STATE OF CALIFORNIA
CENTRAL COAST WATER BOARD
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Storm Water Management Plan

CITY OF SCOTTS VALLEY

TABLE OF CONTENTS

List of Figures and Tables 3

Acronyms 4

Introduction 5

Chapter One — Public Education and Outreach 11

Chapter Two — Public Involvement and Participation 15

Chapter Three — Illicit Discharge Detection and Elimination 18

Chapter Four — Construction Site Storm Water Runoff Control 23

Chapter Five — Post-Construction Storm Water Management in New and Re-developments 26

Chapter Six — Pollution Prevention/Good Housekeeping for Municipal Operations 32

Chapter Seven — Program Effectiveness Assessment 35

Appendix A — Municipal Best Management Practices 37

LIST OF FIGURES AND TABLES

FIGURES

Figure 1	Permit Boundary Map

TABLES

Table 1-1	Public Outreach/Education for Homeowner
Table 2-1	Public Involvement/Participation
Table 3-1	Illicit Discharge Detection and Elimination
Table 4-1	Construction Site Storm Water Runoff Control
Table 5-1	Post-Construction Storm Water Management in
Table 6-1	Pollution Prevention/Good Housekeeping for Municipal Operations
Table 7-1	Program Effectiveness Assessment

ACRONYMS AND ABBREVIATIONS

ASC	Agency Staff Committee
BASMAA	Bay Area Storm Water Management Agencies Association
BMP	Best Management Practices
CAC	Citizens Advisory Committee
CASQA	California State Storm Water Quality Association
CDC	County Design Criteria
CEQA	California Environmental Quality Act
EPA	United States Environmental Protection Agency
FIB	Fecal Indicator Bacteria
GIS	Geographic Information System
MEP	Maximum Extent Practicable
MS4s	Municipal Separate Storm Sewer System
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination system
NRCS	National Resources Conversation Service
RCD	Resource Conservation District
RWQCB	Central Coat Regional Water Quality Control Board
SWRCB	California State Water Resource Control Board
SUSMP	Standard Urban Storm Water Management Program
SWMP	Storm Water Management Plan

INTRODUCTION

BACKGROUND

In 1972, the federal Water Pollution Control Act (also referred to as the Clean Water Act "CWA") was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with a NPDES permit. The 1987 amendments to CWA added section 402(p), which established a framework for regulating storm water discharges under the NPDES Program. Subsequently, in 1990, the U.S. Environmental Protection Agency (U.S. EPA) promulgated regulations for permitting storm water discharges from industrial sites (including construction sites that disturb five acres or more) and from municipal separate storm sewer systems (MS4s) serving a population of 100,000 people or more. These regulations, known as the Phase I regulations, require operators of medium and large MS4s to obtain storm water permits. On December 8, 1999, U.S. EPA promulgated regulations, known as Phase II, requiring permits for storm water discharges from Small MS4s and from construction sites disturbing between one and five acres of land. This General Permit regulates storm water discharges from Small MS4s.

An "MS4" is a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains): (I) designed or used for collecting or conveying storm water; (ii) which is not a combined sewer; and (iii) which is not part of a Publicly Owned Treatment Works (POTW).

A "Small MS4" is an MS4 that is not permitted under the municipal Phase I regulations, and a public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes.

SWRCB elected to adopt a statewide general permit for Small MS4s in order to efficiently regulate numerous storm water discharges under a single permit.

The General Permit effectively prohibits the discharge of materials other than storm water that are not "authorized non-storm water discharges" or authorized by a separate NPDES permit.

Effluent Limitations

Permittees must implement Best Management Practices (BMPs) that reduce pollutants in storm water runoff to the technology-based standard of Maximum Extent Practicable (MEP) to protect water quality. The inclusion of BMPs in lieu of numeric effluent limitations is appropriate in storm water permits.

Preparation of SWMP

The General Permit requires regulated Small MS4s to:

1. Develop and implement a SWMP that describes BMPs, measurable goals, and timetables for implementation in the following six program areas (Minimum Control Measures):

Public Education

The Permittee must educate the public in its permitted jurisdiction about the importance of the storm water program and the public's role in the program.

Public Participation

The Permittee must comply with all State and local notice requirements when implementing a public involvement/participation program.

Illicit Discharge Detection and Elimination

The Permittee must adopt and enforce ordinances or take equivalent measures that prohibit illicit discharges. The Permittee must also implement a program to detect illicit discharges.

Construction Site Storm Water Runoff Control

The Permittee must develop a program to control the discharge of pollutants from construction sites greater than or equal to one acre in size within its permitted jurisdiction. The program must include inspections of construction sites and enforcement actions against violators.

Post Construction Storm Water Management

The Permittee must require long-term post-construction BMPs that protect water quality and control runoff flow to be incorporated into development and significant redevelopment projects. Post-construction programs are most efficient when they stress (I) low impact design; (ii) source controls; and (iii) treatment controls.

Pollution Prevention/Good Housekeeping for Municipal Operations

The Permittee must 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.

2. Reduce its discharge of pollutants to the MEP.

3. Annually report on the progress of SWMP implementation.

The Phase II Storm Water Regulations require each municipality to adopt and enforce ordinances and policies to clarify its authority to control what is discharged to the municipally owned storm drain system. In addition, each agency needs to develop adequate legal authority to implement and enforce provisions of the SWMP, including right of entry and inspection, and methods to reduce discharge of pollutants to the storm drain.

During the term of the SWMP, the City will review existing ordinances and general plans and develop legal authority for implementing the SWMP. As all ordinances will be considered at public meetings which by city ordinance and state law must comply with public notification requirements, the public will be fully informed. In particular, legal authority for the following will be established:

- Effectively prohibiting non-storm water discharges to storm drains and implementing appropriate enforcement procedures and actions

- Requiring that persons engaged in activities that are potential sources of pollutants implement BMPs to reduce pollutant discharges to the MEP

- Requiring erosion and sediment controls, as well as sanctions or other effective mechanisms, to ensure compliance from construction site activities that result in a land disturbance of greater than or equal to one acre

- Addressing post-construction runoff from new development and redevelopment projects that disturb greater than or equal to one acre; including projects less than one acre that are part of a larger common plan of development or sale.

Hydromodification Plan (HMP) and Long Term Watershed Management

The City of Scotts Valley, in conjunction with Santa Cruz County and the municipalities within the County, has established a strategy to develop hydromodification standards for new and redevelopment projects. The primary goal of the HMP is to determine an economically viable and effective set of Scotts Valley specific hydromodification control standards that will provide protection of water resources (e.g. water quality, beneficial uses, biological and physical integrity of watersheds and aquatic habitats) to the maximum extent practical.

The City's Master Plan is a comprehensive document addressing future growth, including infrastructure and redevelopment in the context of long-term watershed protection. The Master Plan will be reviewed to verify that long-term watershed management efforts are being addressed. Based on results of this review, the Master Plan will be revised as appropriate.

Low Impact Development (LID)

The City supports the incorporation of LID strategies into all new development and redevelopment projects as appropriate. This provides for the development and adoption of LID design guidelines within the permit period. Once adopted, the LID design guidelines will serve as a reference guide to designers and engineers in the early phases of project development.

Total Maximum Daily Load (TMDL)

Carbonero Creek, as a tributary to San Lorenzo River, was identified as impaired by sediment on the 1998 Clean Water Act list of impaired water bodies. This SWMP as a document, and many of the practices put in place as part of this plan, will address many of the issues and is intended to reduce the sources of pollution contributing to the impairment. The City of Scotts Valley is committed to implementation of measures that target the City's contribution to sediment loading in Carbonero Creek and fecal indicator bacteria in Carbonero Creek and Camp Evers Creek.

Funding Mechanism and Structure

Meeting these new regulatory requirements will require new or additional public expenditures. The Phase II regulations require that each agency allocate funds for the capital, operation and maintenance, and enforcement expenditures necessary to implement and enforce the SWMP within its jurisdiction. In 1998, EPA developed cost estimates for each element of a typical Phase II program. They estimated total Phase II program costs would average $9.16 per

household or about $3.00 per capita. The annual cost for the City of Scotts Valley with a population of 11,000 would be about $33,000. Obviously, there will be a range of costs from locality to locality, due to local preferences, budget and labor constraints, etc. The City of Scotts Valley recently completed an evaluation of actual costs of providing staff for work on various projects. The study indicated that the cost of a fully supported composite planning staffer or engineering division staffer is $110/hr. There are obviously various ways to utilize staff time, but two simple budget scenarios are as follows: 6 weeks annually of a full-time staff person @ $110/hour at a cost of $26,400 leaves $6,600 remaining for hard costs, such as media or print material and postage costs. Increasing the full-time staff person's time commitment to 7 weeks full time increases that cost to $30,800, leaving only $2,200 for hard costs. During the first year of the SWMP, the City will investigate funding mechanisms to support the storm water program. Possible funding options/mechanisms that the City may choose to utilize for developing and implementing the SWMP include the following:

- Current revenues (general fund appropriation)
- New "dedicated" funding sources (fees and taxes)
- Outside funding sources (The City, along with the other Santa Cruz County jurisdictions will be actively pursuing grant funds)

EXISTING STORM WATER MANAGEMENT PRACTICES

Conditions of Approval

The City of Scotts Valley commissioned a study in 1988 to evaluate and make recommendations for addressing the City's storm drain and storm channel systems. From that study, a Storm Drain Master Plan was developed which included recommendations for improvements in problem areas including correcting eroding channels and outfalls. Areas of erosion in channels were repaired through the City's Capital Improvement Program and Conditions of Approval were placed on developers for channel improvement and outfall improvements where a nexus could be established. A substantive recommendation proposed in the study was also adopted by the City as well as a tool to not allow an increase in peak flows in channels affecting both flood elevations and erosive scouring due to high velocities and flood elevations. Projects are now conditioned on a case-by-case basis to provide storm water detention systems. Projects are required to determine the pre-development rate of run-off contributing to the storm drain system and provide on-site detention so that post-development rate is not exceeded for a 10-year storm.

As water supply and recharge issues arose, the City began specifying that underground storm detention systems be designed to provide infiltration to the maximum extent feasible. Generally, detention systems were required to have non-grouted bottom half of pipe joints in an effort to allow percolation. In 1995, the City first required a more explicit effort by builders to provide infiltration of storm water. A larger subdivision was required to remove portions of the bottom of detention system pipe and bed the pipe with five feet of drain rock. A non quantified visual inspection of the outfall showed a limited amount of overflow drainage during inspections in early rainfall events.

In 2006, Conditions of Approval were again changed for a mixed use commercial project where the developer was required to filter, retain, and percolate a significant portion of their storm water. The project was never built. The developer indicated that one of the several reasons

the project was abandoned was the expense of this percolation system.

The City continues to condition projects to detain a 10-year storm event to pre-development rates and include percolation considerations to the maximum extent feasible including percolation pits and roof leaders directed into landscaped areas.

Municipal Maintenance Efforts

The City's maintenance division provides several efforts that lead directly to improved storm water quality run-off. The City currently contracts for street sweeping efforts. Those efforts have increased in frequency in the last several years with a concerted increase as the wet weather season approaches. Prior to the first significant rains of the year, the maintenance crew walks the full length of Carbonero Creek and its significant tributaries for flood control purposes. In 1997, an additional task was begun in conjunction with that effort to remove trash from the channels being inspected. The first year, a significant dump site was found and a special project completed to remove several truckloads of debris. The following two years, a considerable effort was continued during those inspections gathering significant amounts of trash. Since that time, the effort has been able to be reduced to simply having the maintenance crew each carry a garbage bag and gathering trash during their efforts. Because of the regular effort, no significant amount of trash has been encountered.

The street maintenance division performs a storm drain inlet inspection prior to every storm. During that inspection, any debris in the inlet grates is removed and any debris nearby likely to cause a flooding problem is also removed. During a storm event itself, a two person crew is assigned to perform continuous rounds within the City to ensure storm drain inlet operation and to remove any debris found. All this debris is transported to the landfill.

Maintenance crews periodically perform storm drain stenciling within the limits of the City of Scotts Valley. This program has been sporadic and concentrated only on the main streets in Scotts Valley. The SWMP will be expanding those efforts.

The City maintenance division quarterly inspects the corporation yard for safety and includes storm water runoff quality issues. Recent modifications to policy have expanded to include all municipal facilities including public buildings and parks.

Recycling Programs

The City has been very proactive in establishing recycling programs within the City of Scotts Valley. These programs have gone a great distance towards trash and debris reduction in the streets and ultimately storm drainage system. Currently, the solid waste contract includes curbside single stream general recycling, curbside used oil recycling, and curbside yard waste recycling. Additionally, the City provides a free yard waste drop-off center, provides annual free drop-off of tires and appliances event, and provides an annual free drop-off e-waste event.

Source Control Inspections

The City's current source control inspector regularly inspects restaurants, automobile and industrial businesses within the City of Scotts Valley. Those inspections currently include storm water education and inspection of any BMPs that are currently in place. All problems are noted

and discussed by the inspector with the business for correction. Recent enforcement includes prohibiting an RV sales business from discharging wash water from RV washing into the storm drain and prohibition of a crane business discharging wash water from their vehicle washing in to the storm drain.

Education

The City participates in the O'Neill Sea Odyssey Program, an education effort of school age children on the Monterey Bay which includes storm water quality.

Municipal Codes

13.08	Individual disposal systems banned if within 200 feet of public sewer.
13.07.075	Prohibits discharge of anything except storm water into any storm drain or natural channel.
15.06.130	Design standards for erosion and sediment control.
15.06.110	Stream and riparian setback requirements
6.16.070	Pet waste prohibited.
17.20.050	Prohibits building within 25 feet of top of bank of perennial or intermittent stream.

General Plan Open Space & Conservation

OSP-323	Retain and protect riparian areas.
OSP-351	Protect streams and aquifers from pollution and erosive forces.
OSP-366	Pursue acquiring riparian corridors.
OSP-415	Preserve creeks as nearly as possible in their natural state.

Reporting

At the end of each fiscal year, the SWMP Coordinator will develop the Annual Report. The staff position for developing the report and the contract for the program will be the Public Works Director/City Engineer, who can be reached at 831.438.5854, One Civic Center Drive, Scotts Valley, CA 95066. The Annual Report will summarize the progress of implementing the SWMP and will be submitted to the RWQCB for staff review and comments.

CHAPTER 1

PUBLIC EDUCATION AND OUTREACH

An informed and knowledgeable community is crucial to the success of a storm water management program since it helps to ensure the following:

- Greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important. Public support is particularly beneficial when operators of small MS4s attempt to institute new funding initiatives for the program or seek volunteers to help implement the program; and

- Greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.

The City will implement a program to educate the public about the causes of storm water pollution and the steps that can be taken to reduce storm water pollution.

The City currently conducts educational outreach to residents as part of the household hazardous waste program and the curbside yard waste program.

The City will partner with other local municipalities, such as the County of Santa Cruz and cities of Watsonville, Capitola and the City of Santa Cruz to develop educational materials and host civic events. Coordination between municipalities will be useful in developing a standardized storm water campaign to strengthen the message and reach as many people as possible.

The City's goals are to:
- Provide a consistent message for the length of time necessary to change community behavior;
- Change specific behaviors which adversely affect water quality; and
- Increase the community awareness and understanding of the individual actions that can be taken to protect and improve the quality of surrounding water bodies.

The following BMPs will be implemented by the City within the permit term. Where appropriate, the selected BMPs will specifically address the City's current water quality challenges (i.e., pollutants of concern). The City will utilize existing federal, State, and City-developed storm water public education and outreach materials whenever possible. When necessary, new materials will be created.

BROCHURES (BMP #1-1)

Implementation Details

The City will create and distribute three brochures targeting specific activities known to contribute storm water pollutants to the MS4. These brochures include:

- "Home Owners Guide";
- "Restaurant/Automotive Guide"; and

• "Construction Site Storm Water Runoff Control Guide."

These brochures will be targeted to provide information about non-storm water discharge elimination, stormwater pollution prevention, hydromodification reduction, and LID principles for four focal areas: (1) residences (the "Home Owner's Guide" will focus on reduction of pollutants such as fertilizers, animal wastes, pollutants of concern, including FIB, green waste, vehicle wash water, etc); (2) restaurants (the "Restaurant Guide" will focus on reduction of pollutants such as gray water, litter, grease, and cleaning agents); (3) automotive businesses (the "Automotive Guide" will focus on reduction of pollutants such as vehicle fluids, waste oil, and batteries); and (4) construction sites (the "Construction Site Storm Water Runoff Control Guide" will focus on reduction of pollutants such as sediment, litter, paints, solvents, cement/concrete wash-outs, and equipment fluids). Revisions will be made as necessary when new storm water technology or opportunities for storm water pollution prevention are developed and the information should be disseminated to the community.

Measurable Goals

1. Develop, design, and print the three brochures targeting residents, restaurants/automotive facilities, and construction.

2. Distribute the "Home Owners Guide" brochures to 100% of the City's residents.

3. Distribute the "Restaurant Guide" and "Automotive Guide" brochures to 100% of inspected facilities via applicable business inspections.

4. Distribute "Construction Site Storm Water Runoff Control Guide" brochures to 100% of contractors requesting construction permits from the City.

5. Revise brochures as necessary and document the number of brochures distributed.

CHILDREN'S EDUCATIONAL PROGRAM (BMP #1-2)

Implementation Details

Providing storm water education through the public schools conveys the message not only to students, but to their parents as well. The children learn about environmental issues early, and therefore become interested and perhaps involved at earlier ages. School children often tell their parents what they learn in school, therefore, teaching children about storm water is an effective way to pass environmental awareness to their parents and throughout the entire community. The City will promote the availability of classroom education on storm water.

The local education community has expressed their concern that many outside groups request classroom time to present information to students. This reduces the amount of time teachers are able to focus on curriculum necessary to meet their mandates. However, some teachers have taken advantage of the City's offers in the past of field trips to the Wastewater Treatment Plant and recycling plant. Those events will be expanded to include storm water education.

The two schools in Scotts Valley will be informed at the beginning of each year of the availability of the field trips. Additionally, they will be informed of the availability of staff for presenting in

classroom education, at their request, on storm water quality.

Measurable Goals

1. Include a storm water quality component in all field trips conducted at the WWTP.

2. Inform School District of availability of field trips and in-classroom presentations.

3. Request and document teacher and student comments regarding the classroom presentations and incorporate improvements to each presentation as necessary for following years.

4. Request and document teacher and student comments regarding the field trips and incorporate improvements to each field trip as necessary for following years.

LOCAL EVENTS (BMP #1-3)

Implementation Details

The City features and participates in a number of local community events, which are attended by local residents. The City plans to incorporate a storm water pollution prevention component into these local events held annually and develop a storm water display for use at these events. Possible opportunities for education include vacuum truck demonstrations and information on the City's current efforts to protect riparian corridors and educate the public on opportunities and activities for riparian restoration and protection.

Measurable Goals

1. Create a list of local events that will provide greatest opportunities to promote storm water education and outreach.

2. Develop a storm water display board for use at local events which includes a comment box for the public to submit questions or comments regarding water quality and/or pollution.

3. Document and respond to all community questions and comments within one week of a local event.

4. Document the number of attendees to each local event and actively refine the events attended and support based on the greatest opportunities to educate the public.

STORM WATER INFORMATION ON THE CITY'S WEBSITE (BMP #1-4)

Implementation Details

Information and proposed regulations regarding storm water pollution will be placed on the City's website.

Measurable Goals

Educational information on storm water pollution prevention and information related to review and adoption of ordinances will be provided on the City's Web Page.

PROGRAM EFFECTIVENESS

Effectiveness assessment is a process that stormwater program managers use to evaluate whether their programs are resulting in desired outcomes and if these outcomes are being achieved efficiently and cost-effectively. During the first two years of the stormwater program, the City will achieve Outcome Level One - Documented Activities, as defined in the *Municipal Stormwater Program Effectiveness Assessment Guidance CASQA, May 2007*. Additional effectiveness outcomes will be evaluated for this MCM beginning in year three. Chapter 7 further describes effectiveness assessment for the storm water program.

TABLE 1-1
BMPS, MEASURABLE GOALS AND IMPLEMENTATION SCHEDULE
Public Outreach/Education for Homeowner
City of Scotts Valley

No.	BMPS	Description	Measurable Goals	Implementation Year
1 - 1	Brochures	The City will create and distribute three brochures: • Home Owner's Guide • Restaurant/Automotive Guide • Construction Site Storm Water Runoff control Guide	1. Develop, design and print the three brochures, targeting residents, restaurants/automotive facilities and construction. 2. Distribute the "Home Owners Guide" brochures to 100% of the City's residents. 3. Distribute the "Restaurant Guide" and "Automotive Guide" brochures to 100% of inspected facilities via applicable business inspections. 4. Distribute "Construction Site Storm Water Runoff Control Guide" brochures to 100% of contractors requesting construction permits from the City. 5. Revise brochures as necessary and document the number of brochures distributed.	2 4 4 3 N/A

TABLE 1-1
BMPS, MEASURABLE GOALS AND IMPLEMENTATION SCHEDULE
Public Outreach/Education for Homeowner
City of Scotts Valley

No.	BMPS	Description	Measurable Goals	Implementation Year
1 - 2	Children's Educational Program	The two schools in Scotts Valley will be informed at the beginning of each year of the availability of field trips to the WWTP.	1. Include a storm water quality component in all field trips conducted at the WWTP.	1
			2. Inform School District of availability of field trips and in-classroom presentations.	3
			3. Request and document teacher and student comments regarding the classroom presentations and incorporate improvements to each presentation as necessary for following years.	3
			4. Request and document teacher and student comments regarding the field trips and incorporate improvements to each field trip as necessary for following years.	3

TABLE 1-1
BMPS, MEASURABLE GOALS AND IMPLEMENTATION SCHEDULE
Public Outreach/Education for Homeowner
City of Scotts Valley

No.	BMPS	Description	Measurable Goals	Implementation Year
1 - 3	Local Events	The City plans to incorporate a storm water pollution prevention component into local events held annually and develop a storm water display for use at these events.	1. Create a list of local events that will provide greatest opportunities to promote storm water education and outreach. 2. Develop a storm water display board for use at local events which includes a comment box for the public to submit questions or comments regarding water quality and/or pollution. 3. Document and respond to all community questions and comments within one week of a local event. 4. Document the number of attendees to each local event and actively refine the events attended and support based on the greatest opportunities to educate the public.	1 2 3 3
1 - 4	Storm Water Information on the City's Website	Information and proposed regulations regarding storm water pollution will be placed on the City's website.	Educational information on storm water pollution prevention and information related to review and adoption of ordinances will be provided on the City's website.	1

P:\sandy\storm water management plan\Table 1-1

CHAPTER 2

PUBLIC PARTICIPATION/INVOLVEMENT

The public can provide valuable input and assistance to a municipal storm water management program and, therefore, the public will be given opportunities to play an active role in the implementation of the program. An active and involved community is crucial to the success of a storm water management program because it allows for:

- Broader public support since citizens who participate in the development and decision making process are partially responsible for the program and, therefore, may be less likely to raise legal challenges to the program and more likely to take an active role in its implementation.

- Shorter implementation schedules due to fewer obstacles in the form of public and legal challenges and increased sources in the form of citizen volunteers.

- A broader base of expertise and economic benefits since the community can be a valuable and free intellectual resource.

- A conduit to other programs as citizens involved in the storm water program development process provide important cross connections and relationships with other community and government programs.

The goal of the Public Involvement and Participation (PIP) control measure is to raise public awareness about urban runoff pollution through public involvement and participation in the City's Storm Water Management Program. Additionally, the City hopes to involve the public in the development and implementation process to secure "buy in" and to generate public support for the City's water quality protection efforts. It is the City's intent that the BMPs support the overall program in generating public participation, fostering support for the purpose and goals of the program, and ultimately reducing the discharge of pollutants to the MEP. The General Permit requires the City to, at a minimum, comply with State and local public notice requirements when implementing a public involvement/participation program.

STORM DRAIN LABELING (BMP #2-1)

Implementation Details

Storm drain stenciling involves labeling storm drain inlets with painted messages warning citizens not to dump pollutants into the drain. The signs raise awareness about the connection between storm drains and receiving waters. City public works staff or volunteer groups can perform the stenciling. Using a volunteer group will increase public awareness of storm water pollutants and their path to water bodies. During the first year of the storm water program, the current storm drain stenciling program will be reviewed and updated as needed. The City will, at a minimum, stencil 25% of the storm drains each year starting in year two. Also, opportunities for using volunteers to stencil storm drains will be investigated.

Measurable Goals

1. Apply storm drain markers or stencils to all City-owned storm drain inlets.

2. Maintain and replace storm drain markers or stencils as needed and document the number of storm drain markers applied throughout the City.

3. Implement Design Standards and Drawings to be utilized by all developers to install storm drain markers in new developments .

STORM WATER HOTLINE (BMP #2-2)

Implementation Details

A storm water hotline will be created during the indicated year of the Storm Water Program. The purpose of the hotline is to provide a means for the public's questions and concerns about water quality to be addressed.

The hotline messages will be checked daily during regular business hours and all calls responded to within 24 hours. The hotline will be advertised on the City's website and in newspapers, and will be included on all storm water educational brochures. The City will develop Storm Water Hotline tracking forms to assure all storm water concerns are adequately resolved. Resolutions will be documented on this form.

Measurable Goals

1. Create a storm water hot line.

2. Receive, document and resolve all calls received on the storm water hot line.

3. Track the number of calls received as well as the City's response to each call.

INTERAGENCY COORDINATION (BMP #2-3)

Implementation Details

Representatives from Scotts Valley will participate in the Stormwater Information Network (SIN) exchange group. This group composed of five jurisdictions in Santa Cruz County will meet on a semi-annual basis to share stormwater program information that may be relevant on a region-wide basis, including partnering to educate the public. Topics may include BMP effectiveness and partnership opportunities.

Measurable Goals

1. The City will participate in semi-annual meetings.

2. Records will be kept identifying the meetings attended.

PUBLIC MEETINGS (BMP #2-4)

Implementation Details

The City will conduct public meetings on adoption of the SWMP and any amendments, as well as the Storm Water Ordinance, Grading Ordinance and any required General Plan, Zoning

Ordinance or other ordinance changes. The SWMP has been presented to the City Council in a noticed public meetings where public comments were solicited. Public Hearings to elicit comments and workshops with the Planning Commission and City Council are planned for review of the future storm water ordinance, grading ordinance and any related regulatory or policy changes. Applicable state and local public notice requirements will be complied with, including notification in the local newspaper. (These meetings and any necessary regulatory or policy changes will be held and completed within the first two years of the permit term, contingent upon City of Scotts Valley City Council direction).

These meetings will provide stakeholders with updates on the program and ways groups can get involved. The City will collect names and contact information from attendees to build a mailing and emailing distribution list of interested parties.

Measurable Goals

Hold at Least One Public Hearing Per Ordinance. Public meetings on adoption of the SWMP and any amendments will be held, as well as the proposed Storm water Ordinance, Grading Ordinance and any required policy or regulatory amendments. Minutes of public meetings will be kept.

PROGRAM EFFECTIVENESS

Effectiveness assessment is a process that stormwater program managers use to evaluate whether their programs are resulting in desired outcomes and if these outcomes are being achieved efficiently and cost-effectively. During the first two years of the stormwater program, the City will achieve Outcome Level One - Documented Activities, as defined in the *Municipal Stormwater Program Effectiveness Assessment Guidance CASQA, May 2007.* Additional effectiveness outcomes will be evaluated for this MCM beginning in year three. Chapter 7 further describes effectiveness assessment for the storm water program.

TABLE 2-1
BMPS, MEASURABLE GOALS AND IMPLEMENTATION SCHEDULE
Public Involvement/Participation
City of Scotts Valley

No.	BMPS	Description	Measurable Goals	Implementation Year
2 - 1	Storm Drain Labeling	The current storm drain stenciling program will be reviewed and updated as needed. The City will, at a minimum, stencil 25% of the storm drains each year starting in year two.	1. Apply storm drain markers or stencils to 25% City-owned storm drain in lets. 2. Maintain and replace storm drain markers or stencils as needed and document the number of storm drain markers applied throughout the City. 3. Implement Design Standards and Drawings to be utilized by all developers to install storm drain markers in new developments.	2-5 2-5 3
2 - 2	Storm Water Hotline	A storm water hotline will be created during the indicated year of the Storm Water Program.	1. Create a storm water hot line. 2. Receive, document and resolve all calls received on the storm water hot line. 3. Track the number of calls received, as well as the City's response to each call.	3 3 3
2 - 3	Interagency Coordination	Representatives from Scotts Valley will participate in the stormwater Information Network (SIN) exchange group. This group composed of five jurisdictions in Santa Cruz County will meet on a semi-annual basis to share stormwater program information that may be relevant on a regional-wide basis.	1. The City will participate in semi-annual meetings. 2. Records will be kept identifying the meetings attended.	1-5 1-5

TABLE 2-1
BMPS, MEASURABLE GOALS AND IMPLEMENTATION SCHEDULE
Public Involvement/Participation
City of Scotts Valley

No.	BMPS	Description	Measurable Goals	Implementation Year
2 - 4	Public Meetings	The City will conduct public meetings upon adoption of the SWMP and any amendments, as well as the Storm Water Ordinance, Grading Ordinance and any required General Plan, Zoning Ordinance or other ordinance changes.	Hold at least one public hearing per Ordinance. Public meetings on adoption of the SWMP and any amendments will be held, as well as the proposed Storm Water Ordinance, Grading Ordinance and any required policy or regulatory amendments. Minutes of public meetings will be kept.	N/A

P:\sandy\storm water management plan\Table 2-2

CHAPTER 3

ILLICIT DISCHARGE DETECTION AND ELIMINATION

What Is An "Illicit Discharge?"

Federal regulations define an illicit discharge as "...any discharge...that is not composed entirely of storm water...." Illicit discharges are considered "illicit" because MS4s are not designed to accept, process, or discharge such non-storm water wastes.

A study conducted in 1987 in Sacramento, California, found that almost one-half of the water discharged from a local MS4 was not directly attributable to precipitation runoff. A significant portion of these dry weather flows were from illicit and/or inappropriate discharges and connections to the MS4.

Illicit discharges enter the system through either direct connections (e.g., wastewater piping either mistakenly or deliberately connected to the storm drains) or indirect connections (e.g.,infiltration into the MS4 from cracked sanitary systems, spills collected by drain outlets, or paint or used oil dumped directly into a drain). The result is untreated discharges that contribute high levels of pollutants, including heavy metals, toxics, oil and grease, solvents, nutrients, viruses, and bacteria to receiving water bodies. Pollutant levels from these illicit discharges have been shown to be high enough to significantly degrade receiving water quality and threaten aquatic, wildlife, and human health.

General Permit Section D, *Storm Water Management Program Requirements, part 2.c(6) , Illicit Discharge Detection and Elimination*, requires the SWMP to address listed categories of authorized non-storm water discharges or flows **only** where they are identified as significant contributors of pollutants to the small MS4.

A non-storm water discharge can be either illicit (illegal) or exempted from regulation

Illicit Discharges

Illicit discharges are discharges into the City's storm drain system which either do not include storm water or are not comprised solely of storm water and which are not exempt or covered by a separate NPDES Permit.

Exempt Non-Storm Water Discharges

The following non-storm water discharges are exempt, except in instances where a specific discharge has been identified as a source of pollution or a nuisance.

1. Water line flushing
2. Landscape irrigation
3. Diverted stream flows
4. Rising ground water

5. Uncontaminated ground water infiltration

6. Uncontaminated pumped groundwater

7. Foundation drains

8. Fire sprinkler flushing

9. Irrigation water

10. Springs

11. Water from crawl space pumps

12. Footing drains

13. Lawn watering

14. Individual residential car washing

15. De-chlorinated swimming pool discharges

The City has undergone a preliminary evaluation of non-storm water discharges or flows authorized by the General Permit (i.e. authorized non-storm water discharges) to determine whether any exists and are significant contributors of pollutants.

The City of Scotts Valley is primarily a residential community with a considerable amount of office, warehouse, and research and development in the commercial sector. The notable lack of manufacturing, food processing, agriculture, and other high generators of pollution laden storm water runoff, makes the task of storm water pollution prevention somewhat easier.

Currently, the City is confident the following authorized non-storm water discharges are not significant contributors of pollutants: water line flushing, diverted stream flows, pumped groundwater, water from crawl space pumps, footing drains, foundation drains, potable water discharges, flows from riparian habitats and wetlands, and municipal street washing and sidewalk washing.

The water table is historically low in Scotts Valley making rising groundwater, ground water infiltration, and springs of minor concern

These conclusions are based on the fact that numerous BMPs, ordinances, and storm water controls are currently utilized to prevent a significant contribution of pollutants from these activities.

The City does not provide fire service or potable water service to its residents. These services are provided by other districts. The City will work with these districts to train their staff on proper procedures when flushing water lines to consider chlorine, water temperature, and sediments.

The remaining authorized non-storm water discharges identified in the General Permit will require further review and evaluation by the City during the implementation period of this SWMP. As such, the City proposes to develop a series of internal technical memorandums related to the following groups of authorized non-storm water discharges with the purpose of defining whether or not they are a significant contributor:

- Irrigation water, landscape irrigation, lawn water;
- Individual residential car washing;
- Springs and rising groundwater, uncontaminated groundwater infiltration to the MS4;

During the routine MS4 inspections, inspectors will identify any generally exempt discharges that appear to be significant contributors of pollutants. Written records will be kept identifying the location, date and type of any generally exempt non-storm water discharges that appear to be resulting in pollution. Actions taken to address these issues will be documented.

The Storm Water Ordinance is proposed to have a section identifying provisions for enforcement against individuals responsible for a generally exempt non-storm water source that is determined to be a significant source of pollution or a nuisance. Appropriate resolution of each enforcement case will be determined on a case-by-case basis, consistent with the provisions of the City's adopted Storm Water Ordinance.

The following BMPs will be implemented by the City within the term of the permit.

DEVELOP A STORM WATER ORDINANCE THAT ADDRESSES ILLICIT DISCHARGE (BMP #3-1)

Implementation Details

A Storm Water Ordinance will be developed and will include a section defining and prohibiting illicit discharges into the storm sewer system through City streets or directly into a storm sewer.

During the indicated year of the program, existing ordinances will be reviewed and language modified or added to clarify the City's authority to control discharges to the storm drain system. Enforcement authority will also be clarified or put into place.

Measurable Goals

Adoption of a Storm Water Ordinance that addresses illicit discharge. The City will adopt a storm water ordinance that will include enforcement provisions for illicit discharges.

MAINTAIN A MASTER STORM DRAIN MAP (BMP #3-2)

Implementation Details

During the indicated year, staff will locate and inspect all outfalls and collect existing information and identify areas of incomplete information. Based on this information, the system will be prioritized for mapping. Each year, 25% of the complete system will be mapped.

As a part of the process of identifying potential illicit connections and discharges, storm drains within the City limits will be mapped. Inlets will be shown, as well as outfalls. Specific areas of concern will be identified, as appropriate. The map will be updated annually, as new storm drain installations occur.

Measurable Goals

1. Locate and inspect outfalls. Collect existing information and identify areas of incomplete information.

2. Map 25% of storm drain system annually.

3. Update the City's Master Storm Drain Map annually.

ILLICIT DISCHARGE/CONNECTION INVESTIGATION AND ABATEMENT (BMP #3-3)

Implementation Details

The City intends to implement an MS4 Maintenance Program with the goal of regular inspection, cleaning, and repair of the City's MS4. Through the MS4 Maintenance Program, the City will identify, investigate, and abate illicit discharges and connections. To assure efficient use of future City resources, the Engineering Department will assess illicit discharge potentials based on known challenges; historical and current discharge concerns; results of the routine Business and Industry Inspection Program; and analysis of the MS4 Drainage Map. Based on this information, the City will develop a series of illicit discharge/connection investigation and abatement goals and implementation strategies for use during the permit cycle.

Annually, City staff will conduct drainage facility walks of open drainage facilities starting in the sub-watersheds deemed to have the greatest risk. Field screening will be performed during these facility walks looking for evidence of illicit discharges and tracking and eliminating sources if evidence is found. Results of this exercise will assist City staff to identify abatement, and/or enforcement of illicit discharges and connections. Enforcement efforts will be coordinated with the City's Code Compliance Division to be detailed in the IDDE Ordinance.

Inspection findings will be documented on incident report forms. If illicit discharges or connections are found during MS4 maintenance activities, the Engineering Division notifies the Code Compliance staff, upon which an incident report form is completed and utilized for further investigation. This process will be refined over time.

Measurable Goals

1. Conduct an assessment of illicit discharge potentials for prioritization and allocation of City resources.

2. Conduct drainage facility walks along open drainage facilities starting with areas deemed to have the greatest risk of failure or illicit connections.

3. Develop a series of illicit discharge/connection investigation and abatement goals and implementation strategies for use during the permit cycle.

4. Track the number of illicit discharges and connections detected and their associated corrective actions.

5. When a Notice of Non-Compliance or Notice of Violation has been issued by the City, conduct follow-up inspections within one week to evaluate discharge abatement efforts; other follow-up inspections will be performed if determined to be necessary by a designated inspector.

PROGRAM EFFECTIVENESS

Effectiveness assessment is a process that stormwater program managers use to evaluate whether their programs are resulting in desired outcomes and if these outcomes are being achieved efficiently and cost-effectively. During the first two years of the stormwater program, the City will achieve Outcome Level One - Documented Activities, as defined in the *Municipal Stormwater Program Effectiveness Assessment Guidance CASQA, May 2007.* Additional effectiveness outcomes will be evaluated for this MCM beginning in year three. Chapter 7 further describes effectiveness assessment for the storm water program.

TABLE 3-1
BMPS, MEASURABLE GOALS AND IMPLEMENTATION SCHEDULE
Illicit Discharge Detection and Elimination
City of Scotts Valley

No.	BMPS	Description	Measurable Goals	Implementation Year
3 - 1	Develop a Storm Water Ordinance that Addresses Illicit Discharge	A Storm Water Ordinance will be developed and will include a section defining and prohibiting illicit discharges in to the storm sewer system.	Adoption of a Storm Water Ordinance that addresses illicit discharge. The City will adopt a Storm Water Ordinance that addresses illicit discharge. The City will adopt a Storm Water Ordinance that will include enforcement provisions for illicit discharges.	1
3 - 2	Maintain a Master Storm Drain Map	Staff will locate and inspect all outfalls and collect existing information and identify areas of incomplete information. The system will be prioritized for mapping. Each of the first four years, 25% of the complete system will be mapped.	1. Locate and inspect outfalls. Collect existing information and identify areas of incomplete information. 2. Map 25% of storm drain system annually. 3. Update the City's Master Storm Drain Map annually.	1 2-5 2-5

TABLE 3-1
BMPS, MEASURABLE GOALS AND IMPLEMENTATION SCHEDULE
Illicit Discharge Detection and Elimination
City of Scotts Valley

No.	BMPS	Description	Measurable Goals	Implementation Year
3 - 3	Illicit Discharge/Connection Investigation and Abatement	The City intends to implement an MS4 Maintenance Program with the goal of regular inspection, cleaning, and repair of the City's MS4. Through the MS4 Maintenance Program, the City will identify, investigate and abate illicit discharges and connections.	1. Conduct an assessment of illicit discharge potentials for prioritization and allocation of City resources.	4
			2. Conduct drainage facility walks along open drainage facilities starting with areas deemed to have the greatest risk of failure or illicit connections.	1
			3. Develop a series of illicit discharge/connection investigation and abatement goals and implementation strategies for use during the permit cycle.	4
			4. Track the number of illicit discharges and connections detected and their associated corrective actions.	5
			5. When a Notice of Mon-Compliance or Notice of Violation has been issued by the City, conduct follow-up inspections within one week to evaluate discharge abatement efforts; other follow-up inspections will be performed if determined to be necessary by a designated inspector.	N/A

CHAPTER 4

CONSTRUCTION SITE RUNOFF CONTROL

Polluted storm water runoff from construction sites often flows to MS4s and ultimately is discharged into local rivers ans streams. Sediment is usually the main pollutant of concern. Sediment runoff rates from construction sites are typically 10 to 20 times greater than those of agricultural lands, and 1,000 to 2,000 times greater than those of forest lands. During a short period of time, construction sites can contribute more sediment to streams than can be deposited naturally during several decades. The resulting siltation, and the contribution of other pollutants from construction sites, can cause physical, chemical, and biological harm to our nation's waters.

GRADING ORDINANCE (BMP #4-1)

Implementation Detail

During the indicated year of the Program, policies and procedures to control runoff from construction sites with a land disturbance of greater than or equal to one acre will be established. Existing ordinances will be evaluated and modified to clarify authority to address minimizing soil movement and capturing sediments from construction sites and impose penalties for violations. Residents and developers, subject to ordinance applying for projects, will be required to utilize BMPs to meet the objectives. The development community will be informed of the requirements through distribution of requirements at the planning and building counters.

The City's storm water ordinance will include enforcement provisions to address illegal discharge of sedimentation, erosion control and on-site pollutants in storm water, as well as illegal non-storm water discharge from construction sites. The City's grading ordinance currently includes requirements for erosion and sediment control on construction sites. Enforcement measures for construction violations of the storm water ordinance and grading ordinance will include issuance of official warnings, issuance of Stop Work Orders, Notices of Violation and fines for violations of the ordinances.

Measurable Goals

Develop a Storm Water Ordinance and Grading Ordinance that address construction storm water within the indicated year of the permit term.

CONSTRUCTION SITE INSPECTIONS (BMP #4-2)

Implementation Details

During the indicated year of the Program, the City will examine existing site review and inspection procedures and revise them, as appropriate, to address storm water issues. The review will include evaluating current sediment and erosion control programs, revising existing agency permit requirements and developing additional controls into planning documentation and policies, such as the CEQA initial studies checklist and General Plan.

The City will review SWPPP's prior to issuance of permits to ensure that erosion and sediment control have been addressed and evaluate BMP implementation and effectiveness during site inspections.

Also the City will review SWPPP's prior to issuance of permits to ensure that construction waste management has been addressed.

To ensure construction site operators control erosion and sediment, the engineering site inspector will inspect each construction site, of one acre or greater in size, for storm water BMP adequacy at least once between June and September and once a month between October and May. The site inspections will ensure that Storm Water BMPs are properly implemented on each project site. The inspector shall ensure the site manager is aware of any issues and note any violations of either the grading ordinance or the storm water quality ordinance and is instructed to correct problems within a designated time period. When a violation is outstanding, additional permits or sign-offs on the project should not occur until the storm water violation is corrected. The number of inspections conducted per permit and per year will be recorded.

Measurable Goals

1. Require submittal and review for adequacy of construction SWPPPs prior to issuance of grading permits. For sites larger than 1 acre, provide copies of the City's operational BMPs and require submittal of a completed copy of the SWPPP for the job before issuance of a grading permit. Track the number of grading permits issued during each permit year. Identify the size of the project,i.e.1 acre to 5 acres and 5 acres and above.

2. Inspect each construction site of one acre or greater for storm water waste control adequacy a minimum of once between June and September and once a month between October and May.

PUBLIC COMMENT (BMP #4-3)

Implementation Details

The public can play a crucial role in identifying instances of non-compliance at construction sites. During the indicated year of the permit cycle a Public Inquiry Program will be established and implemented. The program will include a process for receiving and considering public inquiries, concerns, and information submitted regarding local construction activities.

Public complaints and comments can be made in person at City Hall, to the engineering inspector when he is on-site, or by phone or email. The City will follow-up on complaints to determine if a problem situation exists and correct it if it does.

Measurable Goals

Provide an opportunity for public comments and complaints regarding construction through the City's Storm Water hotline and Storm Water Website. Record and investigate complaints from the public regarding hydrological and water quality impacts from construction sites. Strive to resolve complaint issues within 24 hours of receipt of the complaint and work. Violation components of the Storm Water Ordinance discussed earlier

would also apply to discharges from construction sites.

PROGRAM EFFECTIVENESS

Effectiveness assessment is a process that stormwater program managers use to evaluate whether their programs are resulting in desired outcomes and if these outcomes are being achieved efficiently and cost-effectively. During the first two years of the stormwater program, the City will achieve Outcome Level One - Documented Activities, as defined in the *Municipal Stormwater Program Effectiveness Assessment Guidance CASQA, May 2007*. Additional effectiveness outcomes will be evaluated for this MCM beginning in year three. Chapter 7 further describes effectiveness assessment for the storm water program.

TABLE 4-1
BMPS, MEASURABLE GOALS AND IMPLEMENTATION SCHEDULE
Construction Site Storm Water Runoff Control
City of Scotts Valley

No.	BMPS	Description	Measurable Goals	Implementation Year
4 - 1	Grading Ordinance	Existing grading ordinance will be evaluated and modified to clarify authority to address minimizing soil movement and capturing sediments from construction sites and impose penalties for violations.	Modify the existing Grading Ordinance that addresses construction storm water requirements within the indicated year of the permit term.	1

TABLE 4-1
BMPS, MEASURABLE GOALS AND IMPLEMENTATION SCHEDULE
Construction Site Storm Water Runoff Control
City of Scotts Valley

No.	BMPS	Description	Measurable Goals	Implementation Year
4 - 2	Site Construction Inspections	The City will examine existing site review and inspection procedures and revise them as appropriate to address storm water issues.	1. Require submittal and review for adequacy of construction SWPPPs prior to issuance of grading permits. For sites larger than one acre, provide copies of the City's operational BMPs and require submittal of a completed copy of the SWPPP for the job before issuance of a grading permit. Track the number of grading permits issued during each permit year. Identify the size of the project; i.e., one acre to five acres and five acres and above.	2
			2. Inspect each construction site of one acre or greater for storm water waste control adequacy a minimum of once between June and September and once a month between October and May.	3

TABLE 4-1
BMPS, MEASURABLE GOALS AND IMPLEMENTATION SCHEDULE
Construction Site Storm Water Runoff Control
City of Scotts Valley

No.	BMPS	Description	Measurable Goals	Implementation Year
4 - 3	Public Comment	As part of the Storm Water Program, a Public Inquiry Program will be established and implemented.	Provide an opportunity for public comments and complaints regarding construction through the City's Storm Water hotline and Storm Water website. Record and investigate complaints from the public regarding hydrological and water quality impacts from construction sites. Strive to resolve complaint issues within 24 hours of receipt of the complaint and work. Violation components of the Storm Water Ordinance discussed earlier would also apply to discharges from construction sites.	3

P:\sandy\storm water management plan\Table 4-4

CHAPTER 5

POST-CONSTRUCTION RUNOFF CONTROL

Post-construction storm water management in areas undergoing new development or redevelopment is necessary because runoff from these areas has been shown to significantly affect receiving water bodies. Many studies indicate that prior planning and design for the minimization of pollutants in post-construction storm water discharges is the most cost effective approach to storm water quality management.

There are generally two forms of substantial impacts of post-construction runoff. The first is caused by an increase in the type and quantity of pollutants in storm water runoff. As runoff flows over areas altered by development, it picks up harmful sediment and chemicals such as oil and grease, pesticides, heavy metals, and nutrients (e.g., nitrogen and phosphorus). These pollutants often become suspended in runoff and are carried to receiving waters, such as lakes, ponds, and streams. Once deposited, these pollutants can enter the food chain through small aquatic life, eventually entering the tissues of fish and humans.

The second kind of post-construction runoff impact occurs by increasing the quantity of water delivered to the water body during storms. Increased impervious surfaces interrupt the natural cycle of gradual percolation of water through vegetation and soil. Instead, water is collected from surfaces such as asphalt and concrete and routed to drainage systems where large volumes of runoff quickly flow to the nearest receiving water. The effects of this process include streambank scouring and downstream flooding, which often lead to a loss of aquatic life and damage to property.

Structural and non-structural BMPs are an excellent way to minimize contaminants. Both will be required at new development and redevelopment projects. Examples of structural and non-structural BMPs are as follows:

Non-Structural BMPs

- **Planning and Procedures**. Runoff problems can be addressed efficiently with sound planning procedures. Master Plans, Comprehensive Plans, and zoning ordinances can promote improved water quality by guiding the growth of a community away from sensitive areas and by restricting certain types of growth (industrial, for example) to areas that can support it without compromising water quality.

- **Site-Based Local Controls**. These controls can include buffer strip and riparian zone preservation, minimization of disturbance and imperviousness, and maximization of open space.

Structural BMPs

- **Storage Practices**. Storage or detention BMPs control storm water by gathering runoff in wet ponds, dry basins, or multi chamber catch basins and slowly releasing it to receiving waters or drainage systems. These practices both control storm water volume and settle out particulates for pollutant removal.

- **Infiltration Practices**. Infiltration BMPs are designated to facilitate the percolation of runoff through the soil to ground water and, thereby, result in reduced storm water quantity and reduced mobilization of pollutants. Examples include infiltration basins/ trenches, dry wells, and porous pavement.

- **Vegetative Practices**. Vegetative BMPs are landscaping features that, with optimal design and good soil conditions, enhance pollutant removal, maintain/improve natural site hydrology, promote healthier habitats, and increase aesthetic appeal. Examples include grassy swales, filter strips, artificial wetland, and rain gardens.

In the indicated year of the program, the City will review and modify existing ordinances and establish policies to address post-construction runoff from new and re-development that disturbs more than one acre. The ordinance will include an enforcement mechanism to ensure compliance. Specific policies and/or language will be included to reduce impervious surfaces in future development.

DEVELOP ORDINANCE (BMP #5-1)

Implementation Details

The requirements for new development and redevelopment will be incorporated into the City's Storm Water Ordinance. Conditions to ensure storm water quality will be applied to new development and redevelopment proposals as they are being processed through the Planning Division. These conditions will be enforced at the time the applicant applies for development permits. Grading plans will be reviewed by Public Works and Community Development staff to ensure conditions are met and to verify appropriate drainage information, Low Impact Development (LID) measures and storm water BMPs to reduce sediment and other pollutants in storm water BMPs to reduce sediment and other pollutants in storm water are identified on the plans. Project improvement plans will be evaluated to determine their consistency with conditions of approval intended to address post-construction storm water run-off. Inspections conducted on each site by City staff or their representatives will determine if the conditions of approval have been met.

Conditions requiring LID measures and/or alternative BMPs that will minimize run-off and reduce the rate of surface flows and pollutant loads from the development site will be applied to new development. Appropriate LID measures include, but are not limited to, detention basins, bioswales, check dams to slow velocity, directing roof and hardscape run-off to landscaped areas. These measures shall be designated to control and redirect run-off, while increasing percolation. Detention basins will be used and storm water filters will be considered to remove oil and grease, as well as trash and sediments from parking area or private street run-off, before the water enters a basin or similar catchment feature.

The City currently has and will continue to enforce post-construction requirements that benefit storm water quality and increase percolation. Each new project is required to include a specified amount of landscaping, measured as a minimum percentage of the property's size. This assists in reducing erosion and siltation. Storm water filters will be evaluated to filter storm water that drains from new commercial, industrial and multi-family developments. When storm

water filters or basins are required or incorporated into private developments, private property owners will be required to be responsible for their maintenance. The City also provides a Planned Development (PD) zoning designation that can be applied to properties allowing clustered development and development transfers. This encourages the retention of natural features such as drainages, buffering development from drainages and riparian vegetation.

Measurable Goals

Adopt a Storm Water Ordinance with post-construction hydromodification/LID requirements.

POST CONSTRUCTION BMP INSPECTION (BMP #5-2)

Implementation Details

Public Works Engineering Division provides regular inspections of projects during construction to ensure compliance with permit conditions and mitigation measures. The project's Conditions of Approval related to construction activity may vary, however, all include water quality protection. As such, all projects are required to incorporate storm water control measures intended to protect water quality. These control measures typically apply to construction activities (temporary); however, implementation of long-term post-construction storm water control measures (e.g., structural features, bioswales, drainage design, and re-vegetation) will also be necessary to reduce the discharge of pollutants to the MS4 and protect downstream water quality.

Certain long-term control measures will require a maintenance program approved by the Engineering Division and Community Development Department. These maintenance programs shall be documented on the approved plan set and Conditions of Approval and/or Covenants, Conditions and Restrictions (CC&R's) where applicable. These documents shall require the owner of the land, a homeowner's association (residential subdivision), or business owner (commercial or industrial) to administer its implementation. During construction of post-construction storm water controls, construction site inspections will be utilized to assure proper siting and adherence to construction specifications. These inspections will be conducted by the Building Division. Additionally, the City will institute post-construction storm water control inspections to ensure proper long term operation and maintenance of post-construction storm water facilities in accordance with pre-defined project Conditions of Approval and CC&R's. These inspections will be performed by the City Engineering Department. Post-construction storm water control inspections will be documented and deviations from the project's Conditions of Approval and CC&R's noted. The City will develop a system for tracking and resolving such operations and maintenance deficiencies.

Measurable Goals

1. Develop and document a methodology for conducting post-construction storm water control inspections and enforcement, ensure tracking and dispute resolution is addressed.

2. Inspect all post-construction storm water controls for adherence to project Conditions of Approval and/or CC&R's with the primary goal of ensuring adequate operations and maintenance.

3. Establish biennial training for building and erosion and sediment control inspectors.

TOTAL MAXIMUM DAILY LOAD (TMDL)

The Federal Clean Water Act requires the development of TMDL's and implementation plans to bring impaired water bodies back into compliance with water quality objectives. A Sediment TMDL and a Pathogen TMDL have been developed for Carbonero Creek and/or Camp Evers Creek in the City of Scotts Valley.

These TMDL's identify the stormwater systems as sources of sediment and fecal indicator bacteria (FIB). However, it must be kept in mind that there are also other sources, including natural sources and uncontrollable sources, particularly for FIB. While the goal of the TMDL's and associated Implementation Plans is to reduce pollutant loading from each source to levels that will allow water quality objectives to be met, research by Santa Cruz County and others suggest that the goals for FIB cannot be met in urban areas. Nevertheless, the BMP's in the stormwater management plan have been developed to reduce controllable sources of FIB that are conveyed by the storm drain system to the maximum extent practicable.

The BMP's contained in this SWMP have been developed specifically to implement recommendations and address the sources identified in the TMDL implementation plans and supporting documents. The background material used in the development of the TMDL's included source identification and prioritization; BMP identification and prioritization, monitoring program development and coordination with stakeholders, as needed to attain the recommended wasteloads. A goal of the SWMP is not to target BMP's to specific TMDL's or geographic areas, but to implement the BMP's throughout the management area to reduce controllable sources of sediment and FIB associated with the storm drain system to the maximum extent practicable.

The effectiveness of these BMP's toward meeting water quality objectives will be assessed on at triennial basis, in conjunction with the Regional Water Board's mandated triennial review of TMDL implementation for all sources. This review may result in further refinement of BMP's for greater effectiveness or refinement of water quality objectives to recognize the effect of uncontrollable sources of pollutants.

The primary pollutants of concern specific to the City of Scotts Valley are fecal indicator bacteria, sediment and nutrients. These pollutants of concern will be addressed throughout the City.

CARBONERO CREEK SEDIMENT TMDL (BMP #5-3)

Implementation Details

TMDL for sediments in Carbonero Creek became effective on December 18, 2003. During TMDL development, Central Coast Water Board staff developed seven trackable implementation actions to be undertaken by the City of Scotts Valley. In January 2007, the water board requested the City to submit the first triennial report for those actions. The water board staff concluded that the City made, "significant progress towards implementing the actions and continued their commitment to sediment control". Water Board staff indicated that "triennial reviews will serve as a tool to communicate progress towards 'tangible results',

demonstrating whether or not the water board and implementing parties are achieving water and habitat quality improvements." As water board staff indicated, "the trackable implementation actions table illustrates implementation actions that will address the problem of sediment control in the San Lorenzo River watershed". The TMDL identifies the need to evaluate numeric target date but as stated by water board staff, "It is important to note that evaluation of numeric targets can only be performed if funding is secured to conduct the monitoring".

Measurable Goals

Assess on a triennial basis, the effectiveness of these BMP's toward meeting water quality objectives. This review may result in further refinement of BMP's or refinement of water quality objectives to recognize the effect of uncontrollable sources of pollutants.

CARBONERO CREEK / CAMP EVERS CREEK PATHOGENS TMDL (BMP #5-4)

Implementation Details

The RWQCB adopted the TMDL for pathogens in Carbonero Creek and Camp Evers Creek on March 21, 2008. The TMDL includes a source analysis indicating the opinion that the relative order of controllable sources, in descending order, are storm drain discharges, pet waste, homeless encampments, septic systems, domesticated animals, City sanitary sewer collection system leaks, including private laterals.

The BMP's contained in this SWMP have been developed specifically to implement recommendations and address the sources identified. A goal of the SWMP is not to target BMP's to specific TMDL's, but to implement the BMP's throughout the management area to reduce controllable sources of FIB associated with the storm drain system to the maximum extent practicable.

Measurable Goals

1. Submit pathogen specific best management practices.

2. Submit a fecal indicator bacteria monitoring and reporting plan.

HYDROMODIFICATION CRITERIA

In response to the February 15, 2008, letter from the Central Coast Regional Water Quality Control Board (Water Board) regarding hydromodification control requirements, the County of Santa Cruz, City of Santa Cruz, City of Watsonville and City of Scotts Valley established a strategy to develop alternative hydromodification criteria. The goal of the criteria is to determine an economically viable and practicable hydromodification management strategy that will provide protection of water resources to the maximum extent practicable.

The strategy was submitted to the Water Board in May 2008 and included in the following elements:

- Evaluating existing Hydromodification Criteria

- Evaluating Protection of Beneficial Uses
- Meeting with Water Board Staff
- Developing Alternative Hydromodification Criteria for Santa Cruz Agencies
- Plan Milestones

The agencies will determine hydromodification MBP's and measurable goals based on the alternative Hydromodification criteria developed.

HYDROMODIFICATION MANAGEMENT PLAN (BMP #5-5)

The City of Scotts Valley, in conjunction with Santa Cruz County and the municipalities within the County, has established a strategy to develop hydromodification standards for new and redevelopment projects. The primary goal of the HMP is to determine an economically viable and effective set of Scotts Valley specific hydromodification control standards that will provide protection of water resources (e.g., water quality, beneficial uses, biological and physical integrity of watersheds and aquatic habitats) to the maximum extent practical.

Implementation Details

The City is working in coordination with regional agencies to develop hydromodification criteria that will be specific to the watersheds of Santa Cruz County. A considerable effort will be put forth in developing criteria that are protective of the watersheds and address increases in peak flow and runoff volume where such increased flow and/or volume is likely to cause increased erosion of creek beds and banks, silt pollutant generation, or other impacts to beneficial use.

Measurable Goals

1. Develop hydromodification criteria.
2. Develop BMP's and measurable goals.
3. Determine methods used to assess effectiveness.
4. Assess criteria for effectiveness and revise BMP's to protect watershed health.
5. Determine if further watershed data is needed and refine the existing hydromodification criteria.

PROGRAM EFFECTIVENESS

Effectiveness assessment is a process that stormwater program managers use to evaluate whether their programs are resulting in desired outcomes and if these outcomes are being achieved efficiently and cost-effectively. During the first two years of the stormwater program, the City will achieve Outcome Level One - Documented Activities, as defined in the *Municipal Stormwater Program Effectiveness Assessment Guidance CASQA, May 2007.* Additional effectiveness outcomes will be evaluated for this MCM beginning in year three. Chapter 7 further describes effectiveness assessment for the storm water program.

TABLE 5-1
BMPS, MEASURABLE GOALS AND IMPLEMENTATION SCHEDULE
Post Construction Storm Water Management
City of Scotts Valley

No.	BMPS	Description	Measurable Goals	Implementation Year
5 - 1	Develop Ordinance	The requirements for new development and redevelopment will be incorporated into the City's Storm Water Ordinance.	Adopt a Storm Water Ordinance with post-construction hydromod/LID requirements.	4
5 - 2	Post Construction BMP inspection.	Provide regular inspections of projects during construction to ensure compliance with permit conditions and mitigation measures.	1. Develop and document a methodology for conducting post-construction storm water control inspections and enforcement, ensure tracking and dispute resolution is addressed. 2. Inspect all post-construction storm water controls for adherence to project conditions of approval and/or CC&R's with the primary goal of ensuring adequate operations and maintenance. 3. Establish biennial training for building and erosion and sediment control inspectors.	3 3 3
5 - 3	Carbonero Creek Sediment TMDL	Continue to make significant progress towards implementing the seven trackable implementation actions.	Assess on a triennial basis, the effectiveness of these BMP's toward meeting water quality objectives. This review may result in further refinement of BMP's or refinement of water quality objectives to recognize the effect of uncontrollable sources of pollutants.	3

TABLE 5-1
BMPS, MEASURABLE GOALS AND IMPLEMENTATION SCHEDULE
Post Construction Storm Water Management
City of Scotts Valley

No.	BMPS	Description	Measurable Goals	Implementation Year
5 - 4	Carbonero Creek / Camp Evers Creek Pathogens TMDL	Comply with implementation requirements of Resolution No. R3-2008-0001 TMDL for pathogens in Camp Evers Creek and Carbonero Creek for storm drain discharges to MS4s.	1. Submit pathogen specific best management practices. 2. Submit a fecal indicator bacteria monitoring and reporting plan.	2 2
5 - 5	Hydromodification Criteria	Determine an economically viable and practicable hydromodification management strategy that will provide protection of water resources to the maximum extent practicable.	1. Develop hydromodification criteria. 2. Develop BMP's and measurable goals. 3. Determine methods used to assess effectiveness. 4. Assess criteria for effectiveness and revise BMP's to protect watershed health. 5. Determine if further watershed data is needed and refine the existing hydromodification criteria.	2 2 2 2 2

P:\sandy\storm water management plan\Table 5-5

CHAPTER 6

POLLUTION PREVENTION/GOOD HOUSEKEEPING

The Pollution Prevention/Good Housekeeping for municipal operations minimum control measure is a key element of the small MS4 storm water management program. This measure requires the small MS4 operator to examine and subsequently alter their own actions to help ensure a reduction in the amount and type of pollution that: (1) collects on streets, parking lots, open spaces, and storage and vehicle maintenance areas and is discharged into local waterways; and (2) poor maintenance of storm sewer systems.

This measure is meant primarily to improve or protect receiving water quality by altering municipal or facility operations.

During the indicated year of the program, several aspects of maintenance operations will be evaluated and specific new procedures established. Inlet maintenance will be added to current street cleaning efforts.

The City of Scotts Valley is committed to reducing storm water pollution from municipal operation sources. The City's Wastewater Treatment Plant operates under separate a Industrial NPDES storm water permit. Therefore, this SWMP does not directly address their requirements for storm water control identified in their individual permits. However, where crews associated with the Wastewater Treatment Plant are working off the Treatment Plant site, they are expected to comply with these BMPs. These BMPs are also to be applied to activities that take place on City properties not under separate permit and will be inspected annually.

Storm water BMPs applicable to City operations were identified and circulated to the various departments for review and comment. Sample Citywide BMPs can be found in Appendix A.

CITY STORM DRAIN MAINTENANCE (BMP #6-1)

Implementation Details

25% of the City's storm drain inlets will be annually cleaned out prior to the fall rains.

Measurable Goals

> 25% of the City's storm drain inlets shall be cleaned once a year in the fall and inspected each spring to determine if they need to be cleaned at that time as well. Records shall be kept of the dates and times that these activities occur each year.

STREET SWEEPING OPERATIONS (BMP #6-2)

Implementation Details

The City's goal is sweeping all City streets every two months with the exception of the first flush time frame. The entire City is swept in late Fall as the season of early rains approaches. When the weather forecasts the season's first storm where flow is expected in gutters and the drain system an additional City-wide street sweeping operation is performed. Sweepers are called out to assist in clean-up after vehicular accidents and when appropriate, to clean-up hazardous

materials spills. Contractors and businesses are required to specially sweep areas where soil or sediment has been deposited. Residuals from the sweepers are disposed of at the Landfill. City-owned parking lots are swept at least twice a year, once before the rainy season.

Measurable Goals

All public streets shall be swept every two months with specific first flush consideration. City-owned parking lots shall be swept at least twice a year, including once before the rainy season. Records shall be kept of the dates and times that these activities occur each year.

CITYWIDE BMPs (BMP #6-3)

Implementation Details

The City has developed sample Best Management Practices to prevent storm water pollution in City operations. Sample BMPs can be found in Appendix A of this document. The City's BMPs are subject to change as City operations change and as BMPs are tested for effectiveness. The Citywide BMPs will be addressed in the City's Storm Water Ordinance.

Measurable Goals

The City's Citywide BMPs shall be followed by each Department and Division, as they are applicable to the Department's or Division's responsibilities. All City Departments and Divisions are to obtain storm water educational information.

TRAINING (BMP #6-4)

Implementation Details

Conduct Storm Water BMP Training of City Staff. City staff shall be trained in the provisions of the Citywide BMPs, as they are applicable to each staff member's job requirements. Outside training will be provided for some Departments/Divisions when it is provided locally and funds are available to send employees. Outside training opportunities will be offered primarily to representatives of those Divisions that are most involved in administering segments of the SWMP (Engineering and Planning) as well as representatives of those Divisions responsible for maintaining separate industrial storm water permits.

In-house training will be provided at least once a year to Engineering, Planning, Building, Streets, and Wastewater divisions. Training will include Storm Water, LID and Hydromodification concepts; SWMP responsibilities; illicit discharge detection and elimination and specific BMPs related to the Departments'/Divisions' activities. Copies of the Citywide BMPs will be made available, as well as any BMP specific handouts that apply to the activities of the Department/Division being trained.

In addition, some storm water training will be integrated into existing training opportunities, such as Safety Training and Tailgate meetings. Records of training sessions and staff attendance shall be maintained for the permit term.

Measurable Goals

City staff shall be trained in concepts related to storm water pollution prevention, LID and Hydromodification and in the provisions of the Citywide BMPs, as they are applicable to each staff member's job requirements. Records shall be kept to document all storm water training attended by City staff.

PROGRAM EFFECTIVENESS

Effectiveness assessment is a process that stormwater program managers use to evaluate whether their programs are resulting in desired outcomes and if these outcomes are being achieved efficiently and cost-effectively. During the first two years of the stormwater program, the City will achieve Outcome Level One - Documented Activities, as defined in the *Municipal Stormwater Program Effectiveness Assessment Guidance CASQA, May 2007.* Additional effectiveness outcomes will be evaluated for this MCM beginning in year three. Chapter 7 further describes effectiveness assessment for the storm water program.

TABLE 6-1
BMPS, MEASURABLE GOALS AND IMPLEMENTATION SCHEDULE
Pollution Prevention/Good Housekeeping for Municipal Operations
City of Scotts Valley

No.	BMPS	Description	Measurable Goals	Implementation Year
6 - 1	City Storm Drain Maintenance	25% of the City's storm drain inlets will be annually cleaned out prior to the fall rains.	25% of the City's storm drain inlets shall be cleaned once a year in the fall and inspected each spring to determine if they need to be cleaned at that time as well. Records shall be kept of the dates and times that these activities occur each year.	2-5
6 - 2	Street Sweeping Operations	The City's goal is sweeping all City streets every two months with the exception of the first flush time frame. When the weather forecasts the season's first storm where flow is expected in gutters and the drain system, an additional City-wide street sweeping operation is performed.	All public streets shall be swept every two months with specific first flush consideration. City-owned parking lots shall be swept at least twice a year, including once before the rainy season. Records shall be kept of the dates and times that these activities occur each year.	1
6 - 3	Citywide BMPS	The City has developed sample Best Management Practices to prevent storm water pollution in City operations.	The City's Citywide BMPs shall be followed by each Department and Division, as they are applicable to the Department's or Division's responsibilities. All City Departments and Divisions are to obtain storm water educational information.	1

TABLE 6-1
BMPS, MEASURABLE GOALS AND IMPLEMENTATION SCHEDULE
Pollution Prevention/Good Housekeeping for Municipal Operations
City of Scotts Valley

No.	BMPS	Description	Measurable Goals	Implementation Year
6 - 4	Training	City staff shall be trained in the provisions of the Citywide BMPs as they are applicable to each staff member's job requirements.	City staff shall be trained in concepts related to storm water pollution prevention, LID and Hydromodificationo and in the provisions of the Citywide BMPs as they are applicable to each staff member's job requirements. Records shall be kept to document all storm water training attended by City staff.	1

P:\sandy\storm water management plan\Table 6-6

CHAPTER 7

PROGRAM EFFECTIVENESS ASSESSMENT

PROGRAM EFFECTIVENESS ASSESSMENT (BMP #7-1)

Implementation Details

Effectiveness assessment is a process used to evaluate whether a stormwater program is meeting the performance standards and if the performance standards are being achieved efficiently and cost-effectively. The Phase II NPDES General Permit contains requirements for annual review of the SWMP's effectiveness, BMP's effectiveness and improvement opportunities to achieve MEP.

While it is known that effectiveness assessment is a fundamental and necessary component for developing and implementing a successful stormwater program, methods for conducting such assessments are less known. For over 10 years, Phase I Stormwater communities have been faced with increasing pressures to demonstrate effectiveness of programs without specific guidance in conducting these assessments. Therefore, these programs have historically relied on regular evaluation of program elements and control measures to ensure progress is being made towards achieving broader program goals.

In May 2007, the California Stormwater Quality Association (CASQA) developed the *Municipal Stormwater Program Effectiveness Assessment Guidance* to assist stormwater program managers in designing and conducting program effectiveness assessment using a range of assessment methods. As described in the CASQA Guidance document, BMP's, program elements or the overall stormwater program can be categorized as having one or more of six levels of outcomes. Outcomes being defined as the result of implementing a stormwater BMP, program element or overall program implementation.

The City will use the CASQA Guidance Document *Level One Outcomes* (documenting activities) during the first two years of program implementation. This will allow City staff to become familiar with the basics of the stormwater program and allow program staff to become fluent in the various BMP's and measurable goals of the stormwater Program.

In year four, the City will develop an effectiveness assessment strategy based on the principles outlined in the CASQA Guidance Document. The strategy will be submitted as an update to the SWMP with the year four annual report. The strategy will describe actions that will be taken to assess the effectiveness of the SWMP in meeting regulatory requirements and improving water quality and beneficial use conditions. The strategy will specifically address the following:

- Identifying a process to be used to conduct effectiveness assessments and improve BMP implementation.
- Identifying quantifiable BMP and program effectiveness measurements.
- Assessing BMP implementation in terms of regulatory compliance, changing awareness, changing behavior, pollutant load reductions and runoff and receiving water quality.

Measurable Goals

1. Develop an assessment strategy using CASQA Level One Outcomes.

2. Develop an assessment strategy based on the principles outlined in the CASQA Guidance Document.

TABLE 7-1
BMPS, MEASURABLE GOALS AND IMPLEMENTATION SCHEDULE
Program Effectiveness Assessment
City of Scotts Valley

No.	BMPS	Description	Measurable Goals	Implementation Year
7 - 1	Program Effectiveness Assessment	The City will develop an effectiveness assessment strategy based on the principles outlined in the CASQA Guidance Document.	1. Develop an assessment strategy using CASQA Level One Outcomes. 2. Develop an assessment strategy based on the principles outlined in the CASQA Guidance Document.	2 4

P:\sandy\storm water management plan\Table 7-7

APPENDIX A

CITY OF SCOTTS VALLEY MUNICIPAL OPERATIONS

BEST MANAGEMENT PRACTICES

In Designing and Planning City Projects, All City Departments Shall Strive to do the Following:

1. Preserve drainages in a natural state.

2. Where practical, use alternate paving material that allows percolation, such as gravel or turf-block.

3. Provide vegetation or other cover, such as gravel, in dirt areas, to prevent erosion and sedimentation.

4. Use low maintenance landscaping.

5. Remove existing mature vegetation only when absolutely necessary.

6. Prevent unnecessary disturbance by establishing clear limits to work zones, delineating limits of work and sensitive or critical areas. Critical areas, vegetation, trees, creek beds and buffer zones, which are to be protected, shall be delineated in the field with fencing and/or survey tape.

7. Avoid construction on steep slopes when practical.

8. Minimize cut and fill as much as possible.

9. Align temporary and permanent roads and driveways along slope contours where possible.

10. Phase large scale grading operations to minimize the amount of time disturbed areas are exposed.

11. Avoid excavation and grading during wet weather when practical.

All City Operations Shall Comply With Each of the Following Requirements:

-Outdoor storage and hazardous materials storage:

1. Keep lids on all containers and store under cover.

2. Use secondary containment for hazardous materials and protect from rain. Store hazardous materials in an area where sills will not reach storm drains.

3. Label all hazardous materials according to hazardous waste regulations.

4. Do not combine wastes when storing them. This increases safety, recycling and disposal

options and reduces disposal costs.

5. Never mix waste oil with fuel, antifreeze or chlorinated solvents.

6. Use secondary containment on all bulk fluids stored in amounts in excess of 55 gallons and wastes to prevent accidental discharge. Secondary containment includes, but is not limited to, berming around storage areas and use of absorbents.

7. Keep storage areas clean and dry. Conduct regular inspections of storage areas to detect leaks and spills.

8. Store new or used batteries securely to avoid breakage and acid spills during earthquakes. When stored outdoors, batteries shall be covered with plastic tarp to protect them from rain.

9. Recycle old batteries.

10. Wood products treated with chromated copper arsenate, ammoniacal copper zinc arsenate, creosote, or pentachlorophenol should be covered with tarps.

11. Cover stockpiled soil, construction materials and waste with plastic sheeting or temporary roofs where practical.

12. When procuring new refuse containers, purchase containers with lids.

Construction, Grading and Erosion Control

1. Minimize clearing and grading activity. Clear and grade only during dry weather when possible.

2. Construct stabilized access roads and entrances.

3. Use appropriate methods to ensure that soil is not tracked into City streets, such as gravel entrances, street sweeping and tire washes, as necessary.

4. Identify all storm drains, drainage swales and creeks located near construction areas, make sure all subcontractors are aware of storm drain locations and the need to prevent pollutants from entering them.

5. Use berms or drainage ditches to capture and divert natural run-off away from the construction site.

6. Protect storm drain inlets from sediment-laden run-off. Storm drain inlet protection devices include, but are not limited to, sandbag barriers, filter fabric fences, block and gravel filters and excavated drop inlet sediment traps.

7. Use as little water as possible for dust control during grading operations.

8. If soil stockpiles are to be stored in high wind areas, consider use of a chemical dust suppressant.

9. Use installed straw bale barriers, silt fencing, sand bag barriers, brush or rock filters,

temporary sediment basins, sediment traps or temporary vegetation on slopes to reduce run-off velocity and trap sediments. Do not use asphalt rubble or other demolition debris for this purpose.

10. Earth dikes, drainage swales and ditches, slope drains and subsurface drains, velocity dissipation devices, flared culvert end sections, check dams, slope roughening, terracing and rounding, shall be used to ensure proper drainage and soil retention once a project is completed or when a phase of a project is completed.

11. When cleaning sediments from streets, driveways and paved areas on construction sites, use a standard dry sweeper with a water system to control dust whenever possible. Dispose of solids at the landfill, and run the remaining swept material through a clarifier with approved sediment/oil separators. Dispose of the clean water into the storm drain and dispose of the residual oils as hazardous waste.

12. Install cover materials such as vegetative debris, mulch, crushed stone, geo-textile, fabric erosion control blankets, soil stabilizers, and temporary seeding and planting to reduce erosion during and after clearing and grading operations.

13. When de-watering a site, remove sediment from the discharge, using filtration methods or if the site is large enough, use a discharge pond to allow the clear water to percolate into the groundwater table leaving sediments on the surface. If the material is drilling mud, or testing indicates that it is contaminated, dispose of it as required by law.

14. Clean up leaks and spoils on the construction site immediately.

15. When placing or removing concrete, ensure that wet concrete, cement and its components or concrete dust do not enter storm flows.

16. Refuel and perform emergency repairs on vehicles and heavy equipment in a designated protected location. Protect the soil from leaks and spills. If refueling or repair must be done away from the fuel station or garage, try to do so away from storm inlets, storm channels and the river.

17. Ensure that spill kits are readily available to construction sites and vehicles.

18. Wash vehicles at an appropriate off-site facility. If equipment must be washed on-site, do not use soaps, solvents, de-greasers, or steam cleaning equipment and prevent wash water from entering the storm drain.

19. Cover construction materials, stockpiled soil and waste with plastic sheeting or temporary roofs, prior to expected rain. Sweep and remove materials from surfaces that drain to storm drains, the river and channels prior to expected rain.

20. Place refuse containers and recycling receptacles around construction sites to reduce litter.

21. Recycle or reuse leftover materials whenever possible.

22. Dispose of all wastes properly. Material that cannot be recycled or reused must be taken to the landfill, hazardous waste collection facility or shipped as hazardous waste.

23. Train employees and supervisors to implement these requirements.

24. When transporting material to and from the construction area, cover or reduce the height of loads so that earthen material and debris do not blow out of the truck.

25. Avoid flushing streets with water. If flushing street or wet cleaning is required, sweep and remove debris beforehand, plug storm inlets, collect wash water and dispose of as required by law. Alternately, allow wash-water to drain to the storm drain and collect it downstream at a manhole or storm drain clean out and dispose as required by law.

26. If drilling is to occur near a watercourse, ensure that all appropriate permits are obtained.

Paint Work

1. Never clean brushes or rinse paint containers into a street gutter, storm drain or creek or where they will end up in a gutter, storm drain or creek.

2. When finished painting, use up water-based paint in brushes and then rinse them into the sanitary sewer (indoor plumbing).

3. When stripping building exteriors with high pressure water, cover or berm storm drain inlets. If possible, collect building cleaning water and discharge to the sanitary sewer, if disposal is approved by Wastewater. If the substances test too high in critical elements to be disposed of in the sanitary sewer, dispose of wash water as a hazardous material.

4. If power washing or stripping surfaces painted with lead paint, block storm drains, contain and vacuum water and test water for lead. If lead above threshold levels is found, proper disposal methods shall be followed.

5. Once finished with oil-based painting, paint out brushes to the extent possible and filter and reuse thinners and solvents. Dispose of unusable thinners and residue as hazardous waste.

6. Return unused water-based (latex) paint, properly contained, back to the supplier, or turn it in to the Household Hazardous Waste Collection Facility (HHWCF) where it will be processed and reused.

7. Dry latex paint and paint cans with dried paint may be disposed of in the garbage.

8. Take unwanted oil-based paint, paint thinners and sludges to the HHWCF or ship as hazardous waste.

9. Clean equipment including sprayers and sprayer paint supply lines at the end of each day, collecting and disposing of wash water and excess paint properly.

Cement and Concrete Work

1. Saw cut concrete in dry weather whenever possible. Protect nearby storm drain inlets and water bodies with sandbags around inlets and work areas where debris could be introduced into a water body.

2. After removal, recycle concrete material and sweep area thoroughly.

3. Use as little water as possible during saw cutting operations. Block or berm around storm inlets, drainage channels and watercourses with sandbags or absorbent materials to contain slurry. If slurry enters the storm system, remove immediately.

4. When saw cutting to make repairs to utility lines or for other repairs, collect and deposit debris and earth away from any water and ensure that pollutants do not contact water from saw cutting or necessary repair work.

5. Remove Saw cut slurry with a shovel or vacuum or by sweeping when dry as soon as possible.

6. Avoid mixing excess fresh concrete or cement mortar on-site.

7. Store dry and wet concrete materials under cover protected from rain and run-off.

8. Wash out concrete transit mixers only in wash out areas where water will flow into settling ponds of dirt, aggregate base or sand located away from a watercourse. If possible, recycle wash water by pumping back into mixers for reuse. Do not dispose of washout into storm system.

9. Whenever possible, reuse or recycle small amounts of excess concrete, grout and mortar. Allow excess to set in concrete forms and reuse or dispose of excess at the landfill.

Municipal Pool and Water Features

1. Discontinue use of chlorine, allowing chlorine to dissipate through aeration, dechlorination or neutralization of previously chlorinated water, prior to discharge. Test for presence of chlorine prior to discharge and ensure dechlorination before discharge.