural areas and protecting slopes and channels. The New Development Manual can be found on line at the following link on the City's website.

http://archive.cityofdavis.org/pw/stormwater/pdfs/sw_NewDev.pdf

The City will continue to implement these measures of the program into the future. However, with the new requirements of the General Permit, new training of Engineering and Community Development staff will be conducted prior to Fall 2014, consistent with the requirements if the revised General Permit.

Measurable Goal 5: Inform the private development and construction firms and contractors about the MS4 Permit Process and the available Control Measures.

a. Produce new informational materials or review and revise/amend the public information sheets available at Community Development to include requirements regarding erosion and sediment controls and stormwater pollution prevention including prohibition of non-stormwater discharges to the stormwater sewer system.

b. Continue to participate and/or sponsor a workshop prior to the commencement of the wet season, to educate available City staff, construction contractors, and developers regarding the City's stormwater quality policies for construction activities and new development.

During the 2011-12 report period, the City communicated with local developers with regard to MS4 Permit Update Process and the appropriate available control measures as it relates to the development process. The list of local developers communicated with regards to this process is provided in the table below. In addition, the City has provided these developers communication with regards to the City's New Development Manual. Public Works staff has provided copies of the Manual to the firms #1, 3, 5, and 7 listed in the table below. In addition, all of the firms below were informed about the State's new CGP and were invited to the regional pre-wet seminar in Woodland in the September 2010. Links to the State's CGP, the revised General Permit, and the New Development Manual were placed on the City's stormwater website in 2010 to 2012. See the following link to find these three links:

http://archive.cityofdavis.org/pw/stormwater/

1. Cunningham Engineering	2. Sweetwater Homes
3. NK Engineering	4. Aubrey Moore and Associates
5. Morton and Pitalo	6. Maria Ogrydziak Architecture
7. Kimley-Horn	8. Hibser Yamauchi Architects Inc
9. Harrison Construction	10. Gryphon Architecture
11. Bedrock Construction	12. JMH Architects
13. Sherman Construction Co	14. Berteaux Richard Architect
15. Harbinson Construction Inc.	16. Indigo-Hammond & Playle Architects
17. Mak Design & Build Inc	18. Yhla Architects
19. Tandem Properties	20. Vogel Architecture
21. Casa Verde Design	22. Zanetto James Architect & Planner
23. Morse Remodeling Inc	24. Deering Design
25. Hudson Construction	26. Ecological Landscape Design
27. DS Powell Construction	28. Anderson Margot M Landscape Architect
29. Broward Builders Inc	30. Inside Out Landscapes
31. Corbett Michael Master Builder	32. Brass Shovel Landscape
33. Don Fouts Construction	34. Mig Inc-Davis
35. Sequoia Associates	36. Secret Garden Landscape Design

37. Teichert Construction	38. GP Landscape Inc.

In addition, staff developed a handout for the State's revised CGP for distribution at the public counters in Community Development (See Appendix B, pages -10-17). Additionally, staff developed a construction activity and a post-construction handout worksheet during the 2011-2012 report period. The post-construction handout is available at:

http://archive.cityofdavis.org/pw/stormwater/ See the link titled "State CGP 2010 FAQ Handout."

The City has participated in pre-wet season workshops. During the 2010-11 reporting period, the City participated in the workshop orchestrated by the City of Woodland during September 2010. None were available in 2011-12 or 2012-13 locally and the City did not attempt to organize one. In future years, the City will participate in collaborative efforts regionally to put on a pre-wet season workshop if the opportunity presents itself.

2.3.4 CA2 – EROSION AND SEDIMENT CONTROL STANDARDS

This control measure specifies that the City will implement and apply the City's design standards for erosion and sediment Control Measures.

Existing BMPs and related activities to this control measure are the following:

- The City currently requires and reviews grading and erosion and sediment control plans submitted for sites that are engaging in any regarding of their site during the development process.
- The SWO (Chapter 30 of Municipal Code) requires construction sites to comply with the requirements of the State's Construction General Permit.
- Section 8.01.065 of Municipal Code requires all construction sites to comply with the erosion and sediment control requirements of Cal Green Code.
- The City uses CASQA's Construction BMP Handbook as its design standards for construction activities BMPs.

2.3.4.1 Measureable Goals

Measurable Goal 1: Revise the Public Works Design Standards to require construction plans requiring Public Works review and approval to include erosion control practices. The erosion control measures shall comply with the MS4 Permit's requirement, other requirements deemed appropriate by the City, and shall include the following:

a. Appropriate BMPs shall be installed to prevent off-site stormwater transport of silt or other deleterious substances during the wet season.

b. Inspection of all BMPs during rain, or at minimum within 24 hours before and after rain, to assure that erosion and sediment controls are properly maintained and functioning as designed. Exception to this requirement is the recognition that most minor storm events do not pose stormwater pollutant runoff potential to the City's storm sewer system. However, storm event intensity is often difficult to predict, and therefore, remains the obligation of the contractor or developer to ensure that proper preventative and maintenance measures are in place at all times in order to stay in compliance City's MS4 Permit.

c. All sites covered by an NPDES Permit, or any site instructed by the City, shall have adequate erosion and sediment control materials on site, or readily available as agreed to by the City (e.g., at a central corporation yard near the construction site), to install in the event that significant rainfall is predicted.

The City commenced with revisions to its Public Works Design Standards in the fall of 2011. The Design Standards were reviewed and comments provided to incorporate the requirements of this Measurable Goal. The process was completed in January 2012. The City continues to require erosion and sediment control plans in construction review and utilizes the CASQA Construction BMP Handbook to provide guidance on erosion control practices whether or not the Design Standards had a requirement for it or

not. Erosion and sediment control plans are a standard requirement for all construction projects that disturb soil including all those that disturb less than 1 acre. This is done in compliance with the requirements of the State's Construction General Permit and Cal Green Code. Both of which are adopted by reference into the City's Municipal Code as Chapters 30 and 8 respectively.

For all non-residential projects that disturb soil, staff reviews construction plans prior to the issuance of building permits for adequate erosion and sediment control plans including evidence of good housekeeping measures. If plans are in compliance with the requirements of the CGP or PW Design Standards, then PW staff will return the plan check review with no comment on this issue. If plans are deemed inadequate or missing proper erosion and sediment control and good housekeeping measures and appropriate details consistent with design standards, then staff will provide comments to the developer to make changes to the plan as appropriate to comply with City Code.

For those projects that required erosion and sediment control details within the building permit plans, Environmental Programs staff will inspect the construction site for implementation and maintenance of standard erosion and sediment control measures, and good housekeeping measures in the field. Inspections are conducted to make sure that erosion and sediment controls and good housekeeping measures in accordance with plans are in place prior to commencement of soil disturbing activities. Inspections are also conducted routinely prior to and during 50% chance rain events for active construction sites.

Measurable Goal 2: Require that all Erosion and Sediment Control Plans and Grading Plans for sites disturbing greater than one acre be prepared and signed by a Professional Engineer in Civil Engineering registered in the State of California or other competent professional.

All four erosion and sediment control plans and grading plans submitted to the City for this report period were prepared and signed by a Professional Engineer or other competent professional.

Measurable Goal 3: Continue to review and comment on Grading Plans.

As a standard part of the development review process, the City reviews all Grading Plans and comments as necessary. The City reviewed and commented upon Grading Plans as follows in the past two years.

	2011-2012	2012-2013
Grading Plans	4	4

Measurable Goal 4: Continue to review and comment on Erosion and Sediment Control Plans.

As a standard part of the development review process, the City reviews all erosion and sediment control plans and comments as necessary. The City reviewed and commented upon Erosion and Sediment Control plans as follows for the past four years.

	2011-2012	2012-2013
Erosion and Sediment Control Plans	6	4

Measurable Goal 5: Train staff and/or provide refresher training, about the erosion and sediment control standards and specifications.

Training sessions for the Engineering and Building Divisions occurred in 2011-12. Three Public Works inspectors and five Community Development (Building) inspectors were trained specifically for CGP and Cal Green Code erosion and sediment control standards. This training involved the following:

- A PowerPoint presentation on the regulatory necessity for performing erosion and sediment control on active construction sites.
- An introduction to the City's Stormwater Management and Discharge Control Ordinance was provided.
- Examples of erosion and sediment control measures good and bad found in the field were provided.
- Lastly, the basics of what to look for on plan check review.

A refresher was not provided in this report period. The rationale for this is because there was no new staff and no new rules to necessitate training. In prior years, certain staff has also attended workshops and presentations on the revised CGP and its requirements. One Public Works inspector was certified as a CESWWI erosion and sediment control inspector in December of 2010.

A similar training for inspection and plan examiner staff will occur again for 2013 to 2014. The City will continue to implement this program into the future.

2.3.5 CA3 – CONSTRUCTION SITE INSPECTION

This control measure specifies that the City will implement a construction site inspection program for private land development.

Existing BMPs and related activities to this control measure are the following:

- The City holds pre-construction meetings typically attended by the City project engineer, City inspectors, developer, contractor, and other parties for significant or selective projects when the improvement plans are approved and construction is about to begin.
- The Public Works and Community Development and Sustainability Departments have established construction inspection programs. Typically, inspectors visit construction sites on scheduled points in the construction process consistent with contract documents and construction schedules. Some inspections are random and others are set by appointment. Generally, problems observed at a site are resolved in the field and are noted on inspection forms, as necessary. If problems persist, enforcement action may be taken, and may include, having the contractor halt construction activities until the problems are resolved, refusing occupancy, or not issuing clearance of the site until corrections are made.
- The Building Division is responsible for enforcement of construction projects subject to Cal Green Code. Projects less than 1 acre are subject to Cal Green Code for erosion and sediment control.
- Public Works is responsible for enforcement of construction projects subject to the CGP.
- For Capital Improvement projects and utility work within public right-of-ways, Public Works requires compliance with approved plans by requiring corrective actions as necessary including erosion and sediment control measures.
- Contract documents such as Subdivision Agreements, Improvement Agreements, Building Permits, and Encroachment Permits are the enforcement mechanisms for requiring developers and contractors to utilize stormwater BMPs at construction sites. These documents will contain conditions or provisions related to stormwater and pollution prevention.
- With adoption of the City's Stormwater Ordinance in June 2012 and Cal Green Code in January 2011, provides the City with local authority to further enforce stormwater treatment control measures.
- Compliance with required and submitted SWPPPs is an additional enforcement mechanism.
- Environmental Program staff tracks construction inspections via a spreadsheet.

2.3.5.1 Measureable Goals

Measurable Goal 1: Continue to hold pre-construction meetings for all projects greater than one acre, or other projects selected to by the City, to include:

- A review of erosion and sediment control plans, stormwater pollution prevention measures and all City requirements regarding stormwater quality management for the project.
- Coordination with the Building Division's field inspection staff and the Public Works to have representatives at the meeting, as required.
- An agenda item to address implementation and maintenance of erosion and sediment control measures and other stormwater pollution prevention control measures.

In 2012-13, Environmental Program staff attended three pre-construction meetings for private sites to meet with project developers and contractors for all projects over one acre and other City selected project sites. There was one CIP project where a pre-construction meeting was held. This CIP did not propose to disturb soil one acre or more in size. All projects had review of erosion and sediment control plans, stormwater pollution prevention measures, and all other City requirements regarding stormwater quality management.

Coordination between the City's Building, and Engineering Divisions occurs through full representation at pre-construction meetings. Stormwater requirements were always represented at the meetings. City staff also visited residential construction sites or tenant improvements sites to discuss stormwater controls.

In this report period, Public Works staff participated in pre-construction meetings at the following development sites:

- Hanlees Toyota at 4202 Chiles RoadCarlton Retirement Center at 2726 Fifth Street
- TJ Maxx at 4651 Second StreetMace Ranch Park Rehab.

Measurable Goal 2: Continue to review and enhance the construction inspection program prior to the wet season to:

- Inspect construction sites that require erosion and sediment control plans to ensure the plan is implemented.
- Inspect construction sites that pose a significant threat of pollution prior to forecasted significant rain events and following such events during the wet season.
- Coordinate inspection activities with code inspectors and other City field inspection personnel to ensure stormwater program site inspections are conducted during all phases of construction, including but not limited to:
    - Inspecting erosion and sediment Control Measures, waste management measures, proper storage, use and disposal of construction materials, and chemicals, and any other construction related BMPs.
    - Identifying and prohibiting non-stormwater discharges that are not allowed into the stormwater sewer system, e.g., concrete wash waters, contractor equipment rinse waters, etc.

For 2012-13, there were 13 active private and 3 active CIP construction sites that disturbed soil. Collectively, these sites were inspected for stormwater 166 times and many other "drive-by" inspections to keep vigilant for potential problems as they might occur.

Measurable Goal 3: Continue to use the standard inspection form or checklist to be used in the field to ensure consistent field review of construction site BMPs.

A standard inspection form was developed in 2006. The form permits the use of digital images, charts, graphs as needed. Inspections forms are now being stored electronically rather than on paper hand-written forms. However, given the volume of inspections over the course of the wet season and that only one Environmental Programs staff performs inspections, the following process is used. Pictures of the sites are taken in the field and provide a visual evidence record of site inspections. A spreadsheet with a list of 20 common site conditions observed is utilized like a checklist. The spreadsheets allows for each site, the date, the weather conditions, when 50% chance rain events are next forecasted, how the site supervisor was contacted about any issues, follow up inspections, pictures on file, response to direction for corrections, and other corrective actions taken as necessary. This spreadsheet enables staff to track all relevant information regarding construction site inspections quickly and efficiently.

Staff has found that paper standard inspection forms to be time consuming and ineffective since multiple staff members are not performing inspections and the City has low employee turnover. Staff believes it has met the intent of the measurable goal and always has the more time consuming inspection form to use if necessary. Staff has found this to be unnecessary thus far and believes this measurable goal is

complete. A copy of the current form may be viewed in Figure 2.3-1. A screen shot of the spreadsheet is provided in Figure 2.3-2.

The City will continue to:

- Record inspections by site by picture on the City's computer network.
- Record in a spreadsheet date, weather conditions, when 50% chance event is forecasted, site supervisor present, findings of inspection, communication and actions taken including follow-up inspections. (see screen shot of the spreadsheet in Figure 2.3-2).

Measurable Goal 4: Continue to train staff responsible for conducting pre-construction meetings prior to the wet season about the City's stormwater quality issues and policies.

As noted previously, in 2011-12, three Public Works inspectors where given an hour long training in CGP requirements including a power point presentation with common problems and solutions presented for erosion and sediment control and good housekeeping measures. Five~~,~~ Building Inspectors were provided an hour long training session on the requirements for Cal Green Code for erosion and sediment control and good housekeeping measures. This presentation also included pictures of common problems and solution found here in Davis. Environmental Programs staff did not retrain these same individuals in 2012-13 as nothing has changed in terms of regulations and treatment control measures. However in 2013-14, training for the new General Permit and refresher training on CGP will occur.

Measurable Goal 5: Initially train and subsequently retrain/update construction field inspection staff in stormwater pollution prevention requirements for construction activities.

See response to Measureable Goal 4 above. In addition, the City intends to complete training for two of Public Works staff to complete State certification of the QSP program and have one Engineering staff complete certification for QSD consistent with the revised General Permit during 2013-14.

Figure 2.3-1 Inspection Checklist Form

Active Construction Site Inspection

Department of Public Works
1717 Fifth St Davis, CA 95616
Phone: (530) 757-5686, Fax: (530) 758-4738

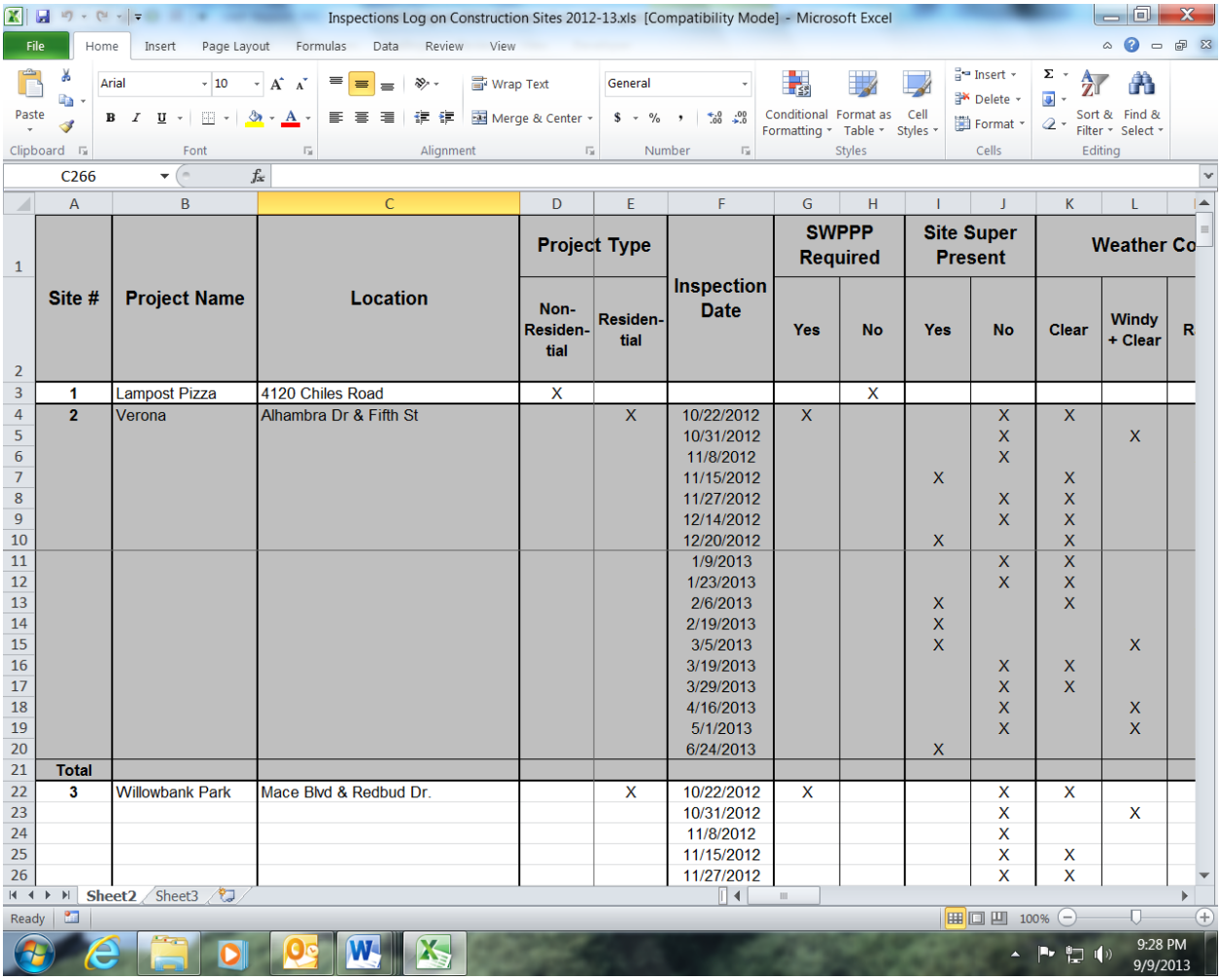
Structure type: *commercial building*
Site name: *Trader Joes*
Date inspected: *08-18-10*
Site Superintendent present *no*
Inspected by: *Kirk Freeman*
SWPPP reviewed: *SWPPP not reviewed*
Site Address: *Russell and Sycamore*
Corrective action: *corrective action needed*
Weather conditions: *clear/warm*
Inspection type *found in field*
DI # : --

Inspection findings: Site is in same general condition as last review. Site needs improvement on general house keeping. Contractors are starting to paint and I did not locate a wash out for paint, but there are spots that appear to have paint/stucco/cement wash-out dumped on the ground. Did not see any covers for garbage containers. Gutter on Sycamore does not have wattles inplace and dirt from construction is in gutter. Does not appear that the contactor(s) are cleaning up at the end of the day.

Pollution Control Evaluation	Yes	No	N/A		Yes	No	N/A
1. Are storm drain inlets properly protected?	☒	☒	☐	9. Are seeded or landscaped areas adequately managed to provide designed pollution prevention?	☐	☐	☒
2. Are sediment control measures (traps, filters, etc) properly installed and maintained?	☐	☒	☐	10. Does the site have a properly maintained concrete washout pit? N/A if it doesn't need one	☐	☒	☐
3. Are soil or other granular materials stockpiles covered, contained, or bermed?	☐	☒	☐	11. Are paints, fuels, concrete mix, fertilizer, etc. being stored properly and kept dry?	☐	☐	☒
4. Are water flows leaving the site reasonably free of sediment?	☐	☐	☒	12. Are trash and wastes properly managed, e.g. stored in covered containers? Is drain plug installed?	☐	☒	☐
5. Are cut or fill slopes, drain outlets or swales showing signs of erosion (rills, gullies, etc.)?	☐	☐	☒	13. Are slurries, wash waters, vehicle fluids, etc. discharges properly controlled and preverted from leaving the site?	☐	☐	☒
6. Are public roads near the site free of sediment, debris, or mud deposits?	☐	☒	☐	14. Does the site have a properly maintained vehicle entrance? N/A if it doesn't need one.	☐	☒	☐
7. Is any bare, unprotected soil or materials causing, or posing a threat of, active pollution?	☐	☒	☐	15. Any follow up needed?	☒	☐	☐
8. Is portable toilet in a secure place and/or does it need a pan underneath it?	☒	☐	☐	16. Was ERP action started in response to this inspection?	☐	☒	☐

	no covers for trash containers located
	stucco waste, empty? paint buckets, bags etc on bare ground
	stucco/cement waste dumped on ground

Figure 2.3-2 Inspection Checklist Spreadsheet



Inspections Log on Construction Sites 2012-13.xls [Compatibility Mode] - Microsoft Excel

Site #	Project Name	Location	Project Type: Non-Residential	Project Type: Residential	Inspection Date	SWPPP Required: Yes	SWPPP Required: No	Site Super Present: Yes	Site Super Present: No	Weather Co: Clear	Weather Co: Windy + Clear	Weather Co: R
1	Lampost Pizza	4120 Chiles Road	X				X					
2	Verona	Alhambra Dr & Fifth St		X	10/22/2012	X			X	X		
					10/31/2012				X		X	
					11/8/2012				X			
					11/15/2012			X		X		
					11/27/2012				X	X		
					12/14/2012				X	X		
					12/20/2012			X		X		
					1/9/2013				X	X		
					1/23/2013				X	X		
					2/6/2013			X		X		
					2/19/2013			X				
					3/5/2013			X			X	
					3/19/2013				X	X		
					3/29/2013				X	X		
					4/16/2013				X		X	
					5/1/2013				X		X	
					6/24/2013			X				
Total												
3	Willowbank Park	Mace Blvd & Redbud Dr.		X	10/22/2012	X			X	X		
					10/31/2012				X		X	
					11/8/2012				X			
					11/15/2012				X	X		
					11/27/2012				X	X		

Sheet2 Sheet3

Ready

9:28 PM 9/9/2013

Measurable Goal 6: Continue to receive and respond to information submitted by the public regarding stormwater impacts due to construction projects. Maintain a record (including date, complaint, and action taken) of publicly submitted information regarding impacts of stormwater runoff from construction sites.

In the past four years, the City has received only one formal complaint for active construction sites from the public. The City has documented a formal process for responding to such complaints. See the process outlined below. The City's currently has no database with which to record these complaints. Given their historically low number, the City will not invest in a database to record these complaints. The City is able track these complaints via a spreadsheet as illicit discharges or a construction inspection. . Contact information for public complaints is provided on the City's webpage. See the following link.

http://community-development.cityofdavis.org/code-compliance

City of Davis Public Works Department Construction Site Complaint Standard Operating Procedures – August 2013

Regulatory Drivers & Complaint Receipt Infrastructure:

The following represents the current outline of the Public Works Department's regulations response to public complaints on active construction sites and how complaints are received by Public Works within the City of Davis.

1. The City's Public Works Department Wastewater Division has the responsibility for the City's compliance with NPDES Permit No. CAS000004 (Permit) to regulate the City's stormwater discharges in compliance with the Clean Water Act.
2. A component of the Permit is to enforce the requirements of the Construction General Permit (CGP) (2009-0009-DWQ).
3. A component of the requirements of the Construction General Permit is to respond to citizen complaints on active construction sites.
4. The following is the standard operating procedure by which the Wastewater Division responds to public complaints on active construction sites.
5. Complaints may be received by Public Works in a variety of ways. All active construction sites are required to post contact information at the construction site. Means by which the public may register a complaint with the City are the following:
    a. The City has the departments and contact information listed on its City webpages and in the phone directory listings.
    b. The City has listed within the phone listings a "Code Compliance Complaint Line."
    c. The City Community Development and Sustainability Department's Building Division receives complaints and responds to complaints on active construction sites. Building will forward complaints to Public Works depending on the nature and location of the complaint on the site, such as pollutant discharges from an active construction site larger than an acre. Building may forward pollutant discharge complaints for active construction sites less than an acre.
    d. The City's website contains a link titled "Report a Problem" for general complaints. In general, complaints filed with this method are received and distributed by the City Manager's Office. Citizen complaints on active construction sites may come to the Wastewater Division via this method.
    e. The City's website provides a "Code Compliance" link on the Building Division webpage which explains how to register a code compliance complaint. The Code Compliance web page also describes common code complaints including "Construction activity without required zoning approvals and/or building permits." Complaints on an active construction may come to the Wastewater Division via this method.

f. The City's stormwater webpage has located upon each of its pages, the means to report to Public Works any type of illegal dumping.

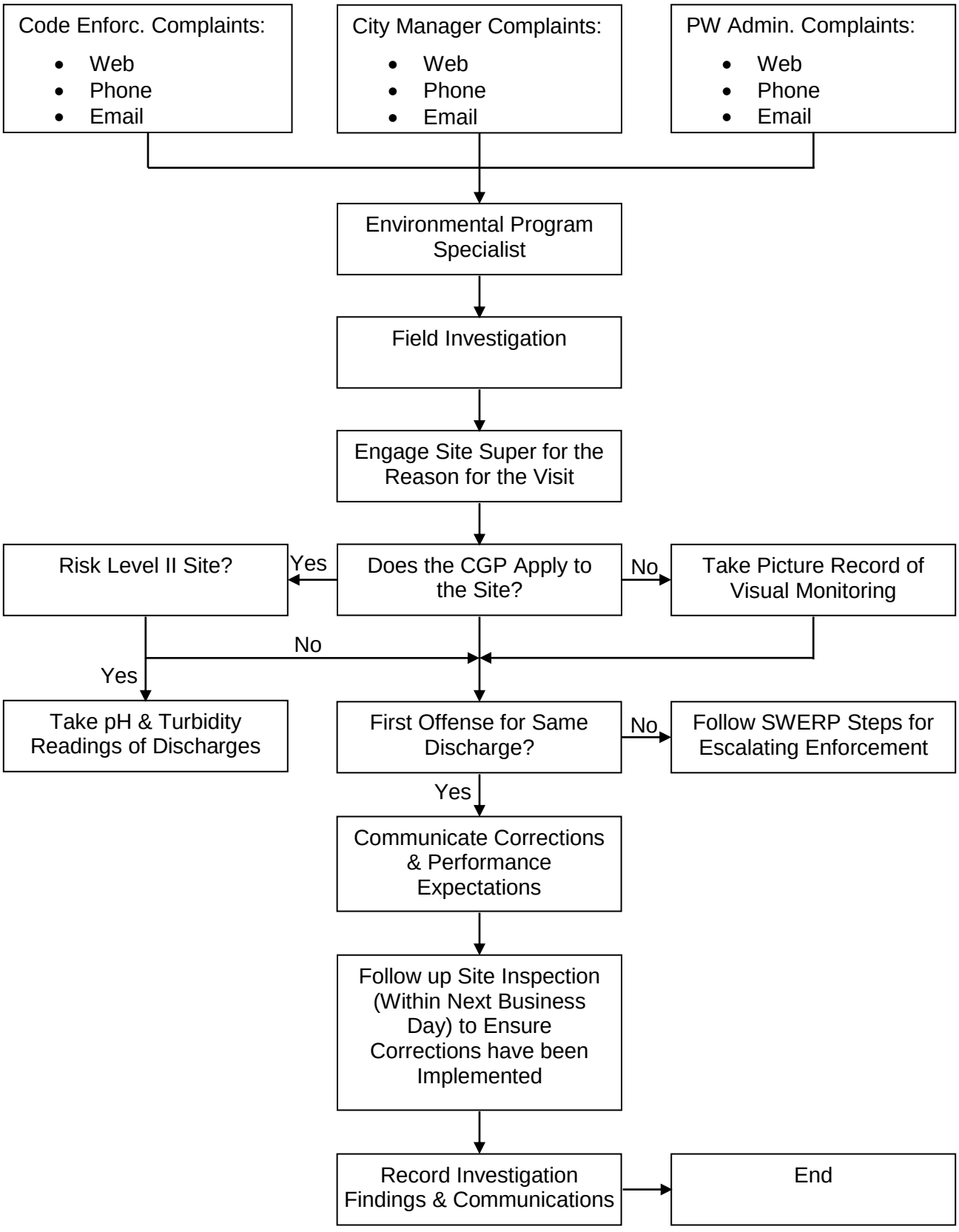
6. Public Works administrative staff direct all stormwater related incidents to the Environmental Programs Specialist (EPS) by phone or email.

Standard Operating Procedure:

The following is an outline of the standard operating procedures for Public Works to respond to the hazardous material spills.

1. For all calls directed to the EPS.
2. The EPS follows the following procedure in response to each complaint:
   a. All site complaints are located by street address, or nearest intersection.
   b. All site complaints contain some detail as to the nature of the complaint.
   c. Go to site within 1 business day or sooner to investigate complaint. The EPS strives to get to each complaint site within 2 hours or less.
   d. If the active construction site supervisor is present, the EPS will identify himself, the reason for the investigation, and how the complaint came to the City to the site supervisor.
   e. A picture record of the visual monitoring at the site is recorded and filed in the City's computer network.
   f. For a Risk Level II site subject to the requirements of the Construction General Permit, the EPS will take turbidity and pH sample on site at location of discharge from the site to ensure consistency with NAL for such sites. The City of Davis has no current possibilities for Risk Level III sites.
   g. For all other sites including Risk Level I, visual monitoring of discharges is all that is required.
   h. The EPS will identify any problems if they exist and provide this information to the site supervisor.
   i. If this is a first offense, corrections and performance expectations including possible enforcement measures (if performance expectations are not met) are identified in a communication with the site supervisor.
   j. If the site supervisor is not present, send written record of visit either via email or letter consistent with procedures identified in the City's Stormwater Enforcement Response Plan (SWERP).
   k. Follow up field inspection within next business day to ensure corrections have been made.
   l. If this is a second offense or repeat offense, the EPS will refer to the City's SWERP to follow escalating enforcement steps to see corrections appropriately implemented.
   m. Record all investigation findings and communications.

Construction Site Complaint Response Process Flow Chart



2.3.6 CA4 – MUNICPAL CONSTRUCTION PROJECTS – CONTRACTOR REQUIREMENTS

This Control Measure specifies that the City will ensure that significant municipal construction projects comply with the City's MS4 Permit existing BMPs and related activities.

Existing BMPs and related activities to this control measure are the following:

- For all municipal construction projects, Public Works establishes requirements that contractors must comply with during construction.
- The City adopted the new Cal Green Code standards in January 2011, which requires non-residential projects smaller than one acre to submit an erosion and sediment control and good housekeeping measures, and residential projects to provide for stormwater retention on site.
- Municipal projects are covered under the State's CGP, when required.
- The City adopted the SWO in June 2012.

2.3.6.1 Measureable Goals

Measurable Goal 1: Develop and/or improve standard contract language addressing stormwater quality control requirements for municipal construction projects.

In 2010-11, the City reviewed its contract language to address stormwater quality control requirements and suggested a standard set of language to address stormwater for all CIP contracts. All new CIP contracts used language to address stormwater quality requirements. In the past, quality control contract language was included in some municipal projects as deemed necessary (e.g., some municipal projects such as interior remodeling may not warrant the inclusion of standard language). Staff will continue to work with CIP staff to incorporate standard contract language to address stormwater quality control requirements. No further changes have been made to this contract language.

Measurable Goal 2: Continue to inspect municipal construction sites to verify that proper erosion and sediment BMPs and other stormwater BMPs are being implemented and maintained.

Proper implementation at various sites has been verified by staff, during the report period. This year, there were no CIP projects subject to CGP requirements and three other sites that were did not disturb enough soil too. However, staff continued to inspect require standard erosion and sediment control measures to protect the storm drain system at all active sites.

Measurable Goal 3: Train City Capital Improvement inspection staff to ensure the implementation and maintenance of stormwater BMPs at municipal construction sites.

Training occurred in groups during workshops or individually, or both. Retraining is to be held on a biennial basis in the future unless significant changes in regulations occur. Refresher training will occur in 2013-14 for this group.

Description	2011-2012	2012-2013
# of CIP Inspection staff trained on implementation and maintenance of BMPs	3	0

2.3.7 EFFECTIVENESS ASSESSMENT OF NEW DEVELOPMENT/ REDEVELOPMENT PROGRAM

Effectiveness assessment is a fundamental component for developing and implementing successful stormwater programs. Outcome levels help to categorize and describe the desired results of the Program Elements and related Control Measures.

In order to determine the effectiveness of the Construction Activities Program, an assessment of the program data is conducted as a part of the annual report. The results of this assessment are used to identify modifications that need to be made to the program. By conducting these assessments and

modifying the program as needed, the City ensures that the iterative process is used as an effective management tool.

Effectiveness is determined through a series of Assessment Tasks as identified in the SWMP.

2.3.7.1 Assessment Tasks

Assessment Task CA1: Review implementation of construction control measures to determine if modifications of the City's approval process or ordinance are necessary.

The City adopted the Stormwater Ordinance in June 2012 and Cal Green Code in January of 2011 establishing local authority for all construction projects to require construction treatment control measures. In 2011-12, clarification was achieved of staff roles between Engineering, and Public Works and Building Inspection staff for development and plan checks review, and construction inspections. While Environmental Program staff uses a spreadsheet and pictures to record inspections, Building Inspection staff uses an existing database to track and schedule inspections. Qualitative information is not possible to record in this database and retrieve.

The respective ordinances have not been in place long enough for the City to yet asses what changes may necessary for improved efficiency and effectiveness. However, staff believes that existing authority is sufficient to protect receiving waters from all construction activities from all sites. The City will continue to assess this effectiveness of its approval process for ministerial projects and if modifications to existing authority is necessary in the future.

Assessment Task CA2: Review the progress of Measurable Goals and report on overall effectiveness.

The City intends to continue to review all measurable goals and report on overall effectiveness. Table 2.3-1 summarizes the progress and effectiveness of this element's measurable goals.

Assessment Task CA3: Summarize inspection records and the enforcement or other type of follow-up activities required to bring the facility into compliance with approved plans.

During the report period, the City's Public Works Inspection staff conducted periodic inspections. Multiple verbal requests for corrections or adjustment to BMPs occurred at all active sites. However there were six sites that had sufficient deficiencies and were issued written notice of corrections needed. The table below summarizes the results of the City's efforts.

	Description	2011-2012	2012-2013
Inspections	# of publically submitted complaints regarding construction	0	0
	# Inspections Conducted	168	166
	# Follow Up Inspections Conducted	81	46
Enforcement	Verbal or Written Warnings	12	46
	Notice of Violation	0	0

Assessment Task CA4: Review construction site inspections records or otherwise evaluate if stormwater quality issues are being adequately addressed.

166 inspections were conducted between all 13 active private and 3 active CIP construction sites. Typically all appropriate BMPs were being utilized or if out of proper usage were soon after inspection they were corrected. The City has found the methods of outreach and working with its construction site supervisors to be effective in getting "buy-in" and continued cooperation if measures are found to either lacking or not being maintained properly. Heavy handed approaches tend to be less effective in gaining cooperation from the construction supervisors and in general tend to consume much greater amounts of time with little payoff for water quality for time invested. In general, staff believes the program to be effective in improving water quality being released from construction sites within the City.

2.3.7.2 Program Effectiveness Assessment Summary

The City accomplished most of the measurable goals and tasks identified for the report period. As the SWMP implementation continues and the experience and knowledge of City staff increases, problems at construction sites are reducing. **Table 2.3-1** below summarizes the effectiveness assessment that was conducted for the Construction Activities Program.

Table 2.3-1 Effectiveness Assessment for the Construction Activities

Measureable Goal	Level 1 Implement Program	Level 2 Increase Awareness	Level 3 Behavior Change	Level 4 Load Reduction
CA1 – Land Development Plan Review Process				
1. Establish standard conditions of approval for runoff from all phases of construction activities for construction sites that result in a land disturbance of one acre or more, or less if part of a common plan of development (i.e., individual lots of a subdivision) or is deemed appropriate by the City. Including, but not limited to, requiring proof of coverage (i.e., Notice of Intent) under the State's Construction Activities Stormwater General NPDES Permit, when appropriate.	✓ The City completed this process by adding conditions regarding erosion and sediment control and grading in 2004. ✓ The City added a condition for compliance with the Stormwater Ordinance which requires compliance with the CGP.	✓ The City created a Stormwater Webpage in 2010-11. ✓ The SW webpage received. In 2011-12 there were 2,839 total page views. In 2012-13 there were 956 total page views.	F	N/A
2. Modify record keeping noting plans that incorporate standard conditions or measures for stormwater BMPs for construction activity.	✓ The City tracks projects with standard conditions for construction activity.	✓ 4 projects approved in 2012-13 with standard condition for BMPs during construction.	N/A	N/A
3. Develop standards and specifications for construction activity stormwater quality Control Measures.	✓ The City refers to the CASQA Construction BMP Handbook.	✓ Links to the CASQA Construction BMP Handbook and other Construction resources are available on the City's Stormwater webpage since 2010.	✓ 4 projects approved in 2012-13 all submitted formal SWPPPs with constructions BMPs consistent with adopted CASQA construction BMP standards.	N/A

Measureable Goal	Level 1 Implement Program	Level 2 Increase Awareness	Level 3 Behavior Change	Level 4 Load Reduction
4. Train Community Development and Engineering staff how to implement the MS4 Permit during the reviewing and approving processes for development and/or construction projects. Provide control measures training to staff responsible for verifying that construction activity controls are incorporated in the development plans and implemented at the site.	✓ Wet season training provided in the past. ✓ Retraining of staff scheduled for fall of 2013. ✓ CGP & Cal Green Code requirements included.	✓ 8 staff members trained from both groups during 2011-12 report period.	F	N/A
5. Inform the private development and construction firms and contractors about the MS4 Permit Process and the available Control Measures.	✓ Initial outreach completed for CGP modification process. ✓ Private firms invited to October 2009 and 2010 trainings. ✓ New Public erosion and sediment control handout completed and being distributed by CDD.	✓ Handout for BMPs placed in CDD for the public and put on PW webpage.	✓ All 16 active construction projects utilized construction BMPs on site in report period.	N/A
CA2 – Erosion and Sediment Control Standards				
1. Revise the Public Works Design Standards to require construction plans requiring Public Works review and approval to include erosion control practices. The erosion Control Measures shall comply with the MS4 Permit's requirement, other requirements deemed appropriate by the City.	✓ The Public Works Design Standards reviewed and revised in fall of 2011 and completed in January 2012.	✓ CASQA Construction BMP Handbook made available on City's SW Webpage in 2011.	✓ All 16 active construction projects utilized construction BMPs on site in report period and generally in compliance with standards.	N/A
2. Require that all Erosion and Sediment Control Plans and Grading Plans for sites disturbing greater than one acre be prepared and signed by a Professional Engineer in Civil Engineering registered in the State of California or other competent professional.	✓ All Grading Plans and Erosion and Sediment Control plans be prepared and signed by a registered Civil Engineer or competent professional.	✓ This requirement is made known to applicable projects in the development review process.	✓ All projects meeting this criterion and both had grading and erosion and sediment control plans prepared by competent professionals	N/A

Measureable Goal	Level 1 Implement Program	Level 2 Increase Awareness	Level 3 Behavior Change	Level 4 Load Reduction
3. Continue to review and comment on Grading Plans	✓ All Grading Plans are reviewed.	✓ This requirement is made known to applicable projects in the development review process.	✓ All Grading Plans submitted this year were reviewed and commented upon.	N/A
4. Continue to review and comment on Erosion and Sediment Control Plans.	✓ All Erosion and Sediment Control Plans are reviewed	✓ This requirement is made known to applicable projects in the development review process.	✓ All Erosion and Sediment Control Plans reviewed and commented upon.	N/A
5. Train staff and/or provide refresher training, about the erosion and sediment control standards and specifications.	✓ Training provided on biennially.	✓ BMP Manuals provided for erosion & sediment control & good housekeeping measures.	✓ 8 staff members trained during the last report period. ✓ 1 staff member certified as a CESSWEI Erosion and Sediment Control Inspector. 2 staff members to be QSP certified and 1 staff member to be QSD certified in 2013-14.	N/A
CA3 – Construction and Site Inspection				
1. Continue to hold pre-construction meetings for all projects greater than one acre, or other projects selected to by the City.	✓ A stormwater checklist has been developed. ✓ Preconstruction meetings are held.	✓ Stormwater Program staff has worked with both CIP and Engineering staff to be included in meeting invites.	✓ 3 pre-construction meetings were held with Public Works staff. ✓ 1 pre-construction meeting held on CIPs.	N/A

Measureable Goal	Level 1 Implement Program	Level 2 Increase Awareness	Level 3 Behavior Change	Level 4 Load Reduction
2. Continue to review and enhance the construction inspection program prior to the wet season.	✓ Construction inspection program reviewed in 2006, 2009-10 and 2011-12.	✓ Revisions to inspection process were part of training to City inspection staff in both CD&SD and PW in 2011-12.	✓ 166 construction inspections performed in 2012-13.	N/A
3. Continue to use a standard inspection form or checklist to be used in the field to ensure consistent field review of construction site BMPs.	✓ City has reference to it but formed a spreadsheet used with pictures and stored electronically which facilitates efficiency and ease in accessing records and doubles as a standard inspection checklist.	✓ All Engineering staff and Inspection staff have been made aware of the inspection spreadsheet.	✓ Pictures and records of inspections were made for active construction sites 166 times.	N/A
4. Continue to train staff responsible for conducting pre-construction meetings prior to the wet season about the City's stormwater quality issues and policies.	✓ Re-trainings occur biennially.	✓ One Engineering staff member trained to be made aware of the need for appropriate Public Works staff attendance for Preconstruction meetings.	✓ 4 total construction meetings attended by appropriate Public Works staff.	N/A

Measureable Goal	Level 1 Implement Program	Level 2 Increase Awareness	Level 3 Behavior Change	Level 4 Load Reduction
5. Initially train and subsequently retrain/update construction field inspection staff in stormwater pollution prevention requirements for construction activities.	✓ Re-trainings occur biennially.	✓ 8 members of PW and CD&SD inspection staff made aware of training schedule and SW construction BMPs during training in 2011-12.	✓ 3 Public Works field inspectors trained in 2011-12 ✓ 1 PW inspector trained as a CESSWI erosion and sediment control in 2010-11. ✓ 5 CD&SD field inspectors trained this report period in SW Construction BMPs. 2 staff members to be QSP certified and 1 staff member to be QSD certified in 2013-14.	N/A
6. Continue to receive and respond to information submitted by the public regarding stormwater impacts due to construction projects. Maintain a record (including date, complaint, and action taken) of publicly submitted information regarding impacts of stormwater runoff from construction sites	✓ The City has received, logged and responded to information submitted by the public. ✓ A formal complaint response process has been developed.	✓ Complaint form and contact information placed on the City's website in 2010-11.	✓ 0 complaints received this report period.	N/A
CA4 – Municipal Construction Projects				
1. Develop and/or improve standard contract language addressing stormwater quality control requirements for municipal construction projects.	✓ The City reviewed and developed contract language to address stormwater quality control requirements.	N/A	✓ All CIP contracts now contain this revised language.	N/A

Measureable Goal	Level 1	Level 2	Level 3	Level 4
	Implement Program	Increase Awareness	Behavior Change	Load Reduction
2. Continue to inspect municipal construction sites to verify that proper erosion and sediment BMPs and other stormwater BMPs are being implemented and maintained.	✓ The City continued to inspect CIP sites for ESC and stormwater BMPs.	✓ All CIP inspectors were made aware of inspection requirement for applicable projects to perform construction SW BMP inspections.	✓ During the 2011-12 report period, all CIP sites were inspected for ESC and stormwater BMPs.	N/A
3. Train City Capital Improvement inspection staff to ensure the implementation and maintenance of stormwater BMPs at municipal construction sites.	✓ CIP inspection staff was trained and subsequently trained other CIP staff.	✓ All CIP inspectors were made aware of inspection requirement for applicable projects to perform construction SW BMP inspections	✓ During the 2011-12 report period, 3 CIP inspection staff were trained. CIP staff will be retrained in 2013-14.	N/A

✓ – An effectiveness assessment was conducted during the reporting period 2010 – 2011
F – An effectiveness assessment may be conducted in future Annual Reports
N/A – This outcome level is not applicable

2.3.8 SWMP MODIFICATIONS

The City's SWMP received final approval from the Regional Water Quality Control Board (RWQCB) on February 18, 2007. The SWMP includes Implementation Schedules spanning the time period 2003 to 2008. As a result, the City updated and modified the Implementation Schedules for each Program Element beginning with the 2007-2008 report period (see **Table 2.3-2**). These changes were also noted in the 2008-2009 Annual Report. For this element there are no changes in responsibility or revisions to the Implementation Schedule through 2012-2013.

Table 2.3-2. Construction Activities Program Implementation Schedule and Responsible Department/Position

Control Measures and Measurable Goals	Implementation Schedule						Responsible Department/Position					
	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	Environmental Program staff	Public Works	Community Development	Parks	Finance	Other
CA1 Land Development Plan Review Process												
1. Establish standard conditions of approval for runoff from construction sites for all phases of construction.			■	■			◐	●	●			
2. Modify record keeping to note plans that incorporate standard conditions or measures for stormwater BMPs for construction activity.			■	■	■	■	◐	●	●			
3. Develop standards and specifications for construction activity stormwater quality control measures.		■					◐	●	◐	◔		
4. Train Community Development and Engineering staff responsible for development application review and inspection of construction activity controls.	■	■	■	■	■	■	◐	●	●			
5. Inform the private development and construction firms and contractors about the MS4 Permit Process and available Control Measures.			■	■	■	■	◐	●	●			
a. Produce new informational materials or review and revise/amend the public information sheets available at the Community Development.			■				●	◐	◐			
b. Continue to participate and/or sponsor a workshop prior to the commencement of the wet season.	■	■	■	■	■	■	●	◐	◐			
CA2 Erosion and Sediment Control Standards												
1. Revise the Public Works Design Standards to require construction plans requiring Public Works review and approval to include erosion and sediment control practices.			■	■			◐	●				
2. Require that all Grading Plans and Erosion and Sediment Control Plans for sites disturbing greater than one acre be prepared and signed by a P.E. in Civil Engineering registered in the State of California or other competent professional.	■	■	■	■	■	■	◐	●	◐			
3. Continue to review and comment on all Grading Plans.	■	■	■	■	■	■	◐	●	◐			
4. Continue to review and comment on Erosion and Sediment Control Plans.	■	■	■	■	■	■	◐	●	◐			
5. Train and/or update staff about erosion and sediment control standards and specifications.	■	■	■	■	■	■	◐	●	◐			

Table 2.3-2. Construction Activities Program Implementation Schedule and Responsible Department/Position (cont.)

Control Measures and Measurable Goals	Implementation Schedule						Responsible Department/Position					
	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	Environmental Compliance staff	Public Works	Community Development	Parks	Finance	Other
CA3 Construction Site Inspection												
1. Continue to hold pre-construction meetings for all projects greater than one acre, or other projects selected by the City.							◐	●	●			
2. Continue to review and enhance the construction inspection program prior to the wet season.							◐	●	●			
3. Continue to use a standard inspection form or checklist to be used in the field to ensure consistent field review of construction site BMPs.							◐	●	●			
4. Continue to train staff responsible for conducting pre-construction meetings prior to the wet season.							◐	●	●			
5. Initially train and subsequently retrain/update all construction field inspection staff.							◐	●	●			
6. Continue to respond to public information on stormwater impacts from construction sites.							◐	●	●			
CA4 Municipal Construction Projects – Contractor Requirements												
1. Develop and/or improve on standard contract language for municipal construction projects.							◐	●	◐	◔		
2. Continue to inspect municipal construction sites to verify that stormwater BMPs are being implemented.								●	●			
3. Train City Capital Improvement inspection staff to ensure that stormwater BMPs are being implemented at municipal construction projects.							◐	●	●			

Continuing activity, reviewed or revised as needed throughout implementation
One-time activity to develop or implement a measurable goal

● Individual or department to take lead in the development or implementation of an activity.

◐ Individual or department to provide strong support in the development or implementation of an activity.

◔ Individual or department to review and provide comments and guidance during the development or implementation of an activity

Section 2.4 - New Development / Redevelopment Program

Grassy Swale Located on Residential Site at the Intersection of Chiles Road and Drummond Avenue

2.4 - New Development / Redevelopment Program

2.4.1 OVERVIEW

The Small MS4 General Permit requires municipalities to develop, implement, and enforce a program for stormwater runoff to prevent and minimize water quality impacts from new and redevelopment projects that fall into certain project categories. The program must include a plan to implement site-appropriate, cost-effective, and source control BMPs, and ensure long-term operation and maintenance of such BMPs. The City is also required to adopt a set of design standards as set forth in Attachment 4 of the Small MS4 General Permit.

The New Development/Redevelopment Program ensures that the impacts on stormwater quality from new and redevelopment are limited through the implementation of design standards, treatment and source control BMPs.

2.4.2 CONTROL MEASURES

The City's control measure and accompanying measureable goals ensure that the New Development/Redevelopment Program requirements are effective and appropriately implemented. For each control measure there are accompanying measureable goals which, once accomplished, constitute compliance with the Permit requirements.

The Planning and Land Development Program Control Measures consists of the following:

NDR	Control Measure
NDR1	Private Land Development Plan Review Process
NDR2	Permanent Stormwater BMPs for Municipal Construction Projects

The next section of this report provides information on the specific tasks of the measurable goals and implementation schedules that have been initiated and/or completed for the New Development/Redevelopment Program.

2.4.3 NDR1 – PRIVATE LAND DEVELOPMENT PLAN REVIEW PROCESS

This Control Measure specifies that the City will:

1) Develop standard conditions of approval for private land development projects.
2) Develop a plan check process that enables staff to ensure post-construction measures are included in the design prior to plan approval.
3) Develop an inspection program to ensure post-construction measures are implemented and maintained.

Existing BMPs and related activities to this Control Measure are the following:

- The Public Works and Community Development and Sustainability Departments review all land development applications and establish or recommend conditions of approval to meet City standards. The review also establishes or recommends mitigation measures to comply with CEQA requirements.
- The Community Development and Sustainability Department develops and implements conditions of approval for new development in accordance with the applicable City Plans and Codes. The General Plan, applicable Specific Plans, the Municipal Code (Zoning, Subdivision, Chapters, etc.), and other legal documents are in place to ensure orderly land development while providing for the protection of the environment and natural resources.
- The City may conduct pre-development meetings that include various City departments to develop requirements and provisions for approval of the land development project. The City departments that participate in pre-development meetings include: Community Development and Sustainability, Public Works, Parks and General Services, Police and Fire.

2.4 - New Development / Redevelopment Program

- The New Development Manual sets design standards for permanent stormwater treatment controls for new and redevelopment projects consistent with the design standards of Attachment 4 of the Small MS4 General Permit.
- The City's SWO adopted in June 2012, requires that all applicable new and redevelopment projects meet the requirements of the Small MS4 General Permit.

2.4.3.1 Measureable Goals

Measureable Goal 1: Establish standard conditions of approval for permanent stormwater BMPs based on the type of land development project, in order to:

- Preserve areas or features that provide important water quality protection
- Maximize pervious areas to promote and enhance percolation
- Limit disturbance of natural drainage features and vegetation

The City's standard conditions of approval require conditions on all applicable discretionary projects for grading and erosion and sediment control plans and for applicable projects to comply with the requirement of the City's SWO.

The City completed the development of the *Manual of Stormwater Quality Control Standards for New Development and Redevelopment* (New Development Manual) in 2008 which provides the design standards for all projects approved in the City with permanent stormwater treatment control measures. The SWO requires all new and redevelopment projects to comply with the requirements of the Small MS4 General Permit.

A summary of the New Development Manual requirements is provided in **Table 2.4-1**. The New Development Manual can be found on the City's stormwater website at:

http://archive.cityofdavis.org/pw/stormwater/pdfs/sw_NewDev.pdf

The table below provides a listing of projects that were completed since 2008 through 2012 that have complied with the standards contained in the New Development Manual and the Small MS4 General Permit Attachment 4.

Year	**2011-12**	**2012-13**
# of projects Completed in compliance with Attachment 4	6	7

The list below provides a breakdown of projects that were subject to implementing the standards of the New Development Manual. Each of these projects provided at least one or more treatment control measures on site though they were not necessarily defined as categorical projects as defined by the New Development Manual. Of the projects listed below, those required by Attachment 4 are noted in parenthesis as categorical projects.

Approved development projects in 2009-10 but not yet in construction:

1. Chiles Ranch – 2411 E. Eighth Street
2. Verona Affordables - Fifth Street and Alhambra Drive (Categorical Project)

Approved development projects for 2012-13, but not yet under construction:

1. 501 Oak Ave

Under Construction for 2012-2013 approved in previous years:

1. Carlton Retirement Center – 2726 Fifth Street (Categorical Project)
2. Willowbank Park – Mace Boulevard (Categorical Project)
3. Verona Subdivision – Fifth Street and Alhambra Drive (Categorical Project)
4. Chase Bank Phase II - 4510 Second Street (Categorical Project)
5. TJ Maxx – Target Site Commercial Building Pads - 4651 Second Street (Categorical Project)
6. Hanlee's Toyota – 4202 Chiles Road (Categorical Project)

7. 336 C Street
8. 337 D Street

Construction completed in 2012-13:

1. Central Park West - 311 and 315 B Street
2. Willowbank 10 Montgomery Ave & Cottonwood Dr.
3. Hanlee's VW Remodel – 5000 Chiles Road
4. Chase Bank Phase I - 4510 Second Street (Categorical Project)
5. New Harmony– Cowell Boulevard and Drummond Avenue (Categorical Project)
6. Expression Systems – 603 Cantrill Avenue (Categorical Project)
7. All Things Right and Relevant - 2801 Spafford Street (Categorical Project)

Measureable Goal 2: Require long-term maintenance and operation of permanent stormwater BMPs. Establish a process to track that permanent stormwater BMPs construction, operation and maintenance.

In the past two years a total of six projects voluntarily submitted maintenance agreements.	**2011-12**	**2012-13**
Maintenance Agreements Submitted	0	0

With the adoption of the SWO in June 2012, the City will require maintenance agreements on all categorical projects. However since the adoption of the ordinance, there have been no categorical projects approved and therefore no maintenance agreements submitted. There are 6 open projects that prior to the completion of the projects the City will secure maintenance agreements on all projects.

In the past, it has been inconsistent on whether or not the City could require and obtain one for each of the discretionary projects approved. Discussions over 2012-13 provided clarification that Environmental Programs staff will make sure developers provide maintenance agreements during building permit plans and a fully executed agreement prior to occupancy.

The City's New Development Manual outlines the guidelines for maintenance plans and agreements and also provides sample agreements as an appendix. The City currently utilizes this as the base agreement form and will continue to do so.

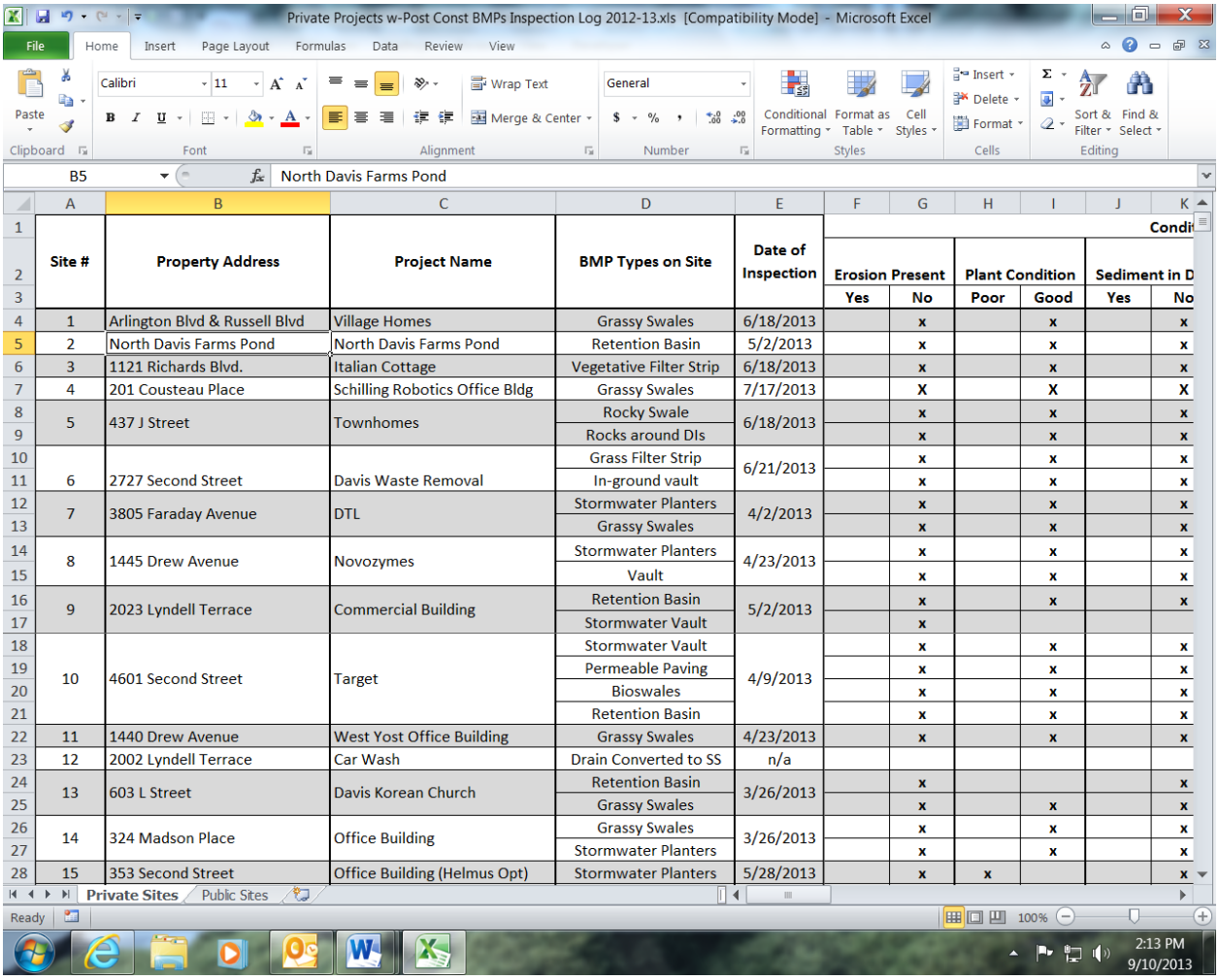
In previous annual reports, staff anticipated that the City's CMMS database would provide tracking to the degree as noted below and that this task would be accomplished by June 30, 2010. The problems with bringing the CMMS on-line have been documented in Section 2.3.3.1, Measureable Goal 2.

In the 2010-11 report, the City assessed the CMMS as a BMP tracking mechanism and no longer anticipates using it for this purpose. The CMMS database is exclusively a work order generating tool for staff to that may be used in the future to trigger the annual inspections of sites, but not qualitative issues with respect to BMPs. However, the number of sites remains small and is anticipated to continue because development is restricted within the City due to low growth policies in effect. Because of these two factors, we do not anticipate the number of sites with permanent stormwater treatment control measures to grow quickly, so that tracking of inspections is not a large task.

The City did develop a spreadsheet in this report year which tracks inspections of permanent sites. See Figure 2.4.3.1 below, which is a screen shot of how the spreadsheet appears. Date of inspection, problems found and communication with property owner to deal with problems are recorded for each site.

2.4 - New Development / Redevelopment Program

Figure 2.4.3.1



Private Projects w-Post Const BMPs Inspection Log 2012-13.xls [Compatibility Mode] - Microsoft Excel

B5: North Davis Farms Pond

Site #	Property Address	Project Name	BMP Types on Site	Date of Inspection	Erosion Present		Plant Condition		Sediment in D	
					Yes	No	Poor	Good	Yes	No
1	Arlington Blvd & Russell Blvd	Village Homes	Grassy Swales	6/18/2013		x		x		x
2	North Davis Farms Pond	North Davis Farms Pond	Retention Basin	5/2/2013		x		x		x
3	1121 Richards Blvd.	Italian Cottage	Vegetative Filter Strip	6/18/2013		x		x		x
4	201 Cousteau Place	Schilling Robotics Office Bldg	Grassy Swales	7/17/2013		X		X		X
5	437 J Street	Townhomes	Rocky Swale	6/18/2013		x		x		x
			Rocks around DIs			x		x		x
6	2727 Second Street	Davis Waste Removal	Grass Filter Strip	6/21/2013		x		x		x
			In-ground vault			x		x		x
7	3805 Faraday Avenue	DTL	Stormwater Planters	4/2/2013		x		x		x
			Grassy Swales			x		x		x
8	1445 Drew Avenue	Novozymes	Stormwater Planters	4/23/2013		x		x		x
			Vault			x		x		x
9	2023 Lyndell Terrace	Commercial Building	Retention Basin	5/2/2013		x		x		x
			Stormwater Vault			x				
10	4601 Second Street	Target	Stormwater Vault	4/9/2013		x		x		x
			Permeable Paving			x		x		x
			Bioswales			x		x		x
			Retention Basin			x		x		x
11	1440 Drew Avenue	West Yost Office Building	Grassy Swales	4/23/2013		x		x		x
12	2002 Lyndell Terrace	Car Wash	Drain Converted to SS	n/a						
13	603 L Street	Davis Korean Church	Retention Basin	3/26/2013		x				x
			Grassy Swales			x		x		x
14	324 Madson Place	Office Building	Grassy Swales	3/26/2013		x		x		x
			Stormwater Planters			x		x		x
15	353 Second Street	Office Building (Helmus Opt)	Stormwater Planters	5/28/2013		x	x			x

Private Sites | Public Sites | Ready | 100% | 2:13 PM 9/10/2013

The City's number of sites with permanent stormwater treatment controls has grown from fourteen in 2009-10 to in thirty five in 2012-13. It is estimated that this number will grow in the next year to approximately forty one sites. In future years, this number is expected to continue to grow at a slow rate. If staff changeover were to occur or more than one staff member becomes involved in inspection a greater necessity to fully develop a database would exist.

Currently, the spreadsheet process is serving the City well enough to track and correct problems at sites with permanent treatment control measures. Staff will continue to assess this issue into the future. The City remains ready and capable to shift over to a database should the need arise. However, the current CMMS database available will not provide the City with qualitative reporting information and again will only serve as a work order generator.

Measureable Goal 3: Develop and/or revise checklists or similar tools used by City staff to review land development applications and plans for compliance with Receiving Water Limitations and Design Standards of the Small MS4 General Permit – Attachment 4.

A "Stormwater Control Measure" checklist (Checklist) was developed. The City commenced using the form in the fall of 2009. The Checklist is used at the conceptual design phase so that site design can accommodate control measure BMPs upfront rather than after the site design is completed. By implementing use of the Checklist, the process of having stormwater BMPs integrated into the site design is assured to take place. The Checklist is kept at the CD &SD public counter available to be distributed to potential site developers, architects, site designers, and other interested members of the public. A copy

of the form can be viewed in Appendix B, pages 85-96. With the new requirements of the Small MS4 General Permit, this handout will require revision.

Measurable Goal 4: Develop and implement a coordinated plan review, inspection activities, and reporting methods for permanent stormwater BMPs to be used by various City staff.

In 2009-10, the City revamped its plan review process so that the Public Works Department reviews projects for compliance with the New Development Manual and inspects permanent stormwater BMPs for construction and permanent site BMPs. An inspection spreadsheet is being used as a form is utilized to record the result of these inspections. The Checklist has been provided for developers to utilize on their proposed projects and file maintenance agreements with Public Works where appropriate. An outline of the current process is provided below.

1) The Checklist is provided to the development applicants by Community Development and Sustainability Department.
2) Concept design meetings are sometimes held to discuss relevant issues for site development. Stormwater materials including the Checklist and/or the New Development Manual are provided in such meetings. This aids developers in drafting conceptual plans. All of the engineering firms working within the City were provided with a copy of the New Development Manual at the time of its development.
3) The Checklist is filled out and provided upon submission for entitlement permits.
4) Community Development circulates plans to relevant various City Departments, Divisions, and outside agencies via a Request for Comments form in the case of discretionary permits.
5) When Public Works receives proposed plans the plans are reviewed for many aspects including the permanent stormwater controls. For discretionary permits (pre-construction phase), the Engineering Division coordinates comments from various staff members within Public Works including comments from the Stormwater Program. The New Development Manual is utilized as the reference document for specific stormwater controls.
6) If consistency with the New Development Manual is found, then the plans may receive little or no comments for stormwater from Public Works staff. If the plans are not consistent with the New Development Manual, then comments are provided to the applicant to modify the plans or supply new plans for to achieve consistency.
7) The project can then enter the pre-construction phase. In this phase, Community Development again receives construction plans which are circulated to various departments within the City for review and comment on the construction plans.
8) If consistency with conditions of approval for discretionary permits and the New Development Manual are found, then no comments are provided for the developer. If inconsistencies are found with either conditions of approval or the New Development Manual, then comments are provided to ask for changes in the plans in order to create consistency.

2.4 - New Development / Redevelopment Program

Table 2.4-1. Control Measure Selection Matrix for New Development and Redevelopment Project Categories

New Development and Redevelopment Project Category	General Site Design Control Measures				Site-Specific Source Control Measures						Treatment Control Measures[a]	Other
	Conserve Natural Areas (D-1)	Protect Slopes and Channels (D-2)	Minimize Impervious Area (D-3) D-3.1: Minimize Sidewalk and Street Widths D-3.2: Minimize Impervious Footprint D-3.3: Cluster Development D-3.4: Use Porous Paving Materials	Minimize Effective Imperviousness (D-4) D-4.1: LID Grass Channel/Swale D-4.2: LID Grass Filter Strip D-4.3: LID Stormwater Planter D-4.4: LID Porous Pavement Filter D-4.5: LID Vegetated Swale D-4.6: LID Trench/Vault	Storm Drain Message and Signage (S-1)	Outdoor Storage Area Design (S-2)	Trash Storage Area Design (S-3)	Loading/Unloading Dock Area Design (S-4)	Vehicle/Equipment/Accessory Wash Area Design (S-5)	Fueling Area Design (S-6)	· Grass Swale (T-1) · Grass Filter Strip (T-2) · Wet Pond (T-3) · Constructed Wetland Basin (T-4) · Extended Detention Basin (T-5) · Infiltration Trench/Vault (T-6) · Infiltration Basin (T-7) · Vegetated Swale (T-8) · Stormwater Planter (T-9) · Media Filter (T-10) · Porous Pavement Filter (T-11) · Alternative/Proprietary Treatment Control Measures[b]	Proof of Control Measure Maintenance
Single-Family Hillside Residences	R	R	R	R[f]	R	R[g]	–	–	–	–	S	R
Commercial Developments	R	R	R	R[f]	R	R[g]	R[g]	R[g]	R[g]	R[g]	S	R
Automotive Repair Shops	R	R	R	R[f]	R	R[g]	R[g]	–	R[g]	R[g]	S	R
Retail Gasoline Outlets	R	R	R	R[f]	R	R[g]	R[g]	–	R[g]	R	S	R
Restaurants	R	R	R	R[f]	R	R[g]	R[g]	R[g]	R[g]	–	S[h]	R
Home Subdivisions (≥ 10 units)	R	R	R	R[f]	R	R[g]	–	–	–	–	S	R
Parking Lots (≥ 5,000 SF or ≥ 25 spaces)	R	R	R	R[f]	R	R[g]	R[g]	–	–	–	S	R

Notes:

(a) Must be designed for the Stormwater Quality Design Flow (SQDF – equal to the maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity, multiplied by a factor of two) or Stormwater Quality Design Volume (SQDV - the volume necessary to capture and treat 80% or more of the avg. annual runoff volume)

(b) Used only on a case-by-case basis with City stormwater staff approval or in combination with other applicable treatment Control Measures

R Required if applicable to project

R[f] Required unless shown to be infeasible based on site conditions. Select one or more applicable Control Measures

R[g] Required if outdoor activity area is included in the project

S Select one or more applicable treatment Control Measures from list above unless project drains to a regional basin

S[h] Restaurants with less than 5,000 SF impervious area are not required to provide treatment Control Measures

9) Building permits can then be issued and pre construction inspections performed by Environmental Programs staff occur on the site to confirm stormwater Control Measures are consistent with those approved with the construction documents.

10) Periodic (sometimes daily) inspections occur at active construction sites to make sure construction stormwater control measures and other City requirements remain in place and are functioning as intended.

11) If problems are found they are noted on inspection forms and corrective actions take place.

12) Final inspections occur post-construction and prior to issuance of "occupancy". If all items are determined to be consistent with those approved, then the certificate of occupancy is provided or "final" clearance on the building permit is provided by each City department. If inconsistencies remain, occupancy or "final" is not issued. Instructions are provided to the developer or contractor on what needs to be provided or performed to gain occupancy or final.

13) Follow up inspections occur at 90 days for full acceptance of stormwater Control Measures for public infrastructure developed by the developer and once annually for permanent stormwater control measures by Environmental Programs staff.

14) Maintenance agreements are recorded prior to occupancy. On-site annual inspections will verify compliance with the agreement. With the adoption of the SWO, the City now has the legal authority to require maintenance agreements for all categorical projects.

15) The City's CMMS may be able to generate work orders for inspections for permanent BMPs at sites. Currently results of inspections are tracked via spreadsheet.

A summary of the categorical projects that were reviewed is provided in the table on the next page.

Categorical Development Projects[1]	Categorical Private Projects Reviewed 2011-2012	Categorical Private Projects Reviewed 2012-2013
Significant Redevelopment	2	1
Single-family hillside residences (slope ≥ 25%)	0	0
Commercial Developments (≥5,000 SF)	1	2
Automotive Repair Shops		0
Retail Gasoline Outlets		0
Restaurants		0
Home Subdivisions (≥ 10 units)		3
Parking Lots (≥ 5,000 SF or 25 spaces)		1
Total	**3**	**7**

1. Development Standards apply to all categorical projects or phases of categorical projects at the date of adoption unless the projects already had approval by the City or County Engineer, a permit for development or construction or an approved tentative map prior to the Development Standards date of adoption.

The total number of categorical development private projects approved for 2012-13 was 0. The City continues to request that all development projects whether categorical or not to provide LID on site, consistent with the Manual. This will be consistent the new requirements of the revised Small MS4 General Permit.

A summary of the type and number of post-construction BMPs that were implemented as a part of the categorical private development projects that were approved is provided in the table below. Definitions and guidance for each of the controls can be found in the City's New Development Manual. Please note that the City did get more treatment control measures than what was achieved in the categorical projects.

2.4 - New Development / Redevelopment Program

This table only tells a portion of the complete story. Please note that some sites have more than one type of treatment control.

Control Measure Type	Total Number Approved for Private Projects 2011-2012	Total Number Approved for Private Projects 2012-2013
General Site Design Control Measures (D-1 through D-4)		
D-1 Conserve Natural Areas	1	0
D-2 Protect Slopes and Channels	0	0
D-3.1: Minimize Sidewalk and Street Widths	1	0
D-3.2: Minimize Impervious Footprint	1	0
D-3.3: Cluster Development	1	0
D-3.4: Use Porous Paving Materials	2	0
D-4.1: LID Grass Channel/Swale	2	0
D-4.2: LID Grass Filter Strip	0	0
D-4.3: LID Stormwater Planter	0	0
D-4.4: LID Porous Pavement Filter	1	0
D-4.5: LID Vegetated Swale	0	0
D-4.6: LID Trench/ Vault	0	0
Total Site Design Control Measures	**9**	**0**
Site-Specific Source Control Measures (S-1 through S-6)		
S-1 Storm Drain Message and Signage	1	0
S-2 Outdoor Storage Area Design	0	0
S-3 Trash Storage Area Design	3	0
S-4 Loading/Unloading Dock Area Design	0	0
S-5 Vehicle/Equipment/Accessory Wash Area Design	0	0
S-6 Fueling Area Design	0	0
Total Site-Specific Source Control Measures	**4**	**0**
Treatment Control Measures (T-1 through T-10)		
T-1 Grass Swale	1	0
T-2 Grass Filter Strip	0	0
T-3 Wet Pond	1	0
T-4 Constructed Wetland Basin	0	0
T-5 Extended Detention Basin	0	0

Control Measure Type	Total Number Approved for Private Projects 2011-2012	Total Number Approved for Private Projects 2012-2013
T-6 Infiltration Trench/ Vault	0	0
T-7 Infiltration Basin	0	0
T-8 Vegetated Swale	0	0
T-9 Stormwater Planter	0	0
T-10 Media Filter	0	0
T-11 Porous Pavement Filter	0	0
Alternative/ Proprietary Treatment Control Measures	0	0
Total Treatment Control Measures	**2**	**0**
Total Control Measures	**15**	**0**

Measurable Goal 5: Train planning and engineering staff that are responsible for reviewing plans for inclusion of permanent stormwater BMPs. Educate appropriate staff in the use of established standard conditions, mitigation measures, City requirements, and engineering standards for stormwater quality protection.

The following trainings occurred during the 2012-13 report period:

- In May 2012, 3 Public Works and 5 Building inspectors trained on construction inspections and plan check review issues.
- In May 2012, 6 Planning staff trained on the new SWO, Small MS4 General Permit requirements and examples of LID here in Davis via a PowerPoint presentation.

No formal training was performed for 2012-13. Refresher training will be performed for 2013-14. Formal training for this report period was deemed unnecessary because of the lack of new relevant information, no new employees, and the timing of the new Phase II General Permit. With the revisions to the Small MS4 General Permit, revisions to the City's SWO will be necessary.

2.4.4 NDR2 – PERMANENT STORMWATER BMPS FOR MUNICIPAL CONSTRUCTION PROJECTS

This Control Measure requires municipal projects to incorporate permanent stormwater BMPs into municipal projects.

Existing BMPs and related activities to this Control Measure are the following:

- The Public Works staff responsible for capital improvement projects is also responsible for the development of contract documents (plans, specification and special provisions) associated with development and redevelopment of municipal property.
- Capital Improvement projects are reviewed by trained Public Works staff for SWPPP and permanent stormwater Control Measures.
- BMPs for Control Measures follow the guidance provided by the City's New Development Manual.
- Public Works staff utilizes an inspection form to check on implementation of City standards including during construction and post-construction stormwater BMPs. If issues arise during inspections, they are noted and corrected by staff.

2.4.4.1 Measurable Goals

Measurable Goal 1: Utilize permanent stormwater BMPs for municipal projects.

The City included permanent stormwater BMPs into municipal projects, when appropriate. A summary of the municipal projects that were reviewed is provided below:

Report Period	Total Number of Municipal Project Plans Reviewed
2011-2012	1
2012-2013	3

Total number of categorical municipal development projects approved in 2012-13 was three. Two projects were a not categorical project and therefore not subject to the New Development Standards. One was for a bathroom reconstruction and the other was for park rehabilitation. The one project reviewed that was a categorical project was the development of a bike pathway and greenbelt.

Measureable Goal 2: Train capital improvement design staff in City stormwater management requirements.

Three inspectors who are involved with CIP inspections were trained in May 2012 with regards to construction management BMPs and made aware of the requirements of the Small MS4 General Permit during their training session. CIP design staff is the same as Engineering staff for standard projects. City staff does not design projects, but rather manages projects. CIP project management staff is aware of Small MS4 General Permit requirements. In addition, they were made familiar with the adoption of the SWO in June 2012 and pending adoption of the revisions to the Small MS4 General Permit. Training on relevant requirements has already occurred involving discussions with relevant Engineering Division project management staff and referrals to State Water Resources Control Board for the Small MS4 General Permit. However, more formal training on permanent BMPs requirements will occur in 2013-14 with all development review staff including Planners, Engineering and Inspection staff from both the Public Works and Community Development and Sustainability Departments.

2.4.5 EFFECTIVENESS ASSESSMENT OF NEW DEVELOPMENT/ REDEVELOPMENT PROGRAM

Effectiveness assessment is a fundamental component for developing and implementing successful stormwater programs. Outcome levels help to categorize and describe the desired results of the Program Elements and related Control Measures.

In order to determine the effectiveness of the New Development/Redevelopment Program, an assessment of the program data is conducted as a part of the annual report. The results of this assessment are used to identify modifications that need to be made to the program. By conducting these assessments and modifying the program as needed, the City ensures that the iterative process is used as an effective management tool.

Effectiveness is determined through a series of Assessment Tasks as identified in the SWMP.

2.4.5.1 Assessment Tasks

Assessment Task NDR1: Conduct inspections and maintain records of inspections of permanent stormwater BMPs to evaluate performance, operation, and maintenance of these improvements.

See the discussion in Measurable Goal 2 in Section 2.4.3.1 for a more detailed explanation of how Public Works has worked to conduct inspections and maintain records. The City is maintaining electronic files of inspections completed. During 2012-13, the City conducted 35 post construction inspections and categorized 73 separate permanent stormwater treatment control measures within the City's service area. Several of the 35 total private development sites with stormwater BMPs have multiple types of BMPs. Staff also conducted 13 inspections on public development sites with 13 separate permanent stormwater treatment controls.

2.4 - New Development / Redevelopment Program

Starting in 2008, the City conducted a series of inspections to determine the quantity and type of stormwater controls existing in our service area. The inspections included Industrial, Commercial and Residential locations. This effort has been repeated annually since that time and now also includes public development sites. The location, type and function of these stormwater controls were compared against the City's New Development Manual. Since the full development of the New Development Manual, both private and public sites that qualified as categorical development were required to comply with the design standards of the New Development Manual.

Several construction plans submitted over the years have been returned to the developer/designer with comments to modify the permanent stormwater controls to be consistent with the design standards of the New Development Manual. The result has been better treatment control measures BMPs in the field. With an increasing number of new projects being completed and submitted into the development process, there now exists a significant number of sites with better permanent treatment controls within the City.

The City is accumulating enough projects so that conclusions about what types of permanent BMPs are most successful in treating stormwater can be made. Thus far, grassy swales, impervious paving, and stormwater planters are the most popular choices with developers in the Davis area. The City has found that it is important to provide energy dissipation devices at roof leaders in stormwater planters and limiting the use of bark or mulch from areas where water is intended to go and the proper choice of vegetation in treatment controls. Maintenance, so far has been less the issue as compared to establishing vegetation to limit initial erosion from new treatment controls in first flush events. It has also been observed that in some of the earliest developments, swales were built with side slopes that are too steep, or had insufficient vegetation, or had mulch or bark mixing into the channel. Drains inlets where frequently built at grade in the bottom of the swales, thus reducing the efficacy of the treatment control. Further assessment of efficacy of installed treatment controls will be conducted in coming years as more recorded inspections permit evaluations over a series of years.

The number of categorical projects approved, reviewed and being built has been decreasing in the past four years as Davis is slow growth City and the current economic downturn continues to inhibit development. Please note that the opportunities for Greenfield development decreases every year in Davis, due to the lack of expansion of the City's boundaries. This downward trend in new development should therefore be expected to continue into the foreseeable future.

Assessment Task NDR2: Conduct inspections and maintain records of inspections of permanent stormwater BMPs to evaluate performance, operation, and maintenance.

Since 2008, the City has developed four municipal projects with some measure of stormwater treatment control measures integrated into the design. Of the 13 total municipal sites, nine where developed prior to the adoption of the Small MS4 General Permit by the State. These permanent measures include stormwater vegetated retention ponds and grassy lined drainage channels. These facilities are inspected and maintained annually. Records of these inspections are maintained. Thus far, staff believes while the bulk of these treatment control measures where developed prior the development of the General Permit design standards, they are effective in removing pollutants from receiving waters. The City will continue to incorporate design standards of the Small MS4 General Permit into municipal projects. Into the future the municipal projects most likely to have treatment control measures are greenbelts, parks, and roadways within the City.

2.4.5.2 Program Effectiveness Assessment Summary

The City accomplished most of the measurable goals and tasks identified for the report year, 2012-2013. **Table 2.4-2** below summarizes the effectiveness assessment that was conducted for the New Development/Redevelopment Program.

Table 2.4-2 Effectiveness Assessment for the New Development/Redevelopment Program

Measureable Goal	Level 1	Level 2	Level 3	Level 4
	Implement Program	Increase Awareness	Behavior Change	Load Reduction

2.4 - New Development / Redevelopment Program

Measureable Goal	Level 1	Level 2	Level 3	Level 4
	Implement Program	Increase Awareness	Behavior Change	Load Reduction
ND1 – Private Land Development Plan Review Process				
1. Establish standard conditions of approval for permanent stormwater BMPs based on the type of land development project.	✓ Standard conditions of approval completed with the New Development Manual. ✓ The SWO adopted in June 2012. ✓ A standard condition of approval is used for compliance with the SWO for all categorical projects.	✓ The New Development Manual available on the web. ✓ SW webpages with development information since 2011.	✓ 1 discretionary project approved w SW standard conditions in 2012-13.	N/A
2. Require long-term maintenance and operation of permanent stormwater BMP. Establish a process to track permanent stormwater BMP construction, operation, and maintenance.	✓ Completion of the new Development Manual has model Maintenance Agreement. ✓ The adopted of the SWO provides legal authority to require Maintenance Agreements.	✓ The Manual has been posted on the City's website since 2009. ✓ In 2012-13, there were 11 direct views of the Manual.	✓ The City has collected 6 Maintenance Agreements in the past four years. The City will collect 6 more maintenance agreements on outstanding construction projects not yet completed.	N/A
3. Develop and/or revise checklists or similar tools used by City staff to review land development applications and plans for compliance with Receiving Water Limitations and Design Standards of the Small MS4 General Permit – Attachment 4.	✓ Stormwater Control Measure Checklist Developed.	✓ The Checklist has been part of the Manual and posted on the City's SW webpage since 2009. ✓ In 2012-13, there were 11 direct views of the Manual.	✓ The City has reviewed 8 projects in the past two years with checklists submitted.	N/A

2.4 - New Development / Redevelopment Program

Measureable Goal	Level 1 Implement Program	Level 2 Increase Awareness	Level 3 Behavior Change	Level 4 Load Reduction
4. Develop and implement a coordinated plan review, inspection activities, and reporting methods for permanent stormwater BMPs to be used by various City staff.	✓ Projects being reviewed with SW Control Measures Developed in the past 3 years. ✓ Basis of coordinated plan review completed.	✓ All development review staff has agreed to coordinated plan review process for stormwater. ✓ Developers made aware of process by Community Development at Planning counter and by PW Engineering staff at Administration Building counter.	✓ 1 categorical project reviewed and commented upon this year to provide permanent BMPs. ✓ 2 non categorical projects reviewed and commented upon this year to provide permanent BMPs. ✓ All 35 permanent sites have been inspected this year.	N/A
5. Train planning and engineering staff that are responsible for reviewing plans for inclusion of permanent stormwater BMPs. Educate appropriate staff in the use of established standard conditions, mitigation measures, City requirements, and engineering standards for stormwater quality protection.	✓ 3 Meetings/ Training Sessions held.	✓ 8 total staff were training last year including 3 key Engineering & 5 Planning staff in 2011-12 ✓ On-going training occurred on a one on one basis with key staff, during project review on the pending new rules and review of the current standards. Will provide refresher training for all inspection and development review staff in 2013-14.	N/A	N/A
NDR2 – Permanent Stormwater BMPs for Municipal Construction Projects				
1. Utilize permanent stormwater BMPs for municipal projects.	✓ Municipal categorical development project required to utilize permanent stormwater BMPs.	✓ CIP Engineering staff made aware of BMP requirements for categorical CIPs in 2011-12.	N/A	N/A

Measureable Goal	Level 1	Level 2	Level 3	Level 4
	Implement Program	Increase Awareness	Behavior Change	Load Reduction
2. Train capital improvement staff in stormwater management requirements.	✓ 2 formal /training sessions held in 2009-10. ✓ 1 formal training session held in 2011-12.	✓ 3 staff inspectors trained on Stormwater BMPs in 20111-12. All CIP project management staff will be trained in 2013-2014	N/A	N/A

✓ – An effectiveness assessment was conducted during the reporting period 2010 – 2011
F – An effectiveness assessment may be conducted in future Annual Reports
N/A – This outcome level is not applicable

2.4.6 SWMP MODIFICATIONS

The City's SWMP received final approval from the Regional Water Quality Control Board (RWQCB) on February 18, 2007. The SWMP includes Implementation Schedules spanning the time period 2003 to 2008. As a result, the City updated and modified the Implementation Schedules for each Program Element beginning with the 2007-2008 report period (see **Table 2.4-3**). These changes were also noted in the 2008-2009 Annual Report. For this element there are no changes in responsibility or revisions to the Implementation Schedule through 2012-2013

2.4 - New Development / Redevelopment Program

Table 2.4-3. New Development and Redevelopment Program Implementation Schedule and Responsible Department/Position

Control Measures and Measurable Goals	Implementation Schedule						Responsible Department/Position					
	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	Environmental Programs Staff	Public Works	Community Development	Parks	Finance	Other
NDR1 Private Land Development Plan Review Process												
1. Establish standard conditions of approval for permanent stormwater BMPs based on the type of land development project in order to: preserve areas or features that provide important water quality protection; maximize pervious areas to promote and enhance percolation; and limit disturbance of natural drainage features and vegetation.							◐	●	●	◐		
2. Require long-term maintenance and operation of permanent stormwater BMPs, when necessary. Establish a process to track that permanent stormwater BMPs are constructed, operated, and maintained.							◐	●	●	◔		
3. Develop or revise, as necessary, checklists or similar methods used by City staff to review land development applications and plans for compliance with Receiving Water Limitations and Design Standards of the Small MS4 General Permit – Attachment 4.							◐	●	●			
4. Develop and implement a coordinated plan review, inspection activities, and reporting methods for permanent stormwater BMPs to be used by various City staff.							●	◐	◐	◐		
5. Train planning and engineering staff that are responsible for reviewing plans for inclusion of permanent stormwater BMPs. Educate appropriate staff in the use of established standard conditions, mitigation measures, City requirements and engineering standards for stormwater quality protection.							◐	●	●			
NDR2 Permanent Stormwater BMPs for Municipal Construction Projects												
1. Utilize permanent stormwater BMPs for municipal projects.							◐	●	◐			
2. Train capital improvement staff in City stormwater management requirements.							◐	●	●			

Continuing activity, reviewed or revised as needed throughout implementation

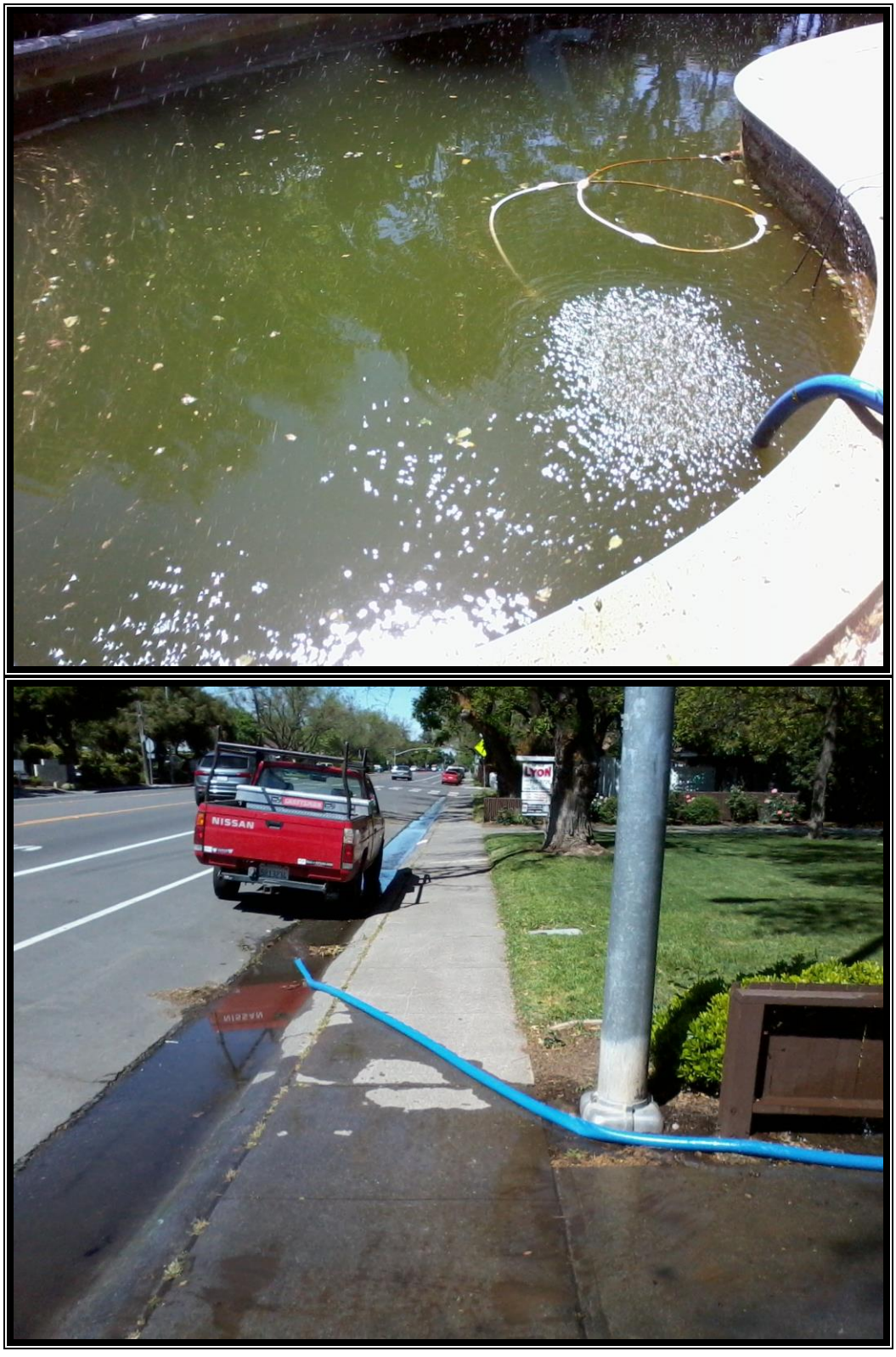
One-time activity to develop or implement a measurable goal

● Individual or department to take lead in the development or implementation of an activity.

◐ Individual or department to provide strong support in the development or implementation of an activity.

◔ Individual or department to review and provide comments and guidance during the development or implementation of an activity.

Section 2.2 - Illicit Discharge Program



An Illicit Discharge to the Storm Drain System that the City Responded to on Anderson Road.

Section 2.2 - Illicit Discharge Program

2.2.1 OVERVIEW

The City's storm drain system may convey flows other than stormwater. These flows are commonly referred to as "non-stormwater" flows and enter the stormwater system from a variety of sources. Illicit discharges are a source of non-stormwater that enters the stormwater sewer system through illicit connections and illegal dumping. An illicit connection is a physical connection to a storm drain that has not been approved by the City and conveys a prohibited non-stormwater discharge. Illegal dumping is the intentional or negligent dumping of prohibited materials on any surface that will convey these materials to the stormwater system.

The Permit provides a list of non-stormwater flows that are not considered illicit discharges. These discharge flows are permissible provided they are not found to be sources of significant pollutants. The permissible discharges are the following:

- water line flushing
- landscape irrigation
- diverted stream flows
- rising ground waters
- foundation drains
- springs
- discharges from potable water sources
- uncontaminated pumped ground waters
- air conditioning condensation
- dechlorinated swimming pool discharges
- individual residential car washing
- water from crawl spaces pumps
- footing drains
- irrigation water
- lawn watering
- flows from riparian habitats and wetlands
- uncontaminated ground water infiltration to separate storm sewers
- emergency fire fighting water

All other non-stormwater flows not listed above are considered illicit discharges and can be a source of pollutants that may adversely impact receiving waters. Due to this potential impact, the MS4 Permit requires municipal programs to "effectively prohibit" non-stormwater discharges to the stormwater system. To determine if the City is effectively prohibiting non-stormwater discharges, the City is required to implement a program to detect and eliminate illicit discharges to its stormwater system.

2.2.2 CONTROL MEASURES

The City's control measure and accompanying measureable goals ensure that the Commercial and Industrial Program requirements are effective and appropriately implemented. For each control measure there are accompanying measureable goals which, once accomplished, constitute compliance with the General Permit requirements.

The Illicit Discharge Program Control Measures consists of the following:

ID	Control Measure
ID1	Illicit Discharge Detection, Elimination, and Training

The next section of this report provides information on the specific tasks of the measurable goals and implementation schedules that have been initiated and/or completed for the Illicit Discharge Program.

2.2.3 ID1 – ILLICIT DISCHARGE DETECTION, ELIMINATION, AND TRAINING

This Control Measure specifies that the City will detect and eliminate illicit connections and illegal discharges to the stormwater sewer system.

The City reviews and revises as needed, its maintenance and response activities for illicit discharges. Maintenance and emergency response personnel are trained to protect the stormwater system during

their daily work and emergency response activities. The City keeps records and reports on its responses to illicit discharge incidents.

Existing BMPs and related activities to this Control Measure are the following:

- An ordinance prohibiting illicit discharges to the City's stormwater system was adopted in June 2012 consistent with Control Measure PALA2.
- Annually the City's Public Works Department inspects and cleans the City's stormwater system. Evidence of illicit connections or illegal discharges are investigated and corrected.
- Solid waste in City parks are contained in covered receptacles with no weep holes. Trash from each park is carried to regionally-located dumpsters for collection by regular services.
- On Friday and Saturday of each week throughout the year except for Holidays, Yolo County Landfill holds Household Hazardous Waste Drop-off Events to accept hazardous wastes, pesticides, and herbicides from households. Businesses that qualify for the Conditionally Exempt Small Quantity Generator Hazardous Waste Collection Program can make an appointment with the Landfill to arrange drop-offs. Davis Waste Removal, Yolo County Landfill and five automotive parts stores or service centers in Davis provide free used motor oil drop off.
- Businesses handling hazardous materials and wastes are required to develop an Emergency Response Plan that includes spill prevention, control, and counter-measures. The Fire Department maintains copies of all business emergency response plans.
- The Public Works Department responds to all complaints by staff, residents, and businesses reporting spills, leaks, and illegal dumping of non-hazardous materials or illicit connections to the stormwater sewer system. Clean-up activities include measures to prohibit or limit flows to the stormwater sewer system.
- The Fire Department responds to all spills and leaks of hazardous material. Clean-up activities include measures to prohibit flow to the stormwater system.
- The Partners for Greener Davis green business program has checklists which contain information related to spill prevention and best management practices for dealing with hazardous materials.

2.2.3.1 Measureable Goals

Measurable Goal 1: Inspect the sanitary sewer system within the Core Area (downtown Davis) such that the entire system is inspected at least once during the permit term.

Public Works completed these inspections and repairs. Maintenance of the Core Area system occurs quarterly.

Measurable Goal 2: Continue to implement spill/leak investigation and clean-up response activities.

In 2012-13, a door hanger for municipal operations crews was developed for responding to illicit discharges discovered while in the field (See Appendix B, page 53). The door hanger was distributed to all PW municpals operations crews. In 2012-13, the Public Works Transportation Division responded to a total of 8 incidents of hazardous material spills. One of these incidents resulted in an estimated 50 gallons of gasoline dischared. Yolo County Environmental Health was notified to facilitate clean-up. All other discharges cleaned-up by City personnel. Environmental Program staff investigated 31 separate incidents.

Description	2011-2012	2012-13
PW Incidents of hazardous material spills	11	8
# resulting in illicit discharge	0	1
# Incidents investigated	18	31

Measurable Goal 3: Continue to use a standardized reporting procedure for spill/leak and clean-up response activities and develop the City's CMMS database system if feasible to facilitate electronic record keeping.

During the report period, the City continued to record hazardous material spills and leaks using several methods. The primary method is an incident response record that is filled out by the Public Works' Transportation crew. The City's CMMS database is used to store and retrieve information on location, material, volume, and clean-up response for spill incidents. Materials that enter the storm drain are referred to the Stormwater Collections crew for containment and clean up. The SW Collections crew also documents the materials recovery effort via the CMMS database. In addition, the Fire Department reports hazardous spills and leaks within a national incident response database, but does not use the City's CMMS database.

Public Works Environmental Program staff also recorded illicit discharge incidents reported. For the past three years Environmental Program staff have utilized a spreadsheet to record these investigations. Information recorded includes: location, date, material in spill or discharge, offending activity, how contact with property owner or perpetrator is made, follow up investigations, resolutions, details of how awareness of pollution prevention was generated to dischargers via outreach methods, and halting discharges.

The City continues to investigate how to utilize the CMMS for all spill and leak record keeping. To date, the CMMS database does not provide qualitative assessments that are quantifiable, like a spreadsheet.

Measurable Goal 4: Maintain records of illicit discharges including:

- Dates of occurrence, response and resolution
- Location
- Estimated type and quantity of material discharged
- Description of response and enforcement actions

As noted in Measurable Goal 3 above, the Environmental Program staff, the Transportation Division, and the Fire Department all maintains records of illicit discharge responses via differing methods. Despite this records of illicit discharges are occurring and retrievable. In the future, the goal will be for all discharge incidents to be recorded in the CMMS database or similar electronic method. Fortunately, for the City, the overall numbers of illicit discharge incidents remain relatively small. They have easily been recorded by the methods cited above. Incident response records continue to be documented for the location, material, volume, and clean-up response.

Below is a summary of what the Transportation Division, Environmental Program staff, Wastewater Division Collections staff, and the Fire Department did in response for illicit discharge incidents for the report period followed by a table summarizing these responses.

- The Transportation Division responded to 8 hazardous waste spills. One spill resulted in a discharge of approximately 50 gallons of gasoline. Yolo County Environmental Health was called in to address clean up These spills typically consisted of motor oil, transmission fluid, hydraulic oil, gasoline, diesel, and anti-freeze and none of these spills resulted in an illicit discharge.
- Environmental Program staff responded to 31 potential illicit discharge incidents. These incidents typically involve but are not limited to the following types of discharges: draining of chlorinated or dirty pool water, dumping garbage into the storm drain, cement contractors washing concrete mix into the drain, sediments from small construction, or the use of surfactant cleaning products to degrease parking areas. For most of these incidents, an unknown but insignificant amount of materials were discharged. These incidents were mostly threats rather than actual discharges. The City is responding to calls made from the public or incidents identified by City staff. These offending activities are rarely caught in the act in the field. However, the pollutants discharged are of both insignificant quantity and low threat to environmental health. In all incidents, the City investigated the source of the spill and worked with the responsible parties to create awareness of damages from activities that result in pollutant discharges to the storm drain system. Since the

City's stormwater ordinance was adopted in June of 2012, only one incident rose to the level of a written NOV. NOVs are a last resort effort to achieve compliance for any of the reported incidents. The City works with dischargers in a sequence of awareness to greater enforcement measures dependent upon the response of the responsible party as staff attempts to modify the responsible party's behavior. In the case of the one NOV, the discharger came into compliance. In two other incidents written warnings were provided. In all other incidents verbal warnings were provided. In all cases, no repeat or continued offenses have occurred.

- 24 incidents of sanitary sewer overflows. Of these incidents, four discharge incidents reached the storm drain system. However in no incidents were discharges reported to reach surface waters. An estimated 517 gallons were reported as spilled and recovered. All incidents were reported through the State reporting system CIWQS.
- The Fire Department responded 58 incidents reported. 35 of those incidents ended up with some level of discharge though only 2 were reported to have reached the storm drain system. Otherwise, all spills where cleaned up and less than 5 gallons in quantity. The two incidents that reached the storm drain had the materials recovered. One was less than 5 gallons of paint and the other was less than 5 gallons of a petroleum product.

	Description	**2011-12**	**2012-13**
Summary	# of illicit discharges identified	34	121
	# illicit discharges investigated***	18	31 (PW), 58 (Fire)
	# of Sanitary Sewer Overflows	7	24
	# of Hazardous spills reported non-discharge - PW	9	7
	# of Hazardous spills cleaned-up non-discharge - PW	9	7
	# of Hazardous spills cleaned-up w/discharge –PW	0	1
	Total # of Hazardous spills reported non-discharge – Fire Department	N/A	23
	# of Hazardous spills cleaned-up non-discharge – Fire Department	N/A	33
	# of Hazardous spills cleaned-up w/discharge – Fire Department	N/A	2
	# of Hazardous spills that did not require clean up – non-discharge - Fire Department	N/A	23
	TOTAL NUMBER OF SPILLS	16	67
Type of Materials	Inorganic, unidentified	0	1
	Paint	0	5
	Petroleum Products	9	40
	Sewage	7	24
	Misc (wheat flour, surfactants, dirt, greenwaste, bio hazards or animal wastes)	0	18
	Cement, mortar	0	5
	Pool Water (TSS, pH, chlorine)	0	6
Enforcement	Written Warnings	0	2

	Description	2011-12	2012-13
Action	Notice of Violation	0	1

The Fire Department did not provide information for the 11-12 reporting period.

* Reported as storm drain threatened, but engine company did not note discharge into storm drain.

** 1 report indicated no cleanup necessary, fluid had evaporated. 7 incidents involving spills were cleaned up by parties other than the fire department (ie. owner, EH&S, tow truck).

*** Note that the City in 2011-12 differentiated illicit discharges from SSOs and Hazardous Material spills. The number in past years did not necessarily reflect that distinction.

Measurable Goal 5: Compile training materials and train appropriate personnel for the adequate implementation of the illicit discharge program during the permit term.

New field employees are trained on the job regarding illicit discharge identification, response, reporting and enforcement. All field employees discuss illicit discharge identification at tailgate meetings prior to drainage inspection/maintenance activities. Reference material for managing illicit discharges is utilized for this purpose on an as needed basis and depending upon the investigation of an illicit discharge incident. The table below shows the number of training sessions during this and the prior report period.

In 2012-13, all of the Public Works and Parks municipal operations crews were quizzed on stormwater knowledge and surveyed on how they utilized stormwater BMPs in their day to day activities (see Appendix B pages 2-5, and 18-20 for the quiz and survey sample). In addition, the Transportation crew attended a spill response workshop titled “Hazardous Materials Emergency Response Workshop” and Fire Department trained 38 staff members in 186.5 hours of class time over a 11 different subjects related to spill response this year as part of their normal certification continuing education.

In 2011-12, these crews were trained on general stormwater awareness issues via a PowerPoint presentation, provided with a stormwater handouts (see Appendix B, pages 19-20 for a copies of the handouts) and an updated copy of the CASQA Municipal Operations BMP Manual.

The City has followed this pattern of training and quizzing municipal operations work crews in alternate years for the past four years. Unless otherwise directed by the Regional Board or by requirements of the General Permit, the City will continue with this practice.

	2011-12	2012-13
Total Number of Trainings Provided to PW Staff	1	1
Total Number of Attendees	7	6
Total Number of Trainings Provided to Fire Staff	N/A	N/A
Total Number of Fire Staff Attendees	N/A	38

2.2.4. EFFECTIVENESS ASSESSMENT OF ILLICIT DISCHARGE PROGRAM

Effectiveness assessment is a fundamental component for developing and implementing successful stormwater programs. Outcome levels help to categorize and describe the desired results of the Program Elements and related Control Measures.

In order to determine the effectiveness of the Illicit Discharge Program, an assessment of the program data is conducted as a part of the annual report. The results of this assessment are used to identify modifications that need to be made to the program. By conducting these assessments and modifying the program as needed, the City ensures that the iterative process is used as an effective management tool.

Effectiveness is determined through a series of Assessment Tasks as identified in the SWMP.

2.2.4.1 Assessment Tasks

Assessment Task ID1: Maintain a record of illicit discharges investigated. Include in the record a characterization of the type and estimated quantity of the flow eliminated, a brief description of the City's activities to response, and any enforcement actions taken.

The City maintains records of illicit discharges investigations and hazardous material spill incidents response by a variety of methods involving two departments and four divisions. The records provide: where possible estimated quantities of discharges, spill response actions, and enforcement actions.

It is possible that over time, patterns or trends of illicit discharges may be determined as the record keeping of illicit discharges is improved, possibly with the addition of GIS. If so, then the City can direct their resources in those areas (e.g., public education efforts for apartment complexes). At this point, the assessments of the records do suggest trend of automobile work being done at residents and spills resulting from it. Future outreach efforts may focus more in the area.

2.2.4.2 Program Effectiveness Assessment Summary

The City accomplished all of the measurable goals identified for the report year, 2012-2013. **Table 2.2-1** summarizes the effectiveness assessment that was conducted for the Illicit Discharge Program.

Table 2.2-1 Effectiveness Assessment for the Illicit Discharge Program

Measureable Goal	Level 1	Level 2	Level 3	Level 4
	Implement Program	Increase Awareness	Behavior Change	Load Reduction
ID1 – Illicit Discharge Detection, Elimination, and Training				
1. Inspect the sanitary sewer system within the Core Area (downtown Davis) such that the entire system is inspected at least once during the permit term.	✓ In the 2007-8 reporting period, the City completed inspections of all and repaired 80% of the sanitary sewer system in the Core Area. ✓ The remaining 20% of the repairs are minimal and will be scheduled as CIP budget permits.	✓ Annual Pretreatment Program inspections of Core Area Food Service Establishments includes awareness message about trash, floor matt maintenance and grease interceptor maintenance.	N/A	N/A

Section 2.2 - Illicit Discharge Program

Measureable Goal	Level 1 Implement Program	Level 2 Increase Awareness	Level 3 Behavior Change	Level 4 Load Reduction
2. Continue to implement spill/leak investigation and clean-up response activities	✓ Environmental Compliance investigated, and mitigated as necessary 31 incidents of hazardous material spills. ✓ The Transportation Division responded to 8 minor hazardous material spills. ✓ The City responded to 24 sanitary sewer overflows and mitigated all of the SSO. ✓ Fire Department investigated 58 incidents and mitigated 35 spills with some minor levels of discharge.	✓ The City issued 1 NOV ✓ Provided 2 written warnings. ✓ Provided 28 verbal warnings. ✓ Provided 31 parties with awareness information on pollution prevention to surface waters.	N/A	✓ A total of 517 gallons of wastewater was possible discharges were recovered. ✓ An estimated total of less than 25 gallons of paint was kept from entering the storm drain system. ✓ An estimated total of less than 25 gallons of petroleum products was kept from entering the storm drain.
3. Continue to use a standardized reporting procedure for spill/leak and clean-up response activities and develop the City's CSSM database system if feasible to facilitate electronic record keeping.	✓ The City has a standardized reporting procedure for discharges and clean-up.	N/A	N/A	N/A
4. Maintain records of illicit discharges.	✓ The City maintains records of illicit discharges responses.	✓ See # 2 above.	N/A	N/A

Measureable Goal	Level 1	Level 2	Level 3	Level 4
	Implement Program	Increase Awareness	Behavior Change	Load Reduction
5. Compile training materials and train appropriate personnel for the adequate implementation of the illicit discharge program during the permit term	✓ The City trained appropriate personnel.	✓ 19 training sessions held with a total of 106 attendees over all the training sessions in 2011-12. ✓ All PW Muni Ops crews surveyed and quizzed on SW issues in 2012-13. ✓ 38 employees had Hazmat training in FY 12-13. 11 subjects were covered over 186.5 class hours.	F	F

✓ – An effectiveness assessment was conducted during the reporting period 2010 – 2011
F – An effectiveness assessment may be conducted in future Annual Reports
N/A – This outcome level is not applicable

2.2.5 SWMP MODIFICATIONS

The City's SWMP received final approval from the Regional Water Quality Control Board (RWQCB) on February 18, 2007. The SWMP includes Implementation Schedules spanning the time period 2003 to 2008. As a result, the City updated and modified the Implementation Schedules for each Program Element beginning with the 2007-2008 report period (see **Table 2.2-2**). These changes were also noted in the 2008-2009 Annual Report. For this element there are no changes in responsibility or revisions to the Implementation Schedule through 2012-2013.

Table 2.2-2 Illicit Discharges Program Implementation Schedule and Responsible Department/Position

Control Measures and Measurable Goals	Implementation Schedule						Responsible Department/Position					
	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	Environmental Program staff	Public Works	Community Development	Fire	Finance	Other
ID1 Illicit Discharge Detection, Elimination and Training												
1. Inspect the sanitary sewer system within the core (downtown) area such that the entire system is inspected at least once during the permit term.	■						◐	●				
2. Continue to implement spill/leak investigation and clean-up response activities.	▒	▒	▒	▒	▒	▒	◐	●	●	●		
3. Develop a standardized reporting procedure for spill/leak and clean-up response activities.	■						●	◐	◐	◐		
4. Maintain records of illicit discharges.	▒	▒	▒	▒	▒	▒	◐	●	●	◔		
5. Train appropriate personnel for the adequate implementation of the illicit discharge program during the permit term.	▒	▒	▒	▒	▒	▒	◐	●				

▒ Continuing activity, reviewed or revised as needed throughout implementation
■ One-time activity to develop or implement a measurable goal

● Individual or department to take lead in the development or implementation of an activity.

◐ Individual or department to provide strong support in the development or implementation of an activity.

◔ Individual or department to review and provide comments and guidance during the development or implementation of an activity.

Section 2.5 - Municipal Operations Program

City Crews Vacuuming out a City Storm Drain Inlet

2.5 - Municipal Operations Program

2.5.1 OVERVIEW

The Municipal Operations Program requires the City to "examine its own activities and develop a program to prevent the discharge of pollutants from these activities. At a minimum, the program must educate staff on pollution prevention, and minimize pollutant sources." Among the municipal facilities and activities that could be sources of pollutants in stormwater runoff are:

- maintenance and repair of vehicles, equipment, and facilities
- facility, equipment, and landscaping maintenance and repair practices
- chemical and material use, application and storage practices
- waste management practices

Pollutants most commonly associated with these facilities and activities include petroleum hydrocarbons, pesticides, fertilizers, toxic chemicals, trash and debris, sediment and oxygen-demanding substances. The program must include a plan to implement site-appropriate and cost-effective treatment and source BMPs and ensure long-term operation and maintenance of such BMPs.

2.5.2 CONTROL MEASURES

The City has developed several Control Measures and accompanying measureable goals to ensure that the Municipal Operations Program requirements are effectively developed and implemented. For each Control Measure there are accompanying measureable goals which, once accomplished, constitute compliance with the Permit requirements.

The Municipal Operations Program Control Measures consists of the following:

MO	Control Measure
MO1	Employee Education and Training
MO2	Public Infrastructure Operation, Repair and Maintenance
MO3	Green Waste Management
MO4	Corporation Yard and Fleet Management
MO5	Parks and Open Space Maintenance

The next section of the annual report provides information on the specific tasks that have been initiated and/or completed during the reporting period pursuant to the New Development/Redevelopment Program measurable goals and implementation schedules.

2.5.3 MO1 – EMPLOYEE EDUCATION AND TRAINING

This control measure specifies that the City will increase employee awareness of the SWMP and to ensure employees responsible for implementing any part of the SWMP are adequately trained.

Existing BMPs and related activities to this Control Measure are the following:

- The Public Works Department conducts department-wide monthly safety meetings. The meeting is related to safety and to other training and information sharing such as stormwater.
- The Public Works Department distributes Employee Handbooks that contains all the policies and procedures that employees need while performing their job duties.
- Many of the Divisions and Municipal Operations and Maintenance work crews within the Public Works Department train employees through weekly divisional tailgate meetings and on-the-job training.
- The City performs Stormwater training for all maintenance and operations crews biennially and surveys these same crews in odd years to determine what they know and how they have modified their actions.

- The City's SWMP and CASQA's Stormwater Pollution Prevention for Municipal Operations are both available for all employees for reference either on the City's webpage or at the following web links:
  - http://archive.cityofdavis.org/pw/stormwater/pdfs/2006-SWMP.pdf
  - http://www.cabmphandbooks.com/Municipal.asp

2.5.3.1 Measurable Goals

Measurable Goal 1: Review the Public Works Employee Handbook and identify where it may be revised to include reference to the City's responsibility to implement the SWMP and describe the City departments and/or employee positions responsible for implementing the SWMP.

After a review of the Public Works Employee Handbook in 2007, staff concluded that revision of the Handbook was unnecessary. City staff responsible for implementing the SWMP has been made aware of the SWMP and their responsibilities for implementation through a variety of City department meetings in prior years since the adoption of the 2006 SWMP. Individual municipal operations crew's trainings have occurred the in odd years and surveys and quizzes assessments are applied in event years. Muni Ops crews will be trained again in the fall 2013.

Measurable Goal 2: Develop and implement an environmental training program that includes stormwater issues for City personnel that conduct activities directly or indirectly related to the SWMP. The various departments and divisions to be trained include:

- Public Works Department:
  - Administrative Division
  - Transportation Division
  - Water Division
  - Wastewater Division
  - Solid Waste Division
  - Support Services Division
- Parks and Community Services Department
- Community Development Department

Since 2006, the City has been conducting trainings of the individual divisional work crews and appropriate department personnel. Since 2010, the City has developed a biennial process of training and alternatively quizzing and assessing in alternate years its Municipal Operations work crews. It has followed a similar pathway with other Divisional and Department personnel such as Planners, Building and Public Works inspectors. The primary rationale for this is that there is not enough employee turnover and not enough new information relevant to train every year for stormwater. It essentially becomes a wasted time effort that is resented by employees with little added water quality benefit. When rules change such as the adoption of the Construction General Permit or the Small MS4 General Permit, then training about those changes is particularly appropriate regardless of where the City is in the cycle of training or surveying/quizzing.

Refresher training occurred in 2011-2012. Environmental Program staff conducts the training. A system was implemented that would track and keep records of training for the purposes of reporting back to the State by June 30, 2010. The training session records include:

- what training has occurred,
- what dates training occurred on,
- how many individuals involved, and
- what subject matter covered by the training session.

- provide surveys for staff to see what they learned to measure awareness.

The table below provides the results of implementing the system outlined above. For 2011-12 physical training sessions occurred. For 2012-13 surveys and quizzes of stormwater knowledge and changes in behavior were applied.

Department/Division	Date	# of Staff	Subject Matter	Handout Materials?	Survey to Increase Awareness 2012-13?**
Transportation*	March 22, 2012	9	Storm water for O & M	Yes	Yes
Water*	October 4, 2012	10	Storm water for O & M	Yes	Yes
Wastewater and Stormwater Collections*	March 22, 2012 April 4, 2012	3 5	Storm water regulations for wastewater	Yes	Yes
Wells*	April 4, 2012	3	Storm water for O & M	Yes	Yes
Parks and Community Services Maintenance Staff*	April 5, 2012	30	Storm water for O & M	Yes	No
Facilities – Building and Pool Maintenance*	April 6, 2012	8	Storm water for O & M	Yes	Yes
Custodial Services*	April 24, 2012	6	Storm water for O & M	Yes	No
Fleet Services*	March 27, 2012	5	Storm water for O & M	Yes	Yes
Greenbelt and Maintenance contract-employees*	March 21, 2012	21	Storm water presentation	Yes	No
Community Development and Sustainability***	May 7, 2012	5	Storm water for New and Redevelopment	No	No
Public Works Field Inspectors****	May 30, 2012	3	CGP Construction Requirements	No	No
Building Field Inspectors****	May 30, 2012	5	Cal Green Code Construction Requirements	No	No

Notes:

* Provided Power Point presentation with background on regulatory structure and requirements, and an updated copy of the Stormwater Pollution Prevention for Municipal Operations BMP Handbook created by CASQA, January 2003. A quick reference sheet on Basic Stormwater Best Management Practices basic principles. A quick reference sheet on pollutants of concerns and basic procedures to perform at sites (Appendix B, pages 12-14).

** Surveys and quizzes conducted in June 2013.

*** Training on Small MS4 General Permit requirements, LID, and regulatory structure.

**** Training included a PowerPoint slide presentation, regulatory structure, requirements of CGP or Cal

Green Code, staff departmental responsibilities delineation, and BMP dos and don'ts for Davis.

The results of the surveys are quantified in the table below. See Appendix B, pages 2-5 for a copy of a completed survey form. Overall knowledge of stormwater principles appears to be good. While examples of behavioral changes were somewhat limited, there were some small examples of behavioral changes that did result from past training sessions. Staff will use these surveys to focus training for the trainings to be performed in the 2013-14.

Department/Division	# of Surveys Completed
Parks and Community Services Maintenance Staff	1
Transportation	8
Water	0
Wastewater Collections	5
Stormwater Collections	3
Wells	0
Facilities – Building and Pool Maintenance	5
Fleet Services	5
Custodial	0
Total Surveys Collected	**27**

In addition, direct trainings involved the following for 2011-12:

- On April 18-20 four members of Public Works attended the 2012 CWEA Annual Conference in Sacramento. Multiple sessions on stormwater and pollution prevention were provided.

2.5.4 MO2 – PUBLIC INFRASTRUCTURE OPERATION, REPAIR AND MAINTENANCE

This control measure specifies that the City will implement procedures, practices, and schedules to ensure municipal operation activities minimize stormwater pollutants.

Existing BMPs and related activities to this Control Measure are summarized as the following:

Street Sweeping

- All residential streets are swept once per week
- Core Area (downtown Davis) streets are swept twice per week.

Graffiti Removal

- Remove graffiti using the less-toxic products. Implement dry cleanup methods for removing residual materials when reasonably possible.
- Filter or direct to landscape all wash water that does not contain cleaning compounds.
- Vacuum/pump wash water containing cleaning compounds to the sanitary sewer.
- Protect storm drain inlets during graffiti cleanup activities.

Signs, Striping, and Painting Activities

- The Transportation Division uses water-based, fast drying paint products that do not contain heavy metals. The paint is applied in a manner to minimize over spray, spillage and during dry periods.

Road, Street, Curb, Gutter, and Sidewalk Repair and Maintenance

- The Transportation Division typically schedules maintenance and repair work during the dry season except during emergency situations.
- Household garbage and recyclable materials are collected separately but concurrently. Green waste is picked up loose from the street using specially designed equipment. A street sweeper follows this vehicle to remove remnant material from the collection activities.

Stormwater Sewer System Maintenance

- The City annually inspects, and cleans if needed, all 2,975 of its stormwater catch basins.
- Siphon-type drains in the downtown area are flushed and vacuumed quarterly. Collected water is discharged into the sanitary sewer system.
- Public Works inspects and maintains each of its five stormwater retention ponds annually prior to the wet season.
- From November through April, Public Works inspects the ponds at a minimum of two times per week.
- During the dry season months, May through October, the ponds are inspected at least once per week.
- The City has installed two trash racks at the outlet of West Pond, the largest of the five ponds.
- During August and September of each year, the City cleans and inspects every stormwater pump station in the City to remove silt and trash.
- Preventative maintenance of pump stations occurs quarterly and is in addition to the annual inspections.

Storm Channels and Ditches

Each year from May to November the City inspects, repairs, and maintains the channels and ditches it operates that traverse the City.

Channels and ditches are inspected and maintained during and immediately following each storm event during normal working hours.

BMP Activity Sheets

Field crews use the following Activity Sheets:

- Storm drain inlet and other concrete installation, repair, and replacement projects only when determined to be needed
- Public infrastructure maintenance and repair schedule and contractor BMPs
- Road and street repair and maintenance BMPs
- Routine catch basin/inlet inspection and cleaning BMPs once annually.
- Routine storm drainage pond inspection, maintenance, and cleaning BMPs once annually.
- Storm drain pump station inspection and maintenance BMPs weekly, quarterly and annually.
- Storm channel and ditch maintenance BMPs once annually.
- Storm drain stenciling program and other public outreach BMPs

2.5.4.1 Measurable Goals

Measurable Goal 1: Develop standard practices (with BMP Activity Sheets, if necessary) for additional activities that emphasize:

Graffiti removal activities:

- Remove graffiti using the less-toxic products. Implement dry cleanup methods for removing residual materials when reasonably possible.
- Protect storm drain inlets during graffiti cleanup activities.

Signs, striping and painting activities:

- Use dry-method techniques to clean and remove paint, paint chips, and other waste material. Dispose of waste material appropriately. Avoid washing or rinsing waste material down the storm drain.
- Protect storm drain inlets when work is being conducted at or near an inlet.
- Handle and load paint products or other materials away from storm drain inlets.
- Develop/edit and implement spill control and clean-up procedures to prevent spilled paint or other chemicals from reaching the stormwater sewer system.

Water line maintenance activities:

- Implement measures to reduce the quantity of domestic water to the stormwater sewer system.
- Ensure all discharges comply with all applicable laws, regulations and permits.

In 2007-08 it was reported that the above measurable goal's BMPs had been incorporated into the normal work practices of City staff via internal department/division training. In 2009-10, the City modified the standard operating procedures (SOP) of 27 different maintenance activities for the Water and Transportation Divisions of Public Works and 16 additional SOPs in 2011-12 for the Wastewater and Stormwater Collections crews. The increasing number of SOPs with stormwater related changes to them is indicative of the City's good faith effort to comply with this measureable goal.

Measurable Goal 2: Evaluate inlet inspection and maintenance records. Develop a list of catch basins that have been cleaned, by quadrants of the City. Determine if certain quadrants of the City require more frequent cleaning. Use this data to help prioritize routine maintenance and to focus the public education and outreach program.

The City began inlet inspection and maintenance records in 2003. Staff has reviewed records from 2005 through 2012-13. Catch basins and drainage inlets (DIs) are inspected routinely City-wide. Public Works field crews kept records on the total amounts of solid wastes and recyclables that were removed from the DIs. The records from 2011 -2013 are displayed in the table below. Over the years, a steady amount of material has been removed since the implementation of the use of recycling containers and the street sweeping programs. Collections crews report anecdotally that there is far less material in DIs since the implementation of the program. The City initially installed storm water markers on all existing DIs as part of this program. New development is required to install markers for any new storm water DIs. Review of the overall data reveals that the number of storm water markers and the amount of garbage removed fluctuates annually with no real identifiable link. The storm drain markers are replaced as they age and generally appear to last approximately five years. Staff has not analyzed the collection as of yet to pin point outreach activities for specific regions within the City though this concept has been discussed by staff. Regional evaluation and outreach efforts will occur through an illicit discharge program in the future consistent with the requirements of the revised General Permit. The annual inspection involves all storm drains within the City. .

Year	2011-12	2012-13
Total DIs Checked	2,975	2,975
Total DIs Cleaned	259	493
Aluminum Cans Removed (lbs)	5	20
Plastic Bottles Removed (lbs)	10	25

Year	2011-12	2012-13
Hard Plastic Removed (lbs)	N/A	N/A
Glass Bottles (lbs)	3	20
Miscellaneous Garbage Removed (lbs)	30	90
Total Weight Removed (lbs)	48	155
Installed Stormwater Markers	189	135

2.5.5 MO3 - GREEN WASTE MANAGEMENT

This control measure specifies that the City will develop and implement procedures, practices, and schedules for the evaluation and management of green waste management to ensure minimal release to the receiving waters.

Existing BMPs and related activities to this Control Measure are the following:

- Currently, green waste generated from yard and landscape maintenance activities is staged in the City streets then removed mechanically by a private contractor and normally followed by street sweeping the following day. The debris typically is set away from the gutter to allow curbside flows to bypass the debris during rain events or over-watering.
- Additional practices to prevent that green waste from discharging into the receiving waters include:
  - street sweeping and corresponding parking enforcement to keep streets clear for sweeping,
  - storm drain inspection and cleaning, stormwater detention basins and channel operations, stormwater pump station cleaning,
  - local waterways and detention basin clean-up events,
  - vegetated channels,
  - storm drain inlet markers,
  - green waste composting, and public education.

  Focused public education programs regarding landscape management including integrated pest management (IPM), composting and water conservation, are described in other portions of this SWMP.

2.5.5.1 Measurable Goals

Measurable Goal 1: Complete the City's evaluation of alternatives of green waste collection and removal. Pending City Council direction, begin to implement recommended alternative by spring of 2007.

In 2005, the City contracted with Godbe Research to conduct a citizen phone survey. The results of the survey indicated that 95% of the respondents were satisfied with the current service and 63% reported they are opposed to the containerization of green waste.

In 2007, the evaluation of the alternatives resulted in the City Council deciding to continue collecting green waste from piles in the streets. The City did consider conducting a pilot study to use green waste containerization on major bike route corridors in order to improve bike safety, but decided to abandon that activity primarily because residents were against using the container program and costs to the City for collection would be increased over the existing means of collection.

In July 2013, the City adopted a Solid Waste Strategic Plan. One of the key elements of the plan features yard material collection strategies and containerization. The City is looking into containerization as a way to reduce collection costs and include the municipal collection of food scraps for composting with yard materials. Once the plan is complete, City Council will need to make a decision on the best yard material collection system.

Additionally, according to the City's DI inspection reports from 2003 to 2007, the amount of solid waste removed from DIs has decreased including green waste primarily due to the City's recycling containers and street sweeping program. Since that time period, green waste removal has remained static.

Upon examination of the City's stormwater runoff from greenwaste, there is an unknown indication that current practices of greenwaste containerizing and removal is causing or contributing to any water quality impairment. However, in terms of greenwaste, the City's runoff appears to be comparable if not slightly cleaner than other California cities primarily due to the BMPs employed by the City listed below.

- Once a week street sweeping (a sweeper follows the front end loader that picks up the green waste to sweep up remnants).
- Downstream BMPs (approximately 2/3 of Davis drains to regional retention ponds located within the where water is allowed to settle prior to discharging during first flush events).
- The conveyance channels of Channel A, Mace Ranch, Putah Creek are substantially vegetated, with design that mimics the physical characteristics of a vegetated swale.
- The annual storm drain cleaning which removes greenwaste and other pollutants from the catch basins and conveyance facilities.
- The City conducts green waste composting education program year round.
- The development of webpages that address proper placement of green waste and the effects on stormwater: http://recycling.cityofdavis.org/how-do-i-recycle/yard-material

The above factors have led the City Council to decide to continue collecting green waste piles from the street.

Measurable Goal 2: Review and, if necessary, modify the City's Management of Garbage, Other Wastes, Recyclables, and Fees Ordinance to support implementation of the recommended green waste removal alternative by July 2007.

Based on the information provided in Measurable Goal 1 above, the City has decided to continue collecting green waste from the streets. The City is of the opinion, additional modifications to the City's Management of Garbage, Other Wastes, Recyclables, and Fees Ordinance remains unwarranted. In addition, past surveys have indicated the City's residents prefer being able to place greenwaste on the street. However, the City is currently studying the feasibility of options with a green waste container program. Public Works staff anticipates a pilot program going to City Council in December 2013.

Measurable Goal 3: Continue to manage and grow an outreach program focusing on how proper handling of green waste can promote water quality.

The City continues to develop and distribute outreach material about proper green waste management. See **Appendix B** page 6 – 9 and 21 – 52 for a partial list of existing BMP's and related activities related to the Control Measure for an outline of outreach classes, and educational materials for activities related to this Measurable Goal. The City has also developed and continues to update the following webpage to help promote use of backyard, food scrap and worm composting:

http://recycling.cityofdavis.org/composting

Measurable Goal 4: Continue to promote backyard composting program through workshops, educational articles, or advertisements.

The evaluation of the backyard composting program resulted in adding additional workshops to increase awareness and participation. See Assessment Task MO3.7 for the numbers of workshops and

participation from 2011 to 2013. See Appendix B pages, 24-27 for a copy of the fliers, agenda and handout material for composting classes.

2.5.6 MO4 - CORPORATION YARD AND FLEET MANAGEMENT

This Control Measure specifies that the City will manage the City's corporation yards to minimize pollutant discharges to the stormwater sewer system.

Existing BMPs and related activities are the following:

- The City owns and operates two corporation yards, one at 1717 5th Street and the other at 1818 5th Street. The City Fuel Facility located at 1717 5th Street corporation yard is completely covered and includes leak prevention and detection equipment, and has automatic shut off valves for the fuel tanks. This facility meets all current regulations covering operations of underground storage tanks. The island is graded to prevent stormwater from draining onto or through the fueling island area. Fuel spill reporting/cleanup procedures are posted and absorbents are stored nearby.
- Painting at 1717 5th Street is done only during the dry season. Water-tight paint containers are stored on pallets.
- All loose construction materials (e.g., asphalt, sand) are stored in storage bins at both yards. Any runoff from these bins at 1818 5th Street is diverted to a central collection pit. This pit is pumped out by Public Works, which transport the wastewater for discharge to the sanitary sewer. This process is performed once per quarter or more frequently as needed. For both yards, the bins are inspected prior to 50% chance rain events and if necessary, loose and sediments are swept back into the storage bins, and wattles and covers are used to retain debris back during rain events.
- Yard maintenance crews use yard vacuums, leaf blowers and brooms to remove excess dirt and debris. If wash down is necessary, clean water and drain filters are used.
- Recyclable scrap metal is stored on-site in a large dumpster. A recycling contractor empties the container approximately twice per month.
- Several of the City Transportation staff are certified in hazardous waste spill response.
- There are filter fabric used to protect five total of the main valley drainage inlets in the both the City corporation yards located at 1717 and 1818 Fifth Street. These DIs are inspected prior to 50% chance or more rain events and inspected for maintenance once per quarter.
- All hazardous materials or substances are stored indoors or in with secondary containment in both yards.
- The Parks and Community Services Department operates the General Services Division and the Parks and Open Space Division from 1818 5th Street. These divisions provide maintenance for City facilities, and parks and open space
- The City's vehicles and equipment are maintained by the Fleet Division of Public Works at 1818 Fifth Street. Fleet maintenance activities, such as oil changes and repairs, are conducted indoors. The vehicle wash pad is sloped to drain into an oil/water separator which discharges into the sanitary sewer system. Soap for the facility is held in a water tight container with secondary containment and strapped to the building to prevent spills. Waste oil and waste coolant are stored in double-wall containers. The waste oil tank is located outside the maintenance building in an uncovered area against the south shop wall and is protected by bollards. The waste coolant tank is located inside the Fleet Services shop and is contained by a concrete berm. Waste oil is collected from vehicles in a drain cart and the drain carts contents are pumped into the waste oil tank through a sealed system of suction hose, pump, and transfer piping directly to the waste oil tank. Waste coolant is collected in a drain container and the contents manually emptied directly into the waste coolant tank. A spill kit is located and labeled within the Fleet area.

- When a new vehicle is received the old vehicle is removed from service. The vehicle is then de-activated by performing an out-of-service procedure. The City of Davis decals, radios and license places are removed. Vehicles are inspected for leaks and staged appropriately with drip pans if needed. De-activated vehicles are staged outside behind the fleet building at 1818 Fifth Street or in the recessed loading area on the northwest side of the site. The storage time is usually no more than one month for vehicles to be staged. The pink slip is requested from Finance and when there are five vehicles to sell, the auction house is contacted and the vehicles are moved off site.
- Used batteries are stored on a special plastic spill containment pallet, indoors. They are hauled away by a commercial battery recycler as needed.
- Bulk oil and coolant are stored inside the Fleet Services shop building and are contained by a lined, concrete berm. Product is delivered into the tanks by commercial vendors by means of a delivery hose. Products are removed from the tanks and distributed to work stations throughout the shop through a system of overhead pumps and piping system.
- Drip pans are placed under vehicles that are leaking in the parking area. If excessive, such vehicles are moved indoors and serviced.
- Fire Department vehicles are washed cosmetically at the Fire Station, but washing of the undercarriage is done at the corporation yard wash rack located at 1818 Fifth Street.
- Fleet moves old surplus vehicles off site as quickly as possible.
- Absorbent material used to clean the spill or leak is swept up and disposed or recycled appropriately.
- In recent years, City staff has reduced the use of gas by driving alternatively fueled cars including the following modifications to the City's fleet of vehicles.
    - In 2011-2012 the City Replaced (1) one 20 year old gross polluting Type I Beck Fire Truck with a new low emission Type I Spartan/Hi-Tech fire truck, (6) six old PD patrol cars changing the emissions rating from Bin 5 to ULEV II, (1) one old John Deere gross polluting Tier II lawn mower with a new low emission Tier 4I John Deere mower, (2) old P/U trucks changing the emissions rating from NLEV to ULEV II, (2) old pool cars changing the emissions rating from NLEV to new Ford Escape Hybrids with an emissions rating of PZEV and removed (8) eight vehicles from service due to low utilization.
    - In 2012-2013 the City Replaced (1) one 20 year old gross polluting Type I Beck Fire Truck with a new low emission Type I Spartan/Hi-Tech fire truck, (1) 1994 Type III gross polluting grass rig with a new International Harvester/Hi-Tech Type III low emission Tire 4 Grass Rig, (4) four old PD patrol cars changing the emissions rating from Bin 7 to ULEV II, (2) Para transit busses for DCT, (3) PD parking enforcement vehicles, (1) one 1995 John Deere gross polluting Tier 0 Tractor with a new low emission Tier 4I John Deere tractor, (2) Public Works P/U trucks changing the emissions rating from BIN 9 to ULEV II and removed (11) Eleven vehicles/equipment from service including the eliminated tree crew vehicles, electrical bucket truck and other vehicles due to low or no utilization.

2.5.6.1 Measurable Goals

Measurable Goal 1: Continue to maintain appropriate BMPs at the City's Corporation Yards.

The City has and continues to utilize BMPs at both corporation yards since 2003. BMPs maintained at the City's Corporation Yards are specified in the above description of Existing BMPs.

Measurable Goal 2: Inspect 1717 and 1818 5th Street annually for opportunities to reduce pollutant discharges into the stormwater sewer system and dispose of all waste material.

During 2012-13, both corporation yards were inspected as noted below. Each yard had one formal and one informal inspection. 1717 5th Street was formally inspected in December 2012. 1818 5th Street was formally inspected on February 2013. Any identified opportunities to reduce pollutants were incorporated

into standard practices. Some opportunities to operate the yards in a cleaner manner have been identified in the inspection reports. The reports have been shared with Division managers and discussed. Changes to yard operations primarily focus on for the short term simple fixes, such as behavioral changes and increased awareness. Better good housekeeping measures for sediments, old surplus items, uncovered garbage containers, spill kits and secondary containment for hazardous materials are the primary short term fixes. Longer term changes involve surplus equipment and garbage storage under solid cover, cover for the raw material bins, possibly staging greenwaste in a different manner or keeping it under cover, and more. Formal SWPPP plans for each yard have been completed and Environmental Program staff is working with appropriate Operations and Maintenance staff to implement these changes.

Description	2011-2012	2012-2013
# of inspections	8	5
# of facilities in general compliance	2	2
# of facilities requiring follow-up inspections	0	0

2.5.7 MO5 - PARKS AND OPEN SPACE MAINTENANCE

This control measure specifies that the City will implement procedures, practices and schedules to ensure activities related to the operation, maintenance, and repair of public parks and open space minimize stormwater pollutants.

Existing BMPs and related activities to this Control Measure include the following:

- All City Operations and Maintenance Divisions utilize Integrated Pest Management (IPM) practices to reduce the use of pesticides. IPM includes employee training on pesticide application and alternatives to pesticide use. This training is provided annually (periodically) by the IPM Coordinator who also assists with pesticide reduction outreach. Most of the employees tasked with pesticide application in the Parks Division have obtained Qualified Applicator Certificates (QAL) from the California Department of Pesticide Regulation. Those who are not are under the direct supervision of a QAL. Feedback from field staff (monthly pesticide use reports) assist in tracking pesticide use and use reduction efforts. Pesticide use in the City has generally declined since the inception of the IPM policy. Pesticides are applied to targeted areas only when needed if alternative practices are deemed ineffective or impracticable.
- Crews use rakes, brooms, and leaf blowers to clean up twigs, sawdust, and wood chips left after vegetation trimming and maintenance in public parks and open spaces.
- The City altered its pruning operations to reduce the amount of green waste. Vegetation is allowed to grow more naturally thus reducing the amount of pruning conducted and the chance for vegetative waste to enter the storm drain system.

2.5.7.1 Measurable Goals

Measurable Goal 1: Continue to implement the IPM program and policy. Investigate opportunities to expand the program and further reduce pesticide and herbicide use. Review and revise the program as necessary to keep the practices up-to-date and incorporate emerging technology for IPM practices.

In 2008 the City's IPM Specialist revised the Citywide IPM policy with the incorporation of the Pesticide Hazard and Exposure Reduction (PHAER) zones program. This strategy gives structure to the implementation of IPM policy in parks and greenbelts by allowing supervisors the needed flexibility in their management options and informing the citizens about the general level of pesticide hazard present on a site-by-site basis. Contracted landscape maintenance and pest control companies have been presented with this program and are expected to abide by it. For more information see:

http://ipm.cityofdavis.org/ipm-policy/ipm-policy-documents/ipm-policy-overview

In 2013, the pesticide use policy and the IPM policy will be fused into one document updating current practices by staff and contractors.

City staff continued to work with alternative pest control methods including:

- "Green pesticides": products derived from soap, acetic acid, herbal oils or microorganisms.
- Biological control: use of predatory organisms such as nematodes for grub controls on ball field turf, and promoting birds-of-prey to eat pest rodents.
- Mechanical control: removal of weeds by "weed whackers", tractor implements or hoes.
- Grazing: use of goats and sheep at Mace Ranch wildlife habitat.
- Mulching: use of wood chips to cover open ground, smothering weeds.
- Sheet Mulching: mulching but with cardboard or weed cloth barriers.
- Flaming: use of propane flamers to burn down broadleaf weeds.
- Solarization: the use of clear plastic during the summer to pasteurize the soil, kill or debilitate most weeds seeds.
- Flooding: use of flooding in the wetlands to deprive weeds of air.
- Revegetation using native and drought tolerant plants as ground cover to displace weeds and reduce herbicide use in City parks.

The following staff training events where held in 2012-13:

- Continuing education credits on Sept 19, 2012, where about 50 people attended. Agenda attached to the email.
- Seven people from Public Works have renewed their Qualified Applicator Certificates.
- Parks has 11 staff with Qualified Applicator Certificates which they renew every two years.
- The City's IPM Coordinator conducted two hour IPM training in Spanish for GP and Coast landscaping contractor's employees which had 18 attendees.
- Additional outreach activities are listed in Appendix B, pages B-6 to 9

Measurable Goal 2: Coordinate with the Public Education, Outreach, and Participation Program to continue implementing the Residential Pesticide Outreach Program.

The City continued to provide public outreach and education on pesticides using several forms of communication. City staff was also educated on weed and pest control techniques and current trends in IPM. Outreach and education efforts included (refer to PEOP1 for program specific information):

- The City of Davis' IPM website. http://public-works.cityofdavis.org/Tags/IPM
- The City IPM program developed a Facebook page linked to the City's Facebook page.
- The IPM comic "The Exterminator". http://ipm.cityofdavis.org/more-about-ipm/ipm-comic-book
- Notification of City herbicide application activities in parks and greenbelts via the Pesticide Hotline and development of the City website for citizens to view where applications are taking place or pesticides are not being used. The website is at the following link:

  http://ipm.cityofdavis.org/ipm-policy
- Making the City's PHAER zones map available on line:

  http://ipm.cityofdavis.org/ipm-policy/pesticide-use-in-parks/phaer-zone-maps
- Tips and alternatives to pesticide use provided in the annual Public Works sponsored "Utility Connections" newsletter to all City utility customers (over 33,000). The following website provide access to the "Utility Connections" newsletter:

http://public-works.cityofdavis.org/water/utilities/utility-connection

- Distribution of IPM educational literature at community events. The City continues to partner with the Master Gardener Program to provide free advice at the Celebrate Davis event, UCD Arboretum Plant Sales, and Central Park Open House. These provide opportunities to display the City's effort at least toxic pest control. Tables featured the OWOW program, bat and owl boxes as well as pamphlets and handouts on our pest control programs among other things. See Control Measure PEOP1 and Measurable Goals 5 and 6 for additional details on these events. See Appendix B pages B-24 – 26, and 31 - 60 for examples of informational handouts.
- Presentations on least toxic pest control at the Davis Community Gardens on 5th Street and Central Park Garden.
    - A presentation was made at the Davis Community Gardens on 5th Street March 21, 2012 with approximately 15 people in attendance.
    - A presentation was made at Central Park Garden on October 27, 2012, with over 1,000 attendees.
- Pesticide safety training for City field staff. IPM coordinator attended nine IPM conferences during 2012-13 to build networks for IPM professionals to share information and resources, and provide information to City IPM staff.
- Attendance at IPM conferences by departmental staff involved with IPM coordination. 10 Public Works and 15 Parks staff were required to attend during the 2012-13 continuing education to maintain pesticide applicators certificate. Staff did not all hold just one training session to train all individuals, but rather held multiple training sessions at various times during the 2012-13 time period.
- Attendance of continuing education for IPM in 2012-13. 20 Public Works and 10 Parks staff attending the IPM/SW continuing education onSept.19, 2012.
- One annual presentation on the Annual IPM Report to City Council and citizen advisory commissions. The Annual Report can be viewed on the City's website by using the following link:

    http://ipm.cityofdavis.org/Media/IPM/Documents/PDF/IPM/IPM-2012-annual-report-NRC.pdf
- Encouraging local pesticide venders to participate in the OWOW program by placing OWOW handouts and labels for products in local hardware stores. Pesticide free products are stocked with the OWOW label on the stores' shelves to encourage their purchase. Pesticide retailers are contacted by the City OWOW consultant. She meets with the owner/ manager and offers the materials and store staff training. Once a store is participating, the consultant visits the store regularly to ensure appropriate stocking of materials and to provide additional training as needed. Comments received by staff from vendors show that vendors were able to sell the pesticide free products better by use of OWOW information and labels.
- Attended UCD Arboretum Plan Sale events on held on March 10, 2012, April 13, 2012, and May 18, 2012 March 9, 2013 and the ones you and John attended, where the City IPM Coordinator occupied an information table and answered questions about the City's IPM program as well as other pollution prevention programs. See Appendix B, page 97 for a copy of the spring sales flier. The information table also contained displays for the City's Bat Box program and hand out materials for all pollution prevention programs as well as OWOW program brochures.
- A video on IPM and outreach activities was created and posted in the 2009-10 report year on the City's IPM webpage. See the following link

    http://ipm.cityofdavis.org/more-about-ipm/what-is-ipm
- Use of positive posting at location where alternatives to chemical pest control were in use. Signage which state that no pesticides are being used at these locations. These signs are being used at City Hall, all City playgrounds, and various parks, greenbelts, nature preserves, and

gardens. "Phaer" Zones" website up on the City's webpages to show where pesticides are being used and not used on City property. To view the City's pesticide usage maps, consult the following we blink:

http://ipm.cityofdavis.org/ipm-policy/pesticide-use-in-parks/phaer-zone-maps

Our Water Our World (OWOW) Program: The OWOW program continued to be implemented at three retail stores in Davis (Davis Ace, Redwood Barn and Nursery, and CVS Pharmacy) in 2012-13. This program provides "Less Toxic" fact sheets and shelf tags set adjacent to pesticides. In addition to the written materials, store employees are given training regarding what products are environmentally conscience alternatives for pest control. A view of the labels and brochure in stores may be viewed at the following website:

http://www.ourwaterourworld.org/QuickLinks/PromotionalMaterials/tabid/67/Default.aspx

The program works as follows: OWOW consultant sets up training dates with store staff. She discusses the proper installation of the rack and shelf talkers, teaches staff to addresses common questions regarding common pests and identifies appropriate less toxic alternatives. She also stays in communication with store managers to keep current on pest problems and what are the effective less toxic and nontoxic controls.

During the 2012-13, the following OWOW program events occurred:

- **Davis Ace Hardware training May 22, 2013. 7 attendees**. Very positive feedback to the training. The manager Jesse said it was the best ever and asked if I would come and do an event this summer for children on beneficial insects. I left two additional folders for staff that were not there. We covered water pollution and pesticides and proper disposal plus plants that attract beneficial insects and products that will not upset the balance in the garden.
- **Customer Appreciation Night Davis Ace 11/07/12 Over 65 customer contacts** This was hosted by Davis Ace Hardware 6-9pm. I set up a table across from the pesticide section and showcased photos of beneficial insects, examples of less toxic products and I had some samples Sluggo to hand out. Martin and Rhys joined up for the evening and helped answer pest problems for the local customers.
- **Duck Days February 23, 2013 Contacted 500 plus attendees.** 8-4pm Set up table with OWOW materials and displayed large chart on beneficial insects in addition to photos of beneficial insects. This was the best attended Duck Days ever there were over 600 attendees. I met with many families from Davis and played a game called pest or pal and the children had to guess if the insects were a pest or a pal. It was a real hit. I was able to have a coupon from CVS to hand out for a discount ion a less toxic product.
- **Davis Ace tabling event April 27 2013 _65 customers contacted.** The stores requested I come for a spring event in April on Earth Day but I was not available so I came on April 27. I set up a table across from the pesticide section and worked with customers helping them with aphid, weeds, ants, and rose disease problems. I also helped customers find insectary plants in the nursery so they could attract beneficial insects.
- **Stores Visits:**
    - **Stores** were contacted on a frequent basis for needs for fact sheets and shelf talker updating. Dates visited were 8/8/12, 9/24/12, 11/5/12, 2/8/13, 3/24/13, 4/26/13, 5/23/13.
    - This year the owners of Davis Ace and Redwood Barn were too busy to make a coupon for Duck Days but Ross the manager at CVS ON East Covell provided over 100.On my store visits to Redwood Barn and Davis Ace I shared information on less toxic products available on the market and invasive pests coming to the area. I also provided them with the Meet the Beneficials poster from UCIPM. At CVS I checked for shelf talker needs and fact sheet replenishment.
    - The stores really appreciate being promoted in the community as a resource for the products and for the fact sheets.

- **Endcap shelf space at Ace**
    - A large amount of time (over 30 hours) was spent by the OWOW representative at Davis Ace because they are currently the largest retailer in the OWOW program and sell the most pesticides and fertilizers. Activities included building end-caps and securing shelf space for less toxic products. The pesticide companies are always trying to displace OWOW displays. Ace also has more new employees who need to be trained in the OWOW program.
    - CVS manager is very supportive of OWOW. Their store makes coupons available for OWOW community events. The OWOW representative retags the store on an annual basis when the shelves are reset for the season. The literature rack remains in a prominent area in the main pesticide aisle.
    - Redwood Barn Nursery is also a good partner store. The fact sheets do not move as rapidly as the other stores as they get less and less foot traffic. They are frequently moving their shelf talkers around so they are maintained on a quarterly or as needed basis.
- **Other IPM Related Events:**
    - **Central Park Gardens Open House! 1**0/27/12 Contacted over 100 attendees at the event where 2,000 residents attended. Worked by Martin Guerena (City IPM Administrator) and answered questions about less toxic ways to manage pests. Handed out OWOW fact sheets, fly swatters, Sluggo samples.
    - Community Gardens Sept 27,2013 Pest control talk with community garden members on less toxic pest control for weeds, insects, diseases, vertebrate pests, mollusks and nematodes.
    - Parks IPM tour in San Francisco, Palo Alto and San Jose 8-22-13.
    - California Association of Pest Control Advisors presentations on City of Davis IPM program in San Bruno , Woodland and Davis
    - Contractor IPM and pesticide training in Spanish March 7, 2013.
    - Stillet Elementary presentation to 30 2nd graders on insects
    - Plant Sale at 3 Palms Nursery manned table with outreach materials to patrons during plant sale. About 50 attendees.
    - Celebrate Davis May 16, 2013. Hundreds of citizens going through information table with outreach material on many environmental programs the city has to offer.
    - US Dept of Ag .Natural Resource Conservation Service, Modesto IPM presentation
    - City of San Francisco Urban IPM Conference 4-6-13

Measurable Goal 3: Maximize removal of vegetative waste from pruning activities and protect storm drain inlets when practical. Mulch lawn clippings in public spaces.

Staff and landscape maintenance contractors use drop cloths to contain and eventually transport landscape clippings. Excess waste material is swept up or blown into the landscaped areas. Tree trimmings are chipped and applied within the landscaping or hauled off for landscape application at a different facility. Mulch mowers are used to maintain turf at all City facilities. Public Works and Parks Maintenance staff made aware of green waste pollutant threat potential in both the past two report periods.

Measurable Goal 4: When possible, use non-fossil fuel burning equipment to conduct vegetation maintenance activities and collection of vegetation waste (e.g., rakes, brooms, battery powered leaf blowers).

Parks and Community Services staff utilized several of the City's electric vehicles (GEM, Miles, and Gator) for park maintenance activities. Several of these vehicles are equipped with a flatbed for hauling equipment and materials around the parks and open spaces. The use of heavy vehicular equipment in and around park and open space facilities is therefore minimized. Rakes and brooms are heavily used in

the collection of excess green waste. The feasibility of using electric blowers has not yet been evaluated. This is largely attributed to the extended service life of the existing fleet of gas operated blowers.

Measurable Goal 5: During open space maintenance and planting activities, use plants and planting arrangements that maximize water quality benefits from the vegetation, when possible.

The City continues to use native trees and /or near native, shrubs, and grasses in all open space restoration projects. The use of native or near native vegetation reduces the need for irrigation (thus potential runoff) and fertilizers. Once these plants are established, little to no herbicides are needed to maintain the area. Additionally, during the past two report periods, the City engaged in the following replanting projects using native and/ or near native plants.

- Citywide supplemental planting in City Open Space areas,
- Supplemental planting at the Davis Wetlands,
- The on-going maintenance and expansion of the Bird and Insect Garden, a zero pesticide demonstration garden in the West Area Pond Greenbelt,
- Use of zero pesticide solarization practices at the Mace Ranch Community Park Natural Area restoration project, and
- Installation of native shrubs, trees and grasses at the Mace Ranch Community Park Natural Area.

Measurable Goal 6: Investigate plumbing facilities and activities at municipal swimming pools. Determine appropriate BMPs to be utilized.

The community pool maintenance staff diverts pool deck wash water into the landscaping as much as possible. All pool water when discharged is brought to near 0 levels of chlorine. Back flushing at two of the four facilities is discharged to the sanitary sewer. While plans to reconfigure the Civic Center pool's plumbing to backwash into the sanitary system have proved to be infeasible due to cost. Sanitary sewer connections would have to connect to the sewer lines on Russell Boulevard which would require tunneling under City Hall. The alternative project involves accumulating finances over a 4 to 6 year period to redevelop the Community Park pool located about 1 mile north of the Civic Center pool. Once completed, this project could serve the Civic Center pool patrons. Closing the Civic Center pool without a viable current alternative has been extremely unpopular with citizens due to this facility's heavy use. In the interim, the City filters the back flush water from the Civic Center pool complex to capture solids from the filter system from entering the storm drain. The Community Park pool also was recently discovered to drain to the storm drain system. The same practices for filtering back flush exist at this site too. Unfortunately, the City cannot de-chlorinate the water prior to release as the frequency of performing this operation would render the use of the pool as infeasible. The redevelopment of the Community Park pool will also include plumbing the back flush line to the sanitary sewer.

2.5.8 EFFECTIVENESS ASSESSMENT OF MUNICIPAL OPERATIONS PROGRAM

Effectiveness assessment is a fundamental component for developing and implementing successful stormwater programs. Outcome levels help to categorize and describe the desired results of the Program Elements and related Control Measures.

In order to determine the effectiveness of the Municipal Operations Program, an assessment of the program data is conducted as a part of the annual report. The results of this assessment are used to identify modifications that need to be made to the program. By conducting these assessments and modifying the program as needed, the City ensures that the iterative process is used as an effective management tool.

Effectiveness is determined through a series of Assessment Tasks as identified in the SWMP.

2.5.8.1 Assessment Tasks

Assessment Task MO1: Evaluate the effectiveness of this Control Measure through an evaluation of the information gathered in Annual Reports.

The City has some processes in place to educate and train employees on both formal and informal basis. Record keeping had been informal or by word of mouth on training efforts till four years ago.

What appears to be lacking is a more formalized assessment tools to determine efficacy of the training methods. With efforts to train City staff on stormwater issues for municipal operations the past four report periods, and the surveys conducted, the general knowledge of stormwater principles appears to be good. The City will continue to assess where training is required by training and questioning staff. The City also purchased training materials for trainings in 2013-14 from ExCal Visual. The training packages provide videos for specific activities for municipal operations and quizzes to test BMP knowledge gained from the video. The City looks forward to using these valuable new tools this coming year.

Assessment Task MO2: Implement a supervisory oversight program, which documents that employees are implementing BMPs. Maintain a record of follow-up activities conducted.

In addressing this assessment task, there are the following facts to note.

- Training of employees in the use of general stormwater BMPs in day to day activities for municipal operations work crews has occurred on a biennial basis.
- In addition, general knowledge and awareness of stormwater pollution has been increased through these training sessions as shown in our survey/quizzes assessed in alternate years which also attempts to assess how municipal operations staff is using BMPs.
- In 2011, the City did create a SW Pollution Prevention in Municipal Operations handbook which borrows BMP fact sheets from the CASQA Municipal Operations BMP Handbook. Each of the City's municipal operations work crews was provided one in subsequent training sessions.
- There has been an effort to incorporate for all municipal operations work crews to integrate stormwater BMPs into their standard operating procedures (SOPs). Not all work crews have documented SOPs.

While the training continues and continues to improve, there has not been a tool to use which documents the use of stormwater BMPs in daily work activities. Environmental Program staff believes that observing employee BMP implementation within the City's Corporation yards is reasonable, whereas monitoring their activities in the field is not a realistic measure of implementation. Further staff believes that requiring municipal operations staff to enter into a database qualitative information regarding SW BMP use does not appear to be an effective tool to improve water quality. The City's CMMS work order database does not have modules to add qualitative data such as BMP implementation, nor would it currently be retrievable in a report. This would be a tremendously expensive proposition for the City to attempt to implement.

With little employee turnover the strategy has been to continue to train employees on stormwater pollution awareness and appropriate BMP implementation supported with SOP documentation for work activities wherever the possibility exists. Essentially, the idea is help staff understand the threat, require behavior modification in their SOPs, and then expect it to be implemented. Municipal operations work crew supervisors are made to understand the City's regulatory obligations.

Environmental Program staff believes this to be the most effective measure in terms of cost associated with water quality benefit. It is not clear yet how this strategy will be altered to deal with new requirements in the Small MS4 General Permit for municipal operations. Staff believes in this regard, the City is making good faith efforts to track and ensure implementation of stormwater BMPs for municipal operations.

Assessment Task MO3.1: Conduct a green waste management survey and report on subsequent implementation actions.

The City conducted a greenwaste management survey in the spring of 2007 and drew the following conclusions about how to manage greenwaste in the City:

The City contracted with Godbe Research to conduct a citizen phone survey. The results of the survey indicated that 95% of the respondents were satisfied with the current service and 63% reported they are

opposed to the containerization of green waste. Resistance to containerization has to do with the following:

- a perception of increased cost to the Citizens
- a reduction in the ability to deal with large clippings from mature landscaping

The City's primary concerns about containerization of greenwaste have to do with cost and contamination of greenwaste into regular garbage containers, thus increasing the City's solid waste component.

The City has not implemented a container program and continues to collect greenwaste from the public street. Public streets are swept following greenwaste collection once per week. Greenwaste accumulation in drainage inlets has not been observed by maintenance crews to be a significant problem.

Assessment Task MO3.2: Develop possible revisions to City ordinance.

The City adopted an Integrated Waste Management Strategic Plan which will address green waste collection options (containerization, etc.) in July 2013.

Assessment Task MO3.3: Summarize annual outreach and public education efforts.

See Assessment Task MO3.7 below for a summary of annual public education and outreach efforts.

The City will continue to provide these outreach efforts. Staff believes they reach an audience otherwise not tapped. The program has been determined to help reduce solid waste loads to the landfill.

Assessment Task MO3.4: Document the number of citizen complaints regarding green waste management practices.

During FY 2011-2012 the City received eleven complaints regarding yard material piles. These complaints ranged from issues with yard material piles blocking bike lanes, cars parking on top of bike lanes and yard material piles that were illegally placed. The City concludes that the program is well received by the residents of the City.

Assessment Task MO3.5: Tabulate total number of storm drain inlets inspected and cleaned annually. Document the volume of material removed from various stormwater facilities.

The City implemented as part of the 2003 SWMP, a drainage inlet cleaning program inspection form. The City kept records from 2003 to present on inspection of all of the City's drainage inlets. The forms tracked mainly recyclable materials such as plastic bottles, aluminum cans, and glass, but the crews also removed other solids such as paper, green waste, and other discharges that it lists as "other garbage". Other garbage is not delineated by constituent as it requires significant effort to separate and therefore is not and disposed of as bulk garbage. The drainage inlets had solids removed by hand and by vacuum for small particulate matter. The table below provides confirmation of the City's effort.

	2011-12	2012-13
# of DIs Inspected	2,975	2,975
# of DIs Cleaned	259	493
Total Volume of Material Removed (lbs)	48	155

Environmental staff notes that since 2007-08, no clear trend in required cleanings of drain inlets or volume of material removed into 2012-13. The City continues to inspect storm drains inlets and clean as necessary. .

Assessment Task MO3.6: Document the volume of material removed from various stormwater facilities.

City staff continues to document records of DI inspections. On this task, the amount of material removed has remained static since 2007-08. Records of the volume of material removed from other stormwater facilities have not been quantified. These various stormwater facilities are assumed to be retention ponds, drainage channels, lift stations, and underground stormwater conveyance pipes. While these facilities are maintained annually and sometimes more frequently as necessary for conveyance function. Volunteer efforts coordinated with City staff estimated that 600 lbs of garbage was removed by these groups in events like Coastal Clean-Up Day on the City's stormwater retention ponds. The City will work with its Stormwater Collection Crew to document removal activities for other stormwater facilities.

Assessment Task MO3.7: Record the number of composting classes and participants.

The table below provides information on the number of classes and participants the City is conducting from fiscal year 2011-13.

Description	2011-2012	2012-2013
# of materials developed	2	0
# of materials distributed (est.)	250	100
# of compost classes given	6	2
# of compost class attendees	59	37

Although it seems that the concept of backyard composting is not very popular, the number of attendees to the classes reflects that to date nearly 4% of all City residents have taken the class. City taught classes are advertised via website, press releases to the Davis Enterprise, social media and fliers posted at the community garden.

All brochures given out as part of the compost correspondence course and at the composting classes as well as composting videos are available on our website DavisRecycling,org. Here is the direct link to the composting page: http://recycling.cityofdavis.org/composting.

- Backyard Composting Guide: http://recycling.cityofdavis.org/Media/Recycling/Documents/PDF/PW/Recycle/compost-guide.pdf
- Backyard Composting Flier http://recycling.cityofdavis.org/Media/Recycling/Documents/PDF/PW/Recycle/composting.pdf
- Worm Composting Brochure http://recycling.cityofdavis.org/Media/Recycling/Documents/PDF/PW/Recycle/worm-composting.pdf
- Food Scrap Composting http://recycling.cityofdavis.org/Media/Recycling/Documents/PDF/PW/Recycle/food-scrap-composting.pdf
- Grasscycling Brochure PDF: http://recycling.cityofdavis.org/Media/Recycling/Documents/PDF/PW/Recycle/Grasscycling.pdf
- Days of Our Piles: Composting 101 (15 minutes) http://168.150.194.39/pw-composting-101.wmv
- As the Worm Turns: Vermicomposting Basics (12 minutes) http://archive.cityofdavis.org/media/vermicomposting.ram
- Yard Material Piles and Parking http://recycling.cityofdavis.org/Media/Recycling/Documents/PDF/PW/Recycle/apartment-yard-materials-and-parking.pdf
- Yard Material Piles and Bike Safety http://recycling.cityofdavis.org/Media/Recycling/Documents/PDF/PW/Recycle/yard-material-bike-safety.pdf

- Yard Material Management
  http://recycling.cityofdavis.org/Media/Recycling/Documents/PDF/PW/Recycle/yard-materials-management.pdf
- Yard Material Best Management Practices
  http://recycling.cityofdavis.org/Media/Recycling/Documents/PDF/PW/Recycle/YW-Placement-Tri.pdf
- Garden Reuse Tips
  http://recycling.cityofdavis.org/Media/Recycling/Documents/PDF/PW/Recycle/YW-Placement-Tri.pdf

The City taught classes are advertised via website, press releases to the Davis Enterprise and fliers posted at the community garden. Appendix B, pages 24 - 27 includes a flier posted for classes held in October 2012 and the handouts given to the classes.

In specific handouts for solid waste reduction in 2012-13 included:

- 25 composting packets (including a compost booklet, compost flier, worm composting flier and grasscycling flier) were mailed out
- 9 compost bins were given to residents as part of the composting correspondence course and backyard composting/worm composting classes.
- 8 residents that attended the backyard composting/worm composting classes were given a starter set of composting worms.
- A large number of compost booklets, compost fliers, worm composting fliers, grasscycling fliers were given out at various outreach events such as Celebrate Davis, Coastal Clean-up, Chamber Day on the Quad, and the Davis Farmers Market.

Assessment Task MO4.1: Conduct annual inspections of corporation yards to determine compliance with established BMPs and identify areas/BMPs that can be improved.

During 2012-13, both yards were inspected multiple times. 1717 Fifth Street was inspected two times and 1818 Fifth Street was inspected three times. The City typically inspects the BMP facilities in both yards on a quarterly basis as part of its routine maintenance. The inspections found that the yards were generally in compliance and performed routine maintenance though improvements to BMP problem areas were identified and recommended in the annual inspection reports for each yard. The City keeps and maintains records of these maintenance and inspections primarily through pictures, but also has used an inspection form. Established BMPs are maintained. Areas where BMPs can be improved have been identified as noted in Section 2.5.6.1. Currently, funding for implementation of new technologies is limited and may put implementation outside of staff control unless funding sources can be identified or created.

Assessment Task MO4.2: Implement a supervisory oversight program to verify and document that the BMPs for the corporation yard are being implemented. Document all follow-up actions required.

In response to this task, the City has developed two separate SWPPPs for each corporation yard which offers a tool box of recommended BMPs and CASQA BMP fact sheets for each activity area with potentially polluting activities identified in the SWPPPs. In addition, a SWPPP team is identified in for both yards to manage the BMP requirements of the SWPPP and ensure their implementation. The SWPPPs also include spill response measures and responsible staff for their implementation. Full implementation of the SWPPPs will occur over 2013-14 with some recommended BMPs requiring the City look for outside source funding for implementation. With SWPPPs now fully vetted by municipal operations staff and responsible staff in place for implementation, Environmental Program staff believes this task to now be complete. However, staff understands that continued annual inspections and adjustments to BMPs and record keeping will be necessary to ensure proper implementation of the SWPPPs.

Assessment Task MO5.1: Maintain records of the amount, date, and location of herbicides, insecticides and pesticides applied by City staff and contractors.

The City continues to maintain records of pesticide usage. The table below provides amount of pesticides used in the City for the past five calendar years.

Open Space Maintenance Documentation	Description	2011-12	2012-13
IPM	Total acreage applied	1,616	1,616
Herbicides	Total Amount Active Ingredient Applied	265 gal 1,170 lbs for granular	335 gal 1,997 lbs for granular
Water Quality benefiting plantings	# of projects using native plants implemented?	3	3

By continuing to record pesticide use data, the IPM Coordinator is able to identify high use areas, evaluate the pest problem and test alternative control methods. Such a strategy has helped the City continue an overall reduction in chemical pesticide use. The primary use is with Scythe and Round-up which are both post-emergent herbicides. Scythe is soap based and its use has increased greatly. All others have decreased or remained flat like Round-up. In 2012-13, the increase in herbicide use department restructuring brining in two new managers in Parks operations and getting maintenance staff back up to speed on the IPM program. In addition, the herbicide Scythe is soap based which is used to replace glyphosate based herbicides or used in conjunction to reduce the glyphosate rate. Its use has gone up dramatically. The City is committed to reducing overall use of pesticides and anticipates the trend to continue downward into the future.

Assessment Task MO5.2: Assess measures to reduce pesticide use.

During the report period, the City's IPM Coordinator reviewed herbicides uses and assisted field staff with implementing alternative pest management techniques.

The IPM Coordinator helps staff implement alternative pest control measure as appropriate. Alternative methods used include mechanical (disking, mowing), physical (mulching, solarization, flaming), cultural (irrigation and tolerance) and diluting some typical pesticides with green organic pesticide applications. Post treatment monitoring helps the IPM coordinator understand the effectiveness of an alternative method as it relates to the particular pest problem at a given location. In many areas, the alternative control methods met the management need just as well, if not better, than the use of chemical control methods.

Assessment Task MO5.3: Record efforts made to determine the types of plants and planting arrangements in open spaces that maximize water quality benefits.

General and specific measures continue within the City to reduce the use of pesticides and reduce the consumption of water. The City has made significant efforts to reduce herbicide use and incorporate native plant species into park and open space landscaping through its IPM program by reviewing CIP projects which come through the development review process. The IPM Coordinator, the Wildlife Resource Specialist and the Environmental Program Specialist each review and comment upon CIP project plans for plant species selection, wildlife benefit, stormwater quality and IPM techniques implementation.

The City also adopted in 2012 a Water Conservation Ordinance which requires reductions in overspray, turf areas, and the use of native or drought tolerant species. Plant selection and planting arrangements were review on three projects this year specifically with these elements in mind on landscape plans.

These efforts further the City's goal to reduce pollution in stormwater runoff.

2.5.8.2 Program Effectiveness Assessment Summary

The City accomplished nearly all of the measurable goals and tasks identified for the report year, 2012-2013. **Table 2.5-1** below summarizes the effectiveness assessment that was conducted for the Municipal Operations Program.

Table 2.5-1 Effectiveness Assessment for the Municipal Operations Program

Measureable Goal	Level 1	Level 2	Level 3	Level 4
	Implement Program	**Increase Awareness**	**Behavior Change**	**Load Reduction**
MO1 – Employee Education and Training				
1. Review the Public Works Employee Handbook and identify where it may be revised to include reference to the City's responsibility to implement the SWMP and describe the City departments and/or employee positions responsible for implementing the SWMP.	✓ The City reviewed the Public Works Employee Handbook.	✓ All municipal operations employees trained in SW awareness biennially.	N/A	N/A
2. Develop and implement an environmental training program that includes stormwater issues for City personnel that conduct activities directly or indirectly related to the SWMP.	✓ The City provided training to City personnel.	✓ 2011-12, 13 storm water training presentations made. ✓ 2011-12, 128 employees attended general storm water training presentations. ✓ Sent out quizzes and surveys via email for all Muni Ops staff in June 2013. ✓ In 2012-13, received 27 completed quizzes and surveys from Muni Ops staff.	✓ In 2012-13, 3 incidents where City staff indicated they had changed behavior and implemented SW BMPs in work as a result of training from 2011-12.	N/A

Measureable Goal	Level 1 Implement Program	Level 2 Increase Awareness	Level 3 Behavior Change	Level 4 Load Reduction
MO2 - Public Infrastructure Operation, Repair and Maintenance				
3. Develop standard practices (with BMP Activity Sheets, if necessary) for additional activities that emphasize: • Graffiti removal activities • Signs, striping and painting activities • Water line maintenance activities.	✓ The City has continued to utilize BMP Activity Sheets	✓ The City modified the standard operating procedures (SOP) of 27 different maintenance activities for the Water and Transportation Divisions of Public Works. ✓ The City created 16 new SOPs for Wastewater and Stormwater Collection Crews. ✓ The City will continue to investigate modifying additional SOPs for additional maintenance Divisions.	F	N/A
4. Evaluate inlet inspection and maintenance records. Develop a list of catch basins that have been cleaned, by quadrants of the City. Determine if certain quadrants of the City require more frequent cleaning. Use this data to help prioritize routine maintenance and to focus the public education and outreach program.	✓ The City has evaluated inspection and maintenance records. ✓ The City will continue to implement the program.	✓ Inspected 2,975 DIs ✓ Cleaned 493 DIs	F	✓ Removed 155 lbs of garbage and recyclables from DIs. ✓ Replaced 135 new storm drain markers on existing DIs.
MO3 - Green Waste Management				
1. Complete the City's evaluation of alternatives of green waste collection and removal. Pending City Council direction, begin to implement recommended alternative by spring of 2007	✓ The City completed the alternatives evaluation of greenwaste collection and removal including surveys of the public. ✓ The Solid Waste Strategic Plan adopted in July 2013.	N/A	N/A	N/A

Measureable Goal	Level 1 Implement Program	Level 2 Increase Awareness	Level 3 Behavior Change	Level 4 Load Reduction
2. Review and, if necessary, modify the City's Management of Garbage, Other Wastes, Recyclables, and Fees Ordinance to support implementation of the recommended green waste removal alternative by July 2007.	✓ The City and City Council reviewed the Ordinance, but did not modify it.	N/A	N/A	N/A
3. Continue to manage and grow an outreach program focusing on how proper handling of green waste can promote water quality	✓ The City developed and distributed outreach material.	✓ The City has developed 18 green waste outreach materials in the past 6 years. These materials where handed out at over 13 separate events resulting in hundreds of people exposed to increase awareness of the green waste and stormwater nexus. ✓ Over 2,300 of the outreach trifolds given away at these public events in 2012-13. ✓ The City provided 2 compost classes with 37 attendees in 2012-13. ✓ The City provided 100 pieces of outreach materials at these classes in 2012-13.	F	N/A

Measureable Goal	Level 1 Implement Program	Level 2 Increase Awareness	Level 3 Behavior Change	Level 4 Load Reduction
4. Continue to promote backyard composting program through workshops, educational articles, or advertisements.	✓ The City continued to promote backyard composting.	✓ The City conducted 2 compost workshops. ✓ 37 people attended these workshops. ✓ 10 separate outreach materials handed out at these workshops. ✓ 100 total handouts at these workshops ✓ 25 composting packets (including a compost booklet, compost flier, worm composting flier and grasscycling flier) were mailed out ✓ 9 compost bins were given to residents as part of the composting correspondence course and backyard composting/worm composting classes. ✓ 8 residents that attended the backyard composting/worm composting classes were given a starter set of composting worms.	F	N/A
MO4 – Corporation Yard and Fleet Management				
1. Continue to maintain appropriate BMPs at the City's Corporation Yards	✓ The City continued to utilize BMPs at both corporation yards.	N/A	N/A	N/A

Measureable Goal	Level 1 Implement Program	Level 2 Increase Awareness	Level 3 Behavior Change	Level 4 Load Reduction
2. Inspect 1717 and 1818 5th Street annually for opportunities to reduce pollutant discharges into the stormwater sewer system and dispose of all waste material	✓ During the Report Period, both corporation yards were inspected a total of 5 times. ✓ Opportunities to reduce pollutants were incorporated into standard practices.	✓ SWPPPs developed for both yards. ✓ Staff named for SWPPP management and maintenance. Training on SWPPP management for yards to be accomplished fall 2013.	✓ Covering garbage during rain events. ✓ Better management of raw material bins. ✓ Spill kits being distributed to all hazardous material spots with labeled locations adjacent to sites. ✓ Old vehicle surplus moved off site. ✓ Drip pans being inserted under idle city vehicles ✓ Replaced 25 old higher polluting vehicles with new low pollutant vehicles.	N/A
MO5 - PARKS AND OPEN SPACE MAINTENANCE				

2.5 - Municipal Operations Program

Measureable Goal	Level 1 Implement Program	Level 2 Increase Awareness	Level 3 Behavior Change	Level 4 Load Reduction
1. Continue to implement the IPM program and policy. Investigate opportunities to expand the program and further reduce pesticide and herbicide use. Review and revise the program as necessary to keep the practices up-to-date and incorporate emerging technology for IPM practices	✓ City staff continued to work with alternative pest control methods including: • green pesticides products • biological controls • mechanical controls • grazing • mulching • sheet mulching • flaming • solarization • flooding	✓ Continuing education credits on September 19, 2012, where about 50 people attended. ✓ 7 staff members from Public Works have renewed their Qualified Applicator Certificates. ✓ Parks has 11 staff with Qualified Applicator Certificates which they renew every two years. ✓ The City's IPM Coordinator conducted two hour IPM training in Spanish for GP and Coast landscaping contractor's employees which had 18 attendees.	✓ City staff has steadily reduced in its municipal operations the use of liquid pesticides and dry pesticides over the past 6 years.	F

2.5 - Municipal Operations Program

Measureable Goal	Level 1 Implement Program	Level 2 Increase Awareness	Level 3 Behavior Change	Level 4 Load Reduction
2. Coordinate with the Public Education, Outreach, and Participation Program to continue implementing the Residential Pesticide Outreach Program	✓ The City provided public outreach and education on pesticides using several forms of communication. ✓ City staff was educated on weed and pest control techniques and current trends in IPM.	✓ Outreach and education efforts included the following: • City IPM website. • The IPM comic "The Exterminator" • Notification of City herbicide application activities in parks and greenbelts. • Tips & alternatives to pesticide use in the "Focus" newsletters. • Distribution of IPM educational literature at community events. • Presentations on least toxic pest control methods at City gardens. • Pesticide safety training for City field staff. • Attendance at IPM conferences by City staff. • Presentations to Council & commissions. • Encourage local pesticide venders to participate in OWOW program. • Post at locations where alternatives to chemical pest control were in use. • 6 Arboretum Plant Sales attended with outreach information presented on IPM, OWOW and other pollution prevention handouts present.	F	N/A

Measureable Goal	Level 1 Implement Program	Level 2 Increase Awareness	Level 3 Behavior Change	Level 4 Load Reduction
3. Maximize removal of vegetative waste from pruning activities and protect storm drain inlets when practical. Mulch lawn clippings in public spaces.	✓ The City maximized removal of vegetative wastes from pruning.	✓ Trained 30 Parks landscape maintenance staff in storm water BMPs in 2011-12. ✓ Trained 21 landscape maintenance contract staff on storm water BMPs. City to retrain these same groups in 2013-14.	✓ Staff & landscape maintenance contractors use drop cloths to contain & remove clippings. ✓ Waste material is swept up or blown into the landscaping. ✓ Tree trimmings chipped & applied to landscaping. ✓ Mulch mowers used to maintain turf at all City facilities.	N/A
4. When possible, use non-fossil fuel burning equipment to conduct vegetation maintenance activities and collection of vegetation waste (e.g., rakes, brooms, battery powered leaf blowers).	✓ The City used non-vehicular equipment to conduct vegetation maintenance on City properties. Rakes and brooms are utilized whenever possible.	✓ City staff trained to use this equipment and be aware of relation to stormwater.	✓ PGS staff increased the use of electric vehicles for park maintenance activities. ✓ Staff used rakes & brooms in the collection of excess green waste.	N/A
5. During open space maintenance and planting activities, use plants and planting arrangements that maximize water quality benefits from the vegetation, when possible	✓ The City continues to use native trees, shrubs, and grasses in all open space restoration projects.	✓ City staff trained and educated in the use of native plants and benefits to stormwater control.	✓ Native plants planted in three City projects, city wide open space, Davis wetlands, and the Bird and Insect Garden in the West Area Pond Greenbelt	F

Measureable Goal	Level 1 Implement Program	Level 2 Increase Awareness	Level 3 Behavior Change	Level 4 Load Reduction
6. Investigate plumbing facilities and activities at municipal swimming pools. Determine appropriate BMPs to be utilized	✓ The City has determined appropriate BMPs to be used at municipal swimming pools.	✓ 3 pool maintenance staff trained in storm water BMPs for operations in 2011-12.	✓ Community pool maintenance staff is directed to divert pool deck wash water into the landscaping when feasible. ✓ All pools discharge water only after de-chlorinating water to less than 0.1mg/L ✓ Staff testing filter devices at the deck drain inlets. Plan to close the Civic Center Pool in 3 to 5 years to eliminate back flush discharge.	F

✓ – An effectiveness assessment was conducted during the reporting period 2010 – 2011
F – An effectiveness assessment may be conducted in future Annual Reports
N/A – This outcome level is not applicable

2.5.9 SWMP MODIFICATIONS

The City's SWMP received final approval from the Regional Water Quality Control Board (RWQCB) on February 18, 2007. The SWMP includes Implementation Schedules spanning the time period 2003 to 2008. As a result, the City updated and modified the Implementation Schedules for each Program Element beginning with the 2007-2008 report period (see **Table 2.5-2**). These changes were also noted in the 2008-2009 Annual Report. For this element there are no changes in responsibility or revisions to the Implementation Schedule through 2012-2013.

Table 2.5-2. Municipal Operation Program Implementation Schedule and Responsible Department/Position

Control Measures and Measurable Goals	Implementation Schedule						Responsible Department/Position					
	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	Environmental Program Staff	Public Works	Community Development	Parks	Finance	Other
MO1 Employee Education and Training												
1. Review the Public Works employee handbook and identify where it may be revised to include reference to the City's responsibility to implement the SWMP, and describe the City departments and/or employee positions responsible for implementing the SWMP.	■						●	●				
2. Develop and implement a Citywide environmental training program that includes stormwater quality issues.							●	◐	◐	◐	◐	
MO2 Public Infrastructure Operation, Repair and Maintenance												
1. Develop standard practices (with BMP Activity Sheets, if necessary) for additional activities. Include subtasks a-c.	■						◐	●				
2. Evaluate inlet inspection and maintenance records.	■						◐	●				
MO3– Green Waste Management												
1. Conduct an evaluation of alternative green waste collection and removal alternatives	■						◐	●				
2. Review and determine if the Management of Garbage, Other Wastes, Recyclables, and Fees Ordinance needs changing.	■						◐	●				
3. Continue to manage and grow an outreach program focusing on how proper handling of green waste can promote water quality.							◐	●				
4. Continue to promote backyard composting and evaluate the need for changes to the program.							◐	●				

■ Continuing activity, reviewed or revised as needed throughout implementation
■ One-time activity to develop or implement a measurable goal

● Individual or department to take lead in the development or implementation of an activity.

◐ Individual or department to provide strong support in the development or implementation of an activity.

◔ Individual or department to review and provide comments and guidance during the development or implementation of an activity.

Table 2.5-2. Municipal Operation Program Implementation Schedule and Responsible Department/Position (cont)

Control Measures and Measurable Goals	Implementation Schedule						Responsible Department/Position					
	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	Environmental Program Staff	Public Works	Community Development	Parks	Finance	Other
MO4 Corporation Yard and Fleet Maintenance												
1. Continue to implement site BMPs for employees that operate, maintain and use the City's Corporation Yards at 1717 and 1818 5th Street.	■	■	■	■	■	■	●	◐		◐		
2. Inspect 1717 and 1818 5th Street annually for opportunities to reduce pollutant discharges into the stormwater sewer system and dispose of all waste material.	■	■	■	■	■	■	◐			●		
MO5 Parks and Open Space Maintenance												
1. Continue to implement the IPM program and policy.	■	■	■	■	■	■	◐	●		●		
2. Coordinate with the Public Education, Outreach and Participation Program to continue implementing the Residential Pesticide Outreach Program.	■	■	■	■	■	■	◐			●		
3. Maximize removal of vegetative waste from pruning and mowing activities and protect storm drain inlets when practical. Collect and dispose/compost lawn clippings from public spaces.	■	■	■	■	■	■	◐			●		
4. When possible, use non-fossil fuel burning equipment to conduct vegetation maintenance activities and collection of vegetation waste (e.g., rakes, brooms, battery powered leaf blowers).	■	■	■	■	■	■	◐			●		
5. During open space maintenance and planting activities, use plants and planting arrangements that maximize water quality benefits from the vegetation, when possible.	■	■	■	■	■	■	◐			●		
6. Investigate plumbing facilities and activities at municipal swimming pool and identify appropriate BMPs		■					◐	●		●		

■ Continuing activity, reviewed or revised as needed throughout implementation
■ One-time activity to develop or implement a measurable goal

● Individual or department to take lead in the development or implementation of an activity.

◐ Individual or department to provide strong support in the development or implementation of an activity.

◔ Individual or department to review and provide comments and guidance during the development or implementation of an activity.

Section 2.6 - Public Education, Outreach and Participation Program

Volunteers at a Davis Stormwater Pond Clean-up Event

Section 2.6 - Public Education, Outreach and Participation Program

2.6.1 OVERVIEW

The Public Education, Outreach, and Participation Program is an essential element of the SWMP. This program element focuses on educating the public and businesses about the impact of stormwater discharges on a water body and what can be done to reduce stormwater pollutants. Through participation, the public can provide valuable input and assistance in program development and implementation. Increased public knowledge and participation result in increased public acceptance and support of the program, and help ensure a successful and effective program to reduce stormwater pollutants.

Elements of the Public Education, Outreach, and Participation Program include:

The distribution of educational material to inform business owners and citizens on ways to minimize stormwater pollution

- Staff participation and availability at public events
- School programs
- Workshops and other educational programs for the business community and private citizens

Educational material helps citizens to understand their influence and reduce their impact on stormwater quality and encourages them to participate in various municipal programs such as inlet marking and retention pond clean up. In addition to general public education, educational materials for business activities are developed to specifically address business practices that may cause stormwater pollution. Such material describes pollution prevention measures that businesses can implement to prevent stormwater pollution.

2.6.2 CONTROL MEASURES

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

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

MO	Control Measure
PEOP1	Residential Education and Outreach
PEOP2	Public Participation

The next section of this report provides information on the specific tasks of the measurable goals and implementation schedules that have been initiated and/or completed for the Public Education, Outreach and Participation Program.

2.6.3 PEOP1 – RESIDENTIAL EDUCATION AND OUTREACH

The purpose of this control measure is to educate residents regarding steps and measures that can be implemented to prevent stormwater pollution.

Existing BMPs and related activities to this control measure are the following:

The City has an extensive education and outreach program. Information regarding stormwater pollution prevention is distributed via the mail, in-store displays, handout materials at public events, and interpretive tours of facilities. The main areas of outreach activities can be categorized into the following categories:

- General City
- Integrated Pest Management

- Solid Waste Reduction/Recycling
- Wildlife Resources
- Stormwater Pollution Prevention

These BMPs and activities are provided in detail in Appendix A-1. Examples for some of these activity documents may be viewed by using the web links where provided):

2.6.3.1 Measurable Goals

Measurable Goal 1: Continue to make presentations on the Davis Wetlands to local school groups. Provide a fact sheet on City activities that address stormwater runoff.

During the 2012-13 report period, Wetlands presentations were given to one elementary school class (25 students), a Cub Scout group (12 kids), a UC Davis environmental engineering class (90 students), and a UC Davis Wildlife Conservation student group (25 students). Presentations are currently available as requested and advertised by announcement at other community outreach events. Methods to advertise such presentations to more schools will continue to be investigated.

While a fact sheet on City activities that specifically addresses stormwater runoff, several brochures on residential runoff have been updated and continued to be distributed at wetlands presentations. These brochures specifically address car washing, pool and spa cleaning, and least toxic pesticide use, painting, composting and many more. See Figure 2.6-1 and Appendix B pages 28-50 for representative samples of these brochures.

Measurable Goal 2: Maintain and update the wetlands website with current stormwater pollution prevention information.

The City developed a website in 2000 when the wetlands area was opened. The website was updated in 2005 and again in 2009 to include the stormwater issues. The City continues to provide a wetlands website that addresses stormwater issues. The website for the wetlands is listed below.

http://public-works.cityofdavis.org/wastewater/the-davis-wetlands

Measurable Goal 3: Investigate using the City's cable television channel to promote the SWMP through a public service announcement about stormwater issues and water quality to be aired prior to the wet season.

The City's cable television channel is available for broadcasting water quality messages. During the 2012-13, the station ran a slide of the OWOW program daily year round. The City estimates that 1/3 of Davis households (8,500 residences) regularly view the government channel.

Measurable Goal 4: Evaluate issuing an annual Utility Report to the public in combination with the City's Focus newsletter. If determined feasible, issue Utility Report annually.

Environmental Program staff believes that the existing Utility Connection mailer is well suited to carry water quality outreach messages to the City's population. This newsletter used to be distributed annually to the over 33,000 postal addresses and boxes in Davis. However, because the last newsletter that was distributed was in the summer of 2009 and it is unknown when the newsletter will be revised and mailed again, this appears to be an unreliable avenue for reaching the public on stormwater issues. The newsletter can be viewed by using the link provided below.

http://public-works.cityofdavis.org/Media/PublicWorks/Documents/PDF/PW/Water/Utilities/utilityconnection-summer-2009.pdf

The City did use the utility mailings in December of 2012 to distribute an informational piece for stormwater friendly tips small residential projects and an announcement that the City had adopted a SW Ordinance in June of 2012. The intent was to help small projects become cleaner and make sure that residents have an idea that some projects may bring about code enforcement if the project did not take into consideration stormwater friendly measures to limit discharges to the storm drain system. See

Appendix B, pages 51-52 for a copy of the informational handout. This handout also is provided at the Community Development and Sustainability Department information kiosk at City Hall.

Measurable Goal 5: Continue to implement the Residential Pesticide Outreach Program.

City outreach efforts involve the following:

1. The City continues to distribute information on alternative pest control methods at public events and via periodical newsletters that go out to utilities customers.
2. The City IPM Coordinator has established community volunteer events and pesticide free park and greenbelt demonstration areas to show the public how to reduce reliance on chemical pesticides and fertilizers (see "existing BMPs and Related Activities" above).
3. The Solid Waste program provides Backyard Composting classes to residents.
4. The Barn Owl Nest Box program continues to be a great success in engaging the community regarding alternative pesticide control methods. See trifold, Appendix B, pages 36-37.
5. The Our Water Our World (OWOW) program has been implemented at the 3 main pesticide retailers within the City (see "existing BMPs and Related Activities" above).
6. The City has implemented the Partners for a Greener Davis green business program that also provides outreach on alternative pest control methods.
7. The City's existing Healthy Garden Program is outdated and was replaced in September 2009 by the OWOW and Partners for a Greener Davis programs. (see CI1).

Measurable Goal 6: Continue to participate in public events held in the City to promote the SWMP.

The City participated in the following public events with the approximate number of participants listed for events during the report period:

- The City's OWOW consultant and Wildlife Resource Specialist staffed a booth at California Duck Days festival (400 participants). IPM, Wetlands, hazardous material disposal, and composting outreach materials were distributed.
- Solid Waste program employees led six Backyard Composting Classes (89 participants).
- The City's Wildlife, Stormwater, IPM and Solid Waste program employees staffed a booth at Celebrate Davis (2,000+ participants). IPM, Wetlands, and composting and Partners for a Greener Davis outreach materials were distributed.
- Solid Waste, and Bicycle/ Pedestrian program employees staffed a booth at the Chamber on the Quad event (1,000+ students). IPM, Wetlands, composting, and alternative transportation and Partners for a Greener Davis outreach materials were distributed.
- Stormwater and Solid Waste programs led site activities. Coastal Cleanup Day stormwater pond cleanup (100 participants). Staff handed out written materials and gave verbal presentations on stormwater pollution prevention, IPM, waste reduction, and proper hazardous material disposal.
- Stormwater, IPM, Wildlife Resources, and Solid Waste programs had representation at five UCD Arboretum Plant Sales where staff handed out written materials and provided verbal responses to these programs. Several hundred people attended this event.

Measurable Goal 7: Develop a stormwater quality display that includes brochures, pamphlets, and other outreach material regarding the SWMP. The display could include diagrams, pictures, computer program or model that illustrates the concerns and potential environmental impacts that could be caused by urban runoff.

The City uses a variety of pollution prevention education and outreach materials, including brochures, pamphlets, fact sheets, sample products, entomological and ornithological study specimens, video, maps, and posters. Figure 2.6.1 is one such example. Such material is displayed in racks and on tables as appropriate to the outreach venue and audience. Displaying outreach materials in this fashion allows for

Figure 2.6-1 - Storm Drain Brochure

Home and Garden Activities¶

- Consider using less toxic chemical and methods for plant care and insect control. For guidance go to this link http://www.ourwaterourworld.org/factsheets.cfm. If you must use pesticides or fertilizers, do so carefully and sparingly. Follow label instructions. Do not apply if rain is expected since stormwater will carry these substances into the watershed. Dispose of unused products at Household Hazardous Waste Turn-in Events. ¶
- Compost yards clippings or place them in a pile on the street no sooner than the day before pick up day. Use a broom to clean off sidewalks and driveways. Be sure the pile is a foot or more away from the gutter to allow for water passage.¶
- Pick up and dispose of animal wastes in garbage containers. If you take your pet to a park, bring a bag and be prepared to clean up after them.¶
- Consider washing pets in the bathtub rather than outside. If you must wash your pet outside, use non-toxic cleaners and dump wastewater into sink, or grass so that residues can be filtered out.¶
- Properly store all toxic products including cleaners, solvents, and paint. Use kitty litter or other absorbent material to clean spills. Always clean painting tools in the sink. Take unused materials to a Household Hazardous Waste Turn-in Event.¶

For more information on recycling, composting, or hazardous waste disposal contact:¶

Richard Tsai, ...
Recycling Coordinator (Ext. 7559)¶

For more pollution prevention solutions, like to participate in California Coastal Cleanup Day, and less toxic practices please call:¶

Jack Betourne¶
Environmental Compliance Coordinator¶
at 757-5638, or visit our web site at http://www.city.davis.ca.us/pw/ppp/intro.cfm¶
¶

¶

Remember, it is against the law to dump toxic substances into the storm drain system. If you see anyone dumping questionable materials, please call 911. ¶

Stormwater pollution is extremely harmful to the health of an abundance of plants and animals with who we share this planet. **Help us to protect your water resources for current and future generations.¶**

PLEASE KEEP OUR WATERSHED CLEAN!!¶

Printed on 100% Recycled, 100% Post Consumer, Unbleached Paper¶

¶

CITY OF DAVIS¶

STORM DRAIN MARKING PROGRAM¶

¶

Davis ¶

¶

Pollution Prevention ¶
Starts at Home.....

Figure 2.6-1 - Storm Drain Brochure (cont.)

A WORD ABOUT WATER

What happens to water from rains, lawn watering, or car washing? These waters, referred to as stormwater or urban runoff, flow into the city's storm drain system through over 2500 curbside catch basins – small openings that you find along street gutters. These waters move through the system to our rivers, creeks, wetlands, sloughs, the delta and bay, on the way to the ocean.

Upon entering the catch basins, the runoff is transported via an intricate system of storm drain piping below our streets. Initially, these waters fill the stormwater detention/wildlife ponds. The North Area, West Area, and Core Area ponds are a few that you may have visited. These ponds are landscaped to support an array of wildlife species. From the ponds, water flows through conveyance channels towards the northern and eastern edges of the city.

A large portion of the stormwater that is collected in the city is conveyed to the Davis Wetlands where it's used to support the wetlands system and all its wild inhabitants.

PROTECT OUR WETLANDS

It's important to ensure that the water entering our ponds and wetlands is safe for wildlife. This is why toxic materials may not legally be dumped into curbside catch basins. Water quality is compromised when people dump used motor oil, antifreeze, paint products, pesticides, pet wastes, or other pollutants into catch basins. This, in turn, threatens the health of wildlife that is dependent on the ponds and wetlands habitat.

Tours of the Davis Wetlands are offered the first Saturday of the month. Call the Yolo Basin Foundation for more information: 757-4828.

The City is, therefore, working to remind everyone about the importance of preventing pollution of our stormwater by installing drain inlet markers with these words:

STORMWATER ONLY

DRAINS TO WETLANDS

These markers are easy to install. So if you, your group, or organization would like to participate in this pollution awareness program, please contact City of Davis Public Works at 757-5686.

HELPING FROM HOME

Automotive Care:

- Home auto mechanics – when you change your oil or antifreeze, collect used fluids and take to either Davis Waste Removal, 756-4646, or to a Household Hazardous Waste Turn-in Event at the Yolo County Landfill, 666-8729.
- Maintain your vehicle to avoid leaks of oil, antifreeze, or other liquids. Use a drip pan where appropriate.
- Take your car to a car wash or wash it on your lawn. Use a shut off nozzle to save water and be sure to pour your soapy water down the sink.

DID YOU KNOW!?

Dumping one quart of motor oil down a storm drain contaminates 250,000 gallons of water!!

audience specific tailoring. Staff finds that this display tailoring, in addition to personal interface/ demonstration, creates a much more powerful interpretive environment versus a static display.

In addition, in November 2010, Public Works launched an official webpage for Stormwater. The page has a large variety of information related to pending legislation, regulations, informational resources, FAQ sheets and other general stormwater related information, including cross links to the other City pollution prevention programs. The webpage received a total of 956 hits by viewers during the report period. This number is less than the numbers in past two years because it excludes July and August of 2012, when the City switched all of its webpage. See the web link below to view the City's Stormwater page. The page was restructured in the spring of 2012 and the City launched a new webpage in the summer of 2012.

http://public-works.cityofdavis.org/stormwater

Measurable Goal 8: Continue to maintain the graffiti hotline and Citizen Response Manager to facilitate public reporting of stormwater pollution hazards.

The hotline remained operational during the report period. The calls that come into the graffiti abatement line all go to the City's voice mail system and cannot be quantified according to the City Information Systems Division. However, all of the calls are being received and distributed to appropriate staff for resolution through these programs. All graffiti incidents were cleaned either by staff or neighborhood volunteers if public property or in the case of private property the property owners were notified to clean the graffiti.

"Report a Problem" formerly known as the City's Citizen Response Manager is an efficient and effective at encouraging reporting illegal dumping and illicit discharges via online reporting. The system forwards the incident to the appropriate staff from the City Manager's Office, and provides follow up with the citizen. Environmental Programs responded to several calls generated by this method for illicit discharges, but did not record the precise method how the complaint was received. Overall the City received 744 incident reports by this method in 2012-13. The web link for the Report a Problem is the following:

http://cityofdavis.org/report-a-problem

The web link for the Graffiti Hotline is the following:

http://police.cityofdavis.org/city-of-davis-volunteer-program/graffiti-abatement-program

2.6.4 PEOP2 – Public Participation

The purpose of this control measure is to promote public participation in the development, implementation, and review of the SWMP.

Existing BMPs and related activities to this control measure are the following:

- The City complies with all state and local public notice requirements for the adoption of public plans or policies to be implemented by the City.
- The Natural Resources Commission (NRC) holds public meetings to review, comment on, and make recommendations to the City Council regarding various projects that require environmental review.
- The City conducts public workshops on composting and vermiculture (see PEOP1).
- The Partners for a Greener Davis program (see CI1) was developed with input from the Davis Chamber of Commerce and Davis Downtown Business Association.
- The City recruits and utilizes community volunteers to participate stormwater detention pond clean up event (see PEOP1). This project has a direct link to stormwater quality in both purpose and physical setting. This project is a great venue to provide the community and businesses with pollution prevention information.
- Several volunteer organizations are active in the Davis community and engaged in water quality projects:

- Friends of the West Area Pond – A neighborhood volunteer group comprised of over 150 community members who contribute a significant amount of time to the maintenance and improvement of the West Area Pond stormwater detention basin.
- Sierra Club, Yoloano Group – organizes field trips and environmental events
- Explorit Science Center – develops hands-on science programs and exhibits for children, including water quality focused exhibits.
- Yolo Basin Foundation – focuses on wetlands and wildlife, publishes newsletter, sponsors environmental field trips at the Davis Wetlands and local Yolo Wildlife Area, and produces the California Duck Days event. This group also facilitates the Davis Wetlands Docent program. Support funding was provided to this organization by the City's Stormwater Program.
- TREE Davis – supports an urban reforestation and tree planting program. TREE Davis volunteers plant trees and conducts outreach to educate the public that trees, among other things, mitigate stormwater runoff. The City Arborist is a Board member.
- Putah Creek Council – publishes newsletter and conducts monthly talks and events related to Putah Creek. The City's Wildlife Resource Specialist is a Board member.
- Norwood 4H Club – participates in various community volunteer activities.
- Girl and Boy Scouts of American – Local troops participate in annual basin clean up events, build barn owl nest boxes for the City's Barn Owl Nest Box program (see PEOP1), build bat boxes, and are very active in the Herb Garden Demonstration project.
- Riparian Improvement Organization – conducts habitat restoration and stream monitoring projects, storm drain marking, and supports annual litter cleanups at various storm drainage ponds.
- UC Davis Wild Campus – is a student-run, expert-advised, and community-supported program dedicated to the conservation of local wildlife on UC Davis campus and beyond. This organization has supported the creation of urban wildlife habitat on campus and the surrounding community. It offers community education and outreach geared toward building barn owl and bat boxes.

For additional outreach activities the City is involved in see Appendix B pages B-6 - 9.

Measurable Goal 1: Present a summary of the program assessment and proposed program changes to the NRC annually.

During the SWO adoption the process the NRC received an informal briefing on the Stormwater Program in April 2012. For 2012-13, a formal summary of the program has not yet been presented to the NRC. Staff has planned to provide a summary of the program with review of Stormwater Ordinance. During the presentation to the NRC in April 2012, the NRC asked for a staff report on the effects of revisions to the Small MS4 General Permit upon the City's discharge. Environmental Program staff has worked toward primarily on the development of an enforcement response plan (ERP), but has yet to complete this. It is anticipated the ERP will be completed in the fall of 2013. At such time, staff will present another update on the status of the stormwater program combined with an update to the SW Ordinance in order to adopt the revisions to the General Permit.

Measurable Goal 2: Continue interactive relationships with several volunteer organizations active in the City.

The City interacts will multiple local volunteer organizations on projects and activities that promote the implementation of the SWMP. During the report period, the City collaborated with multiple local volunteer organizations on the following projects:

- Putah Creek clean up,
- wetland tours,
- barn owl nest box and bat box construction and installation, and

- Stormwater detention pond/ channel cleanup

These local volunteer organizations included:

- The Putah Creek Council
- Yolo Basin Foundation
- Boy and Girl Scouts
- Riparian Improvement Organization and Tree Davis
- Friends of the West Area Pond
- several local church groups
- UC Davis Wild Campus and other student volunteer groups

2.6.5 EFFECTIVENESS ASSESSMENT OF PUBLIC EDUCATION, OUTREACH AND PARTICPATION PROGRAM

Effectiveness assessment is a fundamental component for developing and implementing successful stormwater programs. Outcome levels help to categorize and describe the desired results of the Program Elements and related Control Measures.

In order to determine the effectiveness of the Public Education, Outreach and Participation Program, an assessment of the program data is conducted as a part of the annual report. The results of this assessment are used to identify modifications that need to be made to the program. By conducting these assessments and modifying the program as needed, the City ensures that the iterative process is used as an effective management tool.

Effectiveness is determined through a series of Assessment Tasks as identified in the SWMP.

2.6.5.1 Assessment Tasks

Assessment Tasks - Control Measure PEOP1: Residential Education and Outreach

Assessment Task PEOP1.1 - Continue using assessment tools developed for the OWOW, Wetlands and Partners for a Greener Davis outreach programs

The Healthy Garden Program is outdated and has been replaced with the OWOW and Partners for a Greener Davis programs. The number of participants in the Wetlands outreach program was recorded as noted in PEOP1, Measurable Goal 1.

During the report period, 900 people participated in the wetlands outreach program. Of those people only 152 (local school students) can be confirmed as Davis residents. It is assumed that a majority of the 900 participants in the Wetlands Docent Tour program were also Davis residents, but the exact number is unknown. The City will continue to evaluate the possibility of capturing more accurate resident participation data.

The Partners for a Greener Davis Program was implemented during the 2009-10 report period. Since its release, a total of nine businesses have become certified members of the program. Four of these are office/ retail businesses, one food market, the cemetery and three are restaurants. The program includes a full array of stormwater pollution prevention practices. The City anticipates pushing to expand the program in the next report period, and continue to recruit participating businesses.

Assessment Task PEOP1.2 - Record the number of calls and reports received through the graffiti hotline, Citizen Response Manager and direct reporting.

The graffiti hotline and Citizen Response Manager continue to provide public reports of graffiti incidents. Despite this, the number of graffiti incidents has remained consistent over the last several years. The City continues to provide a valuable educational and outreach program. It is difficult to assess overall effectiveness.

Assessment Task PEOP2.1 - Maintain a record of the number of public workshops, committees, or other public forums held to address SWMP-related issues. Include pertinent information, e.g. date held, number in attendance, special interest groups attending, etc.

For the 2011-12 and 2012-13 report periods public workshops held where the following:

- Integrated pest management – see Section 2.5.7 Measurable Goal 2 for a summary outline of the workshops and presentations held.
- Our Water Our World – see Section 2.5.7 Measurable Goal 2 for a summary outline of the workshops and presentations held.
- Composting classes – see Section 2.5.5 Measurable Goal 3 and 4 for the details of the classes.
- Wildlife Resources – see Section 2.6.3, Measurable Goal 1 for details of events and presentations attended by the City's program staff.
- Other events: See Section 2.6.3 – Measurable Goal 6 for an outline of events.
- Committees: the Stormwater Coordination Committee which is a committee formed and attended by the communities of Yolo and Solano Counties. The list of committee members includes the Cities of Vacaville, Woodland, Davis, West Sacramento, Dixon, Winters, UC Davis, and the Counties of Yolo and Solano. The committee meets once per quarter and three times annually. See Appendix B, pages 54-56 for copies of the agendas.
- The CASQA Phase II Stormwater Subcommittee. The City attends phone conference calls once per month a

2.6.5.2 Program Effectiveness Assessment Summary

The City accomplished most of the measurable goals but none of the tasks identified for thereporting period.. Staff has provided its accomplishment related to the Public Education and Outreach Program in **Table 2.6-1**.

Table 2.6-1 Effectiveness Assessment for the Public Education, Outreach & Participation Program

Measureable Goal	Level 1	Level 2	Level 3	Level 4
	Implement Program	Increase Awareness	Behavior Change	Load Reduction
PEOP1 – Residential Education and Outreach				
1. Continue to make presentations on the wetlands to local school groups. Provide a fact sheet on City activities that address stormwater runoff.	✓ The City made presentations to local school groups with fact sheets on stormwater runoff and wetlands.	✓ The City provided wetlands presentation to 115 local students in 2012-13.	N/A	N/A
2. Maintain and update the wetlands website with current stormwater pollution prevention information.	✓ The City developed a website for wetlands with stormwater issues with links to the SWMP in 2010 and updated in spring 2012.	✓ The SW webpage received 956 hits in 2012-2013.	F	N/A

Measureable Goal	Level 1	Level 2	Level 3	Level 4
	Implement Program	Increase Awareness	Behavior Change	Load Reduction
3. Investigate using the City's cable television channel to promote the SWMP through a public service announcement about stormwater issues and water quality to be aired prior to the wet season.	✓ During the 2011-12 report period, the station ran one video documentary related to stormwater pollution prevention twice. ✓ Continual running of the OWOW program slide.	✓ Estimated 8,500 residences exposed to documentary. ✓ Same number estimated to be exposed to the OWOW program slide.	N/A	N/A
4. Evaluate issuing an annual Utility Report to the public in combination with the City's Focus newsletter. If determined feasible, issue Utility Report annually.	✓ While staff believes the Utility Report to feasible, it has not been mailed since 2009. Staff believes other avenues to be currently more feasible. ✓ Utility mailing in December 2012 for small residential projects stormwater friendly tips.	✓ The Utility mailing distributed to 33,000 postal addresses and boxes in Davis.	N/A	N/A

Measureable Goal	Level 1 Implement Program	Level 2 Increase Awareness	Level 3 Behavior Change	Level 4 Load Reduction
5. Continue to implement the Residential Pesticide Outreach Program.	✓ The City continued to distribute information on alternative pest control methods at public events & via periodical newsletters to utilities customers. ✓ The City IPM Coordinator has established community volunteer events & pesticide free park & greenbelt demonstration areas to show the public how to reduce reliance on chemical pesticides & fertilizers. ✓ The Barn owl Nest Box program has been a great success in engaging the community alternative pesticide control methods. ✓ The Our Water Our World (OWOW) program implemented at 3 pesticide retailers. ✓ The City is in the process of implementing the Partners for a Greener Davis program that also provides outreach on alternative pest control methods. ✓ The existing Healthy Garden Program was replaced in September 2009 by the OWOW & Partners for a Greener Davis programs.	✓ An estimated 2,300 pollution prevention related brochures distributed in 2012-13. ✓ An estimated 1,500 OWOW fact sheets distributed. ✓ 13 community events attended by program staff outreaching to an estimated 5,000+ participants.	✓ Feed back from local pesticide retailers participating in the OWOW program suggests a 10% increase in the purchase of less toxic pesticides. ✓ 9 businesses have been certified as Partners for a Greener Davis	✓ Outreach efforts to businesses & residents, results, lead staff to estimate that: • 600 lbs of gross pollutants were removed from the stormwater detention basins, • OWOW program retailers estimated 10 gallons of pesticides were kept from running off into the storm drains.
6. Continue to participate in public events held in the City to promote the SWMP.	✓ The City participated in the 13 public events with approximately 5,000 participants attending all events during 2012-13.	✓ Approximately 5,000 participants exposed to stormwater materials at promotional events.	N/A	N/A

Measureable Goal	Level 1 Implement Program	Level 2 Increase Awareness	Level 3 Behavior Change	Level 4 Load Reduction
7. Develop a stormwater quality display that includes brochures, pamphlets, and other outreach material regarding the SWMP. The display could include diagrams, pictures, computer program or model that illustrates the concerns and potential environmental impacts that could be caused by urban runoff.	✓ The City displays a variety of pollution prevention education and outreach materials, including brochures, pamphlets, fact sheets, sample products, entomological and ornithological study specimens, video, maps, and posters in racks and on tables as appropriate to the outreach venue and audience. ✓ The City introduced its first separate stormwater webpage.	✓ 956 hits by viewers of the stormwater webpages during the 2012-13.	F	N/A
8. Continue to maintain the graffiti hotline and Citizen Response Manager to facilitate public reporting of stormwater pollution hazards.	✓ The graffiti hotline was maintained and the evaluation for expansion was performed. The determination was made that the current process was sufficient. ✓ The Report a Problem program replaced the Citizen Response Manager in 2012.	✓ Graffiti hotline is posted on City's webpage. ✓ Report a Problem link is posted on the City's webpage.	✓ All calls were received in 2012-13 on the Graffiti Hotline. ✓ 744 calls were received in 2012-13 on the Report a Problem	N/A
PEOP2 – Public Participation				
1. Present a summary of the program assessment and proposed program changes to the NRC annually.	✓ A partial summary of the program was provided the NRC in April 2012. An assessment will be provided in Fall 2013.	N/A	N/A	N/A
2. Continue interactive relationships with several volunteer organizations active in the City.	✓ The City maintained interactive relationships with local volunteer organizations,	✓ 10 community volunteer groups partnered with.	F	N/A

✓ – An effectiveness assessment was conducted during the reporting period 2010 – 2011
F – An effectiveness assessment may be conducted in future Annual Reports
N/A – This outcome level is not applicable

2.6.6 SWMP MODIFICATIONS

The City's SWMP received final approval from the Regional Water Quality Control Board (RWQCB) on February 18, 2007. The SWMP includes Implementation Schedules spanning the time period 2003 to 2008. As a result, the City updated and modified the Implementation Schedules for each Program Element beginning with the 2007-2008 report period (see **Table 2.6-2**). These changes were also noted

in the 2008-2009 Annual Report. For this element there are no changes in responsibility or revisions to the Implementation Schedule through 2012-2013

Section 2.6 - Public Education, Outreach and Participation Program

Table 2.6-2 Public Education, Outreach and Participation Program Implementation Schedule and Responsible Department/Position

Control Measures and Measurable Goals	Implementation Schedule						Responsible Department/Position					
	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	Environmental Program Staff	Public Works	Community Development	Parks	Finance	Other
PEOP1 Public Education and Outreach												
1. Continue to make presentations on the wetlands to local school groups.							◐	●				
2. Develop a web site for the wetlands with stormwater issues. Add a link to download SWMP documents.							◐	●				●
3. Investigate using the City's cable television channel to promote the SWMP							●	◐				
4. Evaluate issuing an annual Utility Report to the public in combination with the City Focus newsletter. If determined feasible, issue Utility Report annually.							●	◔	◔	◔		
5. Continue to implement the Residential Pesticide Outreach Program.							◐	●		◐		
6. Continue to participate in public events in the City to promote the SWMP.							●	●		◔		
7. Develop a stormwater display for use at public events.							●	●		◔		
8. Maintain the graffiti hotline. Consider expanding the use of the hotline to allow residents and businesses to report illegal dumping, illicit connections, or other activities that they believe may have adverse impact on the environment..							◐	●				
PEOP2 Public Participation												
1. Present a summary of the program assessment and proposed program changes to the NRC annually.							●	◐	◐	◐		◐
2. Continue interactive relationships with several of the volunteer organizations active in the City							●	◐	◐	◐		◐

Continuing activity, reviewed or revised as needed throughout implementation

One-time activity to develop or implement a measurable goal

● Individual or department to take lead in the development or implementation of an activity.

◐ Individual or department to provide strong support in the development or implementation of an activity.

◔ Individual or department to review and provide comments and guidance during the development or implementation of an activity.

Section 3 – Program Administration

3.1 - PROGRAM MANAGEMENT AND ROLES AND RESPONSIBILITIES

Management and oversight of the Stormwater Management Plan (SWMP) development and implementation is essential to the success of the program and to meet the intent of the Small MS4 General Permit. The development and implementation of the SWMP requires the participation and coordination of many of the departments, divisions, and employees in the City. Careful oversight and management of the SWMP will ensure:

- The roles and responsibilities for the development and implementation of the SWMP are assigned to the appropriate City departments, divisions, or employees.
- Proper coordination and cooperation between departments, divisions, or employees responsible for program development and implementation.
- The SWMP is developed and implemented in accordance with the SWMP's schedule.
- The SWMP is monitored and the effectiveness of the SWMP is assessed and reported.
- Compliance with the MS4 Permit.
- Staff accountability to the City Council and the community.

Since the September 2006 submittal of the SWMP some roles and responsibilities have changed. The current responsibilities are outlined in the following sections.

3.2 - STORMWATER MANAGEMENT PROGRAM ADMINISTRATION

The Wastewater Treatment Plant Superintendent has overall responsibility for the program. A team of three Public Works staff currently maintain the SWMP and conduct various requirements of the SWMP as detailed in the previous section of the report. This team of three is referred to as "Environmental Program Staff." It is comprised of the Wildlife Resource Specialist and two Environmental Program Specialists.

3.3 - PUBLIC WORKS DEPARTMENT

There are multiple divisions in the Public Works Department that carry out engineering and field operation functions. Each has responsibility for developing and implementing various elements of the Control Measures. In 2012, the Parks and General Services Divisions were moved to Public Works as part of further City organizational restructuring.

The Engineering Division is responsible for Control Measures related to:

- Land development application review and establishing conditions of approval.
- Coordinating with the Community Development Department's inspection services section.
- Enforcing established conditions of approvals, City code, and engineering design standards.
- Reviewing and developing appropriate legal authorities associated with site development.
- The Wastewater Division now oversees the Stormwater and Wildlife Resources programs with the charge of coordinating facilitation and implementation of related BMPs.

Field operations involve all activities related to the operation, maintenance, and upkeep of public facilities and infrastructures. Many of these activities involve the use of water, chemicals, materials, and waste products that could end up in the stormwater sewer system or in stormwater runoff if not properly managed through developing and implementing the Measurable Goals related to:

- Street, road, curb, gutter, and sidewalk maintenance and repair
- Stormwater sewer system operation, maintenance, and repair
- Domestic water supply system operation, maintenance, and repair
- Sanitary sewer operation, maintenance, and repair
- Facility and public parking area operation, maintenance, and repair

- Public outreach to the business community
- Illicit connection and illegal discharge identification and elimination
- Spill response and clean-up activities

The Park and General Services Division includes Facility Maintenance and Fleet and is responsible for the maintenance and upkeep for public facilities, parks, and open spaces. They also perform routine maintenance and minor repair of City equipment and vehicles. In addition, the Parks and General Services Division is involved in the development and implementation of Measurable Goals relating to:

- Corporation yards operation and maintenance
- Vehicle operation and maintenance
- Public parks, greenbelts and open space
- Public buildings and pools operation and maintenance
- Vegetation management

3.4 - COMMUNITY DEVELOPMENT AND SUSTAINABILITY DEPARTMENT

The Department is involved in the land development, planning, and building code inspection activities. The Planning Division's review of current development applications and development of long range land use plans play a key role in the City's policy for future land development and use of permanent stormwater BMPs. The Community Development and Sustainability Department is and will continue to be involved in the development and implementation of Measurable Goals relating to:

- Land development application review and approval, establishing conditions of approval, and CEQA mitigation measures.
- Developing, implementing, enforcing, and revising the General Plan, City codes, ordinances, and other authorities.
- Design phase influence of site design to implement stormwater BMPs for Construction and Post-Construction.
- Transportation and sustainability programs and stormwater BMPs related to these programs.

3.5 - CITY MANAGERS OFFICE AND RECREATION AND COMMUNITY SERVICES DEPARTMENT

These programs provide a number of services in the City. Each of these programs has developed a public education program that focus on public outreach and promotion of City programs as noted in Section 2.6 of the report. A number of brochures, newsletters and other outreach materials have been developed and with minor changes that also address stormwater quality. The City's cable TV station is also operated and funded by these programs. The City is already using this medium for business & public education measures but will consider additional use of this medium to promote stormwater outreach.

The Recreation and Community Services Department is responsible for the development and maintenance of recreational programs and community services for the public. In addition, the Recreation and Community Services Department is involved in the development and implementation of Measurable Goals relating to:

- Operation and management of the City's cable TV station
- Implementing, maintaining, and developing public education and outreach programs
  - Aquatics (Pools)
  - Child Care Services
  - Camps and Outdoor Ed
  - Civic Arts
  - Community and Theatre Events

- Davis Community Transit
- Recreational Services for Persons with Disabilities
- Gymnastics and Dance
- Rentals - Parks & Facilities
- Special Interest Classes
- Sports
- Teens
- Senior Services
- Testimonials
- Ways To Give
- Awards and Recognitions

3.6 – FINANCE DEPARTMENT

The Finance Department is responsible for issuing City business licenses and utility billings. These services have and continue to provide outreach opportunities for goals of the SWMP. Coordination between the Finance Department, Public Works staff, and other City Departments is important for program development and implementation.

3.7 - FIRE DEPARTMENT

The Fire Department responds to spills and releases of hazardous materials, reviews emergency response plans for businesses, and inspects facilities. The City will continue to explore the opportunity of incorporating SWMP compliance inspections into the Fire Department inspection process. Inspection reports, business plans, or other documents maintained by the Fire Department may provide useful information for the Commercial/Industrial and Public Education program elements.

The Fire Department also conducts fire-training activities and other non-emergency activities that result in non-stormwater discharges. The Department is responsible for managing these flows to minimize the discharge to the stormwater sewer system during non-emergency activities.

3.8 - PROGRAM STAFFING AND RESOURCES

Existing work activities and resources incorporate SWMP Control Measures as much as reasonably possible. The degree to which the SWMP may impact resources varies depending on the Control Measure and current activities of each department. Implementation of some Control Measures may require nothing more than a change in how a form is completed or how a site is inspected. Other Control Measures may require additional time for an employee to review plans or conduct site inspections.

Implementation of Control Measures and their associated Measurable Goals, with increasingly limited existing resources including funding may limit what the City can pursue for implementation or what can be accomplished within the program. In the current economic climate, the City must pursue the most cost effective approaches. The implementation process will continue to be evaluated to determine if additional resources are necessary to adequately implement the SWMP.

3.9 - FUNDING

The general fund, stormwater sewer impact fees, related capital improvement permit fees, and funds associated with a special assessment district and utility, permit, and assessment district fees support the current activities related to stormwater management.

3.10 - COLLABORATION WITH OTHER LOCAL AGENCIES

The City interacts and overlaps with several other local agencies in activities related to stormwater management. The following agencies and primary roles are listed below:

- Yolo County Agricultural Commissioner - Enforces pesticide regulations, inspects permit holder facilities, conduct workshops, and mails informational letters to permit holders.
- University of California Cooperative Extension Farm Advisor - Researches alternatives to pesticides and IPM techniques, provides information learned through newsletters and workshops
- Farm advisor and master gardeners
- Yolo County Department of Public Health - Enforces county regulations in areas of food regulation, small drinking water systems, septic systems, and solid and toxic waste. Provides bacteria and pest control advice, environmental documents (NEPA, CEQA) review.
- Yolo County District Attorney's Office – Prosecutes environmental crimes
- Yolo County Landfill – Promotes and manages recycling programs, curbside collection of yard wastes, and toxic waste collection days
- Yolo County Communications Emergency Service Agency - Maintains hazardous materials inventory and provides informational packets
- Yolo-Solano Air Quality Management District - Determines emission limits and regulatory requirements for criteria air pollutants

In addition to the City's individual activities, staff participates in a countywide stormwater manager's group to discuss collaborative opportunities such as coordinating regional erosion control training for construction sites. The group also shares information on common issues such as funding sources, implementation tools, program approval and implementation status, and standards.

Section 4 – Assessment

4.1 - OVERALL PROGRAM ASSESSMENT

The effectiveness of the SWMP is determined by evaluating:

- Compliance with the SWMP schedule.
- Appropriateness of the Control Measures in the SWMP to reduce the discharge of pollutants to the MEP.
- Program costs compared to budgeted costs.
- Progress towards meeting its Measurable Goals.

At this stage of the SWMP, the City is mostly on target with the many of its tasks within their compliance schedules, but had to adjust responsibilities within existing staff to compensate for the lack of an Environmental Compliance Coordinator and shifting management of the program. Other factors now include dwindling staff and capital resources which may further hamper the ability to achieve objectives and goals.

The Control Measures that the City has outlined in the SWMP are anticipated to be effective at further reducing the discharge of pollutants into the stormwater stream to the MEP.

The City has already invested greatly into the reduction of stormwater pollutants over the last 15 years. The cost of initiating the SWMP has been offset by the City's earlier efforts. Budgeted costs for the continued progress of the SWMP are less than in years past, but staff believes that necessary funding can be found to adequately address the proposed work program for the 2012-13 report period.

Most of the previously implemented Measurable Goals continue to be practiced with only a few exceptions as noted within the report. The major accomplishment this year was the approval of the Stormwater Ordinance, which will serve as the backbone from which the remainder of the SWMP is supported.

APPENDIX A
ACRONYMS AND GLOSSARY

ACRONYMS:

BMP – Best Management Practice

CASQA – California Stormwater Quality Association

CEQA – California Environmental Quality Act

DI – Drainage Inlet

MEP – Maximum Extent Practicable

MS4 – Municipal Separate Storm Sewer System

NEPA – National Environmental Policy Act

NPDES – National Pollutant Discharge Elimination System

PEA – Program Effectiveness Assessment

POG – Public Outreach Group

RWQCB – Regional Water Quality Control Board

SWMP – Stormwater Management Plan

SWPPP – Stormwater Pollution Prevention Plan

USEPA – United States Environmental Protection Agency

GLOSSARY:

Best Management Practices (BMPs) – BMPs are maintenance procedures, prohibitions of practices, and other management practices to prevent or reduce the pollution of 'Waters of the United States." BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Design Standards – Design Standards are post-construction requirements to incorporate specific structural BMPs into construction projects. Examples of design standards include specifying an amount of runoff that must be retained on a site, and prohibiting the direct connection of truck wells in loading docks to the storm drain system.

Maximum Extent Practicable (MEP) – MEP is the technology-based standard established in the Clean Water Act that dischargers of stormwater must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve. MEP is generally a result of emphasizing pollution prevention and source control BMPs primarily but possibly in combination with other treatment methods. The MEP approach is an ever evolving, flexible and advancing concept, which considers technical and economic feasibility. As knowledge about controlling pollutants in stormwater continues to evolve so does that which constitutes MEP. The way in which MEP is met varies between communities. The individual and collective activities elucidated in this SWMP become the proposal for reducing or eliminating pollutants in stormwater to the MEP.

Measurable Goal – definable tasks or accomplishments that are associated with implementing BMPs.

Minimum Control Measure – A stormwater program area that must be addressed (BMPs implemented to accomplish the program goal) by all regulated Small MS4s. The six minimum Control Measures required to be addressed by regulated Small MS4s are defined in section 2.

Notice of Intent – Notification statement that the City will comply with an NPDES permit to follow certain discharge conditions

Outfall – a point source at the point where a municipal separate stormwater drainage discharges to Waters of the United States and does not include open conveyances connecting two municipal separate stormwater drainages, or pipes, tunnels or other conveyances which connect segments of the same stream or other Waters of the United States and are used to convey Waters of the United States.

Point Source – any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leach ate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater.

Performance Standards – Performance Standards are the level of implementation necessary to demonstrate the control of pollutants in stormwater to MEP.

Small Municipal Separate Storm Sewer System (Small MS4) – Means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that are:

- Owned or operated by the United States, a State, County, town, boroughs, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under section 208 of the CWA that discharges to Waters of the United States.
- Not defined as “large” or “medium” municipal separate storm sewer systems.
- This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

Stormwater Pollution Prevention Plan (SWPPP) – a documented step-by-step process for ensuring that pollutants from a site and its activities are not making their way into the stormwater discharges from the site. Specifically, the pollution prevention plan requires that you select and implement BMPs, including schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce pollutants in stormwater from the site.

Waters of the United States – any surface water or groundwater, including saline waters, within the boundaries of the United States.

APPENDIX B
ATTACHMENTS

Department /Division PW / Storm 1130
Work Group Name Storm Tech

Stormwater Questionnaire Survey 2013

The intent of this survey and questionnaire is to help the City gauge where our strengths in knowledge and operations lie and to help us address areas where we may have weaknesses. Another goal is that it the information gathered may help guide future training sessions to bolster areas if any, where our knowledge and practices could be improved. This exercise is required by the City's NPDES permit with the state. It will provide information which can help to determine if the City's SW program is making progress towards diverting pollutants from reaching the surface waters of the state. This information will be used in the City's annual reporting process to show compliance with the requirements of the state's Phase II SW General Permit. Please keep in mind, this is not being graded in terms of performance review, but rather as an informational tool to help us improve the Stormwater program. Please take a few moments and answer the questions to the best of your ability.

Below are some of general questions about stormwater. Please circle the best applicable answer(s).

1. Which of the following are considered stormwater pollutants:
   a. Dirt, sand, gravel
   b. Concrete, ashphalt
   c. Motor oil, fuels, antifreeze
   d. Solvents
   e. Soap or detergents
   f. Chlorinated water
   g. Pesticides
   h. Fertilizers
   i. Saw cutting slurry
   j. Grass clippings, leaves, branches, weeds, mulch, sawdust etc.
   k. Oils, fuels, detergents, solvents, adhesives, etc.
   l. Pesticides, fertilizers
   m. Trash, plastic, bottles, cans, etc.
   n. All the above
   o. None of the above

2. Which of the following are appropriate tasks to perform prior to commencing with work related activities at a Site:
   a. Assess your work site for the job you are about to perform. Look for items that have the potential to be washed into a storm drain.

1

b. Take time to remove items that could be washed into the storm drain including debris that could be washed into the nearest storm drain.

c. Install diversion, retention or filtering devices to protect the storm drain inlets.

d. Place materials away from storm drains, contain and cover them. Keep them out of the rain.

e. If possible, avoid scheduling work during rain events.

f. None of the above.

g. All the above.

3. Which of the following tasks are appropriate to perform while conducting work at a job site:

a. Divert or block stormwater runoff from possible contamination sources.

b. Clean-up spills and drips immediately using absorbent materials – dispose of absorbent materials properly.

c. Report dumping or discharges to any storm drain, areas that would lead to a storm drain, or into conveyance channels.

d. None of the above.

e. All the above.

4. Which are the following tasks are appropriate to perform when work is completed at a job site:

a. Clean your work area up using dry clean-up methods whenever possible (e.g., sweep instead of hosing things down) both prior to commencing with work activities when using water and after work activities cease.

b. Clean dirt and vegetation off of equipment at 1818 Fifth Street wash rack prior to storing outside.

c. Prevent pollutant discharges to drainage inlets - if a surface must be hosed down, block inlets, collect water and dispose of properly.

d. All the above.

e. None of the above.

5. Which of the following are basic storm water principles:

a. Keep work materials under cover and out of the rain whenever possible.

b. Divert stormwater runoff from possible contamination sources.

c. Keep things clean using dry clean-up methods whenever possible (e.g., sweep instead of hosing things down) both prior to commencing with work activities when using water and after work activities cease.

2

d. Clean dirt and vegetation off of equipment at appropriate controlled run-off wash facilities (like 1818 Fifth Street) prior to storing outside.

e. Prevent pollutant discharges to drainage inlets - if a surface must be hosed down, block inlets, collect water and dispose of properly.

f. Prevent materials from entering drainage inlets – do not stock materials near drainage inlets.

g. Clean-up spills and drips immediately using absorbent materials – dispose of absorbent materials properly.

h. Report dumping or discharges to any storm drain, areas that would lead to a storm drain, or into conveyance channels.

Below is a survey related to your daily activities.

1. As a result of the stormwater training from FY 2011-12 (last year), did you personally change any of your work procedures in FY2012-13? If yes, how?

   No

2. Are you aware of the Stormwater Pollution Prevention for Municipal Operations Handbook? Yes X No____

3. Do you know where to find the Handbook? Yes X No____

4. Did you ever consult this Handbook during FY 2012-13? Yes____ No X

5. If you consulted the Handbook, did you find it helpful? Yes X No X

6. Did you ever consult your Division's or Work Group's SOPs for your specific work activities for FY 2012-13? Yes X No___

7. Did you follow the specific Stormwater measures in your SOPs prior in performing your work in FY2012-13? Yes X No___ If no, please explain why below?

8. Do you have any recommendations to improve the availability or the clarity of SW SOPs or the Handbook?

3

9. Please list any specific incidents where you recall taking measures to keep pollutants from entering into a storm drain.

Blocking gutter during Sewer over flow

10. Please list what pollutants you may have prevented from reaching the stormdrain system for the incident you listed in #9 above.

Sanitary Sewer

4

General Outreach Activities

- The City Manager's Office provides a bi-monthly City newsletter on line. Use the following web link to view the latest issue.

  http://city-managers-office.cityofdavis.org/Media/Default/Documents/PDF/CMO/Newsletter/Aug%2023%202013.pdf

- The Finance Department distributes utility billings to property owners every other month. The billing statements include a "City message area that is used for various City messages.
- The Recreation and Community Services Department, provides publishes a wide variety of educational materials on improving the environment available to every resident in Davis including the following publications:
  - "Focus" is a semi-annual newsletter for residents that discuss important issues within Davis.
  - Special topic brochures are produced for the public, which include information on topics such as the Transportation Management Ordinance, the City's IPM Program, and air pollution prevention.
- Public Information Sheets are available at the Community Development and Sustainability Department counter and online for citizens who want to build or install permanent structures in the City. These sheets summarize many City Code requirements.
- The City produces an annual newsletter called "Utility Connection", which is mailed to residents. This newsletter informs residents about various issues and activities, such as, proper green waste management and other pollution prevention activities and regulations. See the Summer 2009 newsletter using the following web link:

  http://public-works.cityofdavis.org/water/utilities/utility-connection

- The Public Works Department participates in or produces the following various environmental educational programs and produces associated informational materials:
  - The Consumer Guide to Cleaner Rides in Davis. The booklet provides suggestions to reduce car use, make conventional cars drive cleaner, and save money and gas.
  - The City bicycle program works with the UC Davis bicycle program putting on several education/advocacy events throughout the year.
  - The Solid Waste Program distributes information via flyers, social media, and website about recycling, composting, bulky and construction waste handling, and household hazardous waste collection events. DavisRecycling.org
  - Sponsors slides at local theaters and government television channel promoting the Our Water Our World program. OWOW slides ran in local theaters during the report period.
  - Developed the following webpage to provide information regarding the City's wetlands.

    http://public-works.cityofdavis.org/wastewater/the-davis-wetlands
  - A monthly newspaper column that covers multiple environmental topics is prepared by City staff and published in the local newspaper, the Davis Enterprise.
  - Created a "Visitors Environmental Guide to Davis" which helps showcase environmentally responsible projects around Davis, including but not limited to, Stormwater BMPs.

    http://public-works.cityofdavis.org/solid-waste/environmental-guide

- Produce and distribute a children's coloring book "The Water We Share".

  http://archive.cityofdavis.org/pw/stormwater/pdfs/Pollution%20Prevention%20Coloring%20Book.pdf

Additional City of Davis Outreach Activities

- Public Works and Parks and General Services employees participate in special public events to promote environmental programs. At the events, they distribute various environmental public educational brochures, flyers, and other materials. Events attended by the Departments include:
  - California Duck Days Festival – Coordinated by the Yolo Basin Foundation, the City annually contributes funds to the event and staffs an informational booth that promotes water quality BMPs. Duck Days attracts over 1,000 area residents to participate in field trips and workshops, many of which include the importance of protecting water quality. Information regarding this program may be obtained by using the following weblink:

    http://www.yolobasin.org/event_duckdays.htm
  - The City contributed $6,000 to fund Yolo Basin Foundation docent training to provide tours of the Davis Wetlands. Information regarding this program may be obtained using the following we blink:

    http://www.yolobasin.org/volunteers.htm
  - Celebrate Davis – The Chamber of Commerce event to promote City businesses and services. Thousands of Davis residents attend the event. City staff distributes informational handouts for Our Water Our World, IMP, wildlife, solid waste reduction, recycling, composting, and stormwater, Staff was on hand to answer questions about these programs. The City booth also promoted recycling and water conservation. A weblink regarding this event is provided:

    http://web.davischamber.com/events/eventdetail.aspx?EventID=378
  - Chamber on the Quad – Held on UC Davis campus, this event is to acquaint UC Davis students with the services and businesses in the City. City staff this event to distribute information about City programs, e.g., water quality protection.

    http://www.davischamber.com/
  - Coastal Clean-up Day – an event to encourage volunteers to collect trash and debris within regional waterways. Information regarding this program is provided by using the following weblink:

    http://www.coastal.ca.gov/publiced/ccd/ccd.html
- In addition to written outreach material, the city distributes useable materials such as: flyswatters that promote IPM; plate grease scrappers and drain hair snares to minimize grease and hair accumulation in sanitary sewer drain pipes, thus minimizing the clogging and subsequent sanitary sewer overflow to the stormwater collection system; composting bins; and vehicle drip mats.
- The City currently employs a Wildlife Resource Specialist who makes public presentations regarding the City's wetlands and stormwater retention ponds. In addition to the wetland brochure, a slide show was developed to describe the wetlands function, habitat value, and future efforts. Handouts are given to the public on measures that they can take to prevent stormwater pollution.
- City employees can obtain free bike locks if using their own bike to commute to work. Showers are available many City offices. The City also has a bike fleet available for work-time use.

Integrated Pest Management Outreach (IPM)

- Due to public desire to know where and what pesticides are being applied in City parks and other landscaped areas, the City has established a "hotline" to provide this information (530-757-5621).
- The Public Works Department's IPM Program educates the public about environmental concerns regarding pesticide use, and alternative non-chemical pest control techniques. See the City's IPM webpage at the following link:

  http://archive.cityofdavis.org/pw/ipm/
- The UC Davis Cooperative Extension has a Backyard Master Gardener Program that uses volunteers to answer gardening questions over the telephone. The hotline (530-666-8737) also gives information on alternative pest control techniques to replace pesticide usage. Information for this program can be found using the website provided below:

  http://camastergardeners.ucdavis.edu/
- Implemented a Barn Owl Nest Box program to promote natural predation as a solution to a growing black rat problem. The program targets youth groups, but includes the general public, by engaging volunteers to construct barn owl nest boxes. The boxes are installed at various locations around the city in an attempt to increase the local barn owl population to consume rats, thus reducing the citywide use of toxic baits. More information about the program can be obtained by using the following weblink:

  http://archive.cityofdavis.org/pw/stormwater/pdfs/OwlBoxTrifold.pdf
- Developed comic book that presents pesticide use reduction in a humors but yet serious manner.

  http://ipm.cityofdavis.org/more-about-ipm/ipm-comic-book
- The Parks and Open Space Division have placed signs at the four retention ponds in Davis stating "We are all connected to our waterways."
- Continued implementation of the Our Water Our World IPM outreach program
  - Includes over 21 fact sheets (some translated in Spanish) that offer less-toxic pest management strategies for specific pests.
  - Fact sheets and shelf tags are placed at local pesticide retail outlets to inform consumers about less toxic alternative pesticide products.
  - Store clerks are provided with training to assist with outreach customers.
  - In addition to store outlets, OWOW material is distributed at local events and City facilities.
  - More information can be obtained using the following website: http://www.ourwaterourworld.org/
- The City sponsored the first Yolo County Ag Futures Alliance event in May of 2008. Yolo County is known for both its successful farms and for its progressive, City-centered development pattern. Both may be in jeopardy as development pressures, government fiscal concerns, and a variety of mitigation programs threaten to take Ag land out of production.

  The Yolo County Ag Futures Alliance has identified Ag land mitigation as a significant opportunity to affect public policy and improve the results for agriculture and the environment. The group has developed a set of mitigation principles to guide policy and has made detailed recommendations to the County on its 2006 Ag Conservation Easement Ordinance (YAFA Ag Ord Recommendation.pdf).

  http://aginnovations.org/alliances/yolo/

Additional Outreach Activities

- The City maintains a Report-a-Problem that allows residents to report, among other issues, stormwater pollution concerns. Concerns are routed to appropriate staff for follow up. Additional information on this program can be found by using the following weblink:

  http://cityofdavis.org/report-a-problem

- The City sponsors an Environmental Recognition Award, started in 1994, for individuals, businesses and non-profit organizations. Additional information on this program can be found by using the following weblink:

  http://public-works.cityofdavis.org/general-notices/19th-annual-environmental-recognition-award

- The City has a graffiti control hotline (530-757-5600) and a volunteer program to include the public in its anti-graffiti efforts.

  http://police.cityofdavis.org/city-of-davis-volunteer-program/graffiti-abatement-program

- The City installed a van wrap on its sewer collections van displaying a pollution prevention message and contact information.

- Continued work on adding Stormwater information to the City's web page, including the Stormwater Management Plan, program informational handouts on pollution prevention for pool maintenance, car washing, green waste, paint clean up, road work and maintenance, and Reports. This webpage is facing another redesign in 2013-14 as the City is about to embark on process to complete revamping of its webpages.

  http://archive.cityofdavis.org/pw/stormwater/

Frequently Asked Questions for State's New Construction General Permit (CGP) effective July 1, 2010 as They Apply to Traditional Construction Sites

The following FAQ was developed by the State Water Resources Control Board with some changes made by City staff to make the information more relevant to construction projects within the City of Davis. The FAQ's are grouped into categories to help you find information relevant to: the applicability of the permit, the application process, permit duration and transferability, reporting and monitoring, qualifications and training required to develop SWPPPs and inspect projects under the SWPPP.

Applicability of the Permit

1. **How do I know if I need this permit?**
   Construction activity resulting in a land disturbance of one acre or more, or less than one acre but part of a larger common plan of development or sale must obtain the Construction Activities Storm Water General Permit (2009-0009-DWQ Permit). Construction activity includes clearing, grading, excavation, stockpiling, and reconstruction of existing facilities involving removal and replacement. Construction activity does not include routine maintenance such as, maintenance of original line and grade, hydraulic capacity, or original purpose of the facility.

Application Process

2. **Are there other requirements I should be aware of when applying for this permit?**
   There may be other permits or requirements in addition to the 2009-0009-DWQ Permit. For example, you may also need a streambed alteration agreement from the Department of Fish and Game, a Water Quality Certification (Clean Water Act Section 401) as administered by the State and Regional Water Quality Control Boards, and/or Clean Water Act Section 404 permit administered by the U. S. Army Corp. of Engineers. Contact the Central Valley Regional Water Quality Control Board to determine if other permits are required for your construction activity at (916) 464-3291.

3. **Who should apply, and who is the proper signatory?**
   The 2009-0009-DWQ Permit states the Legally Responsible Person (LRP) or a person legally authorized to sign and certify on behalf of the LRP is responsible for obtaining permit coverage.

4. **What are the fees associated with the Permit?**
   The annual fees are based on total disturbed area of the construction project in acres. See the following web link for a list of fees by acres.

   http://www.swrcb.ca.gov/water_issues/programs/stormwater/docs/sw_feeschedules2008.pdf

   You will continue to receive an annual invoice until your project is complete and a Notice of Termination (NOT) is electronically submitted and approved by the Central Valley Regional Water Quality Control Board. Projects continuing from the 99-08-DWQ Permit into the 2009-0009-DWQ Permit will pay the annual fees based on their current billing cycle.

5. **Who do I contact for questions regarding an invoice?**
   If you have questions regarding outstanding invoices or payments please contact the State Water Resources Control Board Fee Unit at (916) 341-5247.

6. **How do I apply for coverage?**
   For new projects commencing on or after July 1, 2010, an LRP must electronically submit Permit Registration Documents (PRDs) prior to commencement of construction activities in the Storm water Multi- Application Report Tracking System (SMARTS). PRDs consist of the Notice of Intent (NOI), Risk Assessment, Post-Construction Calculations, a Site Map, the Storm Water Pollution Prevention Plan (SWPPP), a signed certification statement by the LRP, and the first annual fee.

7. **How long will it take for me to get my WDID number after I submit my PRDs to SMARTS? Is there a staff or public review process before the WDID is issued?**
   PRDs consist of the Notice of Intent, Risk Assessment, Post-Construction Calculations, a

   Site Map, the SWPPP, a signed certification statement by the LRP, and the first annual fee. Once these components have been submitted and are deemed complete by the SMARTS system, a WDID number will automatically be emailed to the LRP.

8. **How long are PRDs available online after the WDID number is terminated?**
   PRDs and other reports will be available to the public to view for 5 years after the NOT approval date.

9. **How can I find out the status of my permit?**
   LRPs can log into the SMARTS system to obtain the status, or can download or search the construction storm water database at the following web link:

   http://www.swrcb.ca.gov/water_issues/programs/stormwater/databases.shtml

Reporting Process (SMARTS)

10. **Will SMARTS track enforcement data as well?**
    Yes. The Central Valley Regional Water Quality Control Board will enter their inspection and enforcement data into SMARTS.

11. **When will the SMARTS system be available?**
    The SMARTS system will be available by July 1, 2010 for electronic filing of PRDs. It is anticipated that the system may be available prior to July 1st to allow for early submission of PRDs.

Permit Duration / Transferability

12. **How long is my permit in effect?**
    Your coverage under the 2009-0009-DWQ Permit remains in effect until a NOT is submitted in SMARTS and approved by each Regional Water Board that your project resides in. If the Regional Water Board denies the NOT, you are responsible for any missed or outstanding invoices. For outstanding invoices, a complete NOT must be received by the Regional Water Board 90 days from the original invoice date in order to cancel the invoice. If a complete NOT is received after 90 days, the invoice is deemed valid and payable.

13. **Can I terminate or sell a portion of my project?**
    Yes, the 2009-0009-DWQ Permit allows a discharger to terminate portions of a construction project if those portions have been sold to another owner. The permit is not transferable, so the responsibility to obtain permit coverage, update the SWPPP, and comply with permit requirements becomes that of the new owner. The seller must notify the new owner about his/her responsibilities concerning the permit, and must notify the State Water Board by submitting the new owner's name, address, and phone number on the Change of Information (COI) form for the termination to be processed. The seller must also disclose the state of

construction, primarily if construction activity is ongoing, or if the post-construction requirements are completed.

14. **What if I sell the property prior to completing the construction?**
    The new owner must submit new PRDs within 30 days of the date of change of ownership. For ongoing construction activity involving a change of ownership, the new owner must review the existing SWPPP, determine if it is appropriate for the construction activity being undertaken. If it is not in compliance, then the SWPPP must be amended, or a new SWPPP developed.

15. **When do I have to implement post-construction requirements?**
    The post-construction requirements become mandatory on September 2, 2012. On a case by case basis, dischargers may request an extension from the Executive Officer of the Central Valley Regional Water Quality Control Board.

16. **If my site is still active after September 2012 but I file a COI to reduce my acreage, do the post-construction requirements apply to the completed portion?**
    No. If you file a COI to reduce your acreage prior to September 2012, then only the remaining disturbed acreage would need to comply with the post construction requirements.

17. **After a project is grandfathered into coverage under the new CGP at risk level 1 (type 1), can the State Water Board or Regional Water Board change that project's risk level?**
    Yes, the Central Valley Regional Water Quality Control Board has the authority to require a risk determination be performed on grandfathered projects that have a history of non-compliance with the 99-08-DWQ, 99-06-DWQ, and 2003-0007-DWQ Permits, or where the project poses a significant threat to water quality without the implementation of the additional Risk Level 2 or 3 requirements.

18. **Will grandfathered construction projects need to have their SWPPPs developed by a Qualified SWPPP Developer (QSD)?**
    Yes, after July 1, 2010 all SWPPPs and SWPPP updates entered into the SMARTS system must be certified by an individual holding one of the certifications/registrations listed in Section VII of the 2009-0009-DWQ Permit. Effective two years after the permit adoption (September 2, 2011), the QSD must have also attended the State Water Board sponsored or approved QSD Training Course.

19. **For grandfathered projects, can existing SWPPPs be submitted during the PRD process, or does the SWPPP need to be amended/adjusted to reflect the new CGP?**
    The SWPPPs must be amended to meet the minimum criteria listed in Section XIV, SWPPP Requirements, and Attachment C, Risk Level 1 Requirements, of the CGP.

Training and Qualifications to Prepare SWPPPs and Inspect Projects

20. **Does the Qualified SWPPP Practitioner (QSP) need to have the pre-qualifications listed in Section VII of the 2009-0009-DWQ Permit by July 1, 2010?**
    No. Effective September 2, 2011, the QSP shall have one of the pre-qualifications listed in Section VII of the 2009-0009-DWQ Permit and shall have attended the State Water Board sponsored or approved QSP Training Course. Between July 1, 2010 and September 2, 2011 anyone can be a QSP.

21. **What kind of training is required for our company's site superintendents? Can we hire one QSP to train all of them?**
    Yes, one QSP can train all company superintendents. However, the Regional Water Board inspectors may ask to meet and/or conduct an inspection with the QSP responsible for a particular project/site, and that individual should be accessible. The QSP is responsible for the implementation of BMPs on each construction project, not the trained superintendents.

22. **Can a QSD or QSP be an independent contractor?**

Yes.

23. **Is the QSD and/or QSP responsible for project compliance, or the project owner?**
    The LRP is always ultimately responsible for project compliance. This individual must certify the PRDs and will be the recipient of any Notices of Violations or Administrative Civil Liabilities (fines) for the project.

24. **How can I become a QSD/ QSP?**
    Section VII of the 2009-0009-DWQ Permit lists pre-qualifications for the QSD and QSP. In addition to meeting one of the listed pre-qualifications, an individual must have attended a State Water Board sponsored or approved QSD/QSP training course. See the following web link to obtain information on this training course: http://www.casqa.org/

25. **How much will it cost to take the State Sponsored QSD/QSP Training course?**
    Costs will vary. Since private training vendors who have been selected/approved to work as "trainers of record" and "specialized trainer" (through a structured Request for Qualifications process) will offer their own training courses. Each course will be required to be a certain length (i.e., minimum training hours for each required module; likely 2-3 days per designation) and follow prescribed standards, but training courses will vary in specific content/approach and are expected to vary in cost.

26. **Where can I get information on QSD/QSP pre-requisite programs to see if I am eligible?**

Pre-Requisite QSD Certifications/Registrations	Website
California Registered Professional Civil Engineer	www.pels.ca.gov
California Registered Professional Geologist or Engineering Geologist	www.geology.ca.gov
California Registered Landscape Architect	www.latc.ca.gov
Professional Hydrologist registered through the American Institute of Hydrology	www.aihydrology.org
Certified Professional in Erosion and Sediment Control (CPESC) registered through Enviro Cert International Inc.	www.envirocertintl.org
Certified Professional in Storm Water Quality (CPSWQ) registered through Enviro Cert International Inc.	www.envirocertintl.org
Professional in Erosion and Sediment Control registered through the National Institute for Certification in Engineering Technologies (NICET)	www.nicet.org
Certified erosion, sediment and storm water inspector through Enviro Cert International Inc.	www.envirocertintl.org
Certified Inspector of Sediment and Erosion Control registered through Certified Inspector of Sediment and Erosion Control Inc. (CISEC)	www.cisecinc.org

27. **What is the role of the local municipality in reviewing/enforcing the SWPPP?**
    The local municipal storm water programs and the CGP requirements intentionally have some overlap/redundancy. However, the local municipality has no authority to enforce the State's CGP requirements; this is done by the Regional Water Board inspectors. Typically, the local agency is responsible for ensuring compliance with local storm water ordinance which prohibits

sediment and other pollutants from entering the municipal separate storm sewer system, and with a local grading ordinance which typically requires an erosion and sediment control plan (typically a sheet in the construction plan set) for projects with a grading permit. In some cases, the local municipality may have a condition in their MS4 storm water permit requiring the agency to check that certain items are included in the SWPPP. This does not constitute approval of the SWPPP and the review is typically conducted prior to issuing a grading permit.

Reporting and Monitoring Requirements

28. **Who is responsible for preparing and implementing the Rain Event Action Plan (REAP)? Do you have to be a QSP?**
The project QSP must develop and be in responsible charge of implementing the REAP. A QSD may also implement the REAP if they are also in responsible charge for implementing the SWPPP onsite. The REAP is a living document specific to a project site. A new REAP must be prepared/revised specific to each forecasted qualifying rain event (any likely precipitation event forecast of 50% or greater probability). However, some of the REAPs for an individual project might look similar for each construction phase.

29. **When do I need to develop a REAP?**
A REAP must be developed 48 hours prior to any likely precipitation event. (National Oceanic Atmospheric Administration (NOAA) – 50 percent or greater probability of producing precipitation) This is determined by:

    1. Visit the NOAA Website at: http://www.srh.noaa.gov/
    2. Enter your zip code or city & state in the search box and click “go”
    3. Scroll down to the bottom right hand of the page under “Additional Forecasts & Information”
    4. Click on “Forecast Weather Table Interface” at the bottom of the section

30. **Where can I get copies of inspection forms?**
The 2009-0009-DWQ Permit lists minimum criteria required for an inspection checklist. Dischargers may develop their own inspection forms, or may contact their local Regional Water Board for an inspection form if one is available.

31. **What is a Sediment Sensitive Watershed?**
A sediment sensitive watershed drains into a receiving water body (1) listed on Environmental Protection Agency’s (EPA) approved Clean Water Act (CWA) 303 (d) list for sedimentation/siltation, turbidity with an approved Total Maximum Daily Load (TMDL): or (2) designated with beneficial uses of SPAWN, MIGRATORY and COLD.

32. **Once a phase of my construction project has commenced, can I re-calculate my risk level based on existing site conditions. If found to be different from the initial risk, can I resubmit the new risk level with a COI?**
No. The only scenario where risk can be recalculated based on existing site conditions would be if there is a change in ownership or if a portion of the project is sold. For all other projects, the initial risk calculated during PRD submittal applies until an NOT is filed.

33. **How does the 500 NTU turbidity NEL relate to the Basin Plan turbidity standards for receiving waters? How will the local Regional Water Board inspectors enforce this?**
The 500 NTU turbidity NEL is a technology based effluent limitation that applies to storm water discharges leaving the project boundaries. The Basin Plan turbidity standards are water quality based effluent limitations that apply to receiving waters. The Regional Water Boards will continue to enforce their Basin Plan standards where projects are found to discharge directly into a receiving water body.

34. **Where can I obtain guidance for pH and turbidity sampling?**
    The Surface Water Ambient Monitoring Program (SWAMP) has a Guidance Compendium for Watershed Monitoring and Assessment. Sections 3.1.4 and 3.1.5 of this Compendium contain guidance for pH and turbidity sampling. See the following web link for this Guidance document:

    http://www.waterboards.ca.gov/water_issues/programs/swamp/cwt_guidance.shtml

    A SWAMP Field Methods Course training CD is also available for the public. Please contact stormwater@waterboards.ca.gov to request a copy.

35. **Where can I obtain guidance for Bioassessment Monitoring?**
    SWAMP 2007 Bioassessment Standard Operating Procedures (SOP) includes standard operating procedures for bioassessment. See the following web link for these procedures:

    http://swamp.mpsl.mlml.calstate.edu/resources-and-downloads/standard-operating-procedures

36. **Please clarify the meaning and use of the term "direct discharge"**
    The CGP glossary (Appendix 5) defines direct discharge as "a discharge that is routed directly to waters of the US by means of a pipe, channel, or ditch (including a municipal storm sewer system), or through surface runoff. Discharges from a construction site to a MS4 where commingling with upstream and/or downstream discharges can occur are not considered 'direct discharges'." See the following web link for Appendix 5:

    http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/wqo_2009_0009_app_5.pdf

37. **Will local municipalities be revising their storm water quality development standards to be consistent with the post-construction requirements in the CGP?**
    Projects located within an area subject to post-construction standards of an active Phase I or II MS4 permit that has an approved Storm Water Management Plan are exempt from the post-construction requirements in the CGP.

38. **What are the training requirements to operate and maintain an Active Treatment System (ATS)?**
    Order No. 2009-009-DWQ requires that all ATS operators have training specific to using ATS's liquid coagulants. By July 1, 2010, projects requiring the usage of an ATS are to be operated and maintained by Certified ATS operators.
    - Training shall be in a form of a formal class with a certificate and requirements for testing and certificate renewal.
    - Training shall include a minimum of eight hours classroom and 32 hours field training.

39. **What is the difference between the LRP, Approved Signatory, and Data Submitter?**
    - The **LRP** is the person who possesses the title of the land or the leasehold interest of a mineral estate upon which the construction activities will occur for the regulated site. For linear underground/overhead projects, it is the person in charge of the utility company, municipality, or other public or private company or agency that owns or operates the linear underground/overhead project.
    - The **Approved Signatory** is a person who has legal authority to sign, certify, and electronically submit PRDs and NOTs on behalf of the LRP.
    - The **Data Submitter** is any individual authorized by the LRP or an Approved Signatory to enter data on behalf of the LRP or Approved Signatory. A data submitter may be other employees, contractors, labs, etc.

40. **What documents must be submitted to the State Water Board and Regional Water**

Appendix B – Attachments

Boards?

TRADITIONAL CONSTRUCTIONAL PROJECTS		
Document	**Developer/Certifier**	**Timeline**
Annual Report	Discharger	September 1st
Document	**Developer/Certifier**	**Timeline**
– Employee Training Documentation	Discharger	In Annual Report
ATS Operation & Maintenance (O&M) Plan	Discharger	Develop prior to implementation of an ATS system
ATS Plan	Discharger	Submitted 14 days prior to implementation of an ATS system
ATS QA/QC Plan	Discharger	Develop prior to implementation of an ATS system
Construction Site Monitoring Program (CSMP)	Discharger	In SWPPP as an appendix or chapter
NAL Exceedance Report	Discharger	Submitted upon request by the Regional Board
NEL Violation Report	Discharger	Submitted within 24 hours after NEL exceedance has been identified
NOT	LRP	Upon completion of construction or change in ownership
PRDs	LRP	Submitted for permit coverage
– NOI	LRP	In PRD package
– Risk Assessment	LRP	In PRD package
– Site Map	LRP	In PRD package
– SWPPP	QSD	In PRD package
– Certification Statement	LRP	In PRD package
– Post-Construction Calculations	LRP	In PRD package (if applicable)
– ATS System Design	LRP	In PRD package (if applicable)
– Soil Particle Size Analysis	LRP	In PRD package (if applicable)

Appendix B – Attachments

– Annual Fee	Discharger	In PRD package
Rainfall Erosivity Waiver Certification	LRP	In PRD package (if applicable)

41. **Do all projects need to submit an Annual Report?**
    Annual Reports must be submitted by projects that are enrolled under 2009-0009-DWQ for more than one continuous three month period. The Annual Reports will be submitted electronically in SMARTS. See the following web link for the SMARTS system:

    http://smarts.waterboards.ca.gov/

42. **Where can I get guidance for on-site rain gauge installation and reading?**
    The SWAMP has a Guidance Compendium for Watershed Monitoring and Assessment. Section 5.1.1 of this Compendium contains guidance for Rainfall Monitoring.

43. **I would like to design a sediment basin for my project. The 2009-0009-DWQ permit requires sediment basins to be designed according to the method provided in CASQA's Construction BMP Guidance Handbook. Do I need to purchase the handbook in order to design a sediment basin for my project?**
    No. It is not necessary to purchase California Storm Water Quality Association's Construction BMP Guidance Handbook in order to design a sediment basin for a project. See the following web link to obtain a free copy of the Sediment Basin Fact Sheet (SE – 2):

    https://www.casqa.org/store/products/tabid/154/p-171-fact-sheet-se-2.aspx

44. **At what point will the Attachment F, ATS requirements apply on my site?**
    The requirements in Attachment F only apply when an Active Treatment System (ATS) is implemented on a project site. ATS is defined in the 2009-0009-DWQ permit as "A treatment system that employs chemical coagulation, chemical flocculation, or electrocoagulation to aid in the reduction of turbidity caused by fine suspended sediment." The application of chemicals on disturbed soil areas is not considered ATS. This BMP is used for the purpose of erosion control. See the following web link for Attachment F:

    http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/wqo_2009_0009_att_f.pdf

45. **Will a risk re-calculation be required if my project extends past the original construction end date specified?**
    Yes, all projects that extend past their original construction end date will be required to electronically re-calculate their risk level in SMARTS.

Questions or comments about the 2009-0009 DWQ Permit?

1. Please email stormwater@waterboards.ca.gov or phone (866) 563-3107; or
2. Contact the City of Davis Public Works Department @ PWWeb@cityofdavis.org or phone 757-5686.

Stormwater Training Presentation Format / Agenda

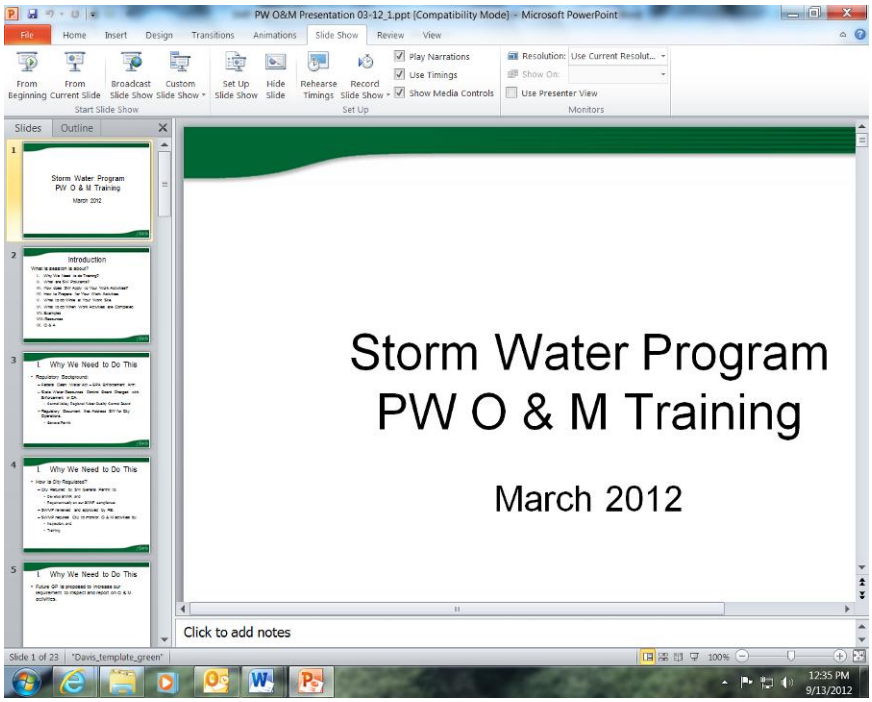
I. Introduction

- What is session is about?
- Why we need to do this?
- Sign in sheet.
- How do they think stormwater BMPs apply to their day-to-day operations?
- What are the types of precautions they currently take in their day-to-day operations?

II. Review of Stormwater Reference Materials

- Handout of basic stormwater BMP principals.
    - Discussion of how does it applies to the work crew?
- Review of the Stormwater Pollution Prevention for Municipal Operations manual.
    - Do they have one and do they use it?
    - What it is and what it provides?
- Handout specific to the work crew (Revised SOP's where applicable).

III. Questions and Answers



Basic Stormwater Best Management Practices – March 2012

What are storm water pollutants?

- Dirt, sand, gravel, asphalt, concrete, etc.
- Saw cutting slurry
- Green wastes: grass clippings, leaves, branches, weeds, mulch, sawdust etc.
- Oils, fuels, detergents, solvents, adhesives, etc.
- Pesticides, fertilizers
- Trash, plastic, bottles, cans, etc.

Tasks to Perform Prior to Commencing with Work Related Activities at a Site:

1. Consult CASQA Municipal SW BMP Manual prior to starting your work to make sure you are utilizing proper stormwater BMPs.
2. Assess your work site for the job you are about to perform. Look for items that have the potential to be washed into a storm drain.
3. Take time to remove items that could be washed into the storm drain. If cleaning up debris prior to commencing with activity, use dry clean-up methods only (e.g., sweep instead of hosing things down).
4. Install diversion, retention or filtering devices to protect the storm drain inlets.
5. Place materials away from storm drains, contain and cover them. Keep them out of the rain.
6. If possible, avoid scheduling work during rain or wind events.

Tasks to Perform While Performing Work at a Site:

1. Divert stormwater runoff or water from possible contamination sources.
2. Clean-up spills and drips immediately using absorbent materials – dispose of absorbent materials properly.
3. Report dumping or discharges to any storm drain, areas that would lead to a storm drain, or into conveyance channels.

Tasks to Perform when Work is Completed:

1. Clean up the work area. Use dry clean-up methods whenever possible after work activities cease.
2. Clean dirt and vegetation off of equipment at 1818 wash rack prior to storing outside.
3. Prevent pollutant discharges to drainage inlets - if a surface must be hosed down, block inlets to divert water, collect water and dispose of properly.

Basic Stormwater Best Management Practices – March 2012

Basic Pollutants:

What are stormwater pollutants? Whatever you would not dump in a fish tank.

- Dirt, sand, gravel, asphalt, concrete, etc.
- Saw cutting slurry
- Green wastes: grass clippings, leaves, branches, weeds, mulch, sawdust etc.
- Oils, fuels, detergents, solvents, adhesives, etc.
- Pesticides, fertilizers
- Trash, plastic, bottles, cans, etc.

Basic Principles:

1. Keep materials under cover and out of the rain.
2. Divert stormwater or water runoff from possible contamination sources.
3. Keep things clean using dry clean-up methods whenever possible (e.g., sweep instead of hosing things down) both prior to commencing with work activities and after work activities cease.
4. Clean dirt and vegetation off of equipment at appropriate controlled run-off wash facilities (like 1818 5th Street) prior to storing outside.
5. Prevent pollutant discharges from reaching drainage inlets. If a surface must be hosed down, block inlets, collect water and dispose of properly.
6. Prevent materials from entering drainage inlets – do not stock materials near drainage inlets.
7. Clean-up spills and drips immediately using absorbent materials – dispose of absorbent materials properly.
8. Report dumping or discharges to any storm drain, areas that would lead to a storm drain, or into conveyance channels.
    - For identifiable materials (e.g., oil based products or paint) in quantities of 5 gallons or less and sanitary sewer overflows contact PW Administration for clean-up.
    - For un-identifiable spills or in quantities greater than 5 gallons, contact the Fire Department.

Redwood Barn Nursery, Inc.
1607 Fifth Street
Davis, CA 95616

www.redwoodbarn.com

Monday through Saturday 9 – 5:30
Sunday 12 – 5

15% off
any "Less Toxic" product

Any one-time purchase. Not combined with other offers. Limited to stock on hand.
Coupon good through March 30, 2011

Davis ACE

Davis Ace Hardware
3rd & G Streets
Downtown, Davis
530-758-8000
www.davisace.com

15% off any plant purchase of $20 or more

Davis ACE The helpful place.

helpful earthchoices.

Expires 11-20-10

cashiers: CTRL+D to issue discount, ring sku OW1

Not valid with other offers or currently advertised items. Not valid on gift cards, labor, custom orders, special orders, merchandise replacement agreements, or as payment on a DLH account. Valid only towards stock on hand. Employees of Davis Ace Hardware are not eligible for a discount. In the event of a return, savings may be deducted from your refund. Other restrictions may apply. See store for specific details.

15% off any single less-toxic gardening product

Davis ACE The helpful place.

helpful earthchoices.

Expires 11-20-10

cashiers: CTRL+D to issue discount, ring sku OW1

Not valid with other offers or currently advertised items. Not valid on gift cards, labor, custom orders, special orders, merchandise replacement agreements, or as payment on a DLH account. Valid only towards stock on hand. Employees of Davis Ace Hardware are not eligible for a discount. In the event of a return, savings may be deducted from your refund. Other restrictions may apply. See store for specific details.


In celebration of Duck Days, CVS/Pharmacy would like to help you protect the California waterways. Please enjoy 20% off all less toxic garden products labeled "Our Water, Our World."
1550 E. Covell Blvd. (Oak Tree Plaza)
Davis, CA 95616
(530)753-4000
Expires 6/30/13
Davis
Rub out
Pests Bugging You?
A Pocket Guide for Choosing Products Less Toxic to People and Pets
www.ourwaterourworld.org
key

A copy of the ad ran in the Davis Enterprise newspaper in 2012.

Composting Class

★ Backyard Composting

- Materials
  - carbon—brown stuff—dry leaves, sticks, bread, coffee filters
  - nitrogen—green stuff—grass clippings, green leaves, fruit and vegetables, coffee grounds, weeds
  - Fruits and vegetables—always bury deep in the pile (6-12") to discourage rodents. Add a week's worth at a time, and always chop it up so it breaks down faster. The presence rodents or insects mean too much is being added. Stop adding veggies, and add some green matter to increase the heat in the pile.
  - Do NOT use—meat, bones, grease, fat, oil, pet feces, invasive weeds, diseased plants, large pieces of wood
- Moisture—40% material should clump in your hand when you squeeze it with a drop or two on your fingers
- Temperature—140° to 150° for several days to kill weeds, or maintain the pile at 120° for a longer time.
  - increase temperature by adding water, making the pile larger, turning the pile, adding greens or insulating the pile (cold weather)
  - piles must be 3x3x3
- Air—turning your pile—decomposer organisms need oxygen to survive. Turn every one to two weeks for maximum aeration
- Surface area—organisms feed on the surface area—more surface area means they can decompose things quicker.
  - chop the material up for faster decomposition
- Hot Pile Technique—FAST—compost in 3 months
  - 3 parts carbon, 1 part nitrogen
  - easiest in the fall—lots of brown material
  - lack of brown stuff in the spring? Let stuff dry out first and turn brown
- Hot pile technique—SLOW—compost in 3 to 6 months
  - 50/50 carbon to nitrogen
- Harvesting—spread out compost in the sun to cure it, dry it out a little, make it easier to spread, let the sow bugs etc crawl out
- Troubleshooting—go over the bullets on the sign
- More information
  - Regional Recycling Backyard Composting Guide
  - Backyard Composting by Harmonious technologies—at County Library

★ How to build your own compost bin

- see examples
- buy your bin
- other ideas to build a bin—3 bin system, 2 bin system, concrete block bin

★ Basic worm composting

- Ideal for apartments, places with little space, composting lots of fruits and veggies quickly
- Worms
  - red wriggler, not earthworms
  - about 1 lb of worms to start
  - UCD Project Compost 754-8227 or projectcompost@yahoo.com
  - The Worm Farm in Durham 894-1276--worms for about $30 for 1 Lb
- The bin
  - holes for aeration, drainage
  - shallow—they like to feed near the surface where there is a lot of oxygen.
  - tight fitting lid—keep them in, but most importantly—keep others out
    - birds, moles, ants, fruit flies
  - 1’ deep x 2-3’ square surface is best.
- Environment
  - careful not to freeze or overheat the worms
  - they can tolerate 50°-84°, prefer 55°-77°
- Bedding
  - shredded paper, shredded cardboard, peat moss, leaves, manure
  - 8-10” of moist bedding
- Worm food
  - fruit and vegetable peelings, coffee grounds, bread, tea bags, crushed egg shells, rice
  - no non-biodegradable stuff—plastic, rubber bands, bones, meat, cat litter
- Composting
  - keep the bedding moist
  - bury food scraps in the bedding
  - they like to feed on the top, but don’t like the sun
  - In a few months, ready to harvest
- Harvest
  - start feeding on only one side
  - place piles out in the sun—worms move towards the bottom
  - pull worms out by hand
- Troubleshooting
  - Bin smells bad
    - too much food—feed less
    - too wet—check drainage holes/ add dry bedding
  - Fruit flies
    - food isn’t buried—bury it/ cover surface of the bedding with carpet or a sheet of newspaper
  - worms aren’t eating
    - too much food—feed less
    - too acidic—stop feeding citrus peelings or sprinkle with crushed oyster shells
- More information—Mary Appelhof’s book “Worms Eat My Garbage” at Yolo

County Public Library
- worm composting classes given by UCD Project Compost

Where does the water go?

A portion of the stormwater that is collected in the City is conveyed to the Davis Wetlands where it is used to support this constructed wetlands system and all its wild inhabitants.

What happens to water from storms, landscape irrigation, or car washing? This water, called stormwater or urban runoff, flows into the City's storm drainage system through over 2500 curbside catch basins - the openings located along street gutters. The water moves through the storm drain piping below our streets to our creeks, sloughs, wetlands, rivers, delta, bay and eventually the Pacific Ocean.

Initially, much of this water fills the City's detention and wildlife ponds which support an array of wildlife species. Other water flows through drainage ditches towards the northern and eastern edges of the City.

To remind everyone about the importance of preventing pollution of our stormwater, be it from other sources, the City has installed storm drain inlet markers near each drain:

Storm Drain Markers:
Installing these markers in an easy hands-on project for you, your group, or organization to participate in that will help spread the pollution prevention message. If you'd like to join in this awareness effort, please contact City of Davis Public Works at (530) 757-5686

Stormwater pollution can be extremely harmful to the health of the plants and animals with which we share this planet. Help us to protect your water resources for current and future generations.

If you see anyone dumping questionable materials, please call City of Davis Public Works at (530) 757-5686.

If it is an emergency, call 911.

PLEASE KEEP OUR WATERSHED CLEAN!!

Mulching

PROVIDE A BETTER GROWTH ENVIRONMENT FOR YOUR PLANTS AND TREES

Provided by:
The City of Davis

What is Mulching?

Mulching is one of the simplest and most benefitial practices you can use in the garden. Mulch is defined as a protective layer of material that is spread on the top of soil.

Mulch comes in two different types: organic and inorganic. Examples of organic mulch are: grass clippings, straw, bark chips and similar material. Mulches that are inorganic include: stones, bark chips, and plastic. Both of these types of mulch are very beneficial to your soil in their own ways.

Mulch that is both organic and inorganic provides these benefits:
- It protects the soil from erosion
- It reduces compaction from the impact of heavy rains
- Conserves moisture which reduces the need for frequent watering
- Maintains a more even soil temperature
- Prevents weed growth
- Keeps fruit and vegetables clean
- Keeps your feet clean, allowing easy access to your garden even when it is damp
- Provides a "finished" look to the garden.

Organic mulch also improves the condition of the soil. As the mulch slowly decomposes, it provides organic matter which helps keep the soil loose. Loose soil improves root growth, increases the infiltration of water and also improves water-holding capacity of the soil. Organic matter is a source of plant nutrients and it also provides an ideal environment for earthworms and other beneficial soil organisms.

Inorganic mulches have their place in certain landscapes but they do lack the soil improving properties of the organic mulch. Due to the persistence of inorganic mulch, it may be difficult to remove if you decide to change your garden at a later date.

Did you know...

Excessive application of mulch can result in a situation where roots grow into the mulch instead of the soil.

Selecting the right mulch for your needs

All mulches have different characteristics, some of them may have advantages in some situations and disadvantages in others. Before you choose a mulch, consider how you will use it.

Summer mulches: Summer mulches are placed during the growing season and are used primarily for flowers and vegetables. Their role is to retain moisture, reduce weed growth, and moderate soil temperatures. Summer mulches are often left in place through the winter to reduce the effects of erosion. Perennial plants can also be substituted by winter mulches.

Winter Mulches: Winter mulches are used to mainly protect shrubs and flowers from severe winter temperatures and frost heaving. Frost heaving happens when the soil expands and contracts due to freezing and thawing. Moist, fine-grained soil at certain temperatures is most susceptible to frost heaving. Winter mulches are laid down in the late fall and serve as insulation during the winter.

Permanent mulches: Permanent mulches are used where mulch is most desired year around and does not need to be disturbed. These places are, for example, in paths and around trees and shrubs. If a permanent mulch is organic, it will need to be replenished annually.

Sheet Mulching: Sheet mulching is a fast and labor saving technique for building beds and surpressing weeds. The quick way to do this type of mulching is by putting down some compost. Then cover the area with cardboard or layers of newspaper. Make sure that you to do not use shiny and/or colored paper. Soak each layer and finish with 6" of straw or sawdust. You will want to make sure not to bury the sawdust of the wood chips. Make soil pockets for immediate planting of just let it sit for a few months.

How to mulch

Summer mulch for annual flowers and vegetable gardens is normally applied in midspring, once the soil has warmed enough for active root growth. The best way to prevent weeds from growing is to apply mulch in the early spring. Remove any existing weeds before applying the mulch.

For winter protection, apply the mulch in early winter or once the soil has cooled but before it has frozen. For your trees and shrubs, spread mulch evenly and only 2 to 3 inches deep. For trees and shrubs in beds, mulch the entire bed. For trees in the lawn, mulch a wide range of about 3 to 6 feet from the trunk. *Never pile mulch against tree trunks*. Pull the mulch back away from the trunk about an inch or so. As the organic mulch decomposes, it may need to be replenished a little every year; but do not let the mulch get too deep (4 inches max.).

For flower beds, mulch can be applied up to 3 inches deep (after settling), but should be kept pulled back slightly from the plant stems. Mulches should throughly cover an area to a uniform depth to be the most effective. Low or bare spots will be prone to weed problems.

Mulching is a wonderful alternative for fertilizers. The best part is that you do not hasve to keep applying it. It is good year around. Fertilizers are harmful to the environment. When irrigation is used, it will take any remaining fertilizer with it. This runoff then goes into the storm drain and into our waterways. The aquatic life is then exposed to these chemicals and can kill them. Help keep our waterways clean by using mulch instead of pesticides.

Free Compost Bins Available!

The City of Davis offers a year-round compost correspondence course to Davis residents in single-family homes. To enroll, call the Public works Department (757-5686) to request a compost packet mailed to your home. Once you receive the packet, read the materials inside, fill out the enclosed quiz and return the quiz to the Public Works Department. A city staff-person will contact you to let you know that your quiz was received and that your free compost bin is available for pick-up.

Best Gardening Practices

Integrated Pest Management (IPM) - A decision-making process to determine pest levels and tolerance thresholds and combines biological, cultural, physical, and chemical tools to maximize health, e nvironmental, and financial risks. The method uses extensive knowledge about pests, such as infestation thresholds, life histories, environmental requirements, and natural enemies to compliment and facilitate biological and other natural control of pests.

Weed control measures at this garden consists of sheet mulching where cardboard or layers of newspaper are placed on the ground which is then covered by wood chip mulch. other weed control practices consist of solarization, where the suns energy is used to pasteurize the soil killing most pest and michanical controls such as hand weeding or weed whacking. These techniques are demonstrated here so that the community can observe and apply these techniques at home.

Donations

Momorial benches may be donated to the garden.

Donations to the herb garden are accepted. If you would like to make a donation, please make a check payable to the City of Davis. Send the donation to the address provided below and send to: Attn Bob Stephenson

For more information or to get involved, please contact:

Bob Stephenson
City of Davis
23 Russell Blvd
Davis, CA 95616
rstephenson@cityofdavis.org
(530) 757-5656 x 7329

City of Davis

Herb Wildlife Garden

Dedicated to garden beautification, education, wildlife protection, and water quality.

A Joint Project of the
Parks & General Services
&
Public Works Departments

Davis California

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Storm Drain Markers:
These markers are easy to install. So if you, your group, or organization would like to participate in this pollution awareness program, please contact City of Davis Public Works at: (530) 757-5686

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If it is an emergency, call 911.

PLEASE KEEP OUR WATERSHED CLEAN!!

Where does the water go?

A portion of the stormwater that is collected in the City is conveyed to the Davis Wetlands where it is used to support this constructed wetlands system and all its wild inhabitants.

What happens to water from storms, landscape irrigation, or car washing? This water, called stormwater or urban runoff, flows into the City's storm drainage system through over 2500 curbside catch basins - the openings located along street gutters. The water moves through the storm drain piping below our streets to our creeks, sloughs, wetlands, rivers, delta, bay and eventually the Pacific Ocean.

Initially, much of this water fills the City's detention and wildlife ponds which support an array of wildlife species. Other water flows through drainage ditches towards the northern and eastern edges of the City.

Volunteer at the Garden

There are many volunteer opportunities at the Garden during the week or on weekends.

Adopt-A-Park

Sections of the garden may be adopted by groups or individuals.

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Rat Control

Your informational guide to understanding rats & how to identify and prevent infestations

Promoting alternatives to pesticides

Davis
California

The Norway Rat

The Norway rat. This rat is also known as the brown rat and the sewer rat. This distinctive pest is gound in urban and suburban neighborhoods. These rodents eat and contaminate food, damage buildings and other property by gnawing and burrowing, and may spread diseases that affect people and pets. These rats are husky, and brownish. They weigh about 11 ounces and are 18 inches long including the 6 to 8 1/2 inch tail. Their fur is course and mostly brown with scattered black on the upper surfaces; the underside is typically greay to yellowish white. They will eat any type of food, although they prefer high-quality foods

The down low on roof rats

Roof rats. To some, they may look cute and innocent, but these rats are the ones responsible for having spread the plague in Europe during the middle ages. Here in Davis it poses both a health and safety hazard. Besides plague, roof rats may spread other diseases to humans like murine typhus, leptosporosis, salmonellosis, trichinosis and rat bite fever. They can also spread diseases to domestic animals and are suspected of carrying ectoparasites from one place to another. Besides consuming and contaminating stored food and feed, they will gnaw on wiring which can pose a serious fire hazard. they also will gnaw on wood and tear up the insulation in your home for nesting material. Rats will feed on fruits and vegetables in many gardens as well as damaging young trees by feeding on their bark. Unprotected compost piles as well as pet food as common food sources for them in our neighborhoods. Roof rats are nocturnal and have an arial nature so this is what distingiushes them and has implications for their comtrol. Roof rats prefer to forage above ground. They are agile climbers and travel through trees, vines, rafters wires and rooftops. They use trees and utility lines to reach food and enter buildings. They can also be found foraging in dense ground cover. Secluded areas above ground are ideal for nesting such as attics, overhead garage storage, in the vine cover of fences or buildings and in wood piles. They prefer non- diciduous trees or trees with hollow cavities and crowns of palm trees, especially when old fronds are not removed.

Did you know?

Roof rats have high reproductive potential with 3 to 5 litter a year with 5 to 8 pups per litter!

WHAT TO DO FOR A BAT IN NEED?

If you or someone you know finds **a sick or injured bat**, do not attempt to handle the animal. While bats are normally gentle creatures, if they are injured or feel threatened, they may be dangerous. **Please call Corky Quirk at NorCal Bats Rescue and Education at (530) 902-1918.**

THE BIGGER PICTURE

Whenever you fertilize your garden or use insecticides both outside and inside your home, remember where these compounds can travel. If rinsed down your kitchen sink or off of your property and into your gutter, the contaminated water will flow into the City's wastewater or storm drainage system. This water moves through the drain piping below our streets to our rivers, creeks, wetlands, sloughs, the delta and the bay.

Stormwater fills the Davis storm water detention and wildlife ponds which are landscaped to support an array of wildlife species. Stormwater is also conveyed to the Davis Wetlands where it is used to support the wetlands system and all its wild inhabitants. Storm water pollution can be extremely harmful to the health of the plants and animals in our community.

Organic pest control and other efforts to reduce chemical pesticide and fertilizer use are important in protecting the wildlife and aquatic resources in our local community.

Help us to protect your water resources for current and future generations.

For more information about how you can prevent water pollution please call Jack Betourne, Environmental Compliance Coordinator, or for more detailed information about bats and instructions for building your own bat box, call John McNerney, Wildlife Resource Specialist. Both can be reached by calling: (530) 757-5686.

For other helpful hints including proper composting techniques and proper disposal of household chemicals, visit the City of Davis website at: **cityofdavis.org**

Cover photo courtesy of David Rosen of Wildlife Photography and Public Relations

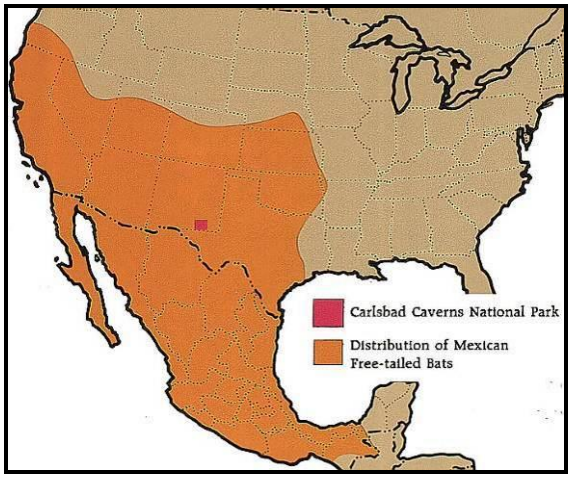
BENEFICIAL BATS

Mexican free-tailed bat
(*Tadarida brasiliensis*)

Promoting alternatives to pesticides…

THE BENEFITS OF BATS

Yolo County is one of many regions in the Central Valley that is a haven for native bat species. Areas in and around the City of Davis offer excellent habitat for bats, in particular, the Mexican free-tailed bat.



*orange region denotes Mexican free-tailed range

Mexican free-tailed bats are among the smaller bat species, weighing less than one tenth of a pound and having a wingspan of only twelve inches. These furry creatures range from brown to black in color, and are rarely seen except in the evenings when they emerge to hunt insects.

Did you know . . . ?

Mexican free-tailed bats eat insects ranging from moths and mosquitoes to beetles and ants, and they are one of the most important controllers of agricultural insect pests. **In one night alone, a colony of Mexican free-tailed bats can consume as much as 250 tons of insects!!!**

What is a Bat Box?

Bat boxes are rectangular wooden shelters in which local bats will roost. Inside of each box, they will snuggle among the constructed wooden crevices, hanging upside down by their feet. During the day, the bats will remain in the box, likely sleeping. They will emerge from their box roughly 15 minutes after sundown, and fly into the night to hunt for insect meals. Mexican free-tailed bats are not easily disturbed by children or pets so long as their box is out of reach. They are neither messy nor noisy.

Guano

One of the many benefits of having neighborhood bats is a local source of natural fertilizer. Bat excrement, or guano, is organic and tremendously rich in nutrients and minerals. Mixed in low concentrations with soil or irrigation water, it can be used to enhance the growth of lawns, vegetables, landscape shrubs and flowers. Care must be taken not to over fertilize as, like all fertilizers, it may damage plants and/or pollute local waterways.

Can't find a guano source? You can purchase guano from local nurseries and garden supply stores. By using guano carefully in your yard, you can avoid the use of more toxic, manufactured fertilizers. Such fertilizers are often applied to the surface of the soil and are thus more dangerous to children and pets. These products are also at a higher risk of moving from your yard into the stormwater system.

Did you know . . . ?

Bats are fast flying creatures. At times, they can reach flight speeds of **40 to 60 miles per hour**, traveling nearly as quickly as cars driving at freeway speed!!!

What's the big deal with inorganic insecticides?

Each year, consumers from private homeowners to city businesses purchase insecticides to combat pest on their properties. These pesticides, ranging from sprays to pellets, are not only limited in their effectiveness, but also potentially toxic, particularly to children and pets. Additionally, household insecticide use may cause adverse health effects. Neighborhood bats can decrease the need for these toxic chemicals by providing a natural and safe control for insect pests.

Not only will you, your family and your pets benefit from the presence of local bats, but harmless insect species will too. Beneficial creatures that would otherwise be vulnerable to the use of industrial and household insecticides will thrive. Furthermore, nearby storm water will be safe from the runoff of pesticides that could result from industrial and household use.

WHAT TO DO FOR AN OWL IN NEED?

If you or someone you know finds **a sick or injured owl,** do not attempt to handle the animal. While owls are normally gentle birds, if they are injured or feel threatened, they may be dangerous. To report an ill or injured barn owl, **please call the California Raptor Center at UC Davis at (530)752-6091.**

THE BIGGER PICTURE

Whenever you use rodent bait or poison either outside or inside your home, remember where the bait can travel. If rinsed off of your property and into your gutter, the bait-contaminated water will flow into the city storm drainage system. This water moves through the storm drain piping below our streets to our rivers, creeks, wetlands, sloughs, the delta and the bay.

Stormwater fills the Davis storm water detention and wildlife ponds which are landscaped to support an array of wildlife species. Stormwater is also conveyed to the Davis Wetlands where it is used to support the wetlands system and all its wild inhabitants. Stormwater pollution can be extremely harmful to the health of the plants and animals in our community.

The City of Davis Owl Box Program and your efforts to reduce chemical rodent bait use are important in protecting the wildlife and aquatic resources in our local community.

Help us to protect your wildlife and water resources for current and future generations.

For more information about how you can prevent water pollution please call the Environmental Compliance Coordinator, or for more detailed information about the City's Barn Owl Box Program or plans to build your own owl box, the Wildlife Resource Specialist. Both can be reached by calling (530)757-5686.

For other helpful hints including proper composting techniques and proper disposal of household chemicals, visit the City of Davis website at: **cityofdavis.org**

Davis California

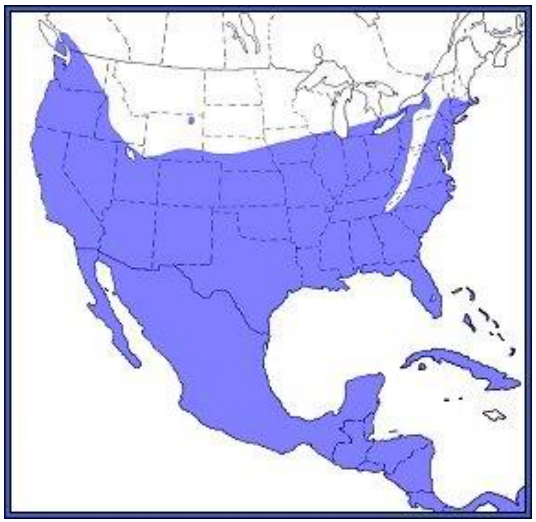
BARN OWL BOX PROGRAM

Promoting alternatives to pesticides…

THE BENEFITS OF OWLS

Yolo County is one of many regions in the State of California that provide habitat for native raptor species. In particular, areas in and around the City of Davis are well-established habitats for owls including the Barn Owl.

*purple region denotes Barn Owl range



Barn Owls are among the larger owl species with wingspans of roughly 3.5 feet on average. They can be easily recognized by their characteristic light-colored breast plumage and heart-shaped faces. Despite their abilities as successful hunters, Barn Owls typically live for only a short time, surviving for an average of 18 months to 2 years.

Did you know . . . ?

One nest of six young Barn Owls and two adults may consume as many as 1,000 small mammals in a single nesting season.

Resident pest control specialists!

Barn Owl boxes are rectangular wooden shelters in which the owls will nest and roost. The owls will snuggle together on the box's floor, and will remain there during most of the day. When night falls, Barn Owls will leave their box in pursuit of primarily rodent prey. Remarkably, Barn Owls are able to hunt in complete darkness, and will use their acute sense of hearing and excellent vision to locate unsuspecting creatures.

Barn Owls will spot and swoop down upon their prey, which include rodents, insects and small birds. Once captured, prey is eaten or brought to the box of hungry offspring. It is possible that after Barn Owls have moved into a local owl box, you may see owl pellets inside or around the box. These small wads of hair, feathers and bones resemble scat but are regurgitated by the owls following digestion of prey. These odorless pellets are interesting to dissect, as the entire skeleton of the prey item can be found. When handling a pellet, be sure to wear rubber gloves and/or thoroughly wash your hands afterward.

Did you know . . . ?

One Barn Owl male can have multiple mates in a given breeding season, and sires between three and six chicks per mate.

Why not use rodent baits?

Each year, consumers from private homeowners to city businesses purchase rodent baits to keep their properties free of mice, rats and gophers. These pesticides, ranging from powders to pellets, are not only limited in their effectiveness, but also toxic, particularly to children and pets. Household rodent bait use may cause adverse health effects. Neighborhood owls can decrease the need for these toxic remedies by providing a natural and safe control for rodent pests.

Not only will you, your family and your pets benefit from the presence of local owls, stormwater runoff will too. By relying more on natural pest control methods, more toxic pesticides are kept out of your yard, storm drains and waterways.

Where does the water go?

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Storm Drain Marker

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Stormwater

Best Management Practices (BMPs)

Home and Charity Car Washing: Is it possible to keep both our cars and watershed clean?

City of Davis
Department of Public Works

PROTECT OUR WETLANDS

Our local watershed is comprised of a delicately balanced ecosystem. Creeks, ponds and wetlands are home to numerous species of plants and animals. These species rely on the abundance of smaller organisms that support the food web. These organisms can be harmed by discharges of material and wastes from an array of urban activities.

Car Washing

Contrary to what some believe, water that runs off from our homes, parking lots and streets does not recieve treatment. Unlike the water coming from toilets and bathtubs, urban run off flows straight into local wetlands and ponds. Home and charity car washers often don't realize they are actually harming the environment. Automotive frames, paint, brakes and exhaust contain heavy metals such as lead, zinc, iron oxide and asbestos. Soap contains phosphates, chlorine and other non-biodegradable ingredients that are toxic to fish and other aquatic life.

Did you know...

Detergent as low as:
- 2 parts per million can cause fish to absorb twice the amount of chemicals as normal?
- 5 parts per million will kill fish eggs?
- 15 parts per million cause death in most fish species?

The Solution to Car Washing Pollution

Best Management Practices such as washing your car at a licensed car wash facility or redirecting wash water away from the storm drain can prevent pollutants from entering our wetlands, ponds and oceans.

What you can do:

- Wash your car at a licensed car wash facility. These facilities collect wash water and send it to the sanitary sewer system for treatment. Some facilities even recycle the water through on-site filtration for use as a pre-wash rinse!
- Charity car wash organizers should try and partner with licensed car wash facilities. Charities benefit from increased traffic and fund raising. The car wash owner benefits from increased business and good public relations. Everyone benefits from healthy local wetlands ecosystems!
- If car washing must occur outside of a licensed car wash facility, wash vehicles over turf grass or other vegitated soil. Another method would be to use a containment sump to capture wash water. This water may then be pumped into a sanitary sewer drain.

Save Water for More Important Uses

Professional car wash facilities are a water responsible alternative to washing your vehicle at home or in a parking lot. Most car wash facilities save water by using high pressure nozzles and pumps.This car wash equipment is designed to throughly clean a vehicle using minimal water. As a result, a fraction of the water is used compared to a garden hose typically used at home or charity car washes.

Think About It!

Would you intentionaly throw buckets of dirty, soapy water in a river, pond or stream? That's what is happening when 100 to 200 cars are washed at home or charity car wash events.

WHERE DOES THE WATER GO?

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To remind everyone about the importance of preventing pollution of our stormwater, be it from concrete and mortar activities, or other sources, the City of Davis has installed these storm drain inlet markers near each drain:

These markers are easy to install. So if you, your group, or organization would like to participate in this pollution awareness program, please contact City of Davis Public Works at (530) 757-5686

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PLEASE KEEP OUR WATERSHED CLEAN!!

CITY OF DAVIS Concrete & Mortar Program

Best Management Practices (BMPs) and Procedures for:

Masons and Bricklayers
Sidewalk Construction Crews
Patio Construction Workers
Construction Inspectors
Home Builders & Developers
Do-It-Yourselfers

Pollution Prevention Starts with your Help

PROTECT OUR WETLANDS

The Putah Creek bioregion and Yolo Bypass Wetlands near Davis comprise a delicately balanced ecosystem, home to numerous species of aquatic plants and animals crucial to the food web. These organisms can be harmed by discharges of material and wastes from concrete and mortar activities.

Concrete & Mortar Problems

Activities using fresh concrete and mortar can easily contribute to urban runoff pollution. Materials and wastes blown or washed into a street, gutter, or storm drain represent a sediment load which can have a direct impact on our wetlands and creeks.

Sediment is the most common pollutant from worksites. Sediment can clog the gills of fish, block light transmission and increase river and slough water temperature, all of which can harm aquatic life and disrupt the food chain upon which both wildlife and people depend.

Sediment also may carry with it other worksite pollutants such as paints, pesticides, cleaning solvents, motor oil, grease, and fuel.

SOLUTIONS

Best Management Practices such as handling, storing, and disposing of materials properly can prevent pollutants from entering our rivers and oceans.

General Business Practices

- Train employees and contractors in proper pollution prevention practices.
- Keep materials out of the rain. Store both dry and wet materials under cover, protected from rainfall, runoff, and wind.
- Do not store bags or other materials directly on the ground, instead place them in containers or up on pallets.

During Construction

- Practice Source Reduction—minimize waste when ordering materials. Order and mix only the amounts needed to complete the job.
- Use recycled and recyclable materials whenever possible.
- Place erosion controls (e.g. berms) downslope to capture runoff carrying mortar, cement or other waste before it reaches the storm drain.
- Set up and operate small mixers on tarps.

Cleaning Up

- Prevent wash water and other waste from entering driveways, streets, gutters, storm drains or drainage ditches.
- Wash out concrete mixers and equipment only in designated wash-out areas. Use a wet/dry vacuum to pick up water from concrete cutting operations.
- Recycle cement wash water by pumping it back into cement mixers for reuse.
- When breaking up paving (cement or asphalt), be sure to pick up all the pieces. Recycle them at a crushing company, along with any excess porcelain from the site.
- Recycle broken wood and cleared vegetation. Unrecyclable materials must be taken to the appropriate landfill or disposed of as hazardous waste.
- Dispose of small amounts of excess dry concrete, grout and mortar in a covered container.
- Never bury waste material.

Concrete recyclers:

Yolo County Central Landfill
44090 County Road 28H
Woodland, CA 95776 - (530) 666-8856

Golden State Crushing
5980 Outfall Circle
Sacramento, CA 95828 - 916-381-4100

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PROTECT OUR WETLANDS

The Putah Creek bioregion and Yolo Bypass Wetlands near Davis comprise a delicately balanced ecosystem, home to numerous species of aquatic plants and animals crucial to the food web. These organisms can be harmed by discharges of wastes and pollutants from paint products.

To remind everyone about the importance of preventing pollution of our stormwater, be it from food service activities, or other sources, the City of Davis has installed these storm drain inlet markers near each drain:

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PLEASE KEEP OUR WATERSHED CLEAN!!

CITY OF DAVIS PAINT DISPOSAL AND CLEAN-UP

Best Management Practices (BMPs) and Procedures for:

Painting Contractors

&

Do-It-Yourselfers

Pollution Prevention Starts with your Help

Davis California

Painting Problems

Painting can generate wastes that are extremely hazardous to your health and to the environment. These wastes include excess paint, used paint thinner, cleanup water, and wastes from prep work including paint chips and scrapings. If improperly disposed of, such wastes can contaminate water running off your property.

To avoid harm to the land, plant, and animal life, use the following simple guidelines.

Solutions

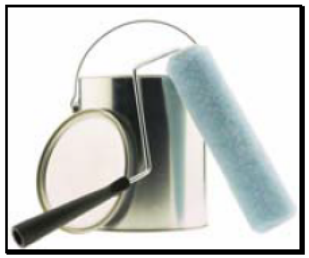
Best Management Practices such as handling, storing, and disposing of materials properly can prevent pollutants from entering our rivers and oceans.

Consider Prior to Painting…..

- ✓ From the very start of your project, take care to minimize painting waste by buying only as much paint and as many materials as needed. Not only will this generate less waste, but it will decrease the amount of leftover materials that will require proper disposal.
- ✓ If possible, purchase only disposable brushes, rollers and trays to avoid the use of solvents at the conclusion of the job.
- ✓ Don't use paints over 15 years old. They may contain toxic levels of lead.

Paint Removal

- ✓ Avoid using chemical paint strippers. Their residue is a hazardous waste. For disposal information, contact Yolo County Landfill. Call 666-8729 or visit www.davisrecycling.org
- ✓ Avoid generating large amounts of waste water by wet scraping rather than pressure washing.
- ✓ If you must, pressure wash homes and buildings only if they were built after 1978. (Link to BASMAA for BMPs)



- ✓ Chips and dust from marine paints or paints containing lead or tributyl tin are hazardous wastes. Dry clean-up only.
- ✓ Paint chips and dust from non-hazardous dry stripping and sand blasting may be swept up and disposed of as trash.
- ✓ When stripping or cleaning building exteriors with high-pressure water, block storm drains. Wash water onto a dirt area.

While Painting

- ✓ Keep your work site clean. Best management practices for handling, storing, and disposing of materials properly can prevent pollutants from entering the storm drains.
- ✓ Keep all liquid paint products and wastes away from the street, gutter, and storm drains. Liquid residues from paints, thinners, solvents, glues and cleaning fluids are hazardous wastes.
- ✓ Brush as much paint as possible from brushes before rinsing them.
- ✓ Avoid using oil-based paints. If possible, use latex products.
- ✓ Never wash brushes and equipment in the gutter. Instead, dispose of latex paint wastewater by pouring it into the **sanitary sewer.**

Cleaning Up

- ✓ Drain and recycle excess paint from spray equipment prior to washing equipment with water.
- ✓ Dispose of thoroughly dry, latex paint cans, rags, drop cloths, and disposable brushes may be disposed of in the trash. Scoop excess dried latex paint out of can and the can be recycled. Avoid throwing away any items that still have wet paint on them.
- ✓ Recycle empty spray cans using your local curbside recycling program.
- ✓ Excess latex-based and oil based paints can be recycled. If you intend to dispose, then the paint is disposed of as hazardous waste. Household Hazardous Waste may be dropped off for no charge at the Yolo County Landfill. Call 666-8729 or visit www.davisrecycling.org
- ✓ If possible, reuse paint thinner. Let any particles left in the thinner settle out. Then pour off the clear thinner for re-use. Dispose of contaminated thinner as you would other household hazardous wastes.
- ✓ Reuse leftover paint for touch-ups.

WHERE DOES THE WATER GO?

What happens to water from rain, lawn watering, or car washing? This water, called stormwater or urban runoff, flows into the City's storm drainage system through over 2500 curbside catch basins – the openings located along street gutters. The water moves through the storm drain piping below our streets to our rivers, creeks, wetlands, sloughs, the delta and the bay. This water eventually enters the Pacific Ocean.

Initially, much of this water fills the Davis storm water detention and wildlife ponds which are landscaped to support an array of wildlife species. Other water flows through drainage ditches towards the northern and eastern edges of the city.

A portion of the stormwater that is collected in the city is conveyed to the Davis Wetlands where it is used to support the wetlands system and all its wild inhabitants.

To remind everyone about the importance of preventing pollution of our stormwater, be it from concrete and mortar activities or other sources, the City of Davis has installed these storm drain inlet markers near each drain:

These markers are easy to install. So if you, your group, or organization would like to participate in this pollution awareness program, please contact City of Davis Public Works at (530) 757-5686

Storm water pollution can be extremely harmful to the health of the plants and animals with which we share this planet.

Help us to protect your water resources for current and future generations.

If you see anyone dumping questionable materials, please call City of Davis Public Works at (530) 757-5686.

If it is an emergency, call 911.

PLEASE KEEP OUR WATERSHED CLEAN!!

Stormwater

Best Management Practices (BMPs)

Roadwork & Paving

Safe Environment Practices and Procedures for:

Driveway, Sidewalk, Parking Lot, Road Construction Crews

Seal Coat Contractors
Construction Inspectors

General Contractors

Grading Equipment, Paving Machine, Dump Truck, Cement Mixer Operators

Roadwork & Paving Problems

Road paving, surfacing and pavement removal activities contribute to urban runoff pollution. This is because they take place right in the street, where urban runoff contamination can result from asphalt, saw-cut slurry or excavated material being washed into storm drains.

Rain or runoff then carries these toxic substances to the ocean through the storm drain system, posing a hazard to human and aquatic life.

Extra planning is required to store and dispose of materials properly and guard against stormwater and ocean pollution. This brochure will tell you how.

Solutions

Best Management Practices such as handling, storing and disposing of materials properly can prevent pollutants from entering the storm drains.

General Business Practices

- ☑ Keep materials out of rain, runoff and wind. Store them under cover of temporary roofs or plastic sheets.
- ☑ Schedule excavation and grading work for dry weather
- ☑ Develop and implement erosion and sediment control plans for embankments
- ☑ Recycle all used oil, concrete, broken asphalt etc.

Equipment Maintenance

- Keep all vehicles and equipment in good working order and inspect frequently for leaks.
- Conduct all vehicle/equipment maintenance and refueling at one location away from storm drains.
- Do not use diesel oil to lubricate equipment or parts.

Asphalt & Concrete Removal

- After breaking up paving, be sure to remove all chunks and pieces. Recycle them at a crushing company.
- Dispose of small amounts of dry concrete in the trash.
- Make sure broken pavement does not come in contact with rainfall or runoff.
- Shovel or vacuum saw-cut slurry and remove from the site. For disposal information contact the City of Davis Public Works Department at (530) 757-5686.
- Cover or barricade storm drain openings during saw-cutting.

Asphalt & Concrete Disposal

Use a crushing company like those listed below(?) to recycle cement, asphalt and porcelain rather than taking them to a landfill.

During Construction

- Cover catch basins and maintenance holes when applying seal coat, slurry seal, or fog seal
- Use check dams, ditches or berms to divert runoff around excavations.
- Never wash materials from exposed aggregate concrete, asphalt, or similar treatments into a street, gutter or storm drain.
- Collect and recycle excess abrasive gravel or sand. Call the City of Davis at (530) 757-5686 for a recycling guide

Spills

- Never hose down dirty pavement or surfaces. Clean up all spills and leaks using dry methods, or dig up and remove contaminated soil. For disposal information call the City of Davis at (530) 757-5686
- Catch drips from paver with drip pans or absorbent material placed under the machine when not in use.

The City has installed storm drain inlet markers near each catch basin to remind everyone about the importance of preventing pollution of our stormwater.

Stormwater pollution can be extremely harmful to the health of the plants and animals with which we share this planet. Help us protect our water resources for current and future generations.

If you are witnessing someone dumping questionable materials down a catch basin, please call 911 or contact the City of Davis Public Works Department.

Would you, your group, or organization like to participate in this pollution awareness program? If so, please contact City of Davis Public Works at (530) 757-5686.

PLEASE KEEP OUR WATERSHED CLEAN!!

Where does the water go?

A portion of the stormwater that is collected in the City is conveyed to the Davis Wetlands where it is used to support this system and all its wild inhabitants.

What happens to water from storms, landscape irrigation, or car washing? This water, called stormwater or urban runoff, flows into the City's storm drainage system through over 2500 curb side catch basins - the openings located along street gutters. The water moves through the storm drain piping below our streets to our creeks, sloughs, wetlands, rivers, delta, bay and eventually the Pacific Ocean.

Initially, much of this water fills the City's detention and wildlife ponds which support an array of wildlife species. Other water flows through drainage ditches towards the northern and eastern edges of the City.

Soil Solarization

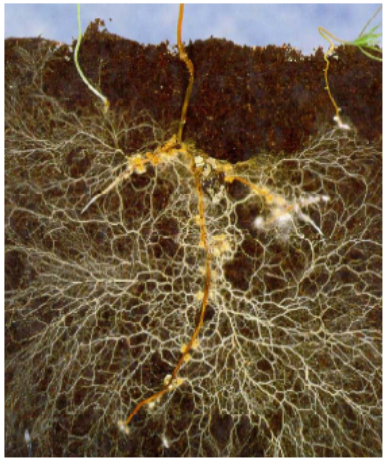
An easy, organic way to get rid of weeds with solar energy!

Promoting Alternatives to Pesticides

Davis
California

Integrated Pest Management

Integrated Pest Management (IPM) - A decision-making process to determine pest levels and tolerance thresholds and combines biological, cultural, physical, and chemical tools to maximize health, environmental, and financial risks. The method uses extensive knowledge about pests, such as infestation thresholds, life histories, environmental requirements, and natural enemies to compliment and facilitate biological and other natural control of pests.



Healthy soils feed and nurture healthy plants that are more resistant to pests. Organic matter fuels these healthy soils through the use of compost and organic fertilizers.

What is Soil Solarization?

Soil solarization is a nonpesticidal method of controlling soilborne pests by placing UV resistant plastic sheets on moist soil during the months of high temperature. The plastic sheets allow the suns heat to be trapped in the soil, heating the upper levels. This will increase the soils temperature to levels that kill most weed seeds and seedlings. This process also improves the soil structure and increases the amount of Nitrogen and other essential plant nutrients. Large increases in plant growth often occur in solarized soil. In order to solarize your garden, you must cover the soil for 4 to 6 weeks during the hot period of the year when the soil will receive the maximum amount of direct sunlight. The best time to do this is in June and July. If this is done properly, the soil can reach a temperature of up to 160 degrees on the surface and up to 100 degrees 3 inches deep. Solarization is by far, the most effective way home gardeners have to reduce or eliminate soilborne garden pests. The benefits are healthier and more productive flower and vegetable gardens. This process is better for your plants and the environment since there are no pesticides used.

How to Solarize Your Soil

Till the area to be treated. The soil needs to be broken up in order to enhance the heat conduction through the soil. Rake the surface to allow the UV resistant plastic covering to be placed in close contact with the soil. Then wet your soil, wet soil conducts heat better then dry soil does. Moisten the soil deeply. In moist soils, pest organisms are more active and are also more susceptible to the lethal effects of heat. Next, lay down the large sheets of UV resistant plastic. These can be purchased at hardware and home supply stores. Do not use colored plastic, it does not conduct as much heat as the clear one does. The plastic should be anchored down to prevent heat from escaping. This is done by digging a trench where the sides of the plastic can be pulled tight and covered with the soil in the trench. Leave the covering on for at least 4 to 6 weeks. When solarizing is complete, plant your bed with seed or healthy, uncontaminated plants.

Example of solarization near bike path along Mace channel in East Davis.

PROTECT OUR WETLANDS

The Putah Creek bio-region and Yolo Bypass Wetlands near Davis comprise a delicately balanced ecosystem. These waterway are home to numerous species of aquatic plants and animals crucial to the food web. These organisms can be harmed by discharges of pesticides in the runoff coming out of urban areas. You can reduce this risk by using effective less toxic pesticides. Consider using these less toxic pesticides:

USE:	FOR:	INSTEAD OF:
Ant Stakes	Ants	Chemical Sprays
Iron Phoshate (Sluggo)	Slugs/Snails	Chemical Bait Killers
Traps	Rats	Chemical Bait Killers
Flea Combs	Fleas	Chemical soaps / Sprays
Soapy water	Aphids	Chemical Sprays

For more information call the City of Davis Integrated Pest Management Specialist at (530) 757-5656 ext. 7322

Use less toxic alternatives to pesticides. Go to "Our Water, Our World" website at www.ourwaterourworld.org for more information.

To remind everyone about the importance of preventing pollution of our stormwater, be it from pesticides or other sources, the City of Davis has installed these storm drain inlet markers near each drain:

These markers are easy to install. If you, your group, or organization would like to participate in this pollution awareness program, please contact City of Davis Public Works at (530) 757-5686. Stormwater pollution can be extremely harmful to the health of the plants and animals with which we share this planet. Help us to protect your water resources for current and future generations.

If you see anyone dumping questionable materials, please call City of Davis Public Works at (530) 757-5686.

If it is an emergency, call 911.

PLEASE KEEP OUR WATERSHED CLEAN!!

Flame Weeding

Your informational guide to Flame Weeding, Pesticides, and Weeds

"Promoting Alternatives to Pesticides"

Provided by:
The City of Davis

Flame Weeding: A non-chemical strategy for controlling weeds

Flame weeding is used as an alternative to harmful pesticides. It works by killing the weeds with an intense wave of heat.

All plants are made up of tiny cells that are filled with water. By delivering a thin blast of heat directed at the stalk and young leaves, the heat will boil the water inside the cell, rupturing them. After this happens, nutrients and water for the plant cannot move from roots to leaves and results in the plant withering and eventually dying. By destroying the cell structure, the weed will not put energy towards growth. Flame weeding is nearly 100% effective on broad leaf weeds that are caught early. Flame weeding will be controlled and done by trained City staff on City properties. If you have any questions and/or concerns about this project, please contact the City's Integrated Pest Management Specialist Martin Guerena @ (530) 757-5656 ext. 7322.

The truth about Pesticides

A pesticide is any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest. Pests can be insects, mice and other animals, unwanted plants (weeds), fungi, or microorganisms like bacteria and viruses. Though often misunderstood to refer only to insecticides, the term pesticide also applies to herbicides, fungicides, and various other substances used to control pests. The pesticides that are used in everyday life can actually be harmful to people, animals, and the environment. Pesticides are designed to kill or otherwise get rid of target organisms.

Pesticides are likely to end up in our waterways that are home to aquatic life. Pollutants have a big impact on these organisms if pesticides are used for the wrong reasons or in the wrong way.

Did you know.....

Certain pesticides have been known to cause birth defects and serious health problems in young children, and pets as well as ant farms.

What are weeds?

Weeds are simply plants that are undesireable where they are growing. They take the light and nutrients needed by the other plants which results in limited growth of the wanted plants. Weeds are known to be unsightly, however some weeds, such as Corncockle (shown below), are used as garden plants. This flower was a common field weed but, due to its beauty, is now used as a garden plant.

Corncockle

Oleander

Some weeds, on the other hand, have thorns or prickles or can even be poisonous such as Oleander (shown above) that can lead to skin irritation if touched. They can also attach to clothes as well as animal fur.

Good Gardening Tips:

Using compost in your garden helps prevent erosion which promotes soil fertility and aids in healthy root development. It also increases the water holding capacity so you will not have to water as often!

Davis Waste Removal collects yard materials once a week, usually the day before trash pick-up.

In order to make disposal of yard material easy for you and safe for others, please follow these guidelines.

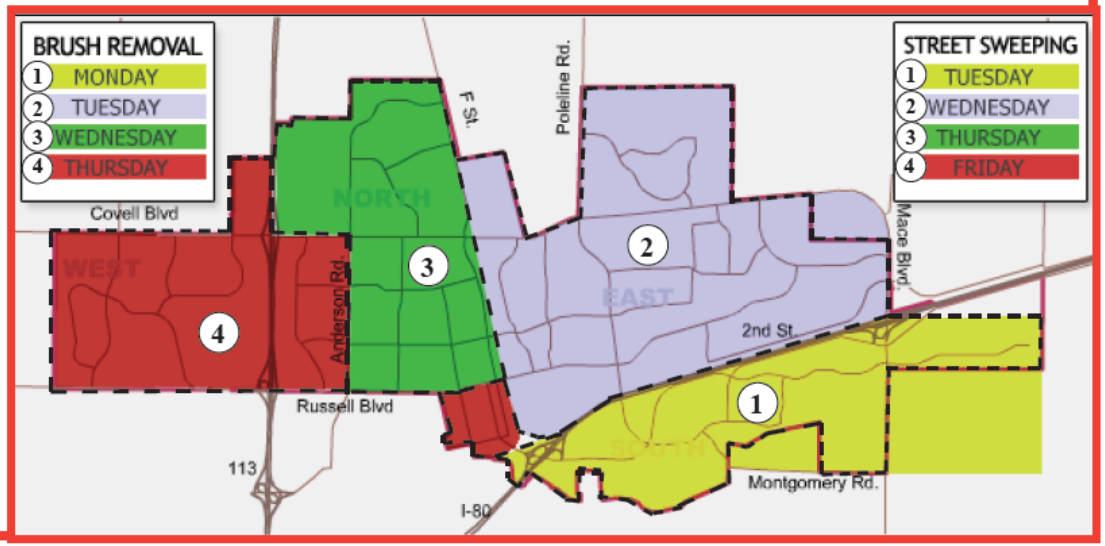
- Place yard materials directly in front of your house, not across the street or around the corner from your house—it will not be picked up.
- Place piles away from the curb or gutter; piles in the gutter may cause flooding and may bring pollutants to nearby waterways.
- Yard material piles should not be larger than 5 feet in any dimension. If space is limited, create multiple small piles instead of a few large ones so as not to obstruct the bike lane.
- Do not block fire hydrants, storm drain inlets or driveways with yard material piles.
- Be aware that yard material piles can create serious hazards for cyclists; bike lanes should never be blocked.
- Do not park on top of or within 3 feet of yard material piles.
- Do not drive over yard material piles.

- Do not place yard materials in bags—leave them loose in piles on the street.
- Avoid placing yard materials out prior to stormy or windy days.
- Place yard material on the street as close to your scheduled pick-up date as possible. See the map below to find your street sweeping and yard materials pick-up days.
- If you are using a leaf blower to clean your property and/or sidewalk, please pick out any trash that you may have collected and do NOT leave trash in your yard material pile.

- Acceptable items for yard material piles include grass clippings, brush, leaves, prunings, weeds, floral displays, Christmas trees, and branches less than 8" in diameter.
- Unacceptable items include sod, soil, concrete, flowerpots, florist's wire, stumps, vegetables, fruit, food scraps, and branches more than 8" in diameter.

For more information on street sweeping, yard materials collection and recycling, see

DAVISRECYCLING.ORG



Stormwater Pollution Prevention Tips for Small Residential Projects

This informational handout has been created to assist residents who are undertaking home improvement and maintenance projects to comply with the standards of the city's Municipal Code. The city adopted an ordinance on June 13, 2012, which regulates the quality of storm water runoff from properties. Runoff does not just occur during storm events, but from many activities undertaken during home maintenance and improvement. This includes the activities of contractors hired to perform work.

With many of these activities, pollutants are unknowingly added to the water stream that discharges from a property into the environment. The discharge goes from the curb and gutter in front of a property into the city's storm drain system and then flows into the environment untreated. If the discharges contain pollutants, they degrade water quality for downstream beneficial uses such as recreation, agriculture, aquatic habitat and wildlife.

Each property owner is liable for pollution discharges from their property even if the contractor performing work for them causes the pollution.

Below is list of home maintenance and improvement activities which can commonly discharge pollutants to the city's storm drain system and are in violation of the City of Davis Municipal Code Section **30.02.010**. Exemptions to non-stormwater discharges are permitted only where consistent with Municipal Code Section **30.02.020**. You can find these sections of Municipal Code on the city's webpages at www.CityofDavis.org.

Pool maintenance:

Problems:

- Chlorinated or non pH neutral pool water is being discharged into the gutter.
- Diatomaceous earth is being discharged into the gutter.

Solutions:

- Drain pool water to the sanitary sewer clean-out on your property. Contact Public Works at 757-5686 for help in locating the clean out on your property.
- To discharge your pool water to the storm drain system, test the water to make sure that chlorine levels are to 0.01 ppm and the pH is within a range of 5.0 to 9.0 prior to discharge from the property.
- Make sure the gutter leading to the drainage inlet is clear of debris prior to releasing the water.

Landscaping new and existing:

Problems:

- Sediments or soils are being washed into the gutter from new landscaping projects.
- Yard cuttings and clippings are being washed into the gutter.
- Pesticides and fertilizers being washed into the gutter.

Solutions:

- Use dry clean-up methods (ex. sweep, vacuum, etc.) to remove sediments from all driveways, sidewalks, gutter and streets.
- Do not perform work just prior to or during storm or wind events.
- Consider composting yard materials.
- When placing yard materials on the street for collection, use the following guidelines (See the DavisRecycling.org for more information):
    - Place them the day before scheduled pick up if possible.
    - Avoid placing yard materials right in front of drainage inlets in the street.
    - Do not place yard materials in the gutter.
    - Avoid placing yard materials out prior to rain or wind events.
    - Be careful to avoid including soil with any yard materials.
- Avoid using pesticides and fertilizers or use natural or less toxic alternatives. See the OWOW website for guidance at www.OurWaterOurWorld.org.

Construction activities:

Problems:

- Concrete, mortar, or other construction debris are washed into the gutter.
- Sediments are washed into the gutter from soil disturbing activities.

Solutions:

- Use erosion and sediment control best management practices around the perimeter of work areas. The city's Community Development and Sustainability Department has a guidance handout on options and how best to use them.
- Divert pollutants from reaching the gutter and storm drain.
- Use dry clean-up methods for all driveways, sidewalks, gutters and streets. Never wash debris down the storm drain inlet.
- Avoid scheduling work in wet weather or windy conditions.

Painting:

Problems:

- Paints, thinner, paint materials being cleaned in the gutter.
- Paint prep-work and stripping debris washed down the gutter.

Solutions:

- When stripping old paint clean-up using dry clean-up methods. Avoid washing old paints into the gutter and storm drain.
- Wash paint equipment in sinks or tubs that are contained and discharge this wash water to the sanitary sewer (i.e. down a sink drain). Never allow paint wash water into the gutter or storm drain.
- Avoid scheduling work in wet or windy weather.

Davis
California

Public Works Department 757-5686
Stormwater Division

It has come to the city's attention that one of the following activities is occurring at this property:

- ☐ Chlorinated or non pH neutral pool water is being discharged into the gutter.
- ☐ Diatomaceous earth is being discharged into the gutter.
- ☐ Sediments or soils are being washed into the gutter.
- ☐ Yard materials are being washed into the gutter.
- ☐ Concrete, mortar, or other construction debris are being washed into the gutter.
- ☐ Paint, oil, antifreeze or other hazardous materials or chemicals are being washed into the gutter.
- ☐ Soaps, detergents or other surfactants from activities other than residential car washing are being washed into the gutter.
- ☐ Salts from water softeners are being deposited into the gutter.

Any of the above activities are considered a discharge of pollutants by the State of California and are in violation of the City of Davis Municipal Code Section **30.02.010 Prohibition to Discharge** (see reverse). Because discharges to the city's gutter flow into the Yolo Bypass untreated, these discharges of pollutants potentially harm downstream beneficial uses, such as agriculture, recreation, aquatic plants and wildlife.

Please discontinue this activity as soon as possible. Continuance of this activity may result in code enforcement actions. If you have any questions or would like assistance in finding permitted alternative methods, please contact the Public Works Department at 757-5686. Exemptions to non-stormwater discharges are permitted only where consistent with City of Davis Municipal Code Section **30.02.020 Exemptions to Discharge Prohibition** (see reverse).

30.02.010 Prohibition of Discharge

The discharge of non-stormwater to the city's storm drain is generally prohibited. No person shall discharge, permit to be discharged, or cause to be discharged non-stormwater to the storm drain system, except as may be permitted by the Phase II Small MS4 General Permit (NPDES General Permit No. CAS000004) and/or in Davis Municipal Code Section 30.02.020.

30.02.020 Exemptions to Discharge Prohibition

Only discharges consistent with the Phase II Small MS4 General Permit (NPDES General Permit No. CAS000004) are exempt from the prohibition set forth in Davis Municipal Code Section 30.02.010 above:

(a) The discharge complies with any non-stormwater discharge authorized under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered by the state under authority of the United States Environmental Protection Agency, if the discharger is in full compliance with all the requirements of the permit, waiver, or order and other applicable laws and regulations.
(b) Stormwater containing pollutants reduced to the Maximum Extent Practicable by the application of Best Management Practices or other management measures set forth in the city's Stormwater Management Plan.
(c) Discharges or flows from firefighting activities except where the discharges are identified as significant sources of pollutants to waters of the state or of the United States.
(d) Any discharge that the city, with concurrence of the Regional Water Quality Control Board, determines in writing not to be a source of pollutants to the storm drains and/or any watercourse.
(e) Any discharge that the city, the local health officer, or the Regional Water Quality Control Board determines, in writing, to be necessary for the protection of the public health and safety.
(f) Any discharge caused by flooding or other natural disaster which could not have been reasonably foreseen or mitigated in advance by the discharger, as determined solely by the city.

YOLO/SOLANO

STORM WATER COORDINATION COMMITTEE (SWCC)

AGENDA

Thursday, August 9, 2012, 9:30 am -11:00 am

Location:
County of Yolo Planning & Public Works
Cache Creek Room
292 West Beamer Street
Woodland, CA 95695

1. Welcome and introductions
2. Topics for discussion:
    - Is anyone planning to attend the SWRCB public workshop?
    - Has anyone watched the SWRCB public workshop webcast?
        - Would they like to recap what was presented?
    - Our concerns and comments submitted on the new draft MS4 Permit
    - Areas of new draft MS4 Permit where we could pool our resources
    - Our feedback on post-construction standards used by your agency
        - What's working, what's not
    - Other items for discussion ……?
3. Next meeting date (suggested December 13, 2012), location –tbd

    Since our meetings are three times/year
    the tentative schedule for 2013 would look like:

    April 11, 2013
    August 8, 2013
    December 12, 2013

YOLO/SOLANO

STORM WATER COORDINATION COMMITTEE (SWCC)

AGENDA

Thursday, December 13, 2012, 9:30 am -11:00 am

Location:

City of West Sacramento, Room 238, 2nd Floor, City Hall

1110 West Capitol Avenue

West Sacramento, CA 95691

1. Welcome and introductions

2. Topics for discussion:

   - How we could pool our resources to help offset the expected individual agency costs of complying with the new Phase II Small MS4 Permit

   - How did each of our agencies come through the heavy rains of two weeks ago – any interesting experiences or lessons learned?

   - Tentative: Rebecca Winer-Skonovd with LWA to speak about the process and opportunity to participate in the Delta RMP

   - Other items for discussion ……?

3. Next meeting date (suggested April 11, 2011), location –tbd

   Since our meetings are three times/year

   the tentative schedule for 2013 would look like:

   April 11, 2013

   August 8, 2013

   December 12, 2013

YOLO/SOLANO

STORM WATER COORDINATION COMMITTEE (SWCC)

AGENDA

Thursday, April 18, 2013, 9:30 am -11:00 am

Location:

University of California, Davis, Room 130 Hoagland Hall

Davis, CA 95616

1. Welcome and introductions

2. Topics for discussion:

   - Brian Laurenson and Sandy Matthews with LWA will bring us a presentation on the new Phase II SM4 Permit covering monitoring requirements, TMDL compliance and RWQCB coordination.
   - Q & A time with Brian and Sandy on aspects of concern from the group.

   - Other items for discussion ……?

3. Next meeting date (suggested August 8, 2013), location –tbd

   Since our meetings are three times/year

   the tentative schedule for our next three meeting would look like:

   August 8, 2013

   December 12, 2013

   April 10, 2014

GP Actions Implementation Analysis for the Stormwater Management Plan

GP Section – Policy # - Action	Text of the Action	How it Effects the SWMP of Stormwater?	Priority Level	Status	Scheduled Implementation
Section III - Visions					
6. Natural Resource Protection and Restoration – bullet #3	Minimize impacts on Davis' land, water, air and biological resources and seek to enhance and restore Davis' environment, through such projects as wetlands and multi-functional drainage ponds.	While this is not a specific action item, it is a governing principle applicable to nearly every action the city takes. At minimum, it would be appropriate to revise the last part of the sentence to the following: "through such projects as wetlands, ~~and~~ multi-functional drainage ponds, and the stormwater and pollution prevention programs".	High	In process	On-going. This would be a text amendment that could be accomplished with next General Plan update after 2013.
Section IV – Community Form					
LU 1.5 - Action a.	Negotiate with affected governmental jurisdictions and public and private agencies or organizations to obtain support for permanent designation of open-space and agricultural zoning within the Davis Planning Area beyond proposed designated urban development in the General Plan.	Development of permanent open space and agricultural zones helps reduce potential for stormwater runoff and therefore helps maintain overall water quality.	Low	In process	On-going
LU 2.1 – Action d.	Immediately following the adoption of the General Plan, initiate a process (1) to develop residential infill and densification design guidelines and strategies and (2) examine zoning in conjunction with neighborhoods and neighborhood councils where applicable. Such guidelines may include the establishment of floor area ratios, second story setback requirements, below grade construction to address scale and mass issues, "green" development and building, landscaping and other "buffering".	Guidelines for infill, densification, and zoning amendments for FAR, setbacks, basements, green development, and landscaping all effect the ability to provide for on-site infiltration and treatment of run-off.	High	Completed	Implemented Dynamic process that is improved upon through experience in implementation
LU 3.1 – Action c.	Periodically review Zoning Ordinance performance standards and revise them as needed to ensure high environmental quality, streamlined processing where appropriate, and compliance with State standards.	Environmental quality, streamline process and compliance with State standards all effect stormwater implementation. Staff needs to remain involved with this process as it arises.	Medium	In process	On-going

Appendix B – Attachments

GP Section – Policy # - Action	Text of the Action	How it Effects the SWMP of Stormwater?	Priority Level	Status	Scheduled Implementation
MOB 1.7 – Action d.4	Buildings and streets outside of the highway rights-of-way shall have generous landscaped areas.	Add the following text to the end of the sentence: "designed to be drought tolerant, contribute to urban wildlife habitat, prevent erosion, detain and treat on-site storm water."	Low	Not completed	Not scheduled. This would be a text amendment that could be accomplished with next General Plan update.
MOB 1.7 – Action d.9	Utilize drought tolerant vegetation.	Amend the sentence to read as follows: "Utilize native and drought tolerant vegetation."	Low	Not completed	Not scheduled. This would be a text amendment that could be accomplished with next General Plan update.
MOB 2.1 – Action d.	Review city parking standards for residential and non-residential uses, with priority on non-residential uses, to recognize the utilization of transit and other modes and reflect shared parking opportunities.	Striving to reduce parking or utilize pervious surfaces reduces impervious surfaces, therefore directly affecting stormwater run-off.	Medium	In process	On-going in that zoning is completed project by project through the Planned Development process.
MOB 3.1 – Action k.	Develop standards to mitigate impacts of bicycle facilities on sensitive land uses such as wildlife habitat.	This is an opportunity to incorporate LID design BMPs into bicycle facilities and aid wildlife.	Medium	Not Completed	Staff will work with the City's Transportation Coordinator to complete with the next General Plan update.
MOB 3.3 – Action d.	Prepare and implement bicycle parking standards for new developments.	More bicycle use means less parking, less impervious surfaces and fewer pollutants on the road ways.	Medium	Completed	Implemented. The bicycle master plan was revised and adopted in 2009.
MOB 3.5 – Action f.	Install additional landscaping along Old Highway 40/I80 and Second Street.	This provides an opportunity to install LID and treatment for these corridors and to reduce what erosion does occur.	High	Partially completed	Installed in 1997 to 1998 on the old Lincoln Highway from Mace Blvd to Olive Drive. The Second Street component is not currently scheduled. Funding is not secured.
MOB 5.1 – Action i.	Create a bicycle pool for use by City employees during working hours.	Reduced use of motor vehicles means less pollution coming off roadways.	Low	Completed	Implemented. The city has made bikes available for employee use.

Appendix B – Attachments

GP Section – Policy # - Action	Text of the Action	How it Effects the SWMP of Stormwater?	Priority Level	Status	Scheduled Implementation
UD 1.1 – Action o.	Develop flexible street design standards that provide adequate bicycle and pedestrian safety, emergency vehicle access, and strong aesthetic qualities in rights-of-way that are as narrow as possible.	This is an opportunity to incorporate LID into street corridor design reducing impervious surfaces and providing treatment opportunities for runoff prior to discharge to the waters of the State. This action is not inconsistent with implementation of stormwater BMP's adjacent to, or within public street right of way.	Medium	Work plan in develop-ment	Not scheduled. This would be a text amendment that could be accomplished with next General Plan update.
UD 2.2 – Action h.	In redevelopment or new development areas, plant trees and other vegetation to the greatest extent possible, with a minimum of pavement.	This is an opportunity to incorporate LID into new development areas, reducing impervious surfaces and providing treatment opportunities for runoff prior to discharge to the waters of the State.	Medium	Completed	Already being practiced in our development review process.
UD 5.1 – Action e.	Develop site design standards for new single-family residential development that create variability of lot sizes, FARs, setbacks, building heights, floor plans, and architectural styles/treatments within each new development area. The Community Development Department shall take the lead in developing these standards with input from various community groups and local professionals.	This is an opportunity to incorporate LID into design standards.	High	On-going	Implemented on a case-by-case basis. Much of site design in Davis happens with each project and the Planned Development process.
Housing 1.1 – Action f.	As part of proposed large housing developments, consider requiring a percentage of small residential lots and structures with related floor area ratio standards to contribute to the supply of affordable housing and to avoid overbuilding of lots.	Requiring un-paved surfaces on lots allows for infiltration and treatment and less run-off.	Medium	Completed	Implemented in development as zoning is approved.

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GP Section – Policy # - Action	Text of the Action	How it Effects the SWMP of Stormwater?	Priority Level	Status	Scheduled Implementation
Housing 1.1 – Action g.	Encourage increased densities in Davis in order to facilitate greater affordability without sprawl. Study such dwellings as row houses, town houses, second story apartments over businesses, and second dwelling units. At a minimum, the study parameters should included analysis of the cost of construction impact on local infrastructure, impact to the city General Fund, affordability, proximity to shopping and services and consistency with neighborhood preservations standards as they relate to adaptive reuse, privacy open space, building mass and scale and parking impact issues.	Less sprawl means less impervious surfaces and more treatment opportunities for stormwater.	High	Completed	Implemented in development as zoning is approved.
Housing 4.1 – Action l.	Study the structure of storm-water quality fees and sewer fees for housing units so that smaller units pay lower fees than larger units by considering unit square footage or other legally acceptable criteria such as the number of bathrooms, or the number of rooms that potentially could be occupied as a bedroom.	Fees set in Ordinance. Fees pay for maintaining the conveyance system. Users should pay according to their impact.	Medium	Completed	Fees revised in May 2011.
ED 3.2 – Action a.	The city should establish fees at levels which are competitive with surrounding jurisdictions. In addition, in special circumstances (that is, job generation, business retention or the city's fiscal base) the city should consider providing fee and other incentives to targeted businesses that are considering locating in Davis in order to be competitive with surrounding jurisdictions.	Fees set in Ordinance. Fees pay for maintaining the conveyance system. Users should pay according to their impact. However, economic sustainability must be considered in setting fee rates.	Medium	Completed	Fees revised in May 2011.
ED 3.2 – Action i.	Clarify and simplify regulations and processing of development applications.	The process effects the implementation of storm water regulations. Staff needs to be at the table if any processes are altered.	Low	On-going	This is typically done departmentally. Nothing currently planned for implementation.
Section V Community Facilities and Services.					

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GP Section – Policy # - Action	Text of the Action	How it Effects the SWMP of Stormwater?	Priority Level	Status	Scheduled Implementation
Water 1.1 – Action k.	Develop a program to encourage appropriate, cost-effective and environmentally sound reuse of treated wastewater, gray water and other suitable drainage water. Identify specific opportunities for reuse and incorporate them into City's Urban Water Management Plan.	Gray water is the primary concern with this action. Gray water is a potential pollutant. Any regulations that facilitate its use must also have strict standards for its use so as to limit any runoff. Drainage waters are used to establish and now maintain diverse wildlife habitat within the city's wetlands that principally serve as flood protection. Broad urban reuse has been evaluated at a planning level recently. Findings demonstrate that the costs far out weight the benefits. Recommend further analysis of various forms of small scale use of gray waters (e.g., with institutions, property managers), permitted locally through application that derives sit conditions and proposed system management and monitoring.	High	In progress	Unknown time schedule. Staff was involved some planning discussions 2012-13. Unclear where this is going. One project was proposed during 2012-13 and constructed with a gray water landscaping system. PW staff was involved in the process. Does require amendment of Chapter 33 and SW concerns need to be addressed in order to ensure protection for storm water quality.
Water 1.2 – Action c.	Continue to enforce requirements for water-conserving landscaping and encourage developers and property owners to exceed these basic requirements.	Conserving water and drought tolerant landscaping generally means less run-off. Staff must continue to enforce requirements of the Water Conservation Ordinance. Unintended consequences: concentrating pollutants in used waters through reduced water usage and elevates the fixed components of the consumption based water rate.	Medium	Completed and On-going	Water Conservation Ordinance revised and adopted. Continue to monitor completed projects in the field and require conservation BMPs.
Water 1.2 – Action d.	Continue the best management practices and policies related to water conserving landscaping as detailed in the Urban Water Management Plan and other adopted water plans. Review and update the Urban Water Management Plan every five years.	Conserving water and drought tolerant landscaping generally means less run-off. .	Low	Completed	On-going since June of 2006.

GP Section – Policy # - Action	Text of the Action	How it Effects the SWMP of Stormwater?	Priority Level	Status	Scheduled Implementation
Water 1.2 – Action e.	Implement in the public sector and promote, through the Urban Water Management Plan, the implementation in the private sector of Demand-Side Management methods that are proven and cost effective. For instance, programs or ordinances from the Plan could advance improved irrigation distributional uniformity, use of the California Irrigation Management Information System (CIMIS) in irrigation scheduling, and inclusion of Xeriscape principles in landscaping planning, installation and management.	Conserving water and drought tolerant landscaping generally means less run-off.	High	Completed	The use of Xeriscape principles in City facilities has been implemented within the City since June 2006.
Water 2.1 – Action d.	When opportunities arise, plan and design water demand uses to be matched with appropriate water supply qualities. For example, larger areas of landscape or some non-residential uses may be able to use water from lower quality supplies which would reduce demand on higher quality supplies needed for other urban uses.	Quality of water is important in run-off. If lower quality water is to be utilized, then run-off must be minimized. The effect in the Davis SWMP would largely be high saline waters. High TDS in runoff can be problematic, however, that is to be addressed through outreach on proper irrigation equipment /system and practices. Irrigation is also to be addressed through water conservation ordinance.	High	Completed	City Adopted Water Conservation Ordinance in December 2010.
Water 2.2 – Action e.	Support efforts to implement conjunctive water use (coordinated surface and groundwater uses) to stabilize long-term groundwater levels and improve water quality in the Davis Planning Area.	Aquifer stabilization also results in stabilized subsidence. Reduced subsidence means less impact to existing water conveyance systems such as nuisance water pooling. Improved water quality means improved quality of discharge.	Medium	On-going	Implemented

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GP Section – Policy # - Action	Text of the Action	How it Effects the SWMP of Stormwater?	Priority Level	Status	Scheduled Implementation
Water 2.2 – Action f.	Where feasible and consistent with General Plan land-use policies, locate stormwater-retention ponds in areas where soil is suitable for groundwater recharge.	Storm water retention and detention ponds act as regional facilities to improve overall water quality and recharge the groundwater basin.	High	On-going	The City has constructed several regional ponds already. We are working on incorporating an in-lieu funding mechanism into our Storm Water Ordinance (SWO) to help pay for regional facilities for projects that can't install on-site facilities.
Water 2.3 – Action a.	Continue to implement best management practices and policies incorporated in the Urban Water Management Plan and other adopted plans.	The BMPs of the Urban Water Management Plan have to do primarily with water conservation. Water conservation, in general means less run-off.	Low	On-going	In progress since June 2006.
Water 2.3 – Action b.	Continue to monitor and enforce, at the local level, provisions to control non-point source water pollution contained in the United State Environmental Protection Agency NPDES program.	Speaks to fundamental elements of the MS4 permit requirements. Non-point source for water quality for discharge is critical to stormwater quality discharge.	High	On-going	Pollution prevention and outreach programs help to get at this. Implemented since 2006.
Water 2.3 – Action c.	Continue to enforce provisions to control erosion and sediment from construction sites	Davis GP action the directly addresses the need to minimize soil disturbance for both source and pollution control measures. Sediment in discharge from construction sites is a key pollutant regulated by the State.	High	On-going	The City has been reviewing construction documents for E&SC plans for many years.

GP Section – Policy # - Action	Text of the Action	How it Effects the SWMP of Stormwater?	Priority Level	Status	Scheduled Implementation
Water 3.1 - Action b.	Prepare management plans for storm drains and channels that stress recreation, long-term landscape maintenance and wildlife habitat.	Reinforces the Davis SWMP in that components of the City's SW system incorporate multi-purpose systems. Davis' SWMP Program is inclusive of diverse wildlife habitat, native vegetation, and SW treatment, and flood protection. The conveyance system not only works as conveyance of storm water, but for treatment as well. Maintenance is needed to keep channels clear for flood flows and to keep landscaping maintained to treat runoff.	Medium	On-going	The City prepared an annual channel and ditch maintenance plan in 2003. It has been implemented since that time.
Water 3.2 - Action c.	Implement on-site storm drainage treatment facilities in City projects wherever feasible.	The Davis SWMP encourages development, implementation and management of on-site treatment systems. Treatment improves the water quality of runoff.	High	On-going	The City has been reviewing projects for treatment controls since 2006. The SWO will formalize this requirement in local code.
Water 3.2 - Action d.	Operate City storm drainage treatment facilities as demonstration projects, and include long term water quality monitoring.	Demonstration projects would allow the City to share knowledge of what worked and what did not with other jurisdictions and the public. This helps to advance storm water treatment technology.	Low	Not completed	Unknown, but as funds allow are developed, this would become a higher priority.
Water 4.2 – Action a.	Continue to work cooperatively with UC Davis, Yolo County, the Flood Control District and other cities through the Water Resources Association (WRA) and other means to address regional water issues.	This provides the opportunity to work with other jurisdictions on regional water quality issues. This provides the opportunity to establish common objectives for respective service areas, e.g., standards for contractors who perform work within the region, share information and improve the quality of discharge.	Medium	In-progress	The City works with the SWCC which is a regional organization of SW managers from various local Cities, UCD, the County and the RWQCB.

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Water 4.2 – Action b.	Continue to take a leadership role in the region regarding appropriate management of water resources in Yolo County.	Water resource management advances allocating the appropriate quality of water for its intended purpose. This serves to reduce demand for the higher quality waters. These practices elevate stakeholders awareness of the need to not only properly manage water consumption but also increases user's awareness and knowledge of water quality. This provides the opportunity to work with the County and other local agencies on water quality issues in the County and region.	Medium	On-going	The City participates in CWEA, SWCCC, CV-Salts, CVCWA, CASQA and other regional organizations.
Mat 1.1 – Action c.	Continue to support the city-wide recycling system including service to apartments and businesses, and strive for annual reductions in commercial and industrial waste disposal.	A reduction in waste provides a reduction in threat to water quality through pollution.	Low	On-going	A City-wide curbside, apartment and business recycling program has been conducted by DWR since 2004.
Mat 1.1 – Action d.	Provide attractive well-designed trash receptacles with provision for recyclable materials in appropriate areas in public areas.	Well-designed trash receptacles also involves containment and keeping water out of containers to keep trash "drool" out of the storm drain.	Medium	On-going	Being implemented in project review since 2001 with specific storm water design features since 2006.
Mat 1.1 – Action g.	Revise yard waste collection policies so that lawn clippings are no longer placed in plastic bags.	Plastic contributes to the degradation of water quality.	Low	Completed	Being collected on the street since 2004.
Mat 1.1 – Action h.	Continue to implement the City-wide recycling/composting program for yard debris and plant materials.	The reduction of green waste being collected helps reduce green waste that ends up in the storm water conveyance system.	Low	On-going	The City has collected and composted green waste since 2004, including composting outreach programs and classes since 2007.

GP Section – Policy # - Action	Text of the Action	How it Effects the SWMP of Stormwater?	Priority Level	Status	Scheduled Implementation
Mat 1.1 – Action n.	Study the feasibility of expanding the plastic recycling program.	Plastic contributes to the degradation of water quality.	High	Completed	The expansion involved the collection of rigid plastics #3, #5, #6 and #7 at a 24 hour drop off site and drop off of plastic bags at grocery stores.
C & T 2.2 – Action b.	Work with the local Transportation Management Agency to encourage use of telecommuting and alternate forms of transportation (rideshare, public transit).	Fewer auto trips helps reduce non-point source pollution in storm water discharge.	Medium	On-going	The City's Transportation Coordinator has been working with SACOG and provided comment on the MTP effort in addition to promote events such as May is Bike Month and seeking grants to maintain City bike paths.
Pos 1.1 – Action b.	Develop and implement a parks and recreation facilities master plan.	An opportunity to influence park design to incorporate LID.	Medium	Completed	Process completed 2008. PW staff missed the opportunity to provide meaningful input.
Pos 1.1 – Action c.	Establish design guidelines for the physical development of parks and open space areas.	An opportunity to influence park design to incorporate LID features.	High	Completed	Process completed 2008. PW staff missed the opportunity to provide meaningful input.
Pos 1.2 – Action c.	Work with Yolo County to develop a public campground within the Davis planning area to provide a rustic alternative to hotels and motels for short-term overnight accommodations.	Storm water BMPs would need to be utilized in the development of any campground.	Low	Not completed	Not being actively pursued
Pos 1.2 – Action f.	Develop criteria regarding the types of locations where the City would like to establish new resource preservation, education and recreation areas and programs.	Storm water BMPs would need to be utilized in the development of any facilities.	Low	Completed	Process completed 2008. PW staff missed the opportunity to provide meaningful input.

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GP Section – Policy # - Action	Text of the Action	How it Effects the SWMP of Stormwater?	Priority Level	Status	Scheduled Implementation
Pos 1.2 – Action g.	Establish criteria for location and design of natural habitat areas accessible to the public, including criteria for natural habitat areas that can complement and accommodate other open space uses such as viable wildlife habitat.	Storm water BMPs would need to be utilized in the development of any facility.	Low	Completed	Process completed 2008. PW staff missed the opportunity to provide meaningful input.
Pos 1.2 – Action h.	Set policies and criteria for the establishment of trails and picnic areas in natural open space areas.	Storm water BMPs would need to be utilized in the development of any facility.	Low	Completed	Process completed 2008. PW staff missed the opportunity to provide meaningful input.
Pos 3.1 - Action n.	Develop, adopt and enforce greenbelt design guidelines for new subdivisions.	An opportunity to incorporate storm water BMPs in design standards for greenbelts.	Low	Completed	Process completed 2008. PW staff missed the opportunity to provide meaningful input.
Pos 3.2 - Action a.	Establish standards for greenbelts and accessways in non-residential areas, with bicycle access as the key design goal.	An opportunity to incorporate storm water BMPs in design standards for greenbelts.	Low	Completed	Process completed 2008. PW staff missed the opportunity to provide meaningful input.
Pos 3.3 - Action a.	Develop, maintain and improve a trail, and or other greenbelt type amenities, if possible, in the corridor of the railroad right-of-way/F Street/H Street, with design flexibility to provide habitat. The goal of this project is to connect the Northstar Pond area to the downtown core area.	An opportunity to incorporate storm water BMPs in design standards for this facility.	Low	Partially completed	A pathway up to Faro Avenue was installed in 2005. An additional extension up to Grande was completed in 2011. No future extensions currently planned.
Pos 3.3 - Action b.	Develop, maintain and improve a trail, and other greenbelt type amenities, if possible, in the Second Street/I-80 Corridor.	An opportunity to incorporate storm water BMPs in design standards for this facility.	Low	Completed	Installed in 1997 to 1998 on the old Lincoln Highway from Mace Blvd to Olive Drive. No other improvements currently planned.

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GP Section – Policy # - Action	Text of the Action	How it Effects the SWMP of Stormwater?	Priority Level	Status	Scheduled Implementation
Pos 4.2 – Action e.	Study potential development of new parks focusing on underutilized land or existing City-owned land with attention given to the potential impacts on wildlife and other resources.	An opportunity to better understand how to mitigate park's impacts with storm water BMPs.	Low	Completed	Part of the Davis Sports Park EIR and Parks and Facilities Master Plan Update due to be completed by the Fall 2010/Winter 2011.
Pos 6.1 – Action f.	Encourage and support the development and maintenance of recreation and park facilities by the private sector.	Because any development will affect the quality of storm water run-off, staff needs to have a seat in development review to ensure SW treatment controls in such development.	Low	Completed	Part of the Davis Sports Park EIR and Parks and Facilities Master Plan Update due to be completed by the Fall 2010/Winter 2011.
Y & E 5.1 – Action b.	Support private, non-profit environmental education programs.	An opportunity to have storm water component in education programs	Low	On-going	The City works with OWOW on storm water and IPM programs.
Y & E 7.1 – Action b.	Continue to review proposed school sites for consistency with the General Plan, and require the reservation or dedication of school sites in proposed projects consistent with the General Plan.	Storm water LID should be incorporated into design for school sites.	Medium	On-going	The City provides comment on school sites when proposed in development review.
Hab 1.1 – Action q.	Maintain the City-owned South Fork Preserve site as natural habitat and compatible agriculture with public access limited to certain portions of the site so as to minimize impacts to sensitive areas.	An opportunity to incorporated storm water measures for any site improvements and/ or maintenance activities.	Low	On-going	No improvements currently planned for this site. Native grasses will be maintained annually using mowing and grazing methods.

GP Section – Policy # - Action	Text of the Action	How it Effects the SWMP of Stormwater?	Priority Level	Status	Scheduled Implementation
Hab 1.2 – Action f.	Cooperate with other governmental agencies, the University, and citizens' groups in restoring natural areas and habitats that have been lost or degraded. Preserve these areas as habitat and scenic areas, and, where appropriate, for passive recreation.	Make sure that storm water BMPs are incorporated into the design of any projects related to this issue.	Low	On-going	Grasslands habitat restoration improvements to the Mace Ranch Community Park Natural Area are anticipated to occur in Fall of 2010. Native vegetation will be used in this restoration effort, in part, to reduce irrigation needs. The City, in cooperation with the Putah Creek Council is seeking funding to enhance the habitat within the Covell Drainage Channel. If successful the project will be implemented in Fall of 2011. Native plants and appropriate post planting soil stabilization BMPs will be implemented.
Hab 1.2 – Action g.	Implement a program of habitat enhancement in the existing drainage ponds and other appropriate areas within the Urban Agricultural Transition Area for migratory wetland wildlife.	Make sure that storm water BMPs are incorporated into the design of any projects related to this issue.	Low	On-going	No habitat enhancement project is currently planned within existing drainage ponds.
Hab 1.2 – Action h.	Implement the Wetlands Demonstration Project associated with the City's wastewater treatment plant. This should be done in a manner that does not impose restrictions on adjacent agricultural operations.	Make sure that storm water BMPs are incorporated into the design of this project.	Medium	Completed	Implemented.
Hab 2.1 – Action c.	Provide and distribute to schools and teachers information regarding City environmental programs in wildlife habitat creation and wildlife protection.	Make sure that storm water message is included in this material.	High	On-going	No new materials currently being planned.

GP Section – Policy # - Action	Text of the Action	How it Effects the SWMP of Stormwater?	Priority Level	Status	Scheduled Implementation
Ag 1.1 – Action c.	Establish a 150-foot minimum agricultural buffer around the City. Require dedication from developers of lands to make up the buffer concurrently with any peripheral development.	Make sure that storm water BMPs are incorporated into the design of any projects related to this issue.	Medium	On-going	Implemented on a project by project basis as development occurs on the periphery.
Ag 1.1 – Action d.	Continue to work with the counties, other cities and the general public to minimize conflicts with land uses such as agriculture and wildlife habitat when developing agricultural buffers.	Make sure that storm water concerns are addressed in these discussions.	Low	On-going	The City has participated in County HCPs to facilitate land development while preserving wildlife habitat.
Ag 1.1 – Action i.	Continue to implement the provisions of the Farmland Preservation Ordinance requiring buffering, notification and conflict resolution in the Planning Area. Maintain a strong right-to-farm policy.	Make sure that storm water BMPs are incorporated into the design of any projects related to this issue.	Medium	On-going	Implemented on a project by project basis as development occurs on the periphery.
Ag 2.1 – Action a.	Maintain all City-owned community gardens as “organic” as defined by California law.	Make sure that good storm water principles are also practiced on these sites.	Low	On-going	Continue to work with Parks and General Services to make sure this program is being implemented.
Ag 2.1 – Action b.	Develop a sustainable gardening ordinance to encourage users of City-owned community gardens to garden sustainably.	Make sure that good storm water principles are incorporated into this ordinance.	Medium	Not completed	The City has worked on outreach efforts to modify behavior in gardening including community gardens. For the past 5 years the City has offered composting classes every year and composting bins in addition to promoting IPM techniques.

GP Section – Policy # - Action	Text of the Action	How it Effects the SWMP of Stormwater?	Priority Level	Status	Scheduled Implementation
Ag 3.1 – Action c.	Regulate activities that cause soil compaction and stratification.	Compaction causes greater runoff, erosion, and less infiltration.	Medium	On-going	While the City has essentially no agricultural land, grading and earth moving activities are regulated through grading permit process in addition to development review.
Ag 3.1 – Action d.	Include information on soil erosion in the public water conservation program and school education program.	Outreach opportunity to raise awareness.	Low	On-going	The City conducts annual presentations at local schools regarding wildlife, storm water and IPM.
Ag 3.1 – Action e.	Coordinate with Yolo and Solano counties, the Resource Conservation District, and the Natural Resources Conservation Service in implementing programs to reduce soil erosion by wind and water and prevent soil contamination.	Opportunity to coordinate efforts on a regional basis.	Low	Not completed	Staff will work with Yolo and Solano Counties to accomplish this action item by 2014
Ag 3.1 – Action f.	Work with area farmers and farming organizations to coordinate farming practices conducive to soil conservation. Provide assistance when appropriate.	Opportunity to work more regionally to reduce erosion.	Medium	Not completed	Staff will work with local ag commission to accomplish this action item by 2014.
Energy 1.5 – Action e.	Develop design guidelines for climate-oriented site planning, building design and landscape design to promote energy efficiency.	An opportunity to incorporate storm water BMPs into site design guidelines for any projects.	High	Completed	The City developed the Interim Infill Guidelines and the Core Area Design Guidelines in the 2002 and 2001 respectively.
Section VII. Community Safety					

GP Section – Policy # - Action	Text of the Action	How it Effects the SWMP of Stormwater?	Priority Level	Status	Scheduled Implementation
Haz 1.1 – Action e.	Adopt and revise as needed a local Flood Plain Management Ordinance.	The ordinance, codified in the Buildings section of the Davis Municipal Code, is related to development within regulatory floodways and/or Special Flood Hazard Areas (SFHA). It peripherally addresses some areas related to the hydromodification of areas subject to inundation, but is not associated with stormwater quality issues. The ordinance is modified, as necessary (as directed by FEMA) as part of the City's participation in the Flood Insurance Program.	Medium	In progress	Unknown when this ordinance will go before Council.
Haz 1.1 – Action h.	Evaluate the effects of development proposals on upstream and downstream flooding and drainage courses.	This is a necessary step and requirement of all project review as it relates to storm water.	High	On-going	Currently evaluated only as a means of limiting site runoff on a project-by-project basis.
Haz 1.2 – Action a.	When designing new or retrofitted flood control facilities, include wildlife and/or public open space facilities in them to the extent possible.	This is an opportunity to incorporate storm water BMPs into site design guidelines for any flood control projects.	Low	On-going	No current opportunities. Implemented since 2006.

GP Section – Policy # - Action	Text of the Action	How it Effects the SWMP of Stormwater?	Priority Level	Status	Scheduled Implementation
Haz 4.1 – Action a.	Before construction starts, a project proponent will submit a hazardous materials management plan for construction activities that involve hazardous materials. The plan shall discuss proper handling and disposal of materials used or produced onsite, such as petroleum products, concrete, and sanitary waste, shall be established prior to the commencement of construction-related activities, and shall be strictly enforced by the project proponent. A specific protocol to identify health risks associated with the presence of chemical compounds in the soil and/or groundwater and identifies specific protective measures to be followed by the workers entering the work area. The City of Davis will make available up-to-date information on known hazardous waste sites if the presence of hazardous materials is suspected or encountered during construction-related activities, the project proponent shall complete a Phase I or Phase II hazardous materials study for each identified site.	Hazardous materials represent pollutants in storm water. Proper management of these materials is of key importance to the storm water program.	High	On-going	Implemented since 2006.
Haz 4.1 – Action f.	Develop an enforcement program to maintain a high level of compliance with hazardous materials regulations.	Hazardous materials represent pollutants in storm water. Proper management of these materials is key importance to the storm water program.	High	In progress	Public Works and Fire Departments enforce hazardous materials handling with local industries and highly trained to deal with spills. A Haz Mat policy was developed in 2011 for Public Works. Fire currently working on City wide spill response plan. Should be completed in 2013-14.

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GP Section – Policy # - Action	Text of the Action	How it Effects the SWMP of Stormwater?	Priority Level	Status	Scheduled Implementation
Haz 4.1 – Action h.	Educate owners of business with operations potentially polluting groundwater as to appropriate management practices.	Speaks to itself.	High	On-going	Implemented since 2006.
Haz 4.1 – Action i.	In cooperation with local agricultural interests and the agricultural commissioners from the counties of Solano and Yolo, work toward voluntary reduction or elimination of aerial and synthetic chemical application in areas adjacent to the city.	The reduction of chemicals in agricultural runoff is a concern for storm water. It improves water quality.	High	Unknown	Unknown. Staff will work with local agricultural commission to accomplish this action item.
Haz 4.2 – Action a.	Continue the program to educate residents on the negative impacts of dumping hazardous materials in driveways, streets, and drains.	Outreach opportunities to increase awareness reduce pollutant loads in storm water runoff.	High	On-going	Implemented since 2006.
Haz 4.2 – Action b.	Continue programs aimed at ensuring that household hazardous wastes and small generator commercial wastes are not disposed of in the general waste stream.	Reduces pollutant loads in storm water runoff. Means of doing this is primarily outreach, but also code enforcement.	High	On-going	Implemented since 2006.
Haz 4.2 – Action c.	Continue and expand the household hazardous waste collection and recycling program and the small quantity generator program.	Reduces pollutant loads in storm water runoff. Means of doing this is primarily outreach.	Medium	On-going	Implemented since 2006.
Haz 4.2 – Action d.	Work with the County to establish a permanent household hazardous waste collection facility.	Reduces pollutant loads in storm water runoff.	Medium	Completed	Davis Waste Removal has been collecting hazardous household wastes since 2007.
Haz 4.2 – Action e.	Develop and adopt a pressure treated timber disposal ordinance.	Reduces pollutant loads in storm water runoff. Means of doing this is primarily outreach.	High	Not completed	Nothing currently scheduled.
Haz 4.2 – Action f.	Maintain used oil drop-off sites.	Reduces pollutant loads in storm water runoff. Means of doing this is primarily outreach.	High	Completed	DWR and several auto parts stores c
Haz 4.3 – Action a.	Develop and adopt an Integrated Pest Management Ordinance. The ordinance should consider the impacts that City pesticide applications may have on wildlife.	Reduces pollutant loads in storm water runoff. Means of doing this is primarily outreach.	Medium	Not-completed	Nothing currently scheduled though an IPM policy has been adopted by the City.
Haz 4.3 – Action b.	Develop a program to encourage alternatives to the use of pesticides and herbicides and practice integrated pest management strategies.	Reduces pollutant loads in storm water runoff. Means of doing this is primarily outreach.	High	Completed	City's IPM program conducts outreach and awareness classes.

Appendix B – Attachments

GP Section – Policy # - Action	Text of the Action	How it Effects the SWMP of Stormwater?	Priority Level	Status	Scheduled Implementation
Haz 4.5 – Action a.	Monitor sediments and water quality in areas used by wildlife for pesticides, heavy metals and other contaminants, and establish base line data.	Helps to monitor water quality and trace sources of pollutants to attempt to eliminate the activities that cause them.	Low	Not completed	Some monitoring to occur in 2013-14 due to the requirements of the General Permit.
Haz 4.7 – Action a.	Maintain an enforcement program to ensure that all releases of hazardous materials are promptly and appropriately cleaned up to the level required by law.	Reduces pollutant loads in storm water runoff. Means of doing this is primarily outreach, but also code enforcement.	High	On-going	Implemented since 2006.
Haz 4.7 – Action b.	Proactively work with site owners and state and federal agencies to expediently clean up hazardous materials sites.	Reduces pollutant loads in storm water runoff. Means of doing this is primarily outreach, but also code enforcement.	High	On-going	Implemented since 1994 with the Frontier Fertilizer site.
Section VIII. Plan Implementation					
Imp 3.2 – Action a.	Revise the City's tax and fee structure to be as competitive as possible on a regional basis.	An opportunity to make sure the City's fee structure is compatible with the region.	Medium	Completed	Revised in May 2011.
Imp 4.1 – Action a.	Review current Planning and Building, Public Works and other departmental project management and processing in order to make the project approval process more efficient and streamlined.	Make sure environmental compliance staff remains an integral part of the review process.	High	Completed	Revised in 2010-11
Imp 4.1 – Action b.	Investigate a "one-stop" approval process for non-discretionary applications which require actions from multiple departments. The purpose would be to avoid unnecessary and confusing processing steps.	Make sure environmental compliance staff remains an integral part of the review process.	Medium	Completed	Completed September 2012.
Imp 4.1 – Action c.	Provide developers in advance with full information needed to reduce the length of time and cost of approval of development.	Helps integrate permanent storm water BMPs into the site design.	High	Completed –On-going	Implemented in 2009.
Imp 4.1 – Action d.	Continue outreach efforts to inform architects, contractors, and builders of City standards and requirements.	Helps projects be designed with storm water concerns in mind.	High	Completed -On-going	Implemented in 2009.
Imp 4.1 – Action e.	Develop mechanisms in the Planning and Public Works Departments to allow for early and expedient evaluation of alternative designs proposed by private applicants to meet City standards.	Helps integrate permanent storm water BMPs into the site design.	High	Completed –On-going	Implemented in 2009.

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GP Section – Policy # - Action	Text of the Action	How it Effects the SWMP of Stormwater?	Priority Level	Status	Scheduled Implementation
Imp 4.1 – Action g.	Establish and apply maximum time limits for permit processing.	Make sure that adequate time is still provided for staff to respond for development review.	High	Completed	Part of development review process subject to Permit Streamlining Act.

STORMWATER CONTROL MEASURES HANDOUT

PUBLIC WORKS DEPARTMENT

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INTRODUCTION/PURPOSE

The intent of this handout is to provide guidance for developers in complying with the City and State Regional Water Quality Control Board permanent storm water control measure requirements for new and redevelopment projects. This handout is applicable to discretionary projects only.

BACKGROUND

For storm water discharges, the City of Davis is required under the National Pollution Discharge Elimination System (NPDES) to obtain a permit. The permit is referred to as the "General Permit." Attachment 4 of the General Permit provides specific thresholds by which new and redevelopment projects must implement permanent stormwater control measures on site. For a project exceeding the thresholds, the project then becomes known as a "Categorical Project." Categorical projects are required to meet the specific requirements of Attachment 4 (See page 2 for Categorical Project thresholds under "Definitions"). The requirements can be met by either volumetric treatment control measures or by flow based treatment measures (See Page 3 for "Requirements" for Categorical Projects).

In 2008, the City established guidelines for development to facilitate compliance with Attachment 4 of the State's General Permit requirements by developing the *Manual of Stormwater Quality Control Standards for New Development and Redevelopment (Manual)* (available at the following webpage: http://cityofdavis.org/pw/stormwater/pdfs/sw_NewDev.pdf). The Manual establishes standards for stormwater quality control measures and provides guidance on their design and implementation. The Guidelines are applied differently for Categorical and Non-categorical projects (see pages 3 and 4).

The City is asking developers/contractors to inventory and report on permanent stormwater controls that will be used at their sites. This inventory will facilitate the City's mandated requirement of reporting to the State Water Resources Control Board on the status of implementing our approved Stormwater Management Plan.

The following pages provide tables for: the project type and applicable control measures, the required format for the inventory in the Checklists provided, and the general control measures required as specified in the City's *Manual.*

CITY REQUIREMENTS

All new and redevelopment projects are required to implement some level of Low Impact Development (LID) and employ permanent Best Management Practices (BMPs) on site. All new and redevelopment projects that do not meet the definitions for Categorical Project types are considered Non-Categorical (See page 5 for definitions of Categorical Project types). Categorical Projects are required to provide greater levels of stormwater controls than Non-Categorical Projects. See page 82 to determine if your project is Categorical or Non-Categorical. The tables on pages 79 and 81 provide further guidance in determining applicable and appropriate control measures for your project.

As noted above, the *Manual* is available at the City's website.

Process Outline

Below is a step by step outline of the process for selecting control measures applicable and appropriate for your project. See the process flowchart on page 9 for better understanding of the process.

Step 1: Determine if your project is categorical or not. See "Definitions" on page 82 to determine if your project meets the criteria for Categorical or Non-Categorical.

Step 2: Select appropriate control measures for your project.

Non-Categorical Projects (Use Table 1)**:**

- You must choose at least one measure from "General Site Design Control Measures," D-1 through D-4"
- You must choose at least one measure from "Site-Specific Source Control Measures," S-1 through S-6 as applicable to your project.
- You must choose at least one "Effective Imperviousness Control Measures" per drainage basin on the site, D-4.1 through D-4.6.
- The specific design parameters for these measures can be found in Section 3.0 of the Manual. These measures do not have to be engineered to capture and treat the 85th percentile rain event as is required for categorical projects.

Categorical Projects (Use Table 2)**:**

- You must choose all appropriate and applicable measures for your project from "General Site Design Control Measures," D-1 through D-4
- You must choose all appropriate and applicable measures for your project from "Site-Specific Source Control Measures," S-1 through S-6 as applicable to your project.
- You must choose at minimum, one "Treatment Control Measure" per drainage basin on the site, T-1 through T-11. Treatment control measures must be designed to capture and treat the 85th percentile rain event as is required for categorical projects (See "Requirements for Categorical Projects" on page 5).
- Specific design criteria for these measures can be found in Section 5.0 of the Manual. These measures **DO** have to be engineered to capture and treat the 85th percentile rain event as is required for categorical projects (See "Requirements for Categorical Projects" on page 4).

Some level of calculation will be necessary to make sure the treatment control measures or site design control measures are designed appropriately for the project.

Step 3: Once you have selected control measures, the checklists on pages 7 and 8 will help you record your selections for submission to the City.

- **Non-Categorical Projects:** use the checklist on page 7.
- **Categorical Projects:** use the checklist on page 8. Calculations must be submitted. Use the "Design Data Summary Sheets" from Section 5 of the Manual for each control measure used to summarize the calculations to achieve compliance.

Step 4: Submit checklists - A draft checklist should be submitted with proposed development plans at the discretionary review stage of the development process and a completed checklist should be submitted with the building permit plans. For all projects, a Maintenance Plan shall be submitted at the time of submission of building permit plans. For Categorical Projects, a Maintenance Agreement shall also be required. Maintenance plan guidance can be found in Section 6 of the Manual.

The checklist will be cross-checked with the project plans submitted, will be verified by field inspection during installation and by inspection after construction.

TABLE 1
APPLICABLE STORMWATER CONTROL MEASURES BY PROJECT TYPE – NON-CATEGORICAL

Project Type (definitions below)	*General Site Design Control Measures (Mandatory)*		D-3 Minimize Impervious areas (As appropriate)				*D-4 Minimize Effective Imperviousness Control Measures (Select one for each drainage basin)*						*Site-Specific Source Control Measures (As appropriate)*					
	D-1	**D-2**	**D-3.1**	**D-3.2**	**D-3.3**	**D-3.4**	**D-4,1**	**D-4.2**	**D-4.3**	**D-4.4**	**D-4.5**	**D-4.6**	**S-1**	**S-2**	**S-3**	**S-4**	**S-5**	**S-6**
	Conserve natural areas	Protect slopes & channels	Minimize Sidewalk & Street Widths	Minimize Impervious Footprint	Cluster Develop-ment	Use Porous Paving Materials	LID Grass Swale/ Channel	LID Grass Filter Strip	LID Stormwater Planter	LID Porous Pavement Filter	LID Vegetated Swale	LID Infiltration Trench/ Vault	Storm drain message & signage	Outdoor storage area design	Trash storage area design	Loading dock area design	Wash area design	Fueling area design
Redevelop-ment < 5,000 sf of impervious paving	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●		
Commercial Development < 5,000 sf of impervious paving	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Automotive repair shop < 5,000 sf of impervious paving	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●
Retail gasoline outlet < 5,000 sf of impervious paving	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●
Restaurant < 5,000 sf of impervious paving	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Home subdivision (≤ 10 units)	●	●	●	●	●	●	●	●	●	●	●		●	●				
Parking lots (≤ 5,000sf or ≤ 25 spaces)	●	●	●			●	●	●	●	●	●	●	●	●	●			

All control measures are not required by site, but certain control measures are more suitable for some sites and a proposed land use. The above table is intended to help guide the developer to select the appropriate control measures by the project type.

TABLE 2

APPLICABLE STORMWATER CONTROL MEASURES BY PROJECT TYPE – CATEGORICAL

Project Type (definitions below)	*General Site Design Control Measures (All Mandatory)*				*Likely Treatment Control Measures (Select a minimum of one per drainage basin as appropriate)*											*Site-Specific Source Control Measures (As appropriate)*					
	D-1	**D-2**	**D-3**	**D-4**	**T-1**	**T-2**	**T-3**	**T-4**	**T-5**	**T-6**	**T-7**	**T-8**	**T-9**	**T-10**	**T-11**	**S-1**	**S-2**	**S-3**	**S-4**	**S-5**	**S-6**
	Conserve natural areas	Protect slopes & channels	Minimize imperv-ious areas	Minimize effective imperv-iousness	Grass Swale	Grass Filter Strip	Wet Pond	Construc-ted Wetland Basin	Extended Detention Basin	Infiltra-tion Trench/ Vault	Infiltra-tion Basin	Vegetat-ed Swale	Storm-water Planter	Media Filter	Porous Pavement Filter	Storm drain message & signage	Outdoor storage area design	Trash storage area design	Loading dock area design	Wash area design	Fueling area design
Significant Redevelopment ≥ 5,000 sf of impervious paving	●	●	●	●	●	●			●	●	●	●	●	●	●	●	●	●	●		
Commercial Development ≥ 5,000 sf of impervious paving	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Automotive repair shop ≥ 5,000 sf of impervious paving	●	●	●	●	●	●				●		●	●	●		●	●	●		●	●
Retail gasoline outlet ≥ 5,000 sf of impervious paving	●	●	●	●	●	●				●		●	●	●		●	●	●		●	●
Restaurant ≥ 5,000 sf of impervious paving	●	●	●	●	●	●				●	●	●	●	●	●	●	●	●	●	●	
Home subdivision (≥ 10 units)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
Parking lots (≥ 5,000sf or ≥ 25 spaces)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			

All control measures are not required by site, but certain control measures are more suitable for some sites and a proposed land use. The above table is intended to help guide the developer to select the appropriate control measures by the project type.

1 DEFINITIONS FOR CATEGORICAL PROJECT TYPES:

SIGNIFICANT REDEVELOPMENT – Significant redevelopment is defined as a net increase in impervious area of **5,000 square feet or more** on an already-developed site. Significant redevelopment includes, but is not limited to: expansion of a building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/or exterior construction or remodeling; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities related with structural or impervious surfaces.

COMMERCIAL DEVELOPMENT – Commercial development is defined as any development on undeveloped private land that is not for heavy industrial or residential use where the total impervious area created is greater than or equal to 5,000 square feet. The category includes, but is not limited to: hospitals, laboratories and other medical facilities; educational institutions; recreational facilities; commercial nurseries; multi-apartment buildings; car wash facilities; mini-malls and other business complexes; shopping malls; hotels; office buildings; public warehouses; and other light industrial facilities.

AUTOMOTIVE REPAIR SHOPS – This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539 and where the total impervious area for development is greater than or equal to 5,000 square feet.

RETAIL GASOLINE OUTLETS – A Retail Gasoline Outlet is defined as any facility engaged in selling gasoline with 5,000 square feet or more of impervious surface area.

RESTAURANTS – This category is defined as a facility that sells prepared foods and drinks for consumption, including: stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the total impervious area for development is greater than 5,000 square feet.

HOME SUBDIVISIONS of 10 HOUSING UNITS OR MORE – This category includes single-family homes, multi-family homes, condominiums, and apartments.

PARKING LOTS – A parking lot is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce with 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to stormwater runoff.

TREATMENT CONTROL MEASURES – grass swale, grass filter strip, wet pond, constructed wetlands basin, extended detention basin, infiltration trench/vault, infiltration basin, vegetated swale, stormwater planter, media filter, porous pavement, and filter.

GENERAL DEFINITIONS

DRAINAGE BASIN - is the extent or area of land where surface water from rain and melting snow or ice converges to a single point to discharge from the basin.

REQUIREMENTS FOR CATEGORICAL PROJECTS

Treatment controls may be designed based on either volume or flow. For Categorical Projects the State has developed design standards for post-construction treatment controls to mitigate (infiltrate, filter or treat) storm water runoff prior to discharge from private property. Below are the design standards for treatment control measures from the State's General Permit Attachment 4.

1) Volumetric Treatment Control BMP:

a) The 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, from the formula recommended in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, (1998); or

b) The volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in California Stormwater Best Management Practices Handbook – Industrial/ Commercial, (2003); or

c) The volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for "treatment" that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event.

2) Flow Based Treatment Control BMP:

a) The flow of runoff produced from a rain event equal to at least two times the 85th percentile hourly rainfall intensity for the area; or

b) The flow of runoff produced from a rain event that will result in treatment of the same portion of runoff as treated using volumetric standards above.

MAINTENANCE OF POST-CONSTRUCTION BMPS:

Submit a Maintenance Plan and Maintenance Agreement for the stormwater control measures. Items that should be included in maintenances agreements can be found in Chapter 6 of the Manual and example Maintenance Agreements have been provided in Appendices C-1 and C-2 of the Manual. The property owner or his/her designee is responsible for compliance with the Agreement. Attach a copy of the Maintenance Plan with contact information to this packet.

INFORMATION EXPECTED FOR EXPLANATION

In the narrative explanation for each measure used, include the following:

- A description of the proposed measure to be used, and the area it will serve. Measure(s) should be identified with the appropriate alpha/numeric # (e.g. D-3) or as a treatment control measure.
- Reference to plan sheets showing where the control measure is located within the project (by plan sheet and detail numbers).
- A complete list of plants used (including quantities and spacing) for each control measure.
- Provide separate information for each area served by the same type of control measure.
- Include calculations for each proposed measure unless otherwise approved by the City Engineer.

STORMWATER CONTROL MEASURES CHECKLIST
FOR NON-CATEGORICAL PROJECTS

GENERAL INFORMATION (Print or Type)

Name of Proposed Project	**#**	**Assessors Parcel No**
Applicant/Contact Name	**Phone No:**	**Fax No.**
Address	**Email Address**	
Location of Project	**Property Owner**	
Description of Project	**Type of Project**	

Identify the stormwater control measures used for your project below:

√	Measure required	Explanation of how project is complying.
☐	**D-1:** Conserve Natural Areas	
☐	**D-2:** Protect Slopes & Channels	
☐	**D-3:** Minimize Impervious Areas (select as appropriate) ☐ Minimize Sidewalk & Street Widths ☐ Minimize Impervious Footprint ☐ Cluster Development ☐ Use Porous Paving Materials	
☐	**D-4:** Minimize Effective Imperviousness (select one for each drainage basin) ☐ D-4.1 LID Grass Channel / Swale ☐ D-4.2 LID Grass Filter Strip ☐ D-4.3 LID Stormwater Planter ☐ D-4.4 LID Porous Pavement Filter ☐ D-4.5 LID Vegetated Swale ☐ D-4.6 LID Trench/Vault	
☐	**S-1:** Storm Drain Message & Signage	
☐	**S-2:** Outdoor Storage Area Design	
☐	**S-3:** Trash Storage Area Design	
☐	**S-4:** Loading Dock Area Design	

Appendix B – Attachments

√	Measure required	Explanation of how project is complying.
☐	**S-5:** Wash Area Design	
☐	**S-6:** Fueling Area Design	

STORMWATER CONTROL MEASURES CHECKLIST FOR CATEGORICAL PROJECTS

GENERAL INFORMATION (Print or Type)

Name of Proposed Project	#	Assessors Parcel No

Applicant/Contact Name	Phone No:	Fax No.

Address	Email Address

Location of Project	Property Owner

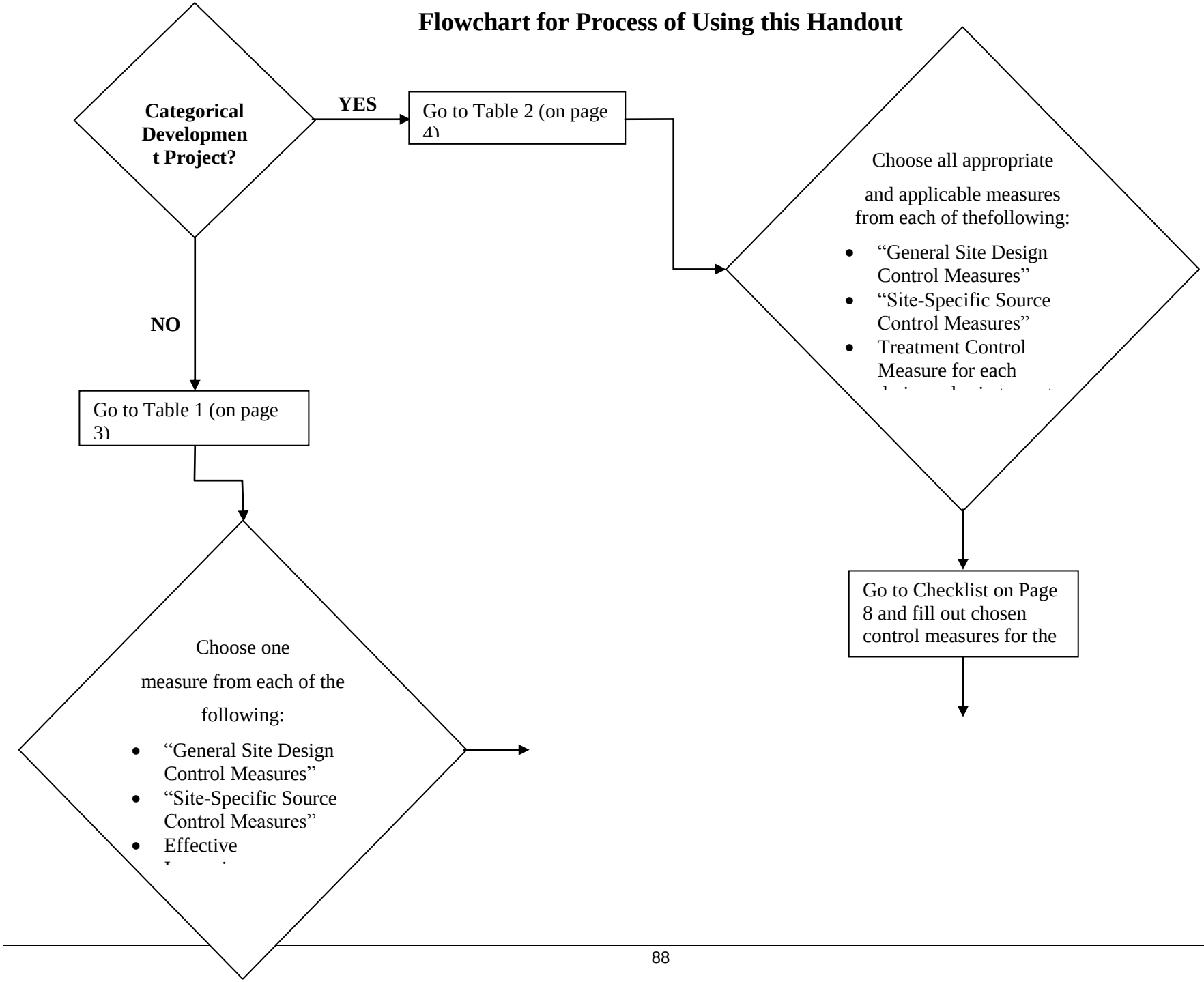
Description of Project	Type of Project

Identify the stormwater control measures used for your project below:

√	Measure required	Explanation of how project is complying.
☐	**D-1:** Conserve Natural Areas	
☐	**D-2:** Protect Slopes & Channels	
☐	**D-3:** Minimize Impervious Areas ☐ Minimize Sidewalk & Street Widths ☐ Minimize Impervious Footprint ☐ Cluster Development ☐ Use Porous Paving Materials	
☐	**D-4:** Minimize Effective Imperviousness ☐ Grass Channel / Swale ☐ Grass Filter Strip ☐ Stormwater Planter ☐ Porous Pavement Filter ☐ Vegetated Swale ☐ Trench Vault	
☐	**S-1:** Storm Drain Message & Signage	
☐	**S-2:** Outdoor Storage Area Design	
☐	**S-3:** Trash Storage Area Design	
☐	**S-4:** Loading Dock Area Design	
☐	**S-5:** Wash Area Design	

√	Measure required	Explanation of how project is complying.
☐	**S-6:** Fueling Area Design	
Treatment control measure (check those that apply): ☐ **T-1** - grass swale ☐ **T-2** - grass filter strip ☐ **T-3** - wet pond ☐ **T-4** - constructed wetland basin ☐ **T-5** - extended detention basin ☐ **T-6** - infiltration trench / vault ☐ **T-7** - infiltration basin ☐ **T-8** - vegetated swale ☐ **T-9** - stormwater planter ☐ **T-10** - media filter ☐ **T-11** - porous pavement filter ☐ alternative / proprietary treatment (explain)		**Explain how, the purpose (flow or volumetric treatment), and where on the site the control measure(s) are being used.**

Flowchart for Process of Using this Handout

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Section 2.7 - Public Agency Legal Authority Program

Joint City Council and Planning Commission Meeting

2.7.1 OVERVIEW

Adequate legal authority through ordinances and other mechanisms are essential to the success and implementation of the SWMP and to meet the intent of the Small MS4 General Permit.

2.7.2 CONTROL MEASURES

The City's control measure and accompanying measureable goals ensure that the Public Agency Legal Authority Program requirements are effective and appropriately implemented. For each control measure there are accompanying measureable goals which, once accomplished, constitute compliance with the General Permit requirements.

The Public Agency Legal Authority Program Control Measures consists of the following:

MO	Control Measure
PALA1	General Plan Action Items
PALA2	Legal Authority Review

The next section of this report provides information on the specific tasks of the measurable goals and implementation schedules that have been initiated and/or completed for the Public Agency Legal Authority Program.

2.7.3 PALA1 – General Plan Action Items

This Control Measure specifies that the City review the May 2001 City of Davis General Plan for action items that relate to stormwater quality issues and developing a plan to implement the items.

Existing BMPs and related activities to this Control Measure are the following:

- The City's General Plan has policy statements and action items related to stormwater quality. City staff is required to implement the Plan's policy statements and action items. An implementation schedule was not developed for these action items. The City has been working towards implementing these action items during the lifespan of the plan.

2.7.3.1 Measurable Goals

Measurable Goal 1: Review and provide an assessment of the City's General Plan action items related to the SWMP and draft an implementation plan for reporting period 2010-11.

Staff reviewed the action items contained in the General Plan in 2009-10 and each year subsequent. Where applicable, staff has identified those items which are applicable to the SWMP. Staff prepared a table which shows the status and implementation plan for action items which are SWMP-related items that have not yet been accomplished. This table has been updated where applicable for 2012-13. See Appendix B pages 57 - 76 for the table. Of the 97 action items having some association with storm water quality, the City has completed or on-going implementation of 80 action items. The remaining 21 are in process or will be completed by 2014 unless otherwise specified. For 2012-13, the City completed 1 more of these action items.

2.7.4 PALA2 – Legal Authority Review

This Control Measure specifies that the City assess existing legal authorities as needed during SWMP implementation to ensure adequate authority to enforce the SWMP and develop new or revise authorities as necessary.

This Control Measure includes the development and adoption of a Stormwater Management and Discharge Control Ordinance, which would include provisions specifically related to the implementation and enforcement of the SWMP.

Existing BMPs and related activities to this Control Measure are the following:

- The City currently utilizes the following City regulations to help ensure that requirements in the SWMP are met. Code enforcement actions are possible through application of any of the Municipal Code Chapters below:
  - Municipal Code Chapter 8 – Buildings including Grading, Drainage, and Flood Control
  - Municipal Code Chapter 23 – Nuisance Abatement
  - Municipal Code Chapter 25 – Streets and Sidewalks
  - Municipal Code Chapter 27 – Parks and Open Spaces
  - Municipal Code Chapter 30 – Stormwater Management and Discharge Control
  - Municipal Code Chapter 33 – Sewers and Sewage Disposal
  - Municipal Code Chapter 37 - Subdivisions
  - Municipal Code Chapter 39 - Water
  - Municipal Code Chapter 40 - Zoning Ordinance
  - Municipal Code Article 40.42 - Water Efficient Landscaping
- The City also uses the following State and Federal regulations to ensure the requirements of the SWMP are met.
  - Cal Green Code
  - CEQA process and development of Conditions of Approval and CEQA Mitigation Measures
  - Clean Water Act (CFR 403)
  - Uniform Building Code
- Other regulatory mechanisms that may effect stormwater quality include:
  - Development Agreements
  - Engineering Standards Specifications and Design Standards
  - Improvement Agreements
- Yolo County District Attorney's Office, Environmental Prosecutions Unit, prosecutes environmental crimes and brings environmental civil suits to enforce environmental laws and regulations. Officers investigate reports from the public or public agencies (Department of Fish and Game, Yolo County Health Department) that environmental regulations are being broken.
- Construction projects disturbing one acre or more of land (or part of a larger development plan that will disturb greater than one acre or more of land) are required to obtain coverage under a statewide General Permit for Discharges of Storm Waters Associated with Construction Activities.

2.7.4.1 Measurable Goals

Measurable Goal 1: Evaluate the need for a Stormwater Ordinance (SWO) that will incorporate issues addressing stormwater quality as well as other drainage issues in the City. If needed, develop and adopt a Stormwater Ordinance.

In 2007, the City concluded that a new ordinance was needed in order to provide the City's necessary authority to implement and enforce the statewide MS4 permit and the approved SWMP. The City adopted the SWO on June 13, 2012. The City anticipates revising its SWO in 2013-14 in order to accommodate the revisions to the Small MS4 General Permit.

Measurable Goal 2: Revise existing City Code and other legal authorities as needed to ensure continued implementation and enforcement of the SWMP according to requirements in the MS4 Permit

for illicit discharges, illegal dumping, land development review, construction and post-construction stormwater BMPs. Include requirements for long-term maintenance and operation of permanent stormwater BMPs.

After a review of existing City Code as listed in Measurable Goal 1 above, City staff found that current Code adequately addresses all stormwater program requirements. The City will revise the current SWO to reflect the revisions to the Small MS4 General Permit in 2013-14.

Measurable Goal 3: Review and revise, as necessary, implementing code compliance enforcement techniques, such as issuance of citations or notices of noncompliance, for inspectors to implement. Include enforcement authority for violations of long-term maintenance agreements.

The City has a code enforcement system in place with the SWO (Section 33.06 of Municipal Code). The SWO provides the City with the necessary authority to implement code compliance. Currently, the City works with any dischargers through a series of escalating enforcement measures that it finds in violation of the requirements of the State's Phase II General Permit. The City has issued 4 code enforcement letters in 2012-13. Each of these incidents required some amount of follow up. Thus far, no problems have gone un-rectified. These letters would be similar to a Notice of Violation, but intended to create awareness about discharging pollutants into the City's stormwater collection system. In the event that a discharger was non-responsive and did not cease activities, then the City would escalate code enforcement, such as a letter, issuing an NOV, and assessment of fines or more. Using this method consistently, the City has found most property owners to be agreeable. The City has drafted an Enforcement Response Plan, which it anticipates completing in 2013-14.

Measurable Goal 4: Train staff in new ordinances or other legal authorities when needed.

Appropriate City staff has been trained in the requirements of the SWO during 2011-12. There have been relatively no new hires since that time for the development review process. However, the City intends to provide refresher training for development review staff in 2013-14. This will include training on the new development requirements of the Small MS4 General Permit. Additionally, municipal operations staff were trained in 2011-12 on the requirements of the SWO. They were surveyed and quizzed in 2012-13 on stormwater issues. They will be provided training on the new requirements of the Small MS4 General Permit in 2013-14. The City will continue to train staff on revisions or new ordinance as appropriate.

2.7.5 EFFECTIVENESS ASSESSMENT OF PUBLIC AGENCY LEGAL AUTHORITY PROGRAM

Effectiveness assessment is a fundamental component for developing and implementing successful stormwater programs. Outcome levels help to categorize and describe the desired results of the Program Elements and related Control Measures.

In order to determine the effectiveness of the Public Agency Legal Authority Program, an assessment of the program data is conducted as a part of the annual report. The results of this assessment are used to identify modifications that need to be made to the program. Effectiveness is determined through a series of Assessment Tasks as identified in the SWMP.

2.7.5.1 Assessment Tasks

Assessment Task PALA1: Maintain a record of the action items being addressed, when and how the action was taken.

The City maintains a record of the action items being addressed in the Annual Report in Appendix B.

Assessment Task PALA2: Evaluate the effectiveness of this Control Measure by assessing the status of the completion of the Measurable Goals.

The statuses of the Measureable Goals are summarized in the following section.

2.7.5.2 Program Effectiveness Assessment Summary

Table 2.7-1 below summarizes the effectiveness assessment that was conducted for the Public Agency Legal Authority Program.

Table 2.7-1 Effectiveness Assessment for the Public Agency Legal Authority Program

Measureable Goal	Level 1	Level 2	Level 3	Level 4
	Implement Program	Increase Awareness	Behavior Change	Load Reduction
PALA1 – General Plan Action Items				
1. Review and provide assessment of City's General Plan action items related to stormwater and compliance and draft implementation plan for reporting period 2009-10.	✓ Completed review of the GP and established an implementation plan.	N/A	N/A	N/A
PALA2 – Legal Authority Review				
1. Evaluate the need for a Stormwater Ordinance that will incorporate issues addressing stormwater quality as well as other drainage issues in the City. If needed, develop and adopt a Stormwater Sewer Ordinance.	✓ Evaluation completed	N/A	N/A	N/A
2. Revise existing City Code and other legal authorities as needed to ensure continued implementation and enforcement of the SWMP according to requirements in the MS4 Permit for illicit discharges, illegal dumping, land development review, construction and post-construction stormwater BMPs.	● Revisions completed in 2011-2012 with the adoption of the SWO. ● Minor revisions necessary for	N/A	N/A	N/A
3. Review and revise, as necessary, implementing code compliance enforcement techniques, such as issuance of citations or notices of noncompliance, for inspectors to implement.	✓ Review completed. ✓ Enforcement Response Plan drafted ERP anticipated to be completed in 2013-14.	✓ 4 NOVs written in 2012-13. ✓ 31 incidents in 2012-13 using an array of enforcement techniques. ✓ Inspection staff trained.	F	N/A
4. Train staff in new ordinances or other legal authorities when needed.	✓ Training completed.	✓ Staff has & will be trained in 2013.	F	N/A

2.7.6 SWMP MODIFICATIONS

The City's SWMP received final approval from the Regional Water Quality Control Board (RWQCB) on February 18, 2007. The SWMP includes Implementation Schedules spanning the time period 2003 to 2008. As a result, the City updated and modified the Implementation Schedules for each Program Element beginning with the 2007-2008 report period (see **Table 2.7-1**). These changes were also noted in the 2008-2009 Annual Report. For this element there are no changes in responsibility or revisions to the Implementation Schedule through 2012-2013.

Table 2.7-1. Public Agency Legal Authorities Program Implementation Schedule and Responsible Department/Position

	Implementation Schedule						Responsible Department/Position					
Control Measures and Measurable Goals	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	Environmental Program Staff	Public Works	Community Development	Parks	Finance	Other
PALA1 General Plan Action Items												
1. Provide assessment of City's General Plan action items related to stormwater and compliance and draft implementation plan for reporting period 2009-10.			■	▒	▒	▒	●	◐	◐	◐	◐	◐
PALA2 Legal Authority Review												
1. Evaluate need for Stormwater Sewer Ordinance.	■						◐	●	◐			
2. Revise existing city Code and other legal authorities as needed.			■				◐	◐	◐	◐	◐	●
4. Review and revise, as necessary, implementing code compliance enforcement techniques.			■				◐	●	●			
5. Train staff in new ordinances or other legal authorities when needed.			▒	▒	▒	▒	●	◐	◐	◐		◐

▒ Continuing activity, reviewed or revised as needed throughout implementation
■ One-time activity to develop or implement a measurable goal

● Individual or department to take lead in the development or implementation of an activity.

◐ Individual or department to provide strong support in the development or implementation of an activity.

◔ Individual or department to review and provide comments and guidance during the development or implementation of an activity.