City of Santa Cruz

Storm Water Management Plan

Prepared for the California State Water Resources Control Board in compliance with the Phase II NPDES General Permit for Discharges of Storm Water from Small Municipal Separate Storm Sewer Systems

Revision #4
Due October 24, 2008

City of Santa Cruz
Storm Water Management Plan

Table of Contents

Overview

Chapter 1: Municipal Operations Program/Pollution Prevention and Good Housekeeping

Chapter 2: Illicit Discharge Detection and Elimination Program

Chapter 3: Public Participation Program

Chapter 4: Public Education

Chapter 5: Construction Site Storm Water Runoff Control Program

Chapter 6: Post-Construction Storm Water Management Control Program

Chapter 7: Industrial Facilities Control Program

Chapter 8: Commercial Facilities Control Program

Chapter 9: Addressing TMDLs in the SWMP

Chapter 10: SWMP Program Management

Attachments

1. City Government Organizational Chart
2. Storm Water Ordinance
3. Excavation and Grading Ordinance
4. Zoning Ordinance
5. Title 4 of the Municipal Code
6. Door Hanger
7. Clean Ocean Business Decal
8. BMP Brochure for Municipal Operations
9. BMP Brochure for Construction Work-English
10. BMP Brochure for Construction Work-Spanish
11. BMP Handout for Painting-English
12. BMP Handout for Painting-Spanish
13. BMP Handout for Masonry and Concrete Work-English
14. BMP Handout for Masonry and Concrete Work-Spanish
15. BMP Brochure for Development and Remodeling Projects
16. Residential Pollution Prevention Tips Brochure: Home Maintenance, Painting and Repair
17. Residential Pollution Prevention Tips Brochure: Garden, Pool and Spa Maintenance
18. Residential Pollution Prevention Tips Brochure: Vehicle Repair and Washing
19. BMP Brochure for Industrial Facilities
20. BMP Checklist for Industrial Facilities
21. BMP Brochure for Vehicle Service Facilities-English
22. BMP Brochure for Vehicle Service Facilities-Spanish
23. BMP Brochure for Food Service Facilities-English
24. BMP Brochure for Food Service Facilities-Spanish
25. BMP Brochure for Retail and Commercial Businesses

26. City-Wide Creeks and Wetlands Management Plan, Chapter 4: Watercourse Development Permit Procedures
27. City-Wide Creeks and Wetlands Management Plan, Appendix H: Summary of Adopted or Pending Management Plans
28. Plan for Developing Alternative Hydromodification Criteria & RWQCB Approval Letter
29. Map of the Pump Stations/Wet Wells Along the Lower San Lorenzo River
30. RWQCB letter "Addressing Total Maximum Daily Loads in Storm Water Management Plans" dated July 2, 2008
31. Implementation Plan for the San Lorenzo River Sediment TMDL Triennial Report-February 2007
32. Map of the City of Santa Cruz

OVERVIEW

I. Introduction

Urban runoff and other "non-point source" discharges are regulated by the 1972 Federal Clean Water Act (CWA), through the National Pollutant Discharge Elimination System (NPDES) permit program. The NPDES permit program is implementing non-point source regulations in two phases. Phase I regulations, effective since 1990, require NPDES permits for storm water discharges for certain specific industrial facilities and construction activities, and for municipalities with a population size greater than 100,000. Phase II regulations expand the NPDES program to include all municipalities with urbanized areas and municipalities with a population size greater than 10,000 and a population density greater than 1,000 persons per square mile. Phase II regulations also expand the NPDES program to include construction sites of 1 to 5 acres.

The City of Santa Cruz (City) has developed a Storm Water Management Program (SWMP) in order to fulfill the requirements of the Phase II NPDES General Permit for Discharges of Storm Water from Small Municipal Separate Storm Sewer Systems (MS4) (General Permit) and to reduce the amount of pollutants discharged in urban runoff. The City's program is based on the requirements and guidelines of the General Permit. The Model Urban Runoff Program, developed by the Cities of Santa Cruz and Monterey, the California Coastal Commission, the State Water Resources Control Board, Monterey Bay National Marine Sanctuary, AMBAG and Woodward-Clyde Consultants, was also used to develop the SWMP.

Prior to developing a SWMP, the City mapped the watersheds and land uses within each watershed, in order to assess resources and urban runoff issues. The City also identified the potential sources of pollutants within each watershed. Upon review of the watersheds and the potential sources of pollutants, the City determined to focus its effort on sediment and bacteria within the San Lorenzo watershed. This coincides with the TMDL identified pollutants. Beyond this focus the City will take an overall approach to reducing these pollutants in other watersheds and all other urban runoff pollution.. This is primarily because there are multiple land uses within each of the City's watersheds and because no other single watershed is significantly more impaired than another. Also, the City concluded that an overall approach, aimed at reducing urban runoff pollution from each and all of the identified significant sources, would result in a more thorough and effective SWMP.

In compliance with the Phase II regulations, the City has developed a comprehensive SWMP that is designed to reduce the discharge of pollutants to the Maximum Extent Practicable (MEP) and to protect water quality. The SWMP is tailored to meet the City's needs and requirements. The SWMP includes the six required control programs and the two recommended control programs for industrial facilities and commercial facilities. Thus, the eight control programs are as follows:

- Municipal Operations/Pollution Prevention and Good Housekeeping
- Illicit Discharge Detection and Elimination
- Public Participation
- Public Education
- Construction Site Storm Water Runoff Control
- Post Construction Storm Water Management
- Industrial Facilities
- Commercial Facilities

These eight programs will work together to comprise a well-rounded and multi-faceted approach to reducing urban runoff pollution within the City. The programs include urban runoff control policies, outreach and education efforts, site visits, and the implementation of Best Management Practices (BMPs).

It is important to the City to implement a well rounded SWMP so that healthy watersheds are maintained and pollutants are kept from degrading our creeks, water bodies, the San Lorenzo River, and Monterey Bay. Implementation of the SWMP should be effective towards protecting our natural resources, including preserving the water quality and habitat in our aquatic ecosystems. It is also important to the City that our beaches are clean and safe for swimming, and that the Monterey Bay National Marine Sanctuary remains a healthy marine environment.

II. Municipal Assessment

Characteristics of the City

The City of Santa Cruz is one of the oldest cities in California. Founded in 1791 and incorporated in 1866, it is located approximately 75 miles south of San Francisco and is situated on the northern shore of Monterey Bay.

The City occupies a picturesque location along the banks of the San Lorenzo River, between the Pacific Ocean and the Santa Cruz Mountains. The City limits enclose approximately 12 square miles. Public and privately owned lands along the City's western, northern and eastern boundaries form a greenbelt of open space land uses which include agriculture and grazing lands, natural areas, parks, coastal recreation and low-density residential areas. The major industries are tourism, manufacturing, food processing, and high tech firms. About 10% of the land area of the County is devoted to State Parks, several of which are within or adjacent to the City limits. The climate is mild. The average high temperature is 69 degrees Fahrenheit and the average low temperature is 44 degrees Fahrenheit. Rainfall averages 32 inches per year.

Santa Cruz is the largest city in Santa Cruz County and serves as the County seat. It has been the urban center of the County providing employment and commercial, governmental, social, educational and cultural services to the area. The establishment and growth of the University of

California/Santa Cruz have reinforced the City's role as a major social and cultural center. In 2001, the City had a population of 54,593 people including the residents on the University of California/Santa Cruz (UCSC) campus. Subtracting out the 4,179 students and professors that live on the UCSC campus, the City's population is 50,414.

The City is governed by a City Council comprised of the Mayor and six Council members. The seven Council members are elected for four-year terms. Each year in November, the Council elects one of its members as Mayor and another as Vice Mayor. The City Council sets the policy for the City and appoints citizens to serve on boards, commissions, committees, and task forces to assist and advise in formulating policy. These advisory bodies provide recommendations to assist the Council in making decisions. While the City Council functions as the governing body, the day-to-day management is handled by the City Manager. City functions are distributed between ten departments. The City's organizational structure is included in Attachment 1.

The City exercises zoning control and provides public services including water, sewer, refuse, parks, police, and fire protection. The City also has a Local Coastal Program, certified by the California Coastal Commission, which requires all projects in the Coastal Zone to be approved by the City. The City currently has a Storm Water Utility Program to fund flood control and storm water programs.

A map of the City including the city boundaries, waterways, and storm drain outfalls is included in Attachment 31.

Watersheds

San Lorenzo River Watershed

Much of the City of Santa Cruz lies within an alluvial fan that drains into the San Lorenzo River watershed basin. The San Lorenzo River flows from the summit elevations of the local Santa Cruz Mountains, through the City of Santa Cruz and the Coastal Zone, and out into the Monterey Bay National Marine Sanctuary and the Pacific Ocean. The entire city lies within the river's watershed and receives runoff from areas outside of its jurisdiction. Additional agencies responsible for water quality within the watershed including in and outside of the City boundaries include: County of Santa Cruz, California Department of Parks, California Department of Fish and Game, California Coastal Commission, California Regional Water Quality Control Board, California Environmental Protection Agency, National Oceanic Atmospheric Administration, and the Environmental Protection Agency.

Sub-Watersheds In the San Lorenzo River Watershed

Five sub-watersheds (watersheds) were identified within the San Lorenzo River watershed basin and within the City limits. These watersheds were determined by using natural boundaries such as geographic areas, topography, and water bodies. The five watersheds are the following:

- Moore Creek,
- Westside,
- Neary Lagoon,

- San Lorenzo River, and
- Arana Gulch.

The watersheds and the land uses within each watershed were mapped in order to provide a detailed layout and overview to facilitate analysis of urban runoff issues. The map is entitled the "City of Santa Cruz Watershed Boundary and Land Use Study" and is available for review, due to its large size, at the Public Works Department.

Land Use and Primary Resources

The City identified land uses within each watershed and compiled a list of the local resources that require protection from urban runoff. Land use was categorized into one of the following categories: churches/schools, commercial, industrial, open space, parking lots, Port District, residential, paved roads, and the University of California/Santa Cruz (UCSC). The primary resources within the City watersheds include creeks, the San Lorenzo River, lagoons, ponds, riparian corridors, parks, marshes, coastal beaches, and Monterey Bay. The land use and primary resources within each of the five watersheds are detailed below.

Moore Creek Watershed:

The Moore Creek watershed is located on the western side of Santa Cruz and drains directly into the Pacific Ocean at Natural Bridges State Park. The watershed is comprised primarily of open space (50%) and the UCSC campus (23%). Also within the watershed are residential areas, general industrial businesses, and parks. The primary resources located within this watershed are as follows: Younger Lagoon, Moore Creek, Antonelli Pond, Natural Bridges State Park, and Monterey Bay.

Westside Watershed:

The Westside Watershed is also located on the western side of the city, between the Moore Creek Watershed and the Neary Lagoon Watershed. The southern boundary of the Westside Watershed is the Pacific Ocean. A significant portion of the watershed is comprised of residential areas (53%) and paved roads (21%). Other land uses include open space, churches and schools, and industrial facilities. The primary resources are: Bethany Creek, Arroyo Seco Corridor, Lighthouse Field State Park, and Monterey Bay.

Neary Lagoon Watershed:

The Neary Lagoon Watershed is located in between the Moore Creek, Westside, and San Lorenzo River Watersheds. The watershed drains into Monterey Bay and the Pacific Ocean at Cowell Beach. The watershed drains the majority of the UCSC campus (44%) and residential neighborhoods (33%). Other land uses include roads, open spaces, churches and schools, and commercial businesses. Neary Lagoon is centrally located in the city's urban core and is comprised of approximately 44 acres of wetland, riparian and woodland habitats. The lagoon collects runoff and groundwater from approximately one half of the west side of the City, most of which is residential. A weir controls the lagoon water level. The lagoon outlets to Monterey Bay at Cowell Beach during the wet weather season via a gravity storm drain and one forced main storm drain. During the dry weather season, the lagoon's discharge is diverted to the Wastewater

Treatment Facility. The primary resources are as follows: Donero Creek, Westlake Pond, Laurel Creek, Bay Creek, Neary Lagoon, Cowell Beach, and Monterey Bay.

San Lorenzo River Watershed:
The San Lorenzo River Watershed is the largest watershed in the City, with the San Lorenzo River flowing adjacent to the center of the city's shopping district. The San Lorenzo River flows into Monterey Bay, creating San Lorenzo Lagoon where the river water meets the tidal waters of the bay. The watershed is comprised predominantly of open space (41%), in the northern portion, and residential neighborhoods (26%) and paved roads (13%) as the river flows south through the City. Other land uses include commercial businesses and the UCSC campus. The primary resources are as follows: Glen Canyon Creek; Carbonera Creek, Branciforte Creek, Pogonip, San Lorenzo Lagoon, Jessie Street Marsh, Buena Vista Creek; the San Lorenzo River, Seabright State Beach, Cowell Beach, and Monterey Bay.

Arana Gulch Watershed:
The Arana Gulch Watershed is located on the City's eastern border and is partially within the unincorporated residential areas of the County. The watershed drains into Monterey Bay at the Santa Cruz Yacht Harbor. The watershed, within City limits, is comprised predominantly of residential neighborhoods (34%) and open space (34%). Other land uses include paved roads, churches and schools, and the Santa Cruz Port District (Yacht Harbor). The primary resources include the following: Arana Creek, West Branch Creek, Hagemann Gulch, Woods Lagoon, the Santa Cruz Yacht Harbor, and Monterey Bay.

Sources of Urban Runoff Pollution

Urban runoff pollution is widely regarded as the nation's leading threat to water quality. Urban development often results in the degradation of water quality due to the alteration of the watershed hydrology and the introduction of pollutants. Urban development alters the natural hydrology in a watershed in several ways. For example, natural drainage systems are replaced with pipes and ditches. The grading of land, creation of impervious surfaces, and the creation of manmade channels for surface waters reduce percolation and increases surface runoff. Floodplain encroachment reduces channel capacity. Removal of vegetation increases erosion potential. All of these changes can result in increased runoff and higher velocities in creeks and streams. These changes can, in turn, cause erosion and damage aquatic habitat.

Urban pollutants are also introduced as a result of development and intensified population growth that typically accompanies development. Pollutants may include toxic metals, hydrocarbons, nutrients, suspended solids, and many other chemicals. Land use is an important factor in determining the potential sources of urban runoff pollution and in considering the potential effects on both land and water resources.

In the City, many different sources of urban runoff pollution were identified due to the variety of land uses within each watershed. The significant sources and examples of activities that may generate pollutants are listed below:

- Industrial facilities: industrial chemical processes; chemical and waste storage; fleet maintenance and vehicle washing; and landscaping.

- Commercial businesses including food and vehicle service facilities: vehicle and equipment maintenance; food processing; vehicle washing; landscaping; and chemical and waste storage.
- Residential dwellings: vehicle washing; home vehicle repair; home painting and construction projects; chemical and waste storage; pet waste; and landscaping.
- Construction and remodeling projects: grading; vegetation removal; concrete washout; vehicle and equipment fluids; landscaping; and material and waste storage.
- Municipal sewer system and private sewer laterals: exfiltration from leaking, cracked, and debilitated pipelines; and overflows from blocked pipelines.

Pollutants of Concern

Storm water pollutants generated by the sources described above are numerous and quite varied. These pollutants include: metals, solvents, paint, concrete, masonry products, detergents, vehicle fuels and fluids, oil and grease, pesticides and fertilizers (organic compounds and nutrients), debris and litter, bacteria, pathogens and oxygen demanding compounds, and sediment and silt.

In general, all five of the City's watersheds contain most or all of these pollutants. This is because the various types of land uses are distributed through out the City rather than certain types being concentrated in specific watersheds. One watershed though, the San Lorenzo River watershed, does have a higher level of commercial and tourist activity, and will require more focus than the other watersheds. Also it should be noted that the Moore Creek watershed has very little commercial land use and the Neary Lagoon watershed has practically no industrial land use.

Of the pollutants mentioned above, as indicated by the RWQCB, the primary pollutants of concern in the City watersheds are the following:

- Sediment and silt
- Fecal Indicator Bacteria

The City is targeting these primary pollutants of concern in the SWMP because certain water bodies within the City are listed on the Section 303(3) list as impaired for these specific pollutants as described in the paragraphs below. In addition, in some water bodies TMDLs have been adopted for these primary pollutants of concern. For example, the San Lorenzo River and Carbonera Creek were identified as impaired by sediment on the 1998 Clean Water Act Section 303 (d) list of impaired water bodies. Subsequently, on May 16, 2003, the RWQCB adopted a sediment Total Maximum Daily Load (TMDL) for these water bodies. In some cases such as for Branciforte Creek, there is a TMDL for a specific pollutant, i.e. Fecal Indicator Bacteria in this case, although this creek was not listed for such on the 303(d) list.

The other pollutants of concern will also be addressed in the SWMP program through the measures and BMPs detailed in the six required and two optional control programs, which are

further described in Section V below and in the individual program chapters. As mentioned in Section I above, it is important to the City to implement a well rounded SWMP so that healthy watersheds are maintained and that Monterey Bay is protected from degradation by pollutants.

Primary Watershed Issues

Section 303(d) List and Total Maximum Daily Loads (TMDLs)

Section 303(d) of the Clean Water Act requires states to identify and prepare a list of water bodies that do not meet water quality objectives, and then to establish load and waste load allocations (collectively known as TMDLs) for each water body, in order to ensure attainment of water quality objectives. The City of Santa Cruz storm drain system (MS4) discharges into four water bodies that are currently on the 303(d) list. These water bodies are:

- San Lorenzo River
- Carbonera Creek
- Branciforte Creek
- San Lorenzo River Lagoon

Section 303(d) List

Within the City, the following water bodies and impairments are listed on the 303(d) list:

1. The San Lorenzo River is listed for sedimentation/siltation. The potential sources are construction/land development, urban runoff, non-point sources, and silviculture (not applicable in the City). There is an adopted TMDL for this impairment as discusses below.
2. The San Lorenzo River is listed for pathogens, with the potential sources being urban runoff/storm sewers and septage disposal. (Septage sources are attributed to sources outside City limits since w/in the City properties discharge to the sanitary sewer)
3. The San Lorenzo River is listed for nutrients, with the potential sources being non-point sources and septage disposal, and pathogens. The potential sources of these are septage disposal and urban runoff/storm sewers.
4. The San Lorenzo River Lagoon is listed for pathogens, with the potential sources being natural sources and urban runoff/storm sewers.
5. Carbonera Creek is listed for sedimentation/siltation. The potential sources are construction/land development and non-point sources. There is an adopted TMDL for this impairment as discusses below.
6. Carbonera Creek is listed for nutrients, with the potential sources being non-point sources. The potential sources are septage disposal and urban runoff/storm sewers.
7. Carbonera Creek is listed for pathogens, with the potential sources being urban runoff/storm sewers and non-point sources.
8. Branciforte Creek is listed for sedimentation/siltation. The potential sources are non-point source, road construction, and silviculture (not applicable in the City). The City

is currently addressing these issues under the Implementation Plan for the San Lorenzo River Sediment TMDL.

For these water bodies and impairments, the City's SWMP addresses the primary pollutants of concern through City measures and BMPs to the Maximum Extent Practicable. In addition, where there is an adopted TMDL, the SWMP targets these primary pollutants of concern due to their high priority.

To date, TMDLs for all of the 303(d) listed_water bodies/impairments mentioned above have not been established although they are under development. Upon the RWQCB adoption of future TMDLs, the City will determine whether the existing SWMP meets the TMDL implementation requirements within its jurisdiction and revise the SWMP accordingly. In addition, for some water bodies, a TMDL has been adopted for a specific pollutant although the water body wasn't listed on the 303(d) list for that impairment. A discussion of the adopted TMDLs for water bodies within the City of Santa Cruz is included in the following section.

TMDLs for Sediment

The San Lorenzo River and Carbonera Creek (along with Lompico Creek and Shingle Mill Creek which are outside of the City's jurisdiction) were identified as impaired by sediment on the 1998 Clean Water Act Section 303 (d) list of impaired water bodies. On May 16, 2003, the RWQCB adopted a sediment TMDL (Resolution No. R3-2002-0063) for these water bodies and, thereby, incorporated the TMDL and associated Implementation Plan into the Basin Plan. Again, the sources of impairment are attributed to the following: land development, urban runoff, roads, non-point sources, and silviculture. In 2006, the State Board added additional water bodies that were on the 303(d) as impaired by sediment. Of these additions, Branciforte Creek is located within the City. Thus, the water bodies within the City included in the implementation plan are the San Lorenzo River, Carbonera Creek, and Branciforte Creek.

The *Implementation Plan for the San Lorenzo River Sediment TMDL* identifies the Cities of Santa Cruz and Scotts Valley, the County of Santa Cruz, and the owners and operators of construction sites of one acre and greater as Responsible Dischargers. Therefore, the City has and will take the following implementation actions within its jurisdiction:

a) Develop and implement the SWMP and Storm Water Pollution Plans (SWPPPs) consistent with NPDES Phase II Storm Water regulations.

b) Identify the San Lorenzo River Watershed as a priority for site inspection and enforcement of control measures in the SWMP and SWPPPs.

c) Incorporate sediment control programs/projects into the SWMP.

The first San Lorenzo River Sediment TMDL Tri-Annual Report was submitted to the RWQCB in 2007. This Tri-Annual Report identified the City's implementation actions and efforts, and included a progress evaluation.

TMDLs for Fecal Indicator Bacteria
A TMDL for Fecal Indicator Bacteria has also been adopted for the San Lorenzo River, San Lorenzo River Lagoon, Branciforte Creek, and Carbonera Creek. However, an implementation plan for this TMDL has not yet been finalized.

RWQCB Water Quality Assessment
On May 16, 2008, a Watershed Assessment meeting was held in Santa Cruz for the municipalities within the County of Santa Cruz, stakeholders, and interested parties. These municipalities included the City of Santa Cruz, the County of Santa Cruz, the cities of Watsonville, Capitola, and Scotts Valley, and the University of California at Santa Cruz. The meeting included a Watershed Assessment presentation by RWQCB staff. This presentation was subsequently revised and updated by RWQCB staff, based on the comments received at the meeting.

One of the purposes of the meeting was to ensure that the Storm Water Management Plan for each of the municipalities, including the City of Santa Cruz, specifically targets the water quality issues identified during the water quality assessment in the manner outlined in the updated presentation.

The highlights of the meeting include a list of adopted TMDLs and 202(d) list of impaired water bodies within the City as the primary water quality issues. Other water quality issues presented included:

- *Central Coast Ambient Monitoring Program*
  Toxicity: 1) sublethal effects observed in San Lorenzo River
  2) one lethal effect observed in Arana Gulch
- *Monterey Bay Sanctuary Citizen Watershed Monitoring Network*
  Copper and Zinc:
  1) observed at elevated levels in storm water discharges during First Flush events
- *Fecal Indicator Bacteria from transients and homeless people*

Please refer to Chapter 9, "Addressing TMDLs in the SWMP," for a more complete description of the City's current measures and future plans to address TMDL issues in the SWMP.

Storm Drain System

The City's storm drain system is comprised of a wide variety of conveyance systems such as underground pipes, small open drainage channels, creeks, and the San Lorenzo River. There are also numerous storm drain inlets and catch basins (approximately 1,450) throughout the City, and five pump stations that discharge storm water directly into the San Lorenzo River. In addition, along both the east and west sides of the City, there are storm water outfalls that discharge onto the beaches or cliffs, and into Monterey Bay.

There is approximately 50 miles of underground storm drain system pipeline in the City. The majority of pipes are comprised of concrete. Old pipelines still remain that are comprised of clay, while new pipelines installed by the City are either made of PVC or high-density polyethylene (HDPE). The typical pipeline diameter is 12-15 inches although both smaller and larger pipelines, up to 72 inches, exist. Maintenance and repair of the City's storm drain system is conducted by the Public Works Department and is described in greater detail in the Municipal Operations Program-Pollution Prevention and Good Housekeeping.

In general, the City's downtown area drains to the San Lorenzo River. Although some storm water reaches the river by absorption and gravity, the five pump stations along the river were installed in order to transfer the majority of the storm water over (actually through) the river levees. There are three pump stations located on the west side of the river and two on the east side. The west side pump stations are located at Broadway (1) and in Beach Flats (2). The east side locations pump stations are located at lower Ocean Street and at Water Street. A map of the pump stations/wet wells along the lower San Lorenzo River is included in Attachment # 29.

In addition to the San Lorenzo River, there are numerous creeks traversing the City. These include the following: Branciforte Creek, Moore Creek, Donero Creek, Laurel Creek, Bay Creek, Glen Canyon Creek, Carbonera Creek, Arana Creek, West Branch Creek, and Hageman Creek.

In certain areas of the City, natural spring water and storm water flows through a network of conveyance systems, such as small creeks and underground piping. This is especially the case in the west side of Santa Cruz, particularly the upper west side. The upper west side is dotted by natural springs, which feed the small creeks that run through residential yards and cross streets via underground piping. These creeks drain either into Neary Lagoon or run through the storm drains system discharge from West Cliff Drive into Monterey Bay. As expected, the flow from some of these smaller creeks is seasonal or intermittent with the greatest flows occurring during the rainy season.

Review of Existing Programs, Plans, and Policies

There are many existing regional and local programs, plans, and policies that address urban runoff issues in the City. Some of the programs directly address urban runoff issues, while others indirectly result in a reduction of urban pollution and an improvement of water quality. City staff conducted a review of these programs, plans, and policies in order to ensure that the SWMP is coordinated with the existing programs. The local programs, plans, and policies are listed in Table 1 below and summarized in the paragraphs that follow.

Table 1

City and County Programs, Plans, and Policies

Program, Plan, or Policy	Responsible Agency	Focus or Issues
General Plan/Local Coastal Plan/Zoning	City of Santa Cruz Planning Department	Land use
CEQA review process	City of Santa Cruz Planning Department	Water quality degradation
Citywide Creek Study and Management Plan	City of Santa Cruz Planning Department	Management plan for watercourses and wetlands located in the City
Integrated Pest Management Program	City of Santa Cruz	Elimination or reduction of pesticide use on City property wherever possible
Storm Water Utility Program	City of Santa Cruz Public Works Department	Funds flood control and habitat restoration projects, SWMP development and implementation
Neary Lagoon Management Plan	City of Santa Cruz Parks and Recreation Department	Management of the lagoon to ensure its viability as an ecosystem and as a unique resource for the community
San Lorenzo Urban River Project & Lower San Lorenzo River and Lagoon Management Plan	City of Santa Cruz and The San Lorenzo Urban River Task Force	Development of a long-term management plan for restoring the San Lorenzo River and developing a river parkway for residents of Santa Cruz
San Lorenzo River Watershed Management Plan	County of Santa Cruz Environmental Health Services	Addresses pollutants, sedimentation, and erosion due to various sources including urban development
San Lorenzo River Caretakers	Santa Cruz County Resource Conservation District	Committee of land users and residents working with public agencies on watershed planning, restoration, and public education
Arana Gulch Enhancement Plan	Arana Gulch Watershed Alliance/Santa Cruz County Resource Conservation District	Enhancement plan for Arana Gulch Watershed enhancement and restoration

City of Santa Cruz General Plan/Local Coastal Plan:
The General Plan does not contain a completely separate Urban Runoff element, but it does contain key subsections that relate to urban runoff water quality. The City also has a Local Coastal Plan that includes sections for each of the City's watersheds. The Local Coastal Plan addresses water quality issues through both California Coastal Act provisions and policies relating to those provisions. The City of Santa Cruz Planning Department is responsible for the implementation of policies and programs found in the General Plan as well as the Local Coastal/Land Use Plans. All projects conducted within the Coastal Zone areas are subject to approval by the City unless appealed to the Coastal Commission.

City of Santa Cruz CEQA Review Process:
The California Environmental Quality Act (CEQA) Review Process focuses on the environmental impacts of new development, redevelopment and public capital improvement projects within the City of Santa Cruz. Utilization of the CEQA checklist is a means of upholding elements of the General Plan and Local Coastal Programs overall, and more specifically those related to water quality goals and objectives. The City is responsible for going through the CEQA process provisions for projects within their jurisdiction. This process uses the CEQA checklist as an initial step in determining whether a project is categorically exempt, requires a Negative Declaration, or whether it needs an Environmental Impact Report.

City-wide Creeks and Wetlands Management Plan:
The City recently prepared a management plan for watercourses and wetlands found within the City under the lead of the Planning Department. Previous City policy limited development within 100 feet of any watercourse or wetland without an adopted management plan. The management plan identifies under what circumstances development might be allowed to occur in proximity to such resources, based upon the value of the resource, the biological setting of the watercourse, and the type of use proposed on a particular site.

In 2002 a draft City-wide Creeks and Wetlands Management Plan prepared by a consultant team was made available for public review and comments. Joint Planning Commission/City Council Workshops were held to allow interested parties to find out more about the draft creek classification system, management plan recommendations, and mapping. In 2002 and 2003 after several Public Workshops, Planning Commission meetings, and City Council meetings, City Council directed staff to refine the study by using a combination of aerial photos with greater resolution and scale than before, and by conducting direct field evaluations of all the watercourses city-wide. The Draft Management Plan was released on November 1, 2005 with an Initial Study and Negative Declaration. The City Council approved the City-Wide Creeks and Wetlands Management Plan and adopted the Creeks and Wetlands Ordinance, designed to carry out the goals of the Management Plan, on February 28, 2006.

The City-Wide Creeks and Wetlands Management Plan identifies and categorizes all watercourses in the city and establishes a riparian corridor, development setback area, and management area for each watercourse. Specific setback requirements were determined based on an evaluation of biological, hydrological, and land use characteristics. For each section of a watercourse, the recommended setbacks include a management area, which is the area where

watercourse regulations apply, and a riparian corridor and a development setback area, which are located within the management area. These setbacks are applied to all watercourse segments. However, setbacks for wetland areas would be subject to site-specific review. For wetlands and other unique areas of ponding water, the *Management Plan* recommends further site-specific biotic review since detailed analysis or wetland delineations were not conducted as part of the *Management Plan* preparation. Known parcels that may require site-specific biotic reviews are parcels near ponds or wetlands where appropriate seatbacks would be determined through site-specific studies. Lastly, lands that are within the boundary of an adopted management plan are subject to the requirements set in those plans.

All projects must comply with the watercourse development standards and a watercourse development permit is required unless specifically exempted or approval of a watercourse variance is obtained.

The primary long-term goals of this Management Plan are to:

- Reduce and/or eliminate pollutants discharged to aquatic bodies;
- Improve water quality;
- Improve and restore natural habitat;
- Increase biodiversity;
- Lower water temperatures; and
- Increase public awareness of the value of watershed quality.

The City-Wide Creeks and Wetlands Management Plan is described in more detail in Chapter 6: Post Construction Storm Water Management Program. In addition, a copy of the Management Plan's "Watercourse Development Permit Procedures" Chapter is included in Attachment # 26 for easy reference. This chapter includes the watercourse summary tables which list each of the watercourses, their watercourse categories, and the recommended setbacks. The chapter also outlines the watercourse permit process and variances, and details the development and activity types subject to permits and the uses permitted within the designated setback areas. Development standards to protect and/or enhance habitat conditions and water quality are also presented.

In addition, the entire City-wide Creeks and Wetlands Management Plan, creeks maps, and other related information may be viewed on the City's website at http://www.ci.santa-cruz.ca.us/.

Integrated Pest Management Program:
The goal of the City's Integrated Pest Management (IPM) Program is to reduce or eliminate the use of chemicals by the evaluation and selection of the least disruptive alternative control strategy for the elimination of pests and plant diseases. City departments are instructed to give first priority to available non-pesticide alternatives when considering the use of pesticides on City property. The goal is to eliminate the application of all Toxicity Category I and II pesticides products wherever possible. This pesticide use policy was approved by the City Council in October 1998.

Currently, there is an IPM Technical Advisory Committee that advises the City Council and staff on all matters concerning pest management on City properties. The emphasis is on alternative

pest control techniques consistent with the goals of Integrated Pest Management. The committee guides the creation and implementation of IPM programs within City departments and works with staff and members of the public on public outreach and education.

City of Santa Cruz Storm Water Management Utility:
The Storm Water Management Utility is primarily a financing mechanism for flood control and storm water programs. The City established a storm water utility fee, in May 1994, to fund the local share of the Army Corps of Engineers San Lorenzo River Levee Flood Control Improvement and Habitat Restoration Project. This project raised the river levees and rehabilitated the three downtown bridges (over the San Lorenzo River) to increase flood flow capacity. The storm water utility also provides funds towards development and implementation of the SWMP including staffing to promote departmental and interagency coordination, Best Management Practice compliance, permitting and enforcement, and educational efforts. Lastly, funds are used to maintain and retrofit surface water, storm water, and flood control facilities.

The City Council set the Storm Water Utility Fee based on Basic Assessment Units (BAU), which represents the proportionate storm water runoff from the average single-family residential parcel, based on parcel size and runoff factor. The Public Works Director acts as director of the Utility and is responsible for administering and managing the operations of the storm and surface water management system. The fee is included on the County Property Tax statements and is payable on a biannual basis. The City bills owners of parcels who do not pay property taxes.

City of Santa Cruz Neary Lagoon Management Plan:
The Neary Lagoon Management Plan was developed as a comprehensive guide and directive for managing the lagoon area to ensure its viability as an ecosystem and its value as a unique resource for the community. Goals, objectives, and actions are designed with the purpose of preserving and enhancing the lagoon's environmental integrity and quality while satisfying other purposes for public use, flood protection, water quality, mosquito control and aesthetics. Many aspects of the management plan have been implemented. The Parks and Recreation Department is primarily responsible for the implementation of the management plan.

The San Lorenzo Urban River Project/Lower San Lorenzo River and Lagoon Management Plan:
The San Lorenzo Urban River Project is a planning process initiated by the City Council in 1999 to develop a long-range plan for restoring the San Lorenzo River and developing a river parkway for residents of Santa Cruz. The San Lorenzo Urban River Plan Task Force is the Council appointed body facilitating the process. The *Lower San Lorenzo River and Lagoon Management Plan* is a new management plan that was developed by consultants and City staff, with funding provided by the State Coastal Conservancy and the City. The project area covers the lower 2.2 miles of the San Lorenzo River, from Highway 1 to the mouth of the river at Monterey Bay.

County of Santa Cruz San Lorenzo River Watershed Management Plan Update:
The Management Plan was completed in December 1979 and is the first plan written under the Protected Waterways Program. The plan focuses on restoration and protection of natural areas experiencing a heavy level of suburban development. The planning process included a preliminary assessment of watershed resources, detailed problem assessment and development of

plan recommendations some of which have been implemented. The Management Plan Update is in progress and will coordinate and prioritize efforts to improve water quality of the San Lorenzo River and receiving waters in the Monterey Bay National Marine Sanctuary. The Management Plan Update will incorporate work already accomplished in the management of nitrates, wastewater, and ground water and specifically address microbiological contamination from urban areas and erosion and sedimentation.

The County of Santa Cruz was primarily responsible for the development and implementation of the original management plan and is currently developing the update. The City of Santa Cruz assisted with development, review and implementation.

San Lorenzo River Caretakers:
This Coordinated Resource Management and Planning (CRMP) group was established in 1995 and encompasses the entire 90,000 acres of the San Lorenzo River Watershed. A steering committee of land users and residents works closely with public agencies and other technical advisors on watershed education programs. A CRMP Plan has been developed and several public education workshops have been held. Funding has also been approved for erosion control work. The Santa Cruz County Resource Conservation District (SCCRD) assists the San Lorenzo River Caretakers in planning and implementing projects.

Arana Gulch Enhancement Plan:
The Arana Gulch Enhancement Plan was developed to further the enhancement and restoration of the Arana Gulch Watershed. As previously mentioned, the Arana Gulch Watershed is a "sub-watershed" within the San Lorenzo River watershed. The watershed drains into Monterey Bay at the Santa Cruz Yacht Harbor. The Santa Cruz Port District and the Santa Cruz County Resource Conservation District cosponsored the initial public information meeting to discuss development of an enhancement plan. The Arana Gulch task force subcommittee was created to oversee the development of this plan. The lead agency was the Santa Cruz County Resource Conservation District.

III. Establishment of Legal Authority

Storm Water Ordinance

On April 28, 1998, the City adopted a Storm Water Ordinance, which became effective on May 28, 1998. The ordinance, entitled "Storm Water and Urban Runoff Pollution Control," is Chapter 16.19 of the City's Municipal Code. The ordinance established the legal authority to prohibit illicit connections and pollutant discharges to the City storm drain system. The ordinance also provides the City with the legal authority to conduct inspections and sampling. In addition, the ordinance contains a provision requiring the implementation of BMPs, as published by the Public Works Department, by certain types of facilities. The City also has the authority to terminate illicit connections and discharges, and to initiate enforcement actions for violations of the code. Potential enforcement actions include written notices, citations, termination of discharge, and monetary penalties.

The Storm Water Ordinance prohibits non-storm water discharges to the storm drain system with a few exceptions. The permissible discharges include discharges authorized by a NPDES permit or resulting from one of the following: fire fighting activities; landscape irrigation; water line breaks and other releases from potable water systems; foundation/footing drains; individual residential car washing; and unpolluted groundwater.

The City revised the Storm Water Ordinance in July 2003 in order to update the ordinance and incorporate new Phase II storm water regulations. For example, a provision was added that prohibits the discharge of wastewater to the storm drain system from pressure washing, steam cleaning, and hand scrubbing of sidewalks and other outdoor areas adjacent to retail and commercial businesses and industrial facilities. A section was also added stating that, if a private storm drain system is not operating properly and causes the improper discharge of storm water to the street, sidewalk or storm drain system, the City may declare this condition to be a public nuisance and proceed to abate that nuisance accordingly.

The ordinance was also revised to keep it comparable with the City's Sanitary Sewer Ordinance, which was revised in June 2002. The revisions include an increase in monetary penalties to equivalent amounts specified in the Sewer Use Ordinance for violations of the Municipal Code. For example, civil penalties were increased from a maximum of $1,000 per day to a maximum of $2,500 per day for each violation of the ordinance. The Storm Water Ordinance is included in Attachment 2.

Grading Ordinance

The Grading Ordinance is a subset of Title 18, Buildings and Construction, of the City's Municipal Code. The Grading Ordinance, officially titled "Chapter 18.45 Excavation and Grading Regulations," provides technical regulations of grading and excavation, in conjunction with the Environmental Resource Management provisions (Municipal Code, Title 24, Chapter 24.14), in order to safeguard life, health, safety and the public welfare; protect fish and wildlife, riparian corridors and habitats, water supplies, and private and public property, and to protect the environment from the effects of flooding, accelerated erosion and/or deposition of silt. The ordinance accomplishes this by providing guidelines, regulations, and minimum standards for clearing, excavation, cuts, fills, earth moving, grading operations (including cumulative grading), water runoff and sediment control. In addition, the ordinance includes provisions regarding administrative procedures for issuance of permits and approval of plans and inspections during construction and subsequent maintenance.

The City revised the Grading Ordinance in April 2004 in order to strengthen the ordinance regarding implementation of BMPs, including those for erosion and sediment control. Modification of the Grading Ordinance included a requirement that all construction projects abide by the City's mandatory BMPs. In addition, the City included a provision that erosion and sediment control BMPs be in place and implemented, as appropriate, prior to commencing construction activity including grading or vegetation removal.

The City also added the most important BMPs from the City's mandatory BMPs for Construction Work to the "Excavation and Grading Regulations" section of the Grading Ordinance. The

Grading Ordinance was also modified to include a requirement that Post-Construction BMPs, in accordance with the City's mandatory BMPs for Development and Remodeling Projects, be in place upon completion of a construction project. The Grading Ordinance is included in Attachment 3.

Zoning Ordinance

The Zoning Ordinance, Title 24 of the Municipal Code, currently contains provisions to ensure that new developments or remodeled sites are designed and constructed in a manner that limits alteration of drainage patterns, prevents erosion, and minimizes long-term impacts on water quality. For example, Chapter 24.14 of the ordinance, entitled Environmental Resource Management, contains a section on Conservation Regulations that includes general provisions for drainage and erosion controls. These provisions include requirements that a drainage plan be submitted for projects, both large and small, when existing drainage patterns would be altered by new construction. A drainage plan must be submitted and reviewed as part of the project approval. In addition, if a proposed project includes the discharge of runoff into a natural watercourse, the drainage plan shall include methods to safeguard or enhance the existing water quality. In addition, the ordinance requires that storm water runoff resulting from project development be minimized. Devices such as detention basins, percolation ponds, or sediment traps may be required by the City, where appropriate or as specified in an adopted plan or wetlands management plan.

Provisions pertaining to erosion control include requirements that a site development be fitted to the topography and soil so as to create the least potential for erosion. Vegetation removal is limited to the amount necessary and according to the project's approved erosion control plans.

The Zoning Ordinance also includes regulations for development in areas characterized by combustible vegetation and steep and/or unstable slopes. Such areas include canyons, arroyos, and slopes over thirty percent. The ordinance also addresses developments near or adjacent to intermittent or perennial streams, wetlands, marshes, and seasonally flooded grasslands. For example, construction of main or accessory structures, grading or vegetation removal is not permitted in any designated riparian area or within one hundred feet of a watercourse or a wetlands. Exceptions are allowed in certain circumstances, as specified in the Zoning Ordinance, such as when necessary for protection against erosion, scouring, and for maintenance of flow. For wetlands, marshes and seasonally flooded grasslands, exceptions are also granted if a restoration and management plan has been submitted and approved, and any construction or use is consistent with the approved plan. The ordinance also requires that landscaping, grading, and building design ensure the ongoing viability of the remaining vegetation and, if any vegetation is removed, that it is replaced by vegetation of an equivalent kind, quality, and quantity.

The Zoning Ordinance also includes a section, Chapter 24.08 entitled Land Use Permits and Findings, pertaining to Coastal Permits. Coastal Permits are required for development projects in the Coastal Zone Overlay District to ensure consistency with the Local Coastal Use Plan and the Local Coastal Implementation Program.

Due to its large size, the complete Zoning Code, Title 24, is not attached. However, the ordinance may be viewed or downloaded from the City's website at http://www.ci.santa-cruz.ca.us. The Zoning Ordinance Table of Contents has been included, as a reference to the various chapters and sections within the code, in Attachment 4.

Title 4 of the Municipal Code

Title 4 is entitled "General Municipal Code Enforcement." It is the chapter of the Municipal Code that was established in 2000 to provide a comprehensive code enforcement system for the City. Briefly, Title 4 provides definitions, details, and specific procedures for a variety of code enforcement measures. For example, Title 4 provides for the issuance and recordation of Notices of Violation; the authority to inspect; the authority to issue a Notice to Appear and Release Citations, and the power to arrest. Title 4 also details the procedures regarding Judicial Remedies and Administrative Remedies available to the City for violations of the Municipal Code and applicable state codes. In addition, Title 4 details Summary Abatement and Administrative Abatement procedures for public nuisances and code violations. Lastly, Title 4 provides for the recovery of civil penalties and abatement costs. Please refer to Attachment 5 for a copy of Title 4.

IV. Implementation of the Storm Water Management Program

Program Focus

Upon review of the watersheds and the potential sources of pollutants, the City determined that although. One watershed, the San Lorenzo River watershed, does have a higher level of commercial and tourist activity and will require more focus than the other watersheds. The Storm Water Management Program will include practices for reducing pollutants from significant sources throughout the entire city. This is primarily because there are multiple land uses within each of the City's watersheds and because no single watershed is significantly more impaired than another. In addition, the City is effectively "built out" so reliance solely on construction and post-construction BMPs is not the answer. Also, the City concluded that an overall approach, aimed at reducing urban runoff pollution from each and all of the identified significant sources, would result in a more thorough and effective Storm Water Management Program.

Thus, the City is implementing the six required control programs and the two optional programs. Implementation will involve outreach and education efforts, conducting site visits, and ensuring the implementation of BMPs by City departments, industrial and commercial facilities, and residents. BMPs will include both preventative measures, such as good housekeeping practices, and structural controls. BMPs that reduce pollutants in storm water runoff will be implemented to the technology-based standard of Maximum Extent Practicable (MEP). In particular, educating City staff, businesses, and the general public about BMP implementation is a critical factor in ensuring the success of the SWMP.

Program Funding

Funding for the SWMP will be obtained from the City Storm Water Utility fees charged to each property within City of Santa Cruz limits. As previously mentioned, the Storm Water Utility fee was initiated in May 1994. The storm water utility fees are included on the property tax bills

from the Santa Cruz County Tax Collector. While most of these monies are allocated to pay for the San Lorenzo River Flood Control Project, approximately $200,000-300,000 per year is designated for storm water related pollution abatement programs including the SWMP. The City will allocate funds for each of the control programs within the SWMP according to priorities.

City Departments

In addition to coordination with existing regional and local programs, implementation of the SWMP will require participation by multiple City departments. The Public Works Department is primarily responsible for implementation of the SWMP and coordination with the other City department. As previously mentioned, the other departments that have a major role in implementation of the SWMP are Planning, Parks and Recreation, and the Water Department. The table below summarizes the City departments and the divisions that currently conduct activities related to urban runoff issues or that are directly involved in the SWMP.

Table 2

City Departments and the SWMP

Department/ Division or Section	Activities	SWMP Programs
Fire		
	Responds to fires and emergencies including hazmat spills; inspects facilities for hazardous materials storage.	Municipal Operations
Parks and Recreation		
Facility Services	Maintains downtown sidewalks and parks; maintains City vehicle fleet.	Municipal Operations
Regional Parks	Maintains downtown sidewalks and parks; implements City's IPM program.	Municipal Operations
Golf Course	Maintains municipal golf course and equipment; implements City's IPM program.	Municipal Operations
Planning		
Current Planning/ Zoning	Reviews new development and redevelopment projects (under CEQA).	Construction, Post-Construction
Future Planning	Prepares General Plan revisions and amendments.	Construction, Post-Construction
Inspection	Conducts site development, construction, new building and remodeling inspections; reviews erosion control plans for developments.	Construction, Post-Construction
Code Compliance	Conducts inspections and issues enforcement action for violations of City Municipal Code, particularly the Zoning Ordinance. Focus is on promoting health and safety in neighborhoods.	Construction, Post-Construction
Public Works		
Environmental Compliance	Conducts inspections at industrial and commercial facilities; training and information to businesses on BMPs; responds to reports of illegal discharges to the storm drain system; implements Pretreatment program.	Municipal Operations, Illicit Discharge, Public Education, Public Participation

Department/ Division or Section	Activities	SWMP Programs
Operations/ Wastewater Mains	Maintains sewer lines; cleans of catch basins; investigates complaints of illegal dumping and illicit connections.	Municipal Operations, Illicit Discharge
Operations/ Refuse and Recycling Collection	Conducts street sweeping; provides refuse and recycling services including curb-side pickup of used motor oil and GreenCycle wastes; Household Hazardous Waste drop-off site; conducts public education.	Municipal Operations, Public Education
Operations/ Streets and Flood Control	Maintains storm drain system and flood control facilities; assists with detection of illicit connections.	Municipal Operations, Illicit Discharge
Traffic Engineering/ Traffic Maintenance	Conducts storm drain stenciling; conducts planning re traffic flows; promotes alternative transportation; maintains parking lots and public parking garages.	Municipal Operations
Engineering/ Design and Development	Develops and coordinate SWMP; designs and constructs storm drain system improvements; creates digitized map of the storm drain system including all city streets, pipelines, large and small storm drain outfalls; coordinates storm water quality planning efforts locally and regionally.	All
Redevelop-ment		
	Provides City assistance towards eliminating blight from designated areas and towards achieving desired development, reconstruction, and rehabilitation in residential, commercial, industrial, and retail land uses.	Post-Construction
Water		
Water Engineering	Provides engineering, planning and project design for construction of necessary water facilities and installation of water saving technologies.	Municipal Operations
Water Distribution	Maintains and operates all transmission and distribution mains throughout the water piping network; maintains and operates all service lines, hydrants and valves.	Municipal Operations
Water Production	Produces, operates and maintains water storage, diversion, collection, pumping, and treatment facilities.	Municipal Operations
Water	Plans, develops and implements conservation	Post Construction

Department/ Division or Section	Activities	SWMP Programs
Conservation	programs; reviews landscape plans for compliance with water efficient design requirements.	
Water Resources Management	Responsible for drinking water source and natural protection work for delivery of potable water; provides environmental review support; conducts biological surveys including San Lorenzo River Salmonid habitat typing and population assessments; works on the Habitat Conservation Plan; conducts outreach and education to watershed stakeholders.	Municipal Operations, Public Education

V. SWMP Control Programs

The City's Storm Water Management Program consists of the six required and two optional control programs. The eight control programs are as follows:

- Municipal Operations Program-Pollution Prevention and Good Housekeeping
- Illicit Discharge Detection and Elimination Program
- Public Participation Program
- Public Education Program
- Construction Site Storm Water Runoff Control
- Post-Construction Storm Water Management Program
- Industrial Facilities Program
- Commercial Facilities Program

As previously mentioned, the City is including the two recommended programs, Industrial Facilities and Commercial Facilities, in the SWMP because certain industrial and commercial facilities within the City were determined to be significant or potentially significant pollutant sources within the local watersheds. By implementation and coordination of these eight programs, the City's goal is to create a well-rounded and effective SWMP. For example, the Post-Construction Storm Water Management Program, the Construction Site Storm Water Runoff Control Program, and Public Education Program will, in combination, help to ensure that the impacts on storm water is reduce during the design, construction, and long term use of an urban area or site.

A brief summary of each of the eight control programs is included below. The individual control programs are described in greater detail in their respective chapters. These chapters include specific information on program design, implementation, and evaluation. Each chapter also identifies and describes the BMPs selected to reduce the pollutants of concern. The division or

department responsible for implementing each BMP is also included. In addition, a detailed BMP summary table, that includes measurable goals and an implementation schedule, is also provided. It should be noted that the City's accomplished many of its original goals or had pollution prevention programs in place by 2003 because of the City's intent to be proactive and in compliance with the new storm water regulations as soon as the General Permit was adopted.

Municipal Operations Program-Pollution Prevention and Good Housekeeping

This program focuses on reducing ensuring that municipal activities are conducted in a manner that does not cause the discharge of pollutants to the storm drain system. The City will accomplish this by training staff and ensuring Best Management Practices are followed when appropriate. Municipal operations include a wide variety of activities conducted to maintain City owned property and facilities, such as public streets and the storm drain system. For example, street repairs typically involve asphalt or concrete removal/addition and, therefore, materials such as saw-cut slurry and leftover waste must be properly contained to avoid discharge to the storm drain. Cleaning of sidewalks and buildings can introduce soap and particulates, including paint chips, to the storm drain system if precautions are not taken. In addition, vegetation management and herbicide use are concerns associated with maintenance of street medians, parks, and other landscaped areas.

Municipal operations and activities of concern include the following: street sweeping and cleaning; sidewalk, plaza, and municipal parking lot cleaning; maintenance of landscaped area; and repair and maintenance of City streets and sidewalks. Other related issues include storm drain inlet/catch basin and pipeline cleaning and the structural retrofit of storm drain facilities. Activities at the corporation yard, such as vehicle repair and washing, and other municipal operation areas will also be addressed. Therefore, there are many different municipal operations of concern for which Best Management Practices are necessary.

Illicit Discharge Detection and Elimination Program

This program is designed to detect and eliminate illicit connections and illegal discharges. Inspections of urban storm drain systems in municipalities throughout the country have shown that there are many improper or illegal connections plumbed to the storm drain system from industrial and commercial facilities. Also, because both the storm drain and sanitary sewer system piping develop cracks and leaks with age, and because these lines are often in proximity to one another, problems of infiltration are not uncommon. Infiltration may result in sanitary sewage seeping into the storm water system and visa versa. The program is aimed at detecting both illicit connections and deteriorating piping. The program is also aimed at detecting illegal discharges, via runoff or direct discharge, to the storm sewer system by industrial facilities, commercial businesses, and residents. For example, illegal discharges may include the dumping of motor oil in the gutter, the discharge of mat wash water from restaurants to a parking lot or street, and chemical spills which flow into the storm drain.

Public Participation Program

The main objective of the Public Participation Program is to involve the public in the SWMP development and implementation processes. Other objectives are to raise public awareness about storm water pollution and urban runoff issues, and to generate support for citywide storm water pollution prevention efforts. Elements of the Public Participation Program include public meetings and presentations, communication with business groups and associations, City staff involvement, and public education and outreach.

Public involvement and participation are important components of the SWMP. The term "public" refers to various sectors of the community including residents; commercial and retail business owners; industry representatives; developers; construction contractors; City staff; elected officials; and government bodies. The program success is largely dependent upon on acceptance and support from these sectors. Therefore, the City is not only informing the public about urban runoff concerns, but is also encouraging participation in the program's development.

Public Education Program

The focus of this program is on public education and outreach to residents regarding urban runoff pollution issues. In addition to increasing public awareness, the objective of the Public Education Program is to educate the community about specific sources of pollutants and what people can do in their "day to day" activities to prevent urban runoff pollution. The goal is to decrease the amount of urban runoff that is discharged into the storm drain system from our homes, businesses, and by our every day activities. The program utilizes advertising, distribution of brochures, media articles, and special events to get pollution prevention messages out to the public. In addition, the program encourages community participation by sponsoring a volunteer monitoring program and a school education program. The Public Education program is a vital part of the SWMP and critical to reducing urban runoff pollution within the city.

Construction Site Runoff Control Program

This control program is designed to reduce pollutant discharges from construction sites. Activities conducted at construction sites can release significant amounts of sediment into the streets, gutters, and storm drain system. Other pollutants, such as construction materials and debris, equipment and vehicle oils and fluids, and hazardous materials, may also reach the storm drain system during construction activities. Construction activities may also result in surface compaction or the creation of impervious surfaces, which can lead to increased surface runoff during periods of rain. This, in turn, may cause erosion and other changes in topography and/or stream hydrology and morphology.

The current Municipal Code, in particular the Grading Ordinance, includes numerous provisions designed to prevent or minimize the impacts of construction on water quality. As previously mentioned, in 2004, the Grading Ordinance was modified in order to strengthen the ordinance regarding implementation of BMPs including those for erosion and sediment control. The revisions also included the requirement that all permitted construction projects abide by mandatory Best Management Practices. In addition, the City is providing outreach materials to the construction community.

Post-Construction Storm Water Management Program

The goal of this program is to ensure that new developments or remodeled sites are designed and constructed in a manner that minimizes the long-term impacts on storm water quality. This includes requiring proper site design in order to minimize the alteration of natural watercourses and drainage patterns that can cause increased storm water runoff rates and erosion. In addition, the program will ensure that long-term BMPs, including both source control and treatment BMPs, are incorporated into the design of a project where appropriate to prevent or minimize urban runoff pollution and the impact on water quality.

The intent is for new developments or redevelopments to be designed and managed so that site runoff volume, flow rate, and pollutant loadings resemble pre-construction levels. Elements of this program include the following: land use planning, designing the development or redeveloped site to minimize runoff, and restrictions to protect areas susceptible to erosion and sediment loss. The current Municipal Code, in particular the Zoning Ordinance, already includes numerous provisions designed to prevent or minimize the impacts of development on water quality. The City requires implementation of mandatory BMPs based on the Design Standards specified in Attachment 4 of the General Permit.

Industrial Facilities Program

The objective of this program is to reduce the potential discharge of pollutants from industrial facilities that might occur by processes conducted outdoors, chemical storage leaks, accidental spills, and transfer of materials at loading docks. The program will consist of obtaining a list of industrial facilities that have filed a Notice of Intent with the Regional Water Quality Control Board (RWQCB), conducting site visits at regulated facilities, and distributing educational materials. Violators will be immediately reported to the RWQCB. The program will also be coordinated with the current Pretreatment Program regulating the discharge of industrial wastes to the sanitary sewer. For example, when the City conducts an inspection at any of its permitted industrial facilities, the site will be reviewed for compliance with storm water regulations.

Commercial Facilities Program

This program focuses on reducing pollutant discharges to the storm drain system from commercial facilities, such as vehicle service facilities, restaurants, and retail shopping areas. Pollutants from these types of facilities include the following: vehicle fluids, solvents, soapy wash water, oil and grease, and litter. In addition to conducting outreach and education efforts, implementing BMPs, and conducting site visits, elements of this program include identifying targeted facilities and establishing incentive programs where appropriate.

The Commercial Facilities Program is designed to have a positive approach by combining outreach, education, and incentives with the more traditional methods of regulation. This type of approach generally results in a more successful program for commercial businesses for several reasons. For example, outreach and education help business owners and employees become aware of storm water issues and the fact that urban runoff flows untreated to local creeks, rivers, and Monterey Bay. This approach is also helpful because many commercial businesses are not accustomed to being “regulated” and are unfamiliar with or suspicious of regulations. In addition, business owners and employees will become more educated on pollution prevention methods and

will better understand why they are being asked to implement Best Management Practices (BMPs). Within certain business sectors, recognition for pollution prevention efforts will also be used as additional motivation for a facility to achieve compliance.

VI. Best Management Practices

The City selected and developed the appropriate Best Management Practices for each of the eight control programs after first identifying the pollutants of concern and the target audiences associated with those pollutants for each of the control programs. Also taken into consideration were the best means to communicate with these audiences, what specific storm water pollution prevention information should be conveyed, and how to conduct enforcement actions when necessary. Lastly, BMPs were also selected and developed based on the most appropriate and effective methods to achieve program goals and compliance with the General Permit requirements. The most appropriate Best Management Practices (BMPs) were selected in order to reduce the pollutants of concern to the maximum extent practicable

Each of the control programs includes a list and description of the selected BMPs, along with the contact information of the person and division or department responsible for implementing them. A detailed BMP summary table, that includes measurable goals and an implementation schedule, is also provided for each of the control programs.

The City has strived to be in compliance with the new storm water regulations and the General Permit requirements prior to the March 10, 2003 Phase II NPDES compliance date. Thus, in advance of the regulations, the City began implementation of many of the selected BMPs and has already accomplished some “one time” BMPs such as establishment and revisions to the Storm Water Ordinance.

The City has developed BMPs for certain types of businesses that the City identified as having the potential to discharge pollutants of concern to the storm drain system. For example, the City has developed and published BMP brochures for vehicle service, food service, retail and commercial facilities, construction work, and development/redevelopment projects. These BMPs are, in general, pollution prevention practices designed to reduce or eliminate pollutant discharges. The BMPs typically emphasize good housekeeping methods, chemical handling procedures, spill prevention, and proper waste storage and disposal, and the information in each of the brochures is tailored to the typical work practices. For example, the BMPs for vehicle service facilities emphasize the proper disposal of vehicle fluids, while BMPs for restaurants emphasize the proper practices for oil and grease disposal and floor mat cleaning. Some of the City’s BMP brochures include both mandatory and recommended practices. The City decided to include recommended BMPs as guidance to help businesses comply or go “the extra mile” towards being environmentally proactive.

The BMP brochures for vehicle service facilities, food service facilities, and construction work were also translated into Spanish. A complete set of the City’s BMP brochures and one page handouts are included in the Attachments.

Three brochures for residents on pollution prevention tips have also been published and distributed. The three brochures for residents are entitled *Home Maintenance, Painting and Repair; Garden*, *Pool and Spa Maintenance;* and *Vehicle Repair and Washing*. The brochures are included in Attachments13-15.

Distribution of BMP brochures and proper implementation of BMPs by the various business sectors and the general public is a critical portion of the SWMP.

VII. Summary

In summary, the Storm Water Management Program is a comprehensive program focused on reducing the discharge of pollutants to the storm drain system, which flows to local water bodies and Monterey Bay. As summarized in the preceding sections, polluted urban runoff is a widespread threat to water quality and clean water is critical to the continued vitality of the City of Santa Cruz, the San Lorenzo River, Monterey Bay, and the Monterey Bay National Marine Sanctuary. The City is dedicated to implementing the Storm Water Management Program, in compliance with the General Permit requirements, in order to protect water quality and preserve our environment.

Chapter 1

MUNICIPAL OPERATIONS PROGRAM

POLLUTION PREVENTION AND GOOD HOUSEKEEPING

I. Introduction

Municipal operations include a wide variety of activities conducted to maintain City owned property and facilities, such as public streets and the storm drain system. Significant amounts of urban pollutants are found on street and road surfaces due to pavement abrasion and littering. Hydrocarbons and heavy metals are deposited on roads from clutch and brake wear, vehicle exhaust, and leaking motor fluids. These pollutants are also found on sidewalks and parking lots, and in the storm drain system. In addition to litter and debris, vegetation management and herbicide use are concerns associated with maintenance of street medians, parks, and other landscaped areas. Street repairs typically involve asphalt or concrete removal/addition and, therefore, materials such as saw-cut slurry and leftover waste must be properly contained to avoid discharge to the storm drain. The cleaning of buildings and walls can introduce soap and particulates, including paint chips, to the storm drain system if precautions are not taken.

The objective of the City's Municipal Operations Program is to prevent pollutants generated by municipal operations and activities from entering the storm drain system by doing the following:

- Develop and implement Best Management Practices (BMPs) in order to prevent or reduce pollutant runoff from municipal operations.
- Develop and apply measurable goals to evaluate the success of the BMPs.

It should be noted that, while this chapter focuses on practices that the City is incorporating into its municipal operations, many of the pollutants in urban areas are also controllable through education and outreach of the residents and businesses (which is addressed in other programs).

II. Pollutants of Concern and Target Audience

As described above, there are numerous pollutants of concern associated with municipal operations because there is such a wide range of work in a variety of fields. The primary pollutants of concern include: trash, debris, motor oil, metals, detergents, saw cut slurry, and hazardous materials.

EPA guidance documents identify sediment, debris, and other pollutants on roads and parking lots as pollutants of concern. Street sweeping is thus recommended on a regular basis to minimize these pollutant sources. EPA guidance documents also recommend storm drain

cleaning to reduce the amount of trash, debris, and pollutants being discharged into the storm drain system and local waterways. In addition, EPA guidance documents highlight the importance of proper hazardous materials storage; landscaping and lawn maintenance practices to minimize the discharge or runoff of pesticides and fertilizers; and proper municipal fleet maintenance.

The target audience is City staff primarily from the Parks and Recreation, Public Works, and Water Departments. This is because these are the principal departments responsible for conducting municipal operations work and the implementation of BMPs. Also targeted will be contractors hired by the City.

III. Program Elements and Best Management Practices

The City first determined which elements comprised the Municipal Operations Program and then selected the most appropriate Best Management Practices (BMPs) in order to reduce the pollutants of concern described above to the maximum extent practicable.

The Municipal Operations Program is comprised of the following elements:

- Street Sweeping and Cleaning
- Sidewalks, Plazas, and Parking Lot Cleaning
- Medians, Parks, Municipal Golf Course, and Other Landscaped Areas
- Repair and Maintenance of City Surfaces
- Painting, Paint Removal, Building Cleaning, and Graffiti Removal
- Storm Drain System Inspection and Cleaning
- Sanitary Sewer System Inspection and Cleaning
- Repair and Rehabilitation of Sanitary Sewer and Storm Drain Lines
- Dry Weather Storm Water Diversion Projects
- Municipal Facilities and Site Specific Operations
    - Corporation Yard
    - Municipal Swimming Pool
    - Municipal Golf Course Maintenance and Storage Areas
    - Parks and Recreation Department Yard
    - Parks and Recreation Remote Storage Areas
    - Fire Stations
    - Wastewater Treatment Plant
    - Resource Recovery Facility

- Beaches, Parks and Open Spaces
- Neary Lagoon Management
- Drinking Water Distribution System
    - Repair and Maintenance of City Water Infrastructure
    - Facilities and Operations Outside of City Limits
    - Water Department Remote Storage Areas
- Best Management Practices
- Training and Education of City Staff
- City-wide Watershed Issues Team

The program elements are described in more detail in the sections below. The selected BMPs are listed and described under each program element.

Street Sweeping and Cleaning

A wide variety of urban pollutants are found on city streets and road surfaces. For example, concrete and asphalt particles from pavement abrasion, heavy metals from leaking vehicle fluids, and litter are constantly deposited on our streets and roads. These pollutants ultimately runoff or find their way into the nearest drain inlet and enter the storm drain system.

The City conducts street sweeping for aesthetic, safety, and public health reasons. Studies show that approximately 90% of dirt and debris on the street is located within 12 inches of the curb. The City's street sweeping program utilizes several practices to reduce polluted runoff as follows:

- Increased street sweeping frequency in areas most prone to litter and dirt accumulation with focus on the San Lorenzo watershed to reduce sediment and bateria loading.
- Replacement of old sweepers with new, more advanced equipment, Regenerative Air PM10 Compliant sweepers, which pick up finer particulates. The City has replaced its three street sweepers with the Regenerative Air PM10 Compliant models.

Currently, street sweeping operations sweep approximately 35 miles of city streets per day. In the spring and summer, the sweepers collect approximately 2.6 tons per day of loose debris. In the fall and winter, the street sweepers collect about 5 tons of material, which is mainly comprised of leaves and mud, daily. The street sweepers typically operate between 5:00 am and 11:00 am. Street sweepers are cleaned at the City's Corporation Yard wash rack, which is plumbed to the sanitary sewer system.

In addition, manual hand sweeping is often conducted in tandem with the mechanical street sweepers in order to pick up larger debris and objects. Manual sweeping is also conducted whenever necessary in order to clean up after a particular event or accident. It is estimated that

manual hand sweeping removes about 1,448 pounds of trash, abandoned furniture, weeds, leaves, etc. each day.

Street Sweeping Frequency

As mentioned above, mechanical street sweeping is conducted on all City streets on a regular basis. However, some areas are swept more frequently than others based on which streets accumulate the most trash. Streets in all commercial areas are swept either once or twice per week depending upon where they are located. For example, streets in the "primary" commercial areas of downtown Santa Cruz and near Main and Cowell Beaches are swept twice per week because they accumulate the most trash and debris. In addition, these areas drain directly either to the San Lorenzo River or the beach. Streets in the "non-primary" commercial areas are swept once per week because they also accumulate substantial amounts of trash and debris. Most residential areas are swept twice per month although a resident may request that their street be swept more frequently if the other residents on the street support the request.

BMP #MO-1: Sweep City Streets By Mechanical Sweepers

Sidewalks, Plazas, and Public Parking Lot Cleaning

Sidewalks, plazas, and municipal parking lots are cleaned for aesthetic, safety, and public health reasons. Like streets, the pollutants found in these areas are usually associated with litter and vehicle use. During the fall season, leaves also clog the storm drain inlets.

Litter Control

The City has "No Littering" signs posted where appropriate. Litter and recycling receptacles are placed and maintained in areas of high use, such as the downtown area and near the Municipal Wharf. City staff empties litter and recycling receptacles daily in the downtown and Municipal Wharf areas, while receptacles in other commercial areas are cleaned and maintained as needed. In addition, receptacles in the City parks are cleaned on a daily basis. Since the waste and recyclables are collected as part of an aggregate route, the City is unable to quantify the amounts collected specifically from the high use areas as a measurable goal metric.

BMP #MO-2-: Take Measures to Control Litter

Sidewalk and Plaza Cleaning

The City currently cleans public sidewalks and plazas either by sweeping or by pressure washing using contractors hired by the City. Contractors hired by the City to pressure wash or steam clean the downtown shopping area sidewalks and other outdoor areas are required to collect the wastewater and discharge it into the sanitary sewer.

Sidewalks are typically hand swept in the "downtown" area three times per week. Sidewalks on downtown side streets are hand swept as necessary, for example some portions are done twice per week. Improved alleys are typically cleaned and hand swept once per month.

Leaf Program

Currently, the City is implementing a program called the "Leaf Program" in the downtown area during the fall months. Every Monday through Friday during the fall season, leaves are picked up off the sidewalks and streets to keep them from blowing into the storm drains. The leaves are brought to the City's Resource Recovery Facility where they are added to the *GreenCycle* (vegetation, yard clippings, etc.) wastes and converted into mulch.

Public Parking Lots and Municipal Garages

The City cleans the public parking lots (Nos. 2,3,4,5,6,7,8,9,1,0,11,13,14,16,17,20,23), Locust Garage and Soquel/Front Garages with a mechanical vacuum sweeper 6 days per week in lieu of wet cleaning. Lots 12, 18, 24 and 25 are mechanically swept once per week. The City will continue to do these lots and garage sweeping budget dependent.

In past years, the City has had the municipal parking garages annually cleaned (by pressure washing) by a contractor. The City is now planning to do this work in-house. The contractor was required to collect the wastewater and dispose of it in the sanitary sewer. City staff oversaw these cleaning events to ensure proper disposal of the wastewater. Currently, the City is in the process of obtaining the proper equipment to pressure wash and vacuum up the water for disposal in the sanitary sewer. Emergency work may still be done by a contractor who would also be required to collect and dispose of the water in the sanitary sewer.

City contractors are required to abide by the mandatory BMPs for outside cleaning in commercial and retail areas. For example, the wastewater from pressure washing of sidewalks, alleyways, and public garages is not allowed to be discharged into the storm drain system.

BMP #MO-3- Sweep Public Parking Lots and Municipal Garages Regularly

Medians, Parks, Municipal Golf Course, and Other Landscaped Areas

The primary pollutants of concern from medians, municipal golf courses, and other landscaped areas are sediment from erosion; nutrients from fertilizer use and organic matter (grass clippings and leaves); and heavy metals and toxic organics from pesticide/herbicide use. Erosion from areas where landscaping or other cover has deteriorated or never existed adds sediment to urban runoff. Litter and organic matter, such as clipping and leaves, may enter storm drain inlets. Fertilizers and pesticides applied prior to rainfall or in excessive amounts can run off into the street or storm drain. Debris and illegal dumping in public areas are also a source of pollution.

Landscaping Methods to Minimize Erosion

Medians, embankments, and City parks are planted with vegetation and maintained for both aesthetics and erosion control. Native species are planted in municipal landscaped areas whenever possible to minimize the need for watering and use of fertilizers. Irrigation systems are installed to minimize excess watering and reduce irrigation water runoff. Irrigation systems are inspected regularly to ensure that leaks are detected and repaired as soon as possible.

City's IPM Policy for Pesticide and Herbicide Use

In 1998, the City instituted an Integrated Pest Management (IPM) Policy to govern the use of pesticides and herbicides at parks, the municipal golf course, and other landscaped areas such as street medians. The IPM policy requires City departments to consider non-pesticide alternatives first when purchasing products to control pests and plant diseases. Eliminating pesticide use near watercourses and riparian areas is a priority. The policy's goal is also to eliminate the use of Toxicity Category I and II pesticides. Fertilizers are applied only as needed and the minimum amount necessary for the job is used.

Municipal Golf Course

The Golf Course has a computerized irrigation system that helps to prevent over-watering. Storm water runoff from the golf course is minimal because most of the runoff the area is retained in the turf. Grass clippings from turf maintenance are left in place on golf course. In 2005, the Golf Course installed an oil and grease separation unit at the discharge point for parking lot drainage to separate oils and solids prior to leaving the site.

Parks Cleaning

Some City parks have bleachers and buildings that periodically need cleaning. The Parks and Recreation Department cleans bleachers and under the awnings and eves of buildings (for cobwebs) typically by pressure washing. This practice is used only in situations where the wastewater falls onto grassy areas or soil. If sufficient grassy area or soil is unavailable to catch and absorb runoff, the City either pressure washes and collects the runoff for disposal in the sanitary sewer or uses dry cleanings methods.

Repair and Maintenance of City Surfaces (i.e. streets, roads, sidewalks)

These types of activities include repair work, such as asphalt or concrete removal, patching of potholes, resurfacing, and sealing pavement surfaces. Storm water pollution can occur when broken up asphalt, concrete cuttings, saw cut slurry, sediment, debris, and fuel or oil from construction equipment find their way into the storm drain system if precautions are not taken. Repair activities are conducted by both City personnel and contractors hired by the City.

Street Cutting and Road Work

City crews carefully follow BMPs in order to keep materials from entering the storm drain system while they are working. For example, nearby storm drain inlets are protected when breaking up asphalt or concrete and during saw cutting. After breaking up old pavement, crews sweep thoroughly and recycle the materials or properly dispose of the non-recyclable materials. Saw-cut slurry is removed when dry or by the end of the day. Material stockpiles are stored under cover to prevent the discharge or drifting of particles and materials into the street or storm drain system. It is also standard procedure to remove stockpiles of materials by the end of the day even if the job is not yet completed.

Street Patching, Resurfacing, or Surface Sealing

Patching, resurfacing, or surface sealing is not scheduled during wet weather. When striping is removed from City streets, it is typically blasted off with slurry comprised of baking soda and water. Sand is not longer used for blasting at the request of the local Air Pollution Control Board.

During blasting, City crews block the nearby storm drains and the wastewater is collected and neutralized prior to discharge to the sanitary sewer. After the job is done, the street is carefully swept multiple times to ensure that all particulates are picked up.

Concrete Work

Concrete mixers are washed out in designated areas and concrete is never discharged into the storm drain system. Whenever possible, the concrete washout is pumped back into the mixers for disposal at a concrete plant.

Bridge Work

When work is conducted on a bridge, City crews take precautions to ensure that materials are not blown or runoff into the water below. The three major downtown bridges, which span the San Lorenzo River, have all been recently retrofitted and do not contain any storm drains that directly release runoff into the river. This is also true of an older bridge, called the Market Street Bridge, which spans Branciforte Creek on the outskirts of town.

Equipment Leaks and Spills

City crews utilize dry clean up methods to clean up equipment leaks and spills. Typical dry methods include the use of absorbents such as kitty litter. Dry absorbents are picked or swept up after use and disposed of properly.

Painting, Paint Removal, Building Cleaning, and Graffiti Removal

Urban runoff pollution can also result from activities such as painting, paint removal, building cleaning, and graffiti removal. When painting or removing paint, care must be taken to prevent spills and paint particulates from reaching the storm drain. Building cleaning often involves pressure washing, grinding, or sand blasting which requires storm drain protection.

City crews generally transfer and load paint from the paint storage area at the Corporation Yard, into their vehicles prior to driving to a job site. This storage area is secondarily contained. Staff attempts to use up all paint in stock and leftover paint so that there is little waste. Leftover paint, that is not reused, is taken to the County of Santa Cruz landfill for recycling.

Marking Streets and Parking Lots

The City currently uses a “thermo-plastic” application to mark streets and parking lots in lieu of using paint. This dry application method creates markings that last longer and eliminates the chance of paint spills to the storm drain system.

Paint and Graffiti Removal

Paint is removed by grinding instead of blasting and it is the City’s policy to remove graffiti by “painting over” whenever possible to prevent the discharge of pollutants to the environment. Both City crews and hired contractors conduct graffiti removal. Graffiti found on non-painted surfaces (where painting over is not possible) is removed with power washing.

As of May 2002, the City contains the wastewater from power washing for graffiti removal by using berms. The water is collected using a shop vacuum and then discharged to the sanitary

sewer. City contractors, conducting power washing to remove graffiti, were required to prevent the discharge of untreated wastewater to the storm drain system as of March 2003. This requirement applies to graffiti removal from all types of locations and surfaces including pavement, walls, buildings, and bridges.

Building Cleaning

Exterior building cleaning is generally conducted by pressure washing. City staff protects all nearby storm drains from pressure washing runoff by covering them with heavy rubber mats that are held down by sand bags. The wastewater is then collected and disposed of in the sanitary sewer. Again, both City crews and contractors will be required to follow BMPs.

Storm Drain System Inspection and Cleaning

A variety of urban pollutants can flow to and accumulate in the storm drain system. For example, trash and litter from food packaging and paper products lodge in storm drain inlets. Organic matter and sediment can also clog catch basins. Heavy metals and toxic chemicals from the illegal dumping of waste antifreeze and oil, leaking vehicle fluids, and runoff of fertilizers and pesticides are also found in storm drain inlets and catch basins. Many pollutants are also flushed into receiving waters by dry weather flows or storm water in the wet season, particularly the season's first heavy storm. It should be noted that illicit connections are another source of pollutants in storm drains and are addressed in the Illicit Discharge Detection and Elimination Program.

Under the Wastewater Mains Division, the Public Works Department implements an aggressive "Team Clean Program" to clean and maintain the storm drain system prior to the onset of the rainy season. The Team Clean Program is typically conducted between September and November of each year. Team Clean focuses on the San Lorenzo watershed (Downtown, Lower Ocean Street area and the Beach flats).

Inspection, Cleaning and Repair of Catch Basins and Inlets

The Wastewater Mains Division crews inspect all Downtown, Beach Flats, and lower Ocean Street storm water catch basins and inlets in the City annually in the Fall in order to identify those in need of cleaning or repair. The City focuses on cleaning storm drain inlets in these areas because they are "high use" areas and most drain directly to the San Lorenzo River.

Each catch basin or inlet needing cleaning or repair is marked on a map of the storm drain system. The Wastewater Mains Division then schedules and conducts the appropriate remedial actions, such as cleaning or repairs, as part of the Team Clean Program. Basins, inlets and pipelines determined to be a "problem" or within an area of "intensive use," such as the downtown area are cleaned annually.

In addition, after large storm events during the wet season, the Wastewater Mains crews inspect the catch basins in the Downtown, Beach Flats, and lower Ocean Street areas and re-clean them as needed.

Some of the storm water catch basins and inlets in other areas of the City are also inspected annually and cleaned if needed dependent upon the staff time available after the primary focus areas are addressed.

Drainage ditches are also cleared of vegetation and debris to facilitate the flow of storm water. In general, if a catch basin needs a repair, the City will upgrade the catch basin rather than just making the repair.

In addition, the Wastewater Mains Division cleans and inspects pipelines from inlets to the mains as necessary, such as when a blockage or obstruction arises.

BMP #MO-4: Inspection, Cleaning and Repair of Catch Basins and Inlets

Branciforte Storm Water Conveyance Channel

As mentioned in the Overview section, Branciforte Creek is listed on the Section 303(d) list for impaired water bodies for sedimentation/siltation. The potential sources stated are non-point source, road construction, and silviculture. In addition, the RWQCB has adopted a TMDL for Fecal Indicator Bacteria for Branciforte Creek. The potential sources are urban runoff, septage disposal, nonpoint sources, and natural sources. Thus, targeting the sources of these pollutants to Branciforte Creek is a high priority.

As part of the Team Clean Program, the Wastewater Mains Division inspects and schedules as needed removal of all large trash and debris items (i.e. shopping carts, tires, etc.) in the conveyance channel from the Market Street bridge to the Ocean Street/Dakota street bridge prior to the onset of the rainy season.

BMP #MO-5: Inspection of Branciforte Storm Water Conveyance Channel and Trash Removal As Needed

Pump Stations Along the San Lorenzo River

There are five storm water pump stations located along the San Lorenzo River. These pump stations are cleaned twice per year, prior to the onset of the rainy season and during the Spring. Additional cleanings are also conducted during the wet season after large storm events if needed.

The lines to the pump stations in the downtown and Beach Flats areas are also flushed and cleaned annually as needed each fall because these tend to carry the greatest amount of debris.

BMP #MO-6: Clean Pump Stations Along the San Lorenzo River

CDS Unit

The City has agreed to maintain a CDS unit, installed by the County of Santa Cruz, located at Soquel Avenue and Capitola Road. This CDS unit was installed to treat runoff that drains into Arana Gulch from Soquel Avenue. Typically, there is no flow during the summer months. Thus,

the City will clean the unit in the fall and spring each year. In addition, the City will inspect the unit monthly during the wet season and clean if needed. The City hopes that the CDS unit will improve the water quality of the urban runoff flowing though this site by removing gross pollutants such as cigarette butts, plastic, and other debris.

BMP #MO-7: CDS Unit Maintenance

Storm Drain System Cleaning Wastes

Storm drain system cleaning wastes are typically brought to the City's Wastewater Treatment Facility (WWRF) for dewatering prior to disposal at the City's landfill. All wastewater is thus discharged into the WWTF sanitary sewer line and is prevented from running off into the storm drain system. Once dewatering has been completed, the wastes are brought to the City's landfill for disposal.

Inspections of Storm Drain Lines

The City will conduct TV camera inspections of the storm drain system annually as the budget allows and on an as-needed basis. In addition, TV camera inspections may be used on a particular line when an illegal connection is suspected. The City's measurable goal is that, over a 5 year period, we will TV or visual inspect the inside of an average of 1000 feet of pipeline per year.

BMP #MO-8: Conduct Inspections of Storm Drain Lines

Sanitary Sewer System Inspection and Cleaning

The City will clean all sanitary sewer main lines every 18 months. Follow-up TV inspections will be done if during the cleaning process a problem is discovered in the line.

BMP #MO-9: Clean Sanitary Sewer Main Lines

Repair and Rehabilitation of Sanitary Sewer and Storm Drain Lines

Deteriorating or leaking pipes in the sanitary sewer or storm drain systems contribute to urban runoff pollution in our waterways. Sanitary sewer and storm drain pipelines are sometimes laid in close proximity to each other making them particularly susceptible to infiltration. Infiltration of sewage and other pollutants into the storm drain system occur as the underground pipes age and develop cracks, leaks, and breaks. Infiltration is especially a problem in lower lying areas of the City, particularly near the San Lorenzo River, because the water table is so high. Pipes may also have structural failures, which are repaired by the City as soon as they are detected. A break in a sewer lateral or main can result in a direct discharge to a creek, the San Lorenzo River, or other water body depending upon the location. City line maintenance crews rapidly clean up spills and correct blockage problems using one of the City's vacuum trucks.

Sanitary Sewer Main Lines and Private Laterals

The City has an aggressive sanitary sewer rehabilitation program to repair/replace undersized, cracked, broken, faulty, or aging pipes. In general, the City fixes deteriorating or leaking sanitary sewer pipes by either replacing the line or lining the inside to seal off cracks, holes, and leaking areas. In the past several years, the City has done considerable sewer rehabilitation in areas around the San Lorenzo River because the poor condition of these pipes was thought to be causing sewage infiltration into the river. In 2001, the City rehabilitated approximately 13,000 feet of sanitary sewer main lines by either "pipe bursting" or "pipe lining." In 2002, the City rehabilitated approximately 11,495 feet of sanitary sewer main lines. The City is currently working on developing a mapping system that will allow the sanitary sewer pipelines to be mapped according to their age.

In addition, in past few years, the City has rehabilitated or replaced a small number of private laterals from the main to the cleanout in the sidewalk. This is because leaking private sanitary sewer laterals also contribute to infiltration problems and may cause discharges to the storm drain system. Private laterals are the responsibility of the property owner. However, the property owner often does not know if their lateral is deteriorating or has a leak. Even if they are aware of a problem, repairs or replacement are sometimes put off due to the expense. Thus, private laterals are often the source of chronic spills or leaks. Occasionally, the City will clean up spills from private lines and attempt to open blockages in laterals if immediate action is necessary, or if the job is easy and does not interfere with scheduled work. Otherwise, a property owner must hire a plumbing service to remove the blockage.

Past City efforts to rehabilitate or replace private sewer laterals in critical areas include the following:

In 2000, approximately 50 private laterals were rehabilitated or replaced.

In 2002, approximately 50 private laterals were rehabilitated or replaced.

In 2002, 16 private laterals were rehabilitated or replaced.

In 2003, the City replaced approximately 80 private laterals including 70 laterals done under the Clean Beaches Initiative Project (CBI Grant Program, Proposition 13) as described below.

In addition, in 2004, the City was awarded Clean Beaches Initiative Project funding (CBI Grant Program, Proposition 13) from the State Water Resources Control Board (SWRCB) for the City's Sanitary Sewer Rehabilitation and Storm Drain Dry Weather Diversion Projects. In accordance with this grant, the City provided matching funds for the project. The purpose of this project was to investigate and correct the sources of bacterial contaminants that enter the lower San Lorenzo River via the storm drain system in order to improve water quality at Main and Cowell's Beaches. The bacterial contaminants were thought to originate from both the sanitary sewer and storm drain systems due to cracked and leaking pipes, and urban runoff.

A TV camera investigation of existing sanitary sewer lines and laterals in the "Beach Flats" area was conducted in 2003 in order to identify areas of infiltration and exfiltration. The investigation revealed many leaky mains and private laterals (from the main to the cleanout at the property

line). These mains and laterals were repaired in 2003 and 2004 in order to help eliminate exfiltration of bacteria sources into the San Lorenzo River groundwater. Approximately 6,000 linear feet of mains and approximately 70 laterals were replaced. The total project cost was approximately $800,000. This work was significant towards improving the water quality in the San Lorenzo River and the San Lorenzo River Lagoon which are listed on the Section 303(d) list of impaired water bodies for pathogens.

Currently, the City will replace or fully rehabilitate, on average, 3,000 feet of sewer main pipeline per year over the five year permit period.

BMP #MO-10: Replace or Rehabilitate Sanitary Sewer Main Lines

Lateral Inspection Program

In the future, the City is planning to develop and implement a Lateral Inspection Program in order to minimize subsurface leakage of sanitary sewage into ground water and nearby storm drain lines, and to minimize line blockages which can cause spills into the storm drain system.

BMP #MO-11: Development and Implementation of a Lateral Inspection Program

Repairs and Rehabilitation of Storm Drain Lines

The City repairs or rehabilitates storm drain lines that have deteriorated. The City will repair or rehabilitate, on average, 100 feet of pipeline per year over the five year permit period

BMP #MO-12: Conduct Repairs and Rehabilitation of Storm Drain Lines

Dry Weather Storm Water Diversion Projects

Dry Weather Storm Water Diversion Project-CBI Grant #1

As part of the CBI Grant funding, Proposition 13, for the sanitary sewer work described above, the City also inspected and rehabilitated portions of the storm drain system along the San Lorenzo River levee. In addition, the City completed significant dry weather diversion work at three flood control pump stations along the lower San Lorenzo River to enable the diversion of storm water runoff to the City's Wastewater Treatment Facility during the dry season. As mentioned above, the project was designed to reduce sources of bacteria from entering the San Lorenzo River and adjacent beaches (Main Beach, Cowell Beach and Seabright Beach) that are visited by several million people each year. This work is also significant because the San Lorenzo River and the San Lorenzo River Lagoon are both listed on the Section 303(d) list of impaired water bodies for pathogens as mentioned above. The San Lorenzo River is also listed for sediment and nutrients.

The large storm drain pipelines along the river levee were inspected by TV camera (over 16,000 lineal feet) and subsequently repaired. As mentioned above, the project involved retrofitting three pump stations/wet wells, Pump Stations, 1, 1A , and 2, along the San Lorenzo River in order to divert dry weather flows and groundwater to the sanitary sewer system rather than

pumping this water into the San Lorenzo River. Also, as part of this project, approximately 2,500 linear feet of large diameter storm water pipeline adjacent to the San Lorenzo River levee (along Elm Street, Spruce Street, and Center Street) were lined in order to prevent groundwater and sand from entering the existing non-gasketed concrete storm drain lines. This was done to reduce the amount of water to be pumped and diverted to the Wastewater Treatment Facility. The project began in 2003 and the work was completed in 2005. A map of the pump stations/wet wells along the lower San Lorenzo River is included in Attachment # 29.

Both the Beach Flats Sewer Replacement and the Dry Weather Storm Flow Diversion projects are monitored in cooperation with the County of Santa Cruz Environmental Health Department's Beach and Ocean Monitoring Program. The County program also provides monthly monitoring of each wet well (pump station) associated with the retrofit project as well as weekly lagoon and ocean monitoring at Cowell Beach, Main Beach, Seabright Beach, and the San Lorenzo River mouth. The County program provided data on total coliform, fecal coliform, and enterococcus bacteria at areas where regular beach closings have occurred in the past. The frequency and length of beach closings, following the retrofit projects, will be compared with data collected from 1995–2001 to ascertain effectiveness of eliminating bacteria exceeding levels of safe water contact.

Thus, each year, the City will conduct dry weather diversion of storm water from San Lorenzo River pump stations 1, 2, and 1A to the Wastewater Treatment Facility (WWTF). Although storm water and urban runoff flows around the clock into the pump stations and is thus diverted daily from the River, the actual pump downs of water to the WWTF is done on a weekly basis. Exceptions to this are periods during the summer when the River is shoaled and the diversions are temporarily ceased in order to avoid pumping groundwater to the WWTF.

BMP #MO-13: Dry Weather Diversion of Storm Water from SLR Pump Stations 1, 2, and 1A to the Wastewater Treatment Facility

<u>Dry Weather Storm Water Diversion Project-CBI Grant #2</u>

In 2006, the City was awarded Clean Beaches Initiative (CBI) Project funding from the State Water Resources Control Board (SWRCB) for the Dry Weather Diversion Project at San Lorenzo River Pump Stations 1B and 3. The purpose of this project is to install dry weather diversion equipment at the two other control pump stations (see CBI Grant #1 above) along the lower San Lorenzo River so that storm water runoff may be diverted to the City's Wastewater Treatment Facility (WWTF) during the dry season. The project's goal, as with the first grant work, is to reduce the levels of bacterial contaminants entering the lower San Lorenzo River via the storm drain system in order to improve water quality at Main and Cowell Beaches. The bacterial contaminants are thought to originate from both the sanitary sewer and storm drain systems due to cracked and leaking pipes, and urban runoff.

To date, the City has accomplished the storm drain lining work and the diversion pumps have been installed at Pump Stations #1b and #3. Currently, the City is installing nine rubber duck bill tideflex valves on storm drain gravity outlets in the San Lorenzo River as part of the diversion work. Four have been installed so far and plans are to complete the remaining five by Fall 2008.

The goal is to reduce river flow back into the pump stations to eliminate unnecessary flow to the WWTF through the diversions. As mentioned above, monitoring for the project will be done in cooperation with and by the County of Santa Cruz Environmental Health Department. The County will provide monthly monitoring of each pump station as well as the weekly lagoon and ocean monitoring at Cowell Beach, Main Beach, Seabright Beach, and the San Lorenzo River mouth which they currently conduct as part of their Beach and Ocean Monitoring Program. A map of the pump stations/wet wells along the lower San Lorenzo River is included in Attachment # 29.

As with the CBI Grant #1 work above, this project should be effective at reducing the bacteria levels in the San Lorenzo River and the San Lorenzo River Lagoon, which are listed as impaired for pathogens and covered under the RWQCB adopted *TMDL for Pathogens in the San Lorenzo River Watershed Waters*.

Thus, each year, the City will conduct dry weather diversion of storm water from San Lorenzo River pump stations 1b and 3 to the Wastewater Treatment Facility (WWTF). Although storm water and urban runoff flows around the clock into the pump stations and is thus diverted daily from the River, the actual pump downs of water to the WWTF is done on a weekly basis. Exceptions to this are periods during the summer when the River is shoaled and the diversions are temporarily ceased in order to avoid pumping groundwater to the WWTF.

BMP #MO-14: After CBI Grant Project Completion, Dry Weather Diversion of Storm Water from SLR Pump Stations 1B and 3 to the Wastewater Treatment Facility

Municipal Facilities and Site Specific Operations

Corporation Yard

There are multiple urban runoff issues associated with corporation yards and other municipal operations areas because these sites typically conduct vehicle and equipment repair work, washing, and fueling. These sites also frequently have storage areas for a variety of new and waste chemicals, such paints, pesticides, lubricating oils, soaps, solvents, and cleansers.

The City owns and operates a corporation yard for the maintenance and parking of City-owned vehicles. The Corporation Yard includes a fueling area for City vehicles. Table 1-0 below lists these activities and the corresponding urban runoff concerns.

Table 1-0

Corporation Yard Activities and Urban Runoff Concerns

Activity/Source	Urban Runoff Concern
Vehicle washing, equipment cleaning, engine steam cleaning	Discharge of soap, cleansers, heavy metals, and sediments to the storm drain
Changing auto fluids	Spills of fluids, especially in outdoor or uncovered areas
Vehicle fueling	Fuel spills

Parked vehicles and equipment	Fuel leaks and drips outdoors
Outdoor materials/waste storage	Release/spill of stored materials

The hazardous storage is managed by the Facility Maintenance Division. The County of Santa Cruz Environmental Health Department conducts annual inspections of all hazardous storage at the Corporation Yard.

Site Inspections:
City Environmental Compliance Inspectors conduct annual inspections at the Corporation Yard for compliance with sanitary sewer and storm water pollution prevention requirements.

Fleet Vehicle Maintenance and Repairs
The City's BMPs for Vehicle Service Facilities are directly applicable to activities conducted at the Corporation Yard. Therefore, the Corporation Yard is already implementing these control measures in addition to following the BMPs for Municipal Operations. Routine maintenance and repairs are performed in a designated auto repair shop building that is comprised of multiple work bays that do not have floor drains. Drip pans are always used when a mechanic changes automotive fluid or works on a vehicle part that might leak fluids and the shop is equipped with spill control materials, solvent recycling containers, drip pans, and other such measures to ensure that vehicle fluids do not reach the outside. Cleaning of the fuel island is only done using dry methods, i.e. absorbent. City vehicles that are maintained and repaired here include the City's fleet cars and trucks, street sweepers, sanitation trucks, Police vehicles, and Fire engine trucks.

The City conducts routine maintenance of all its vehicles to prevent breakdowns while out in the field. However, when a vehicle does breaks down in the field, a City mechanic travels to the vehicle wherever it has parked or pulled over. The mechanic brings and uses drip pans and "socks" to contain any spills or leaks, and dry absorbent materials. The Corporation Yard repair shop abides by the BMPs for Vehicle Service Facilities.

Site Inspections:
Staff from the Mechanical Division conducts daily, weekly, and monthly inspections of the Corporation Yard fueling site (see below), water reclamation system, lubricant storage, and work bays cleanliness.

Fleet Vehicle and Equipment Washing
Vehicle and equipment washing is conducted in three designated wash pad areas at the Corporation Yard as described below:

1. The first wash rack, which is designated for use by Fleet Maintenance, is used to clean cars and truck that are in the garage for service. This wash rack is covered and sloped to prevent discharged of wash water outside. The wash rack also has a hot pressure washer that is used for engine steam cleaning. Due to the engine steam cleaning work, all the wastewater from this wash rack (even the exterior vehicle wash water) is discharged to a closed loop system. The closed loop system consists of a recycling unit with a 1,000 gallon holding tank.

2. The second wash rack is designated for use by Sanitation. This wash area is used to clean sanitation dumpsters and residential trash containers. The wash rack is covered and sloped to prevent discharged of wash water outside. The wastewater is plumbed to a three-stage clarifier that discharges to the sanitary sewer.
3. The third wash pad is also designated for use by Sanitation. This wash pad is located outside and was made for the cleaning of large vehicles such as garbage trucks. The City's street sweepers are also cleaned here. The wash pad is currently uncovered, however, it is sloped. The wastewater drains to a three-stage clarifier which discharges to the sanitary sewer.

Site Inspections:
Staff from the Mechanical Division conducts daily, weekly, and monthly inspections of the Corporation Yard fueling site. The fueling site inspection is a mandated program from the Monterey Bay Unified Air Pollution Control District and the County of Santa Cruz Environmental Health Department. A log is kept of the inspections.

Spill Response Plan and Clean-Up Materials
The Corporation Yard has developed a spill response plan for the clean up of accidental spills. Possible accidental spills include spills of gasoline, diesel, or oils (engine oil, hydraulic oil) at the fueling area.

Clean-up materials include dry absorbent materials (Absorb-All) located in a large drum at the fuel island in case of a gasoline or motor oil spill. Other potential spills at the Corporation Yard include spills of coolant, antifreeze, and asphalt emulation oils. There are containers of dry absorbent materials (Absorb-All) located in the garage and work bays. All locations have brooms and dustpans to pick up the used absorbent. Spills are cleaned up immediately, and precautions are taken during clean up to keep spills from escaping and for worker safety. Cleaned up waste materials are disposed of as hazardous waste. Rags may also be used to clean up drips and very small spills. Used rags are returned to an industrial cleaner for cleaning and reuse.

Garbage trucks, which are the most prone to breaking down, routinely carry dry absorbent materials on board

Municipal Swimming Pool
The primary pollutant of concern related to municipal swimming pools is chlorine.

The City's municipal pool is located in Harvey West Park and is managed by the Parks and Recreation Department.

Pool Maintenance:
The City has significantly reduced its use of chlorine in the local public pool (located at Harvey West Park) by using bromine on a daily basis, although the pool is treated with chlorine twice a month. When the water from the municipal swimming pool is drained for cleaning, it is discharged to the sanitary sewer. (As for private residences, the City has banned the discharge of swimming pool water to the storm drain system.)

Site Inspections:
Municipal pool staff conducts annual site inspections at the pool for safety and cleanliness. A log is kept of the inspections.

Municipal Golf Course Maintenance and Storage Areas
Urban runoff concerns at golf course maintenance and storage areas include golf cart and equipment washing, proper storage of pesticides and herbicides, and waste vegetation disposal.

The Municipal Golf Course, which is managed by the Parks and Recreation Department, has several areas where maintenance activities are conducted or materials are stored. The maintenance shop repairs and cleans equipment, such as grass mowers, used to maintain the golf course. Dry methods, such as use of kitty litter, are used in the shop to clean up spills. The equipment wash rack is covered and plumbed to the sanitary sewer. In addition to the BMPs for Municipal Operations, the yard implements all applicable BMPs for Vehicle Service Facilities.

There is a "cart barn" which houses golf carts, although the carts are actually maintained by a City contractor. There are two small hazardous materials storage buildings, one that is used to store pesticides (primarily fungicides) and one that stores gasoline, oil, and paint. Double containment is provided for storage of hazardous materials.

Site Inspections:
Golf Course staff conducts annual site inspections at the golf course maintenance and storage areas for safety and cleanliness. A log is kept of the inspections.

Parks and Recreation Department Yard
The Parks and Recreation yard provides parking for the Department's fleet vehicles. However, fueling and most of the vehicle repair and maintenance work is conducted at the Corporation Yard. The City installed a vehicle and equipment wash rack at this site in 2003. The wash rack wastewater is filtered/treated and then discharged to the sanitary sewer. In addition to the BMPs for Municipal Operations, the yard implements all applicable BMPs for Vehicle Service Facilities.

Equipment such as tractors and mowers are kept at the Parks and Recreation Yard. Parks Mechanics work on all the tools & equipment. The fuel for large moving equipment is stored in a storage locker for flammables. Paints are also stored in this locker. There is a small equipment shop where items, such as mowers and tree stump grinders, are repaired and maintained. The storage locker and sheds undergo a complete inspection once a month and are checked weekly for spills and leaks. The Parks and Recreation Department keeps records of all inspections.

Site Inspections:
Parks Department staff conducts annual site inspections at the Parks and Recreation Yard for safety and cleanliness. A log is kept of the inspections.

Parks and Recreation Remote Storage Areas

Remote storage areas are generally used for the storage of landscaping equipment and gasoline. There are numerous remote storage areas located at Parks and Recreation sites throughout the City. The majority are small buildings or closets. They typically house gardening tools and gasoline for lawn mowers or leaf blowers. Gasoline is properly contained according to state regulations. The remote storage areas are used or checked by City crews daily. These storage areas undergo complete inspections once a month and are checked weekly for spills and leaks.

Site Inspections:

Parks Department staff conducts annual site inspections at all remote storage areas for safety and cleanliness. A log is kept of the inspections.

Municipal Wharf

The Municipal Wharf (Wharf) offers tourists and locals a place to shop, dine, or watch the sea lions and elephant seals lying on the wooden crossbeams below. The wharf is also an attraction for various species of gulls and other birds that perch on the buildings, railings, and utility poles.

The Parks and Recreation Department manages the Wharf. Wharf staff makes considerable effort and implements multiple measures to maintain cleanliness at the Wharf. In addition to providing a clean and safe environment for those patronizing and working at the Wharf, these efforts also greatly help to reduce the amount of pollutants that might drop or be blown off the Wharf into the Bay below. For example, the following measures are typically taken:

1. Sweep all public decks by mechanical sweepers on a daily basis. Staff hand sweeps and uses a grab-stick to clean the areas not open to the sweeper.
2. Sweep deck and stairs of overhead walkway and north commons building on a weekly basis.
3. Empty public trash cans on a daily basis on weekdays.
4. Empty public trash cans twice a day on weekends and holidays
5. Empty Wharf HQ trash cans on a daily basis
6. Empty public recycling cans twice a week
7. Clean and maintain public benches twice a day
8. Clean and maintain Wharf stage twice a day
9. Maintain fish sinks twice a day
10. Spot clean compactor enclosures on a weekly basis
11. Clean recycle collector areas on a weekly basis

In addition, parking and outdoor eating areas are swept instead of pressure washed. The Wharf does not routinely hose down or “power wash” the sidewalks. Localized cleaning is typically done using a mop and limited amounts of water. During the summer, in preparation for public events/festivals, the large public area is cleaned to remove bird droppings. This is either done by the Wharf crew using wet cleaning methods (scrubbing and no soap) with booms to catch the water, which is then vacuumed up and discharged into the sanitary sewer. Or, more frequently, the City hires a pressure washer for this work because the contractor also collects the water and discharges it into the sanitary sewer. The City hires a pressure washer to clean the buildings and awnings between Memorial Day and October each year in this fashion too. Soap and detergents are not used.

Occupants of the larger buildings on the Wharf used to clean their roofs on a monthly basis during the summer to remove bird droppings, but Wharf staff has encouraged them to use netting instead to discourage the birds from landing. So far this approach appears to be effective. Staff has implemented a variety of other methods to discourage the birds from perching on the wharf because their droppings are unsightly and it is difficult to clean wharf surfaces without the droppings reaching the water below. Currently, architectural devices for railings and roofs are employed to discourage perching. When a section of wharf railing is rebuilt, a railing with a specially designed top to discourage bird perching is installed. (Apparently railings without a flat top are uncomfortable to birds for perching for long periods of time).

Site Inspections:
In addition to the cleanliness measures detailed above, Wharf staff conducts annual site inspections for safety and cleanliness. A log is kept of the inspections.

Fire Stations
The main storm water issue of concern at local Fire Stations is the on-site washing of fire engine trucks. Currently, fire trucks are currently being washed at each of the three fire stations. Washing is done with plain water only, except after an emergency fire activity when biodegradable soap is used.

Fire engine maintenance and mechanical repairs are conducted at the Corporation Yard.

Wastewater Treatment Facility
The City's Wastewater Treatment Facility is operated under NPDES Permit No. CA 0048194. All outdoor drains at the Wastewater Treatment Facility are routed to the sanitary sewer influent in order to prevent anything, such as spilled sanitary wastes, from being discharged to the storm drain system. This means that rain water is also routed to the sanitary sewer from paved surfaces around the treatment plant. This effectively prevents rain from carrying any pollutants to the storm drain that might unknowingly be on the pavement. This is allowed by the City of Santa Cruz Wastewater Treatment Facility NPDES permit.

Resource Recovery Facility
The Resource Recovery Facility (RRF) includes a municipal solid waste landfill and a recycling center. The RRF has several issues of concern related to storm water runoff. Leachate seeps may runoff the landfill and enter the storm drain system if they are not noticed and repaired quickly. In addition, there is a small shop where equipment maintenance is conducted.

The RRF currently operates in accordance with a Waste Discharge Requirements Order, No.R3-2006-0018, and the required Monitoring and Reporting Program issued by the RWQCB. The RRF is also currently permitted under an Industrial Activities Storm Water General Permit. A Notice of Intent (NOI) was submitted to the State Water Resources Control Board on July 1, 1997. The City conducts sampling and submits annual reports regarding storm water discharges, as required by the permit, to the Central Coast RWQCB. The City has also a Storm Water Pollution Prevention Plan for the site. In addition, landfill slopes and decks are visually inspected by landfill staff, particularly during the rainy season, in order to detect and prevent/repair leachate seeps as soon as possible.

The landfill has a maintenance shop that conducts repairs of landfill equipment. The shop implements the applicable BMPs for Vehicle Service Facilities. The landfill's maintenance shop abides by the BMPs for Vehicle Service Facilities.

Site Inspections:
An Environmental Compliance Inspector inspects the RRF on an annual basis for storm water and wastewater compliance. This site inspection focuses on the recycling, equipment maintenance, and office areas of the RRF.

Beaches, Parks and Open Spaces

Beaches

The Parks and Recreation Department is responsible for cleaning Main and Cowell Beaches, which are the primary tourist beaches in the city. The Municipal Wharf is basically the divides the two adjacent beaches. The San Lorenzo River empties into Monterey Bay at the south end of Main Beach. Main Beach is also flanked on the east side by the Santa Cruz Beach Boardwalk, which is also a very popular tourist destination and includes an amusement park. Cowell Beach is bordered on the north side by cliff walls.

Staff manually cleans both Main and Cowell Beaches daily throughout the year. During the summer, in addition to the manual cleaning, a sandsifting machine is also used to remove and clean smaller particles from the sand. Parks and Recreation staff also conducts an annual spring cleaning at these beaches, typically in late March or April after the last big rainstorm and before the start of the tourist season and "spring break."

During this annual spring cleaning, crews spend approximately 2 weeks cleaning the beaches both by hand and using a tractor to remove the larger debris found on the sand. In addition to litter left by the public, winter storms can also cause significant amounts of debris to be deposited on the beaches. Much of it comes from the debris that is flushed into the San Lorenzo River during storm events. The debris is either deposited directly onto Main Beach at the river mouth or carried by currents along the beaches and then washed ashore by waves and high tides. The debris components typically range from smaller items, such as cigarette butts, pieces of polystyrene, bottles, and cans, to large items such as wood and mixed garbage. Crews have even found unusual items such as a dishwasher on the beach.

During the 2008 spring cleaning, staff collected approximately 100 tons of debris from Main and Cowell Beaches

BMP # 15: Conduct Cleaning at Main and Cowell Beaches

Parks and Open Spaces

The Parks and Recreation Department manages the City's parks and open spaces. In addition to basic litter control measures as discussed above, the Department takes additional measures to keep these areas clean and free of debris. In particular, efforts are undertaken to address the trash

and debris resulting from illegal campsites that spring up in the City's parks and open spaces. Areas that tend to have these illegal campsites include DeLaveaga Park, Pogonip Open Space and Pogonip Creek, Arana Gulch, and Moore Creek and the San Lorenzo River corridor between the Jesse Street Marsh and Paradise Park.

Parks and Recreation currently implements an Illegal Campsite Clean-Up Program in order to keep these areas clean and prevent environmental degradation resulting from illegal campsites. This is because illegal camping tends to result in litter and debris, and the discharge of human waste to the environment. Often illegal camping is found along creeks and the San Lorenzo River which amplifies the concerns since any illegal discharges, such as litter or human waste (which can carry bacteria and other pathogens), can quickly enter the waterway and degrade habitat.

As part of the Illegal Campsite Clean-Up Program, Park Rangers and City Police work together to contact illegal campers and gain compliance. Rangers and Police walk through the areas that tend to have illegal campsites on an annual basis or more as needed. After the illegal campers have been evicted, Parks Crews remove the remains of the illegal campsites and any trash or debris. After the clean-up efforts, Parks crews will also take measures to restore areas that have been degraded or eroded by the illegal camping.

BMP # 16: Implement Illegal Campsite Clean-Up Program In City Parks and Open Spaces

Neary Lagoon Management

The Neary Lagoon Watershed is located within a mile of the City's downtown area and comprises approximately 850 acres. The watershed includes the UCSC campus and approximately one half of the west side of the City, most of which is residential neighborhoods. Other land uses within the watershed include roads, open spaces, churches, schools, and a small amount of commercial businesses. Neary Lagoon itself is comprised of approximately 44 acres of wetland, riparian and woodland habitats. In general, the lagoon is shallow with few areas more than 4 feet deep although a fixed weir controls the lagoon water level. The lagoon detains storm water, urban runoff, and groundwater from the watershed prior to its discharge into Monterey Bay and the Pacific Ocean.

Management of Neary Lagoon includes flood protection for the surrounding areas, enhancement of lagoon water quality, vegetation and wildlife habitat maintenance and improvements, mosquito control, and lagoon aesthetics. Dry season inflows into Neary Lagoon are primarily from domestic activities in the watershed, such as a lawn watering and car washing, and water from the natural seeps and springs that dot the City's West Side. Sampling of the lagoon conducted by the City indicates that high coliform concentrations are present, which are possibly due to the waterfowl using the area. During the dry season, the City diverts surface water from Neary Lagoon to the Wastewater Treatment Facility (WWTF) so that this water may be treated prior to discharge into the Pacific Ocean.

During the wet weather season, Neary Lagoon outlets to Monterey Bay at Cowell Beach via a 66"gravity storm pipeline and one force main storm pipeline. The force main is used when the

City activates the flood control pumps at the lagoon in order to prevent flooding of adjacent areas during storm events when the capacity of the gravity pipeline is not sufficient to handle the flows. There are three flood control pumps, each rated at 33,600 gallons per minute.

The City is incorporating the following BMPs, for both the dry and wet weather seasons, for Neary Lagoon Management into the Municipal Operations Program. In addition, although, the City no longer conducts testing of the flood control pumps, the City has developed a BMP for pump test discharges in the event that, in the future, there may be a need to test these pumps.

Dry Weather Season

Dry Weather Diversion from Neary Lagoon to Wastewater Treatment Facility

Dry weather surface water discharge from Neary Lagoon to Monterey Bay is prohibited. The only exception is for any pump test discharges conducted in accordance with the BMP "*Manually Operate Pumps During Flood Control Pump Tests*" as detailed below. As mentioned, during the dry weather season the lagoon's discharge is diverted to the WWTF via a 12-inch bypass line so that this water may be treated prior to discharge into the Pacific Ocean. The bypass line runs only if the water level is high enough in the lagoon.

The "dry weather season" is generally defined as April 1-October 3 when the WWTF has adequate capacity. However, the City may divert lagoon water to the WWTF during the "wet weather season" if the treatment plant has adequate capacity, including both hydraulic and organic loading, at that time. This is done upon occasion to maintain consistent lagoon levels, and to minimize pump operation and discharges to the beach, in addition to treating the water prior to discharge. Diversion to the WWTF will cease if the City believes it may cause a treatment plant permit violation.

The dry weather diversion to the WWTF is important for the receiving water quality because during the spring and summer months the bacteria levels in Neary Lagoon tend to increase primarily due to the reduced freshwater flows into the lagoon and the presence of the many birds that utilize the lagoon. Thus, this water is diverted to the treatment plant for treatment prior to discharge to the Pacific Ocean in lieu of being discharged to Cowell's Beach, which is one of Santa Cruz's most popular tourist beaches. The City intends to divert lagoon water to the WWTF at least 108 days per year.

BMP #MO-17: Dry Weather Diversion from Neary Lagoon to Wastewater Treatment Facility

Clean Storm Drain Lines and Discharge Stagnant Water to the Sanitary Sewer System

During the dry season, the water sitting in the force main storm drain pipe and the gravity storm drain line running in between the lagoon and the Cowell Beach outlet becomes stagnant, and accumulates sediment and high bacterial counts. Therefore, prior to the onset of the wet weather season, the Wastewater Mains Division hydro-cleans these pipes and pumps the water into the sanitary sewer system/WWTF using portable pumps. In conjunction with pumping, the force main and gravity lines are hydro flushed as needed. This flushing process continues until there is insufficient water in the pipelines to continue pumping. Water from the lagoon is also diverted to

the WWTF (via the bypass system) in order to lower the bacteria levels that have built up during the summer.

As with the dry weather diversion mentioned above, this line cleaning work and flushing to the WWTF is important for the receiving water quality because the bacteria levels in these storm drain pipelines become elevated during the spring and summer when they are not being used. Thus, this water is treated prior to discharge to the Pacific Ocean in lieu of direct discharge to Cowell's Beach.

The City therefore will clean these lines and discharge the water to the sewer system for approximately 3 weeks each year during the Fall. An accounting of the pumping, including the duration and amount of water discharged to the sanitary sewer system, will be provided to the RWQCB as part of the City's storm water annual report.

BMP #MO-18: Clean Neary Lagoon Storm Drain Lines and Discharge Bacteria Laden Water to the Sanitary Sewer System

Lagoon Water Sampling

Coinciding with the pumping/flushing process described in the above BMP, the City conducts sampling inside the lagoon to assess water quality, particularly bacteria levels. Sampling is conducted as detailed below:

Sampling is conducted at the following times:

1) Before pumping to the sanitary sewer commences
2) After pumping to the sanitary sewer is terminated

Grab samples are taken at the following locations:

1) At the pump station
2) At the outlet from the lagoon into the gravity storm drain line (under the trestle)
3) At the outlet from the lagoon into the force main storm drain pipe
4) At the head wall at Cowell Beach

The samples are analyzed for the following parameters:

1) Fecal coliform bacteria
2) Enterococci bacteria
3) TOC (Total Organic Carbon)
4) Ammonia
5) pH

Wet Weather Season

During the rainy season when the lagoon elevation becomes too high, the City manually operates the flood control pumps in order to prevent flooding of the adjacent areas. In addition, the City abides by the following conditions for flood control pump operations:

1. Two hours prior to operation of the flood control pumps, the City will notify in writing, by fax or email, the following agencies of the estimated date of discharge: the Central Coast Regional Water Quality Control Board (RWQCB), the Monterey Bay National Marine Sanctuary, the Coastal Commission, and the County of Santa Cruz Environmental Health Department. If two hours notice is not possible, due to unforeseeable circumstances such as the weather, the City may provide less notice. The City, as its discretion, will also notify other interested parties if possible.

2. Prior to pump operation, the City will notify the public in the area of the impending discharge. In addition, the City has a permanent sign posted at the outfall structure and another sign (which gets flipped at the time of opening the outfall prior to the wet weather discharge) at the stairs leading to the beach that warns the public of contaminated water. Also, the County of Santa Cruz, Department of Environmental Health, provides signage as necessary concerning health risks at Cowell Beach.

3. Prior to pump operation, whenever possible, the City will prepare the beach in front of the outfall structure to form a channel leading to the beach.

In addition, during the wet weather months the Wastewater Mains Division strives to maintain an open gravity system from the Lagoon to Cowell's Beach via the 66"gravity storm pipeline. This helps to reduce complaints from the public about pump operations and odors from the force main water.

<u>Receiving Water Monitoring</u>
The City will conduct receiving water monitoring coinciding with the first discharge of the wet weather season that requires operation of the flood control pumps. The receiving water monitoring will be conducted as detailed below:

Grab samples will be collected at the following times and locations:

1) Within an hour before discharge:
    a. At the shoreline in front of the outfall structure

2) Within 24 hours after discharge:
    a. At the point of contact at the shoreline
    b. At the point of contact in the channel created by the discharge

Samples will be analyzed in accordance with the following:

CONSTITUENTS	OCEAN WATER CONTACT STANDARDS FOR A SINGLE SAMPLE
Fecal coliform bacteria (tested via membrane filter method or approved equivalent as promulgated in 40CFR 136 Table 1A)	400 fecal coliform bacteria per 100 ml
Enterococci	104 enterococcus bacteria per 100 ml
pH	NA
TOC	20,000 ppb

During both sampling times, the City will record the following information about the sampling conditions:

a) Weather observations.

b) A description of receiving water characteristics.

c) A description of the sampling stations.

The City will maintain, on file, information about receiving water monitoring, including sampling results and a description of the sampling conditions. The information will include the analytical results for each station and identification of the test methods used.

Flood Control Pump Testing

Although the City no longer conducts testing of the flood control pumps, the City may want or need to test these pumps in the future. If so, the City will test the pumps by manual activation and will implement the above BMP "*Clean Storm Drain Lines and Discharge Stagnant Water to the Sanitary Sewer System*" prior to commencing the pump test. The City will also conduct receiving water monitoring as detailed in the above BMP "*Conduct Receiving Water Monitoring.*"

In addition, the pump test will be conducted in accordance with the following conditions:

1. Twenty-four hours prior to the proposed pump test, the City will notify in writing, by fax or email, the following agencies of the estimated date of discharge: the Central Coast Regional Water Quality Control Board (RWQCB), the Monterey Bay National Marine Sanctuary, the Coastal Commission, and the County of Santa Cruz Environmental Health Department. The City will also notify other interested parties as possible.

2. Prior to the pump test discharge, the City will notify the public in the area of the impending discharge. In addition, as previously mentioned, the City has a permanent sign posted at the outfall structure and another sign (which gets flipped at the time of opening the outfall prior to the wet weather discharge) at the stairs leading to the beach that warns

the public of contaminated water. Also, the County of Santa Cruz, Department of Environmental Health, provides signage as necessary concerning health risks at Cowell Beach.

3. Prior to the pump test discharge, the City will prepare the beach in front of the outfall structure to form a channel leading to the beach.

4. The City will schedule the pump test discharge to coincide with the outgoing tide.

5. The City will maintain on file information about any pump test discharges to the Monterey Bay. The pump test discharge information will include the following:

    a) Estimated amount of gallons discharged
    b) Estimated duration of the pumping
    c) Time
    d) Weather
    e) Beach observations

Drinking Water Distribution System

Repair and Maintenance of City Water Infrastructure

The Water Department conducts activities in order to maintain the drinking water distribution system including water main flushing, dewatering, line disinfections, fire hydrant testing, and pipeline and street repairs. Some of these activities are of concern due to their potential to release chlorinated water or sediments into the storm drain system. For example, flushing water mains at high velocities can erode soil, uproot vegetation and cause drainage problems. Chlorine, in concentrations exceeding 0.05 ppm, can kill nitrifying bacteria and other aquatic life. Water main flushing is conducted for the following reasons: sediment removal; taste and odor control; control of color, high turbidity, low chlorine residuals, or bacterial growths; corrosion control; and in response to customer complaints. Dewatering of trenches during pipeline repair activities, for example, can cause significant amounts of sediment to be released to the storm drain system if care is not taken. Dewatering occurs in the following situations:

- Trench dewatering during distribution system maintenance and construction activities (when water in trench is from leaking water pipe, not exclusively from groundwater)
- Main or hydrant flushing
- Hydrant testing
- Main dewatering

Street repairs, done as a result of water pipeline installation, maintenance, and repair, are conducted in accordance with the BMPs for Municipal Operations, Repair and Maintenance of City Surfaces.

In many instances, Water Department maintenance, repair, and construction activities require de-chlorination procedures and/or sediment control prior to the discharge of water to the storm drain system or the wastewater treatment plant. The Water Department has developed standard

operating procedures (SOPs) to ensure that all discharges from the distribution system do not reach waters of the state or that they are in compliance prior to discharge to the storm drain or sanitary sewer system. The SOPs are included in the BMPs for Municipal Operations, Attachment 8.

Standard operating procedure (SOP) #7102-01, "Super-chlorinated Potable Water Discharges," describes the procedures to be followed when flushing any part or portion of the water distribution system and the free chlorine residual exceeds 2 parts per million (ppm). This procedure addresses manual de-chlorination of the Department's generated potable water discharges and applies primarily to the de-chlorination of water that has been injected with chlorine to disinfect new water main. The purpose of the SOP is to ensure that chlorine does not reach waters of the state and cause damage to plant and animal life.

Standard operating procedure (SOP) #7102-02, "Low-Chlorine Potable Water Discharges," describes the procedures to be followed when flushing any part or portion of the distribution system and chlorine residual is less than or equal to 2 parts per million (ppm). This includes water discharged during flushing activities, hydrant testing, and main breaks.

Standard operating procedure (SOP) #7105-01, "Sediment Control During Open Channel Water Discharges," describes the procedures to be used to minimize the transport of sediment to storm drains or receiving waters during open channel discharges containing sediment or having the potential to entrain sediments. This includes water pumped from excavations for water main repairs.

Facilities and Operations Outside of City Limits

The Water Department owns facilities and conducts operations at sites located outside of the City limits. These facilities include pump stations, dams, reservoirs, wells, and the Water Treatment Plant. The Water Department abides by the BMPs at all of its facilities whenever applicable, both within and outside of City limits.

In addition, the Water Department owns approximately 3,880 acres of watershed lands that have a water conveyance system that spans approximately 25 miles. There are approximately 60 miles of associated roads, which are maintained by the City, that provide access to these facilities. Associated drainage facilities are inspected and cleaned on a regular basis including before, during and after the onset of the winter rainy season. The Water Department has contracted with a Registered Professional Forester and has a Certified Erosion Control Specialist on staff to conduct inspections and oversee maintenance on these facilities. Additionally, the Department has a Draft Watershed Management Plan that identifies Best Management Practices for maintenance of the forest roads and associated drainage infrastructure that provide access to the Department's watershed lands.

Under the Statewide General NPDES Permit No. CAG990005 for Discharges of Aquatic Pesticides, the Water Department is permitted to use aquatic pesticides to control harmful algae blooms in Loch Lomond Reservoir. Copper containing pesticides have been used since the reservoir was first constructed. Since then improved application methods and materials have resulted in an 80% decrease in the amount of copper necessary to achieve effective algae control.

The Water Department is currently testing an alternative algae control pesticide, sodium carbonate peroxyhydrate, that specifically targets algae of concern and leaves no chemical residuals after the treatment. As required by the NPDES Permit, the City developed rigorous Best Management Practices and conducts extensive monitoring of any aquatic pesticide application. In the future, copper pesticide will only be used if alternative pesticides are not successful for protecting the beneficial uses of the City's reservoir.

Water Department Remote Storage Areas

There are numerous remote storage areas located at Water Department facilities. The majority of these remote storage areas are small buildings or closets. They typically house gardening tools, such as rakes, and gasoline for lawn mowers or leaf blowers. Gasoline is properly contained according to state regulations. The remote storage areas are used or checked by City crews daily. These storage areas undergo complete inspections once a month and are checked weekly for spills and leaks.

Best Management Practices for Municipal Operations

In 2002, the City developed Best Management Practices (BMPs) for Municipal Operations. The BMPs, which are compiled in a brochure, address the various municipal activities that could potentially contribute pollutants to the storm drain system. Included in the BMPs are pollution prevention and good housekeeping measures for sidewalk and parking lot cleaning, street and sidewalk repairs, erosion control in landscaped areas, etc. A copy of the BMP brochure is included in Attachment 8.

The City is planning to review and revise this BMP brochure as necessary, and will republish for distribution to the applicable Departmental Supervisors, specifically those with field crews. The applicable BMPs will be incorporated into the training for City field crews as described below.

BMP # MO-19: Revise Municipal Operations BMPs If Necessary and Republish BMP Brochure

Training and Education of City Staff

Training and education of City staff is an important component of this program. Since 2002, Public Works Engineering has held numerous meetings with personnel from various departments in order to keep staff informed about the new General Permit requirements and implementation of BMPs. The meetings have been held with Parks and Recreation, Planning, Public Works, and Water Department personnel who are key players in implementation of the SWMP.

For example, in 2002 and 2003, Public Works Engineering held several meetings for staff, particularly those who oversee street and parking lot maintenance, to discuss the new pressure washing and steam cleaning regulations. A meeting was also held with Parks and Recreation Department staff that clean parks and downtown sidewalks, and conduct graffiti removal to educate them about these new regulations. In 2003, a meeting was held with Parks and Recreation managers and field supervisors discuss the new storm water regulations and implementation of BMPs.

The City has and will continue to offer on-site training classes on BMPs and pollution prevention issues. For example, in April 2002, the City offered a class (taught by a contractor) to all "field crews" and other personnel on Best Management Practices for sediment control. On September 18, 2003, a training class was held for Public Works staff, particularly operations crews, on field methods to prevent polluted runoff during City maintenance operations. The operations crews that attended included street maintenance and wastewater mains staff. The class was taught by an outside contractor and was sponsored by the Monterey Bay National Marine Sanctuary. In addition, staff is encouraged to attend off-site classes and workshops by other agencies and organizations on related pollution prevention issues and practices.

Lastly, each department will ensure that the appropriate personnel are trained on the BMPs applicable to their activities or areas of responsibility upon hiring and annually thereafter. The City will develop a Storm Water BMP training piece based on the City's BMPs for Municipal Operations. This piece may consist of one or more of the following: a visual presentation on the applicable BMPs, written training materials, on-site videos, or on-site classes. Staff that will receive training include field personnel from Public Works, Water, and the Parks and Recreation Department.

BMP # MO-20- Develop A Storm Water BMP Training Piece

BMP #MO-21: Train and Educate Appropriate City Field Crews

City-wide Watershed Issues Team

The City created a Watershed Issues Team several years ago with staff from each of the various departments in order to address and discuss watershed issues such as TMDLs, local and state plan revisions, etc. This team is comprised of staff from the various departments, such as Public Works, Planning, Water, Parks and Recreations, and the City's Manager's office. This city-wide participation helps ensure that all departments are kept informed on relevant watershed issues and involved/coordinated in any City actions or measures. As part of the SWMP, the Watershed Issues Team will meet semi-annually, or more if needed, to discuss watershed issues particularly those related to TMDLs and impaired water bodies, and other storm water topics.

BMP #MO-22: City-wide Watershed Issues Team Meetings to Discuss Watershed Issues Re TMDLS and Other Related Topics

City Contractors

Contractors hired by the City are required to abide by the City's mandatory storm water BMPs for a specific job. Currently, each department and division is responsible for including this requirement in their contract language. In order to ensure that this is universally applied, the City will develop and include boilerplate language that requires contractors to abide by the applicable mandatory storm water BMPs in the "bid masters" for City contracts and/or the City contract master. To accomplish this, Public Works staff will work with the Purchasing Division and the City Attorney's office to develop and include this language for City contracts.

BMP #MO-23: Develop Boilerplate Contract Language Requiring City Contractors to Abide by the Applicable Mandatory Storm Water BMPs

IV. Program Implementation

City Personnel

The City is already implementing BMPs in order to prevent storm water pollution while carrying out routine municipal activities. Some practices, however, are improvements to existing municipal activities and functions. Departments currently responsible for these activities will continue to implement their portion of the program.

Implementation Timetable and Measurable Goals

The City is already implementing the Municipal Operations Program. Measurable goals will be used to assess the City's efforts to reduce urban runoff pollution and to evaluate the success of the BMPs each year. A list of the BMPS, measurable goals, and the implementation schedule are detailed in Table 1-1 below:

Table 1-1

BMPs, Measurable Goals, and Implementation Schedule

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
	Street Sweeping and Cleaning			
M0-1	Sweep City Streets By Mechanical Sweepers	1. Sweep primary streets in downtown and main beach areas twice per week 2. Sweep primary streets in other commercial areas once per week 3. Sweep 75% of residential streets twice per month 4. Sweep streets upon special request	Public Works Streets	Year 1-5
	Sidewalks, Plazas, and Public Parking Lot Cleaning			
MO-2	Take Measures to Control Litter	1. Maintain litter and recycling receptacles in the downtown and Wharf areas, and in City parks, on a daily basis 2. Receptacles in other areas emptied as needed	Public Works: Refuse Parks and Recreation	Year 1-5
MO-3	Sweep Public Parking Lots and Parking Garages Regularly	Clean lots w/a mechanical sweeper either 2x or 6x per week depending upon which location	Public Works: Streets	Year 1-5
	Storm Drain System Inspection and Cleaning			
MO-4	Inspection, Cleaning, and Repair of City Catch Basins and Inlets	1. Clean 90% of catch basins and inlets located in the Downtown, Beach Flats,	Public Works: Wastewater Mains	Year 1-5

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
		and lower Ocean Street areas annually in the Fall 2. Clean and repair 100% of storm drains or catch basins identified as clogged or non-functional annually in the fall or as soon as possible 3. After large storm events during the wet season, inspect 90% of catch basins in the Downtown, Beach Flats, and lower Ocean Street areas and re-clean them as needed. 4) Inspect 50% of the catch basins in the outlying areas of the City annually and clean as needed		
MO-5	Inspection of Branciforte Storm Water Conveyance Channel and Trash Removal As Needed	1. Annual inspection 2. Removal of 100% of large trash and debris items.	Public Works: Wastewater Mains	Year 1-5
MO-6	Clean Pump Stations Along the San Lorenzo River	Clean twice per year (Spring and Fall) Additional cleanings, if needed, during wet season after large storm events	Public Works: Wastewater Mains	Year 1-5
MO-7	CDS Unit Maintenance	1. Clean twice per year in Fall and Spring and 2. Inspect and clean, if necessary, monthly during the wet season	Public Works: Wastewater Mains	Year 1-5
MO-8	Conduct Inspections of Storm Drain Lines	TV or visual inspect the inside of an average of 1,000 feet of pipeline each year over a 5 year period	Public Works: Engineering & Wastewater Mains	Year 1-5
	Sanitary Sewer System Inspection and Cleaning			

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
MO-9	Clean Sanitary Sewer Main Lines	1. Clean all sanitary sewer main lines every 18 months. 2. A follow-up TV inspection will be done of 100% of the lines where a problem is discovered during the cleaning process.	Public Works: Engineering & Wastewater Mains	Year 1-5
	Repair and Rehabilitation of Sanitary Sewer and Storm Drain Lines			
MO-10	Replace or Rehabilitate Sanitary Sewer Main Lines	Replace or rehabilitate an average of 3,000 feet of sewer main pipeline per year over the 5 year permit period	Public Works: Engineering & Wastewater Mains	Year 1-5
MO-11	Development and Implementation of a Lateral Inspection Program	1. Outline of Program Details 2. Implementation of Program	Public Works: Engineering Public Works: Wastewater Mains	1. Year 3 2. Year 5
MO-12	Repair and Rehabilitation of Minor Storm Drain Lines	Repair or rehabilitate an average of 100 feet of pipeline per year over the 5 year permit period	Public Works: Engineering	Year 1-5
	Dry Weather Storm Water Diversion Projects			
MO-13	CBI Grant #1: Dry Weather Diversion of Storm Water from SLR Pump Stations 1, 2, and 1A to the Wastewater Treatment Facility (WWTF)	Divert SLR pump station water to WWTF 90 days per year	Public Works: Engineering	Year 1-5
MO-14	CBI Grant #2: After CBI Grant Project Completion, Dry Weather Diversion of Storm Water from	Divert SLR pump station water diverted to WWTF 90 days per year once project work is completed	Public Works: Engineering	Start date TBD

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
	SLR Pump Stations 1B and 3 to the Wastewater Treatment Facility			
	Beaches, Parks and Open Spaces			
MO-15	Conduct Cleaning at Main and Cowell Beaches	1. Daily maintenance cleaning 2. Annual spring cleaning to remove debris following winter storms	Parks and Recreation	Year 1-5
MO-16	Implement Illegal Campsite Clean-Up Program In City Parks and Open Spaces	Cleanup of illegal campsites at the appropriate locations on an annual basis	Parks and Recreation	Year 1-5
	Neary Lagoon Management			
MO-17	Dry Weather Diversion from Neary Lagoon to Wastewater Treatment Facility	Divert lagoon water 108 days per year	Public Works: Wastewater Mains	Year 1-5
MO-18	Clean Neary Lagoon Storm Drain Lines and Discharge Bacteria Laden Water to the Sanitary Sewer System	Clean storm drain lines and discharge the water to the sewer system for approximately 3 weeks each year during the Fall	Public Works: Wastewater Mains	Year 1-5
	Best Management Practices for Municipal Operations			
MO-19	Revise Municipal Operations BMPs If Necessary and Republish Brochure	Distribute revised BMPs to applicable City Department Supervisors	Public Works: Engineering	Year 1-5
	Training and Education of City Staff			

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
MO-20	Develop A Storm Water BMP Training Piece	Training brochure, power point presentation, or other effective method	Public Works Parks and Recreation Water Planning	Year 3
MO-21	Train and Educate Appropriate Field Crews	1. Train 100% of appropriate staff annually. 2. Train new staff within 3 months of the beginning of employment.	Public Works Parks and Recreation Water Planning	Year 1-5
	City-wide Watershed Issues Team			
MO-22	City-wide Watershed Issues Team Meetings to Discuss Watershed Issues Re TMDLS and Other Related Topics	Meet semi-annually or more as needed	Public Works Planning Water Parks and Recreation City Manager's Office	Year 1-5
	City Contractors			
MO-23	Develop Boilerplate Contract Language Requiring City Contractors to Abide by the Applicable Mandatory Storm Water BMPs	Inclusion of boilerplate language for bid masters and/or the City contract master.	Public Works Purchasing City Attorney's Office	Year 2

Table 1-1: Responsible Department or Division Contact Information

Public Works Department: Engineering
Associate Civil Engineer, (831) 420-5428

Public Works Department: Environmental Compliance
Environmental Compliance Manager, (831) 420-6040

Public Works Department: Operations (includes Fleet Maintenance)
Operations Manager, (831) 420-5556,

Public Works Department: Refuse Disposal
Superintendent, (831) 420-6273

Public Works Department: Sanitation
Superintendent Solid Waste, (831) 420-6273

Public Works Department: Streets
Public Works Operations Superintendent, (831) 420-5530,

Public Works Department: Traffic Maintenance
Field Supervisor, (831) 420-5524

Public Works Department: Wastewater Mains/Flood Control
Public Works Operations Superintendent, (831) 420-6036

Public Works Department: Wastewater Treatment Facility
Wastewater Treatment Facility Superintendent, (831) 420-6044

Parks and Recreation Department
Parks Superintendent, (831) 420-5366

Parks and Recreation Department: Golf Course
Golf Course Superintendent, (831) 420-6121

Parks and Recreation Department: Tree Median
Urban Forester, (831) 420-6120

Parks and Recreation Department
Recreation Superintendent, (831) 420-5279

Fire Department
Fire Chief, (831) 420-5283

Water Department
Director, (831) 420-5200

V. Program Documentation and Reporting

The City will maintain records to document program implementation and annual progress. The City will report the results of the program in the annual SWMP report to the Regional Water Quality Control Board. The report will include information and a summary of the progress made relative to the measurable goals.

Chapter 2

ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

I. Introduction

The goal of the Illicit Discharge Detection and Elimination Program is to detect and eliminate illicit connections and illegal discharges to the storm drain system. Illicit connections to the storm drain system from industrial facilities, commercial establishments, and even residents have been detected in many municipalities. Often they are found in old buildings and the property owner is unaware that sanitary wastewater is being discharged to the storm drain. Occasionally, illicit connections are intentional. Illegal discharges, via direct discharge or runoff, to the storm drain system from industrial facilities, commercial businesses, and residents can be a significant source of water pollution. For example, illegal discharges include the dumping of motor oil into a street gutter, the discharge of wash water from restaurants to alleyways, and chemical spills which flow into a gutter or creek.

The program is also aimed at detecting deteriorating piping in the storm drain and sanitary sewer systems. Because the piping in both systems often develops cracks and leaks with age, and because these lines are often in proximity to one another, problems of infiltration are common. Infiltration may result in sanitary sewage seeping into the storm water system and visa versa. The objectives of the City's Illicit Discharge Detection and Elimination Program are to:

- Detect and eliminate illicit connections to the storm drain system by conducting field investigations.
- Correct conditions where sanitary sewer or storm drain piping has deteriorated causing seepage and infiltration to occur.
- Detect and eliminate the illegal disposal of wastes to the storm drain system through a program that combines education, alternative disposal options, and enforcement.
- Reduce the likelihood of accidental spills in areas that drain to the storm drain system.

II. Pollutants of Concern and Target Audience

There are numerous pollutants of concern associated with illicit connections and illegal discharges, via direct discharge or runoff, to the storm drain system. EPA guidance documents name sanitary sewer overflows, illicit connections, and improper disposal of wastes as sources of storm water and receiving water pollution. The pollutants of concern include, but are not limited to, the following: sanitary waste, motor oil, paint, concrete, chemicals, hazardous waste, wash water containing soap and detergents, sediment, and debris.

The target audiences are the general public including, local commercial and industrial businesses, residents, and City staff.

In accordance with the Phase II NPDES General Permit for Discharges of Storm Water from Small Municipal Separate Storm Sewer Systems (General Permit), the City must address the following categories of non-storm water discharges or flows (i.e., authorized non-storm water discharges) only where they are identified as significant contributors of pollutants to the Small MS4:

1. water line flushing;
2. landscape irrigation;
3. diverted stream flows;
4. rising ground waters;
5. uncontaminated ground water infiltration (as defined at 40 CFR §35.2005(20)) to separate storm sewers;
6. uncontaminated pumped ground water;
7. discharges from potable water sources;
8. foundation drains;
9. air conditioning condensation;
10. irrigation water;
11. springs;
12. water from crawl space pumps;
13. footing drains;
14. lawn watering;
15. individual residential car washing;
16. flows from riparian habitats and wetlands; and
17. de-chlorinated swimming pool discharges.

Discharges or flows from fire fighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are identified as significant sources of pollutants to waters of the U.S.

The City has reviewed the 17 categories listed above and identified some of them as potential significant contributors of pollutants to the storm drain system. These are #1, 2, 14, 15, and 16. The paragraphs below describe the reasons why the City has identified these categories and the measures taken to address these issues:

Category #1 "water line flushing" was identified as potential contributor of pollutants because some flushing activities have the potential to release chlorinated water or sediments into the storm drain system if BMPs are not used. As discussed in Chapter 1, Municipal Operations, flushing water mains at high velocities can erode soil, uproot vegetation and cause drainage problems. Chlorine, in concentrations exceeding 0.05 ppm, can kill nitrifying bacteria and other aquatic life. Thus, the City's Water Department has developed standard operating procedures (SOPs) to ensure that all discharges from the distribution system do not reach waters of the state or that they are in compliance prior to discharge to the storm drain or sanitary sewer systems. The SOPs for these activities are included in the BMPs for Municipal Operations, Attachment 8. These SOPs are described in Chapter 1 and include the following:

Standard operating procedure (SOP) #7102-01, "Super-chlorinated Potable Water Discharges;" Standard operating procedure (SOP) #7102-02, "Low-Chlorine Potable Water Discharges;" and Standard operating procedure (SOP) #7105-01, "Sediment Control During Open Channel Water Discharges."

Category #2 "landscape irrigation" and category #14 "lawn watering" were identified as potential contributors because fertilizers and pesticides are often used on lawns and landscape plants. Thus, if these activities are conducted right after fertilizers and pesticides have been applied, then these chemicals could be washed off into the storm drain system. The City addresses these issues in one of the *Pollution Prevention Tips for Residents* brochures, which is entitled "Garden, Pool, and Spa Maintenance." This brochure is included in the Attachments section.

Category #15 "individual residential car washing" is also identified as a potential contributor of pollutants primarily due the soap that is generally washed off of vehicles into the streets during this activity. The City addresses this issue in one of the *Pollution Prevention Tips for Residents* brochures, which is entitled "Vehicle Repair and Washing." In this brochure, residents are encouraged to let the runoff drain to landscaping, discharge the bucket of soapy water into a sink rather than dumping it outside, or wash their vehicles at a commercial car wash that recycles water. This brochure is included in the Attachments section.

The City has also identified #16 "Flows from riparian habitats and wetlands" as a potential significant contributor of pollutants due to the dry weather flows from Neary Lagoon. The dry weather flows are often high in bacteria primarily due to the waterfowl that frequent the lagoon. Thus, the City has taken action to divert this flow during the dry season to the Wastewater Treatment Facility for treatment prior to discharge. Please see Chapter 1: Municipal Operations for a more complete description of this dry weather diversion.

III. Program Elements and Best Management Practices

The City first assessed and determined which elements comprised the Illicit Discharge Detection and Elimination Program, and then selected the most appropriate Best Management Practices (BMPs) in order to reduce the pollutants of concern described above to the maximum extent practicable.

The Illicit Discharge Detection and Elimination Program includes the following elements:

- Storm Drain System Map
- Legal Authority
  - Storm Water Ordinance
  - Grading Ordinance
  - Pet Waste Ordinance

- Title 4 of Municipal Code

❖ Field Investigation Measures To Detect Illicit Connections and Discharges
  - Site Inspections
  - Spill and Illegal Discharge Response
  - Storm Drain Outfall Monitoring
  - Television (TV) Camera Inspections
  - Volunteer Monitoring Programs

❖ Repairs and Rehabilitation of Sanitary Sewer and Storm Drain Pipelines & Dry Weather Storm Water Diversion

❖ Education and Outreach

❖ Household Hazardous Waste Collection Program

❖ Corrective Measures and Enforcement Procedures

The program elements are described in more detail in the sections below. The selected BMPs are listed and described under each program element.

Storm Drain System Map

In 2002 and 2003, Public Works Engineering staff re-evaluated the existing storm drain system maps. Staff inspected every City street and alleyway to verify the existence, location, and type of each storm drain facility, inlet, manhole, channel, and conveyance system, etc. marked on the maps. Corrections were made in the field onto a copy of the maps, which were then reviewed by the supervising Civil Engineer. The updated storm drain system maps were reproduced in 2003 and will be updated as necessary in the future.

Legal Authority

Storm Water Ordinance

On April 28, 1998, the City adopted a Storm Water Ordinance, which became effective on May 28, 1998. The ordinance, entitled "Storm Water and Urban Runoff Pollution Control," is Chapter 16.19 of the City's Municipal Code. The ordinance established the legal authority to prohibit illicit connections and pollutant discharges to the City storm drain system. The ordinance also provides the City with the legal authority to conduct inspections and sampling. In addition, the ordinance contains a provision requiring the implementation of BMPs, as published by the Public Works Department, by certain types of facilities. The City also has the authority to terminate illicit connections and discharges, and to initiate enforcement actions for violations of the code. Potential enforcement actions include written notices, citations, termination of discharge, and monetary penalties.

The Storm Water Ordinance prohibits non-storm water discharges to the storm drain system with a few exceptions. The permissible discharges include discharges authorized by a NPDES permit or resulting from one of the following: fire fighting activities; landscape irrigation; water line

breaks and other releases from potable water systems; foundation/footing drains; individual residential car washing; and unpolluted groundwater.

The City revised the Storm Water Ordinance in July 2003 in order to update the ordinance and incorporate new Phase II storm water regulations, and to keep it comparable with the City's Sanitary Sewer Ordinance. The revisions included an increase in monetary penalties to equivalent amounts specified in the Sewer Use Ordinance for violations of the Municipal Code. For example, civil penalties were increased from a maximum of $1,000 per day to a maximum of $2,500 per day for each violation of the ordinance. In addition, the City added a provision that prohibits the discharge of wastewater to the storm drain system from pressure washing, steam cleaning, and hand scrubbing of sidewalks and other outdoor areas adjacent to retail and commercial businesses and industrial facilities. A section was also added stating that, if a private storm drain system is not operating properly and causes the improper discharge of storm water to the street, sidewalk or storm drain system, the City may declare this condition to be a public nuisance and proceed to abate that nuisance accordingly. The Storm Water Ordinance is included in Attachment 2.

Grading Ordinance

The Grading Ordinance, officially titled "Chapter 18.45 Excavation and Grading Regulations, is a subset of Municipal Code, Title 18, Buildings and Construction. The ordinance provides technical regulations on grading and excavation in order to:

- Safeguard life, health, safety and the public welfare.
- Protect fish and wildlife, riparian corridors and habitats, water supplies, and private and public property.
- Protect the environment from the effects of flooding, accelerated erosion and/or deposition of silt.

Illegal discharges due to grading and excavation work may be pursued in accordance with the Grading Ordinance. Enforcement of the Grading Ordinance may also be conducted in accordance Title 4 of the Municipal Code.

In April 2004, the City reviewed and modified the Grading Ordinance in order to strengthen the ordinance regarding implementation of BMPs, including those for erosion and sediment control both prior to commencing construction activities and for the duration of the construction project. Modification of the Grading Ordinance included a requirement that all construction projects abide by the City's mandatory BMPs. In addition, the City included a provision that erosion and sediment control BMPs be in place and implemented, as appropriate, prior to commencing construction activity including grading or vegetation removal.

The City also added the most important BMPs from the City's mandatory BMPs for Construction Work to the "Excavation and Grading Regulations" section of the Grading Ordinance. In addition, the Grading Ordinance was modified to include a requirement that Post-Construction BMPs, in accordance with the City's mandatory BMPs for Development and

Remodeling Projects, be in place upon completion of a construction project. The City modified the Grading Ordinance. The Grading Ordinance is included in Attachment 3.

Pet Waste Ordinance

The City's Municipal Code, Chapter 8.14, regulates dogs and other domesticated animals. Section 8.14.215, Removal of Dog Droppings Required, requires dog owners to pick up after their pets to ensure that the droppings are not left on public property. This is an important mechanism to help reduce the amount of pet waste, which may harbor bacteria and other pathogens, from being discharged into the storm drain system. The ordinance is included below:

> **8.14.215 REMOVAL OF DOG DROPPINGS REQUIRED.**
> Any person owning, having an interest in, harboring or having charge of the care, custody, control or possession of any dog which defecates upon public property (including, but not limited to, streets, walkways and parks) in the city of Santa Cruz must immediately remove and properly dispose of the feces. Failure to so remove and dispose of the feces shall constitute an infraction. Nothing herein shall be deemed to authorize any person to enter upon the private property of another without permission. (Ord. 88-63 § 4, 1988: Ord. 82-22 § 2, 1982).

Title 4 of the Municipal Code

Title 4 is entitled "General Municipal Code Enforcement." It is the chapter of the Municipal Code that was established in 2000 to provide a comprehensive code enforcement system for the City. In summary, Title 4 provides definitions, details, and specific procedures for a variety of code enforcement measures. For example, Title 4 provides for the issuance and recordation of Notices of Violation; the authority to inspect; the authority to issue a Notice to Appear and Release Citations, and the power to arrest. Title 4 also details the procedures regarding Judicial Remedies and Administrative Remedies available to the City for violations of the Municipal Code and applicable state codes. In addition, Title 4 details Summary Abatement and Administrative Abatement procedures for public nuisances and code violations. Lastly, Title 4 provides for the recovery of civil penalties and abatement costs. Please refer to Attachment # 5 for a copy of Title 4.

Field Investigation Measures To Detect Illicit Connections and Discharges

Field investigations will be used to detect illicit connections and discharges, and prevent potential future illegal discharges. Site inspections and spill and illegal discharge response will be the primary methods used. The City will also use TV camera inspections to detect illicit connections. Other measures, such as dye testing, will be used in special circumstances or on a "case by case" basis. The field investigation measures are described below.

Site Inspections

The City has conducted site inspections at industrial and commercial facilities for many years. Site inspections are conducted by the Environmental Compliance Inspectors under the supervision of the Laboratory/Environmental Compliance Manager. The industrial facilities inspected include both "Categorical Industries" regulated by 40 CFR and "Significant Industrial Users." A Significant Industrial Users is defined as a facility that has an average wastewater flow

of 25,000 gallons per day, a concentrated waste flow, or the potential to have an adverse affect on wastewater workers, the wastewater collection system, or the Wastewater Treatment Facility. Commercial facilities that have been regulated by the City for many years include restaurants and dry cleaners.

In order to reduce storm water pollution and in an effort to be proactive, site inspections at industrial facilities and restaurants now include inspection of storm drains and a review of spill prevention and control measures. Beginning in 2000, site inspections at restaurants now include an evaluation of BMP implementation. For example, inspectors check to see where the kitchen mats are cleaned because the discharge of mat wash water to the storm drain system is prohibited. A more complete summary of the Food Service Facilities program is included in the Commercial Facilities Program chapter. The BMPs for Food Service Facilities are included in the Attachments.

In 1999, the City developed a Vehicle Service Facilities Program for auto repair shops and other vehicle related businesses. This program includes annual site inspections, which focus on storm water pollution prevention education and compliance with BMPs for Vehicle Service Facilities. Site inspections also include a check of all storm drain inlets on the property. A more complete summary of the Vehicle Service Facilities program may also be found in the Commercial Facilities Program chapter. The BMPs for Vehicle Service Facilities are included in the Attachments section.

Currently, the City's Environmental Compliance Division conducts site inspections at approximately 3 categorical industrial facilities, 13 "significant users," 7 dry cleaners, 325 food service facilities, and 110 vehicle service facilities. Regular site inspections at these facilities are conducted a minimum of once per year, or more frequently if a problem or violation is detected. In general, site inspections are conducted as a result of one or more of the following conditions:

1. Routine inspection
2. Spill complaint
3. Observation of suspicious activity
4. Evidence of polluted runoff
5. Detection of a sanitary sewer violation
6. Sources known (from past experience) to be generators of illegal discharges
7. Need to verify the proper installation of grease interceptor devices, piping, and drains during construction or remodeling projects
8. Follow-up inspection due to previous or suspected noncompliance

If a violation of the Storm Water Ordinance is discovered during a site inspection, the Inspector will review the site practices with the business owner/manager to determine the source of the violation and to discuss potential ways to correct the problem. Additional efforts to educate the facility owner or manager will be made, if necessary, including follow-up visits and phone calls

or meetings to discuss the problem and go over the BMPs. Corrective measures and enforcement actions may be implemented as described later in this chapter.

Site inspections also typically include an educational aspect in order to inform or remind the facility owner or manager about the new storm water regulations and how to prevent discharges to the storm drain system. The Environmental Compliance Inspectors distribute BMPs when they conduct site inspections and discuss any facility issues or practices that may have the potential to discharge pollutants to the storm drain system. All site inspections are documented and entered into the Environmental Compliance database.

Planning Department Building Inspectors inspect all new and remodeled facilities multiple times during construction and upon completion. In the inspection process, Building Inspectors ensure that all drains and pipes have been installed correctly and that all sanitary wastes are plumbed to the sanitary sewer.

BMP #ID-1: Environmental Compliance Inspectors Conduct Site Inspections At Regulated Businesses

<u>Spill and Illegal Discharge Response</u>

The City responds to all reports and complaints of spills and illegal discharges to the storm drain system as soon as possible. Field inspections and investigations are conducted as a result of the following:

1. Complaints received from the general public
2. Staff observations of suspicious activities
3. Line blockages, leaks, or breaks
4. Physical indications that a spill or illegal discharge has occurred

Investigations of spills and illegal discharges may be conducted in a variety of locales and under a variety of conditions. Field investigations include inspecting creeks and storm drains, alleyways, residential areas, or business sites.

Storm drain inspections are generally conducted after a complaint or tip is received from a resident, business or City staff. Occasionally, storm drain inspections are conducted spontaneously when City staff is working in the field and a suspicious discharge is noticed. Storm drains are checked in order to detect illegal discharges and track them back to their source. These inspections may include the visual inspection of storm drain outfalls, drainage channels, manholes, and catch basins for signs of an illicit connection or discharge. Signs of an illicit connection or discharge include:

- dry weather flows;
- excessive wet weather flows;
- odors, oil and grease, or other pollutants; and

► unusual or unexplainable pipes or connections to the City's system.

Which division responds to a spill or illegal discharge depends several factors such as: the type of spill or discharge; where it is located; what the source is; if it was noticed while doing field work; and who received the report or complaint. For example, Environmental Compliance Inspectors typically carries out site inspections. Environmental Compliance or Wastewater Mains staff may conduct storm drain outfall and manhole inspections depending on the situation. Frequently, Wastewater Mains staff will refer a problem that they are aware of to the Environmental Compliance Office for additional follow-up. This is also true for cases of chronic line problems or discharges. The City may also call other agencies, such as the Fire Department or County Department of Environmental Health, to respond to an illegal discharge especially if the presence of hazardous materials is suspected.

An Incident Response Report is completed after each field investigation. All investigations are tracked on a database. If a source of an illicit connection or discharge is identified, the City will require termination of the violation and, possibly, corrective actions. Corrective measures and enforcement procedures are discussed in detail in the "Corrective Measures and Enforcement Procedures" section below.

BMP # ID-2: Conduct Spill and Illegal Discharge Response

Storm Drain Outfall Monitoring

The City monitors several storm drain outfalls along West Cliff Drive (at Auburn Street, Almar Avenue, and Woodrow Avenue), which discharge directly into Monterey Bay, for coliform and enterococcus bacteria on a quarterly basis. In addition, these stations are routinely monitored as part of the sanitary survey for evaluating single sample maximum excedances of the bacteria levels at the 30 foot contour depth at nearshore stations.

Neary Lagoon is monitored for coliform and enterococcus bacteria at least once, routinely before during and after the diversion program to treat the lagoon's water prior to discharge to the ocean.

If samples from monitoring of storm drain outfall reveal high bacterial count in excess of the single sample maximum for Fecal Coliforms or Enterococcus, Environmental Compliance Inspectors are routinely tasked to investigate the cause and follow up samples are collected and analyzed. In addition, ammonia samples are collected and analyzed to provide information on the possibility of anthropogenic source of the elevated bacteria. Additional coordination with Wastewater Mains crew is made so that they can be informed to observe and report on any illicit activities that may contribute to the elevated numbers report.

This is an effective method to determine if an illegal cross-connection from a sanitary sewer lateral exists. In addition, if a suspicious discharge is noticed while sampling, staff attempts to follow the discharge back to the source in order to identify the cause. Once a source is identified, the City contacts the responsible party. If the responsible party is a business, the City may conduct a site inspection of the facility to determine why the discharge is occurring and how it

can be corrected. In addition, the monitoring results also provide a long-term database which may help to characterize discharge at storm drain outlets.

The City has created an Environmental Enforcement Response Plan (ERP) and included it by reference in the Municipal Code to furnish a range of responses to illicit actions or illegal discharges to the storm drain system. All of the options available to the City require that the illegal discharge be terminated and that measures are taken to prevent reoccurrence. If compliance is not achieved in a timely fashion, the City issues additional enforcement actions that may include corrective measures, a discharge termination date, and monetary penalties. Additional appropriate enforcement actions are determined according to a schedule published in the Enforcement Action tables within the ERP. In general, enforcement actions are escalated in severity until the problem is corrected.

The County of Santa Cruz also regularly monitors local creeks, the San Lorenzo River, other water bodies, and certain storm drain outfalls. The purpose of the County's program is to test for coliform bacteria and nitrates. If the County field staff suspects the presence of an illegal discharge, they also try to determine the source by tracking upstream.

BMP #ID-3: Conduct Storm Drain Outfall Monitoring for Bacterial Indicators at three locations along West Cliff Drive (at Auburn Street, Almar Avenue, and Woodrow Avenue)

Television (TV) Camera Inspections

TV camera inspection is an excellent method to assess the condition of underground pipes and to detect illegal connections. Portions of the City's approximately 50-mile storm water system are inspected with a TV camera in specific situations, such as when road paving is planned or there is a suspected problem in the pipes. In these cases, the underground photos are scrutinized for the presence of illegal connections to the storm drain system. As part of the City's Storm Water Management Program, TV camera inspections of the storm drain lines will be conducted each year as budgeting allows and on an as-needed basis. In addition, TV camera inspections maybe used on a "case by case" basis such as when an illegal connection is suspected.

BMP #ID-4: Conduct Television (TV) Camera Inspections of Storm Drain Lines

Volunteer Monitoring Program: First Flush

"First Flush" is a region-wide volunteer monitoring event conducted during the first storm of the rainy season. The Monterey Bay Sanctuary Citizen Watershed Monitoring Network coordinates First Flush in cooperation with the Coastal Watershed Council. First Flush is an annual event that is conducted simultaneously at participating cities throughout the Monterey Bay area. Resident volunteers collect storm water samples, which are then sent to a laboratory for analyses. The volunteers receive training in sample collection prior to the First Flush event. Sample results could potentially alert the City to illicit discharges or illegal connections upstream of the sampling sites. First Flush tends to receive much publicity since the findings of the annual event are released to the news media and are generally published by all the major newspapers

The City began sponsoring First Flush in 2002 and intends to continue sponsoring the event budget permitting. The First Flush Volunteer Monitoring Program is included in Chapter 4: Public Education.

BMP #ID-5: Sponsorship of First Flush

Repair and Rehabilitation of Sanitary Sewer and Storm Drain Pipelines & Dry Weather Storm Water Diversion

Deteriorating or leaking pipes, in the sanitary sewer or storm drain system, can cause pollution in our waterways. Sanitary sewer and storm drain pipelines are often laid in close proximity to each other making them particularly susceptible to infiltration. Infiltration of sewage and other pollutants into the storm drain system occur as the underground pipes age and develop cracks, leaks, and breaks. Infiltration is especially a problem in lower lying areas of the City, particularly near the San Lorenzo River, because the water table is so high.

Pipes may also have structural failures, which are repaired by the City as soon as they are detected. A break in a sewer lateral or main can result in a direct discharge to a creek, the San Lorenzo River, or other water body depending upon the location. City line maintenance crews rapidly clean up spills and correct blockage problems using the City's Vactor (vacuum) trucks.

A complete description of City measures to repair/rehabilitate sanitary sewer and storm drain lines, and private sewer laterals is included in Chapter 1: Municipal Operations. Please also see Chapter 1: Municipal Operations for a complete description of the City's Dry Weather Storm Water Flow Diversion work, including the retrofitting of pump stations along the San Lorenzo River in order to divert urban runoff and groundwater to the sanitary sewer system for treatment during the dry season rather than pumping this water into the San Lorenzo River.

These projects help to reduce sanitary sewer line spills that might flow to the storm drain system and into the San Lorenzo River. In addition, diverting urban runoff redirects illegal discharges and bacteria from decomposing materials away from the River and to the Wastewater Treatment Facility for treatment prior to discharge. This work thus helps to reduce the bacteria levels in the San Lorenzo River and the San Lorenzo River Lagoon, which are both listed as impaired for pathogens and included under the RWQCB adopted *TMDL for Pathogens in the San Lorenzo River Watershed Waters*.

Education and Outreach

Education of the general public, business owners and employees, and City staff is an integral part of the Illicit Discharge Detection and Elimination Program. The following list highlight the City's efforts to inform the public about the hazards associated with illegal discharges and improper disposal of waste. Please refer to the Public Education Program chapter, Chapter 4, for a complete description of each of these BMP efforts and a list of the measurable goals:

- Pollution Prevention Messages
- Storm Drain Inlet Stenciling
- Public Events
- Outreach Information for Residents
- Outreach Information for Businesses
- Clean Ocean Business Program
- Monterey Bay Area Green Business Program
- O'Neill Sea Odyssey Education Program
- Pesticide Management Education Program (Our Water Our World)
- Coastal Clean-Up Day
- Earth Day Santa Cruz
- Earth Vision Environmental Film Festival
- Support for Volunteer Monitoring Programs-First Flush
- City of Santa Cruz Website:
  - Environmental Compliance Section
  - Environmental Programs Section
  - City's Storm Water Management Program (SWMP)

❖ Assessment of the Public Education Program

❖ Potential Future Programs

A telephone number to report illegal discharges or dumping is included on all pertinent BMP Brochures and Outreach Materials. In Permit years 3 and 4, the City will develop and implement a public storm water hotline number to receive complaints and disseminate storm water information. A well publicized hotline number should help to both decrease illicit discharges and increase public participation. The City will advertise the hotline number, track the types of complaints received, and track staff responses.

BMP #ID-6: Develop and Implement A Public Storm Water Hotline Number Budget Dependent

Household Hazardous Waste Collection Program

The ability for residents to legally and conveniently dispose of household hazardous waste is important so that these wastes are not illegally discharged into the storm drain or sanitary sewer systems, or illegally dumped at the landfill.

Thus, the City jointly operates a Household Hazardous Waste (HHW) Drop-Off Facility at the City's Resource Recovery Facility (which is comprised of the landfill and Recycling Center) in partnership with the County of Santa Cruz. The HHW Drop-Off Facility is located in the Recycling Center area. Residential household hazardous wastes are accepted from 7:30 a.m. to 3:30 p.m. every Saturday. The County of Santa Cruz manages the facility and maintains the records.

The HHW Drop-Off Facility accepts only certain residential household hazardous wastes. The accepted wastes include the following: art and hobby supplies, antifreeze, aerosol cans, auto batteries, bag house or scrubber wastes, brake fluid, diesel, engine or parts cleaners, gasoline, herbicides and pesticides, household batteries, household cleaners, solvents, degreasers, solvents, flammable liquids, outdated medicines, paint and paint products, pesticides, photographic chemicals, pool, hot tub and spa supplies.

At the HHW Drop-Off Facility, the public is allowed to drive in and drop off up to 15 gallons of liquid and 125 pounds of solids wastes, or a combination of HHW. All items are inspected, and the good items and materials are displayed in the HHW store for the public.

The HHW Drop-Off Facility does not accept the following: chemicals or chemical sludge that are toxic, corrosive, irritants, or a strong sensitizer; infectious wastes; radioactive wastes; asbestos wastes; tank cleaning sludges or sediments; wastes containing free liquid exceeding state regulatory limits; explosives; and commercial hazardous wastes.

Corrective Measures and Enforcement Procedures

Violations of the Storm Water Ordinance generally fall under one of two categories: (1) illicit connections to the storm drain system, and (2) illegal dumping or discharges. As previously mentioned, when the City determines that a violation has occurred, the City typically contacts the responsible party and conducts a site inspection. The responsible person or facility is then required to take appropriate corrective measures to eliminate any illicit connections or to cease

the illegal discharge as soon as possible. If the responsible party is a resident or private home, then staff informs them about the new storm water ordinance and explains why illegal discharges are harmful to the environment. The City prefers to focus on educational efforts to correct residential pollution problems, rather than issuing written enforcement actions.

Industrial facilities and commercial businesses are also required to take measures, such as structural improvements or employee education, to eradicate illicit connections or prevent the reoccurrence of illegal discharges. The City provides them with educational materials on storm water issues and pollution prevention practices. Enforcement actions may also be taken, depending upon the seriousness of the violation and any measures implemented by the facility to correct the problem. The appropriate enforcement actions are usually determined on a "case by case basis." If the situation involves a chronic violator or if compliance is not achieved in a timely fashion, enforcement actions are escalated until the violations have ceased and the problem is permanently corrected. There are a wide variety of enforcement actions that may be taken by the City. They are briefly summarized below and may be found in greater detail in the Storm Water Ordinance under "Administrative Remedies (Section 16.19.190)" and "Judicial Remedies-Civil/Criminal (Section 16.19. 200)."

- **Warning:** A warning may consist of a verbal notice or a written informational letter to the facility owner or manager.
- **Administrative Action-Notification of Violation and Citation:** A Notification of Violation is a written notice to the facility owner or manager stating that the site has violated the City Municipal Code and that the discharge must cease. In general, violation letters state a date by which time the noncompliance must be corrected and may include a statement warning of additional enforcement actions, including fines, if the problem is not corrected.
- **Administrative Action-Show Cause Hearing:** Administrative actions generally include a structured process to ensure that remedial actions are taken to terminate an illicit connection or discharge, and to prevent its reoccurrence. An administrative action specifies a time frame to correct the identified problem based on the severity or complexity of the problem. If a violation is not corrected by timely compliance, the City may issue a citation for fines, up to $2,500 per day.
- **Administrative Action-Emergency Termination:** The City may take steps to prevent or terminate an illegal discharge if the discharge presents an imminent threat of substantial endangerment to the health or welfare of persons or to the environment.
- **Summary Abatement of Certain Nuisances:** Abatement of a nuisance, which is a menace to public health and safety, with all costs are charged to the responsible party.
- **Judicial Remedies**-Civil/Criminal: In such an action, the City may seek all appropriate judicial relief including, but not limited to, injunctive relief and damages in the minimum of two thousand five hundred dollars per violation per day. In the case of criminal liability, the City may seek criminal penalties and incarceration in the maximum amount prescribed by the California Penal Code for infractions and misdemeanors.

BMP #ID-7: Implement Corrective Measures and Enforcement Procedures in Accordance with the Storm Water Ordinance

IV. Program Implementation

City Personnel

The Public Works Department is primarily responsible for implementing the Illicit Discharge Detection and Elimination Program. The work overlaps several divisions within the department, namely Engineering, Environmental Compliance, (within Wastewater/Pretreatment Division), and Wastewater Mains. The City provides training for each employee who is directly involved in the program upon hiring and throughout the year as pollution issues come up or regulations change. Training includes periodic meetings within each department or division to discuss work issues. The City also occasionally provides classes, taught by a contractor, on pollution prevention methods. For example, in April 2002, the City offered a class (taught by a contractor) to all "field crews" and other personnel on Best Management Practices for sediment control. In addition, the City encourages staff to attend off-site classes and workshops, offered by other agencies and organizations, on related pollution prevention issues and practices.

The Engineering Division is responsible for coordinating the City's efforts among the various participating departments and divisions. The Engineering Division, along with Wastewater Mains, also reviews the results of the TV camera inspections for evidence of line breaks, cracks, and illegal connections. Engineering is also responsible for updating the maps of the storm drain system. As part of the Storm Water Management Program, Engineering and Environmental Compliance staff will publish and distribute Best Management Practices. While these are not direct elements of the Illicit Discharge Detection and Elimination Program, education and outreach efforts should help reduce the occurrence of illicit connections and illegal discharges to the storm drain. Engineering and Environmental Compliance staff also wrote the draft for the new Storm Water Ordinance that was finalized by the City attorney.

The Environmental Compliance Inspectors respond to spill reports and complaints from both the general public and the Wastewater Mains Division. They also respond to referrals from the County's Department of Environmental Health. Environmental Compliance Inspectors conduct site inspections and issue enforcement actions. As previously mentioned, they spend a portion of routine site inspections conducting education on storm water pollution issues and distributing BMPs. They also conduct storm drain inspections to determine the source of illegal discharges. The inspectors sample suspect discharges, when necessary, to determine what the pollutant is and to help identify the source. The Inspectors, in general, accompany Wastewater Laboratory staff when collecting storm drain outfall monitoring samples.

The Wastewater Mains Division is responsible for maintaining the sewer and storm drains systems. The field crew spends a majority of their time in the field and, therefore, they are valuable "eyes" for the program. The Wastewater Mains Division crews may also investigate the cause of an illegal or suspicious discharge. As previously mentioned, they usually report illegal or suspicious discharges to the Environmental Compliance Office. In addition, they also report all sewer line blockages, which often result in discharges to the storm drain. The Wastewater

Mains Division, in coordination with Engineering, conducts TV inspections of specific sections of the storm drain system whenever roadwork is planned or illicit connections are suspected. They will also work with Engineering in the annual planned TV inspections of the storm drain system. Lastly, the division conducts dye testing of drains and sewer lines in question. Table 2-1 indicates which department/division is responsible for implementing each of the program BMPs.

Implementation Timetable and Measurable Goals

The City is currently implementing the Illicit Discharge Detection and Elimination Program. Measurable goals will be used to track the City's efforts to reduce illicit connections and discharges, and to evaluate the success of the program each year. A list of the BMPS, measurable goals, and the implementation schedule are detailed in Table 2-1 below:

Table 2-1
BMPs, Measurable Goals, and Implementation Schedule

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
	Field Investigation Measures To Detect Illicit Connections and Discharges			
ID-1	Environmental Compliance Inspectors Conduct Site Inspections At Regulated Businesses	1. Inspect 100% permitted industrial facilities 2. Inspect 100% vehicle service facilities 3. Inspect 100% food service facilities	Public Works: Environmental Compliance Public Works: Engineering Planning: Building	Year 1-5
ID-2	Conduct Spill and Illegal Discharge Response	Respond to 100% complaints and reports of illegal discharges	Public Works: Environmental Compliance Public Works: Wastewater Mains	Year 1-5
ID-3	Conduct Storm Drain Outfall Monitoring for Bacterial Indicators at Three Locations Along West Cliff Drive	Quarterly monitoring	Public Works: Environmental Compliance Public Works: Wastewater Laboratory	Year 1-5
ID-4	Conduct Television Camera Inspections of Storm Drain Lines	Please See Chapter 1	Public Works: Wastewater Mains	Year 1-5
ID-5	Sponsorship of First Flush-please see Chapter	Please See Chapter 4		

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
	4			
	Repair and Rehabilitation of Sanitary Sewer and Storm Drain Pipelines & Dry Weather Storm Water Diversion			
	Please See Chapter 1	Please See Chapter 1		
	Education and Outreach			
ID-6	Develop and Implement A Public Storm Water Hotline Number Budget Dependent	1. Plan for hotline number 2. Hotline number operational	Public Works: Engineering Public Works: Wastewater Mains Public Works: Environmental Compliance Planning: Building	1. Year 3 2. Year 4
	Please See Chapter 4 for Other Public Ed BMPs	Please See Chapter 4		
	Corrective Measures and Enforcement Procedures			
ID-7	Implement Corrective Measures and	Eliminate 100% of identified illicit discharges	Public Works: Environmental	Year 1-5

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
	Enforcement Procedures in Accordance with the Storm Water Ordinance		Compliance Public Works: Wastewater Mains Public Works: Engineering City Attorney's Office	

Table 2-1: Responsible Department or Division Contact Information

Public Works Department: Engineering
Associate Civil Engineer, (831) 420-5428

Public Works Department: Environmental Compliance Office, Wastewater/Pretreatment Division
Laboratory/Environmental Compliance Manager, (831) 420-6045

Public Works Department: Wastewater Laboratory, Wastewater/Pretreatment Division
Laboratory/Environmental Compliance Manager, (831) 420-6045

Public Works Department: Wastewater Mains/Flood Control
Public Works Operations Superintendent, (831) 420-5535

Planning Department: Building
Chief Building Official, (831) 420-5127

City Attorney's Office
City Attorney, (831) 420-6200

V. Program Documentation and Reporting

The City will maintain records to document program implementation and annual progress. The City will report the results of the program in the annual SWMP report to the Regional Water Quality Control Board. The report will include information and a summary of the progress made relative to the measurable goals.

Chapter 3

PUBLIC PARTICIPATION PROGRAM

I. Introduction

Public involvement and participation are important components of the City's Storm Water Management Program (SWMP). The term "public" refers to various sectors of the community including residents; commercial and retail business owners; industry representatives; developers; contractors; City staff; elected officials; and government bodies. The success of the program depends largely on acceptance and support from these sectors. Therefore, the City will not only inform the public about urban runoff concerns, but will also encourage participation in the program's development.

The objectives of the Public Participation Program are:

- To involve the public in the SWMP development and implementation processes.
- To raise public awareness about storm water pollution and urban runoff issues.
- To generate support for citywide storm water pollution prevention efforts.

Specific education and outreach efforts to the residential community and general public are addressed in the Public Education chapter. Outreach programs for the commercial, industrial, development/redevelopment, and construction sectors are addressed in their respective chapters.

II. Public Involvement and Target Audience

EPA guidance documents recommend that the public has the opportunity to participate in activities that help to reduce storm water pollution and that they be involved in the development and implementation of storm water management programs. In addition, the Phase II NPDES General Permit for Discharges of Storm Water from Small Municipal Separate Storm Sewer Systems (General Permit) requires the City to comply with State and local public notice requirements when implementing a public involvement/ participation program.

Regarding public notification, the City is committed to abiding by state and local public notification requirements in accordance with the State of California Brown Act and the City's Municipal Code. Individual City staff is responsible for compliance when he or she organizes a specific meeting or hearing that requires public notification. The City Clerk's Office is responsible for posting the agenda for each City Council meeting at least 72 hours prior to the meeting.

The target audiences are primarily the general public, which includes city residents, local government bodies, and local businesses. The business audience includes local facility owners,

managers, and employees, and business associations and trade organizations. City staff is also a target audience.

III. Program Elements and Best Management Practices

The City selected and developed the appropriate Best Management Practices (BMPs) after considering the best means to communicate with the general public, and how to involve the public and encourage participation in SWMP development and implementation. BMPs were also selected based on the most appropriate and effective methods to achieve program goals and compliance with the General Permit requirements. The Public Participation Program is comprised of the following elements:

- Public Meetings and Presentations
  - Public Works Commission
  - City Council
  - SWMP Public Meetings
- Communication With Business Groups and Associations
  - Chamber of Commerce
  - Downtown Association
  - Trade Organizations
  - Regulated Businesses
  - Clean Ocean Business Program
- Volunteer Monitoring Programs
  - First Flush
- Public Education and Outreach
- Participation and Involvement of City Staff

The program elements are described in more detail in the sections below. The selected BMPs are listed and described under each program element.

Public Meetings and Presentations

Informed and interested citizens are essential to the SWMP success and the ultimate goal of reducing storm water pollution. Therefore, public meetings and presentations are an integral part of the SWMP. The City's policy is to inform and include the public in the development and implementation of the program. Various public arenas are utilized to educate the public about the SWMP and to involve them in the development process. These arenas are briefly described below.

Public Works Commission Meetings

Established in 1987, the Public Works Commission is generally responsible for advising the City Council in matters pertaining to Public Works. The Commission consists of seven members appointed by the Council from the qualified electors of the City of Santa Cruz. Its duties include advising Council on planning, design, construction, reconstruction, installation, operation and maintenance of Public Works. The Commission makes recommendations to Council concerning the capital improvement program, the Public Works Department's annual budget, and various other Public Works projects. Public Works Engineering staff utilize these meetings to provide information and receive input and comments from both the Commission and the general public on various aspects of the SWMP. Meetings are held approximately every two months in the Santa Cruz City Council Chambers and are open to the public.

Meeting agendas are posted at the Santa Cruz City Council Chambers and on the City's web site at least 72 hours prior to the next meeting. Meeting agendas are also sent out to various members of the public including the following: interested private citizens; City Council members; the Santa Cruz Chamber of Commerce, several local businesses; one environmental group; and the media. The media includes three newspapers and a local radio station. To date, Public Works Department staff has made several presentations and requests for public input and comments at the Public Works Commission meetings regarding the Storm Water Ordinance, implementation of the Clean Ocean Business Program for vehicle service facilities, the City's SWMP, and educational efforts to promote storm water pollution prevention. In general, staff presents items to the Commission and the public in attendance at their meetings for their input, comments, and recommendations prior to submitting them to the City Council. Also, occasionally, staff submits an informational report to the Commission as an update on a specific project such as a storm water education effort.

In September 2002 and in January 2003, staff made presentations at Public Works Commission meetings regarding the SWMP and storm water related issues. In September 2008, staff gave a presentation regarding the SWMP, Revision #3, at a Commission meeting. Staff will continue to present SWMP related items at Public Works Commission meetings at least twice during the five year General Permit period.

City Council Meetings

The Santa Cruz City Council is the legislative and policy making body of city government. It sets city policy by passing ordinances and resolutions. The City Council is comprised of six Council members and a Mayor. They are elected by city voters and serve a four-year term. The Council meets biweekly and regular meetings are televised on TCI Community TV, Station 25. Meetings are open to the public and, generally, are well attended. In general, staff presents items to the City Council and the public in attendance at their meetings for their input, comment, and approval.

In 1997 and early 1998, Public Works Department staff wrote the new Storm Water Ordinance in conjunction with the City Attorney. Staff presented the proposed ordinance to the City Council for their review and approval in April 1998. The Council passed the ordinance for final adoption on April 28, 1999. In June 2003, staff presented revisions to the Storm Water Ordinance to the City Council. After approving the introduction of the new ordinance for publication at the June

meeting, the Council passed the ordinance for final adoption on July 8, 2003. In October 2008, staff is scheduled to give a presentation regarding the SWMP, Revision #4, at a City Council meeting. Staff will continue to present SWMP related items at City Council meetings at least twice during the five year General Permit period.

SWMP Public Meetings

The City will hold annual public meetings for the purpose of public and stakeholder input and involvement in development and implementation of the City's SWMP. The public meetings will also be used to provide program updates and achievements to the public and stakeholders. At these meetings, the City will also collect the names and contact information of the attendees to add to/update the City's list of interested parties. The public meetings will be held annually either at a PW Commission or a City Council meeting (in addition to the 2 meetings per 5year permit period), or as a separate meeting dedicated to the SWMP in a City location easily available to the public.

BMP # PP-1: Hold Public Meetings (including PW Commission & City Council) for SWMP Related Issues

Communication With Business Groups and Associations

Chamber of Commerce

In spring 1999, the Public Works Department sent a letter to the Chamber of Commerce providing information on the new storm water regulations and the upcoming City efforts to reduce urban runoff. The new program for vehicle service facilities, including development of Best Management Practices (BMPs), was also described. In summer 2002, the City contacted the Chamber of Commerce regarding the new upcoming regulations pertaining to the cleaning of sidewalks and other outdoor areas particularly with regard to retail shopping areas. The Chamber was very receptive to helping distribute this information to its members including allowing the City to write articles and include flyers in its newsletter.

Downtown Association

The Downtown Association is an association of local retail businesses and restaurants located on the main downtown shopping avenue, Pacific Avenue. In summer 2002, the City informed the Downtown Association of the new regulations regarding the cleaning of sidewalks and other outdoor areas, specifically the prohibition of the discharge of wastewater from pressure washing, steam cleaning, and hand scrubbing to the storm drain. The City wanted to notify the downtown businesses in advance of the new regulations so that they would have time to develop alternate methods of cleaning their sidewalks prior to the compliance deadline. The City anticipated that the new regulations would be an issue of concern to the businesses since much of their revenue comes from tourism and it is important to them that their storefronts and Pacific Avenue appear clean and litter free.

The Downtown Association offered the City space in its newsletter, for an article or flyer, to provide educational and regulatory information to its members. Public Works staff submitted an article on the new sidewalk cleaning regulations for the newsletter, which was published in

November 2002. Subsequent contact with the Downtown Association has been very insightful to the City regarding the ability of downtown businesses to comply with the new sidewalk cleaning regulations. This coordination and cooperation was instrumental in preparing the Downtown merchants about the new storm water regulations prior to the compliance deadline.

Trade Organizations

Public Works representatives, from Engineering and Environmental Compliance, attended a meeting with the local chapter of the trade organization, Auto Service Council, in October 1999. City staff was invited to attend in order to discuss the new storm water ordinance and the Vehicle Service Facilities Program. The members of the Auto Council wanted to know how the new regulations and inspection program would affect their businesses. Staff presented an overview of the Vehicle Service Facilities Program and answered questions regarding what businesses could expect the site inspections to entail. Businesses also wanted to know what they could do to improve their facilities and what types of pollution prevention measures they should implement. Staff discussed the BMPs and emphasized the educational aspects of the program.

Regulated Businesses

The City has involved businesses in the development and implementation of the Storm Water Management Program, particularly in the development of regulations directly affecting specific business sectors. Business support and compliance is necessary for the program's success, and business involvement is important for many reasons. First, the City wants to educate business owners and employees on urban runoff issues and pollution prevention practices. In addition, input and feedback from businesses provide valuable information to staff when developing and implementing a program and when evaluating its success. Also, when businesses are included in the process, their "buy in" tends to be higher and this reduces an "us versus them" scenario that sometimes occurs between business and government.

Currently, the City implements compliance programs for Food Service Facilities and Vehicle Service Facilities. These sites are regularly inspected by the City's Environmental Compliance Division. The programs combine the compliance inspections with education on implementation of BMPs. The Food Service Facilities, in particular, had been regulated for many years and, thus, when the new Storm Water Ordinance was passed, the City combined educational efforts with the annual grease interceptor inspections to make local restaurants and other food related businesses aware of the new regulations. Issues, such as the prohibition of outdoor mat washing and mop water discharge, were highlighted. Most food service facilities were quite receptive of the new regulations and the initial educational/regulatory inspections were effective at reducing storm water pollution.

Before 1999, Vehicle Service Facilities were unregulated by the City although the County had inspected some shops periodically. Therefore, when the Vehicle Service Facilities program began in 1999, the City sent a letter to each facility to explain the new regulations and to introduce the inspection program. The letter emphasized that the initial inspections would be mainly for educational purposes and to help bring shops into compliance. Subsequent follow-up and current annual compliance inspections continue to focus on pollution prevention education.

In 1999, the City developed and published separate BMP brochures for both vehicle service and food service facilities. During the development of the brochures, the City mailed the respective drafts to all local food service and vehicle service facilities. The mailing explained why the BMPs were being developed, and asked for comments and feedback. Business owners and managers were also invited to a public forum on July 27, 1999 to discuss the draft BMPs and to learn more about the new regulations.

After the public forum was held, the brochures were finalized and distributed to each of the facilities by mail. Over the course of the following year, the Environmental Compliance Inspectors gave a brochure to every facility owner or manager when conducting the routine annual inspections. Currently, the Inspectors keep a supply of brochures on hand when conducting routine and follow-up site visits at vehicle or food service facilities. Both brochures are also available for viewing or downloading from the City's website. The BMPs for Food Service Facilities and Vehicle Service Facilities were translated into Spanish and these brochures are also distributed during annual inspections.

As mentioned in Chapter 8, each of the approximately 95 vehicle service and 270 food service facilities in the City is visited once per year or more by the Environmental Compliance Inspectors and evaluated for both compliance purposes and Clean Ocean Business recognition.

BMP #PP-2: Contact with Business Groups and Associations As Needed

Volunteer Monitoring Programs

Volunteer monitoring programs provide the public with the opportunity to participate in a monitoring effort that serves to educate residents on local storm water pollution issues. In, 2002, the City began sponsoring the annual "First Flush" volunteer monitoring event.

<u>First Flush</u>

First Flush is an annual region-wide volunteer monitoring event coordinated by the Monterey Bay Sanctuary Citizen Watershed Monitoring Network and the Coastal Watershed Council. First Flush is conducted simultaneously, during the first major rainstorm of the rainy season, at participating cities throughout the Monterey Bay area. Resident volunteers collect storm water samples, which are then sent to a laboratory for analyses. The volunteers receive training in sample collection prior to the First Flush event.

The findings of the First Flush event are released to the news media and are generally published by all the major newspapers. First Flush offers a snapshot view of the amount of pollutants that are released to our storm drains and Monterey Bay during the first major rainstorm of the winter. The publicity surrounding First Flush increases public awareness on storm water pollution and educates them on the fact that, just because pollutants are not necessarily seen, they can remain on the ground until they are flushed into the storm drain system and ocean by a major rainfall.

In fall 2002, the City sponsored the third annual First Flush event and has continued sponsoring First Flush every year since then. Each year in early Fall, the Coastal Watershed Council recruits local volunteers and conducts training on sample collection. Sampling is conducted at

predetermined sites within the City during the first major rainstorm of the year. The Monterey Bay Sanctuary Citizen Watershed Monitoring Network, in conjunction with the Coastal Watershed Council, produces the final reports. The City intends to continue sponsoring First Flush in future years.

BMP #PP-3: Sponsorship of First Flush

Public Education and Outreach

The City has begun implementing a comprehensive public education program in order to educate and involve the public in storm water pollution prevention. The various aspects of the City's public education and outreach efforts are described in detail in Chapter 4: Public Education. In summary, the efforts include the following:

- Three brochures on pollution prevention tips for residents entitled: 1) Home Maintenance, Painting and Repair, 2) Garden, Pool and Spa Maintenance, and 3) Vehicle Repair and Washing.
- Best Management Practices brochures for specific business sectors. BMP brochures for food service and vehicle service facilities were initially mailed to each facility and are distributed annually by the Environmental Compliance Inspectors during routine site visits. Both of these brochures were also translated into Spanish and distributed during facility site inspections. The City also published a BMP brochure for Retail and Commercial Businesses in late 2002. BMP brochures for Construction Work and Industrial Facilities were published in late 2003 and a BMP brochure for Development and Remodel Projects was published in 2004 (which has subsequently been revised).
- Clean Ocean Business Program for Vehicle Service and Food Service Facilities.
- Public education booths at special events.
- Door hangers that notify residents of an illegal discharge from their property and include pollution prevention information. When Environmental Compliance Inspectors visit an address due to complaint or report of an illegal storm water discharge, a door hanger is left at the residence if the resident is not home.
- Sponsorship of the First Flush Volunteer Monitoring Program
- Support of the O'Neill Sea Odyssey Educational Program
- Sponsorship of the Our Water Our World Program (pesticide and herbicide information for residents and in-store training for retail garden department staff)
- Coastal Clean-Up Day
- Earth Day Santa Cruz
- Earth Vision Environmental Film Festival
- Participation in the Monterey Bay Area Green Business Program
- Public Education on the Restoration and Protection of Riparian and Wetland Areas

- SWMP List of Interested Parties
- The SWMP is posted on the City's Website
- Creation and maintenance of an Environmental Programs Webpage on the City's Website

Participation and Involvement of City Staff

Many City departments have been involved in developing the SWMP. The Public Works Department has taken the lead in developing the program, although input from the various departments has been essential. Many departments conduct similar types of municipal activities, and sometimes their activities overlap or intersect. Coordination between departments has been necessary to develop a comprehensive program.

The Public Works Department has held joint meetings and discussions with the affected departments in order to develop integral and consistent city policies. For example, four departments (Fire, Parks and Recreation, Public Works, and Water) regularly conduct municipal operations that have the potential to impact storm water quality and, therefore, all were involved in development of the BMPs for Municipal Operations. During the summer 2002, staff from Public Works and Parks and Recreation met to discuss the upcoming new sidewalk cleaning regulations and how each department and outside contractors could take measures to comply. Discussions also included how building exterior cleaning, garage cleaning and graffiti removal could be conducted so that there would be no discharge to the storm drain system.

Public Works Engineering staff is working to keep all City departments informed on the SWMP and on what policies or procedures are being established to ensure the success of the program. Beginning in November 2001, an informational package was sent out to all departments about the SWMP. The package included information on the Phase II regulations and an update on the program development along with milestone dates. Since then, many packets have been sent out to the responsible City departments regarding the SWMP programs or special storm water related issues. For example, in October 2002, all department managers and other specific employees were sent a memo regarding the new regulations prohibiting the discharge of wastewater from pressure washing, steam cleaning, and hand scrubbing of outdoor areas to the storm drain system. This notice served to make all departments aware of the upcoming regulations, especially staff who supervise employees or who hire outside contractors to clean sidewalks and dumpster areas.

Public Works Engineering staff will continue to inform and involve other City departments and divisions in the SWMP. Public Works Engineering staff will therefore meet at least 4 times per year with the appropriate personnel to discuss the SWMP and receive their input on program related topics or issues.

BMP # PP-4: Involve City Staff in the Development and Implementation of the SWMP

IV. Program Implementation

City Personnel

The Public Works Department is primarily responsible for implementing the Public Participation Program. The Engineering Division is responsible for conducting presentations to city government bodies, such as the Public Works Commission and the City Council. The Engineering and Environmental Compliance Office work together on conducting presentations to trade organizations, and local businesses. Staff also jointly conducts outreach at special events, such as the Public Works Week celebration and Earth Day. Table 3-1 below details which department/division is responsible for the program BMPs.

Implementation Timetable and Measurable Goals

The City has established a timetable for implementation of the Public Participation Program. Measurable goals will be used to assess the City's efforts to reduce urban runoff pollution and to evaluate the success of the BMPs each year. A list of the BMPS, measurable goals, and the implementation schedule are detailed in Table 5-1 below:

Table 3-1
BMPs, Measurable Goals, and Implementation Schedule

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
	Public Meetings and Presentations			
PP-1	Hold Public Meetings for SWMP Related Issues	1. Present SWMP items at Public Works Commission meetings twice during the five year permit period. 2. Present SWMP items at City Council meetings twice during the five year permit period. 3. Annual public meeting in addition to #1 & 2 above.	Public Works: Engineering	Year 1-5
	Communication with Business Groups & Associations			
PP-2	Contact with Business Groups and Associations As Needed	Annual contact	Public Works: Engineering	Year 1-5
	Volunteer Monitoring Programs			
PP-3	Sponsorship of First Flush	1. At least 15 volunteers participating 2. Annual report of sample results prepared by the Monterey Bay Sanctuary Citizen Watershed Monitoring Network	Public Works: Engineering	Year 1-5
	Volunteer Monitoring Programs			
	Please See Chapter 4 for Public	Please See Chapter 4	Public Works:	Year 1-5

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
	Ed BMPs		Engineering	
	Participation & Involvement of City Staff			
PP-4	Involve City Staff in the Development and Implementation of the SWMP	4 meetings per year with the appropriate personnel	Public Works: Engineering	Year 1-5

Table 1: Responsible Department or Division Contact Information

Public Works Department: Engineering
Associate Civil Engineer, (831) 420-5428

Public Works Department: Environmental Compliance Office, Wastewater/Pretreatment Division
Laboratory/Environmental Compliance Manager, (831) 420-6045

V. Program Documentation and Reporting

The City will maintain records to document program implementation and annual progress. The City will report the results of the program in the annual SWMP report to the Regional Water Quality Control Board. The report will include information and a summary of the progress made relative to the measurable goals.

Chapter 4

PUBLIC EDUCATION PROGRAM

I. Introduction

Urban runoff pollution is caused by a variety of sources and actions including our everyday activities. Projects and routine maintenance done around the house and yard can contribute pollutants to the storm drain system if preventative measures are not taken. For example, over-using fertilizers and pesticides, or using them before it rains, can cause these chemicals to run off into the streets and gutter. Home auto care must be done with adequate secondary containment to prevent automotive fluids from leaking or spilling onto the pavement, where they will be washed into the storm drain the next time it rains. Waste motor oil and radiator must also be disposed of properly instead of being dumped into the nearest storm drain. Home painting and remodeling can also contribute pollutants to the storm drain. For example, paintbrushes should never be rinsed in the street gutters and unused paints should be recycled at the local household hazardous waste facility. Even the most basic household activities, such as putting the garbage out, can cause litter and debris to clog storm drains if the garbage can lids are not secured properly!

It is during these everyday activities that, for the most part, pollution prevention can be easy-especially if people are educated about the issues and taught how to make small changes in the way they do things. The City is currently implementing a Public Education Program. The purpose of the program is to educate the local community about the impacts of urban runoff pollution and to let residents know what steps they can take to reduce non-storm water discharges.

The Public Education Program objectives are as follows:

- Increase public awareness on urban runoff pollution issues.
- Educate the community about specific sources of pollutants and what people can do to reduce them.
- Foster participation through community-based projects or volunteer activities focused on pollution prevention.
- Decrease the amount of illegal dumping and polluted urban runoff that is discharged into the storm drain system.

This chapter focuses on the City's education and outreach efforts to the residential community and general public. The outreach programs for commercial, industrial, construction, and development sectors are addressed in their respective chapters of the Storm Water Management Program (SWMP).

II. Pollutants of Concern and Target Audience

EPA guidance documents recommend that a public education program inform residents about the steps they can take to reduce storm water pollution such as the proper disposal of motor oil and garden chemicals. Other pollutants of concern commonly associated with residential practices include soap and detergents from car washing, paint and masonry products from home remodeling, and pesticides and fertilizers from garden and lawn care. The EPA recommends that the program be tailored to target specific audiences and communities that are locally appropriate. Additionally, EPA recommends that some educational materials and outreach focus on specific types of commercial and industrial businesses that are likely to have significant storm water impacts.

The target audiences are primarily the general public, which includes city residents, local government bodies, local businesses, and elementary school classes. The business audience includes local facility owners, managers, and employees, and business associations and trade organizations.

III. Program Elements and Best Management Practices

The City first determined which elements comprised the Public Education Program and then selected the most appropriate Best Management Practices (BMPs) in order to address the issues and pollutants of concern described above.

The Public Education Program includes the following elements:

- Development of Education and Outreach Efforts
- Education and Outreach Efforts
    - Pollution Prevention Messages
    - Storm Drain Inlet Stenciling
    - Public Events
    - Outreach Information for Residents
    - Outreach Information for Businesses
    - Clean Ocean Business Program
    - Monterey Bay Area Green Business Program
    - O'Neill Sea Odyssey Education Program
    - Pesticide Management Education Program (Our Water Our World)
    - Coastal Clean-Up Day
    - Earth Day Santa Cruz
    - Earth Vision Environmental Film Festival

- Volunteer Monitoring Programs-First Flush
- Public Education on the Restoration and Protection of Riparian and Wetland Areas
- SWMP List of Interested Parties
- City of Santa Cruz Website:
  - Environmental Compliance Section
  - Environmental Programs Section
  - City's Storm Water Management Plan (SWMP)

❖ Assessment of the Public Education Program

❖ Potential Future Programs

The program elements are described in more detail in the sections below. The selected BMPs are listed and described under each program element.

Development of Education and Outreach Efforts

The planning and development of education and outreach efforts, including pollution prevention messages and outreach materials, is an extensive project that will be ongoing and somewhat fluid in nature. The City will evaluate which types of educational programs are the most feasible and effective. Bi-lingual approaches will also be considered such as the publication of certain informational brochures in Spanish. The planning process involves several steps and many issues need to be taken into consideration such as:

- Which urban runoff issues should be targeted? Which issues are the most important and which are the easiest to resolve?
- Who should the education and outreach efforts be directed to? For example, the City might want to target homeowners, "do-it-yourselfer" auto repair residents, gardeners, kids, and teachers.
- What should the pollution prevention messages be?
- How should the City get the pollution prevention messages out? For example, how will outreach materials be distributed and how frequently? Should there be any seasonal timing?
- What education and outreach efforts can be conducted jointly with other programs, such as recycling?
- What education and outreach efforts can be conducted jointly with other agencies, such as the County of Santa Cruz or nearby cities?
- Sufficient funds and staff time available for each specific education and outreach effort.

The sections below and in Table PE-1 describe the City's efforts to distribute pollution prevention messages, create awareness, and disseminate information about storm water pollution issues. The City will work to develop new education and outreach efforts as appropriate.

Education and Outreach Efforts

The purpose of outreach and educations efforts is to increase community awareness on urban runoff pollution and to discourage the amount of non-storm water discharges into the storm drain system. The City has already developed and planned a variety of efforts and programs that are described below. The City is continually working on different methods to distribute outreach materials and reach the various sectors of the community.

Pollution Prevention Messages

In 2002, the City began developing basic messages in order to help people understand that the storm drain and sanitary sewer are separate systems, and that storm drains flow directly to the nearest water body untreated. Also, the City is trying to convey the message that pollution prevention can be easy. Many people don't realize that even common household practices can result in pollutant discharges to the storm drain and that, with just a little care, these discharges can be prevented. To date, the City's pollution prevention messages include:

- "Only Rain Down the Drain"
- "Storm drains flow directly to local creeks, the San Lorenzo River, and into Monterey Bay without receiving any type of treatment"
- "Pollution Prevention Can Be Easy-most of the time it only involves making small changes in the way you do things around the house and in your yard."

Storm Drain Inlet Stenciling

In the late 1990s and early 2000, the City applied thermoplastic stencils with the message "No Dumping, Flows to Bay" (with a fish image) on the storm drain inlets in the City's high use commercial areas, which are primarily within the "downtown" area. Stenciled inlets serve to both educate the public that the storm drains flow directly to Monterey Bay without treatment and to help prevent illegal discharges and dumping. In the Santa Cruz downtown area, the storm drain inlets flow to the San Lorenzo River and thus it is important to keep pollutants from being dumped into any downtown inlets as the River is listed for sediments, pathogens, and nutrients.

Thus, the City will take measures to replace worn stencils and to apply new stencils to storm drain inlets that were not done during the initial stenciling program. The new stencils may be applied either by the thermoplastic process or by painting. Additional stenciling (in exceedance of the measurable goals) will be done if additional funds are available.

BMP #PE-1: Replace Worn Stencils or Apply New Stencils to Storm Drain Inlets

Public Events

The City will continue to have booths or tables at local public events in order to conduct outreach and provide educational materials to the public. Events in the past have included the Public Works Week demonstration at the downtown farmers market in May, "Clean Water Day"

held at the Main Beach in August, and the "Shark Festival" which was held on the Municipal Wharf in September. Since some of these events have been discontinued, staff has recently participated in Earth Day Santa Cruz and Coastal Clean-up Day.

At these events, staff hands out brochures with pollution prevention information and answers questions from the people who stop by. Posters, such as the poster entitled "Storm Drains Lead Straight to the Ocean," sponsored by the Monterey Bay National Marine Sanctuary, are also given away. The City's list of annually recognized "Clean Ocean Businesses" (vehicle repair shops) is also provided. At Earth Day 2008, there were also recycling "games" for kids and prizes made out of recycled materials. Promoting recycling also helps protect water quality. For example, kids and adults both learn how to properly dispose of items which keeps waste out of both the landfill and our waterways.

In the future, City staff will participate in appropriate public events as they occur with a minimum of two events per year. Currently, City staff is committed to having a booth or table at the annual Earth Day Santa Cruz and Coastal Clean-up Day events although in future years other events may be attended in lieu of these due to staff availability or other factors including which events are the most appropriate and effective for program outreach and education.

BMP #PE-2: Participate in Public Events

<u>Outreach Information for Residents</u>

1. Informational Brochures:

The City identified specific sources of urban runoff pollution from everyday home activities that can be easily addressed through educational efforts. In 2002, the City developed and published three brochures of pollution prevention tips on how residents can reduce pollution from these home activities. The three brochures for residents are the following:

- Home Maintenance, Painting and Repair,
- Garden, Pool and Spa Maintenance, and
- Vehicle Repair and Washing

The brochures also include a telephone number for residents to call either for more information or to report spills and dumping incidents. Since all City residents are targeted, the brochures are given out at public events and are available at City buildings, such as the public libraries. Initially, Public Works Engineering staff distributed 500 copies of each brochure to the public library. Currently and in the future, staff will periodically check the main library and restock each of the three brochures when they are running low. The brochures are also available at the Public Works counter and are restocked as needed. In addition, the brochures are posted on the City's website. Samples of the three brochures are included in Attachments #13-15**.**

BMP# PE-3: Distribute Informational Brochures for Residents

2. Door Hangers*:*

Door hangers are used when an illegal storm water discharge is investigated by an Environmental Compliance Inspector and determined to come from a private residence. If the resident is not home at the time, a door hanger is left on their doorknob. In addition to identifying the illegal discharge, the door hanger provides information to the resident on what causes storm water pollution and explains that storm drains flow directly to the nearest water body without any treatment. The door hangers were developed in 1999 and will continue to be used by the Environmental Compliance Inspectors. A sample door hanger is included in Attachment 6.

BMP# PE-4: Utilize Door Hangers As Needed By Environmental Compliance Inspectors

Outreach Information for Businesses

1. BMP Brochures:

The City has also developed brochures with both mandatory and recommended Best Management Practices (BMPs) for business owners and employees of local industry and commercial businesses.

In 1999, the City developed BMPs for Food Service Facilities. The BMP brochure was also translated into Spanish in order to ensure that Spanish speaking employees could review the brochure and become familiar with the BMPs. The City recently modified the BMP brochure for Food Service Facilities in 2003 to incorporate the new Phase II regulations prohibiting the discharge of wastewater from pressure washing, steam cleaning, and hand scrubbing to the storm drain system. The new brochure was immediately posted on the City's website, in both English and Spanish, and both versions were distributed during the subsequent round of annual Food Service Facility inspections. The current BMP brochures for Food Service Facilities, in English and Spanish, are included in Attachments 20 and 21 respectively.

The City began developing BMPs for Vehicle Service Facilities in 2000 and 2001 in anticipation of implementing a program for these facilities. In May 2003, the BMP brochure was also translated into Spanish in order to ensure that Spanish speaking employees could review the brochure and become familiar with the BMPs. Each year during the annual site inspections, the BMP brochure in both in English and Spanish is made available by the Environmental Compliance Inspectors who carry copies along with them to each site inspection. Both brochures are posted on the City's website.

The BMP for Retail and Commercial Businesses was developed in December 2002 and is distributed as needed to owners or managers of retail and commercial sites where a violation or illegal discharge has been reported.

In 2003, the City has developed mandatory Best Management Practices for construction work. In December 2003, a BMP brochure,, entitled "Best Management Practices for Construction Work" was published. The City distributes the brochure to contractors and homeowners when they apply for a construction/building permit. A copy of the BMP brochure is included in Attachment 9.

In June 2003, two BMP handouts were developed and published for construction work specifically for "Painting" and "Masonry and Concrete Work." These handouts, comprised of BMPs excerpted from the BMP brochure for construction work, was created so that the Environmental Compliance Inspectors could have a one-page summary of BMPs that could be handed out while in the field and an illegal discharge related to either of these activities was noticed or reported to them. The handout for painting work was republished July 18, 2003. Copies of these handouts BMP brochure are included in Attachment 10-11.

In 2003, in accordance with the General Permit, the City developed post-construction BMPs by incorporating the design standards contained in Attachment #4 into the City's mandatory "Best Management Practices (BMPs) for Development and Remodeling Projects." In January 2004, the City's mandatory "BMPs for Development and Remodeling Projects" were developed into a brochure for easy distribution to contractors, architects, developers, home owners and any other permit applicants for development and redevelopment projects. The BMPs were then revised in June 2004 and again in March 2007. A copy of the current BMP brochure is included is Attachment 12.

These outreach material are discussed in further detail in their respective sections of the SWMP and are included in the Attachments.

BMP #PE-5: Distribute Informational Brochures for Businesses

2. Articles in Local Newsletters:
In the past, the City has run articles on storm water issues in local newsletters for both the general public and for businesses. For example, the City's Municipal Utilities newsletter, the *SCMU Review*, is published twice a year and mailed to each household in the utilities district, which includes the entire City and portions of the County. (SCMU stands for Santa Cruz Municipal Utilities). In October 2002, the Public Works Department ran an article entitled "BEACH POSTINGS-What Can You Do To Prevent Them?" The article, which was almost an entire page of the four-page newsletter, stated that currently the reason for most beach postings and closures is not industrial pollution but pollution coming from our own everyday activities. The article explained the difference between the sanitary sewer and storm drain systems and why it is important not to discharge chemicals, such as motor oil, soap, and excess fertilizers and pesticides, outside. The article also included a list of pollution prevention tips for home activities such as:

- Clean up after your pets
- When washing your car, make sure the soapy water goes onto lawn or dirt, or take your car to a carwash where the water is recycled or discharged to the treatment plant
- Use drip pans and absorbent materials to catch drips and leaks when working on your car at home
- Never apply fertilizers, pesticides, or herbicides before it rains

- Never rinse paint brushes, masonry tools, mixing trays, or containers at the curb or in a storm drain
- Dispose of carpet cleaning and window washing wastewater via an indoor drain
- Don't dump your RV's gray water or holding tank into the street, gutter, or storm drain.

The City has also conducted outreach to the business community by running informational pieces in the Chamber of Commerce and the Downtown Association newsletters. In fall 2002, the City provided an article for publication in both newsletters on the upcoming new storm water regulations regarding sidewalk cleaning. Specifically, the City wanted to make local retail and commercial businesses aware that if pressure washing or steam cleaning equipment, or hand scrubbing is used to clean of sidewalks and other outdoor areas the discharge of wastewater to the storm drain system is prohibited as of March 10, 2003. The City wanted to get the message out well in advance of the March 2003 deadline so that businesses would have a chance to adjust their sidewalk and other outdoor cleaning practices, or to modify their contracts with cleaning services.

In addition, the City has discussed with both organizations the possibility of having additional articles and including informational flyers on storm water regulations and related issues in each of their newsletters. Both organizations were receptive to the idea so the City intends to utilize this avenue in the future whenever significant issues come up that relate to local businesses.

Clean Ocean Business Program

The City is currently conducting, and will continue to conduct, an incentive program, for vehicle service facilities, named the Clean Ocean Business (COB) Program. This program began in 2000 and is also described in the chapter on the Commercial Facilities Program. There are approximately 110 vehicle service facilities in the City limits. Annual site inspections will continue to be at each facility for dual purposes: 1) to evaluate compliance with regulations and 2) to determine if the facility qualifies for the annual COB recognition. Facilities that are in compliance with the City's BMPs, the storm water ordinance, and sanitary sewer ordinance are recognized.

Annual recognition includes quarter to full-page size advertising in local newspapers/entertainment guides a minimum of once per year. The ads, which began in 2001, list the name of each facility recognized as a Clean Ocean Business and explains that these businesses have taken extra measures to protect the environment. This advertising serves, not only to benefit the businesses being recognized, but also to educate the reader. Additional advertising, particularly in the local newspapers, will be conducted as the budget permits because increased advertising is additional motivation for the shop owners to achieve the COB recognition. The advertising also serves to familiarize the public about the program and, hopefully, will stimulate people to ask their own auto shop if it is a Clean Ocean Business.

Annually, each recognized business is also given two 6-inch, brightly colored decals that are inscribed with "Clean Ocean Business," the current year, and the City's logo. The decals are designed to be highly visible to customers from a distance so, for example, they can be posted on

the shop window or wall. Also, businesses can display each annual decal (the background color is changed from year to year) in a row or all together to show customers that they have a "track record" at implementing pollution prevention practices. A sample of the decal is included in Attachment #7.

In 2004, the City is expanding its Clean Ocean Business program to include Food Service Facilities. There are approximately 300 food service facilities in the City limits. In 2003, the annual site inspections conducted at each facility were used to evaluate compliance and determine recognition for the 2004 calendar year. As with the Vehicle Service Facilities, annual site inspections will continue to be conducted at each facility for dual purposes: 1) to evaluate compliance with regulations and 2) to determine if the facility qualifies for the annual COB recognition. In 2007, the City raised the COB minimum standards to include the requirement that a business must not use polystyrene "to-go" containers in order to qualify as a COB in future years. This was done in order to reduce the amount of non-recyclable material that is deposited in the City's landfill; to help reduce litter and blight on our beaches; and to help minimize aquatic pollution from these materials which tend to break into smaller and smaller pieces and do not readily biodegrade.

BMP #PE-6: Implement the Clean Ocean Business Program

Co-sponsored or Supported Programs with Other Agencies and Local Non-Profit Organizations

The City co-sponsors and/or supports a variety of programs and public events with other public agencies, such as the County of Santa Cruz, and local non-profit organizations. The City supports these programs and events in order to further or broaden our storm water education efforts, and to support the work by other local groups on a particular or specific issue of storm water pollution. The programs or events co-sponsored or supported by the City are briefly described below.

Monterey Bay Area Green Business Program

The City has participated in the Monterey Bay Area Green Business Program (MBGB) since December 2006. The MBGB is a free incentive program for business to become Green Certified. City staff is available to provide technical assistance to each business in order to achieve the program goals. Each business must meet the program's minimum standards in addition to being in compliance with all local, state, and federal regulations. The four main program areas are pollution prevention-which includes storm water pollution, water conservation, energy conservation, and reuse and recycling.

In the City, each business receives a minimum of 4 site visits to evaluate the business' compliance with the program minimum standards in each of these four main areas and provide technical assistance. The City sends the following to each applying business: a specialist from the Environmental Compliance Division to asses their storm water and sanitary sewer pollution prevention practices; a specialist from the Water Conservation Division to assess water conservation, and a specialist from the Refuse and Recycling Division to assess the business reuse and recycling practices. The energy conservation portions of the audits are done by staff

from a local environmental group, Ecology Action, through their Right Lights grant funded program. If a business has not achieved all the minimum standards at the time of each audit, then staff will conduct follow-up with the business which may include additional site visits.

The City typically begins the Green Business certification (audit) process at a rate of 3 applying businesses per month except for the months of December, January, July and August which are broken up by holidays, the City winter closure period and staff vacations. Thus, in January, July and August, staff will begin the certification process at a rate of 2 businesses per month. Staff will not commence any new applicant audits in December since this is generally not a good time to visit most businesses due to the holidays. Thus, the City will begin the certification (audit) process for 30 businesses per year.

On average, it takes a business between 2 to 6 months to complete the Green Business certification process. Unfortunately, not all businesses that start the certification process actually complete it and become a *Certified Green Business*. However, between December 2006 and July 31, 2008, the City certified 31 Green Businesses.

The City's participation in the MBGB also includes financial support for the Green Business promotional program, which includes newspaper and yellow pages print ads, TV ads, and radio spots. Wherever possible in the advertising, the names of the certified Green Businesses are included. For example, currently a full page Green Business Program ad runs once a month in one of the local newspapers. Every other month this ad lists every Green Business in the Santa Cruz County area. City certified Green Businesses are also listed on the City's website and on the Monterey Bay Green Business website. Thus, this program serves not only to educate local businesses about pollution prevention and resource conservation, but it also increases public awareness on these topics.

BMP #PE-7: Partner and Co-Sponsor the Monterey Bay Area Green Business Program

<u>O'Neill Sea Odyssey Education Program</u>

The O'Neill Sea Odyssey is a non-profit organization that provides a "hands-on" marine and watershed educational program to school groups between fourth and sixth grade. The program consists of a three-hour class conducted both at the as needed when illegal discharge suspected but resident not home Center and aboard a 65-foot catamaran. Students are taught about marine life, ecology, and other related topics. The program emphasizes the human influence on the ocean and marine life, and teaches about storm water pollution and its impact on the environment. O'Neill Sea Odyssey also provides an educational packet to the schoolteachers so that the kids learn about marine ecology in their own classroom in advance of their half-day at the Center. O'Neill Sea Odyssey also requests that the class conduct some type of community service related to the environment in exchange for participating in the program (schools are not charged a fee).

For many kids, this is their first experience on a boat and a great way for them to receive an unforgettable, close-up lesson on the marine environment and the effects of water pollution. Beginning in 2003, the City has provided annual storm water funds to sponsor local school

classes in the O'Neill Sea Odyssey Education Program. The City contributes annual funding from the storm water budget to pay for approximately 10 City of Santa Cruz school classes, which is equivalent to approximately 300 children, to take the three-hour class during the school year. The funds are used towards the storm water education portion of each class, which includes a watershed demonstration and a session called "ocean impacts lessons."

BMP #PE-8: Support for O'Neill Sea Odyssey Education Program

Pesticide Management Education Program-Our Water Our World Program

This regional partnership program is led by Ecology Action and the co-sponsors include the City of Santa Cruz, the County of Santa Cruz, the City of Watsonville, the Monterey Storm Water Education Alliance, the City of Salinas, and the Salinas Valley Solid Waste Authority. The program was also funded by a grant from the California Integrated Waste Management Board.

The Regional Our Water Our World Program focuses on reducing residential pesticide, fertilizer and garden chemical use by offering Integrated Pest Management (IPM) solutions to home gardeners. The Our Water Our World program promotes IPM and the use of less-toxic pesticides in many garden and hardware stores in both the Santa Cruz and Monterey areas. Within the City of Santa Cruz limits, there are two garden centers/stores and both participate in the program.

The program works with participating retail stores to raise public awareness about using alternatives to hazardous pesticide, herbicides, and fertilizers in order to address the water quality problems associated with these types of home products. The program trains store employees to communicate IPM information to customers. The program also provides each participating store with free less-toxic pest management fact sheets for customers, product shelf talkers and displays. Budget allowing, the program also conducts in-store tabling events for store customers and workshops. Prior to the in-store events, an ad is run in one of the local newspapers announcing the event, which also provides outreach to the public and advertisement for both the event and the participating store. The program also has an IPM information hotline number (to the Ecology Action IPM program specialist) for residents to call for advice on less-toxic pest management. The Our Water Our World logo is displayed on the fact sheets and in the advertising for in-store events.

BMP #PE-9: Partner and Co-Sponsor of Our Water Our World Program

Coastal Clean-Up Day

The City is a local co-sponsor of Coastal Clean-Up Day that occurs along the California Coast each year in mid-September. In Santa Cruz County, the local event organizer is Save Our Shores in partnership with the California Coastal Commission. The City contributes to this highly visible event because it publicizes the issues of litter and marine/river pollution and it also draws in the general public. It is an event that residents of all ages, including students and families, can participate in. In addition, volunteers collect many pounds of trash, cigarette butts, and recyclables from our beaches and waterways each year. Typically on Coastal Clean-Up Day, clean ups are scheduled at least two local beaches within the city limits and at one location along

the San Lorenzo River. In 2007 and 2008, Save Our Shores also coordinated kayak and SCUBA clean ups at the Santa Cruz Municipal Wharf.

The event's local results, including the types and amounts of trash collected, are tabulated by Save Our Shores and added to the state-wide totals tallied by the Coastal Commission and other event partners. The Coastal Clean-Up Day results are then released to the public and the press immediately after the event.

BMP #PE-10: Co-Sponsor of Coastal Clean-up Day

Earth Day Santa Cruz

In April 2008, the City was one of the organizers and co-sponsors of Earth Day Santa Cruz 2008. The event was organized by a partnership of local agencies and non-profits including the City, the County of Santa Cruz, Ecology Action, and Save Our Shores. Local corporate sponsors were secured to fund and advertise the event, in addition to funding provided by the City and County of Santa Cruz. The Earth Day event, which had not been held in Santa Cruz for some years, was re-established to highlight current environmental issues, including water pollution and conservation, to the general public. In 2008, a visible downtown Santa Cruz location was chosen to attract families, foot traffic, and the general population. The event showcased kids' activities while also disseminating adult environmental outreach. It also showcased environmental goals such as zero waste, alternative transportation, and solar power.

City staff had several booths at the event including one designated for storm water outreach, Green Business Program advertising, and Waste Reduction/Recycling. The City will participate in future Earth Day events (if located within the City limits) unless, as previously mentioned, staff attends a different environmental event in lieu of this one due to staff availability or other factors including which event is the most appropriate and effective for program outreach and education.

BMP #PE-11:Co-Sponsor and/ or Participate in Earth Day Santa Cruz

Earth Vision Environmental Film Festival

Since 2007, the City has contributed funds towards the local Earth Vision Environmental Film Festival. This annual film festival showcases amateur films on environmental topics at two local venues over a four day period. Each year, the film topics include ocean and river pollution, marine ecology, habitat and species decline, and other environmentally related issues. The City will support future Film Festival events as the festival contributes to increasing public interest and education on these issues.

BMP #PE-12: Support for Earth Vision Environmental Film Festival

Volunteer Monitoring Programs-First Flush

First Flush is an annual region-wide volunteer monitoring event coordinated by the Monterey Bay Sanctuary Citizen Watershed Monitoring Network and implemented in the Santa Cruz area by the Coastal Watershed Council. First Flush is conducted simultaneously, during the first major rainstorm of the rainy season, at participating cities throughout the Monterey Bay area. Resident volunteers collect storm water samples, which are then sent to a laboratory for analyses. The volunteers receive training in sample collection prior to the First Flush event. The findings of the First Flush event are released to the news media and are generally published by all the major newspapers. First Flush offers a snapshot view of the amount of pollutants that are released to our storm drains and Monterey Bay during the first major rainstorm of the winter. The publicity surrounding First Flush increases public awareness on storm water pollution and educates them on the fact that, just because pollutants are not necessarily seen, they can remain on the ground until they are flushed into the storm drain system and ocean by a major rainfall.

Since 2002, the City has sponsored the annual First Flush events. Each year, the Coastal Watershed Council recruits local volunteers and conducts training on sample collection in early fall. Sampling is conducted at four sites within the City during the season's first rainstorm. In the last few years of the program, dry weather monitoring (in September) was added in order to provide a "before" picture as a data comparison to the first rainfall pollutant concentrations. The Monterey Bay Sanctuary Citizen Watershed Monitoring Network, in conjunction with the Coastal Watershed Council, produces the final reports. The City will sponsor First Flush in future years.

BMP #PE-13*: Co-Sponsor First Flush*

Public Education on the Restoration and Protection of Riparian and Wetland Areas

The City-Wide Creeks and Wetlands Management Plan (*Management Plan)*, which is described in Chapter 6: Post Construction Storm Water Management Program, included a habitat enhancement and restoration component. One of the major goals of this component is to restore and manage native riparian and wetland habitats so they provide suitable and sustainable habitat for native plant and animal species, and require little maintenance in the long-term. Several other goals for the project involve minimizing maintenance efforts and minimizing opportunities for the establishment of invasive, non-native plant species.

Significant opportunities exist to improve, enhance, and manage riparian and wetland resources within the City's watercourses and wetlands. Improvements to these resources will benefit the overall biodiversity of the City, conserve native plant communities, protect and manage rare species and their habitat, contribute to improved water quality in the watercourses, and contribute to the aesthetic resources of the City. These opportunities are present throughout the City's watercourses and wetlands; actions will vary depending on the vegetation type and its location in the City. With the exception of actions required as part of a development permit, most restoration and enhancement actions will require the participation of willing landowners.

Landowners should be encouraged to preserve and manage native habitats on their properties. The City is working to establish an incentive program to encourage landowner participation in

restoring and enhancing riparian and wetland resources. One option is for the City to collaborate with the Santa Cruz Resource Conservation District (RCD) or other watershed groups to identify potential partnerships for restoration projects. These groups may also be able to assist the City in sponsoring public workshops on restoration planning and techniques.

The *Management Plan* recommends that the City, in conjunction with other agencies or non-profit groups, provide information to landowners and residents on ways to restore and enhance riparian habitats and wetlands. Thus, as detailed in Chapter 6, the City will develop education materials such as a brochure or one-day workshops to educate residents on specific actions such as:

- How to remove non-native invasive plant species;
- How to install and maintain native landscaping, including habitat restoration;
- How to control erosion and repair eroded stream banks;
- How to encourage wildlife into your backyard; and
- How to decrease non-point source pollution.

BMP PE #14: Develop and Implement an Education Program Addressing the Restoration and Protection of Riparian and Wetland Areas Budget Dependent

SWMP List of Interested Parties

The City has already begun development of a SWMP List of Interested Parties. Prior to the July 25, 2008 submittal of the SWMP, Revision #3, the City send an email notice to those on the list notifying them of our submittal and requesting comments on the SWMP. The City will continue to add names to this electronic list in order to educate the public and interested parties on the SWMP latest developments and public meetings.

BMP #PE-15: Continue Development of the SWMP List of Interested Parties and Use It for Notification of SWMP Developments and Public Meetings

City of Santa Cruz Website

1. Environmental Compliance Section:

In March 2002, the City added web pages, entitled "Environmental Compliance," to the City web site. These new web pages detail the Public Works Environmental Compliance programs, which focus on reducing the amount of pollutants and harmful substances that are discharged to both the sanitary sewer and storm water system. The new web pages enable business owners and residents to review regulatory and pollution prevention information on-line. The site also serves as a resource to other agencies and the general public interested in our Environmental Compliance programs. The site includes informative pages on the following topics:

- Frequently Asked Questions
- How to Report Spills, Dumping Incidents and Back-ups

- Vehicle Service Facilities recognized as Clean Ocean Businesses
- Residential Programs and Information
- Who Needs a Permit?
- Retail and Commercial Business Programs
- Food Service Facility Program
- Vehicle Service Facility Program
- Industrial Waste Discharge Program
- Liquid Waste Haulers Program

In addition, the *Environmental Compliance* home page also includes links to educational materials published by the City, such as BMPs for businesses and pollution prevention guidelines for residents. There are also direct links to the City's Sewer Use and Storm Water Ordinances, and a link to the web sites of other related agencies.

2. Environmental Programs Section:
The City developed an Environmental Programs Section on the City of Santa Cruz Website in September 2003 in order to have a web page that provides the viewer with a complete overview of all the City's environmentally related programs. The page consists of a brief description of each program and a link to that program's web pages.

3. Storm Water Management Plan (SWMP):
The City posted the first submittal of the Storm Water Management Plan (SWMP) on the City of Santa Cruz Website in April 2003, the second submittal in April 2004 and the third in July 2008. The City will post subsequent drafts of the SWMP and the final SWMP, once it is approved by the RWQCB, so that the SWMP may be readily viewed by the public, stakeholders, and other agencies.

BMP #PE-16: Maintain Environmental Programs and Environmental Compliance Web Pages, and post the City's Draft and Final Storm Water Management Plan (SWMP) on the City's Website

Assessment of the Public Education Program

The City will continue to assess the Public Education Program in order to improve and expand it as necessary to implement an effective storm water outreach and education program. In addition, other measures to improve program effectiveness as directed by the RWQCB will be implemented as described below:

<u>Community-Based Social Marketing Strategies</u>
The City will assess community-based social marketing strategies and incorporate them into the Public Education Program where appropriate, budget dependent. According to the RWQCB, "community-based social marketing is based upon research in the social sciences that demonstrates that behavior changes is most effectively achieved through initiatives delivered at the community level which focus on removing barriers to an activity while simultaneously enhancing the activities benefits." The City will thus consider the techniques of community-

based social marketing when implementing and assessing the Public Education Program and developing future new programs.

BMP #PE-17: Assess Community-Based Social Marketing Strategies and Incorporate Them Where Appropriate, Budget Dependent

Surveys to Assess Program Effectiveness

The City will conduct surveys to assess the effectiveness of the Program's education efforts, budget dependent. As part of this measure, the City will develop the surveys and then implement it the following year.

BMP #PE-18: Conduct Surveys to Assess the Effectiveness of the Education Efforts, Budget Dependent

Potential Future Programs

The City will implement additional programs in the future as needed and as indicated in the section above resulting from assessments of program effectiveness, community-based social marketing strategies, and surveys. The City is also interested in implementing any other appropriate programs that can be conducted region-wide with the County of Santa Cruz or neighboring cities.

IV. Program Implementation

City Personnel

The Public Works Department will conduct the public education efforts. Both Public Works Engineering and Environmental Compliance staff are currently conducting the education and outreach efforts. Table 4-1 below itemizes each BMP and the responsible department/division:

Implementation Timetable and Measurable Goals

The City has established a timetable for implementation of the Public Education Program. Measurable goals will be used to assess the City's efforts to reduce urban runoff pollution and to evaluate the success of the BMPs each year. A list of the BMPS, measurable goals, and the implementation schedule are detailed in Table 4-1 below

Table 4-1

BMPs, Measurable Goals, and Implementation Schedule

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
	Education and Outreach Efforts			
PE-1	Replace Worn Stencils or Apply New Stencils to Storm Drain Inlets	24 stencils replaced or newly applied annually	Public Works: Engineering Public Works: Streets	Year 1-5
PE-2	Participate in Public Events	2 public events per year	Public Works: Engineering Public Works: Environmental Compliance	Year 1-5
PE-3	Distribute Informational Brochures for Residents	Distribute 200 brochures per year	Public Works: Engineering Public Works: Environmental Compliance	Year 1-5
PE-4	Utilize Door Hangers As Needed By Environmental Compliance Inspectors	Distribute door hanger at 100% of residences when responding to a complaint and the resident is not home	Public Works: Environmental Compliance	Year 1-5
PE-5	Distribute BMP Brochures for Businesses	1. Distribute brochures at 100% of new food and vehicle service facilities. 2. Distribute brochures at 100% of food and vehicle service facilities once during the 5 year Permit period.	Public Works: Environmental Compliance	Year 1-5
PE-6	Implement the Clean Ocean Business Program	1. Annual inspections of 100% of food and vehicle service facilities 2. Annual recognition for Clean Ocean Businesses	Public Works: Environmental Compliance	Year 1-5

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
PE-7	Partner and Co-sponsor of the Monterey Bay Area Green Business Program	Initiate the Green Business certification (audit) process for 30 business applicants per year	Public Works: Engineering Refuse & Recycling Environmental Compliance Water: Water Conservation	Year 1-5
PE-8	Support for O'Neill Sea Odyssey Education Program	Annual support for 10 school classes or 300 students per year	Public Works: Engineering	Year 1-5
PE-9	Partner and Co-sponsor the Regional Pesticide Management Education Program-Our Water Our World Program	1. In-store staff training at the 2 local participating stores 2. Restocking individual pest management flyers at the 2 stores	Public Works: Engineering	Year 1-5
PE-10	Co-sponsor Coastal Clean-Up Day	Sponsorship of the event in Santa County at the Platinum level	Public Works: Engineering	Year 1-5
PE-11	Co-Sponsor & Participate in Earth Day Santa Cruz	2,000 people attending event	Public Works: Engineering	Year 1-5
PE-12	Support for Earth Vision Environmental Film Festival	300 people attending the event	Public Works: Engineering	Year 1-5
PE-13	Co-sponsor First Flush	1. 15 volunteers conducting the monitoring 2. Annual report prepared by the Monterey Bay Sanctuary Citizen Watershed Monitoring Network.	Public Works: Environmental Compliance	Year 1-5
	Education and Outreach for Restoration and Protection of Riparian Areas			
PE-14	Develop and Implement an Education Program Addressing the Restoration and Protection of Riparian and Wetland Areas	1. Complete development of program plan 2. Implementation of educational measures, i.e. hold workshops,	Planning Public Works: Engineering	Year 4 Year 5

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
	Budget Dependent	distribute brochures		
PE-15	Continue Development of the SWMP List of Interested Parties and Use It for Notification of SWMP Developments and Public Meetings	1. Add 100% of those requesting to be placed on list 2. Annual notifications	Public Works: Engineering	Year 1-5
PE-16	Maintain Environmental Programs and Environmental Compliance Web Pages, and post the City's Draft and Final Storm Water Management Program (SWMP) on the City's Website	1. Environmental Compliance Web Pages 2. Environmental Programs Web Pages 3. SWMP Posted on City Web Site	Public Works: Environmental Compliance Public Works: Engineering	Year 1-5
	Assessment of the Public Education Program			
PE-17	Assess Community-Based Social Marketing Strategies and Incorporate Them Where Appropriate, Budget Dependent	Incorporation of at least 1 new public education method	Public Works: Engineering	Year 5
PE-18	Conduct Surveys to Assess the Effectiveness of the Education Efforts, Budget Dependent	Survey results that provide feedback on Program effectiveness and indicate areas that need improvement or change	Public Works: Engineering	Year 5

Table 4-1: Responsible Department or Division Contact Information

Public Works Department: Engineering
Associate Civil Engineer, (831) 420-5428

Public Works Department: Environmental Compliance Office, Wastewater/Pretreatment Division
Laboratory/Environmental Compliance Manager, (831) 420-6045

Planning Department: Current Planning
Principal Planner, (831) 420-5100

V. Program Documentation and Reporting

The City will maintain records to document program implementation and annual progress. The City will report the results of the program in the annual SWMP report to the Regional Water Quality Control Board. The report will include information and a summary of the progress made relative to the measurable goals.

Chapter 5

CONSTRUCTION SITE STORM WATER RUNOFF CONTROL PROGRAM

I. Introduction

Construction sites can result in the release of significant amounts of pollutants into the storm drain system without proper management. Construction work often involves the removal of vegetation and the excavation of soils causing erosion and the subsequent discharge of sediment. Activities conducted at construction sites can also result in the release of other pollutants to the storm drain system. The Construction Site Storm Water Runoff Control Program was developed to protect the City's storm drain system and the receiving water quality from pollutants that may be discharged as a result of construction activities. Construction activities include clearing, grading, excavation, landscaping, building, and remodeling of existing buildings. It also includes the construction of new roads and installation of pipes such as potable water or sanitary sewer pipes. Maintenance activities by the City on existing roads or pipelines, that involve some construction work, are addressed in the Municipal Operations Program.

The Phase II NPDES General Permit for Discharges of Storm Water from Small Municipal Separate Storm Sewer Systems (General Permit) requires the City to develop, implement, and enforce a program to reduce pollutants in any storm water runoff to the storm drain system from construction activities that result in a land disturbance of greater than or equal to one acre or are part of a larger common plan of development or sale that would disturb one acre or more. The City's program goes above and beyond the General Permit requirements because the City will require construction projects of any size to abide by mandatory Best Management Practices (BMPs).

In addition, the State of California requires construction sites equal to or greater than one acre, or less than one acre but part of a larger common plan of development or sale, to obtain coverage under the state's Construction Activities Storm Water General Permit (Construction General Permit). The landowner is responsible for filing a Notice of Intent (NOI) with the State Water Resources Control Board (SWRCB) and for developing a Storm Water Pollution Prevention Plan (SWPPP) prior to commencement of any soil disturbing activities.

The objectives of the City's Construction Site Storm Water Runoff Control Program are to:

- Minimize land disturbance at all permitted construction sites.
- Protect water quality from pollutants generated by construction activities.
- Require Best Management Practices (BMPs), including appropriate erosion and sediment control BMPs, to be implemented at all permitted construction sites.

- Verify that construction sites equal to or greater than 1 acre, or less than one acre but part of a larger common plan of development or sale, have filed a NOI and received coverage under the state's General Permit for Storm Water Discharges from Construction Activity.

II. Pollutants of Concern and Target Audience

EPA guidance documents name sediment as the major pollutant of concern resulting from construction activities. In addition, sediment is one of the primary pollutants of concern in the City as several of the watersheds are 303(d) listed as impaired for sediment. The San Lorenzo River and Carbonera Creek were identified as impaired by sediment on the 1998 Clean Water Act Section 303 (d) list of impaired water bodies. On May 16, 2003, the RWQCB adopted sediment Total Maximum Daily Loads (TMDLs) for these water bodies. Branciforte Creek is also included in the Implementation Plan for the San Lorenzo River Sediment TMDL. A TMDL for Pathogens (Fecal Indicator Bacteria) has also been adopted for the San Lorenzo River, San Lorenzo River Lagoon, Branciforte Creek, and Carbonera Creek. However, an implementation plan for this TMDL has not been finalized yet.

Other pollutants of concern that may be discharged into the storm drain system from a construction site or project include concrete truck washout, concrete and other masonry products, paint and chemicals, vegetation, and construction debris.

The target audiences are local contractors, builders, and residents. Contractors and builders are targeted because they conduct the actual construction activities. Residents are targeted because they both hire contractors to work on their homes and do their own home construction/remodeling projects. City staff is also targeted because various departments occasionally design municipal projects and, in many cases, hire contractors to do the construction work.

III. Program Elements and Best Management Practices

The City first determined which elements comprised the Construction Site Storm Water Runoff Control Program and then selected the most appropriate Best Management Practices (BMPs) in order to reduce the pollutants of concern to the maximum extent practicable. Also taken into consideration were the best means to communicate with the target audiences, what specific storm water pollution prevention information should be conveyed, and how to conduct enforcement actions when necessary. The Construction Site Storm Water Runoff Control Program includes the following elements:

- Legal Authority
    - Storm Water Ordinance
    - Grading Ordinance
    - Zoning Ordinance
    - Title 4 of the Municipal Code

- Best Management Practices
- Development Permits
    - Plan Review Process
    - Zoning Permits
    - Construction Permits
- Site Inspections
- Corrective Measures and Enforcement Procedures
- Procedures for Receipt and Consideration of Information Submitted by the Public
- Training and Education of City Staff
- Education and Outreach

The program elements are described in more detail in the sections below. The selected BMPs are listed and described under each program element.

Legal Authority

Storm Water Ordinance

On April 28, 1998, the City adopted a Storm Water Ordinance that became effective on May 28, 1998. The ordinance, entitled "Storm Water and Urban Runoff Pollution Control," is Chapter 16.19 of the City's Municipal Code. The ordinance established the legal authority to prohibit illicit connections and pollutant discharges to the City storm drain system. The ordinance also provides the City with the legal authority to conduct inspections and sampling. In addition, the ordinance contains a provision requiring the implementation of BMPs, as published by the Public Works Department, by certain types of facilities. For example, the ordinance contains specific language regarding BMPs for construction activity:

> 16.19.140 BEST MANAGEMENT PRACTICES FOR CONSTRUCTION ACTIVITY
> Any construction project, including those undertaken under any permit or approval granted pursuant to Titles 15, 18, and 24 of this code, shall implement Best Management Practices (BMPs) including the City's mandatory BMPs as detailed in the latest BMP Manual published by the City's Public Works Department. BMPs shall be maintained in full force and effect during the duration of the project.

The City also has the authority to terminate illicit connections and discharges, and to initiate enforcement actions for violations of the code. Potential enforcement actions include written notices, citations, termination of discharge, and monetary penalties.

The City revised the Storm Water Ordinance in July 2003 in order to incorporate the new Phase II storm water regulations. The revisions also included an increase in monetary penalties to equivalent amounts specified in the Sewer Use Ordinance for violations of the Municipal Code. For example, civil penalties were increased from a maximum of $1,000 per day to a maximum of $2,500 per day for each violation. In addition, pertinent to construction activities, the City added language prohibiting the discharge of wash out from concrete trucks to the storm drain system. The Storm Water Ordinance is included in Attachment 2.

Grading Ordinance

The Grading Ordinance, officially titled "Chapter 18.45 Excavation and Grading Regulations, is a subset of Municipal Code, Title 18, Buildings and Construction. The ordinance provides technical regulations on grading and excavation in order to:

- Safeguard life, health, safety and the public welfare.
- Protect fish and wildlife, riparian corridors and habitats, water supplies, and private and public property.
- Protect the environment from the effects of flooding, accelerated erosion and/or deposition of silt.

The ordinance accomplishes this by providing guidelines, regulations, and minimum standards for the following:

- Clearing, excavation, cuts, fills, earth moving, grading operations (including cumulative grading), water runoff and sediment control.
- Administrative procedures for issuance of permits
- Approval of plans and inspections during construction and subsequent maintenance.
- Installation of erosion control measures and establishment of special requirements for winter grading.

Enforcement of the Grading Ordinance is authorized and conducted in accordance with the Grading Ordinance and Title 4 of the City's Municipal Code, which is described later.

The City revised the Grading Ordinance in April 2004 in order to strengthen the ordinance regarding implementation of BMPs, including those for erosion and sediment control both prior to commencing construction activities and for the duration of the construction project. Modification of the Grading Ordinance included a requirement that all construction projects abide by the City's mandatory BMPs. In addition, the City included a provision that erosion and sediment control BMPs be in place and implemented, as appropriate, prior to commencing construction activity including grading or vegetation removal.

The City also added the most important BMPs from the City's mandatory BMPs for Construction Work to the "Excavation and Grading Regulations" section of the Grading Ordinance. In addition, the Grading Ordinance was modified to include a requirement that Post-Construction BMPs, in accordance with the City's mandatory BMPs for Development and Remodeling Projects, be in place upon completion of a construction project.

The Grading Ordinance is included in Attachment 3.

Zoning Ordinance

The Zoning Ordinance, officially known as Title 24 of the Municipal Code, currently contains provisions to ensure that new developments or remodeled sites are designed and constructed in a manner that limits alteration of drainage patterns, prevents erosion, and minimizes long-term impacts on water quality. The provisions pertaining to erosion control are applicable to both

construction and post-construction storm water management. For example, the ordinance requires that site development be fitted to the topography and soil so as to create the least potential for erosion. Vegetation removal is limited to the amount necessary and according to the project's approved erosion control plans. Temporary vegetation, sufficient to stabilize the soil, is required to be established on all disturbed areas as needed and as each phase of grading is completed while the permanent vegetation is maturing. Measures such as jute netting, mulching, fertilizing, and irrigation is required to protect new plantings.

In addition, the ordinance requires that land be developed in increments of workable size that can be completed in a single construction season. Erosion and sediment control measures must be coordinated with a sequence of grading, development, and construction operations. Erosion control measures are required prior to the onset of the next inclement period.

Please refer to Attachment # 4 for a copy of the Zoning Ordinance.

Title 4 of the Municipal Code

Title 4 is entitled "General Municipal Code Enforcement." It is the chapter of the Municipal Code that was established in 2000 to provide a comprehensive code enforcement system for the City. In summary, Title 4 provides definitions, details, and specific procedures for a variety of code enforcement measures. For example, Title 4 provides for the issuance and recordation of Notices of Violation; the authority to inspect; the authority to issue a Notice to Appear and Release Citations, and the power to arrest. Title 4 also details the procedures regarding Judicial Remedies and Administrative Remedies available to the City for violations of the Municipal Code and applicable state codes. In addition, Title 4 details Summary Abatement and Administrative Abatement procedures for public nuisances and code violations. Lastly, Title 4 provides for the recovery of civil penalties and abatement costs. Please refer to Attachment 5 for a copy of Title 4.

Best Management Practices

BMP Brochure

In 2003, the City developed mandatory BMPs for construction work. In December 2003, a BMP brochure entitled "Best Management Practices for Construction Work" was published. All construction projects are required to abide by the BMPs. The BMP brochure was revised in March 2007 and then translated into Spanish. Copies of the brochure in English and Spanish are included in Attachment 9 and #10 respectively. A copy of the Construction Work BMP brochure is attached to every Building and Grading permit involving exterior work that is issued. Distribution of the brochure is described in the Education and Outreach section below.

BMP Handouts

In June 2003, two BMP handouts were developed and published for construction work on "Painting" and "Masonry and Concrete Work." These handouts, comprised of BMPs excerpted from the BMP brochure for construction work, were created so that the Environmental Compliance Inspectors could have a one-page summary of BMPs that could be handed out while in the field and an illegal discharge related to either of these activities was noticed or reported to them. These topics were chosen because they are two of the most common illegal discharges from construction work seen by the Environmental Compliance Inspectors. The handout for

painting work was republished July 18, 2003. Both handouts were republished in March 2007 when the Construction BMP brochure was updated. These one page handouts were also translated into Spanish. Copies of these handouts BMP brochure in English and Spanish are included in Attachments 11-14.

Permit Conditions for Department of Public Works Over-the-Counter Street Opening and Concrete Permits

Public Works issues "over-the-counter" concrete and street opening permits to State licensed contractors for construction work in the public right-of-way, such as the sidewalk or street. Examples of this type of construction work include: creation of a new sidewalk, sidewalk repairs, and opening a street to install or repair a private sewer lateral.

In June 2003, permit conditions consisting of the most important and applicable storm water BMPs for construction work were incorporated into permit conditions for all over-the-counter street opening and concrete permits. The BMPs are attached to each Street Opening or Concrete Permit that is issued and given to the contractor.

Development Permits

The City Planning Department issues two types of permits, Discretionary (Zoning) permits and Ministerial (Construction) permits, for construction activities. Zoning and Construction permits are described in more detail below.

Plan Review and Permit Application Process

The plan review and permit process provides the City with the opportunity to review a construction project during its planning stage for many issues including the proper erosion control and grading methods. Once an application is received, the Planning Department distributes copies of project plans to other departments, such as Public Works and Water, for review and comment. For discretionary projects, typically there is a pre-application meeting with Planning/Building staff. At this time, the applicant is informed that they must also contact the Department of Public Works regarding storm water BMP requirements.

Discretionary projects undergo extensive review and public scrutiny. Plan checks and review are also conducted for any ministerial permits issued for new construction or exterior modifications to an existing building. Certain minor ministerial permits may be issued over-the-counter for plumbing, mechanical, electrical, and roofing work.

The plan review process was revised in 2004 to ensure that it was consistent with the Phase II requirements including the State's General Permit for Construction Activity. The following highlights the plan review process and pertinent issues:

1. A project will be reviewed and determined to be exempt or not exempt from construction permit requirements
2. If the project is not exempt, the project size will be determined to be less than or greater than 1 acre.
3. Projects less than 1 acre will be subject only to the City permit process.

4. Projects greater than or equal to 1 acre (or are part of a larger common plan of development or sale that would disturb one acre or more) will be subject to the City permit process and notified that they are subject to the state's General Permit for Storm Water Discharges from Construction Activity requirements. These sites will be required, as a condition of the Zoning Permit, to provide the City with proof of coverage under the Construction General Permit including a copy of the letter of receipt and Waste Discharger Identification (WDID) number issued by the State Water Quality Control Board (SWQCB) that acknowledges the property owner's submittal of a complete Notice of Intent (NOI) package.
5. Projects greater than or equal to 1 acre (or are part of a larger common plan of development or sale that would disturb one acre or more) and located in the San Lorenzo River watershed, will be notified that they are subject to the Construction General Permit requirement to prepare a Storm Water Pollution Prevention Plan (SWPPP).
6. Project applicants, such as contractors, architects, and property owners, will be informed that the City's mandatory BMPs, as published by the City's Public Works Department and/or Planning Department, shall be maintained in full force and effect for the duration of the project. In addition, the City will inform the applicant that erosion and sediment control BMPs shall be in place and implemented, as appropriate and whenever possible, prior to commencing construction activity including grading or vegetation removal.

Zoning Permits:

Zoning permits typically cover the pre-construction phases of a project. The application process generally triggers the conditions that the City places on a project. For example, a project may be required to conduct an Environmental Initial Study. The City may also require the implementation of erosion control practices. In addition, a zoning report can be required, which can also be conditioned with mandatory BMPs and site-specific measures.

A zoning permit may be conditioned to require the applicant to obtain additional permits. These permits include, but are not limited to, Administrative Use Permits, Coastal Permits, and Design Permits. Depending on the project, applications for a Zoning Permit may also require a public hearing and approval by the Zoning Commission and City Council. Zoning permits are described in greater detail in the Post Construction Storm Water Management Program chapter.

In 2004, the City modified the zoning permit boiler plate conditions to include a condition that requires the applicant of a construction site equal to or greater than one acre, or less than one acre but part of a larger common plan of development or sale, to provide the City with proof of coverage under the state's Construction Activities Storm Water General Permit. Proof of coverage shall include a copy of the letter of receipt and Waste Discharger Identification (WDID) number issued by the State Water Quality Control Board (SWQCB) that acknowledges the property owner's submittal of a complete Notice of Intent (NOI) package.

Lastly, if a project is required to obtain a Zoning permit, the conditions of the Zoning permit must be met prior to obtaining a Construction permit.

Construction Permits

Construction Permits typically permit the activities conducted during the actual construction phase of a project. For example, Construction Permits are issued for grading, building, plumbing, electrical, and demolition work. The Planning Department may require drainage and erosion control plans depending upon the type of project. For example, an erosion control plan is required for all projects located within, or adjacent to, specific erosion hazard areas. An erosion control plan is also required for certain projects including:

1) those on slopes in excess of ten percent for all major development proposals;
2) developments where grading is in excess of 50 cubic yards, 2 feet of fill or 1 foot of cut; and
3) a development adjacent to streams and wetland areas.

For those projects requiring a Grading Permit and involving greater than 50 cubic yards of combined grading (i.e. import or export of dirt, or land disturbance), the permit application must include an erosion control plan/BMPs prepared by a licensed engineer. This erosion control plan becomes part of the project permit set. A Grading Permit will not be issued until receipt of this item, in completion, is received. The BMPs and erosion control measures per plan must be in place and maintained during the rainy season and throughout the course of the project. The Maintenance Agreement, per the City's Development and Remodeling Projects BMPS, must also be executed and submitted prior to Grading Permit issuance. Minor projects of less than 50 cubic yards of grading do not require an engineered prepared erosion control plan but do require the installation of erosion control measures as necessary.

The City may also place conditions on any of these types of permits for any stage of the work. The Planning Department typically conditions construction permits, particularly Grading Permits, with requirements to minimize soil disturbance and protect water quality. In addition, the Public Works Department, who also reviews construction project plans, may place conditions on the permit.

Site Inspections

Site inspections are conducted throughout the phases of a construction project including an inspection during the grading activity, if any, and a final inspection once the work is completed. As mentioned above, construction permits are issued for grading, building, plumbing, electrical, and demolition work. Each permitted project receives at least 1 inspection by the Planning Department's Building Inspectors. During site inspections, each project is evaluated for compliance on a "case by case" basis. More specific details regarding site inspections for projects requiring a Grading Permit are included below since oversight of these types of projects and compliance with storm water BMPs is extremely important to protecting water quality.

Construction Sites Requiring a Grading Permit

For construction sites requiring a Grading Permit, Building Inspectors must sign off on each stage of the grading permit upon satisfactory completion of the work. There are variations of when the aspects of a project, including grading work, are signed off. Extensive grading work also usually has a series of reports from the project's design engineer. Building Inspectors work from an approved plan set when conducting an inspection to ensure that all the requirements for

project have been met. Most all engineered grading requires observation by the soils engineer and an acceptance letter by him/her.

For small projects, which are generally are less than one half acre, the Building Inspectors conduct two inspections during the grading process. This includes a pre-site inspection and a final grading inspection. For large projects, which are generally are greater than one half acre, sites are inspected three times during the grading process. These inspections include a pre-site inspection, a rough grade inspection, and a final grading inspection. For very large sites, Building Inspectors may even conduct multiple inspections per section as needed. In addition, for large sites, Building Inspectors typically have pre-grading and pre-construction meetings with the contractor to ensure the project's compliance with the City's BMPs and other requirements.

The Building Division also actively works to ensure that "open" construction sites have their wet weather BMPs in place prior to and during the rainy season. Staff mails a notification letter to the owners and contractors of projects under construction advising them that implementation and maintenance of BMPs is mandatory. In addition, Building Inspectors conduct inspections at open sites after major rain events or storms, with the goal of inspecting at least 50% of the open sites after each major rain event (approximately 1inch of rain/day).

Depending on the project, Public Works Engineering Inspectors may also inspect a site or a portion of the work such as storm water treatment systems and paved areas. For example, Public Works Engineering staff will inspect the installation of post-construction treatment systems and storm water retention devices at development sites greater than or equal to one acre. In certain cases, Public Works Environmental Compliance may also inspect work such as a mat wash area installation at a restaurant or a treatment system installation at an industry. For City projects, Water Department staff may also conduct an inspection of the site.

BMP #CON-1: Planning/Building Inspectors Inspect All Construction Sites Requiring a Grading Permit

BMP #CON-2: PW Staff Will Inspect Installation of Post-construction Treatment Systems and Storm Water Retention Devices at Development Sites Greater Than or Equal to One Acre

<u>Construction Site and Inspection Tracking System</u>
The City maintains an electronic construction site tracking system. This system can simultaneously track plan review and field inspections.

Corrective Measures and Enforcement Procedures

The City takes enforcement actions in cases where a contractor or a person conducts activities in violation of the Municipal Code or permit conditions placed upon a particular project. Usually, the Building Inspectors are the first to notice any violations since they conduct routine inspections of construction work. However, the City also occasionally receives complaints or tips from the general public that trigger a site inspection. Complaints or tips from the public are typically reported to and responded to by the Planning Department/Building or the Public Works Environmental Compliance office.

Corrective Measures and Enforcement Procedures in Accordance with the Grading Ordinance

The City's Grading Ordinance provides a regulatory mechanism that addresses violations of related to construction activity. The following is an excerpt from the Grading Ordinance regarding violations:

18.45.150 Violations

(1) Work Stoppage. Whenever the Building Official determines that the work does not comply with the terms of the permit or of this chapter, he or she may order the immediate cessation of all work thereunder until such corrective measures have been completed.

(2) Right of Entry. Whenever the Building Official has reasonable and/or probable cause to believe that there exists accelerated erosion, and/or a violation of this chapter, he/she may enter such site at all reasonable times to inspect the same, to perform any duty imposed upon him/her by this chapter; providing that, if such premises are occupied, he/she shall first present proper credentials and request entry, and if the premises are found to be unoccupied, he/she shall first make a reasonable effort to locate the owner or other person having charge or control of said premises and request entry. If such entry is refused, the Building Official shall have recourse to every remedy provided by law to secure entry.

(3) Notification of Violation. Any person found to be in violation of the provisions of this chapter shall be required to correct the problem upon written notification from the building official. Such written notification may require that certain conditions be adhered to in the correction of the problem. These may include, but are not limited to, the following: Use of specific erosion-control techniques; Submittal of plans and specifications to be approved by the community development department, and any other department affected by such work, prior to the commencement of corrective work; and Completion of corrective work within a specified time period.

(4) Abatement of Violation. If the responsible party fails to act in response to written notification of the Building Official, the violation may be declared a public nuisance and be abated as required to restore the site to its original condition. Where there is an emergency condition of erosion or sediment damaging a waterway, marsh, or other body of water, or significant habitat or archeological site, the Building Official may have the necessary corrective work done and bill the property owner or lien the property for repayment.

(5) Penalties.

a) Any person, whether as principal, agent, employee or otherwise, violating, or causing or permitting the violation of any of the provisions of this chapter shall be deemed guilty as follows:

i. Violations of the requirement for regular grading permits shall be infractions, punishable as set forth in the Santa Cruz County Uniform Bail Schedule;

ii. Violations of the requirement for engineering grading permits shall be misdemeanors, punishable as set forth in the Santa Cruz County Uniform Bail Schedule;

iii. Any person, firm or corporation who shall place upon a slope greater than thirty percent or within one hundred fifty feet of the high-water mark of a riparian corridor any fill, debris, spoils or other deleterious material exceeding fifty cubic yards, without an approved grading permit shall be guilty of a misdemeanor, punishable as set forth in the Santa Cruz County Uniform Bail Schedule.

iv. Each separate day or portion thereof during which any violation occurs or continues without a good-faith effort by the responsible person to correct the violation shall be deemed to constitute a separate offense.

b) In addition to the above-noted penalties, the building official is hereby authorized to attach an investigation fee, equal to twice the grading permit fee, to any such permit issued for corrective action.

c) Enforcement. The building official and/or his/her designated subordinate(s) is hereby authorized and directed to enforce all the provisions of this chapter. For such purpose, the Building Official shall have the powers of a law enforcement officer.

d) Appeals. Any person who believes the chief Building Official has erred in the technical application of this chapter may appeal such action to the board of building appeals as provided in Chapter 18.41 of the Municipal Code.

Typically, the City engages in enforcement actions that correspond to the severity of the violation and the timeliness of corrective measures. In general, the first step of any enforcement action is the issuance of a Correction Notice. These are usually issued by the Building Inspectors to the violator. If the problem is not corrected in a timely manner, the second step is the issuance of a Municipal Citation. Municipal citations are handled locally, however, the City has the ability to take further legal actions if compliance is not met. Citations are issued either by the Code Enforcement Division of the Planning Department or the City Attorney. The citation process is further detailed in Title 4 of the City's Municipal Code.

BMP #CON-3: Implement Corrective Measures and Enforcement Procedures in Accordance with the Grading Ordinance As Needed

<u>Corrective Measures and Enforcement Procedures in Accordance with Title 4</u>

Title 4 of the City's Municipal Code, as previously mentioned, is the chapter of the Municipal Code that provides a comprehensive code enforcement system for the City. For example, Title 4 provides for the issuance and recordation of Notices of Violation; the authority to inspect; the authority to issue a Notice to Appear and Release Citations, and the power to arrest. Title 4 also details the procedures regarding Judicial Remedies and Administrative Remedies available to the City for violations of the Municipal Code and applicable state codes. In addition, Title 4 details Summary Abatement and Administrative Abatement procedures for public nuisances and code

violations. Lastly, Title 4 provides for the recovery of civil penalties and abatement costs. Please refer to Attachment 5 for a copy of complete Title 4.

BMP #CON-4: Implement Corrective Measures and Enforcement Procedures in Accordance with Title 4 As Needed

Corrective Measures and Enforcement Procedures in Accordance with the Storm Water Ordinance

The Environmental Compliance Inspectors also inspect construction sites or projects in response to a citizen complaint regarding discharges to the storm drain system. Public Works Engineering staff also inspect construction work, specifically those related to projects on city property including facilities, sidewalks, alleyways, and roads. In general, construction site inspections and any resulting enforcement actions by the Environmental Compliance or Engineering divisions are in response to violations of the Storm Water Ordinance. Enforcement actions typically include an initial verbal warning and, if applicable, a directive to remove any materials or debris that has been discharged to the storm drain. The inspection or site visit is usually followed up with a written warning letter. Additional enforcement actions or the degree to which enforcement actions are escalated usually depends upon the severity of the violation and, as mentioned above, the timelines of correction.

Potential enforcement actions include written notices, citations, termination of discharge, and monetary penalties. These potential enforcement action are briefly summarized below and may be found in greater detail in the Storm Water Ordinance, Attachment 2, under "Administrative Remedies (Section 16.19.190)" and "Judicial Remedies-Civil/Criminal (Section 16.19. 200)."

- **Warning:** A warning may consist of a verbal notice or a written informational letter to the facility owner or manager.
- **Administrative Action-Notification of Violation and Citation:** A Notification of Violation is a written notice to the facility owner or manager stating that the site has violated the City Municipal Code and that the discharge must cease. In general, violation letters state a date by which time the noncompliance must be corrected and may include a statement warning of additional enforcement actions, including fines, if the problem is not corrected.
- **Administrative Action-Show Cause Hearing:** Administrative actions generally include a structured process to ensure that remedial actions are taken to terminate an illicit connection or discharge, and to prevent its reoccurrence. An administrative action specifies a time frame to correct the identified problem based on the severity or complexity of the problem. If a violation is not corrected by timely compliance, the City may issue a citation for fines, up to $2,500 per day.
- **Administrative Action-Emergency Termination:** The City may take steps to prevent or terminate an illegal discharge if the discharge presents an imminent threat of substantial endangerment to the health or welfare of persons or to the environment.
- **Summary Abatement of Certain Nuisances:** Abatement of a nuisance, which is a menace to public health and safety, with all costs are charged to the responsible party.

- **Judicial Remedies**-Civil/Criminal: In such an action, the City may seek all appropriate judicial relief including, but not limited to, injunctive relief and damages in the minimum of two thousand five hundred dollars per violation per day. In the case of criminal liability, the City may seek criminal penalties and incarceration in the maximum amount prescribed by the California Penal Code for infractions and misdemeanors.

BMP #CON-5: Respond to Complaints and Implement Corrective Measures and Enforcement Procedures in Accordance with the Storm Water Ordinance As Needed

Violations of the State General Permit for Construction Activity

Violations of the requirements of the General Permit for Storm Water Discharges from Construction Activity will be reported to the RWQCB immediately.

BMP #CON-6: Report Violations of the Construction General Permit to the RWQCB

Procedures for Receipt and Consideration of Inquiries, Concerns, and Information Submitted by the Public

The City has a variety of mechanisms by which the public may submit inquiries, concerns, and information regarding local construction activities. These mechanisms are listed below and are applicable to both the Planning and Public Works Departments:

- On demand public records request may be made over the counter, by telephone, or in writing.
- Concerns, complaints, and reporting of illegal discharges or other illegal activities at construction sites may be made over the counter, by telephone, or by letter.

City materials, such as the Best Management Practices for Construction Work provide telephone numbers (for the Planning and Public Works Departments) for the public to call for questions, information, or to report an illegal discharge. The City's website also provides telephone numbers for City staff.

Inquiries, concerns, and information regarding local construction activities may also be directed to any City department or entity, such as the City Manager, who will route the information to the appropriate staff.

Planning Department Building Inspectors, the Planning Department Code Compliance staff, Public Works Department Engineering, Public Works Department Environmental Compliance Inspectors, and the Fire Department may respond to complaints and reports of illegal discharges from construction sites. Which City staff responds depends somewhat upon the situation and which department receives the information. Other factors might include previous experience with a site, if the site is located on City property, and the severity of the discharge.

Information regarding local construction activity is provided by the Planning Department to several outside entities on a regular basis. For example, the City provides data to the

Housing/Census Bureau and the Construction Industry Research Board. Information is also provided to the Regional Builders Exchange and the Santa Cruz County Builders Exchange.

Training and Education of City Staff

Training and education of City staff are an important component of this program. Both the Planning/Building and Public Works Departments will ensure that the appropriate personnel (e.g. Building Inspectors, Public Works Engineers, and Public Works Environmental Compliance Inspectors) are trained and familiar with the City's BMPs for construction activities, and RWQCB and SWRCB requirements.

The City has and will continue to provide training classes for employees on construction related issues, such as erosion control, and implementation of BMPs. Since 2002, the City has provided construction related classes to staff from the various City departments including Parks and Recreation, Planning, Public Works, and Water. For example, between 2002 and 2004, in preparation of the General Permit, on-site classes were offered at least annually on topics including: sediment control; post-construction SWMP Program and Design Requirements; field methods to prevent polluted runoff during City maintenance operations; and construction BMPs. Most of these classes were sponsored by the Monterey Bay National Marine Sanctuary through grant funding.

In addition, the City encourages staff to attend off-site classes and workshops, offered by other agencies and organizations, on related pollution prevention issues and practices. City staff has attended off-site classes and workshops on construction, post-construction, and other related issues including Low Impact Development.

The City will provide training to all Planning/Building Inspectors, Public Works Inspectors, and Planning and Public Works Plan Reviewers on construction site BMP requirements and related issues every two years. New Inspectors and Plan Reviewers will be trained within 3 months of the beginning of employment. Additional training on new or changed BMPS will take place as needed. For example, the City anticipates a potential need for additional training in the future on construction or installation of LID design measures.

BMP # CON-7: Provide Training to Planning/Building Inspectors, Public Works Inspectors, and Planning and Public Works Plan Reviewers on Construction Site BMP Requirements

Education and Outreach

The City will conduct education and outreach to the construction community, including contractors and architects, on the new construction site requirements and BMPs. Materials will also be provided to homeowners and the general public regarding the new requirements and the permit process so that they will be more informed when planning projects or filing for permits.

<u>Construction Work BMP Brochure</u>

Beginning in December 2003, copies of the BMP brochure were available at the public counters of both the Planning and Public Works Departments. A copy of the BMP brochure was posted on

the City's website in December 2003. A copy of the Construction Work BMP brochure is attached to every Building and Grading permit that is issued.

Once the City's SWMP is approved, either a workshop will be held or a mass mailing conducted to inform local contractors, architects, and the general public about the new requirements and Best Management Practices.

BMP # CON-8: Distribute Construction BMP Brochure

Construction BMP Handouts

As previously mentioned, two BMP handouts were developed and published for construction work specifically for "Painting" and "Masonry and Concrete Work." Since 2003, these one-page flyers have been distributed by the Environmental Compliance Inspectors in the field when an illegal discharge (related to either of these activities) is noticed by them or a complaint has been reported to them. The Inspectors keep track of such instances in an Incident Report file. The City will continue to give these flyers out and track the number of such instances. The flyers have also been posted on the City's web site since 2003.

BMP #CON-9: Distribute Construction BMP Handouts by Environmental Compliance Inspectors As Needed

Department of Public Works Over-the-Counter Street Opening and Concrete Permits

As previously mentioned, in June 2003, the Public Works Department began attaching permit conditions consisting of the most important and applicable BMPs to over-the-counter street opening and concrete permits. These permits are issued for construction work such as: creation of a new sidewalk, sidewalk repairs, and opening a street to install or repair a private sewer lateral. The Public Works computer program for permit issuance was modified so that the BMPs automatically print out along with a copy of the Street Opening or Concrete Permit to ensure that the BMPs are never omitted when a permit is issued to a contractor.

BMP #CON-10: Attach BMP Permit Conditions for Public Works Over-the-Counter Street Opening and Concrete Permits

IV. Program Implementation

City Personnel

The Planning and Public Works Departments will be primarily responsible for implementation of the Construction Site Storm Water Runoff Control Program. The primary personnel needed to implement this program include Planning Department Planners and Building Inspectors. Public Works staff, who evaluate permit applications and apply permit conditions, will be informed of the new construction site regulations and City BMPs. Table 5-1 below itemizes each BMP and the responsible department.

Implementation Timetable and Measurable Goals

The City has established a timetable for implementation of the Construction Site Storm Water Runoff Control Program. Measurable goals will be used to assess the City's efforts to reduce urban runoff pollution and to evaluate the success of the program. A list of the BMPS, measurable goals, and the implementation schedule are detailed in Table 5-1 below

Table 5-1
BMPs, Measurable Goals, and Implementation Schedule

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Completion Date and/or Implementation Schedule
	Site Inspections			
CON-1	Planning/Building Inspectors Will Inspect All Construction Sites Requiring a Grading Permit	1, During the grading process, 100% of small sites will be inspected 2 times and 2. During the grading process, 100% of large sites will be inspected 3 times 2. After major rain events, 50% of "open" sites will be inspected	Planning: Building	Year 1-5
CON-2	PW Staff Will Inspect Installation of Post-construction Treatment Systems and Storm Water Retention Devices at Development Sites Greater Than or Equal to One Acre	Inspect systems and devices at 100% of development sites greater than or equal to one acre	Public Works: Engineering	Year 1-5
	Corrective Measures and Enforcement Procedures			
CON-3	Implement Corrective Measures and Enforcement Procedures in Accordance with the Grading Ordinance As	1. Respond to 100% of complaints 2. Implement corrective actions, as appropriate, for 100% of sites where a violation is detected	Planning: Building Planning: Current Planning	Year 1-5

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Completion Date and/or Implementation Schedule
	Needed			
CON-4	Implement Corrective Measures and Enforcement Procedures in Accordance with Title 4 As needed	Implement corrective actions, as appropriate, for 100% of sites where a violation is detected and referred to Code Enforcement for follow-up	Planning: Building Planning: Current Planning	Year 1-5
CON-5	Respond to Complaints and Implement Corrective Measures and Enforcement Procedures in Accordance with the Storm Water Ordinance As Needed	1. Respond to 100% of complaints 2. Implement corrective actions, as appropriate, for 100% of sites where a violation is detected	Public Works: Environmental Compliance Public Works: Engineering	Year 1-5
CON-6	Report Violations of the Construction General Permit to the RWQCB	Report 100% of violations	Planning: Building Public Works: Engineering	Year 1-5
	Training and Education of City Staff		Planning Public Works	
CON-7	Provide Training to Planning/Building Inspectors, Public Works Inspectors, and Planning and Public Works Plan Reviewers on Construction Site BMP Requirements	1. Train 100% of Planning/Building Inspectors, Public Works Inspectors, and Planning and Public Works Plan Reviewers every two years. 2. Train new Inspectors and Plan Reviewers within 3 months of the beginning of employment. 3. Additional training on new or changed BMPS as needed	Planning: Planning and Building Public Works: Engineering	Year 1-5
	Education and Outreach			
CON-8	Distribute Construction	1. Available At the Planning Department counter	Planning	Year 1-5

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Completion Date and/or Implementation Schedule
	BMP Brochure	2. Distribute to 100% of project applicants for Grading and Building Permits	Public Works: Engineering Public Works: Environmental Compliance	
CON-9	Distribute Construction BMP Handouts By Environmental Compliance Inspectors As Needed	Give BMP handouts to 100% of problems detected either while out in the field or during complaint response	Public Works: Environmental Compliance	Year 1-5
CON-10	Attach BMP Permit Conditions for Public Works Over-the-Counter Street Opening and Concrete Permits	100% Street Opening and Concrete Permits	Public Works: Engineering	Year 1-5

Table 1: Responsible Department or Division Contact Information
Planning Department: Building
Chief Building Official, (831) 420-5127

Planning Department: Current Planning
Principal Planner, (831) 420-5100

Public Works Department: Engineering
Associate Civil Engineer, (831) 420-5428

Public Works Department: Environmental Compliance Office, Wastewater/Pretreatment Division
Laboratory/Environmental Compliance Manager, (831) 420-6045

V. Program Documentation and Reporting

The City will maintain records to document program implementation and annual progress. The City will report the results of the program in the annual SWMP report to the Regional Water Quality Control Board. The report will include information and a summary of the progress made relative to the measurable goals.

Chapter 6

POST CONSTRUCTION STORM WATER MANAGEMENT PROGRAM

I. Introduction

As communities grow and are developed, impervious surfaces tend to replace the area's natural topography and vegetation. This frequently results in the alteration of natural watercourses and drainage patterns that, in turn, can cause increased storm water runoff rates and erosion. In addition, new developments or redevelopments often create a more densely populated area and generate additional pollutant loads to the storm drain system and the environment. Therefore, it is important to implement a program that controls flow and water quality on a long-term basis well after a site has been constructed or redeveloped.

The goal of the City's Post Construction Storm Water Management Program is to ensure that new developments or redeveloped sites are designed and constructed in a manner that minimizes the long-term impacts on storm water quality. By considering water quality during the design phase of a project, Best Management Practices (BMPs) can be incorporated into a project's design from the beginning for a more efficient and effective way to curb the discharge of urban pollutants.

Since most of the City is effectively "built out," the program is directed at both small and large developments. The program also includes redevelopment (remodeling) projects with particular attention given to those of significant size. The program addresses commercial, industrial, and residential projects.

The Post Construction Storm Water Management Program will work in tandem with construction site controls to reduce pollutant impacts from new developments and remodeling projects.

The objectives of the City's Post Construction Storm Water Management Program are to:

- Ensure that new developments and remodeled sites are designed and constructed in a manner that minimizes:
    - the alteration of natural watercourses and drainage patterns;
    - the impact of new developments or remodeling projects on a site's natural topography and vegetation; and
    - water quality impacts from post-construction runoff.
- Ensure the long-term maintenance of any runoff or pollution control devices installed at a site.

- Ensure that the design standards, contained in Attachment 4 of the Phase II NPDES General Permit for Discharges of Storm Water from Small Municipal Separate Storm Sewer Systems (General Permit and the City's mandatory BMPs for development and redevelopment (remodeling projects), are incorporated into all applicable projects.

II. Pollutants of Concern and Target Audience

EPA guidance documents state that post-construction storm water runoff may adversely impact the environment in two major ways. First, storm water runoff flowing over areas altered by development can pick up pollutants, such as sediment and chemicals, and carry them into the nearest downstream water body. Increased runoff flow rates may alter drainage patterns, create erosion on slopes, and scour stream banks. In addition, since the San Lorenzo River and other water bodies in the City are TMDL listed for sediment, the primary post-construction pollutant of concern is sediment and this will be focused upon. Other pollutants of concern are metals, pesticides and fertilizers, oil and grease, and fuel; which will also be addressed.

The target audiences are local contractors, architects, builders, developers, and any applicant, such as a property owner, for a discretionary permit. These audiences are targeted so that they can be aware of the new post-construction regulations prior to commencing a project in order to ensure the incorporation of mandatory design standards and the long-term maintenance of BMPs.

III. Program Elements and Best Management Practices

The City selected the appropriate Best Management Practices (BMPs) after first identifying the pollutants of concern and the target audiences associated with those pollutants. Also taken into consideration were the best means to communicate with these audiences, what specific pollution prevention information should be conveyed, and how to conduct enforcement actions when necessary. Lastly, BMPs were also selected based on the most appropriate and effective methods to achieve program goals and compliance with the General Permit requirements.

The Post Construction Storm Water Management Program includes the following elements in order to reduce the pollutants of concern described above to the maximum extent practicable:

- Legal Authority
  - Storm Water Ordinance
  - Grading Ordinance
  - Zoning Ordinance
  - Title 4 of the Municipal Code
  - Creeks and Wetlands Ordinance
- Protection of Riparian Areas, Wetlands, and Their Buffer Zones
  - City-Wide Creeks and Wetlands Management Plan
- Mandatory BMPs/Design Standards for Development and Remodel Projects

- Development and Adoption of Hydromodification Control Standards
- Long-Term Watershed Protection
- Development Permits
    - Plan Review Process
    - Zoning Permits
    - Construction Permits
- Site Inspections
- Long-Term BMP Maintenance and Monitoring
- Corrective Measures and Enforcement Procedures
- Education and Outreach
    - BMP Brochure for Development and Remodeling Projects
    - Public Education on the Restoration and Protection of Riparian and Wetland Areas
- Training and Education of City Staff

The program elements are described in more detail in the sections below. The selected BMPs are listed and described under each program element.

Legal Authority

Storm Water Ordinance

On April 28, 1998, the City adopted a Storm Water Ordinance, which became effective on May 28, 1998. The ordinance, entitled "Storm Water and Urban Runoff Pollution Control," is Chapter 16.19 of the City's Municipal Code. The ordinance established the legal authority to prohibit illicit connections and pollutant discharges to the storm drain system. The ordinance also provides the City with the legal authority to conduct inspections and sampling. In addition, the ordinance contains a provision requiring the implementation of mandatory BMPs, as published by the Public Works Department. The City has the authority to terminate illicit connections and discharges, and to initiate enforcement actions for violations of the code. Potential enforcement actions include written notices, citations, termination of discharge, and monetary penalties.

The City recently revised the Storm Water Ordinance in July 2003 in order to incorporate new Phase II storm water regulations, and to keep it comparable with the Sanitary Sewer Ordinance that was recently revised. The revisions included an increase in monetary penalties, to equivalent amounts specified in the Sewer Use Ordinance, for violations of the Municipal Code. For example, civil penalties were increased from a maximum of $1,000 per day to a maximum of $2,500 per day for each violation of the ordinance. The Storm Water Ordinance is included in Attachment 2.

Grading Ordinance

The Grading Ordinance, officially titled "Chapter 18.45 Excavation and Grading Regulations, is a subset of Municipal Code, Title 18, Buildings and Construction. The ordinance provides technical regulations on grading and excavation in order to:

- Safeguard life, health, safety and the public welfare.
- Protect fish and wildlife, riparian corridors and habitats, water supplies, and private and public property.
- Protect the environment from the effects of flooding, accelerated erosion and/or deposition of silt.

The ordinance accomplishes this by providing guidelines, regulations, and minimum standards for the following:

- Clearing, excavation, cuts, fills, earth moving, grading operations (including cumulative grading), water runoff and sediment control.
- Administrative procedures for issuance of permits
- Approval of plans and inspections during construction and subsequent maintenance.

The City revised the Grading Ordinance in order to strengthen the ordinance regarding implementation of BMPs, including those for erosion and sediment control. Modification of the Grading Ordinance included a requirement that all construction projects abide by the City's mandatory BMPs. In addition, the City included a provision that erosion and sediment control BMPs be in place and implemented, as appropriate, prior to commencing construction activity including grading or vegetation removal.

The Grading Ordinance was also modified to include a requirement that Post-Construction BMPs, in accordance with the City's mandatory BMPs for Development and Remodeling Projects, be in place upon completion of a construction project. The City modified the Grading Ordinance in April 2004. The Grading Ordinance is included in Attachment 3.

Enforcement of the Grading Ordinance is authorized and conducted in accordance with the Grading Ordinance and Title 4 of the City's Municipal Code. Enforcement of the Grading Ordinance is authorized and conducted in accordance with the Grading Ordinance and Title 4 of the City's Municipal Code. Title 4 of the Municipal Code is entitled "General Municipal Code Enforcement" and is further described below.

Zoning Ordinance

The Zoning Ordinance, Title 24 of the Municipal Code, currently contains provisions to ensure that new developments or remodeled sites are designed and constructed in a manner that limits alteration of drainage patterns, prevents erosion, and minimizes long-term impacts on water quality. For example, Chapter 24.14 of the ordinance, entitled "Environmental Resource Management," contains a section on Conservation Regulations that includes general provisions for drainage and erosion controls. Provisions pertaining to drainage control include requirements that a drainage plan be submitted for projects, both large and small, when existing drainage

patterns would be altered by new construction. A drainage plan must be submitted and reviewed as part of the project approval. In addition, if a proposed project includes the discharge of runoff into a natural watercourse, the drainage plan must include methods to safeguard or enhance the existing water quality. In addition, the ordinance requires that storm water runoff resulting from project development be minimized. To that end, devices such as detention basins, percolation ponds, or sediment traps may be required, where appropriate or as specified in an adopted plan or wetlands management plan.

Provisions pertaining to erosion control include requirements that a site development be fitted to the topography and soil in order to create the least potential for erosion. Vegetation removal is limited to the amount necessary and according to the project's approved erosion control plans. Temporary vegetation, sufficient to stabilize the soil, is required to be established on all disturbed areas and as each phase of grading is completed while the permanent vegetation is maturing.

The Zoning Ordinance also includes regulations for development in areas characterized by combustible vegetation and steep and/or unstable slopes. Such areas include canyons, arroyos, and slopes over thirty percent. The ordinance also addresses development near or adjacent to intermittent or perennial streams, wetlands, marshes, and seasonally flooded grasslands. For example, construction of main or accessory structures, grading or vegetation removal is not permitted in any designated riparian area or within one hundred feet of a watercourse or a wetland. Exceptions are allowed in certain circumstances, as specified in the ordinance, such as when necessary for protection against erosion, scouring, and for maintenance of flow. For wetlands, marshes and seasonally flooded grasslands, exceptions are also granted if a restoration and management plan has been submitted and approved, and any construction and/or use is consistent with the approved plan. The ordinance also requires that landscaping, grading, and building design ensure the ongoing viability of the remaining vegetation and, if any vegetation is removed, that it is replaced by vegetation of an equivalent kind, quality, and quantity.

The Zoning Ordinance, Title 24, is included, in Attachment 4.

Title 4 of the Municipal Code

Title 4 is entitled "General Municipal Code Enforcement." It is the chapter of the Municipal Code that was established in 2000 to provide a comprehensive code enforcement system for the City. In summary, Title 4 provides definitions, details, and specific procedures for a variety of code enforcement measures. For example, it provides for the issuance and recordation of Notices of Violation; the authority to inspect; the authority to issue a Notice to Appear and Release Citations, and the power to arrest. Title 4 also details the procedures regarding Judicial Remedies and Administrative Remedies available to the City for violations of the Municipal Code and applicable state codes. In addition, Title 4 details Summary Abatement and Administrative Abatement procedures for public nuisances and code violations. Lastly, Title 4 provides for the recovery of civil penalties and abatement costs. Please refer to Attachment 5 for a copy of Title 4.

Creeks and Wetlands Ordinance

The purpose of the Creeks and Wetlands Ordinance is to carry out the goals of the City-Wide Creeks and Wetlands Management Plan (*Management Plan*) by applying development standards to lands adjacent to watercourses within the City of Santa Cruz that will enhance and protect watercourse functions and values. The *Management Plan* was developed to identify and map the watercourses and known wetlands within the City limits, identify appropriate development setbacks, recommend management actions which promote the preservation of riparian and wetland resources, define development guidelines and standards for areas where development adjacent to watercourses may be appropriate, and provide a framework for permitting development adjacent to watercourses. The *Management Plan* presents a strategic approach to stream corridor management that is intended to result in better protection, enhancement, and management of the City's riparian and wetland resources and water quality, while providing consistency and predictability of the City's permitting process.

As part of development of the *Management Plan*, all City watercourses and known wetlands were identified and mapped. Resource characteristics were inventoried for each watercourse reach, including stream or channel type, habitat type, the extent of riparian vegetation, and wildlife considerations. The inventory was used to assess the existing habitat and hydrological values for each watercourse reach, as well as potential for habitat or water quality enhancement. The inventory was based on high resolution aerial photographs, a GIS database, review of existing resource studies, and biological and land use site inspections, where feasible. Land use patterns were also identified, including the average distance between the watercourse and existing development.

Based on an evaluation of biological, hydrological, and land use characteristics, the *Management Plan* recommends specific setbacks and establishes a process for obtaining a Watercourse Development Permit for development within setback areas. For wetlands and other unique areas of ponding water, the *Management Plan* identifies general acceptable uses and enhancement actions, but recommends further site-specific biotic review, since detailed analysis or wetland delineations were not conducted as part of the preparation of the *Management Plan*.

The *Management Plan* and the Creeks and Wetlands_Ordinance were adopted by the City Council on February 28, 2006 and certified as a Local Coastal Program (LCP) amendment by the California Coastal Commission (CCC) in October of 2007. Modifications to the *Management Plan* requested by the CCC were approved by the City Council in March of 2008 and a final reading was approved by the City Council in April of 2008. The Creeks and Wetlands Ordinance is included in the City's Zoning Ordinance under Chapter 24.08 Part 21: Watercourse Development Permit. This part of the zoning title is also part of the Local Coastal Implementation Plan.

Protection of Riparian Areas, Wetlands, and Their Buffer Zones

As mentioned above, the City has a Creeks and Wetlands Ordinance_and a newly developed City-Wide Creeks and Wetlands Management Plan (*Management Plan)* that are designed to protect riparian areas, wetlands, and their buffer zones. The Creeks and Wetlands Ordinance is described above and the *Management Plan,* which was approved by the City Council in February 2006, is described in the paragraphs below.

City-Wide Creeks and Wetlands Management Plan

In 2006, the City adopted the Creeks and Wetlands Management Plan (*Management Plan)* to protect riparian areas, wetlands, and their buffer zones as described above. A detailed description of how the *Management Plan* was developed is provided in the paragraphs below. Following the background information about the plan's development process, are details regarding the *Management Plan'*s strategic approach to stream corridor management and the riparian corridor and development setbacks.

Background:

Prior to adoption of the *Management Plan*, a 100-foot setback was required to be maintained from all riparian areas, wetland areas and streams unless a site-specific biotic report and management plan were prepared and implemented to protect riparian resources and water quality. Any approval to development within 100 feet was required to be processed as a Variance to the City's zoning regulations. This resulted in a process that was extremely difficult to administer, and was very time-consuming and costly to the affected property owners. As a result of discussions with California Coastal Commission staff, it was agreed that the City would undertake preparation of a *Management Plan* to begin to treat these resources as an integrated system. The *Management Plan* was also intended to better clarify the City's policies and procedures pertaining to development activities in proximity to such resources.

In February of 2000, the City Council approved the scope of services for the *Management Plan*, which was partially funded under a grant from the Coastal Commission. A scientific consultant team was hired, and work on the *Management Plan* progressed in accordance with the work program directed and authorized by City Council, and requested by the Coastal Commission. The project kick-off meeting was held in May of 2000. As a result of the initial public meeting, a contract amendment was requested (and approved) in July of 2000, to conduct additional public outreach meetings. After the first work products (classification system and maps) were prepared, three public meetings were held to update the hearing bodies and other interested members of the public on the status of the project, and to provide opportunities for input to the City.

An initial draft *Management Plan* was released for public review in April of 2002. A joint workshop was held in May of 2002 with the City Council and Planning Commission to provide information on the draft *Management Plan* recommendations and mapping system, and to provide an opportunity for comment. Four public hearings were then held with the Planning Commission in 2002. Many people were concerned with the setbacks that were proposed within such an urban area. At the final meeting in 2002, the Planning Commission recommended that modifications recommended by staff and others through public comment be made to the *Management Plan*, especially a re-evaluation of the recommended development setbacks. The Planning Commission also requested that the City Council provide support and resources for neighborhood workshops.

A public hearing with the City Council was held in January of 2003. At the hearing, the City Council directed staff to conduct a re-evaluation of the watercourses in the City, and, if appropriate, update the recommendations for setbacks to development. The City Council also

directed staff to conduct neighborhood workshops to go over the results of the re-evaluation and the recommendations developed by staff.

As part of the re-evaluation, staff utilized aerial photos enlarged to a greater scale than those originally used, and conducted a more detailed analysis of existing development. A field review of each segment (or reach) of all watercourses followed, reviewing as many private properties as possible to gain access to the reach areas that were not previously evaluated in any level of detail. In this manner, an appropriate level of field review was conducted to ensure that recommended riparian corridor and development setback areas are realistic and feasible, given the location of existing development and the intent to meet General Plan goals.

After the re-evaluation was completed, two public workshops were held in the spring of 2004. Although there were still some concerns expressed by the public and several decision-makers regarding the *Management Plan* permitting recommendations, in general it seemed that many peoples' concerns had been addressed. In an effort to try to address ongoing concerns regarding arduous permit requirements in urban areas, staff categorized each watercourse based on the type of watercourse, characteristics of surrounding habitat, and the proximity of existing development to allow certain types of development projects to be exempt from watercourse permit requirements in areas where little to no resource values exist or where the project clearly would not impact adjacent resources.

An updated Draft *Management Plan* was released for public review in the fall of 2005. Environmental review was conducted for the project and an Initial Study was prepared in accordance with the State California Environmental Quality Act (CEQA) Guidelines and the local City of Santa Cruz CEQA Guidelines and Procedures. The Initial Study found that the proposed project would have a less than significant impact on the environment. Consequently, a Negative Declaration was adopted.

In December of 2005 the Planning Commission conducted a two public hearing concerning the *Management Plan*, Negative Declaration and Zoning Ordinance amendments. Public testimony was taken from many people both for and against the *Management Plan*. After a period of discussion, the Planning Commission voted to recommend to the City Council adoption of the Negative Declaration and approval of the *Management Plan*.

The *Management Plan*, Negative Declaration and the Creeks and Wetlands Ordinance amendments were adopted by the City Council in February of 2006 and certified as a Local Coastal Program (LCP) amendment by the California Coastal Commission (CCC) in October of 2007. Modifications to the *Management Plan* requested by the CCC were approved by the City Council in March of 2008 and a final reading was approved by the City Council in April of 2008.

Management Plan Purpose and Content:
As stated previously, the purpose of the *Management Plan* is to identify and map the watercourses and known wetlands within the City limits; identify appropriate development setbacks based on evaluation of habitat, stream and land use characteristics; recommend management actions which promote the preservation of riparian and wetland resources, define

development guidelines and standards for areas where development adjacent to watercourse may be appropriate, and provide a framework for permitting development adjacent to watercourses. The *Management Plan* presents a strategic approach to stream corridor management that is intended to result in better protection, enhancement, and management of the City's riparian and wetland resources and water quality, while providing consistency and predictability of the City's permitting process.

The *Management Plan* is an extensive and detailed management plan which:

~ Summarizes key City policies and regulations regarding riparian and wetland protection;

~ Describes the methods used to prepare the *Management Plan*;

~ Summarizes key hydrological and habitat conditions for existing watercourse segments;

~ Presents recommended development setbacks;

~ Outlines a process for permitting development adjacent to watercourses; and

~ Maps City watercourses and wetland areas.

The primary long-term goals of the *Management Pla**n*** are to:

- Reduce and/or eliminate pollutants discharged to aquatic bodies;
- Improve water quality;
- Improve and restore natural habitat;
- Increase biodiversity;
- Lower water temperatures; and
- Increase public awareness of the value of watershed quality.

The *Management Plan* provides specific setback requirements for watercourses based on an evaluation of biological, hydrological, and land use characteristics. For each section of a watercourse, the recommended setbacks include a management area, which is the area where watercourse regulations apply, and a riparian corridor and a development setback area, which are located within the management area. These setbacks are applied to all watercourse segments. However, setbacks for wetland areas would be subject to site-specific review. (Please see below for a discussion on wetlands.)

The *Management Plan* has already established in most cases a minimum buffer zone, which is 30-feet or substantially more, for watercourses in order to protect riparian areas. In developing recommendations for setbacks for the *Management Plan*, several factors were evaluated. For each watercourse, site features were ranked according to the level of the function provided. Where a watercourse was positive for a factor, such as the presence of special status species, that factor was ranked high. If the watercourse did not provide the feature, the factor was ranked low. A watercourse factor was scored medium if it partially provided a site feature. The following factors and ranking criteria were used in recommending watercourse classifications and evaluating setbacks:

- Factor A – Primary Habitat Ranking. The biological function of the watercourse, based on the type of primary habitat and its continuity to upstream or downstream habitats.
- Factor B – Special Status Species Ranking. The presence or potential presence of special status species along a watercourse or wetland.
- Factor C – Average Width of Riparian Corridor Ranking. The average width of vegetated area, as measured from centerline of watercourse.
- Factor D – Open Areas and Dispersal Ranking. The opportunity of riparian vegetation to grow outward from its existing area (i.e., expansion of existing tree canopy as trees grow and mature), the presence of an open area between the tree canopy and structures and the ability of the corridor to provide avenues for wildlife dispersal.
- Factor E – Enhancement and Restoration Potential Ranking. The opportunity for restoration and enhancement of the riparian corridor, including unearthing underground segments, removal of invasive, non-native plant species and re-vegetation of a diverse native riparian resource.

Development setbacks were proposed for each watercourse based on the ranking of these factors. A field review of the reach areas was included by a consultant team and City staff, visiting as many private properties as possible to gain access to the reach areas. In this manner, the existing average width of the riparian corridor (if any), as well as the average distance between the watercourse/wetland and existing development, was better ascertained. This level of review was conducted to ensure that the setbacks recommended by the *Management Plan* would be realistic and feasible, given the location of existing development.

For those watercourse segments that have limited setbacks (less than 30 feet), the total ranking of the factors described above was low. For these areas, the habitat is typically dominated by invasive, non-native plant species, a low potential for special status species exists due to lack of suitable habitat, the riparian corridor is significantly degraded or non-existent (e.g., in a culvert), the watercourse abuts developed areas and vegetation was typically confined to the narrow channel with little or no ability for wildlife movement out of the active channel, the watercourse segment is constrained by adjacent development and there is little room for restoration without significant land acquisition or easements. In addition, little opportunity exists for establishment of native riparian resources in these areas or to infill existing gaps in the corridor.

Management Area:
In the *Management Plan*, the designated management area is defined as the area adjacent to all watercourses. It includes a riparian corridor, a development setback area, and an additional 25 feet outward from the edge of the development setback. New development is allowed from the edge of the development setback area outward. Approval of Watercourse Development Permit may be required in this area. Development located outside of the management area would not be subject to watercourse regulations.

Riparian Corridor:
In the *Management Plan*, the riparian corridor (measured from the centerline of the watercourse) is defined as adjacent to the watercourse and is the width of riparian vegetation and/or immediate

watercourse influence area, measured outward from the centerline of the watercourse. The riparian corridor is intended to provide an adequate riparian width to maintain or enhance habitat and water quality values. Allowable uses with the riparian corridor are limited.

Development Setback Area:
The development setback area is defined as the area outward from the edge of the designated riparian corridor where development is restricted, and is measured from the centerline of the watercourse. The development setback width is intended to provide an appropriate water quality and habitat buffer between the riparian corridor and development with the remaining management area. New development is generally limited in this area to landscaping and limited pervious surfaces.

Watercourse Categories:
In order to determine the level of permit review required for the variety of watercourse types within the City, all watercourse reaches are categorized as either an "A", "B", or "C" watercourse. Category "A" includes watercourses and /or watercourse reaches that support high quality riparian habitat, with a vegetated corridor that is continuous and with few gaps.. Category A" watercourses abut undeveloped lands or rural residential yard areas that provide ability for wildlife to utilize these adjacent areas, with some available area for riparian vegetation to expand within the corridor over time. This category generally has the known presence of or high potential for a special status species. The goals of this category include protecting and restoring existing vegetated watercourses as wildlife movement corridors through removal of invasive non-native plant species and restoration of native vegetation, as well as protection and improvement of water quality with implementation of proper erosion control and best management practices, and planting of appropriate species.

Category "B" includes watercourses and /or watercourse reaches that are located in urban areas and that function primarily as a drainage system. The category includes watercourses with limited riparian habitat that is generally confined by adjacent land uses which limits its ability for the corridor to expand. Water quality issues and flow conveyance are the focus of this category. The goals of this category include improving habitat by voluntary removal of invasive, non-native plant species, and improving water quality and flow with implementation of proper erosion control and best management practices, and planting of appropriate species.

Category "C" includes drainage channels that area concrete or man-made, and above or below ground culverts with very low to no habitat value. The corridor is fragmented or non-existent, with little to no room for restoration without significant land acquisition or easements. Category "C" watercourses are exempt from these watercourse regulations.

Watercourse Development Permit Procedures:
Chapter 4 of the *Management Plan*, entitled "Watercourse Development Permit Procedures," describes the overall watercourse management goals and outlines the categories of watercourses subject to the Watercourse Development Permit. Development projects and specified activities within the management area would be subject to City review to assure compliance with the *Management Plan* and zoning requirements, and to determine whether an activity is exempt or would require a Watercourse Development Permit. This would include review of some activities

that are not subject to building, grading, or other permits, such as landscaping and installation of decks and paving. Except for specified exempt projects, all development projects in the management area would be subject to administrative review and approval of a Watercourse Development Permit.

Generally, Watercourse Development Permits would be required for allowed uses within any zone of a Category A watercourse and for allowed uses within the riparian corridor and development setback areas of a Category B watercourse. Development activities within Category C watercourses are exempt. Development outside of the management area for any watercourse would not require a Watercourse Development Permit. The *Management Plan* recommends that certain activities would be exempt from watercourse regulations (exempt from a permit), where those activities clearly would not have an impact on watercourse resource values. A summary table, with the list of watercourses and each of their categories and the recommended setbacks, is provided as Attachment #26.

Allowable projects or activities would be required to comply with applicable Watercourse Development Standards, and management guidelines are identified that property owners would be encouraged to implement. The standards address the issues identified below:

- Use of permeable paving;
- Drainage and water quality protection;
- Use of suitable plant materials;
- Use of appropriate lighting;
- Habitat enhancement;
- Construction Best Management Practices;
- Management in High Fire Hazard Areas; and
- Erosion control and bank protection measures.

Chapter 4 of the *Management Plan* recommends a Variance procedure for projects that do not comply with development standards or projects requiring exceptions to the Watercourse Development Standards. Although a Variance is not expected to arise often, there may be limited situations in which a Variance may be requested. Lesser setbacks would be permitted only if application of the minimum setback standards would render the parcel physically unusable for a principal permitted use. In allowing a reduction in the minimum setbacks, the setback would be reduced only to the point at which a principal permitted use (as modified as much as is practical from a design standpoint) can be accommodated. The Variance request would be required to submit technical biological and hydrological studies that demonstrate no impacts would occur to the habitat and watercourse resources.

Watercourse and Wetland Setback Analysis:
Chapter 3 of the *Management Plan*, entitled "Watercourse and Wetland Setback Analysis," includes a description of the existing watercourses and wetlands within the City and the recommended riparian corridor width and development setbacks for each including any defined reaches. This chapter also describes the evaluation process that was used to rank watercourses and wetlands, which was then used to recommend appropriate development setbacks for each watercourse, consistent with physical features, habitat conditions and land uses.

Watercourse Development Permit Procedures:
Chapter 4 of the *Management Plan*, entitled "Watercourse Development Permit Procedures," describes the overall watercourse management goals and outlines the categories of watercourses subject to the Watercourse Development Permit. A summary table, with the list of watercourses and each of their categories and the recommended setbacks, is provided. In addition, the chapter outlines the watercourse permit process and variances, and details the development and activity types subject to permits and the uses permitted within the designated setback areas. Development standards to protect and/or enhance habitat conditions and water quality are also presented. Please refer to Attachment # 26 for a copy of this chapter which includes the watercourse summary tables.

Wetlands/Adopted Management Plans:
The *Management Plan* "maps" known wetland areas. For wetlands and other unique areas of ponding water, the *Management Plan* recommends further site-specific biotic review, since detailed analysis or formal wetland delineations using U.S. Amy Corps of Engineers, Coastal Commission, or other regulatory agency criteria were not conducted as part of the preparation of the *Management Plan*. These parcels have been delineated on the separate aerial maps as areas that may require further biotic review if the proposed development has the potential of impacting existing resources.

For these types of parcels with wetlands and other unique areas of ponding water subject to a setback, the setback area can encompass undeveloped lands such as the seasonal wetlands in Moore Creek Preserve. Some of the wetland setbacks, however, such as along Westlake Pond and Neary Lagoon encompass residentially developed areas, City streets and other infrastructure facilities. A standard minimum setback is not recommended as a requirement as it may not be appropriate in cases where existing development may make a standard 30-foot setback unfeasible. Instead, the City requests that site-specific biotic review be conducted to determine if the area of ponding water meets the definition of a wetland. If the area is determined to be a wetland, then a minimum 30-foot setback may be appropriate.

Lastly, lands that are within the boundary of an adopted management plan or within public lands that have pending management plans are subject to the requirements set in those plans. Most, if not all, of the management plans speak to the need to do detailed biotic studies to establish setbacks and development envelopes.

A summary of adopted or pending management plans, several of which contain wetland areas within the City, are included in Appendix H of the Creeks and Wetlands Plan. This summary is also included in Attachment 27 for easy reference. The management plans summarized in Appendix H of the *Management Plan* include the following:

- San Lorenzo Urban River Plan
- Neary Lagoon Management Plan
- Moore Creek Corridor Access and Management Plan
- Moore Creek Preserve Interim Management Plan
- Antonelli Pond Management Plan
- Jessie Street Marsh Management Plan
- Long Marine Laboratory Coastal Long Range Development Plan

- Younger Lagoon Natural Reserve Management Plan
- Lighthouse Field State Beach General Plan
- Arana Gulch Interim Management Plan
- Pogonip Master Plan
- Natural Bridges State Beach General Plan

For several of these areas, including Neary Lagoon and Moore Creek Preserve, setbacks from the wetland/pond are specified. For Neary Lagoon, the Neary Lagoon Management Plan specifies a 100 foot wide wetland buffer for development, such as parking and housing, adjacent to the lagoon. In the Moore Creek Preserve, there are two marsh/pond areas. For the salt water and brackish marsh located near Natural Bridges State Beach, the *Management Plan* specifies a riparian corridor of 100 feet and a development setback of 130 feet. Further upstream in the Preserve, just above Delaware Avenue, is Antonelli Pond for which the *Management Plan* also specifies a riparian corridor of 100 feet and a development setback of 130 feet.

For wetlands or areas of ponding water on private property, (these areas have been delineated by a green and yellow dot on the aerial photo maps), when the City receives an application for a development project, further site-specific review is required. For these parcels, if a property owner proposed development adjacent to the "dotted" area, the Planning Department requires site-specific review by a City approved biologist to determine appropriate setbacks and recommend measures to protect the resource during construction and provide long-term habitat and water quality protection. The biotic review would only be required if the area of ponding water would potentially be impacted (depending on the location of the development on the parcel in relation to the location of the pond or wetland). It should be noted that the "ponds" identified on the aerial photo maps include decorative, man-made ponds that may have little habitat value.

For the remaining wetland areas within public lands, the City will develop a plan, policy, or some other effective strategy to establish and maintain a minimum of 30 foot setback for development projects near wetlands within public lands since the *Management Plan* and ordinance currently do not specifically spell this out for wetlands.

The *Management Plan*, creek maps, and other related information may be viewed on the City's website at http://www.ci.santa-cruz.ca.us/ (under the Planning and Community Development Department webpage).

BMP # PC-1: Develop a Strategy to Require Development Projects Within Public Lands to Establish and Maintain a Minimum of 30 Foot Buffer Zone for Wetlands

Mandatory BMPs/Design Standards for Development and Remodel Projects

According to the General MS4 Storm Water Permit (General Permit), the City is required to ensure that all discretionary development and remodeling projects that fall into one of the following categories abide by the design standards contained in Attachment # 4 of the General Permit:

- Hillside Residences (includes single-family homes, apartments, condos, townhouses, and mobile homes)
- 100,000 Square Foot Commercial and Industrial Developments
- Automotive Repair Shops
- Retail Gasoline Outlets
- Restaurants and Food Processing/Manufacturing Facilities including Wineries
- Subdivisions with 10 or more housing units (includes single-family homes, apartments, condos, townhouses, and mobile homes)
- Parking lots 5,000 square feet or more in size, or with 25 or more parking spaces and potentially exposed to storm water runoff

Thus, in 2003, the City developed mandatory "Best Management Practices (BMPs) for Development and Remodeling Projects" in order to establish storm water design standards/BMPs based upon Attachment #4 of the General Permit. The City also determined that there were additional provisions that needed to be included in the City's mandatory BMPs/design standards in order to control post-construction runoff to the maximum extent practicable (MEP) and to address certain local issues of concern. For example, the City requires that trash enclosure areas have a roof, be paved and impervious to leaks and spills. The City also requires that trash enclosures have a drain to the sanitary sewer to ensure the proper disposal of cleaning wastewater. In January 2004, the City's mandatory "BMPs for Development and Remodeling Projects" was published as a brochure for easy distribution to contractors, architects, and other permit applicants.

As the City applied these BMPs/design standards to new project applications, staff saw the need for additional requirements in order to make the mandatory BMPs even more locally appropriate. For example, the Restaurant category was expanded to include food processing/manufacturing facilities and wineries because these facilities have similar issues as restaurants and they have the potential to discharge oil/grease or food waste to the storm drain system. The City also broadened the applicability of the BMPs to ensure that parking lots 1,000 square feet or more in size abide by the BMPs. Also, the City decided that the BMPs should be applied to Commercial and Industrial Developments equal to or greater than 1 acre in size rather than 100,000 square feet because the City rarely, if ever, has a commercial development that large. Thus, in March 2004, a revised mandatory "BMPs for Development and Remodeling Projects" was published.

The mandatory BMPs were revised again in March 2007 with minor changes and the BMP brochure republished. The BMP brochure will be revised again, as directed by the RWQCB, as follows: 1) to clarify that all development projects per the General Permit Attachment 4 will be subject to the BMP requirements; 2) to require more effective treatment BMPs that infiltrate runoff and reduce pollutant discharges for parking lots, rather than oil and sediment traps which are currently required; and 3) to include a process for project applicants to follow in order to identify structural or treatment control BMPs that will effective in removing a development project's pollutants of concern. The process is anticipated to be written guidelines or a matrix that will be included in the BMP brochure.

Lastly, the City will revise the mandatory storm water design standards/BMPs when Hydromodification Control Standards are developed and approved. Please refer to Attachment #15 for a copy of the current BMP brochure. Distribution of the brochure is discussed in the Education and Outreach section below.

BMP #PC-2: Revise Mandatory Storm Water BMPs/ Design Standards Brochure

Development and Adoption of Hydromodification Control Standards

Hydromodification Criteria

In response to the February 15, 2008 letter from the RWQCB regarding hydromodification control requirements, the City 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, entitled *Plan For Developing Alternative Hydromodification Criteria,* was submitted to the RWQCB in May 2008 and included the following elements:

- Evaluating existing Hydromodification Criteria
- Evaluating Protection of Beneficial Uses
- Meeting with RWQCB Staff
- Developing Alternative Hydromodification Criteria for Santa Cruz agencies
- Plan milestones

The City will determine hydromodification BMPs and measurable goals based on the alternative hydromodification criteria developed. A copy of the approved *Plan For Developing Alternative Hydromodification Criteria* is presented in Attachment #28.

The City will determine how Low Impact Development (LID) will be required in development projects through the development of the Hydromodification Criteria.

The timetable for development of the alternative hydromodification criteria is as follows:

Milestone	Completion Time
Review of existing hydromodification criteria	10 weeks (August 18, 2008)
Develop matrix of existing standards. Include rationale for criterion if available	5 weeks (September 22, 2008)
Evaluate beneficial use protection (using RWQCB data)	8 weeks (November 17, 2008)

Meet with RWQCB staff	4 weeks (December 15, 2008)
Develop Alternative Hydromodification Criteria and necessary changes to Santa Cruz agencies' policies and requirements	52 weeks December 2009

BMP #PC-3: Develop Alternative Hydromodification Criteria

Hydromodification Management Plan

As described above, 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 uses.

The criteria are scheduled to be completed one year after permit adoption. During Permit Year 2 of the program BMPs and measure goals to assess the criteria will be developed. Beginning in Year 4, the criteria will be assessed for effectiveness and BMPs will be revised, as necessary to protect watershed health. Methods used to assess effectiveness will be determined in Year 4. During Year 5, the agencies will determine if further watershed data is needed to refine the existing alternative hydromodification criteria**.**

BMP #PC-4: Assess Hydromodification Criteria for Effectiveness, Budget Dependent

Long-Term Watershed Protection

The City's General Plan is a comprehensive document that addresses future growth, including infrastructure and redevelopment in the context of long-term watershed protection. The General Plan will be reviewed to verify that long-term watershed management efforts are being addressed. Based on results of this review, the General Plan will be revised as appropriate in the next 5 year Permit cycle.

BMP #PC-5: Review City's General Plan

Development Permits

In general, when plans are submitted for a development or redevelopment project, the Planning Department first determines if the project is exempt from permit requirements. If it is not exempt, then staff determines if an application for a Development permit, such as a Discretionary or Ministerial permit, must be submitted. Issuance of these permits is the responsibility of the Planning Department.

Discretionary permits cover the pre-construction phases of a project and, in general, are subject to subjective review by the Planning Department and public scrutiny. Discretionary approvals

trigger California Environmental Quality Act (CEQA) compliance whereas administrative permits are categorically exempt under CEQA. Zoning permits are a type of Discretionary Permit and are described in more detail below.

Construction permits are ministerial permits that typically permit the activities conducted during the actual construction phase of a project. There are a variety of construction permits including permits for the following: grading, building, plumbing, electrical, and demolition.

Plan Review and Permit Application Process

The plan review and permit process provides the City with the opportunity to review a new development or a redevelopment project during its planning stages, and to direct its design in regards to erosion control and urban runoff issues. Even prior to adoption of the General Permit, it had been City policy to require a developer to minimize the amount of impervious surfaces, maximize infiltration capability, and, if possible, allow for on-site storm water detention. A developer is also required to control pollutants by eliminating or reducing potential new sources, or to install treatment controls as appropriate to the site.

In general, Planning Department staff holds a pre-application meeting with the project applicant for all discretionary projects. Large projects often involve pre-application meetings with both Planning and Public Works staff. At this time, staff informs the applicant of the City's General Plan policies and Municipal Code requirements regarding runoff quantity and quality. The mandatory BMPs for Development and Redevelopment Projects are discussed in the pre-application meetings with discretionary permit applicants since it is preferable that BMPs and design standards be incorporated into a project's design during the initial planning phases. A copy of the BMP brochure is also given to all discretionary permit applicants subject to compliance with the BMPs.

Once an application is received, the Planning Department routes copies of all discretionary project plans to the appropriate City departments and divisions, such as Public Works and Water, for review and comment. Public Works/Engineering is an integral part of the review process. Among other things, staff reviews each project for its impact on the downstream drainage system. Public Works/Engineering is responsible for reviewing any runoff control or treatment systems included in the design plans. Staff may require, by conditioning a project's permit, that any proposed controls or treatment systems be modified or improved and, if none exist, require that they be added. Public Works/Engineering also evaluates a project for its proposed trash enclosure areas and parking lot design.

The Planning Department also reviews project plans for urban runoff issues. Unless the project is exempt from CEQA, staff uses a CEQA checklist to examine the project's potential to affect urban runoff quantity and quality. A portion of the City's CEQA checklist, pertaining to storm water quality and quantity as well as biological resources, is included in the following pages. Lastly, any Department routed the project plans may place conditions on a project.

Pertinent Sections of the City's CEQA checklist

ENVIRONMENTAL IMPACTS Issues (and Supporting Information Sources):	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
1. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? (V.1-Map EQ-9)				
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				

ENVIRONMENTAL IMPACTS **Issues (and Supporting Information Sources):**	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
2. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements?				
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local ground water table level (for example, the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? (V.1, V.2)				
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.				
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.				
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?				
f) Otherwise substantially degrade water quality?				
g) Place housing within a 100-year flood-hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				
h) Place within a 100-year flood-hazard area structures which would impede or redirect flood flows? (V.1-Map S-7)				
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? (V.1-Map S-9)				
j) Inundation by seiche, tsunami, or mudflow? (V.1-Map S-8)				

Zoning Permits

The permit review process generally triggers the conditions that the Planning Department places on a project. Discretionary approvals typically include design review, subdivision or tentative map approval, a use permit, and a conditional use permit. For example, it may also be determined that an Environmental Initial Study must be conducted. At this stage, the City can require that certain conditions to be met such as implementation of erosion control practices. In addition, a zoning report can be required which can also be conditioned with requirements such as implementation of BMPs and site-specific measures.

A zoning permit may be conditioned to require the applicant to obtain additional permits. These permits include, but are not limited to, Administrative Use Permits, Coastal Permits, and Design Permits. Depending on the project, applications for a Zoning Permit may require a public hearing and approval by the Zoning Commission and City Council.

The City modified the zoning permit boilerplate conditions in 2004 by adding a condition that requires the applicant of a construction site equal to or greater than one acre, or less than one acre but part of a larger common plan of development or sale, to provide the City with proof of coverage under the state's Construction Activities Storm Water General Permit. Proof of coverage shall include a copy of the letter of receipt and Waste Discharger Identification (WDID) number issued by the State Water Quality Control Board (SWQCB) that acknowledges the property owner's submittal of a complete Notice of Intent (NOI) package.

Construction (Ministerial/Administrative) Permits

The most common administrative permits are building and grading permits. The Planning Department reviews these types of permit applications and ensures that they conform to the zoning requirements. Grading permits, in particular, are closely reviewed for compliance with the requirements to minimize soil disturbance and protect water quality. In addition, the Public Works Department, who also reviews construction project plans, may place conditions on the permit. Permits conditions can include a requirement that the project applicant submit engineered plans for the installation of BMPs at a development site.

Site Inspections

Site inspections are conducted throughout the phases of a construction project including a final inspection once the work is completed. Inspections are typically conducted by Planning Department Building Inspectors. During site inspections, each project is evaluated for compliance on a "case by case" basis. The Building Inspectors work from an approved plan set when conducting an inspection to ensure that all the requirements for project have been met. The approved plans for a development project include a list of the post-construction controls that were submitted by the applicant or required by the City during the permit process. All projects will be evaluated for the proper installation of any post-construction BMPs.

Depending on the project, Public Works Engineering Inspectors may also inspect a site or a portion of the work such as storm water treatment systems and paved areas. For example, Public Works Engineering staff will inspect the installation of post-construction treatment systems and storm water retention devices at development sites greater than or equal to one acre. In certain cases, Public Works Environmental Compliance may also inspect work such as a mat wash area

installation at a restaurant or a treatment system installation at an industry. For City projects, Water Department staff may also conduct an inspection of the site.

BMP #PC-6: PW Staff Will Inspect Installation of Post-construction Treatment Systems and Storm Water Retention Devices at Development Sites Greater Than or Equal to One Acre

Long-Term BMP Maintenance and Monitoring

One of the main problems with many development controls is the long-term operation and maintenance of post-construction controls. Most post-construction controls require maintenance and will fail if maintenance is inadequate or ceases. Often the project is built by one entity and then occupied or owned by another. Ownership may also change several times and this can result in the long-term maintenance responsibilities not being passed down to future owners or occupants. Also, future owners or occupants may also not wish to take on maintenance responsibilities or costs.

BMP Maintenance Agreements

The City is taking measures to ensure that post-construction BMP devices or systems used or installed at a development site will be adequately maintained in the long-term regardless of the property owner. If a project is subject to the *BMPs for Development and Remodeling Projects* and required to install a BMP, the City is requiring the property owner to agree to the following conditions in a signed and notarized statement, entitled "Maintenance Agreement:"

1. To inspect and maintain the BMP on a schedule, at a minimum of once per year, by **October 1st**, or more as necessary in order to retain the required capacity.
2. For residential properties, if the BMP is located in a common area that will be maintained by a homeowner's association, the homeowner's association shall be responsible for the inspection and maintenance.
3. To provide proof of inspection and maintenance to the City of Santa Cruz, Department of Public Works, Engineering Division, at 809 Center Street, Room 201, Santa Cruz, CA 95060. Proof of inspection and maintenance shall be submitted by **December 1st** annually.
4. To ensure that, if the property is sold, transferred, or leased to another person or entity, the sales, transfer, or lease agreement is conditioned so that the recipient assumes responsibility for Conditions 1-5. The first deed transfer or any lease agreements shall include the details of these requirements and information about the BMP such as the following: a) BMP location; b) how and when to perform the necessary inspections and maintenance; and c) how to send proof of inspection and maintenance to the City. The transfer of this information shall also be required with any subsequent sale of the property.

A copy of the maintenance agreement in its entirety is included in the City's Best Management Practices (BMPs) for Development and Remodeling Projects (please refer to Attachment 15).

In order to ensure that all applicable development projects submit a signed Maintenance Agreement, the City is instituting a policy that return of the signed maintenance agreement is a

condition of approval for the project's building permit. The condition of approval will be placed on the project by the Department of Public Works. The Building Permit will not be issued until this signed maintenance agreement is received by the Public Works and the condition removed from the project's permit application (by Public Works).

The City currently tracks the submitted signed maintenance agreements. The City will develop an electronic database or spreadsheet to better assess property owner's BMP maintenance over time.

The City will enforce the annual proof of BMP inspection and maintenance requirement for those sites (once built) that do not submit proof to the City by December 1st annually. The City will mail each non-compliant site a warning letter with a response due date and a notice of potential fines if this date is not met. In addition, the City will implement a spot inspection program, budget dependent, to assess and ensure that property owners are annually maintaining their BMPs as required.

For municipal projects, the City conducts maintenance on any installed BMP devices or systems. The City accomplishes this by establishing a maintenance plan and assigning the task to the department or division responsible for the general maintenance of the site.

BMP #PC-7: Implement Program to Ensure Long-term BMP Inspection and Maintenance. Spot Inspections Will Be Conducted Budget Dependent.

Corrective Measures and Enforcement Procedures

Corrective Measures and Enforcement Procedures in Accordance with the Storm Water Ordinance

Currently, corrective measures and enforcement procedures for violations will be implemented in accordance with the Storm Water Ordinance. The City has the authority to terminate illicit connections and discharges, and to initiate enforcement actions for violations of the code. Potential enforcement actions include written notices, citations, termination of discharge, and monetary penalties. Enforcement actions and the degree to which enforcement actions are escalated usually depend upon the severity of the violation and the timeline of correction. The potential enforcement actions are detailed in the Storm Water Ordinance, Attachment 2, under "Administrative Remedies (Section 16.19.190)" and "Judicial Remedies-Civil/Criminal (Section 16.19. 200)."

Corrective Measures and Enforcement Procedures in Accordance with Title 4

In addition, the City may use Title 4 of the Municipal Code to implement corrective measures and enforcement procedures for violations of the code. Title 4 provides for the issuance and recordation of Notices of Violation; the authority to inspect; the authority to issue a Notice to Appear and Release Citations, and the power to arrest. Title 4 also details the procedures regarding Judicial Remedies and Administrative Remedies available to the City for violations of the Municipal Code and applicable state codes. In addition, Title 4 details Summary Abatement and Administrative Abatement procedures for public nuisances and code violations. Lastly, Title

4 provides for the recovery of civil penalties and abatement costs. Please refer to Attachment 5 for a copy of complete Title 4 chapter.

Corrective Measures and Enforcement Procedures in Accordance with the Grading Ordinance
The corrective measures and enforcement procedures authorized by the Grading Ordinance are detailed in the "Corrective Measures and Enforcement Procedures" section of the Construction Site Storm Water Runoff Control Program.

BMP #PC-8: Implement Corrective Measures and Enforcement Procedures As Needed in Accordance with the City Municipal Code

Education and Outreach

The City will conduct education and outreach to the development community, including developers, engineers, architects and other contractors, so that they will be more informed when planning projects or filing for permits. Materials will also be provided to the general public. The City will also develop an education program to encourage landowner participation in restoring and enhancing riparian and wetland resources as described below. Lastly, City staff will also be educated.

BMP Brochure for Development and Remodeling Projects
As previously mentioned, in January 2004 the "BMPs for Development and Remodeling Projects" was published as a brochure for easy distribution to contractors and other permit applicants. In March 2004, the brochure was revised to reflect staff additions to the mandatory BMPs. The mandatory BMPs were revised again in March 2007 and the BMP brochure republished.

The BMP brochures have been available at the public counters of both the Planning and Public Works Departments since 2004 and distributed to all discretionary project applicants. Staff periodically checks the stock available at both public counters to ensure that there is a continual supply. In addition, the "BMPs for Development and Remodeling Projects" are posted on the City's website.

The City will conduct a mailing of the BMP brochure to all local developers, architects, and building engineers listed in the local yellow pages. Workshops will also be held by the City to inform local developers, architects, and the general public about the new requirements including Best Management Practices, hydromodification control standards, and LID. The City anticipates that the need to hold workshops will be the greatest in the first two Permit years due to the new requirements for development design standards, especially per the LID and hydromodification. Therefore, the City will hold a workshop for the development community, i.e. engineers, architects and other contractors, annually during the first two years of the Permit and then as needed after that.

BMP # PC-9: Distribute BMP Brochure

BMP #PC-10: Hold Educational Workshops for Local Engineers, Developers, Architects, Contractors, and the General Public

Public Education on the Restoration and Protection of Riparian and Wetland Areas

The City-Wide Creeks and Wetlands Management Plan (*Management Plan),* which is described earlier in this chapter, includes a habitat enhancement and restoration component. One of the major goals of this component is to restore and manage native riparian and wetland habitats so they provide suitable and sustainable habitat for native plant and animal species, and require little maintenance in the long-term. Several other goals for the project involve minimizing maintenance efforts and minimizing opportunities for the establishment of invasive, non-native plant species.

Significant opportunities exist to improve, enhance, and manage riparian and wetland resources within the City's watercourses and wetlands. Improvements to these resources will benefit the overall biodiversity of the City, conserve native plant communities, protect and manage rare species and their habitat, contribute to improved water quality in the watercourses, and contribute to the aesthetic resources of the City. These opportunities are present throughout the City's watercourses and wetlands; actions will vary depending on the vegetation type and its location in the City. With the exception of actions required as part of a development permit, most restoration and enhancement actions will require the participation of willing landowners.

Landowners should be encouraged to preserve and manage native habitats on their properties. The City is working to establish an incentive program to encourage landowner participation in restoring and enhancing riparian and wetland resources. One option is for the City to collaborate with the Santa Cruz Resource Conservation District (RCD) or other watershed groups to identify potential partnerships for restoration projects. These groups may also be able to assist the City in sponsoring public workshops on restoration planning and techniques.

The *Management Plan* recommends that the City, in conjunction with other agencies or non-profit groups, provide information to landowners and residents on ways to restore and enhance riparian habitats and wetlands. Thus, as detailed in Chapter 4: Public Education, the City will develop education materials such as a brochure or one-day workshops to educate residents on specific actions such as:

- How to remove non-native invasive plant species;
- How to install and maintain native landscaping, including habitat restoration;
- How to control erosion and repair eroded stream banks;
- How to encourage wildlife into your backyard; and
- How to decrease non-point source pollution.

BMP PC #11: Develop and Implement an Education Program Addressing the Restoration and Protection of Riparian and Wetland Areas Budget Dependent

Training and Education of City Staff

Training and education of City staff will be an important component of this program. In particular, City Planners, Building Inspectors, and Public Works Engineering staff will be trained on the new requirements and the City's Best Management Practices. Training materials will include information published by the EPA, the State of California, or other sources.

The City has provided training classes for employees on post-construction issues and implementation of BMPs/design standards. In May 2003, the City brought in an outside contractor, courtesy of the Monterey Bay National Marine Sanctuary, to give a 90 minute class to City Planners and Public Works Engineering staff with specific focus on the Post Construction Storm Water Management Program and Design Standards requirements of the General Permit.

The City will provide training to all appropriate Planning and Public Works staff (i.e. plan reviewers and storm water staff) every two years. New staff will be trained within 3 months of the beginning of employment. Additional training on new or changed BMPS will take place as needed. For example, the City anticipates a potential need for additional training in the future on LID design. Training may include presentations at staff meetings, on-site classes, off-site workshops, and other appropriate methods. The City anticipates that, especially in the first few years of the Permit, staff training will focus on the mandatory BMPs/Design Standards, Low Impact Development, and Hydromodification Controls. Both the Planning and Public Works departments will ensure that the appropriate personnel (e.g. Planners and PW Engineers) are trained and familiar with the BMPs applicable to their activities or areas of responsibility.

BMP # PC-12: Provide Training to Appropriate Planning & Public Works Staff

IV. Program Implementation

City Personnel

The Planning and Public Works Departments will be primarily responsible for implementation of the Post Construction Storm Water Management Program. The primary personnel needed to implement this program include Planning Department Planners and Public Works Department Engineers. The appropriate staff from both departments will be trained to evaluate permit applications and apply permit conditions according to the new construction site regulations and City BMPs. Table 6-1 below itemizes the each BMP and the responsible department/division.

Implementation Timetable and Measurable Goals

The City has established a timetable for implementation of the Post Construction Storm Water Management Program. Measurable goals will be used to assess the City's efforts to reduce urban runoff pollution and to evaluate the success of the BMPs each year. A list of the BMPS, measurable goals, and the implementation schedule are detailed in Table 6-1 below:

Table 6-1

BMPs, Measurable Goals, and Implementation Schedule

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
	Protection of Riparian Areas, Wetlands, and Their Buffer Zones			
PC-1	Develop a Strategy to Require Development Projects *Within Public Lands* to Establish and Maintain A Minimum of 30 Foot Buffer Zone for Wetlands	Formalize and implement strategy	Planning Public Works	Year 3
	Mandatory BMPs/Design Standards for Development and Remodel Projects			
PC-2	Revise Mandatory Storm Water BMPs/ Design Standards Brochure	1. Revision to require more effective BMPs to treat parking lot runoff 2. Revision to clarify that all development projects per General Permit Attachment 4 will be subject to structural or treatment control BMP requirements 3. A process for project applicants to follow to identify structural or treatment control BMPs that will effective in removing a development project's pollutants of concern.	Public Works	1-3. Year 2 4. When appropriate

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
		4. Revise in accordance with new Hydromodification Control Standards		
	Development and Adoption Hydromodification Control Standards			
PC-3	Develop Alternative Hydromodification Criteria	Alternative Hydromodification Criteria document	Public Works Planning	Year 1
PC-4	Assess Hydromodification Criteria for Effectiveness, Budget Dependent	1. Revise BMPs as necessary to protect watershed health 2. Determine if future watershed data is needed	Public Works Planning	1. Year 4 2. Year 5
	Long-Term Watershed Protection			
PC-5	Review City's General Plan	Determination if long-term watershed management efforts are addressed and, if not, identification of sections that may need revisions	Public Works Planning	Year 4 & 5
	Site Inspections			
PC-6	PW Staff will Inspect Installation of Post-construction Treatment Systems and Storm Water Retention Devices at Development Sites Greater Than or	Inspect100% of development sites greater than or equal to one acre	Public Works Planning	Year 1-5

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
	Equal to One Acre			
	Long-Term BMP Maintenance and Monitoring			
PC-7	Implement Program to Ensure Long-term BMP Inspection and Maintenance. Spot Inspections Will Be Conducted Budget Dependent	1. Develop an electronic database or spreadsheet to better track & assess sites over time 2. Enforce the proof of annual BMP inspection and maintenance requirement at 100% of sites 3. Implement a spot inspection program at 10% of sites annually	Public Works: Engineering	1. Year 1 2. Year 1-5 3. Year 2-5
	Corrective Measures and Enforcement Procedures			
PC-8	Implement Corrective Measures and Enforcement Procedures As Needed in Accordance with the Municipal Code	1. Implement corrective actions, as appropriate, for 100% of sites where a violation is detected	Planning: Building Planning: Current Planning	Year 1-5
	Education and Outreach			
PC-9	Distribute BMP Brochure for Development and Remodeling Projects	Distribute to 100% of discretionary project applicants	Planning Public Works: Engineering	Year 1-5
PC-10	Hold Educational Workshops for local	1. One workshop per year in Permit Year 1 & 2 2. Hold workshops as needed in Permit Year 3-	Public Works: Engineering	Year 1-5

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
	contractors, developers, architects, and the general public	5	Planning	
PC-11	Develop and Implement an Education Program Addressing the Restoration and Protection of Riparian and Wetland Areas Budget Dependent	1. Complete development of program plan 2. Implementation of educational measures, i.e. hold workshops, distribute brochures	Planning Public Works: Engineering	Year 4 Year 5
	Training & Education of City Staff			
PC-12	Provide Training to Appropriate Planning & Public Works Staff	1. Train 100% of appropriate staff every two years. 2. Train new Inspectors and Plan Reviewers within 3 months of the beginning of employment. 3. Additional training on new or changed BMPS as needed	Planning Public Works: Engineering	Year 1-5

Table 6-1: Responsible Department or Division Contact Information
Public Works Department: Engineering
Associate Civil Engineer, (831) 420-5428

Planning Department: Building
Chief Building Official, (831) 420-5127

Planning Department: Current Planning
Principal Planner, (831) 420-5100

V. Program Documentation and Reporting

The City will maintain records to document program implementation and annual progress. The City will report the results of the program in the annual SWMP report to the Regional Water Quality Control Board. The report will include information and a summary of the progress made relative to the measurable goals.

Chapter 7

INDUSTRIAL FACILITIES PROGRAM

I. Introduction

The City will implement an Industrial Facilities Program in order to reduce the discharge of pollutants from industrial facilities to the storm drain system. Potential sources of pollutants from industries include outdoor activities, manufacturing processes, accidental spills, improperly stored materials, improper waste disposal, and parking lots. Pollutants, such as chemicals and vehicle fluids, may be discharged if adequate precautions are not taken.

The State Water Resources Control Board (SWRCB) and Regional Water Quality Control Board (RWQCB), under the Phase I and Phase II general permit programs, are regulating specific industrial activities that have the potential to discharge pollutants to the storm drain system. The permit program requires 10 types of industries, based on Standard Industrial Classifications [SIC] codes, to file a Notice of Intent (NOI) under the General Industrial Activities Storm Water Permit (General Industrial Permit). These industries are also required to prepare and implement both a storm water pollution prevention plan (SWPPP) and a storm water monitoring program. The Phase II ruling notes that if a non-designated industrial facility is determined to have an adverse impact on water quality, it may be designated for a NPDES permit. With respect to the unregulated industries, Phase II guidelines encourage the control of storm water discharges through implementation of Best Management Practices (BMPs).

The City currently implements an Industrial Waste Discharge Program for all local industries that are classified as "Significant Industrial Users (SIUs)." These industries are permitted, inspected, and monitored for their wastewater discharges to the sanitary sewer. Since 1998, this program has expanded to incorporate education about storm water issues and annual inspections now include a site review for compliance with storm water regulations.

The objectives of the City's Industrial Facilities Program are to:

- Reduce urban runoff pollution generated by industrial facility operations and activities.
- Ensure that industrial facilities, which are classified by the City as Significant Industrial Users, comply with the City's Storm Water Ordinance, mandatory BMPs, and Industrial Waste Discharge Permit requirements.
- Ensure that industrial facilities that have filed a NOI with the state are in compliance with the Storm Water ordinance and mandatory BMPs.

II. Pollutants of Concern and Target Audience

There are a variety of pollutants associated with industrial facilities. Certain pollutants of concern are dependent on the type of industry while others can be expected from any type of industrial facility. For example, motor oil and gasoline may leak onto parking lot surfaces; soap and detergents may be discharged into the storm drain system from fleet vehicle or sidewalk washing; landscaping pesticides and fertilizers may runoff if not properly applied; and chemicals and hazardous materials may be spilled or leak into the storm drain system if not properly handled and contained.

The target audiences are industrial facility owners, managers, and employees. Industrial businesses of concern located in the city include manufacturing, assembly, and food production facilities. Since 2004, the number of regulated businesses in Santa Cruz has changed significantly. Currently there are: 1 categorical business, 5 Significant Industrial Users, and 1 dry cleaner (that is still using "perc" (perchloroethylene)). In addition, there are approximately 270 food service facilities and 95 vehicle service facilities which are commercial facilities also regulated by the City (which are discussed in Chapter 8).

III. Program Elements and Best Management Practices

The City determined which elements comprised the Illicit Discharge Detection and Elimination Program and then selected the most appropriate BMPs in order to reduce the pollutants of concern described above to the maximum extent practicable.

The Industrial Facilities Program includes the following elements:

- Industrial Waste Discharge Program
  - Site Inspections
- Facilities Regulated Under the State General Industrial Permit
  - List of Facilities
  - Site Inspections at Facilities Filing a NOI
- Best Management Practices and Checklist
- Education and Outreach

The program elements are described in more detail in the sections below. The selected BMPs are listed and described under each program element.

Industrial Waste Discharge Program

The City currently has an Industrial Waste Discharge Program that has been in place for many years. The Public Works Department, Environmental Compliance Division, is primarily responsible for implementation of the Industrial Waste Discharge Program. Environmental Compliance Inspectors, under the supervision of the Wastewater Laboratory/Pretreatment

Manager, regularly monitor and conduct inspections of industrial facilities considered "Significant Industrial Users (SIUs)." SIUs are defined as facilities that fall under one or more of the following categories:

- All industrial users subject to Categorical Pretreatment Standards, or
- Any other user that has any one or more of the following characteristics:
  - an average discharge flow of equal to or greater than 25,000 gallons per day of process wastewater to the WWTF,
  - contributes a process waste stream which is 5 percent or more of the average dry weather hydraulic or organic capacity of the WWTF,
  - has a reasonable potential to adversely affect WWTF operations, or
  - a violation of any pretreatment standard or requirement (in accordance with 40 CFR 403.8 (f) (6)).

All SIUs are required to have an Industrial Waste Discharge Permit, which is issued by the Environmental Compliance Division. Federal, state and local regulations are enforced through permitting, monitoring and inspections. As previously mentioned, there are five SIUs currently permitted, plus the one categorical business.

Currently, all businesses regulated under the Industrial Waste Discharge Program are inspected and sampled a minimum of once per year for compliance with the Municipal Code. In the past, inspections and wastewater sampling have focused on sanitary sewer discharges. Since 1998, when the storm water ordinance came into effect, annual inspections have also included education about storm water issues and a site check for compliance with storm water regulations. For example, the inspector walks around a facility exterior to check for evidence of any illegal discharges**.** All loading dock areas, chemical and materials storage areas, and storm drains are checked. All storm drains located on the property are also checked to be sure that they are kept clean and operational (i.e. not full of leaves and sediment).

BMP #IF-1: Conduct Site Visits at *Significant Industrial Users (SIUs)*

Facilities Regulated Under the State General Industrial Permit

List of Facilities

The City will work towards identifying and verifying that all regulated industrial facilities have filed a NOI with the SWRCB for coverage under the General Industrial Permit. As previously mentioned, the Industrial Activities Storm Water General Permit program requires 10 types of industries to file a NOI to be covered by the General Industrial Permit. The 10 types of industries are the following:

1. Facilities Subject to Storm Water Effluent Limitations Guidelines, New Source Performance Standards, or Toxic Pollutant Effluent Standards
2. Manufacturing Facilities (specific SIC codes)
3. Oil and Gas/Mining Facilities

4. Hazardous waste treatment, storage, or disposal facilities
5. Landfill, Land Application Sites and Open Dumps
6. Recycling Facilities
7. Steam Electric Power Generating Facilities
8. Transportation Facilities
9. Sewage or Wastewater Treatment Works (with design flows greater than 1 mgd)
10. Manufacturing Facilities Where Industrial Materials, Equipment, or Activities Are Exposed to Storm Water) (specific SIC codes)

The City will obtain and review the list of regulated industries that have filed a NOI with the RWQCB on an annual basis, and will check this list with the City's own list of permitted industrial facilities. If discrepancies are noted re industries that should have filed a NOI and did not, the City will notify the RWQCB immediately and inform the industrial facility of the regulations.

BMP #IF-2: Identify and Verify That Regulated Facilities Have Filed a NOI, Notify RWQCB of Discrepancies

Site Inspections at Industrial Facilities That Have Filed a NOI

The City's Environmental Compliance Program (EC) will conduct site visits at these industries that will include a review regarding compliance with the State Industrial Permit regulations and those of the Storm Water Ordinance and mandatory BMPs. If the City already regulates a facility under the Industrial Waste Discharge Program, then compliance with these requirements will be incorporated into the site's regular annual inspection and an additional inspection will not be conducted. Therefore, staff will conduct a site visit at all of these additional regulated industries (except for the Santa Cruz Port District) once during the 5 year permit period.

If a violation of the State's General Industrial Permit requirements is detected during the inspection, the City will immediately inform the business owner of the violation and notify the RWQCB. If the violation is also a violation of the City's Municipal Code or the mandatory BMPs, then the City will undertake warning or enforcement actions to bring the site into compliance. The City's actions will depend upon the severity of the violation detected. If compliance is not achieved in a timely manner and as approved by the City, then additional enforcement actions will be taken. Enforcement actions will be escalated until compliance is achieved. The City will also conduct follow-up site visits as appropriate.

BMP #IF-3: Conduct Site Visits at Industrial Facilities That Have Filed a NOI

Best Management Practices and Checklist

The City has developed Best Management Practices for Industrial Facilities. A copy of the BMP brochure is included in Attachment 19. A checklist of the BMPs has also been developed so that

a facility may use it to self-monitor. The checklist will be provided upon request or during site inspections. A copy of the BMP checklist is included in Attachment 20.

Education and Outreach

As previously mentioned, the City will distribute a BMP brochure and a checklist to all industries regulated by the City and to all inspected industries that have filed a NOI under the General Industrial Permit program during the site inspections. This will be done during all initial or new site visits and in subsequent years if the business has not retained a copy.

BMP #IF-4: Conduct Education and Outreach to Regulated Businesses

IV. Program Implementation

City Personnel

The Environmental Compliance Division is primarily responsible for implementing the existing Industrial Waste Discharge Program. Environmental Compliance will also conduct the site inspections for those facilities that have filed a NOI, under the General Industrial Permit, but are not permitted by the City under the Industrial Waste Discharge Program. Table 7-1 lists each BMP and the responsible department/division:

Implementation Timetable and Measurable Goals

The City has established a timetable for implementation of the Illicit Connections and Discharge Program. Measurable goals will be used to assess the City's efforts to reduce illicit connections and discharges, and to evaluate the success of the program each year. A list of the BMPS, measurable goals, and the implementation schedule are detailed in Table 7-1 below:

Table 7

BMPs, Measurable Goals, and Implementation Schedule

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
	Industrial Waste Discharge Program			
IF-1	Conduct Site Visits at Significant Industrial Users (SIUs)	Annual site visits at 100% of SIUs	Public Works: Environmental Compliance	Year 1-5
	Facilities Regulated Under the State General Industrial Permit			
IF-2	Identify and Verify That Regulated Facilities Have Filed a NOI, Notify RWQCB of Discrepancies	1.Annual review of list of regulated industries that have filed a NOI with the RWQCB and comparison to the City's list of permitted industrial facilities 2. Notify the RWQCB of 100% of discrepancies re industries that should have filed a NOI and did not	Public Works: Environmental Compliance	Year 1-5
IF-3	Conduct Site Visits at Industrial Facilities That Have Filed a NOI	Conduct site visit at 100% of additional sites not already in the City's SIU program once every 5 years	Public Works: Environmental Compliance	Year 1-5
	Education and Outreach			
IF-4	Conduct Education and Outreach to Regulated Businesses	Annually distribute BMP brochure at 100% of initial or new sites, and as needed at current sites if the business has not retained a copy.	Public Works: Environmental Compliance	Year 1-5

Table 7-1: Responsible Department or Division Contact Information

Public Works Department: Engineering
Associate Civil Engineer, (831) 420-5428

Public Works Department: Environmental Compliance Office, Wastewater/Pretreatment Division
Laboratory/Environmental Compliance Manager, (831) 420-604

V. Program Documentation and Reporting

The City will maintain records to document program implementation and annual progress. The City will report the results of the program in the annual SWMP report to the Regional Water Quality Control Board. The report will include information and a summary of the progress made relative to the measurable goals.

Chapter 8

COMMERCIAL FACILITIES PROGRAM

I. Introduction

The City has developed a Commercial Facilities Program in order to reduce the discharge of pollutants from commercial facilities to urban runoff and the storm drain system. Potential sources of pollutants from commercial facilities include common work activities, accidental spills, improperly stored materials, improper waste disposal, illicit connections, and parking lots. Pollutants, such as oil and grease, soap, vehicle fluids, and chemicals, may be discharged if adequate precautions are not taken. Commercial businesses of concern include vehicle service facilities, food service facilities, mobile cleaners, and retail shops. Retail shopping areas are also a concern particularly if there are paved areas, such as sidewalks, eating areas, and parking lots.

The Commercial Facilities Program is designed to have a positive approach combining outreach, education, and incentives with the more traditional methods of regulation. This type of approach generally results in a more successful program for several reasons. For example, outreach and education help business owners and employees become aware of storm water issues and the fact that urban runoff flows untreated to local creeks, rivers, and Monterey Bay. Business owners and employees become more educated on pollution prevention methods and will better understand why they are being asked to implement Best Management Practices. Recognition for pollution prevention efforts will also be used as additional motivation for a facility, within certain business sectors, to achieve compliance. Regulations enable the City to enforce the program and to take action against violators. All these factors combined generally result in better work practices at commercial facilities and reduced pollutant discharges to the storm drain system.

II. Pollutants of Concern and Target Audience

There are a variety of pollutants of concern associated with commercial facilities. Pollutants of concern include vehicle fluids; metals; oil and grease; soap and detergents; landscaping pesticides and fertilizers; chemicals and solvents; and litter and debris.

The target audiences are commercial facility owners, managers, and employees. Specific commercial facilities targeted include food service and vehicle service facilities due to their potential to discharge pollutants of concern to the storm drain system.

III. Program Elements and Best Management Practices

The City first assessed and determined which elements should comprise the Commercial Facilities Program and then selected the most appropriate Best Management Practices (BMPs) in order to reduce the pollutants of concern described above to the maximum extent practicable.

The Commercial Facilities Program includes the following elements:

- ❖ Outreach and Education
- ❖ Vehicle Service Facilities Program
  - Site Inspections
  - Clean Ocean Business Program
- ❖ Food Service Facilities Program
  - Site Inspections
  - Clean Ocean Business Program
- ❖ Retail and Other Commercial Businesses
- ❖ Mobile Cleaners
  - Education and Outreach

The program elements are described in more detail in the sections below. The selected BMPs are listed and described under each program element.

Outreach and Education

The City is conducting an outreach and education program for the targeted facilities to make them aware of the storm water ordinance requirements and to educate facility owners, managers, and employees on storm water issues and required BMPs. The City is implementing this program with the following steps:

- ♦ Development and distribution of BMPs for vehicle service facilities and food service facilities, and for Retail and Commercial businesses. In addition, the BMPs for Food Service and Vehicle Service Facilities were translated into Spanish;
- ♦ Outreach to local businesses about the City's storm water pollution prevention efforts. Past outreach efforts have included a mailing of the draft BMPs, prior to publication, to each affected business, and a public meeting to answer questions and hear business owners' comments and concerns;
- ♦ Outreach to local business associations including the Chamber of Commerce and the Downtown Association. The City had discussed with both organizations the possibility of writing articles and flyers on storm water regulations and related issues in their newsletters. Both organizations were very receptive to the idea, so the City has and will continue to utilize this avenue whenever significant issues arise.
- ♦ Site visits to businesses in order to educate owners and managers on the Storm Water Ordinance and the required Best Management Practices;
- ♦ Creation of an incentive program for vehicle service facilities entitled the Clean Ocean Business (COB) program. In 2004, the COB program was expanded to include food service facilities;

- Creation of new web pages, entitled "Environmental Compliance," on the City's website which provide detailed information on the allowable and prohibited wastewater and storm water discharges. The BMPs for food service and vehicle service facilities, and retail and commercial businesses are also posted on the website. BMPs for other sectors will be posted on the web site as they are published; and
- Direct mailings of information on the new Phase II regulations to specific business sectors. An example of this is the City's November 2002 mailing to all local pressure washers and steam cleaners about the new storm water discharge prohibitions.

In addition, the City conducted staff education on the new Phase II regulations. For example, in October 2002, the Public Works Department sent an informational memo to all City departments explaining the new regulations pertaining to the discharge of wastewater from pressure washing, steam cleaning, and hand scrubbing of outdoor areas. In addition to education, this served to make staff contracting with cleaning services aware of the new regulations so that City contracts could be modified accordingly. In addition, it is beneficial to make staff aware of the new regulations because many employees work "in the field" and are often in a position to notice illegal discharges as they are occurring.

Staff will update the mandatory BMPs for Vehicle Service Facilities, Food Service Facilities, and Retail and Commercial Businesses on an "as needed" basis such as when specific issues arise or there is a need to include additional topics.

BMP #CF-1: Revise the BMPs for Vehicle Service Facilities, Food Service Facilities, and Retail and Commercial Businesses As Needed

Vehicle Service Facilities Program

In 1999, the City's Environmental Compliance Program began implementing a Vehicle Service Facility Program because these facilities have the potential to discharge harmful pollutants to the storm drain. Vehicle fluids are often spilled or leaked onto shop floors or in outdoor work areas. These fluids, which contain harmful pollutants such as oil and heavy metals, can reach the storm drain if they are not immediately contained and cleaned up. If spills and leaks are left on the pavement, they may be flushed to the storm drains the next time it rains. In addition, routine vehicle cleaning discharges soap and solvents to the storm drain unless the cleaning occurs within the confines of a wash rack that is plumbed to the sanitary sewer.

The Vehicle Service Facility Program is both a regulatory and educational program focusing on both sanitary sewer and storm drain discharges. There currently are approximately 95 vehicle service facilities located in the City. The City has defined "vehicle service facilities" to include the following businesses: auto repair shops, gas stations, car and truck rental companies, auto body repair shops, car washes, detail businesses, companies with vehicle fleets, and dealerships.

<u>BMPs for Vehicle Service Facilities</u>

The City began developing BMPs for Vehicle Service Facilities (VSF) in 2000 as part of implementing a program for these facilities. Initially, the draft BMPs brochure was mailed to

each local vehicle service facility with a letter explaining the program and new regulations. Each facility was invited to attend a public meeting to discuss the draft BMPs, and hear comments and suggestions. After the BMPs were finalized, a copy was mailed to each facility along with a letter stating that educational inspections would soon be conducted in order to help businesses come into compliance.

In May 2003, the BMP brochure was also translated into Spanish in order to ensure that Spanish speaking employees could review the brochure and become familiar with the BMPs.

BMP Brochure Distribution

As mentioned above, once a final BMP brochure was mailed to each vehicle service facility, the City's Environmental Compliance Inspectors followed up with an educational visit at each facility. The BMP brochure was again given to each facility owner or manager. Each year during the annual site inspections (see below), the BMP brochure in both in English and Spanish is made available by the Environmental Compliance Inspectors who carry copies along with them to each site inspection. Both brochures are posted on the City's website.

The BMP brochure for Vehicle Service Facilities is included in Attachment 21. The Spanish translation of the BMP brochure is included in Attachment 22.

Site Visits

Initially, in 1999 and 2000, site visits at vehicle service facilities were used to educate business owners about the new storm water ordinance and the mandatory BMPs. Site visits or inspections at these businesses are conducted annually in order to evaluate their compliance with the sanitary sewer and storm water ordinances, and implementation of the required BMPs. Site visits also serve as an opportunity to educate the facility owner or manager and to answer any questions that they might have. In general, site visits are conducted whenever storm water violations are reported or suspected, and may also be used to check for illicit connections. In cases of suspected illicit connections and violations, dye tests or sampling may be conducted during the site visit. Lastly, site visits are used to evaluate compliance for the annual Clean Ocean Business recognition.

Each of the approximately 95 vehicle service facilities in the City is visited once per year or more by the Environmental Compliance Inspectors and evaluated for both compliance purposes and Clean Ocean Business recognition (as described below).

BMP #CF-2: Conduct Site Inspections for VSF

Clean Ocean Business Program

The City is currently conducting an incentive program, named the Clean Ocean Business (COB) Program, for vehicle service facilities. The program began in 2000 and provides annual recognition for facilities that are in compliance with the City's BMPs, the storm water ordinance, and sanitary sewer ordinance. A facility must also not have any related outstanding violations with the Fire Department or the County Department of Environmental Health.

Site inspections are conducted annually to evaluate a facility's compliance. Typically, the inspections are conducted during the year and recognition is given early in the next calendar year. For example, inspections conducted in 2008 evaluate a facility's compliance for the 2009 COB recognition. Recognition includes local newspaper advertising at least once a year. Additional advertising is conducted as the budget permits because it is additional motivation for the shop owners to try to achieve the COB recognition. The advertising also serves to familiarize the general public about the program and, hopefully, will stimulate people to ask their auto shop if they are a Clean Ocean Business.

Each business is also given two 6-inch, brightly colored decals that are inscribed with "Clean Ocean Business," the current year, and the City's logo. The decals are designed to be highly visible to customers from the shop window or wall. Each year, the background color is changed so that decal can be distinguished from year to year. A sample COB decal is included in Attachment 6. The list of the annually recognized Clean Ocean Businesses is also posted on the City's web site. In addition, when Public Works Department staff holds a public event or has a booth at an event, the list of the current Clean Ocean Businesses is printed, in color, on 8 ½ by 11 inch paper and distributed to the public.

BMP #CF-3: Implement Clean Ocean Business Program for VSF

Food Service Facilities Program

Restaurants and other food service facilities have the potential to discharge food particles, grease, soaps, cleansers, and debris to the storm drain if these businesses don't maintain good housekeeping and proper maintenance of grease traps or interceptors. For example, the cleaning of floor mats and kitchen filters outdoors can result in the discharge of grease and food particles to parking lots, driveways, and street gutters. In addition, grease from leaking tallow drums and overflowing grease traps or interceptors also may reach the street and clog storm drains. Wash water used in the cleaning of outdoor eating areas and sidewalks can carry dirt, debris, soap, and degreasers to the storm drain.

The City's Food Service Facility Program is also both a regulatory and educational program focusing on both sanitary sewer and storm drain discharges The City has defined a "food service facility" as any restaurant, fast food establishment, cafe, deli, or food preparation facility. The term also includes grocery stores and small markets. Currently, there are approximately 270 food service facilities in the city. Local food service facilities have been routinely inspected for many years by the City's Environmental Compliance Inspectors. Before 1999, inspections were conducted to assess a facility's grease trap or interceptor maintenance and cleaning in order to prevent sanitary sewer line blockages. In 1999, the City developed BMPs for food service facilities in order to incorporate storm water and sanitary sewer pollution prevention requirements into the program.

Currently, annual inspections are conducted at each food service facility in order to evaluate compliance with both the sewer use and storm water ordinances, and the BMPs. In 2007, the City raised the COB minimum standards to include the requirement that a business must not use

polystyrene “to-go” containers in order to qualify as a COB in future years. This was done in order to reduce the amount of non-recyclable material that is deposited in the City’s landfill; to help reduce litter and blight on our beaches; and to help minimize aquatic pollution from these materials which tend to break into smaller and smaller pieces and do not readily biodegrade.

BMPs for Food Service Facilities

When the City developed BMPs for Food Service Facilities (FSF) in 1999, a draft was mailed to each facility and a public meeting was held for facility owners and managers to discuss the draft BMPs, and hear comments and suggestions. After the BMPs were finalized, a copy of the BMP brochure was mailed to each site. The brochure was also translated into Spanish in order to ensure that Spanish speaking employees could review the brochure and become familiar with the BMPs.

The BMP brochure was revised in 2003 to incorporate the new Phase II regulations prohibiting the discharge of wastewater from pressure washing, steam cleaning, and hand scrubbing to the storm drain system. The new brochure was immediately posted on the City’s website, in both English and Spanish, and both versions were distributed during the subsequent round of annual Food Service Facility inspections. The current BMP brochures for Food Service Facilities, in English and Spanish, are included in Attachments 23 and 24 respectively.

BMP Brochure Distribution

As mentioned above, once a final BMP brochure was developed, a copy was mailed to each Food Service Facility along with a letter explaining that the program was being expanded to include mandatory regulations for preventing the discharge of polluted water to the storm drain and sanitary sewer systems. Each year during the annual site inspections (see below), the BMP brochure in both English and Spanish is made available to each facility by the Environmental Compliance Inspectors who carry copies along with them to each site inspection. Both brochures are posted on the City’s website.

Site Visits

Site visits or inspections are currently conducted annually in order to evaluate their compliance with the sanitary sewer and storm water ordinances, and implementation of the required BMPs. Site visits also serve as an opportunity to educate a facility owner or manager and to answer any questions that they might have. In general, site visits are conducted whenever storm water violations are reported or suspected, and may also be used to check for illicit connections. In cases of suspected illicit connections and violations, dye tests or sampling may be conducted during the site visit. Lastly, beginning in 2003, site visits for Food Service Facilities are used to evaluate compliance for annual recognition as a Clean Ocean Business.

Each of the approximately 270 food service facilities in the City is visited once per year or more by the Environmental Compliance Inspectors and evaluated for both compliance purposes and Clean Ocean Business recognition (as described below).

BMP #CF-4: Conduct Site Inspections for FSF

Clean Ocean Business Program

In 2003, the City decided to expand the Clean Ocean Business (COB) Program to include Food Service Facilities. The COB Program is an incentive program that provides annual recognition for facilities that are in compliance with the City's BMPs, the storm water ordinance, and sanitary sewer ordinance. In 2003, the annual site inspections were used to evaluate a facility's compliance and determine recognition for the 2004 calendar year.

The COB program elements and recognition efforts for food service facilities are essentially the same as for vehicle service facilities. As mentioned above, site inspections are conducted annually to evaluate a facility's compliance. Recognition includes local newspaper advertising at least once a year. Additional advertising is conducted as the budget permits because increased advertising is additional motivation for the restaurant or grocery store owners to try to achieve the COB recognition. The advertising also serves to familiarize the general public about the program and, hopefully, will stimulate people to ask their favorite restaurants if they are a Clean Ocean Business.

Each business is also given two 6-inch, brightly colored decals that are inscribed with "Clean Ocean Business," the current year, and the City's logo. The decals are designed to be highly visible to customers from the business window or wall. Each year, the background color is changed so that decal can be distinguished from year to year. A sample COB decal is included in Attachment 7. The list of the annually recognized Clean Ocean Businesses will also be posted on the City's web site. In addition, when Public Works department staff holds a public event or has a booth at an event, the list of the current Clean Ocean Businesses is printed, in color, on 8 ½ by 11 inch paper and distributed to the public.

BMP #CF-5: Implement Clean Ocean Business Program for FSF

Retail and Other Commercial Businesses

There are numerous urban runoff issues associated with retail and commercial businesses. For example, soap and litter may be discharged to the storm drain if sidewalks and plazas are hosed down or cleaned with detergent. The cleaning of parking lots and dumpster areas may release vehicle fluids and other pollutants to the storm drain. The cleaning of building exteriors can cause the discharge of paint particles, cleansers, and solvents to the street or storm drain if precautions are not taken. Floor, carpet, and window cleaning wastes cannot be discharged to the storm drain because they typically contain detergents and particulates, and in some cases solvents. In addition, landscape vegetation clippings and leaves can clog storm drains if they are blown or raked into the street. Retail and commercial businesses also often hire janitorial services and other specialized contractors who conduct cleaning that can cause the discharge of wastewater to the street or storm drain.

In compliance with the Phase II regulations, the City has prohibited the discharge of wastewater to the storm drain system from pressure washing, steam cleaning, and hand scrubbing cleaning of sidewalks and other outdoor areas as of March 10, 2003. This is particularly pertinent to many retail and commercial businesses that strive to keep their sidewalks and storefront areas clean. Many downtown shop owners either hire pressure washing services to clean their sidewalks or

have bought pressure-washing equipment themselves. Therefore, since smmer 2002, the City has made efforts to notify and educate business owners of the new regulations. For example, the City contacted both the Downtown Association and the Chamber of Commerce to notify them of the upcoming regulations, and provided articles on the new regulations for both the Downtown Association and the Chamber of Commerce November 2002 newsletters.

BMPs for Retail and Commercial Facilities

In December 2002, the City published a BMP brochure for retail and commercial businesses. The BMPs focus on the issues mentioned above in addition to painting, landscaping concerns such as pesticide use, and the discharge of vehicle wash water.

BMP Brochure Distribution

The City began distributing the BMP brochure in early 2003. The brochure has also been posted on the City's website since early 2003. The Environmental Compliance Inspectors will give the brochure to businesses that staff notice are conducting illegal practices, i.e. discharge of soap or pressure washing wastewater to the storm drain, or when a complaint is received regarding an illegal discharge. The BMP brochure for Retail and Commercial Businesses is included in Attachment 25.

Mobile Cleaners

Mobile cleaning businesses are included in the Commercial Facilities Program because surface cleaning has historically involved the discharge of wash water, containing soap and other pollutants, to the street or storm drain. For example, when fleet washers rinse cars off, the soapy water is typically left to drip onto the parking lot and drain to the nearest storm drain. Carpet cleaning services have, in the past, been seen discharging into neighborhood storm drain inlets. Janitorial services also have been known to dump mop water out in back parking lots or gutters.

Mobile cleaners include a variety of cleaning businesses such as the following: janitorial services, window cleaners, carpet cleaners, fleet washers, auto detailers, and outdoor steam cleaning or pressure washing services (i.e. for sidewalks, plazas and parking lots). Educating and regulating mobile cleaners can be difficult because they often they do not have a local address. Mobile cleaners can be based in neighboring cities or counties, and frequently do not have a City of Santa Cruz business license. However, several years ago, the City compiled a list of local mobile cleaners using the telephone book yellow pages, and information from staff and local businesses that hire mobile cleaners.

Mobile cleaners are not regulated by the City through a specific permit program although these businesses must operate in compliance with the City Municipal Code, including the Storm Water Ordinance, and all mandatory BMPs. Thus, education and outreach efforts are important to ensure that mobile cleaning businesses are informed about the storm water regulations and good operating practices so that they do not cause polluted water to discharge into the storm drain system.

City staff will follow-up on all public complaints or staff observations of illegal discharges by mobile washers. If an illegal discharge is reported by the public or City staff, staff typically calls the business and explains the regulations, and tells the mobile washer that the illegal discharge

must cease immediately. Staff may also call the property or business owner that hired the mobile washer to inform them of the regulations and tell them that their contactor must operate in compliance. However, if illegal discharges are observed a second time, staff will send a written letter to the mobile washer stating that the illegal discharge must cease immediately and that fines may be levied if the illegal discharge continues. The City also requires compliance for all mobile cleaners contracted by the City.

BMP #CF-6: Follow-up on Public Complaints or Staff Observations of Illegal Discharges by Mobile Washers

Education and Outreach

As previously mentioned, the City prohibits the discharge of wastewater to the storm drain system from pressure washing, steam cleaning, and hand scrubbing cleaning of sidewalks and other outdoor areas as of March 10, 2003. This is particularly pertinent to many mobile cleaning businesses that have contracts with retail businesses and restaurants, particularly in the downtown area, to keep their sidewalks and storefront areas clean. Therefore, the City has made efforts to notify mobile cleaning or washing services of the new Phase II regulations since fall 2002.

In October 2002, staff contacted the local pressure washers, steam cleaners, and other cleaning services in the yellow pages both by telephone to explain the new storm water regulations and to obtain their address for the City's mailing list of local mobile cleaners. Staff also contacted cleaning services that have contracts with the City. Staff explained the new regulations regarding the discharge of pressure wash and steam cleaning water to these businesses. In November 2002, the Public Works Department sent a letter to each of these businesses explaining the new regulations in detail. The letter stated that if pressure washing, steam cleaning, and hand scrubbing is conducted outside, the wastewater must be collected and disposed of in the sanitary sewer. In November 2002, the City also provided articles on the new storm water regulations for both the Downtown Association and the Chamber of Commerce newsletters in order to further educate local business owners. In July 2004, a similar letter was again sent to all of the mobile washers on the City's list reminding them of the storm water discharge regulations.

City staff has also made efforts to educate businesses owners, particularly in the downtown Santa Cruz area, on mobile cleaning issues. For example, if City staff receives a complaint that a pressure washer has illegally discharged wash water to the street, staff will often call the property or business owner of where the problem was reported to alert them that their contractor is not operating in compliance and to explain the storm water regulations. This is also an effective way to ensure that pressure washers comply because in general non-compliance jeopardizes their contracts. In addition, in 2006, the Public Works Department and the City's Redevelopment Agency jointly produced a flyer, "Sidewalk Cleaning in Downtown Santa Cruz," to educate business owners on their options for sidewalk cleaning.

BMPs for a variety of cleaning activities, applicable to mobile cleaners, have already been included in the BMP brochures for Retail and Commercial Businesses, Vehicle Service

Facilities, and Food Service Facilities. The City will revise these BMPs in accordance with the sidewalk cleaning regulations.

IV. Program Implementation

City Personnel

The Public Works Department will lead the implementation of the Commercial Facilities Control Program. The Public Works Associate Civil Engineer, the Environmental Projects Analyst, the Laboratory/Environmental Compliance Manager and Environmental Compliance Inspectors all provide support and guidance on program policies. The primary personnel involved in conducting the food and vehicle service facility site visits will be the Environmental Compliance Inspectors, supervised by the Laboratory/Environmental Compliance Manager. Other Public Works divisions, such as Streets and Wastewater Mains crews, are anticipated to have ancillary roles. The Building Division, of the Planning Department, provides support when a business is required to install improvements at their facility.

The City will train employees directly involved in the program and will keep them up-to-date. Table 8-1 below itemizes each BMP and the responsible department or division.

Implementation Timetable and Measurable Goals

Specific measurable goals have been determined for the targeted commercial facilities in the Commercial Facilities Program. A list of the BMPS, measurable goals, and the implementation schedule are detailed in Table 8-1 below.

Table 8-1

BMPs, Measurable Goals, and Implementation Schedule

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
CF-1	Revise the BMPs for Vehicle Service Facilities, Food Service Facilities, and Retail and Commercial Businesses As Needed	Revise all 3 brochures per sidewalk cleaning regulations and other additional topics if any	Public Works: Engineering Public Works: Environmental Compliance	Year 1
	Vehicle Service Facilities			
CF-2	Conduct Site Inspections for VSF	Conduct annual inspections at 100% of VSF	Public Works: Environmental Compliance	Year 1-5
CF-3	Implement Clean Ocean Business (COB) Program for VSF	Conduct annual recognition for 100% of COBs	Public Works: Environmental Compliance Public Works: Engineering	Year 1-5
	Food Service Facilities			
CF-4	Conduct Site Inspections for FSF	Conduct annual inspections at 100% of FSF	Public Works: Environmental Compliance	Year 1-5
CF-5	Implement Clean Ocean Business (COB) Program for	Conduct annual recognition for 100% of COBs	Public Works: Environmental	Year 1-5

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
	FSF		Compliance Public Works: Engineering	
	Mobile Cleaners			
CF-5	Follow-up on Public Complaints or Staff Observations of Illegal Discharges by Mobile Washers	Follow-up on 100% of complaints or reports of illegal discharges	Public Works: Environmental Compliance Public Works: Engineering	Year 1-5

Table 8-1: Responsible Department or Division Contact Information
Public Works Department: Engineering
Associate Civil Engineer, (831) 420-5428

Public Works Department: Environmental Compliance Office, Wastewater/Pretreatment Division
Laboratory/Environmental Compliance Manager, (831) 420-6045

V. Program Documentation and Reporting

The City will maintain records to document program implementation and annual progress. The City will report the results of the program in the annual SWMP report to the Regional Water Quality Control Board. The report will include information and a summary of the progress made relative to the measurable goals.

Chapter 9

ADDRESSING TMDLs IN THE SWMP

I. Introduction

The City of Santa Cruz storm drain system (MS4) discharges into four water bodies that are currently on the 303(d) list of impaired water bodies which are:

- San Lorenzo River
- Carbonera Creek
- Branciforte Creek
- San Lorenzo River Lagoon

The Federal Clean Water Act requires the development of Total Maximum Daily Loads (TMDLs) and implementation plans to bring impaired water bodies back into compliance with water quality objectives. Two TMDLs have been developed for the San Lorenzo River and its tributaries Branciforte and Carbonera Creeks within the City of Santa Cruz. Pathogens or more specifically fecal indicator bacteria (FIB) and sediments are the two pollutants that have been identified. In addition, the San Lorenzo River Lagoon is included in the TMDL for pathogens.

San Lorenzo River Sediment TMDL and Implementation Plan

On May 16, 2003, the RWQCB Central Coast Region adopted a sediment TMDL (Total Maximum Daily Load) for the San Lorenzo River, Carbonera Creek, Lompico Creek and Shingle Mill Creek and incorporated the TMDL and the associated *Implementation Plan for the San Lorenzo River Sediment TMDL* (Implementation Plan) into the Basin Plan. In 2006, the State Board added additional water bodies that were on the 303(d) as impaired by sediment. Of these additions, Branciforte Creek is located within the City. Thus, the water bodies within the City included in the implementation plan are the San Lorenzo River, Carbonera Creek, and Branciforte Creek.

The Implementation Plan describes “trackable” implementation actions to address sources of erosion and sedimentation. Sediment load to the San Lorenzo River and associated creeks is derived from non-point sources and point sources. As such, the TMDL Implementation Plan is structured to rely on a three-tiered framework for non-point source control of sediment and existing and anticipated regulatory programs for storm water discharges.

For agencies identified as “Responsible Dischargers” in the Implementation Plan, sediment discharges derived from storm water are regulated under the NPDES Phase II Storm Water general permit. The Implementation Plan identifies the Cities of Santa Cruz and Scotts Valley, the County of Santa Cruz, and the owners and operators of construction sites of one acre and

greater as "Responsible Dischargers." The Implementation Plan also lists the three trackable Implementation Actions below for agencies identified as "Responsible Dischargers." Therefore, the City has and will continue to take the following implementation actions within its jurisdiction:

a) Develop and implement the SWMP and Storm Water Pollution Plans (SWPPPs) consistent with NPDES Phase II Storm Water regulations.

b) Identify the San Lorenzo River Watershed as a priority for site inspection and enforcement of control measures in the SWMP and SWPPPs.

c) Incorporate sediment control programs/projects into the SWMP.

In addition, the City has already begun implementing BMPs and other measures as part of the *Implementation Plan for the San Lorenzo River Sediment TMDL*. These measures are identified and described in the first San Lorenzo River Sediment TMDL Tri-Annual Report which was submitted to the RWQCB in February 2007. The report also included a progress evaluation The Tri-Annual Report is included in Attachment #31.

TMDL for Pathogens (Fecal Indicator Bacteria)

A TMDL for Pathogens (Fecal Indicator Bacteria) has been adopted for the San Lorenzo River, San Lorenzo River Lagoon, Branciforte Creek, and Carbonera Creek. The City will review and develop additional BMPs as necessary to address the pertinent issues raised in the RWQCB Final Report *TMDLs For Pathogens in the San Lorenzo River Watershed Waters (including San Lorenzo River estuary, San Lorenzo River, Branciforte Creek, Camp Evers Creek, Carbonera Creek, and Lompico Creek) Santa Cruz, California*, dated December 5, 2007, within the City of Santa Cruz. The City is currently implementing measures and BMPs (already in the SWMP) to address some of these issues.

This report mentions that, in general, the sources of pathogens in the San Lorenzo River Watershed include: sanitary sewer spills, leaking sewer laterals, pet wastes, natural sources such as birds and rodents, dumpster leachate, and humans (including homeless campsites and illegal RV dumping).

In addition, at the Water Quality Assessment meeting held by RWQCB staff in Santa Cruz on May 16, 2008, the issue of transients and homeless encampments as one of the sources of pathogens in the San Lorenzo River Watershed was raised. The City would like to acknowledge this issue and will continue to address it through a complexity of social, political, legal, and environmental factors.

As one can see, there are many sources of pathogens including natural sources and uncontrollable sources. While the goal of the TMDLs and associated Implementation Plans is to reduce pollutant loading from each source to levels that will allow water quality objectives to be met, research conducted by Santa Cruz County and others suggest that the current water quality objectives for Fecal Indicator Bacteria (FIB) cannot be met in urban areas. Nevertheless, the

BMPs included in the SWMP have been developed to reduce controllable sources of FIB that are conveyed by the storm drain system to the maximum extent practicable.

One of the purposes of this chapter is to identify the BMPs and other measures that the City is or will be implementing to address the sources identified in the TMDL implementation plans and supporting documents. These supporting documents include the *Assessment of Sources of Bacterial Contamination at Santa Cruz County Beaches (SCCHSA, 2006)* and the *San Lorenzo River Watershed Management Plan Update (SCCHSA, 2001)*. The background material used in the development of the TMDLs included source identification and prioritization; BMP identification and prioritization; monitoring program development; and coordination with stakeholders. This work, in combination with the ongoing monitoring and evaluation of implementation success will meet the objectives and serve as the functional equivalent of Wasteload Allocation Attainment Plans. A goal of the SWMP is not to target BMPs to specific geographic areas but to implement the BMPs throughout the management area in order to reduce controllable sources of sediment and pathogens associated with the storm drain system to the maximum extent practicable. The specific BMPs that will address each pollutant of concern and provide for TMDL implementation are listed in Table 9 below.

II. Pollutants of Concern and Target Audience

As mentioned above, the Regional Water Quality Control Board has adopted TMDLs for sediment and fecal indicator bacteria in water bodies within the City's jurisdiction. Thus, the primary pollutants of concern are the following:

- Sediment and silt
- Fecal Indicator Bacteria (pathogens)

The target audiences are the general public including residents, commercial and industrial businesses, developers, architects, engineers, builders, contractors, consultants, and City staff.

III. Best Management Practices and Other Measures

Best Management Practices (BMPs) will be implemented by the City to directly reduce the discharge of pollutants that have been addressed by RWQCB adopted TMDLs and Implementation Plans.

As specified in Chapters 1-8 of the SWMP, the City has selected the most appropriate Best Management Practices (BMPs) in order to reduce the pollutants of concern to the maximum extent practicable. These BMPs intend to address all of the controllable sources of sediment and FIB and the implementation plans adopted by the RWQCB. The applicable BMPs from Chapters 1-8 are included in Table 9-1 below.

Implementation Plan for the San Lorenzo River Sediment TMDL

As mentioned above, the City has already implemented or is currently implementing other BMPs and measures as part of the *Implementation Plan for the San Lorenzo River Sediment TMDL*. These measures are identified and described in the Triennial San Lorenzo River Sediment TMDL report which was submitted in February 2007. As mentioned above, this report is included in Attachment #31.

Additional BMPs addressing TMDLs

Develop Additional BMPs and Measures in Conjunction With Each Applicable TMDL

Due to the compressed time frame for submittal of the SWMP the City has not had sufficient time to adequately evaluate other BMPs or measures that might be implemented to address the TMDL issues. However, the City will develop additional BMPs as necessary in conjunction with each applicable TMDL. The additional BMPs to address TMDLs are included in Table 9-1 below.

TMDL for Sediment

As mentioned above, the City will develop additional BMPs to reduce the potential for sediments to be discharged into the San Lorenzo River watershed. For example, the City may increase the number/frequency of site inspections for construction projects along the San Lorenzo River and Branciforte Creek. To this end, the City will first need to establish criteria or a policy in order to determine which types of construction projects need additional inspections. For example, criteria to be considered would include:

- Types of construction work (i.e. clearing & grading vs. electrical work)
- Proximity to the San Lorenzo River and Branciforte Creek
- Project Size (acreage/square footage)
- Property sloped or flat
- Project time of year, i.e. wet season vs. dry season

BMP #TMDL-1: Develop Additional BMPs as Necessary in Conjunction with the TMDL For Sediment

TMDL for Pathogens (Fecal Indicator Bacteria)

The City will review and develop additional BMPs to address the pertinent issues raised in the RWQCB Final Report *TMDLs For Pathogens in the San Lorenzo River Watershed Waters (including San Lorenzo River estuary, San Lorenzo River, Branciforte Creek, Camp Evers Creek, Carbonera Creek, and Lompico Creek) Santa Cruz, California*, dated December 5, 2007, within the City of Santa Cruz. The City is currently implementing measures and BMPs (already in the SWMP) to address some of these issues.

The City will assess the sources of pathogens listed below, as mentioned in the Pathogens TMDL Final Report, and determine which need to be further addressed by the implementation of additional BMPs or other measures. The City will then develop and implement additional BMPs and/or improve current programs as appropriate. The sources are as follows:

- Sanitary sewer spills
- Leaking private sewer laterals
- Pet waste
- Dumpster leakage
- Homeless encampments
- Illegal Recreational Vehicle (RV) Dumping
- Natural sources, i.e. birds

At the Water Quality Assessment meeting held by RWQCB staff in Santa Cruz on May 16, 2008, the issue of transients and homeless encampments as one of the sources of pathogens in the San Lorenzo River Watershed was raised. The City would like to acknowledge this issue and will continue to address it through a complexity of social, political, legal, and environmental factors. In addition, please see Chapter 1: Municipal Operations for a description of the City's current Illegal Campsite Clean-up Program, which is listed as BMP # MO-16 in both Chapter 1 and in Table 9-1 below.

BMP #TMDL-2: Develop Additional BMPs as Necessary in Conjunction with the TMDL For Pathogens

Guiding the Implementation of BMPs That Address TMDLs

In order to reduce sediment and pathogen loadings from controllable sources to the San Lorenzo River, Carbonera Creek, and Branciforte Creek and pathogen loading from controllable sources to the San Lorenzo River Lagoon, the City will implement the following BMPs:

BMP #TMDL-3: Identification of sources of sediment and pathogens within the City possibly including specific information on various source locations and their magnitude.

BMP #TMDL-4: Prioritization of sources of sediment and pathogens within the City based on suspected contribution to the impairment, ability to control the sources, and other pertinent factors.

BMP #TMDL-5: Identification of BMPs that will address the controllable sources of sediment and pathogens within the City and reduce the discharge of these impairing pollutants.

BMP #TMDL-6: Prioritization of BMPs based on suspected effectiveness at abating controllable sources and reducing sediment and pathogens discharges, as well as other pertinent factors.

BMP #TMDL-7: Development of an implementation schedule for the identified and prioritized BMPs. For each BMP, identify any milestones or measurable goals to track or assess implementation efforts.

BMP #TMDL-8: Provide a description of a monitoring program to assess discharge and receiving water quality pertinent to the sediment and pathogen impairments and possible BMP effectiveness, including a schedule for implementation of the monitoring program. At a

minimum, the water quality monitoring program should be consistent with any monitoring program information included in the TMDL documentation.

BMP #TMDL-9: Develop an effectiveness assessment strategy as detailed in Chapter 10.

Table 9-1

BMPS THAT WILL BE IMPLEMENTED TO DIRECTLY REDUCE THE DISCHARGE OF POLLUTANTS THAT ARE ADDESSED BY WATER BOARD ADOPTED TMDLS IN THE CITY'S JURISDICTION

Including Measurable Goals and Implementation Schedule

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
	BMPs and Other Measures In SWMP Chapters 1-8			
	CHAPTER 1			
M0-1	Sweep City Streets By Mechanical Sweepers	Target=Sediment & Bacteria 1. Sweep primary streets in downtown and main beach areas twice per week 2. Sweep primary streets in other commercial areas once per week 3. Sweep 75% of residential streets twice per month 4. Sweep streets upon special request	Public Works Streets	Year 1-5
MO-3	Sweep Public Parking Lots and Parking Garages Regularly	Target=Sediment & Bacteria Clean lots w/a mechanical sweeper either 2x or 6x per week depending upon which location	Public Works: Streets	Year 1-5
MO-4	Inspection, Cleaning, and Repair of City Catch Basins and Inlets	Target=Sediment & Bacteria 1. Clean 90% of catch basins and inlets located	Public Works: Wastewater Mains	Year 1-5

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
		in the Downtown, Beach Flats, and lower Ocean Street areas annually in the Fall 2. Clean and repair 100% of storm drains or catch basins identified as clogged or non-functional annually in the fall or as soon as possible 3. After large storm events during the wet season, inspect 90% of catch basins in the Downtown, Beach Flats, and lower Ocean Street areas and re-clean them as needed. 4) Inspect 50% of the catch basins in the outlying areas of the City annually and clean as needed		
MO-5	Inspection of Branciforte Storm Water Conveyance Channel and Trash Removal As Needed	Target=Sediment 1. Annual inspection 2. Removal of 100% of large trash and debris items.	Public Works: Wastewater Mains	Year 1-5
MO-6	Clean Pump Stations Along the San Lorenzo River	Target=Sediment & Bacteria Clean twice per year (Spring and Fall) Additional cleanings, if needed, during wet season after large storm events	Public Works: Wastewater Mains	Year 1-5
MO-8	Conduct Inspections of Storm Drain Lines	Target=Bacteria & Sediments TV or visual inspect the inside of an average of 1000 feet of pipeline each year over a 5 year period	Public Works: Engineering & Wastewater Mains	Year 1-5
MO-10	Replace or Rehabilitate Sanitary Sewer Main	Target=Bacteria	Public Works: Engineering &	Year 1-5

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
	Lines	Replace or rehabilitate an average of 3,000 feet of sewer main pipeline per year over the 5 year permit period	Wastewater Mains	
MO-11	Development and Implementation of a Lateral Inspection Program	Target=Bacteria 1. Outline of Program Details 2. Implementation of Program	Public Works: Engineering Public Works: Wastewater Mains	1. Year 3 2. Year 5
MO-12	Repair and Rehabilitation of Minor Storm Drain Lines	Target=Bacteria & Sediment Repair or rehabilitate an average of 100 feet of pipeline per year over the 5 year permit period	Public Works: Engineering	Year 1-5
MO-13	CBI Grant #1: Dry Weather Diversion of Storm Water from SLR Pump Stations 1, 2, and 1A to the Wastewater Treatment Facility (WWTF)	Target=Bacteria Divert SLR pump station water to WWTF 90 days per year	Public Works: Engineering	Year 1-5
MO-14	CBI Grant #2: After CBI Grant Project Completion, Dry Weather Diversion of Storm Water from SLR Pump Stations 1B and 3 to the Wastewater Treatment Facility	Target=Bacteria Divert SLR pump station water diverted to WWTF 90 days per year once project work is completed	Public Works: Engineering	Start date TBD
MO-16	Implement Illegal Campsite Clean-Up Program In City Parks and Open Spaces	Target=Bacteria Cleanup of illegal campsites at the appropriate locations on an annual basis	Parks and Recreation	Year 1-5

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
MO-22	City-wide Watershed Issues Team Meetings to Discuss Watershed Issues Re TMDLS and Other Related Topics	Target=Sediment & Bacteria Meet semi-annually or more as needed	Public Works Planning Water Parks and Recreation City Manager's Office	Year 1-5
	CHAPTER 2			
ID-2	Conduct Spill and Illegal Discharge Response	Target=Sediment & Bacteria Respond to 100% complaints and reports of illegal discharges	Public Works: Environmental Compliance Public Works: Wastewater Mains	Year 1-5
ID-6	Develop and Implement A Public Storm Water Hotline Number Budget Dependent	Target=Sediment & Bacteria 1. Plan for hotline number 2. Hotline number operational	Public Works: Engineering Public Works: Wastewater Mains Public Works: Environmental Compliance Planning: Building	1. Year 3 2. Year 4
	CHAPTER 4			
PE-1	Replace Worn Stencils or Apply New Stencils to Storm Drain Inlets	Target=Sediment & Bacteria 24 stencils replaced or newly applied annually	Public Works: Engineering Public Works: Streets	Year 1-5
PE-10	Co-sponsor Coastal Clean-Up Day	Target=Sediment & Bacteria	Public Works: Engineering	Year 1-5

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
		Sponsorship of the event in Santa County at the Platinum level		
PE-14	Develop and Implement an Education Program Addressing the Restoration and Protection of Riparian and Wetland Areas Budget Dependent	Target=Sediment 1. Complete development of program plan 2. Implementation of educational measures, i.e. hold workshops, distribute brochures	Planning Public Works: Engineering	Year 4 Year 5
	CHAPTER 5			
CON-1	Planning/Building Inspectors Will Inspect All Construction Sites Requiring a Grading Permit	Target=Sediment 1, During the grading process, 100% of small sites will be inspected 2 times and 2. During the grading process, 100% of large sites will be inspected 3 times 2. After major rain events, 50% of "open" sites will be inspected	Planning: Building	Year 1-5
CON-2	PW Staff Will Inspect Installation of Post-construction Treatment Systems and Storm Water Retention Devices at Development Sites Greater Than or Equal to One Acre	Target=Sediment Inspect systems and devices at 100% of development sites greater than or equal to one acre	Public Works: Engineering	Year 1-5
CON-7	Provide Training to Planning/Building Inspectors, Public Works	Target=Sediment 1. Train 100% of Planning/Building Inspectors,	Planning: Planning and Building Public Works:	Year 1-5

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
	Inspectors, and Planning and Public Works Plan Reviewers on Construction Site BMP Requirements	Public Works Inspectors, and Planning and Public Works Plan Reviewers every two years. 2. Train new Inspectors and Plan Reviewers within 3 months of the beginning of employment. 3. Additional training on new or changed BMPS as needed	Engineering	
	CHAPTER 6			
PC-1	Develop a Strategy to Require Development Projects *Within Public Lands* to Establish and Maintain A Minimum of 30 Foot Buffer Zone for Wetlands	Target=Sediment Formalize and implement strategy	Planning Public Works	Year 3
PC-2	Revise Mandatory Storm Water BMPs/ Design Standards Brochure	Target=Sediment and Bacteria 1. Revision to require more effective BMPs to treat parking lot runoff 2. Revision to clarify that all development projects per General Permit Attachment 4 will be subject to structural or treatment control BMP requirements 3. A process for project applicants to follow to identify structural or treatment control BMPs that will effective in removing a development project's pollutants of concern. 4. Revise in accordance with new Hydromodification Control Standards		

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
PC-3	Develop Alternative Hydromodification Criteria	Target=Sediment Alternative Hydromodification Criteria document	Public Works Planning	Year 1
PC-4	Assess Hydromodification Criteria for Effectiveness, Budget Dependent	Target=Sediment 1. Revise BMPs as necessary to protect watershed health 2. Determine if future watershed data is needed	Public Works Planning	1. Year 4 2. Year 5
PC-9	Distribute BMP Brochure for Development and Remodeling Projects	Target=Sediment Distribute to 100% of discretionary project applicants	Planning Public Works: Engineering	Year 1-5
PC-12	Provide Training to Appropriate Planning & Public Works Staff	Target=Sediment 1. Train 100% of appropriate staff every two years. 2. Train new Inspectors and Plan Reviewers within 3 months of the beginning of employment. 3. Additional training on new or changed BMPS as needed	Planning Public Works: Engineering	Year 1-5
	ADDITIONAL BMPS THAT THE CITY WILL IMPLEMENT			
TMDL-1	Develop Additional BMPs as Necessary in	Target=Sediment	Public Works: Engineering	Year 3

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
	Conjunction With The TMDL For Sediment	Additional BMPs and measures		
TMDL-2	Develop Additional BMPs as Necessary in Conjunction With The TMDL For Pathogens	Target= Bacteria Additional BMPs and measures	Public Works: Engineering	Year 3
TMDL-3	Identification of sources of sediment and pathogens within the City possibly including specific information on various source locations and their magnitude	Target=Sediment & Bacteria	Public Works: Engineering	Year 4
TMDL-4	Prioritization of sources of sediment and pathogens within the City based on suspected contribution to the impairment, ability to control the sources, and other pertinent factors	Target=Sediment & Bacteria	Public Works: Engineering	Year 4
TMDL-5	Identification of BMPs that will address the controllable sources of sediment and pathogens within the City and reduce the discharge of these impairing pollutants	Target=Sediment & Bacteria	Public Works: Engineering	Year 4
TMDL-6	Prioritization of BMPs based on suspected	Target=Sediment & Bacteria	Public Works: Engineering	Year 4

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
	effectiveness at abating controllable sources and reducing sediment and pathogens discharges, as well as other pertinent factors			
TMDL-7	Development of an implementation schedule for the identified and prioritized BMPs. For each BMP, identify any milestones or measurable goals to track or assess implementation efforts	Target=Sediment & Bacteria	Public Works: Engineering	Year 4
TMDL-8	Provide a description of a monitoring program to assess discharge and receiving water quality pertinent to the sediment and pathogen impairments and possible BMP effectiveness, including a schedule for implementation of the monitoring program	Target=Sediment & Bacteria	Public Works: Engineering	Year 4
TMDL-9	Develop an effectiveness assessment strategy as detailed in Chapter 10	Target=Sediment & Bacteria	Public Works: Engineering	Year 4

IV. Program Documentation and Reporting

The City will maintain records to document program implementation and annual progress. The City will report the results of the program in the annual SWMP report to the Regional Water Quality Control Board. The report will include information and a summary of the progress made relative to the measurable goals.

Chapter 10

SWMP PROGRAM MANAGEMENT

I. Annual Reports

The City will maintain records to document the implementation and annual progress of each of the eight control programs and any other programs included in the SWMP, such as those addressing TMDLs. The City will report the results of each of these programs to the RWQCB annually as part of the SWMP Annual Report.

The SWMP annual report will include information and a summary of the progress made relative to the measurable goals. The annual report will be used to identify strengths and weaknesses of the SWMP which the City will then use for adaptive management of the program. Methods to evaluate the SWMP are described below.

II. Program Evaluation

The City will evaluate the SWMP annually in order to assess BMPs and program effectiveness, and to determine if modifications will be needed for the following year or in future years. The measurable goals will be used to both document the City's efforts in the SWMP implementation and to assess the program's annual achievements. In addition, the City will conduct an Effectiveness Assessment of the SWMP as described below.

Effectiveness Assessment

Effectiveness assessment is a process used to evaluate whether a storm water 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 effectiveness, BMPs' 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 storm water program, the methods for conducting such assessments are less known. For over 10 years, Phase I storm water 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 May 2007* to assist storm water program managers in designing and conducting program effectiveness assessment using a range of assessment methods. As described in the CASQA Guidance Document, BMPs, program elements or the overall storm water program can be categorized has having one or more of six

levels of outcomes. Outcomes being defined as the result of implementing a storm water BMP, program element, or overall program implementation.

The City will use the CASQA Guidance Document *Level One Outcomes* (documenting activities) during the first three years of program implementation. This will allow the appropriate City staff to become familiar with the implementation of the SWMP, and become fluent in the various BMPs and measurable goals of the SWMP.

In Year 4, 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 4 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:

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

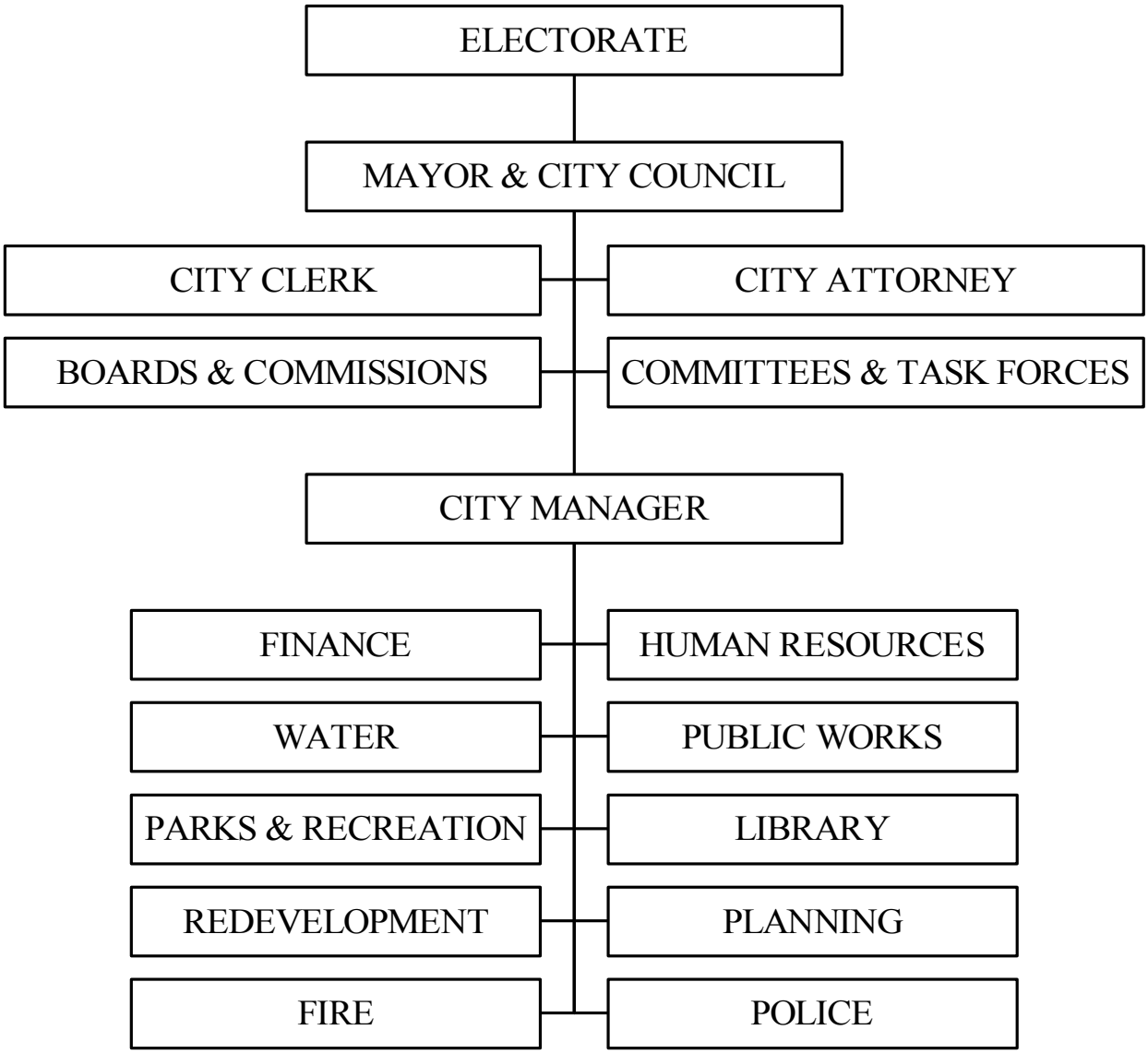
BMP #PM-1: Develop an Effectiveness Assessment Strategy

Table 10-1

Program Management

BMP #	BMPs	Measurable Goals	Responsible Dept. or Division	Implementation Schedule
PM-1	Develop an Effectiveness Assessment Strategy	1. Identify a process to be used to conduct effectiveness assessments and improve BMP implementation. 2. Identifying quantifiable BMP and program effectiveness measurements. 3. Assessment of BMP implementation.	Public Works: Engineering	Year 4

City of Santa Cruz Functional Organization Chart



Chapter 16.19
STORM WATER AND URBAN RUNOFF POLLUTION CONTROL

Sections:

16.19.010 Purpose and intent.
16.19.020 Definitions.
16.19.030 Illicit discharges prohibited.
16.19.040 Installation or use of illicit connections prohibited.
16.19.050 Removal of illicit connection.
16.19.060 Private storm water conveyance systems.
16.19.070 Discharge of sewage prohibited.
16.19.080 Damage to the storm drain system.
16.19.090 Littering – Discharge of polluting or damaging substances prohibited.
16.19.100 Prohibited discharges from industrial or commercial activity.
16.19.110 Industrial/commercial sources required to obtain a NPDES permit.
16.19.120 Notification of prohibited discharge required.
16.19.130 Mandatory best management practices.
16.19.140 Best management practices for construction activity.
16.19.150 Best management practices for industrial/commercial activities.
16.19.160 Best management practices for businesses not covered by state permit.
16.19.170 Right of entry for inspection.
16.19.180 Summary abatement of certain nuisances.
16.19.190 Administrative remedies.
16.19.195 Alternative administrative enforcement.
16.19.200 Judicial remedies – Civil/criminal.
16.19.205 Appeals.
16.19.210 Conflicts with other code sections.
16.19.220 Severability.

16.19.010 PURPOSE AND INTENT.

The purpose of this chapter is to protect the health and safety of the residents of the city by protecting the water quality, beneficial uses, marine habitats, and ecosystems of the receiving waters of the city, including the San Lorenzo River and Monterey Bay, from pollutants carried by urban runoff.
(Ord. 2003-21 § 2 (part), 2003).

16.19.020 DEFINITIONS.

The following words, phrases and terms as used in this chapter shall have the meanings ascribed to them in this chapter.

(a) "Basin plan" shall mean a water quality control plan for a specific watershed area or areas adopted by a regional board.

(b) "Beneficial uses" shall mean existing or potential uses of receiving waters as defined in a basin plan.

(c) "Best management practices" (BMPs) shall mean pollution control practices designed to reduce the pollutants contained in discharges.

(d) "Building drain" means that part of the lowest horizontal piping of a wastewater drainage system which receives the discharge from soil and waste pipes

inside the walls of the building and conveys it to the building sewer, beginning two feet outside the inner face of the building wall.

(e) "City" shall mean the City of Santa Cruz.

(f) "Clean Water Act" shall mean the Federal Water Pollution Control Act, which was enacted in 1972 to prohibit the discharge of pollutants to receiving waters of the United States and, later amended in 1987, to establish a framework for regulating municipal, industrial and construction storm water discharges under the NPDES Program.

(g) "Commercial activity" means any public or private activity not defined as an industrial activity in 40 CFR 122.26(b)(14), involved in the storage, transportation, distribution, exchange or sale of goods and/or commodities or providing professional and/or non-professional services.

(h) "Construction activity" means any clearing, grading, or excavation that results in soil disturbance. Construction activity also includes, but is not limited to, construction, repairs, dewatering, remodeling, building, and emergency construction activities required to immediately protect public health and safety.

(i) "Director" means the director of public works for the City of Santa Cruz or his/her authorized agent, representative or inspector.

(j) "Discharge" means any release, spill, leak, pump, flow, escape, dumping, or disposal of any liquid, semi-solid, or solid substance.

(k) "Hazardous substance" means any hazardous substance as defined in Section 6.50.040 of this code.

(l) "Illicit connection" means any human-made conveyance that is connected to the storm drain system and allows for an illicit discharge.

(m) "Illicit discharge" means any discharge to the storm drain system that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. Illicit discharge includes all non-storm water discharges except discharges pursuant to a NPDES permit or conditionally exempted by this chapter.

(n) "Illicit disposal" means any disposal, either intentional or unintentional, of material(s), substance(s), or waste(s) that has the potential to pollute runoff unless otherwise allowed by law.

(o) "Industrial Activity" means any public or private activity which is associated with any of the 11 categories of activities defined in 40 CFR 122.26(b)(14) and required to obtain a NPDES permit.

(p) "Industrial/commercial facility" means any public or private facility involved and/or used in the production, manufacture, storage, transportation, distribution, exchange or sale of goods and/or commodities, or any facility involved and/or used in providing professional and non-professional services. This category of facility includes, but is not limited to, any facility defined by a Standard Industrial Classification (SIC).

(q) "Maximum extent practicable" means a standard for implementation of storm water management programs to reduce pollutants in storm water. It is the maximum extent possible taking into account equitable consideration and competing facts, including, but not limited to: the seriousness of the problem, public health risk, environmental benefits, pollutant removal effectiveness, regulatory compliance, ability to implement, cost and technical feasibility.

(r) "NPDES" means the National Pollutant Discharge Elimination System and is implemented and enforced by a permit issued by the U.S. Environmental Protection Agency, State Water Resources Control Board, or the California Regional Water Quality Control Board pursuant to the Clean Water Act that authorizes discharges to waters of the United States and requires the reduction of pollutants in the discharge.

(s) "Non-storm water runoff" means any discharge to the storm drain system that is not composed entirely of storm water.

(t) "Nuisance" means a "public nuisance" as defined in this section.

(u) "Pollutant" means the same as defined in Section 502(6) of the Clean Water Act or as incorporated into the California Water Code, subsection 13373. Pollutants include, but are not limited to the following:

1. Materials (including but not limited to fuels, solvents, chemicals, detergents, plastic pellets, hazardous substances, radioactive wastes, fertilizers, pesticides, paints, soot, slag, ash, sludge);

2. Metals and non-metals both soluble and insoluble (including but not limited to cadmium, lead, zinc, copper, silver, nickel, chromium, chlorine, phosphorous, formaldehyde, glutaraldehyde and arsenic);

3. Petroleum hydrocarbons (including but not limited to fuels, oils, lubricants, surfactants, waste oils, solvents, coolants, and grease);

4. Eroded soils, sediment, saw cut slurry and particulate materials in amounts which may adversely affect the beneficial use of the receiving waters, flora, or fauna of the state;

5. Animal wastes (including but not limited to discharge from confinement facilities, kennels, pens, recreational facilities, and stables);

6. Substances having acidic or corrosive characteristics, unusual coloration or turbidity;

7. Any domestic or industrial wastewater;

8. Any hazardous substances.

The term "pollutant" shall not include uncontaminated storm water, potable water, groundwater or reclaimed water generated by a lawfully permitted water treatment facility.

(v) "Private storm water conveyance system" shall mean a storm water conveyance system that is not owned or maintained by the city including any instrumentality that drains or conveys storm water from a building or from/through one or more properties to the environment or the city's storm water system.

(x) "Public nuisance" means any discharge in violation of the provisions of this chapter, a wastewater discharge permit, or an order of the city council.

(y) "Receiving waters" means all surface water bodies.

(z) "Regional Board" means a California Regional Water Quality Control Board.

(aa) "Runoff" means any storm water or non-storm water discharges from a drainage area that reaches the storm drain system. The term "runoff" is interchangeable with the term "urban runoff."

(bb) "Standard Industrial Classification" or "SIC" means a classification pursuant to the current edition of the Standard Industrial Classification Manual issued by the Executive Office of the President of the United States, Office of Management and Budget.

(cc) "State Board" means the State Water Resources Control Board.

(dd) "Storm drain system" means collectively any street, gutter, conduit, natural or artificial drain, channel and watercourse, or other facility that is owned, operated, maintained, or controlled by the city and used for the purpose of collecting, storing, transporting, or disposing of runoff.

(ee) "Storm water" means any water that originates from atmospheric moisture (rainfall or snowmelt) and falls onto land, water, or other surfaces.

(ff) "Storm water pollution prevention plan" or "SWPPP" means a plan required by the State of California General Permit for Storm Water Discharges associated with either industrial or construction activities. The purpose of the plan is to help identify

the sources of pollution that affect the quality of storm water discharges from a site and to describe and ensure the implementation of practices to reduce pollutants in storm water discharges.

(gg) "Storm water runoff" means that part of precipitation (rainfall or snowmelt) which travels via flow across any surface to the storm drain system.

(hh) "Street washing" means the practice of washing of streets and/or sidewalks using water.

(ii) "Urban runoff" means any storm water and non-storm water runoff.

(jj) "U.S. EPA" means the United States Environmental Protection Agency.

(Ord. 2003-21 § 2 (part), 2003).

16.19.030 ILLICIT DISCHARGES PROHIBITED.

(a) No person shall cause the discharge of non-storm water runoff to enter the storm drain system unless the discharge is one of the following:

1. Authorized by a NPDES permit issued by the U.S. EPA, the State Board, or a Regional Board.
2. Caused by or resulting from one of the following:
   a. Fire fighting activities.
   b. Landscape irrigation.
   c. Water line breaks and releases from potable water systems.
   d. Foundation/footing drains.
   e. Individual residential car washing.
   f. Unpolluted groundwater.
   g. Hydrant flushing.
   h. Authorized by the city.

All exempt discharges, as listed above, must be in conformance with all other provisions of this code.

(Ord. 2003-21 § 2 (part), 2003).

16.19.040 INSTALLATION OR USE OF ILLICIT CONNECTIONS PROHIBITED.

No person shall install, maintain or use any connection to the storm drain system which is used to discharge to the storm drain system in violation of this code. All connections to the storm drain system that provide for a discharge from inside any building are prohibited.

(Ord. 2003-21 § 2 (part), 2003).

16.19.050 REMOVAL OF ILLICIT CONNECTION.

If any person fails to disconnect an illicit connection upon notification by the director, the director may direct that such connection be disconnected from the storm drain system. The city may pursue the recovery of costs for such disconnection.

(Ord. 2003-21 § 2 (part), 2003).

16.19.060 PRIVATE STORM WATER CONVEYANCE SYSTEMS.

The owner of a property where a private storm water conveyance system is located shall be responsible for the maintenance, repair, and proper operation of the private storm water conveyance system, regardless of whether the private storm water conveyance system is completely located on the private property or partially within the public right-of way. The city shall have no responsibility or obligation for the maintenance, repair, or proper operation of a private storm water conveyance system.

If the director determines that a private storm water conveyance system is not

operating properly and causes the improper discharge of storm water to the street, sidewalk or storm drain system, the director may declare this condition to constitute a public nuisance and proceed to abate that nuisance in accordance with Section 16.19.180.
(Ord. 2003-21 § 2 (part), 2003).

16.19.070 DISCHARGE OF SEWAGE PROHIBITED.

No person shall cause the discharge of sewage to the storm drain system. In addition, if the director determines that a building drain or building sewer is not operating properly and causes the discharge of sewage to the street, sidewalk, or storm drain system, the director may declare this condition to constitute a public nuisance and proceed to abate that nuisance in accordance with Section 16.19.180.
(Ord. 2003-21 § 2 (part), 2003).

16.19.080 DAMAGE TO THE STORM DRAIN SYSTEM.

It is unlawful for any person to maliciously, willfully or negligently break, damage, destroy, uncover, deface or tamper with any structure, appurtenance or equipment which is part of the municipal storm drain system.
(Ord. 2003-21 § 2 (part), 2003).

16.19.090 LITTERING – DISCHARGE OF POLLUTING OR DAMAGING SUBSTANCES PROHIBITED.

No person shall throw, deposit, place, leave, maintain, litter, keep, or permit to be thrown, deposited, placed, left, maintained, or kept, any pollutant, refuse, rubbish, food waste, garbage, or any other discarded or abandoned objects, in or upon any portion of the storm drain system or place of business, or upon any public or private plot of land in the city, except when placed in facilities protected from urban runoff such as containers, bags or recycling bins. Such prohibited activities shall include littering within the confines of receiving waters such as the San Lorenzo River, Branciforte Creek, Carbonera Creek, Neary Lagoon and Pogonip Creek.
(Ord. 2003-21 § 2 (part), 2003).

16.19.100 PROHIBITED DISCHARGES FROM INDUSTRIAL OR COMMERCIAL ACTIVITY

(a) The following list of discharges from industrial/commercial activities shall be considered prohibited unless permitted under a separate NPDES permit or as allowed by BMPs published or approved by the city public works department. This list is based on Section 16.19.030 but is not an exhaustive list of prohibited discharges to the storm drain system:

(1) Water from the cleaning of gas stations, vehicle service garages, or other types of vehicle service facilities;

(2) Water, cleansers, or solvents from the cleaning of vehicles, machinery or equipment, and other such commercial and industrial operations;

(3) Water from the washing or rinsing of vehicles containing soap, detergents, solvents, or other cleaners;

(4) Water from the washing or rinsing of vehicles, with or without soap, from auto body repair shops;

(5) Water from the cleaning or rinsing of vehicle engine, undercarriage, or auto parts cleaning;

(6) Vehicle fluids;

(7) Mat wash water from food service facilities;

(8) Food and kitchen cleaning water from food service facilities;

(9) Leakage from dumpsters or trash containers;

(10) Water from the cleaning or rinsing of garbage dumpster areas and areas where garbage is stored or contained;

(11) Water from pressure washing, steam cleaning, and hand scrubbing of sidewalks, gutters, plazas, alleyways, outdoor eating areas, steps, building exteriors, walls, driveways, and other outdoor surfaces;

(12) Wastewater or cleaning fluids from carpet cleaning;

(13) Swimming pool and spa water;

(14) Wash out from concrete trucks;

(15) Runoff from areas where hazardous substances, including diesel fuel, gasoline and motor oil are stored, except as allowed by Chapter 6.50 of this code;

(16) Super-chlorinated water normally associated with the disinfection of potable water systems.

(Ord. 2003-21 § 2 (part), 2003).

16.19.110 INDUSTRIAL/COMMERCIAL SOURCES REQUIRED TO OBTAIN AN NPDES PERMIT.

(a) Any industrial/commercial facility that is required to have a NPDES permit shall retain the following documents on-site and make them immediately available to the director:

(1) A copy of a permit or notice of intent to comply with a general permit to discharge storm water associated with industrial activity as submitted to the State Board or report of waste discharge as submitted to a Regional Board of jurisdiction.

(2) A waste discharge identification number issued by the State Board or copy of the NPDES permit issued by a Regional Board.

(3) A SWPPP monitoring program plan or group monitoring plan.

(4) Storm water quality data.

(5) Evidence of facility self-inspection as required by the NPDES permit.

(Ord. 2003-21 § 2 (part), 2003).

16.19.120 NOTIFICATION OF PROHIBITED DISCHARGE REQUIRED.

In the event or discovery of a discharge to the storm drain system that is prohibited by this code, the discharger or permittee shall immediately notify the director of the incident by telephone at the city public works department. The notification shall include the discharge location, type of materials discharged, estimated concentration and volume of the discharge, and corrective actions taken to contain or minimize the effects of the discharge.

Within 10 calendar days from the first discovery of the discharge, the discharger or permittee shall submit to the director a detailed written report describing the cause of the discharge, corrective action taken and measures to be taken to prevent future occurrences, and measures taken to remediate the effects of the discharge. Such notification shall not relieve the discharger or permittee of liability or fines incurred as a result of the prohibited discharge.

(Ord. 2003-21 § 2 (part), 2003).

16.19.130 MANDATORY BEST MANAGEMENT PRACTICES.

Any owner, occupant, or user of any property, or any person conducting activities within the city shall comply with any mandatory BMPs listed in the latest BMP manual published by the public works department and the following mandatory BMPs:

(a) If water is used to remove paint or graffiti for building exteriors, walls, steps,

signs, and other surfaces, the wastewater and paint particles may not be discharged to the street or storm drain system. If blasting or sanding is used to remove paint or graffiti, the paint particles, blasting material, sand, or dust may not be allowed to reach the storm drain system.

(b) Paintbrushes, paint spray guns, paint trays or containers, and paint cans may not be cleaned or rinsed into the street or storm drain system.

(c) Objects including, but not limited to, motor vehicles, motor vehicle parts, machinery, and equipment that contain grease, oil, or hazardous substances shall be placed in a confined area in order to contain leakage, spillage and discharges, or stored in such condition so that grease, oil or hazardous substances do not contact urban runoff.

(d) Areas susceptible to runoff shall have debris removed by sweeping or another equally effective measure on a regular basis.

(e) Waste not contained in receptacles shall be covered and located so as to prevent contact with urban runoff.

(Ord. 2003-21 § 2 (part), 2003).

16.19.140 BEST MANAGEMENT PRACTICES FOR CONSTRUCTION ACTIVITY.

Any construction project, including those undertaken under any permit or approval granted pursuant to Titles 15, 18, and 24 of this code, shall implement best management practices (BMPs) including the city's mandatory BMPs as detailed in the latest BMP manual published by the city's public works department. BMPs shall be maintained in full force and effect during the duration of the project.

(Ord. 2003-21 § 2 (part), 2003).

16.19.150 BEST MANAGEMENT PRACTICES FOR INDUSTRIAL/COMMERCIAL ACTIVITIES.

All facilities required to file a Notice of Intent with the State Board, shall abide by the state regulations outlined in the general permit and implement best management practices to the maximum extent practicable listed in the guidelines published in the California Storm Water Best Management Practices Handbook, Industrial/Commercial, by the Storm Water Quality Task Force. The city's mandatory BMPs, as detailed in the latest BMP manual published by the city's public works department, must also be implemented.

(Ord. 2003-21 § 2 (part), 2003).

16.19.160 BEST MANAGEMENT PRACTICES FOR BUSINESSES NOT COVERED BY STATE PERMIT.

All business activities shall implement mandatory BMPs as detailed in the latest BMP manual published by the city's public works department.

(Ord. 2003-21 § 2 (part), 2003).

16.19.170 RIGHT OF ENTRY FOR INSPECTION.

The city's representative may demand inspection of a facility whenever the director or any authorized representative of the city wishes to ascertain whether an industrial or commercial facility or a property owner is complying with the purposes and requirements of this chapter or has cause to suspect that a nuisance exists in any person's property.

(a) If a property owner or occupant shall refuse or delay entry to the city's representative, such refusal or delay shall constitute a misdemeanor:

(1) Persons or occupants of premises from where urban runoff is generated

or discharged shall allow the city's representative ready access at all reasonable times to all parts of the premises for the purposes of inspection or sampling and in the performance of any of their duties.

(2) The city shall have the right to set up on the property in question such equipment as is necessary to conduct sampling or metering of urban runoff flows. The owner shall not tamper with, alter or damage any equipment used by the city for the purposes of inspection or monitoring.

(3) Where the discharger has security measures in force that would require proper identification and clearance before entry into the premises, the discharger shall make necessary arrangements with the security guards so that, upon the presentation of suitable identification, city personnel will be permitted to enter without delay for the purpose of performing inspection activities.
(Ord. 2003-21 § 2 (part), 2003).

16.19.180 SUMMARY ABATEMENT OF NUISANCES.

Whenever the director of public works or any duly authorized representative of the city finds that a nuisance exists that is an actual and current menace to public health and safety, that person may summarily abate the same as set forth herein. All costs associated with abatement, including enforcement and inspection costs, will be charged to the responsible party who shall be liable to the city therefor.

(a) If any user discharges or threatens to discharge any pollutant to the city's storm drain system, and if such discharge presents or would present an imminent or substantial endangerment to the health or welfare of persons or to the environment, and if the director determines that immediate action is necessary to terminate or prevent such discharge, the director may issue an order that such discharge be terminated or prevented immediately. Such order shall be personally served upon any person in charge or apparently in charge of the premises of the user, and shall be effective as soon as it is so served.

(b) If, after service of the order, the discharge is not immediately terminated or prevented, the director may then take any steps that may be appropriate or necessary to terminate or prevent the discharge as quickly as possible, including severance or blockage of the user's facilities from the city's storm drain system, or any other steps that may be appropriate under the circumstances. The cost and expenses so incurred by the city shall be paid by the user upon presentation by the city of an invoice and demand for payment. If not paid within sixty days, said amounts shall become a lien on the property and shall be collected at the same time and in the same manner as local real property taxes. The city council may take any steps, including the holding of any hearings and the adoption of any resolutions, necessary to perfect such lien.

(c) The decision made by the director that costs shall be charged to the user or that there shall be a lien upon the property may be appealed to the city council in accordance with the provisions of Chapter 1.16 of the Santa Cruz Municipal Code.

(d) Any user may seek review of any action by or decision of the director to terminate, block, or sever the user's facilities from the city's storm drain system under this paragraph within forty-eight hours of the action or decision. The city manager of his/her designee shall hold an informal hearing to determine whether there was sufficient cause for the action taken. The director and user and any other interested person shall have an opportunity to present evidence and other information. The decision of the city manager shall be final.

(e) As an alternative to the nuisance abatement procedure set forth in subsection (a), the director of public works or the director's representative may elect to abate the

nuisance and recover costs in accordance with nuisance abatement and summary nuisance abatement procedures outlined in Title 4 of this code.
(Ord. 2003-21 § 2 (part), 2003).

16.19.190 ADMINISTRATIVE REMEDIES.

(a) Notice of Violation and Citation. Whenever the director or the director's representative finds that any person has violated or is violating any provision, limitation or requirement set forth in this chapter, he or she may serve upon such person a written notice stating the nature of the violation, provide a reasonable time not to exceed thirty days for the satisfactory correction thereof.

(1) The written notice of violation may assess civil penalties up to a maximum of two thousand five hundred dollars per day for each violation of this chapter.

(2) The written notice of violation may additionally include monetary assessments to reimburse the city for any costs incurred by the city related to any violation status inspection, surveillance, sampling, laboratory analysis, and administration.

(3) A notice of violation assessing civil penalties or imposing any other monetary assessments may be appealed to the city council in accordance with the provisions of Chapter 1.16 of this code. The city council decision shall be final.

(b) Show Cause Hearing.

(1) If the violation is not timely corrected in accordance with the notice of violation or the city council decision on appeal, the director may order the violator to show cause before the city manager why an order should not be made directing the termination of service and imposing additional penalties for the noncompliance. The notice of the hearing shall be served personally or by registered or certified mail (return receipt requested) at least ten days before the hearing. Service may be made on any agent or officer of a corporation.

(2) The city manager or his/her designee shall:

(A) Issue notices of hearings requesting the attendance and testimony of witnesses in the production of evidence relevant to any matter involved in such hearings.

(B) Conduct the hearing.

(C) Take evidence. Testimony must be under oath and recorded stenographically. The transcript, so recorded, will be made available to any member of the public upon payment of the usual charges therefore.

(D) Issue an order to the party responsible for the discharge directing that:

(i) Following a specified time period, the right to discharge may be discontinued unless adequate measures have been implemented to provide for a discharge that meets the requirements of this chapter; and

(ii) The violator pay a civil penalty for violating provisions of this chapter which may be up to two thousand five hundred dollars per day for each day of violation; and

(iii) Such further orders and directives as are necessary and appropriate.

(3) he decision of the city manager or city manager's designee shall be final.

(c) Emergency Termination of Discharge.

(1) If any person discharges or threatens to discharge any pollutant to the city storm drain system, and if such discharge presents or would present an imminent threat of substantial endangerment to the health or welfare of persons or to the environment, and if the director determines that immediate action is necessary to terminate or prevent such discharges, the director may issue an order that such

discharge be terminated or prevented immediately. Such order shall be personally served upon any person in charge or apparently in charge of the premises where the discharge originates and shall be effective as soon as it is so served.

(2) If, after service of the order, the discharge is not immediately terminated or prevented, then the director may take any steps that may be appropriate or necessary to terminate or prevent the discharge as quickly as possible, including severance or blockage of discharge and/or illicit connection from the city's storm water system, or any other steps that may be appropriate under the circumstances. The cost and expenses so incurred by the city shall be paid by the responsible party upon presentation by the city of an invoice and demand for payment. If not paid within sixty days, said amounts shall become a lien on the property and shall be collected at the same time and in the same manner as local real property taxes. The city council may take any steps, including the holding of any hearings and the adoption of any resolutions, necessary to perfect such a lien.

(3) Any action taken or decision made by the director under this subsection, including the determination that costs shall be charged to the responsible party or that there shall be a lien upon the property, may be appealed to the city council in accordance with the provisions of Chapter 1.16 of this code.

(4) Any discharger may seek review of any action by or decision of the director to terminate, block or sever the discharge from the city's storm water system under this paragraph within forty-eight hours of the action or decision. The city manager or his/her designee shall hold an informal hearing to determine whether there was sufficient cause for the action taken. The director and the discharger and any other interested person shall have an opportunity to present evidence and other information. The decision of the city manager may be appealed to the city council in accordance with the provisions of Chapter 1.16 of this code.

(d) As an alternative to the administrative enforcement procedures set forth in subsections (a) and (b), the director of public works or the director's representative may elect to administratively enforce the provisions of this chapter pursuant to the administrative enforcement procedures outlined in Title 4 of this code.
(Ord. 2003-21 § 2 (part), 2003).

16.19.195 ALTERNATIVE ADMINISTRATIVE ENFORCEMENT.

As an alternative to the administrative enforcement procedures and remedies delineated in Section 16.19.190, the director or director's representative may elect to administratively prosecute violations of this chapter in accordance with the procedures delineated in the City of Santa Cruz Environmental Compliance Program Enforcement Response Plan (the "enforcement response plan") promulgated and adopted by the city pursuant to statutory requirements set forth in the federal Water Pollution Control Act as amended by the Clean Water Act of 1977 and the California Water Code. A copy of said enforcement response plan will be maintained for public inspection in the main office of the city's public works department.
(Ord. 2004-20 § 1, 2004).

16.19.200 JUDICIAL REMEDIES – CIVIL/CRIMINAL.

(a) Civil Remedies. If any person violates (1) the provisions of this chapter, (2) any order of the city council or city manager issued pursuant to this chapter, or (3) any wastewater discharge permit condition imposed pursuant to this chapter, the city attorney may commence an action for appropriate legal and/or equitable relief, in any appropriate court. In such an action, the city Attorney may seek all appropriate judicial relief including, but not limited to, injunctive relief and damages in the

minimum of two thousand five hundred dollars per violation per day.

(b) Criminal Liability. Any person who violates any provision of this chapter, any order of the city council or city manager issued pursuant to this chapter, or any permit condition imposed pursuant to this chapter shall be guilty of an infraction. Any person who discharges any thing or substance into the city's storm drain system in violation of the provisions of this chapter or an order of the city council or city manager, and who thereafter, after having been notified by the director of such violation, continues to allow such discharge, shall be guilty of a misdemeanor. The city may seek criminal penalties and incarceration in the maximum amount prescribed by the California Penal Code for infractions and misdemeanors.

(c) Continuing Violations. Each day on which a violation occurs or continues to occur shall be a separate and distinct offense.

(d) Nothing set forth in this chapter shall be construed as prohibiting the city from seeking civil or criminal judicial relief in connection with the enforcement of this chapter pursuant to Title 4 of this code or pursuant to any other state or federal statutory or common law right to such relief.

(e) Remedies Cumulative. The remedies provided herein shall be cumulative and not exclusive.

(Ord. 2003-21 § 2 (part), 2003).

16.19.205 APPEALS.

(a) Except as set forth in subsection (h), any decision, interpretation, order or other action taken by public works department staff in connection with the enforcement of this chapter and the administration of the city's NPDES permit may be appealed to the director.

(b) The appeal must be filed within ten days of the subject decision, interpretation, order or other action of public works department staff. If the final day for filing an appeal occurs on a weekend day or holiday, the filing date shall be extended to the next following work day.

(c) The written appeal shall specify the decision, interpretation, order or other action which is being appealed, the public works department staff member who made the decision, interpretation, order or other action, and the legal and/or technical basis upon which the appellant contends that the decision, interpretation, order or other action was made in error.

(d) Within five working days of receiving the appeal, the director shall notify the appellant of the date upon which the appeal will be heard by the director. The appeal shall be heard by the director no later than fourteen working days after the director's receipt of the written appeal.

(e) In lieu of an appeal hearing, the appellant may notify the director that the appellant's appeal is being submitted on the basis of the appeal letter and any documentation submitted by the appellant in support of the appeal accompanying the appeal letter.

(f) Within five working days of the conclusion of the appeal hearing, or the submittal of the appeal letter if the appeal is submitted on the basis of the appeal letter and accompanying documentation, the director shall issue a decision upholding or denying the appeal and, as necessary, issuing a decision, interpretation, order or other action superseding that upon which the appeal was based.

(g) The decision of the director shall be final.

(h) Notwithstanding the provisions of this section, appeals of decisions, interpretations, orders or other actions taken by the city pursuant to Sections 16.19.180 and 16.19.190 shall continue to be prosecuted under, and governed by,

the provisions of those particular code sections addressing appeals.
(Ord. 2006-21 § 1, 2006).

16.19.210 CONFLICTS WITH OTHER CODE SECTIONS.

The provisions of this chapter shall control over any inconsistent or conflicting provision of this code.
(Ord. 2003-21 § 2 (part), 2003).

16.19.220 SEVERABILITY.

If any portion of this chapter or the application thereof to any person or circumstances is held invalid, the remainder of this chapter, and the application of such provisions to other persons or circumstances, shall not be effected thereby.
(Ord. 2003-21 § 2 (part), 2003).

This page of the Santa Cruz Municipal Code is current through Ordinance 2008-10, passed June 10, 2008.
Disclaimer: The City Clerk's Office has the official version of the Santa Cruz Municipal Code. Users should contact the City Clerk's Office for ordinances passed subsequent to the ordinance cited above.

City Website: http://www.ci.santa-cruz.ca.us/

Code Publishing Company
Voice: (206) 527-6831
Fax: (206) 527-8411
Email: CPC@codepublishing.com

Chapter 18.45
EXCAVATION AND GRADING REGULATIONS

Sections:

18.45.010 General provisions.
18.45.015 Construction site management.
18.45.020 Definitions.
18.45.030 General grading permit requirements.
18.45.035 Specific application requirements.
18.45.040 Winter (rainy season) grading restrictions.
18.45.050 Emergency work.
18.45.060 Grading fees.
18.45.070 Bonds.
18.45.080 Cuts and fills.
18.45.090 Setbacks.
18.45.100 Drainage and terracing.
18.45.110 Erosion control.
18.45.115 Dust control.
18.45.120 Grading inspection.
18.45.130 Completion of work.
18.45.140 Transfer of authority.
18.45.150 Violations.

18.45.010 GENERAL PROVISIONS.

(1) Purpose. The purpose of this chapter is to detail the technical regulations of grading and excavation and in conjunction with Chapter 24.14. (Environmental Resource Management) of this code, to safeguard life, health, safety and the public welfare; to protect fish and wildlife, and riparian corridors and habitats, domestic and industrial water supplies, private and public property, and to otherwise protect the environment from the effects of flooding, accelerated erosion and/or siltation by establishing minimum requirements for clearing, excavation, cuts, fills, earth moving, grading operations (including cumulative grading), water runoff and sediment control.

(2) Scope. This chapter sets forth guidelines, rules, regulations and minimum standards to control excavation, grading, erosion, and earthwork construction, including cut-and-fill embankments; establishes administrative, procedures for issuance of permits; and provides for approval of plans and inspections during construction and subsequent maintenance.

(3) Relationship to Zoning Ordinance. The technical regulations set forth in this chapter shall be used in conjunction with Sections 24.14.050 (Drainage Control), 24.14.060 (Erosion Hazard Areas) and 24.14.070 (Seismic Hazards) of the Santa Cruz Municipal Code.

(Ord. 94-48 § 1 (part), 1994).

18.45.015 CONSTRUCTION SITE MANAGEMENT.

(1) The city's mandatory Best Management Practices (BMP's), as published by the city's public works department and/or planning department, shall be maintained in full force and effect for the duration of any permitted grading project.

(2) Erosion and sediment control BMP's shall be in place and implemented,

as appropriate under Section 18.45.110, prior to commencing grading or vegetation removal. Such measures shall be maintained on all disturbed areas in order to prevent a net increase of sediment load in a site's storm water discharge relative to pre-construction levels.

(3) During the rainy season, erosion control measures must also be located at all appropriate locations along the site's perimeter and at all inlets to the storm drain system. Effective methods to protect storm drain inlets include sand bag barriers, heavy rubber mats to cover and seal the inlet, and approved sediment traps or basins.

(4) All on-site erosion control measures and structural devices, both temporary and permanent, shall be properly installed and maintained. If damaged during construction, they shall be promptly repaired or reinstalled.

(5) Unless granted a specific exemption grading operations shall be conducted in phases in order to reduce the amount of disturbed areas and exposed soil at any one time. Unless specifically approved on the project's Erosion Control Plan, clearing, excavation, and grading shall not be conducted during rainy weather. All rainy season grading must be in accordance with Section 18.45.040 of this chapter. An exception may be granted for minor clearing or grading that does not present a hazard and is approved by the building official.

(6) Clearing limits, easements, setbacks, sensitive or critical areas, trees, drainage courses, and buffer zones must be delineated to prevent excessive or unnecessary disturbances and exposure prior to construction.

(7) Use one or more of the following to reduce the erosion potential from bare, exposed, or disturbed soil: filter fabric, erosion control blankets, geo-textiles, mulching, seeding, vegetation planting, or other appropriate cover material. If vegetative cover is used, a uniform vegetative cover with a minimum of seventy percent coverage must be established.

(8) Access roads and entrances must be constructed to minimize the tracking of soil, mud, or hazardous materials into the roadway or into storm drains. Shaker roads and/or wash down facilities for construction vehicles must be installed on any site greater than one acre and on a case-by-case basis for smaller sites. Shaker road design and maintenance must be approved by either city public works or inspection services staff prior to installation. Mud, dirt, gravel, sand and other materials tracked or dropped on city streets must be cleaned up to prevent washing into storm drains. Heavy equipment that is not rubber wheeled or smooth-tracked, must be off-loaded on the construction site, not in the street.

(9) Cleared vegetation may not be disposed of in a creek, gully or waterway.

(10) Sediment or pollutant laden water may not be discharged into the storm drain system. De-watering operations must be pre-approved by the city public works department (and county environmental health department if containing hazardous contaminants).

(11) Leaks, spills and drips of hazardous materials and chemicals must be contained and cleaned up as quickly as possible to minimize run off or soak in. This includes fuel and motor oil, hydraulic fluid, and glycol based anti-freeze from vehicles. Encountered abandoned fuel/oil tanks (and their contents) must be removed in a manner consistent with methodology approved by both the city of Santa Cruz and county environmental health department.

(12) Paint and paint thinner may never be discharged into the storm drain system. Paint brushes, paint spray guns, paint trays or containers, and paint cans may not be cleaned or rinsed into the street or storm drain system.

(13) Concrete, cement, and masonry products may never be discharged into the storm drain system. Concrete, cement, and masonry mixing containers and tools may not be washed or rinsed into the street or storm drain system. If a concrete transit mixer is used, a suitable washout box, excavation or self-washing mixer able to contain the waste material shall be provided on-site.

(14) Store materials, including stockpiles and excavation spoils, under cover and protected from wind, rain, and runoff. Stockpiles may never be stored on a street or alley. Paints, chemicals, solvents, and other hazardous materials must be stored inside or within a shed with double containment.

(15) Discarded building materials and demolition wastes must never be left in a street, gully, or waterway. Dispose of all wastes properly including leftover paint and chemicals. When the job is completed, collect and properly dispose of all unused or waste materials. Never leave or abandon materials or excavation spoils onsite. Usable leftover materials should be recycled or donated as appropriate and appropriately separated from unusable/non-recyclable garbage and debris. Ensure that nothing has “drifted” towards the street, gutter, or catch basin.
(Ord. 2004-13 § 2, 2004).

18.45.020 DEFINITIONS.

As used in this chapter:

(1) “Accelerated erosion” means rapid erosion caused by artificially induced alteration of the vegetation, land surface topography or runoff patterns. Evidence of accelerated erosion is indicated by exposed soils, active gullies, rills, sediment deposits, or slope failures caused by such artificial activities.

(2) “Access and building area envelope” means an area delineated on the site plan within which all grading, land clearing, and other disturbances for construction of access and/or building will be confined.

(3) “Bedrock” means in-place solid rock.

(4) “Bench” means a relatively level step excavated into earth material designed to receive fill and prevent its movement downhill, or to level a portion or portions of a sloping surface for the purpose of a construction pad or other usable level area.

(5) “Borrow” means and is synonymous with “import”: earth fill material acquired from an off-site location for use in grading on a site.

(6) “Clearing” means and is synonymous with “scarify”: the removal of vegetation and debris down to bare soil by any method.

(7) “Civil engineer” means a professional engineer registered in the state of California to practice in the field of civil works.

(8) “Compaction” means the densification of earth and solids or fill by mechanical means.

(9) “Cumulative grading” means total combined grading, including both excavation and fill, accomplished over a ten-year period.

(10) “Drainage course” means a well-defined, natural or artificial channel which conveys stormwater either year round or intermittently.

(11) “Earth material” means any rock, natural soil or fill, or any combination thereof.

(12) “Engineering geologist” means a geologist experienced and knowledgeable in engineering geology and registered as such in the state of California.

(13) “Engineering geology” means the application of geologic knowledge and principles in the investigation and evaluation of naturally occurring rock and soil

for use in the design of civil works.

(14) “Erosion” means the wearing away of the ground surface by the actions of water, wind, ice, gravity, or a combination thereof.

(15) “Erosion control specialist” means and shall be synonymous with soils engineer, geotechnical engineer, engineering geologist, civil engineer, or other such individual, licensed by the state of California as an engineer or architect and who holds him/herself as capable and qualified in the field of grading, drainage and erosion control.

(16) “Erosion hazard” means the susceptibility of a site to erosion, based on soils, conditions and steepness of a slope, rock type, vegetation, and other site factors.

(17) “Excavation” means the mechanical removal of earth material.

(18) “Fill” means the deposit of earth materials by artificial means.

(19) Geotechnical Engineer. See “Soils Engineer.”

(20) “Grade” means the vertical location of a point or elevation on a site. (Refer to “Slope” for the angle of the ground surface expressed as a ratio or percentage in relation to level ground.)

(a) “Existing grade” means the grade prior to grading.

(b) “Rough grade” means the stage where the approximate elevation(s) of the ground surface match the approved plans.

(c) “Finished grade” means the final grade of the site which conforms to the approved plans.

(21) “Grading” means any excavation, filling, leveling or combination thereof which qualifies either as regular or engineering grading under the terms of this chapter.

(22) “Key” means a designed compacted fill placed in a trench excavated in earth material beneath the toe of a proposed fill slope.

(23) “Land disturbance” means any clearing, excavation, grading or manipulation of the natural terrain which exposes soils to erosion hazards or alters the natural condition of the site. Land disturbances, in relation to previously existing conditions, may be classified as:

Nominal: bearing little or no evidence of alteration;

Minimal: bearing only minor changes in appearance or drainage patterns;

Moderate: bearing definite differences in topography and/or drainage patterns, potentially affecting habitats which would require mitigation;

Substantial: bearing major changes in topography, drainage patterns and/or habitats where extensive mitigation would be required to maintain the area ecology.

The degree of severity of such land disturbance and/or exposure shall be determined by the building official in conjunction with the provisions of Chapter 24.14 (Environmental Resource Management) of the zoning code.

(24) “Lateral support” means and refers to the support that the land or soil receives from other land or soil around it. Support is lateral when the supported and supporting lands are divided by a vertical plane. At common law, an owner of land has the right to lateral support of his/her land from the adjoining parcels.

(25) “Professional inspection” means inspections shall be performed by the civil engineer, soils engineer or engineering geologist or other erosion control specialist. Such inspections include those performed by persons supervised by such engineers or geologists and shall be sufficient to form an opinion relating to the conduct of the work. (See Special Inspectors, Section 18.45.120(5) of this chapter.)

(26) “Runoff” means the movement of surface water over ground surface.

(27) “Sediment” means eroded earth material that is carried by water, wind,

gravity or ice and deposited into channels, lakes, rivers and other areas.

(28) “Setback” means the distance from the toe or top of a slope, structure or property line where grading is to occur.

(29) “Site” means any lot or parcel of land or contiguous combination thereof, under the same ownership, where grading is performed or permitted.

(30) “Slope” means an inclined ground surface, the inclination of which is expressed as a ratio of horizontal distance to vertical distance. Slope is termed positive or negative depending on whether it rises or falls respectively from the point of observation. Percentage of slope is defined in one of three ways:

a. % slope = 100(y/x) where: x = the horizontal axis y = the vertical axis

b. % slope = 100(TAN theta)

c. % slope = difference in elevation in inches over a horizontal distance of 100 inches. (i.e.: a 30" rise in 100" = an average of 30% slope.)

(31) “Soil” means naturally occurring superficial deposits overlying bedrock.

(32) “Soils engineer (geotechnical engineer)” means an engineer, licensed by the state of California, who is experienced and knowledgeable in the practice of soils engineering.

(33) “Soil engineering” means the application of the principles of soil mechanics in the investigation, evaluation and design of civil works involving the use of earth materials and the inspection and testing of the construction thereof.

(34) “Stream (riparian corridor)” means any watercourse as designated by a solid line or a dash and three dots symbol shown on the largest scale of United States Geological Survey map most recently published, or shown in the general plan or as designated as part of the environmental review process.

(a) “Perennial stream” means a stream or watercourse which runs generally year round.

(b) “Intermittent stream” means a stream or watercourse which runs generally only during the wet season and tends to dry up between seasons.

(35) “Ten-year storm” means a storm with such intensity and duration that its magnitude would only be exceeded, on the average, once every ten years. A one-hundred-year storm compares similarly, in that its intensity and duration is on a magnitude which would only be exceeded, on the average, once every one hundred years.

(36) “Terrace” means a relatively level step constructed in the face of a graded slope surface for erosion control, drainage and maintenance purposes.

(37) “Topsoil” means the first eight to sixteen inches of loose, friable, organic and fertile earth materials on top of a soil profile, usually referred to as the “A horizons.”

(38) “Waterbreak” means a ditch, dike, dip, or combination thereof, constructed to effectively divert and/or slow water as an aid to erosion control. (Ord. 94-48 § 1 (part), 1994).

18.45.030 GENERAL GRADING PERMIT REQUIREMENTS.

No person shall do any excavation, filling, clearing and/or erosion control work without first having obtained a permit from the city, except as exempted in subsection (1)(a) through (i), below. Cumulative grading as defined in Section 18.45.020 shall be taken into account when considering which type of grading permit (regular or engineering) to issue or if an exemption is appropriate. A separate grading permit shall be obtained for each site and may cover both excavations and fills.

(1) Exemptions. A grading permit is not required for the following:

(a) An excavation below finished grade from basements and footings of a building, retaining wall or other structure authorized by a valid building permit. This shall not exempt any fill containing material from such excavation or exempt any excavation having an unsupported height greater than five feet after completion of such structure.

This shall also not exempt any person from the requirements under Section 832 of the Civil Code requiring lateral and subjacent support to which each coterminous owner is entitled.

(b) Building pads and driveways for which a valid building: permit has been issued. However, while a separate grading permit is generally not required for driveways, the design standards as set forth in this title shall be adhered to:

Driveway design standards:

(i) Driveways shall be designed incorporating existing contours to the maximum extent feasible.

(ii) Driveways shall enter public/private streets in such a manner as to maintain adequate line of sight. In all cases, the public works director or his/her designee shall make final ruling on driveways entering public ways; the building official or his/her designee shall make final ruling on driveways entering private ways.

(iii) Driveways may have a maximum grade of 25% of grade, except for the first ten feet from any right-of-way and any parking pad or entrance to a garage, which shall not exceed 10%. The maximum transition between differing grades for any portion of a driveway shall not exceed 15% over a ten-foot section. A pad not exceeding 5% slope may be established at the entrance to any garage or carport for a distance of ten feet. Approaches shall be designed as per public works standards when entering public ways. (Accompanying illustration is on file with Ord. 94-48 in the office of the city clerk.)

(c) Individual cemetery graves.

(d) Refuse disposal sites controlled by the city and excavations for individual sewage disposal systems made pursuant to the health agency permits.

(e) Excavations for wells, tunnels or utilities when regulated by other authorities.

(f) Exploratory excavations performed under the direction of a soils engineer or engineering geologist. Test bores shall be protected to prevent small children or animals from falling in, and no excavation shall be left unattended unless adequately shored to prevent failure or relieved to a maximum slope of 1´ horizontal to 1 vertical. All such sites shall be returned to their original condition within forty-five days unless extended under agreement with the building official. Test or monitoring wells established on occupied sites shall be protected by appropriate fencing or enclosure as determined by the building official.

(g) An excavation which:

(i) Is less than two feet in depth, or

(ii) Does not create a cut slope greater than five feet in height measured vertically from toe to top of slope and steeper than 1-1/2 horizontal to 1 vertical, or

(iii) Comprises less than fifty cubic yards on any one lot.

(h) A fill less than one foot in depth and placed on natural terrain with a slope flatter than 5 horizontal to 1 vertical, or less than three feet in depth, not intended to support structures, which does not exceed fifty cubic yards on any one lot, and does not obstruct any drainage course.

(i) When approved by the building official, minor grading in an isolated, self-contained area, if there is no danger to private or public property, except riparian corridors or other protected natural areas where permits are required for all grading operations.

Exemption from the permit requirements of this chapter shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this chapter or any other laws or ordinances of this jurisdiction.

No exemption shall be allowed within ten feet of any slope exceeding 30%, including clearing (scarifying), which would tend to increase erosion potential and reduce average slope.

(2) Application. The provisions of Section 302 of the Uniform Building Code as adopted by this title are applicable to grading. The application shall also state the estimated quantities of material to be moved or placed, including import, export and on-site reuse of materials.

(3) Prohibited Grading Areas. No grading permit shall be issued for a project located in a protected natural resource area, including species-protected area, archaeologically sensitive area, riparian corridor, or on slopes greater than 30% unless an appropriate zoning permit for the special area is first obtained. No grading permit shall be issued within ten feet of any slope exceeding 30%, unless a variance granting such slope modification is first obtained.

(Ord. 94-48 § 1 (part), 1994).

18.45.035 SPECIFIC APPLICATION REQUIREMENTS.

Grading in excess of five thousand cubic yards shall be performed in accordance with the approved plan of an erosion control specialist and shall be designated as “engineered grading.” Grading involving less than five thousand cubic yards shall be designated as “regular grading,” unless the permittee chooses to have the grading performed as engineered grading, or the building official determines that special conditions or unusual hazards exist, in which case grading shall conform to the requirements for engineered grading.

(1) Engineered Grading Requirements. Application for a grading permit shall be accompanied by a minimum of three sets of plans, two sets of specifications, and supporting data consisting of an engineering soils report and engineering geology report. Log borings shall be as specified by the engineer. The building official may require additional borings in questionable soils. The plans and specifications shall be prepared and signed by an individual licensed by the state of California to prepare such plans or specifications.

Specifications shall contain information covering construction and material requirements. Log borings may be cross-referenced to scale plans as to actual site location; however, a detail of each boring taken shall be contained in the report.

Plans shall be drawn to scale in either blueprint or photocopy form and shall be suitable for the purpose intended, sufficient in clarity to indicate the nature and extent of the work proposed, and show in detail that they will conform to the provisions of this chapter and all relevant laws, ordinances, rules and regulations. The first sheet of each set of plans shall give the location of the work, the name and address of the owner, and the person by whom they were prepared, as indicated by their affixed registration seal and original (wet) signature.

The plans shall include the following information:

(a) General vicinity of the proposed work site;

(b) Property limits, delineated by length and bearing, accurate contours of existing ground, and details of terrain and area drainage. Properties within one thousand feet of a riparian corridor and draining thereto shall indicate the presence of such corridor in relation to the property;

(c) Limiting dimensions, elevations or finish contours to be achieved by the grading, and proposed drainage channels and related construction. (Such details

shall be clearly distinguishable from existing contour indications. Contours shall be normally detailed in two-foot increments, except for very large areas, which may use five-foot major contours. (Only the five-foot lines need be labeled if intermediate contour lines are also used.) Smaller details, such as building pads, roadways and driveways, shall be contoured as necessary using one-foot increments. In all cases, topography shall be indicated at least twenty feet from any proposed structure, even if such contours appear on an adjoining parcel.

Elevations shall be detailed in actual feet above sea level. A basis of bearings and elevations shall accompany each plan set;

(d) Detailed plans of all surface and subsurface drainage devices, walls, cribbing, dams and other protective devices to be constructed with, or as a part of, the proposed work, together with a map showing the drainage area and the estimated runoff of the area served by any drains;

(e) Location of any buildings or structures on the property where the work is to be performed, and the location of any buildings or structures on land of adjacent owners which are within fifteen feet of the property or which may be affected by the proposed grading operations;

(f) Recommendations included in the soils engineering report and/or the engineering geology report shall be incorporated in the grading plans or specifications. When approved by the building official, specific recommendations contained in the soils engineering report and the engineering geology report, which are applicable to grading, may be included by reference;

(g) The dates of the soils engineering and engineering geology reports, together with the names, addresses and phone numbers of the firms or individuals who prepared the reports.

(2) Soils Engineering and Engineering Geology Report. The soils engineering report required by subsection (1) of this section shall include data regarding the nature, distribution and strength of existing soils, conclusions and recommendations for grading procedures, and design criteria for corrective measures, including buttress fills, when necessary, and an opinion on the adequacy for the intended use of sites to be developed by the proposed grading as affected by soils engineering factors, including the stability of slopes.

The engineering geology report required by subsection (1)(g) of this section shall include an adequate description of the geology of the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and an opinion on the adequacy for the intended use of sites to be developed by the proposed grading as affected by geologic factors.

(3) Regular Grading Requirements. Each application for a grading permit shall be accompanied by a plan in sufficient clarity to indicate the nature and extent of the work. The plans shall give the location of the work, the name of the owner and the name of the person who prepared the plan. The plan shall include the following information:

(a) General vicinity of the proposed site;

(b) Limiting dimensions and depth of cut and fill;

(c) Location of any buildings or structures where work is to be performed and the location of any buildings or structures within fifteen feet of the proposed grading.

The provisions of Section 303 of the Uniform Building Code are applicable to grading permits. The building official may require that grading operations and project designs be modified if delays occur which incur weather-generated problems not considered at the time the permit was issued.

The building official may require professional inspection and testing by an

approved special inspector. When the building official has reason to believe that geologic factors may be involved, the grading will be required to conform to engineered grading standards.
(Ord. 94-48 § 1 (part), 1994).

18.45.040 WINTER (RAINY SEASON) GRADING RESTRICTIONS.

The rainy season shall be generally considered to occur between October 15th and April 1st of each year in the city of Santa Cruz.

(1) Grading shall not occur during the rainy season on or within ten feet of any slope greater than 30%.

(2) Grading on slopes between 10% and 30% may be approved throughout the rainy season provided an erosion control system approved by an erosion-control specialist is in place and the project does not present a hazard. No such grading may take place if precluded by the conditions of any discretionary zoning permit.

(3) Grading may be allowed on slopes of less than 10% during winter months, provided positive erosion-control methods are placed to prevent off-site movement of materials.

(4) All grading or other land disturbance, regardless of the time of year or weather conditions shall employ “best management practices (BMP’s)” as prescribed in this chapter.
(Ord. 2005-11 § 1, 2005: Ord. 94-48 § 1 (part), 1994).

18.45.050 EMERGENCY WORK.

Emergency work necessary to preserve life or property under imminent threat of excessive erosion, slope failure or flooding, performed under this section, may occur as required, provided the person rendering such service reports all pertinent facts to the building official as soon as possible and no later than fifteen days after commencement of the work. Persons performing such emergency work shall thereafter obtain a permit pursuant to Section 18.45.030. Any such work as may be deemed reasonably necessary to correct any erosion or conditions with a potential to cause erosion as a result of such emergency work shall be performed as expeditiously as possible. An imminent threat shall not be construed to include ongoing erosion problems and is intended to refer to a sudden and unexpected alteration to slope stability or ponding due to natural occurrences such as heavy rain, earthquake, or other unusual circumstances.
(Ord. 94-48 § 1 (part), 1994).

18.45.060 GRADING FEES.

Grading permit fees shall be adjusted from time to time as necessary by the building official to cover the costs of implementation of this chapter. As a reference, Tables 70A and 70B in the Appendix of the Uniform Building Code shall be used as a basic guideline unless amended.
(Ord. 94-48 § 1 (part), 1994).

18.45.070 BONDS.

The building official may require bonds in sufficient amounts as may be deemed necessary to assure that the work, if not completed in accordance with the approved plans and specifications, will be corrected to eliminate hazardous conditions. Bonds shall be cash bonds or a letter of credit (interest payable to the person or firm required to supply such bond) from a regionally local banking institution, payable to the city of Santa Cruz upon a finding of default by the city council. Default shall be

determined in one of two ways:

(1) The project was not completed within the time specified in the conditions of a design permit approved for the project; or

(2) The project constitutes an erosion hazard and the specified time has elapsed in a notice from the building official to complete said work without satisfactory performance on the property.

(Ord. 94-48 § 1 (part), 1994).

18.45.080 CUTS AND FILLS.

(1) General. Unless otherwise recommended in the approved soils engineering or engineering geology report, cuts and fills shall conform to the provisions of this section.

Minor cuts and fills not intended to support structures or other surcharges may be approved in the absence of an approved soils report or have additional provisions waived by the building official on a case-by-case basis.

(2) Cut Slopes. The slope of cut surfaces shall be no steeper than is safe for the intended use and shall be no steeper than 2 horizontal to 1 vertical, unless the permittee furnishes a soils engineer or an engineering geology report, or both, stating the site has been investigated and giving an opinion that a cut at a steeper slope will be stable and not create a hazard to public or private property.

(3) Retained Cuts. As provided in Section 301(b)5 of the Uniform Building Code, retaining walls not over four feet in height measured from the bottom of the footing to the top of the wall are exempt from permit requirements. If such a wall is subjected to a surcharge, such as a structure or vehicle load, sufficient engineering shall be provided to demonstrate the adequacy of such a retaining wall to perform the function as designed and either an inclusive grading permit or building permit must be obtained depending upon the amount and depth of soil moved.

Cuts, regardless of height, which tend to alter the natural drainage of property and accelerate erosion, concentrate runoff, or otherwise create a hazardous condition, shall be reviewed by an engineer and permits obtained as provided for in this chapter.

(4) Fill Slopes. Fill slopes shall not be constructed on natural slopes steeper than 2 to 1. The ground surface shall be prepared to receive fill by removing vegetation, noncomplying fill, topsoil and other unsuitable materials, scarifying to provide a bond with the new fill and, where slopes are steeper than 2 to 1 and the height is greater than five feet, by benching into sound bedrock or other competent material as determined by the soils engineer. The bench under the toe of a fill on a slope steeper than 5 to 1 shall be at least ten feet wide. The area beyond the toe of the fill shall be sloped for sheet overflow or a paved drain shall be provided. Such drains shall be constructed with energy dissipaters and shall discharge into an approved area. When fill is to be placed over a cut, the bench under the toe of fill shall be at least ten feet wide, but the cut shall be made before placing the fill and acceptance by the soils engineer or engineering geologist or both as a suitable foundation for fill.

(5) Fill Material. Detrimental amounts of organic material shall not be permitted in fills. Except as permitted by the building official, no rock, broken concrete, asphalt, or similar irreducible materials with a maximum dimension greater than twelve inches shall be buried or placed in fills. In areas where leaching of oil may be detrimental to the quality of the water table, permission shall first be obtained from the water department before placing any asphaltic materials. No soils containing hazardous or toxic material of any kind may be used as fill within the city limits.

Exception. The building official may permit placement of larger rock when the soils engineer devises a method of placement and continuously inspects its placement and approves the fill stability. The following shall also apply:

(a) Prior to issuance of a grading permit, provisions shall be made to separate organic materials, such as tree stumps and brush, as well as large rocks. An area for stockpiling shall be delineated on the grading plans as well as provisions for their disposition.

(b) Rock greater than twelve inches in size may be placed a minimum of ten feet under the surface of the finish grade. Soils shall be compacted in short lifts around such materials to assure adequate filling around the large rock and preventing voids.

(6) Compaction. All fills shall be compacted to a minimum relative density of 90%. The top eighteen inches may be excepted when no load is expected, and the slope does not exceed 2 horizontal to 1 vertical.

(7) Slope. The maximum slope of fill surfaces shall not exceed 2 horizontal to 1 vertical or steeper than is safe, whatever occurs first. Batter walls using only large aggregate may be excepted with proper engineering.

(Ord. 94-48 § 1 (part), 1994).

18.45.090 SETBACKS.

(1) General. Cut-and-fill slopes shall be set back from site boundaries in accordance with this section. Setback dimensions shall be horizontal distances measured perpendicular to the site boundary. Setback dimensions shall be as shown in the accompanying figure (on file in the office of the city clerk).

(2) Top of Cut Slope. The top of cut slopes shall not be made nearer to a site boundary line than one-fifth of the vertical height of the cut, with a minimum of two feet and a maximum of ten feet. The setback may need to be increased for any required interceptor drains.

(3) Toe of Fill Slope. The toe of a fill slope shall be made not nearer to the site boundary line than one-half the height of the slope, with a minimum of two feet and a maximum of twenty feet. Where a fill slope is to be located near the site boundary and the adjacent off-site property is developed, special precautions shall be incorporated in the work as the building official deems necessary to protect the adjoining property from damage as a result of such grading. These precautions may include, but are not limited to:

(a) Additional setbacks;

(b) Provision for retaining or slough walls;

(c) Mechanical or chemical treatment of the fill slope to minimize erosion;

(d) Provisions for the control of both surface water and subsurface water, such as springs, which may exert undesirable pressures on the fill slope.

(4) Modification of Slope Location. The building official may approve alternative setbacks. The building official may require an investigation and recommendation by a qualified engineer or engineering geologist to demonstrate that the intent of this section has been satisfied.

(Ord. 94-48 § 1 (part), 1994).

18.45.100 DRAINAGE AND TERRACING.

Drainage plans shall be prepared as provided in Section 24.14.050 of this code.

(1) Terraces. Terraces at least six feet in width shall be established at not more than thirty-foot intervals on all cut or fill slopes to control surface drainage and debris, except that where only one terrace is required, it shall be at mid-height. For cut or fill slopes greater than sixty feet and up to one hundred and twenty feet in

vertical height, one terrace at approximately mid-height shall be twelve feet in width. Terrace widths and spacing for cut-and-fill slopes greater than one hundred and twenty feet in height shall be designated by the civil engineer and approved by the building official. Suitable access shall be provided to permit proper cleaning and maintenance.

Swales or ditches on terraces shall have a minimum gradient of 5% and must be paved with reinforced concrete not less than three inches in thickness or an approved equal paving. They shall have a minimum depth at the deepest point of one foot and a minimum paved area of five feet.

A single run of swale or ditch shall not collect runoff from a tributary area exceeding thirteen thousand five hundred square feet (projected horizontally) without discharging into a down drain.

(2) Subsurface Drainage. Cut-and-fill slopes shall be provided with subsurface drainage as necessary for stability.

(3) Disposal of Drainage. All drainage facilities shall be designed to carry waters to the nearest practicable drainage way approved by the appropriate jurisdiction as a safe place to deposit such waters. Erosion of ground in the area of discharge shall be prevented by installation of nonerosive down drains and other devices.

Building pads shall have a drainage gradient of 2% minimum toward approved drainage facilities unless waived by the building official.

Exception. The gradient from the building pad may be 1% if all of the following conditions exist throughout the permit boundary area:

(a) No proposed fill area greater than ten feet in maximum depth;

(b) No proposed finish cut or fill slope faces have a vertical height in excess of ten feet;

(c) No existing slope faces, which have a slope face steeper than 10 horizontal to 1 vertical have a vertical height in excess of ten feet.

(4) Interceptor Drains. Paved interceptor drains shall be installed along the top of all cut slopes where the tributary drainage area above the slopes toward the cut has a drainage path greater than forty feet measured horizontally. Interceptor drains shall be paved with a minimum of three inches of concrete or gunite and reinforced. They shall have a minimum depth of twelve inches and a minimum paved width of thirty inches, measured horizontally across the drain. The slope of drain shall be approved by the building official.

(5) Oil Separators. Interceptor drains receiving runoff from paved areas likely to be fouled with motor oil or grease shall be equipped with approved-type oil separators prior to discharge into any waterway.

(Ord. 94-48 § 1 (part), 1994).

18.45.110 EROSION CONTROL.

In addition to the erosion control requirements outlined in Section 24.14.060 (Erosion hazard areas), the following shall apply to all cut-and-fill slopes:

The faces of cut-and-fill slopes shall be prepared and maintained to control against erosion. This control may consist of effective planting, use of armor rock, terracing, water breaks, check dams, cribbing, rip rap, or combinations thereof. The protection for the slopes shall be installed as soon as practicable and prior to calling for final inspection. During the approach of the rainy season, the contractor performing the work shall be prepared to install temporary measures as required to protect exposed areas until permanent measures can be taken. Where cut slopes are not subject to erosion, due to the erosion resistant character of the materials, such protection may

be omitted with the permission of the building official.
(Ord. 94-48 § 1 (part), 1994).

18.45.115 DUST CONTROL.

Contractors performing grading operations within the city where dry conditions or dry admixtures are encountered shall adequately and effectively control dust to prevent spread off-site or onto existing structures on-site. Prior to commencement of grading operations, the contractor shall furnish details of proposed dust control measures to the building official for approval. Failure to control dust shall result in suspension of grading operations until adequate measures are in place to allow continuance.
(Ord. 94-48 § 1 (part), 1994).

18.45.120 GRADING INSPECTION.

(1) General. Grading operations for which a permit is required shall be subject to inspection by the building official. Professional inspection of grading operations shall be provided by the civil, soils and/or geological engineer(s) of record and retained to provide such services when requested by the building official as provided for in subsections (2) through (4) below.

(2) Civil Engineer. Upon request of the building official, the civil engineer shall provide professional inspection within such engineer's area of technical specialty, which shall consist of observation and review as to the establishment of line, grade and surface drainage of the development area. If revised plans are required during the course of the work, they shall be prepared under the supervision of the civil engineer.

(3) Soils Engineer. Upon request of the building official, the soils engineer shall provide professional inspection within such engineer's area of technical specialty, which shall include observation during grading and testing for required compaction. The soils engineer shall provide sufficient observation during the preparation of the natural ground, and placement and compaction of the fill, to verify that such work is being performed in accordance with the conditions of the approved plan and the appropriate requirements of this chapter. Revised recommendations relating to conditions differing from the approved soils engineering and engineering geology reports shall be submitted to the permittee, the building official and the civil engineer.

(4) Engineering Geologist. Upon request of the building official, the engineering geologist shall provide professional inspection within such engineer's area of technical specialty, which shall include professional inspection of the bedrock excavation to determine if conditions encountered are in conformance with the approved report. Revised recommendations relating to conditions differing from the approved engineering geology report shall be submitted to the soils engineer.

(5) Special Inspectors. Special inspectors may be employed by the owner upon approval by the building official or may be required by the building official. A special inspector may not be employed by the contractor or engineer of record. Each special inspector shall be qualified in the particular field of expertise and shall meet eligibility criteria as established by the building official.

Only qualified laboratory facilities shall be employed for soil sampling and testing outside of the design engineer. Each laboratory and/or test facility shall meet the requirements established under the guidelines as approved jointly by the East Bay, Peninsula and Monterey Bay Chapters of the International Conference of building officials. Each qualified laboratory or special inspection agency shall be required to

sign a contract of responsibilities with the City, unless waived by the building official.

(6) Permittee. The permittee shall be responsible for the work to be performed in accordance with the approved plans and specifications and in conformance with the provisions of this chapter, and the permittee shall engage consultants, if required by the building official, to provide professional inspections on a timely basis. The permittee shall act as a coordinator between the consultants, the contractor and the building official. In the event of changed conditions, the permittee shall be responsible for informing the building official of such changes, and shall provide revised plans for the approval.

(7) Building Official. The building official shall inspect the project at various stages of work requiring approval to determine that adequate control is being exercised by the professional consultants.

(8) Notification of Noncompliance. If, in the course of fulfilling their respective duties under this chapter, the civil, soils or geological engineer finds that the work is not being done in conformance with this chapter or the approved grading plans, the discrepancies shall be reported immediately in writing to both the permittee and the building official.

(9) Archeological Discovery. If in the course of any grading operation, any artifacts, human remains, or substantial fossils are discovered, all grading operations shall cease, and the discovery site suitably marked and protected from further damage. A report of such findings shall be as outlined in Section 24.12.430 of the Zoning Ordinance; specifically, if human remains are discovered, the sheriff-coroner and planning director shall be notified. If no human remains are discovered, but artifacts or significant fossils are discovered, the planning director shall be notified. (Ord. 94-48 § 1 (part), 1994).

18.45.130 COMPLETION OF WORK.

(1) Final Reports. Upon completion of the rough grading work and at the final completion of the work, the following reports and drawings and supplements thereto are required for engineered grading, or when professional inspection is performed for regular grading, as required:

(a) An as-built grading plan prepared by the civil engineer retained to provide such services in accordance with Section 18.45.120 showing original ground surface elevations, as-graded ground surface elevations, lot drainage patterns and the locations and elevations of surface drainage facilities and the outlets of subsurface drains. As-constructed locations, elevations and details of subsurface drains shall be shown as reported by the soils engineer.

Civil engineers shall state that, to the best of their knowledge, the work within their area of responsibility was done in accordance with the final approved grading plan.

(b) A report prepared by the soils engineer retained to provide such services in accordance with Section 18.45.120, including locations and elevations of field density tests, summaries of field and laboratory tests, other substantiating data and comments on any changes made during grading and their effect on the recommendations made in the approved soils engineering investigative report. Soils engineers shall submit a statement that, to the best of their knowledge, the work within their areas of responsibility is in accordance with the approved soils engineering report and applicable provisions of this chapter.

(c) A report prepared by the engineering geologist retained to provide such services in accordance with Section 18.45.120, including a final description of the geology of the site and any new information disclosed during grading, and the effect

of same on recommendations incorporated in the approved grading plan. Engineering geologists shall submit a statement that, to the best of their knowledge, the work within their area of responsibility is in accordance with the approved engineering geologist's report and applicable provisions of this chapter.

(d) The grading contractor shall submit in writing, upon their business letterhead, a statement of conformance to said as-built plan and specifications.

(2) Notification of Completion. The permittee shall notify the building official when the grading operation is ready for final inspection. Final approval shall not be given until all work, including installation of all drainage facilities and their protective devices, and all erosion-control measures have been completed in accordance with the final approved grading plan, all debris and waste has been properly removed from the site, and the required reports have been submitted.
(Ord. 94-48 § 1 (part), 1994).

18.45.140 TRANSFER OF AUTHORITY.

From time to time, the building official may transfer authority to enforce the provisions of this chapter to other qualified city inspection staff such as public works or water department engineering staff for such projects as the development of subdivision infrastructure involving streets, roads and sidewalks or other infrastructure work to be dedicated in the public way, and development of city-constructed and/or -maintained facilities.

The building official may also transfer authority to the civil, soils or geologic engineer of record to make specified inspections for suitability and placement of materials, verification of grades, etc. A special inspector, as described in Section 18.45.120(5) of this chapter shall be employed when required by the building official.

Should the engineer of record change during grading, work shall be stopped until the replacement has agreed in writing to accept responsibility for the work within the area of their technical competence to the satisfaction of the building official.

It shall be the responsibility of the permittee to notify the building official in writing of such change prior to recommencement of grading operations.
(Ord. 94-48 § 1 (part), 1994).

18.45.150 VIOLATIONS.

(1) Work Stoppage. Whenever the building official determines that the work does not comply with the terms of the permit or of this chapter, he or she may order the immediate cessation of all work thereunder until such corrective measures have been completed.

(2) Right of Entry. Whenever the building official has reasonable and/or probable cause to believe that there exists accelerated erosion, and/or a violation of this chapter, he/she may enter such site at all reasonable times to inspect the same, to perform any duty imposed upon him/her by this chapter; providing that, if such premises are occupied, he/she shall first present proper credentials and request entry, and if the premises are found to be unoccupied, he/she shall first make a reasonable effort to locate the owner or other person having charge or control of said premises and request entry. If such entry is refused, the building official shall have recourse to every remedy provided by law to secure entry.

(3) Notification of Violation. Any person found to be in violation of the provisions of this chapter shall be required to correct the problem upon written notification from the building official. Such written notification may require that certain conditions be adhered to in the correction of the problem. These may include, but are not limited to, the following:

(a) Use of specific erosion-control techniques;

(b) Submittal of plans and specifications to be approved by the community development department, and any other department affected by such work, prior to the commencement of corrective work;

(c) Completion of corrective work within a specified time period.

(4) Abatement of Violation. If the responsible party fails to act in response to written notification of the building official, the violation may be declared a public nuisance and be abated as required to restore the site to its original condition. Where there is an emergency condition of erosion or sediment damaging a waterway, marsh, or other body of water, or significant habitat or archeological site, the building official may have the necessary corrective work done and bill the property owner or lien the property for repayment.

(5) Penalties.

(a) Any person, whether as principal, agent, employee or otherwise, violating, or causing or permitting the violation of any of the provisions of this chapter shall be deemed guilty as follows:

(i) Violations of the requirement for regular grading permits shall be infractions, punishable as set forth in the Santa Cruz County Uniform Bail Schedule;

(ii) Violations of the requirement for engineering grading permits shall be misdemeanors, punishable as set forth in the Santa Cruz County Uniform Bail Schedule;

(iii) Any person, firm or corporation who shall place upon a slope greater than thirty percent or within one hundred fifty feet of the high-water mark of a riparian corridor any fill, debris, spoils or other deleterious material exceeding fifty cubic yards, without an approved grading permit shall be guilty of a misdemeanor, punishable as set forth in the Santa Cruz County Uniform Bail Schedule.

(b) Each separate day or portion thereof during which any violation occurs or continues without a good-faith effort by the responsible person to correct the violation shall be deemed to constitute a separate offense.

(c) In addition to the above-noted penalties, the building official is hereby authorized to attach an investigation fee, equal to twice the grading permit fee, to any such permit issued for corrective action.

(6) Enforcement. The building official and/or his/her designated subordinate (s) is hereby authorized and directed to enforce all the provisions of this chapter. For such purpose, the building official shall have the powers of a law enforcement officer.

(7) Appeals. Any person who believes the chief building official has erred in the technical application of this chapter may appeal such action to the board of building appeals as provided in Chapter 18.41 of the Municipal Code.

(Ord. 95-25 § 8, 1995: Ord. 94-48 § 1 (part), 1994).

This page of the Santa Cruz Municipal Code is current through Ordinance 2008-10, passed June 10, 2008.

Disclaimer: The City Clerk's Office has the official version of the Santa Cruz Municipal Code. Users should contact the City Clerk's Office for ordinances passed subsequent to the ordinance cited above.

City Website: http://www.ci.santa-cruz.ca.us/

Code Publishing Company
Voice: (206) 527-6831
Fax: (206) 527-8411
Email: CPC@codepublishing.com

Chapter 24.02
INTRODUCTION

Sections:

24.02.010 Short title and citation.
24.02.020 Purpose of the zoning ordinance.
24.02.030 Contents of the zoning ordinance.
24.02.040 Principles and standards of the zoning ordinance.
24.02.050 Interpretation.
24.02.060 General Plan consistency.

24.02.010 SHORT TITLE AND CITATION.

These regulations shall be known and may be cited as the “Zoning Ordinance of the city of Santa Cruz” or the “Zoning Ordinance.”
(Ord. 85-05 § 1 (part), 1985).

24.02.020 PURPOSE OF THE ZONING ORDINANCE.

The purpose of this title is to protect and promote the public health, safety, morals, peace, prosperity, and the general community welfare; to encourage orderly, compatible and beneficial uses of land in a manner that will be of benefit to the general community as well as to neighborhoods and individuals; to enhance the aesthetic quality of the natural and built environment of the community which, in addition to being a general concern to the citizenry, contribute to the recreational, resort- and visitor-oriented sectors of the local economy; to secure freedom of choice and initiative to all persons in the use of privately owned land, insofar as that use is not harmful to the public health, safety, or general community welfare; to prevent unnecessary regulation or arbitrary restrictions in the exercise of private initiative and property use; to minimize conflicts between private individuals or groups, or other conflicts which might result from incompatible or inappropriate adjacent land uses; and to establish simple and readily available procedures through which private individuals or groups, the planning department, the planning commission, or the city council may initiate zoning changes as evolving community needs dictate. Further, the purpose of these regulations is to establish land use regulations and a zoning plan for the city of Santa Cruz deemed necessary to encourage the most socially desirable use of the land; to maintain and enhance the desirable character of neighborhoods; to provide open space for light and air, and to prevent and fight fires; to prevent residential congestion; to promote orderly community development; to lessen traffic congestion; to facilitate adequate provisions for community utilities such as transportation, schools, parks, sewer, water and storm drain facilities; to prevent pollution of air, water, and other natural resources; and to otherwise promote health, safety, and the general community welfare all in accordance with the Santa Cruz General Plan.
(Ord. 85-05 § 1 (part), 1985).

24.02.030 CONTENTS OF THE ZONING ORDINANCE.

The Zoning Ordinance of the city of Santa Cruz consists of a zoning map designating certain zoning districts, and a set of regulations controlling the uses of land, the density of population, the uses and the locations, the height and the bulk of

structures, the open spaces about structures, the function and the appearance of certain uses and structures, the areas and the dimensions of sites; and requirements for off-street parking and off-street loading facilities within such districts.
(Ord. 85-05 § 1 (part), 1985).

24.02.040 PRINCIPLES AND STANDARDS OF THE ZONING ORDINANCE.

The Zoning Ordinance of the city of Santa Cruz has been prepared in accordance with the following principles and standards:

1. The ordinance is based on development policies contained in the Santa Cruz General Plan as to the general pattern of future land uses, population densities, and other planning principles. It is based on the General Plan Land Use Map, insofar as zoning districts established herein generally correspond to the land use designations of said map.
2. The ordinance recognizes the need of all uses to be protected from other uses which are unrelated or incompatible.
3. The ordinance recognizes the importance of order and beauty in the overall character and appearance of Santa Cruz and to the public welfare and the general economy. These values are sought to be achieved through the review of siting, function, landscaping, and general appearance of selected uses, structures and buildings. Such provisions are intended to provide the minimum amount of regulation necessary to encourage orderliness and compatibility of structures and appearance and to encourage opportunity for variety and innovation.
4. Lot area, yards, off-street parking, and other standards in the ordinance are based on accepted contemporary planning practices. Variance from the strict application of standards is available when extreme individual hardship would otherwise occur. Other modification procedures exist where unique site or land use characteristics suggest that the purpose of this ordinance is furthered by such modifications.
5. Review of individual projects is necessary for implementation of community-wide planning policy. This ordinance provides for specialized procedures for the review and approval of:
   (a) Integrated, large-scale projects;
   (b) Multi-phased projects;
   (c) Mixed-use developments;
   (d) Neighborhood commercial uses.
6. Uses which may adversely affect adjoining uses or areas, unless designed or arranged in a particular way or situated only in certain locations, are allowed only as “conditional uses” subject to the authority of appropriate hearing officers or bodies.
7. The ordinance recognizes the need to minimize adverse impacts of development on natural and built environments through prescribed environmental review procedures.
8. The need for the coordination of existing and proposed land uses with the provision of public review is recognized herein.
9. The need for specialized housing opportunities, including provisions for the creation of low-income and moderate-income housing, is recognized herein.
10. The ordinance recognizes the need for the development of systems of transportation offering alternatives to automobile travel.

(Ord. 95-31 § 1, 1995: Ord. 85-05 § 1 (part), 1985).

24.02.050 INTERPRETATION.

In their interpretation and application, the provisions of this title shall be held to be the minimum requirements. Where this title imposes a greater restriction than is imposed or required by other rules, regulations or ordinances, the provisions of this title shall control. Where provisions of this title are in conflict, the more restrictive provisions shall apply.

1. Authority. Authority to interpret the provisions of this title shall rest with the planning director. Appeals of such decisions shall be made to the planning commission.

(Ord. 88-28 § 1, 1988: Ord. 85-05 § 1 (part), 1985).

24.02.060 GENERAL PLAN CONSISTENCY.

1. Consistency Requirement. The zoning regulations established by this title shall be consistent with the General Plan. “Consistent with,” as used in this section, means that the allowable uses authorized by this title are compatible with the objectives, policies, general land uses and programs specified in the General Plan and the Local Coastal Program Land Use Plan.

2. Discretionary Uses. Land uses which are permitted by discretionary approval shall be deemed to be consistent with the General Plan, provided the approving body makes a finding of consistency before approving the use.

3. Maintaining Consistency. Whenever an amendment to the General Plan is adopted, then, within a reasonable period of time after the amendment’s final adoption, an amendment to the Zoning Ordinance shall be considered, where necessary, to maintain consistency. Any amendment to the Zoning Ordinance enacted after December 14, 1995, the effective date of the ordinance codified in this section, must be consistent with the General Plan or the General Plan must be amended prior to or concurrently with the Zoning Ordinance change.

(Ord. 95-31 § 2, 1995).

This page of the Santa Cruz Municipal Code is current through Ordinance 2008-10, passed June 10, 2008.
Disclaimer: The City Clerk's Office has the official version of the Santa Cruz Municipal Code. Users should contact the City Clerk's Office for ordinances passed subsequent to the ordinance cited above.

City Website: http://www.ci.santa-cruz.ca.us/

Code Publishing Company
Voice: (206) 527-6831
Fax: (206) 527-8411
Email: CPC@codepublishing.com

Title 24
ZONING

Detailed Tables of Contents, Listing Individiual Sections, Can Be Found at the Beginning of Each Chapter.

Chapters: Page

24.02 INTRODUCTION

24.04 ADMINISTRATION

24.06 ZONING MAP AND TEXT AMENDMENTS

Part 1: General Procedures
Part 2: Historic District Designation
Part 3: Annexation of Territory
Part 4: Specific Plan Preparation

24.08 LAND USE PERMITS AND FINDINGS

Part 1: Use Permits
Part 2: Variances
Part 3: Coastal Permit
Part 4: Reserved*
Part 5: Design Permit
Part 6: Sign Permit
Part 7: Conditional Fence Permit
Part 8: Planned Development Permit
Part 9: Slope Regulations Modifications
Part 10: Historic Alteration Permit
Part 11: Historic Demolition Permit
Part 12: Repealed
Part 13: Repealed
Part 14: Residential Demolition/conversion Authorization Permits
Part 15: Relocation Permit
Part 16: Mobilehomes: Certificate Of Compatibility
Part 17: Mobilehome Park Conversions
Part 18: Mobilehomes, Small Coaches and Recreational Vehicles
Part 19: Repealed
Part 20: Reconstruction Permit
Part 21: Watercourse Development Permit
Part 22: Watercourse Variance
Part 25: Development Agreements

24.10 LAND USE DISTRICTS

Part 1: Establishment and Designation of Districts
Part 2: Application of Regulations to Districts Generally
Part 3: R-S Residential Suburban District
Part 4: R-1 Single-Family Residence District

Part 5: R-L Multiple Residence – Low-Density District
Part 6: R-M Multiple Residence – Medium-Density District
Part 6A: R-H Multiple Residence – High-Density District
Part 7: R-T Tourist Residential District
Part 7A: R-T(A) Subdistrict A – Medium-Density Residential
Part 7B: R-T(B) Subdistrict B – Motel Residential
Part 7B.1: R-T(B)/PER – Motel Residential Performance Overlay
Part 7C: R-T(C) Subdistrict C – Beach Commercial
Part 7C.1: R-T(C)/PER: Subdistrict C – Beach Commercial/Performance Overlay Zone
Part 7D: R-T(D) Subdistrict D – Beach Residential
Part 7E: R-T(E) Subdistrict E – Beach Medium/High Density Residential
Part 8: C-C Community Commercial District
Part 9: Repealed
Part 10: C-T Thoroughfare Commercial
Part 11: C-N Neighborhood Commercial District
Part 12: C-B Beach Commercial District
Part 13: P-A Professional And Administrative Office District
Part 14: SC-H Small Craft Harbor District
Part 14A: C-D/R – Coastal Dependent/Related District
Part 15: Reserved
Part 16: I-G General Industrial District
Part 16A: I-G/Per: General Industrial District/Performance Overlay Zone
Part 16B: IG/Per-2: General Industrial District/Performance District
Part 17: Repealed
Part 18: Repealed
Part 18A: P-K Parks District
Part 18B: P-F – Public Facilities District
Part 19: E-A Exclusive Agricultural District
Part 20: OF-R Ocean Front (Recreational) District
Part 21: F-P Floodplain District
Part 22: H-O Historic Overlay District
Part 23: GB-O Greenbelt Overlay District
Part 24: Central Business District (CBD)
Part 24(A): CBD Subdistrict E – Lower Pacific Avenue

Part 25: SP-O Shoreline Protection Overlay District
Part 26: CZ-O Coastal Zone Overlay District
Part 27: Mixed Use Overlay District
Part 28: FP-O Floodplain Overlay District
Part 29: HD-O High-density Overlay District
Part 30: Reserved
Part 31: CON – Neighborhood Conservation Overlay District
Part 42: West Cliff Drive Overlay District
Part 43: Mission Street Urban Design Overlay District

24.12 COMMUNITY DESIGN
Part 2: General Site Design Standards
Part 3: Off-Street Parking and Loading Facilities*
Part 4: Advertising Devices, Signs and Billboards
Part 5: Historic Preservation
Part 6: Mobilehomes
Part 7: Animals
Part 8: Underground Utilities
Part 9: Bed-and-Breakfast Inns
Part 10: Service Station Regulations
Part 11: Single-Room Occupancy Housing*
Part 12: Alcoholic Beverage Sales
Part 13: Vehicle Repair In Residential Districts
Part 14: Medical Marijuana Provider Association Dispensaries
Part 15: Wireless Telecommunications Facilities
Part 16: Small Ownership Unit Housing

24.14 ENVIRONMENTAL RESOURCE MANAGEMENT
Part 1: Conservation Regulations
Part 2: Performance Standards
Part 3: Environmental Review Regulations
Part 4: Floodplain Management

24.15 GREEN BUILDING REGULATIONS*

24.16 AFFORDABLE HOUSING PROVISIONS
Part 1: Inclusionary Housing Requirements
Part 2: Accessory Dwelling Units
Part 3: Density Bonus Provisions for Residential Units
Part 4: Fee Waivers for Affordable Units

24.18 NONCONFORMING USES AND STRUCTURES*

24.20 ZONING MAP

24.22 DEFINITIONS

This page of the Santa Cruz Municipal Code is current through Ordinance 2008-10, passed June 10, 2008.

Disclaimer: The City Clerk's Office has the official version of the Santa Cruz Municipal Code. Users should contact the City Clerk's Office for ordinances passed subsequent to the ordinance cited above.

City Website: http://www.ci.santa-cruz.ca.us/

Code Publishing Company
Voice: (206) 527-6831
Fax: (206) 527-8411
Email: CPC@codepublishing.com

Title 4
GENERAL MUNICIPAL CODE ENFORCEMENT

Chapters:

- 4.01 Definitions
- 4.02 Code Enforcement Authority and Powers
- 4.03 Notice
- 4.04 Judicial Remedies
- 4.06 Administrative Remedies
- 4.08 Mediation and Facilitation
- 4.10 Issuance and Recordation of Notices of Violation
- 4.12 Administrative Civil Penalties
- 4.14 Administrative Citations
- 4.16 Summary Abatement
- 4.18 Administrative Abatement
- 4.20 Administrative Enforcement Appeals
- 4.22 Administrative Enforcement Hearing Procedures
- 4.24 Recovery of Civil Penalties and Abatement Costs
- 4.25 Attorneys' Fees and Costs
- 4.26 Reinspection Fees
- 4.28 Code Enforcement Civil Penalties Fund
- 4.30 Private Nuisance Abatement

This page of the Santa Cruz Municipal Code is current through Ordinance 2008-10, passed June 10, 2008.
Disclaimer: The City Clerk's Office has the official version of the Santa Cruz Municipal Code. Users should contact the City Clerk's Office for ordinances passed subsequent to the ordinance cited above.

City Website: http://www.ci.santa-cruz.ca.us/

Code Publishing Company
Voice: (206) 527-6831
Fax: (206) 527-8411
Email: CPC@codepublishing.com

CITY OF SANTA CRUZ

STORM WATER PROGRAM

The City of Santa Cruz has initiated a storm water program aimed at reducing the amount of pollutants going to local storm drains from both businesses and residents. In fact, in April 1998, the City passed a Storm Water Ordinance that makes it illegal to cause polluting substances to enter a storm drain.

We have been called or directed to this address because of the following discharge or threatened discharge to the street, gutter, catch basin, or creek:

- ❑ discharge of vehicle fluids
- ❑ discharge of paint or thinners
- ❑ discharge of construction materials
- ❑ discharge of debris, litter, yard waste
- ❑ other:

_____

_____

_____

Please help us stop this discharge and prevent its reoccurrence. Also, please do the following:

_____

_____

_____

Future violations of the Municipal Code may result in enforcement actions including monetary penalties.

If you have any questions, please call a City Environmental Compliance Inspector at 420-6050.

Streets, Gutters, Catch Basins and Creeks

Streets, gutters, catch basins, and creeks are part of the storm drain system that carries rainwater to local creeks, the San Lorenzo River, and Monterey Bay. Storm drains do not flow to the local treatment plant, which treats wastewater from your sinks, toilets, and other indoor drains. Therefore, whether you live right next to the ocean or not, any pollutants discharged from your home to the street, gutter, or creek will eventually reach the bay and ocean without receiving any type of treatment at all!

Storm Water Pollution: How it Happens

Storm water pollution is caused by a variety of activities. For example, when people work on their cars or remodel their houses, vehicle fluids, paint, remodeling debris and cement may reach the street and nearby catch basins if precautions are not taken.

Remember, just because polluted runoff doesn't immediately reach the storm drain and the fluid even evaporates, the problem is not gone! The pollutants still remain on the pavement and will be washed into the nearest storm drain the next time it rains.

Further Information

For additional information on how to prevent pollution from your home, please contact a City Industrial Waste Inspector at (831) 420-6050.

Help keep protect our creeks, river, bay and coast!

Printed on recycled paper

Recognized by the Public Works Department

CITY OF
SANTA CRUZ

CLEAN OCEAN BUSINESS

2007

Protecting our Water and Wildlife

BEST MANAGEMENT PRACTICES (BMPs) FOR MUNICIPAL OPERATIONS

STREET SWEEPING AND CLEANING

Sweeping Frequency and Timing

- Operate two street sweepers, each 40 hours per week.
- The City's sweeping schedule is influenced by factors such as traffic volume, land use, field observations of sediment and trash accumulation, customer requests for service, etc. In general, the sweeping frequencies are:
    - Sweep street curbs and gutters in the downtown and "main" beach areas twice per week
    - Sweep streets in residential areas as needed, most are swept twice a month.
    - Sweep streets in commercial areas once a week.
- Sweep specific residential streets, in addition to scheduled cleanings, if requested by residents.
- Clean streets using sweepers equipped with a dust sprinkler. Streets are never "wet" cleaned or flushed.
- Deposit debris collected by sweepers at the City Landfill. No "dewatering" of the collected debris should be required.
- When additional labor is available, removes weeds from the street curbs prior to the rainy season in order to increase the street sweepers' effectiveness.

Equipment

- Clean street sweepers at the City Corporation Yard wash rack (which drains to a pretreatment system).

STORM DRAIN SYSTEM INSPECTION AND CLEANING

- Inspect all downtown and Beach Flats storm water catch basins and inlets annually. The City's Team Clean Program conducts the appropriate remedial actions such as cleaning or repairs.
- Clean and inspect storm water pipelines as needed.
- Inspection of Branciforte Storm Water Conveyance Channel annually and trash removal as needed.
- Clean all pump stations along the San Lorenzo River annually.

- Remove leaves, weeds and debris from gutters and open channels by hand, where necessary, prior to the rainy season.
- Dewater wet wastes, removed from storm drain cleanings, in a designated area at the Wastewater Treatment Facility prior to disposal at the Landfill.
- Dispose of dry wastes removed from storm drain cleaning at the Landfill.
- Analyze sediment, removed from an inlet cleaning if it is suspected of being contaminated with a hazardous material, prior to disposal. Sediment or materials determined to be hazardous waste will be disposed of accordingly.
- Maintain and clean CDS unit at Soquel Avenue and Capitola Road.

SIDEWALKS, PLAZAS, STRUCTURES, AND PARKING LOT CLEANING

Litter Control and Cleaning

- Maintain existing "No Littering" signs and post additional signs as needed.
- Provide litter and recycling receptacles in areas of high pedestrian use, including the San Lorenzo River levee and Pacific Avenue Shopping Mall.
- Empty litter and recycling receptacles in parks and downtown daily to prevent spillage and leakage. Other areas are done as needed.
- Hand sweep sidewalks on Pacific Avenue three times per week.
- Implement the "Leaf Program" for the collection of leaves during the fall season in the "downtown" area. Currently, this involves daily sweeping.
- Clean sidewalks downtown either by 1) sweeping; or 2) sweeping and then washing using a regular garden hose and no soap; or 3) using pressure washing, steam cleaning, or hand scrubbing provided that all the wastewater is collected and disposed of in the sanitary sewer. Some portions are done twice per week.
- Prior to hosing down sidewalks using a regular garden hose and water only, a screen is installed in the nearest downstream storm drain. The screen is typically a ½ inch metal mesh, which acts as a protective filter for particles such as cigarette butts and small debris. After the sidewalks are hosed down, the screens are removed and cleaned after each use.
- Require all contractors to abide by the above cleaning methods.
- Hand sweeping and cleaning of sidewalks on the side streets off of Pacific Avenue are conducted as needed.
- Hand sweeping and cleaning of the improved alleys in the downtown area are conducted as staffing permits, typically at least once per month.
- Sweep public parking lots in the downtown area twice per week with a vacuum sweeper. Lots may be swept more often depending upon need and staff or sweeper availability.

When there is a special event, a specific area may be swept the day before and the day after the event.

MEDIANS, PARKS, MUNICIPAL GOLF COURSE, AND OTHER LANDSCAPED AREAS

Erosion Control

- Maintain vegetative cover on medians and embankments to prevent soil erosion. Apply mulch or leave clippings to serve as additional cover.
- Do not use disking as a means of vegetation management.
- Provide energy dissipaters (e.g., riprap) below culvert outfalls.

Vegetation Management and Irrigation

- When conducting vegetation pruning or removal, do not discard clipped or pruned vegetation in the gutter, on a paved shoulder, or near a storm drain inlet.
- When conducting mechanical or manual weed control, avoid loosening the soil that might cause erosion into a stream or storm drain.
- Inspect irrigation systems periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering, and repair leaks in the irrigation system as soon as they are observed.
- When bailing out muddy water, do not discharge or dump it in the storm drain. Instead, pour the water over landscaped areas.
- Plant native species, wherever possible, to reduce the need for water and herbicides.

Pesticide Use (Diazinon, Chlorpyrifos, and other Similar Products)

- All pesticide use conforms to the City's Integrated Pest Management Policy.
- The City's Integrated Pest Management Policy allows the use of pesticides under the following guidelines although exceptions may be granted under specific conditions:
    - Use non-pesticide alternatives whenever possible.
    - Use pesticides only if there is an actual pest problem (not on a regular preventative schedule).
    - Use the least toxic pesticide for the job.
    - Do not use Toxicity Category I or Category II pesticides.
    - Follow federal, state, and local laws governing the use, storage, and disposal of pesticides.

- In addition, the City also implements the following guidelines when using pesticides:

- Use the minimum amount of pesticide(s) needed for the job.
- Do not mix or prepare pesticides for application near storm drains.
- Do not use pesticides if rain is expected.
- Check inventory and use up pesticides in stock prior to purchasing more. Rinse containers and use the rinse water as product. Dispose of unused pesticide as hazardous waste.

Herbicide Use (Roundup, Rodeo, and other Similar Products)

- All herbicide use will conform to the City's Integrated Pest Management Policy.
- Use the least toxic herbicide for the job if alternatives are available.
- Do not use herbicides if rain is expected.
- Use the minimum amount of herbicide(s) needed for the job.
- Reduce the need for herbicides by planting native species, wherever possible.
- Follow federal, state, and local laws governing herbicide use, storage, and disposal.

Fertilizers

- Minimize use of chemical fertilizers. Use only as needed. Chemical fertilizers are applied annually, in the fall, on the "turf" found in City ball fields and parks.
- Use plant and flower "food" instead of chemical fertilizers.
- Check the nitrogen/phosphorus/potassium concentrations of fertilizers and calibrate the distributor to avoid excessive application.
- If fertilizer is spilled on either the pavement or sidewalk, clean up before applying irrigation water.

REPAIR AND MAINTENANCE OF CITY SURFACES (Streets, Roads, Sidewalks, etc.)

Asphalt/Concrete Removal

- Conduct asphalt and concrete removal activities during dry weather whenever possible.
- Protect nearby storm drain inlets and adjacent water bodies prior to breaking up asphalt or concrete (e.g., place sandbags around inlets or work areas) if rain is forecast.
- Dry cut whenever possible and sweep up particles when done. Sweep by hand or using street sweeping equipment as appropriate.
- During saw cutting and grading operations, use as little water as possible--if any. Protect nearby catch basins or gutters, or use materials to contain the slurry. If slurry enters the storm drain system, remove material immediately.
- Remove saw-cut slurry from the work area with a shovel, vacuum, or by sweeping as soon as it is dry or by the end of the day.
- After breaking up old pavement, sweep up materials thoroughly to avoid contact with rainfall and storm water runoff. Recycle as much material as possible, and properly dispose of non-recyclable materials.
- When the job is completed, be sure that all particles and debris are collected and removed from the site. Sweep the area by hand or with the City's street sweeping equipment. Be sure that nothing has "drifted" towards the street, gutter, or catch basin.
- Require all City contractors to follow these BMPs.

Concrete Installation and Repair

- Avoid mixing excess amounts of fresh concrete or cement mortar on-site.
- Store dry and wet materials under cover, protected from rainfall and runoff.
- Wash out concrete mixers into open excavation pits whenever possible. Never dispose of washout into the street, storm drains, drainage ditches, or creeks.
- Wash out concrete transit mixers only in designated wash out areas where the water will flow either 1) into drums or settling ponds or 2) onto dirt, stockpiles of aggregate base, or sand. Whenever possible, pump washout back into mixers for transport and disposal at the concrete batch plant.
- Require all City contractors to follow theses BMPs.

Patching, Resurfacing, and Surface Sealing

- Schedule patching, resurfacing and surface sealing during dry weather.
- Preheat, transfer, or load hot bituminous material away from drainage systems or watercourses.

- Cover and seal nearby storm drain inlets and manholes before applying seal coat, slurry seal, etc. Leave covers in place until job is complete and until all water from emulsified oil sealant has drained or evaporated. Collect waste materials for proper disposal.
- Use only as much water as necessary for dust control to avoid runoff.
- If it rains unexpectedly, take appropriate action to prevent pollution of storm water runoff (e.g., divert runoff around work areas, cover materials).
- Stockpile materials away from streets, gutter areas, storm drain inlets or watercourses. During wet weather, cover stockpiles with tarps or use berms to prevent runoff.
- Maintain current standard procedures, which is to remove stockpiles (asphalt materials, sand, etc.) by the end of the day.
- Sweep up as much excess material as possible and dispose of properly. Only wash down streets if runoff can be controlled or contained.
- Require all City contractors to follow these BMPs.

Equipment Cleaning, Maintenance and Storage

- Inspect equipment daily and repair any leaks as soon as possible.
- Make equipment repairs at the corporation yard if possible. If emergency repairs must be done on a street, use BMPs to prevent discharge to the storm drain system.
- If the refueling or repair of vehicles and equipment must be done on-site, use a location away from storm drain inlets and creeks.
- Use dry methods for cleaning leakage and spillage.
- Recycle used motor oil, diesel oil, other vehicle fluids, and vehicle parts whenever possible.
- Require all City contractors to follow these BMPs.

PAINTING, PAINT REMOVAL, BUILDING CLEANING, AND GRAFFITI REMOVAL

Painting

- Use “thermo-plastic” instead of paint to mark streets, parking lots, etc. “Thermo-plastic” may be either extruded (beaded, melted, and die cast) for application or sprayed on.
- Use paint to mark street curbs and for temporary markings.
- Where there is a risk of a spill reaching storm drains, protect nearby inlets prior to starting painting.
- When work is conducted on a bridge, take precautions to prevent any runoff from reaching the river, channel, or creek beneath the bridge.
- Clean up spills immediately. Capture all clean up water and dispose of properly.

- When transferring or loading paint, protect nearby storm drains or water bodies.
- Check inventory and use up paints in stock prior to purchasing more.
- Dispose of unusable paint, by recycling, at the proper disposal facility.
- Never clean paintbrushes or rinse paint containers in the street or storm drain.
- When cleaning brushes and rollers after painting, first brush out excess paint onto newspaper or cardboard. If using latex paints, rinse the brush or roller in the sink. If using oil-based paints, the brush or roller needs to be cleaned with paint thinner. Drain leftover paint in the roller pan back into the paint can. If using paint hoses and guns, spray out the paint residue into the paint can.
- Empty (clean) paint cans may be disposed of in the trash.
- Require all City contractors to follow these BMPs.

Paint Removal

- When removing old paint, protect nearby storm drains with booms or sandbags.
- Preferably, grind old paint off instead of sand blasting. Sweep up paint particles and other debris, and dispose of the materials at the landfill. Ensure that no particles are left on the ground or in the street.
- If blasting is necessary, use a baking soda blaster instead of a sand blaster. Protect storm drain inlets if necessary. Sweep up the particles and dust, and dispose of at the landfill. Particles and dust may not be left on the ground or allowed to reach the storm drain system. If sand blasting is conducted, the same procedures apply.
- If water is used to remove paint or graffiti, the wastewater and paint particles may not be discharged to the street or storm drain system.
- Require all City contractors to follow these BMPs.

Building Cleaning

- When cleaning building exteriors using pressure washing, steam cleaning, or hand scrubbing, the wastewater must be collected and disposed of in the sanitary sewer.
- Prior to hosing down building exteriors using a regular garden hose and water only, a screen must be installed in the nearest downstream storm drain. The screen must be a ½ inch metal mesh, which acts as a protective filter for particles and small debris. Afterward, the screen must be removed and cleaned.
- If washing building exteriors or surfaces painted with lead-based or mercury-additive paint, first check with the Wastewater Treatment Facility for approval regarding sanitary sewer discharge.
- Require all City contractors to follow these BMPs.

Graffiti Removal

- Typically remove graffiti by "painting over." Use power washing only in special cases.
- When power washing to remove graffiti, the wastewater and paint particles may not be discharged to the street or storm drain system. Protect nearby storm drains by placing sand bags, booms or barriers around drain inlets or by making an enclosure around the wash area
- Do not use soap or cleansers for graffiti removal unless necessary. If soap or cleansers are used, the soapy water must be either diverted to a dirt area of sufficient size or collected for sanitary sewer disposal. Nearby storm drain inlets must also be protected from accidental runoff.
- Avoid graffiti abatement activities during rain.
- Require all City contractors to follow these BMPs.

STRUCTURAL RETROFIT OF STORM DRAIN INLETS AND CATCH BASINS

- Divert water from Neary Lagoon to the wastewater treatment plant during dry weather (when the treatment plant has the capacity to accept additional water).

MUNICIPAL SWIMMING POOLS, FOUNTAINS, LAKES, AND OTHER WATER BODIES

Municipal Swimming Pool Water

- Reduce the use of chlorine in the municipal swimming pool by using bromine, instead of chlorine, as a disinfectant. Treat pool water with chlorine weekly.

Fountains, Lakes, and Other Water Bodies

- Do not use copper containing products to reduce algal growth.
- Use only organic algaecides.

Alternative Methods to Control Algae in Lakes and Lagoons

- Discourage the public from feeding birds and fish.
- Reduce fertilizer use in areas around water bodies.

MUNICIPAL OPERATION AREAS

Corporation Yard

- Implement all applicable controls in the City's BMPs for Vehicle Service Facilities.

Municipal Golf Course Maintenance and Storage Areas

- Compliance with BMPs for Vehicle Service Facilities.
- Compliance with the City's IPM Policy.

Municipal Solid Waste Facility

- Compliance with BMPs for Vehicle Service Facilities.

Parks and Recreation Yard

- Store fuel and paint according to state regulations.
- Conduct a complete inspection monthly.
- Conduct a check for spills and leaks weekly.
- Compliance with BMPs for Vehicle Service Facilities.
- Compliance with the City's IPM Policy.
- Install an equipment wash rack.

Parks and Recreation Remote Storage Areas

- Conduct a complete inspection at each storage area once a month.
- Conduct a check for spill and leaks at each storage area weekly.

Municipal Wharf

- Clean special event area buildings at least once a month between Memorial Day and October each year by pressure washing, without the use of soap or detergents, to remove bird droppings. Building awnings are cleaned quarterly. Cleaning is conducted on weekdays and more cleanings may be scheduled on an "as-needed" basis
- Sweep parking and eating areas.

Fire Stations

- Conduct fire engine maintenance and mechanical repairs at the Corporation Yard.
- Wash trucks with water only during routine washing. Wash truck with biodegradable soap after an emergency fire response.

Wastewater Treatment Facility (WWTF)

- All outdoor drains discharge back into sanitary system.
- Conduct all practices in accordance with NPDES permit.

Resource Recovery Facility

- Conduct all practices in accordance with the Industrial Activities Storm Water General Permit, the Storm Water Pollution Prevention Plan, and the Waste Discharge requirements issued by the CA Regional Water Quality Control Board.
- Maintenance shop will implement all applicable BMPs for Vehicle Service Facilities.

DRINKING WATER DISTRIBUTION SYSTEM

Repair and Maintenance of City Water Infrastructure

- Follow Water Department standard operating procedures:

  Superchlorinated Potable Water Discharges-SOP # 7102-01

  Low Chlorine Potable Water Discharges-SOP # 7102-02

  Sediment Control During Open Channel Water Discharges- SOP #7105-01

  The SOPs are attached.
- Street repairs, for work associated with water pipeline installation, maintenance, and repair, are conducted in accordance with the BMPs listed in the above section "Repair and Maintenance of City Surfaces."

Facilities & Operations Outside City Limits

- Inspect and clean storm water conveyance system on watershed lands before, during, and after the onset of the rainy season.
- Follow the BMPs in the Draft Watershed Management Plan for maintenance of forest roads and associated drainage infrastructure.
- Abide by the City's IPM policy regarding the use of herbicides and pesticides in water bodies. Copper containing products are used in Loch Lomond reservoir in accordance with and under the General Permit NPDES Permit No. CAG990003 for Discharges of Aquatic Pesticides.

Water Department Remote Storage Areas

- Conduct a complete inspection at each storage area once a month.
- Conduct a check for spill and leaks at each storage area weekly.

STANDARD OPERATING PROCEDURE NO. 7102-01
Superchlorinated Potable Water Discharges

Purpose

This standard operating procedure (SOP) describes the procedures to be followed when flushing any part or portion of the Santa Cruz Water Department's (SCWD) distribution system and free chlorine residual exceeds 2 parts per million (ppm). This includes water discharged during flushing activities associated with line disinfections.

The main objectives for water main flushing are sediment removal; taste and odor control; control of color, high turbidity, low chlorine residuals, or bacterial growths; corrosion control; or response to customer complaint(s).

Disinfection of water mains is addressed in proposed SOP No. 7102-04.

Dechlorination of discharges of low-chlorinated water with a chlorine residual less than 2 ppm is addressed in SOP No. 7102-02.

The intent of this SOP is to satisfy requirements of the Regional Water Quality Control Board (RWQCB).

Discharges Requiring Dechlorination

All discharges from the distribution system must be addressed to ensure they do not reach waters of the State. Waters of the state include streams, rivers, ponds, lagoons and the ocean. Discharges to be dechlorinated are those generated in the course of performing any of the following:

- Trench dewatering during distribution system maintenance and construction activities (when water in trench is from leaking water pipe, not exclusively from groundwater).
- Main or hydrant flushing (for any purpose).
- Hydrant testing.
- Main dewatering (for any purpose).
- Any other activity requiring discharge of chlorinated water (other than exempt discharges as defined below).

Exempt Discharges

The following discharges are exempt from the dechlorination requirement described in this SOP:

- Discharges of raw, untreated water with no chlorine residual.
- Discharges of non-chlorinated groundwater.
- Unplanned discharges at unstaffed locations (e.g., main breaks, broken fire hydrant, reservoir overflow).

- Discharges from system leakage/seepage.

Scope of this Procedure

This procedure addresses manual dechlorination of SCWD-generated potable water discharges with free chlorine residual exceeding 2 ppm. Water with a chlorine residual exceeding 2 ppm requires dechlorination such that chlorine does not reach waters of the state and cause damage to plant and animal life. The SOP applies primarily to the dechlorination of water that has been injected with chlorine to disinfect new water main.

The specifications do not give instructions for making up dechlorinating solution or determining appropriate feed rates. See manufacturers instructions for dechlorination solution application.

Changes to Procedure

This is the second draft of a formal procedure. Any previously released informal procedures are no longer acceptable and should be replaced with this SOP. Any suggestions or ideas pertaining to this procedure as well as informal or older procedures should be forwarded to the Engineering division to be filed.

This procedure may evolve over time as new dechlorination chemicals or methods become available that make dechlorination of potable water discharges quicker and/or easier.

Note that references to existing interdepartmental SOPs related to this topic are made throughout this SOP.

Impacts of Flushing and Dechlorination

See the Production division's SOP 7106-IV-4 for handling of dry and liquid chlorine products. Other concerns include:

- Environmental: Flushing at high velocities can erode soil and cause instability, uproot vegetation and cause drainage problems.

- Fish and Wildlife / Endangered Species: Chlorine in concentrations exceeding 0.05 ppm kills nitrifying bacteria and other aquatic life necessary for sustenance for the aquatic food chain/nutrient cycling. Spikes of ammonia and nitrite, through gill necrosis, result in respiratory failure, suffocation, etc.

- Wastewater Treatment Plant: High doses of chlorine kills nitrifying bacteria and can cause certain unit treatment processes to fail, resulting in potential contamination of effluent discharging to the receiving water.

- Degradation/Capacity of Storm/Sanitary Sewer: Prolonged contact with high concentrations of chlorine may cause corrosion in cast iron pipe. Further, large discharges may reduce pipe capacity such that design flow rates are hydraulically restricted.

Consideration of these concerns should be evaluated prior to each discharge and impacts should be minimized as prescribed by regulations.

Priority of Dechlorination Relative to Other Jobsite Tasks

For any job involving flushing or dechlorination, jobsite tasks should be prioritized in order of the following concerns:

1. Worker Health and Safety (e.g., don safety gear, set up traffic control, identify any site contamination concerns)

2. Public Health & Safety (e.g., stop flows from breaks that are impeding traffic or threatening homes or businesses, operate valves as necessary to prevent contamination of mains and minimize number of customers out of water)

3. Environmental Protection (e.g., set up dechlorination and/or sediment control equipment as necessary, ensure trench spoils are disposed of properly)

Flushing Equipment

The following equipment is needed for flushing:

Hydrant Flushing:

- 2 ½" Hydrant adaptor fitting by 2" male end cam-lock fitting.
- 2" Fire hose with cam-lock fittings.
- 2 ½" Hydrant adaptor fitting with hose bib sampling port.
- Pitot tubes.
- Pipe wrench.
- Various valve keys.

Blowoff Flushing:

- 2" Blowoff assembly with sample port.
- 2" Fire hose with cam-lock fittings.
- Pipe wrench.
- Pitot tubes.
- Various valve keys.

Dechlorination Equipment

The following equipment is needed for dechlorination when following this procedure:

- Basic Dechlor Kit
- Captor Dechlorination Solution
- Diffuser with tablet chamber
- Personal Protective Equipment (i.e. respirator, goggles and rubber gloves)
- Analytical equipment (as described in proposed SOP No. 7102-03) for measuring free chlorine residual concentration and turbidity.

Chemical Handling & PPE Requirements

When handling solid or liquid chlorine, use clean rubber or leather gloves and a respirator if in an enclosed area. Do not inhale vapors from closed container (upon opening). Diffusers with tablets (new or used) should be stored in vehicles in secondary containment to prevent particles of sodium sulfite from being deposited directly onto vehicle, tool or other surfaces. Plastic containers that can completely

contain the diffuser constitute adequate secondary containment. If the container is subject to overturn or objects falling into it during transport, the container should be sealed with a lid. Otherwise, a lid is not necessary.

First Aid

See MSDS for specific chemical to determine best course of action:

Eye Contact: Hold lid open and flush with water for 15 minutes and transport to the nearest medical facility for evaluation.

Skin Contact: Wash thoroughly with soap and water.

Ingestion: Give copious amounts of water and transport to the nearest medical facility for evaluation.

WARNING!

Some work units that will be using calcium thiosulfate (CAPTOR) for dechlorination also use calcium hypochlorite (HTH) or sodium hypochlorite to disinfect water distribution system mains or appurtenances. These two (2) chemicals can react when mixed in the presence of water. The reaction can produce heat and both hydrogen and chlorine gas, creating both a potentially toxic and explosive/flammable atmosphere. Should the chemicals become mixed, staff should immediately evacuate to a safe area and contact the fire department (911). These chemicals and associated mixing and dispensing equipment must be kept segregated from each other at all times.

PROCEDURE

Procedure for new main dechlorination and flushing.

These procedures include instructions for using the LPD-250 Diffusers as well as step-by-step instructions for actual dechlorination/flushing procedure for chlorinated water main through a hydrant or blowoff.

- **Notification**

Give 48 hour notice to areas that will be affected by flushing, particularly to certain categories of customers who are seriously affected by flushing (i.e. laundries and dialysis patients, using door hangers). Internal notification shall be given to all divisions of the Water Department.

Notify City or County Public Works Departments to use storm <u>or</u> sanitary sewer for water disposal. In the City, inform Randy Bullock, Wastewater Mains Supervisor, via fax (attached) at (831) 420-6053. He can also be reached at (831) 420-6036 (office), (831) 212-9852 (cell) or (831) 689-6913 (pager).

- **Preparation**

Direct flushing water away from traffic, pedestrians, underground utility vaults, watercourses and private lands. Check that travel path of water is

- **Dechlorination/ Flushing**

clear of hazardous contaminants such as puddles of gas, oil, paint thinners, etc. Take measures necessary to prevent sediment from entering the sanitary or storm sewer.

Note that for superchlorinated water, the basic superchlorinating kit and CAPTOR solution is to be used in addition to the LPD-250 diffuser.

Refer to equipment manuals for specific instruction on use of the dechlorinating diffuser system.

1. Open and/or close the appropriate valves to isolate the water main.
2. Obtain an initial water sample from hose-bib in glass quart bottle. Check chlorine concentration using a diluted sample and colorimeter. An appropriate amount of sample is 5 mL of deionized water (DI) (to the fill line on the colorimeter's sample tube) from the glass quart bottle to one (1) drop of sample water (20 drops = 1 mL). Add one (1) DPD Free Chlorine Reagant Pillow. Cover and shake the sample tube. If a pink or red color remains, use the colorimeter to determine the approximate free chlorine concentration. (Multiply by 100 to account for the sample's dilution).
3. Record initial concentration in the appropriate section on the "*Field Chlorination Report*".
4. Set diffuser and dechlorination equipment on a fire hose attached to hose bib assembly on a fire hydrant or blowoff. Position diffuser end of hose such that it discharges in a storm drain inlet.
5. At this point begin flushing by opening the hydrant/blowoff valve slowly until a flow rate of approximately 50-100 GPM is obtained.
6. Bathe hose bib in superchlorinated water and disinfect nozzle with propane torch for a minimum of 30 seconds.
7. Sample water discharged before dechlorination equipment through sample port and test using the method described in step no. 1 to ensure that free chlorine concentration is being reduced to system residual (0.5 – 1.0 ppm). When free chlorine concentration is approximately 3 ppm or less, transfer 5 mL of undiluted sample water taken with the glass quart bottle to the sample tube and add one (1) DPD Free Chlorine Reagant pillow. Cover and shake the sample tube. If a pink or red color remains, use the colorimeter to directly read the approximate concentration of the chlorine. Absence of color indicates that there is no detectable chlorine present.
8. Periodically, sample water discharged through dechlorination equipment and test using step no. 7 to ensure that free chlorine concentration is being reduced to 0 ppm. Adjust equipment or add tablets as necessary to achieve this concentration.
9. At this point, begin checking turbidity using the Hach Portable Turbidimeter. Verify calibration of turbidimeter with the standards. Fill glass sample bottles to line at top of bottle and wipe dry outside with KimWipes. Gently tilt bottle to expel air bubbles. Test samples until turbidity is close to a standard set by the Water Quality Control Lab ($\leq$ 0.5 NTU).
10. Confirm chlorine concentration using a sample with the colorimeter (direct read

this value). Chlorine level should be between 0.5 and 1 ppm.

11. At each sample point, take a General Physical sample, filling to neck of the bottle. Carefully fill two (2) small, sterile Bact test sample bottles (two (2) per sample point) to the 100-mL line and cap immediately. Resample if contamination is suspected. Do not sample if it is raining or windy. Record sample identification on "*Field Chlorination Report*".
12. Close valve to hydrant or blowoff and disassemble dechlorination equipment.
13. Estimate the amount of water flushed. Record on "*Field Chlorination Report*".
14. Submit "*Field Chlorination Report*" as well as samples to lab within two (2) hours of sampling.

Method of Measurement

Free chlorine is measured by adding DPD Free Chlorine Reagant pillow to a sample of a given discharge. If a pink or red color develops when reagent is added to the sample, chlorine is present. This is known as colorimetric analysis. Absence of color indicates there is no detectable chlorine present.

Measuring Equipment

DPD Free Chlorine Reagant pillows, manufactured by Hach, are used to dispense the reagent into the sample. Utilize the clear, clean sample tubes included in the Hach Colorimeter kit to analyze the water.

Turbidity is measured using the Hach Portable Turbidimeter. Verify calibration of turbidimeter with the standards.

The target chlorine concentration is 0.5 – 1 ppm for system residual.

See proposed SOP No. 7102-03 for analytical procedures used in determining free chlorine residual concentration.

Attention!

Any activity resulting in a shutdown requires sampling of the water to verify that the turbidity is less than 0.5 NTU and the chlorine residual is between 0.5 and 1 ppm before putting main back in service. If the main is dewatered or the residual pressure drops below 20 psi, the requirements above must be met and the SCWD Water Quality Lab must to be notified at (831) 420-5480 for possible additional water quality sampling.

Regulating Agencies

- USEPA
- US Fish and Wildlife
- California Department of Health
- Central Cost RWQCB
- City of Santa Cruz

Applicable

- Clean Water Act Section 309, etc.

Regulations

- Endangered Species Act Section 11
- California Water Code Sections 13300-13361
- California Fish and Game Code Sections 5650 and 2050
- City of Santa Cruz Municipal Code

Attachments

- MSDS, CAPTOR
- Data Collection Sheets
- Notification to Public Works for Discharge to Sewer

References

- AWWA Standard for Disinfecting Water Mains (March, 2001)
- AWWA Research Foundation Guidance Manual for Disposal of Chlorinated Water (2001)
- State of California RWQCB Water Quality Control Plan for the Central Coastal Basin (September, 1994)

STANDARD OPERATING PROCEDURE NO. 7102-02
Low-Chlorine Potable Water Discharges

Purpose

This standard operating procedure (SOP) describes the procedures to be followed when flushing any part or portion of the Santa Cruz Water Department's (SCWD) distribution system and chlorine residual is less than or equal to 2 parts per million (ppm). This includes water discharged during flushing activities, hydrant testing, and main breaks.

The main objectives for planned water main flushing are sediment removal; taste and odor control; control of color, high turbidity, low chlorine residuals, or bacterial growth; corrosion control; or response to customer complaint(s).

Dechlorination of discharges of superchlorinated water with a chlorine residual exceeding 2 ppm is addressed in SOP No. 7102-01.

Sediment control (i.e. pumping a trench to a drain inlet) is addressed in SOP No. 7105-01.

The intent of this SOP is to satisfy requirements of the Regional Water Quality Control Board (RWQCB).

Discharges Requiring Dechlorination

All discharges from the distribution system must be addressed to ensure they do not reach waters of the State. These include streams, rivers, ponds, lagoons and the ocean. Discharges to be dechlorinated include those generated in the course of performing any of the following:

- Trench dewatering during distribution system maintenance and construction activities (when water in trench is from leaking water pipe, not exclusively from groundwater).
- Main or hydrant flushing (for any purpose).
- Hydrant testing.
- Main dewatering (for any purpose).
- Any other activity requiring discharge of chlorinated water (other than exempt discharges as defined below).

Exempt Discharges

The following discharges are exempt from the dechlorination requirement described in this SOP:

- Discharges of raw, untreated water with no chlorine residual.
- Discharges of non-chlorinated groundwater.
- Discharges less than 1000 gpm.
- Unplanned discharges at unstaffed locations (e.g., main breaks, broken fire

hydrant, reservoir overflow).

Scope of this Procedure

This procedure addresses manual dechlorination of SCWD-generated potable water discharges with free chlorine residual of 2 ppm or less. Dechlorination of discharges of superchlorinated water with a chlorine residual of greater than 2 ppm are not addressed in this procedure.

The specifications do not give instructions for making up dechlorinating solution or determining appropriate feed rates. See manufacturers instructions for dechlorination solution application.

Changes to Procedure

This is the second draft of a formal procedure. Any previously released informal procedures are no longer acceptable and should be replaced with this SOP. Any suggestions or ideas pertaining to this procedure as well as informal or older procedures should be forwarded to the Engineering division to be filed.

This procedure may evolve over time as new dechlorination chemicals or methods become available that make dechlorination of potable water discharges quicker and/or easier.

Note that references to existing interdepartmental SOPs related to this topic are made throughout this SOP.

Impacts of Flushing and Dechlorination

See the Production division's SOP 7106-IV-4 for handling of dry and liquid chlorine products. Other concerns include:

- Environmental: Flushing at high velocities can erode soil and cause instability, uproot vegetation and cause drainage problems.

- Fish and Wildlife / Endangered Species: Chlorine in concentrations exceeding 0.05 ppm kills nitrifying bacteria and other aquatic life necessary for sustenance for the aquatic food chain/nutrient cycling. Spikes of ammonia and nitrite, through gill necrosis, result in respiratory failure, suffocation, etc.

- Wastewater Treatment Plant: High doses of chlorine kills nitrifying bacteria and can cause certain unit treatment processes to fail, resulting in potential contamination of effluent discharging to the receiving water.

- Degradation/Capacity of Storm/Sanitary Sewer: Prolonged contact with high concentrations of chlorine may cause corrosion in cast iron pipe. Further, large discharges may reduce pipe capacity such that design flow rates are hydraulically restricted.

Consideration of these concerns should be evaluated prior to each discharge and impacts should be minimized as prescribed by regulations.

Priority of Dechlorination Relative to Other Jobsite Tasks

For any job involving flushing or dechlorination, jobsite tasks should be prioritized in order of the following concerns:

4. Worker Health and Safety (e.g., don safety gear, set up traffic control, identify any site contamination concerns)

5. Public Health & Safety (e.g., stop flows from breaks that are impeding traffic or threatening homes or businesses, operate valves as necessary to prevent contamination of mains and minimize number of customers out of water)

6. Environmental Protection (e.g., set up dechlorination and/or sediment control equipment as necessary, ensure trench spoils are disposed of properly)

Flushing Equipment

The following equipment is needed for flushing:

Hydrant Flushing:

- 2 ½" Hydrant adaptor fitting by 2" male end cam-lock fitting.
- 2" Fire hose with cam-lock fittings.
- 2 ½" Hydrant adaptor fitting with hose bib sampling port.
- Pitot tubes.
- Pipe wrench.
- Various valve keys.

Blowoff Flushing:

- 2" Blowoff assembly with sample port.
- 2" Fire hose with cam-lock fittings.
- Pipe wrench.
- Pitot tubes
- Various valve keys.

Dechlorination Equipment

The following equipment is needed for dechlorination when following this procedure:

- Diffuser with tablet chamber
- Dechlor tablets (45 lb bucket)
- Personal Protective Equipment (i.e. respirator, goggles and rubber gloves)
- Analytical equipment (as described in proposed SOP No. 7102-03) for measuring free chlorine residual concentration and turbidity.

Note that the diffuser equipment is capable of dechlorinating up to 20 ppm in free chlorine concentration.

Chemical Handling & Personal

When handling solid or liquid chlorine, use clean rubber or leather gloves and a respirator if in an enclosed area. Do not inhale vapors from closed container (upon opening). Diffusers with tablets (new or used) should be stored in vehicles in secondary containment to prevent particles of sodium sulfite from being deposited

Protective Equipment Requirements

directly onto vehicle, tool or other surfaces. Plastic containers that can completely contain the diffuser constitute adequate secondary containment. If the container is subject to overturn or objects falling into it during transport, the container should be sealed with a lid. Otherwise, a lid is not necessary.

First Aid

See MSDS for specific chemical to determine best course of action:

Eye Contact: Hold eyelid open and flush with water for 15 minutes and transport to the nearest medical facility for evaluation.

Skin Contact: Wash thoroughly with soap and water.

Ingestion: Give copious amounts of water and transport to the nearest medical facility for evaluation.

WARNING!

Some work units that will be using calcium thiosulfate (CAPTOR) for dechlorination also use calcium hypochlorite (HTH) or sodium hypochlorite to disinfect water distribution system mains or appurtenances. These two (2) chemicals can react when mixed in the presence of water. The reaction can produce heat and both hydrogen and chlorine gas, creating both a potentially toxic and explosive/flammable atmosphere. Should the chemicals become mixed, staff should immediately evacuate to a safe area and contact the fire department (911). These chemicals and associated mixing and dispensing equipment must be kept segregated from each other at all times.

PROCEDURES

These procedures include step-by-step instructions for an actual flushing procedure during typical hydrant flushing and flow testing operations as well as main dewatering through a hydrant or blowoff.

- **Notification**

Give 48 hour notice to areas that will be affected by flushing, particularly to certain categories of customers who are seriously affected by flushing (i.e. laundries and dialysis patients, using door hangers). Notification of flushing as part of the department's flushing program shall be given via a newspaper ad (example attached). Internal notification of all planned flushing shall be given to all divisions of the Water Department.

- **Preparation**

Notify City or County Public Works Departments to use storm <u>or</u> sanitary sewer for water disposal. In the City, inform Randy Bullock, Wastewater Mains Supervisor, via fax (attached) at (831) 420-6053. He can also be reached at (831) 420-6036 (office), (831) 212-9852 (cell) or (831) 689-6913 (pager).

Direct flushing water away from traffic, pedestrians, underground utility

- **Dechlorination**

vaults, watercourses and private lands. Check that travel path of water is clear of hazardous contaminants such as puddles of gas, oil, paint thinners, etc. Take measures necessary to prevent sediment from entering the sanitary or storm sewer. (See SOP 7105-01.)

Dechlorination is accomplished by the addition of sodium sulfite tablets to the discharge flow. For main flushing, hydrant flow testing or main dewatering through a blowoff, a dechlorinating diffuser assembly is typically used. For the diffuser, tablets are placed inside a chamber of the flow-through diffuser attached to the discharge face of the diffuser. The diffuser is then directly screwed onto a hose bib assembly attached to the hydrant or blowoff. As the discharged water flows over and around the tablets, chemical is released as the water contacts the tablets, reacting with and destroying the chloramines. Refer to equipment manuals for specific instruction on use of the dechlorinating diffusers and dechlorination mat systems.

- **Procedure No. 1**

Dechlorination Procedure when Main Flushing, Hydrant Flow Testing or Main Dewatering through a Blowoff.

Included with this instruction is a brief outline of flushing procedures for a typical flushing area (i.e. Area #10). Please read all instructions before getting started.

These instructions will cover the procedure for flushing a particular area. Refer to attached Flushing Area #10 instruction sheet and map.

15. Start at flow no. 1, column 3 on the instruction sheet and begin by setting a water diffuser/deflector and dechlorination equipment (diffuser full of tablets) on a fire hydrant or water main blowoff. In example Area #10, flow no. 1, you would set the diffuser on hydrant (FH-667).
16. Reading left to right move to the next step, column 4 (SHUT Valves BEFORE Flow is Started), and close all valves indicated. Close valves slowly to prevent water hammer.
17. Obtain a water sample from a hose-bib sample port or at a home in the area to be flushed. Perform a turbidity and chlorine test before starting the flush. This will give you an idea of what the water in this area is like before starting. Record on "Water Loss and Data Worksheet" (attached).
18. At this point you would begin the flushing by opening the hydrant or blow off valve slowly until desired flow is obtained. Measure flow rate with a pitot tube. Record on "Water Loss and Data Worksheet" (attached).
19. Continue to flush the water, sampling and testing until turbidity is close to a standard set by the Water Quality Control Lab, usually $\leq$0.5 NTU. (See Water Department Policy 76-1 for a complete list of standards.)
20. When you are close to the standard, move to the next step (OPEN Valves BEFORE End of Flow) for flow no. 1 in column 6:
    a. Open the first valve starting with the valve farthest away from the flushing point. When the turbidity is again near the standard, open the next valve.

b. Continue to open valves one at a time following that set of instructions.

c. After the last valve is open check turbidity until the standard is obtained.

21. Check chlorine. Chlorine level should meet or exceed the results you got before you started the flush. Record this value on the "Water Loss and Data Worksheet" (attached).
22. Move to the next flow set (no. 2) and continue as above.
23. Monitor the supply of tablets in the tablet chamber periodically to ensure that there are adequate tablets available to complete the flushing.
24. When both chlorine and turbidity targets are achieved, close valves to terminate discharge.
25. Estimate the flowrate and amount of water flushed. Record on appropriate report(s).

- **Procedure No. 2**

Dechlorination Procedure for Trench Dewatering during Main Breaks, Distribution System Maintenance (Main Dewatering) and Other Construction Activities

These procedures include instructions for trench (when water in trench is from leaking water pipe, not exclusively from groundwater) or main dewatering and dechlorination. In this case, water is either spilling over or being pumped from ditch.

1. Begin by setting up a fire hose, water diffuser/deflector, dechlorination (diffuser full of tablets) and/or pump equipment as necessary.
2. At this point you would begin pumping or allowing the flow path of the break to pass through the dechlorination equipment. Measure flow rate with a pitot tube, if possible.
3. If possible, perform a turbidity and chlorine test at the start of pumping to get an idea of the water quality.
4. Continue to pump/empty the trench/pipe until there is no discharge or the break has been isolated. As a precautionary measure, flush the line(s), sampling and testing until turbidity is close to a standard set by the Water Quality Control Lab ($\leq$ 0.5 NTU).
5. Check chlorine and turbidity using analytical procedures described in the "Measuring Equipment" section, below.
6. Monitor the supply of tablets in the tablet chamber periodically to ensure that there are adequate tablets available to complete the flushing.
7. When both chlorine and turbidity targets are achieved, close valves to terminate discharge. Remove the diffuser from the storm drain(s) the discharge was entering, placing it on the upstream side of the grate. Hose the flow path to remove any tablet residual, ensuring that the flow enters the storm drain(s). Retrieve the diffuser and store it in its secondary container on the field vehicle.
8. Estimate the amount of water flushed and report to the Conservation division.

Method of Measurement

Free chlorine is measured by adding free DPD Free Chlorine Reagant pillow to a sample of a given discharge. If a pink or red color develops when reagent is added to the sample, chlorine is present. This is known as colorimetric analysis. Absence of color indicates there is no detectable chlorine present.

Measuring Equipment

DPD Free Chlorine Reagant Pillows, manufactured by HF Scientific, Inc., are used to dispense the reagent into the sample. Utilize the clear, clean sample tubes included in the Hach Colorimeter kit to analyze the water. Transfer 5 mL of sample water taken with the glass quart bottle to the sample tube and add one (1) DPD Free Chlorine Reagant pillow.

Cover and shake the sample tube. If a pink or red color remains, use the colorimeter to directly read the approximate concentration. Absence of color indicates that there is no detectable chlorine present.

The target chlorine concentration is 0.5 ppm, with an acceptable range of 0.5 to 1.0 ppm.

See proposed SOP No. 7102-03 for use of analytical equipment in determining chlorine residual concentration and turbidity.

Attention!

Any activity resulting in a shutdown requires sampling of the water to verify that the turbidity is less than 0.5 NTU and the chlorine residual is between 0.5 to 1.0 ppm before putting main back in service. If the main is dewatered or the residual pressure drops below 20 psi, the requirements above need to be met and the SCWD Water Quality Lab needs to be notified at 831-420-5480 for possible additional water quality sampling.

Regulating Agencies

- USEPA
- US Fish and Wildlife
- California Department of Health
- Central Coast RWQCB
- City of Santa Cruz

Applicable Regulations

- Clean Water Act Section 309, etc.
- Endangered Species Act Section 11
- California Water Code Sections 13300-13361
- California Fish and Game Code Sections 5650 and 2050
- City of Santa Cruz Municipal Code

Attachments

- MSDS, Sodium Sulfite
- Example Flushing Area, (Area 10), Map and Instruction Sheet
- Water Loss and Data Sheets

- Sample Flushing Notification via Newspaper Ad
- Notification to Public Works for Discharge to Sewer

References

- AWWA Standard for Disinfecting Water Mains (March, 2001)
- AWWA Research Foundation Guidance Manual for Disposal of Chlorinated Water (2001)
- State of California RWQCB Water Quality Control Plan for the Central Coastal Basin (September, 1994)
- SCWD Policy 76-1 Water Main Disinfection

PROCEDURE	7105-01
EFFECTIVE	7/10/08
SUPERSEDES	8/30/02

TANDARD OPERATING PROCEDURE NO. 7105-01
ediment and Turbidity Control During Open Channel Water Discharges

Purpose	This standard operating procedure SOP describes procedures to be used to minimize the transport of sediment (with associated turbidity) to storm drains or receiving waters during open channel discharges containing sediment or having the potential to entrain sediments to satisfy the requirements of the Regional Water Quality Control Board and to protect the environment.
Scope of this Procedure	This procedure is not intended to cover all erosion control or sedimentation situations, but does apply to dewatering and related sediment control at SCWD work sites. Larger projects with sediment control needs should follow guidelines of the City's Urban Water Runoff Program.
Discharges Requiring Sediment Control	The control procedures described herein must be used for all discharges from trenches during main or service break repair activities and any other Department activities that involve open channel discharges to the storm drain system or "receiving" waters with potential to mobilize and transport significant concentrations of sediment or turbidity.
Exempt Discharges	The following discharges are exempt from these sediment control requirements: • Unplanned discharges at unstaffed locations (e.g., reservoir overflows, main or service breaks prior to arrival of repair crew). • Discharges to land – Any discharges to land that are absorbed into the ground well away from receiving waters and involve minimal or no runoff to storm sewers or receiving waters. • Discharges of clean water along a clean flow path. • Discharges within closed conduits.

PROCEDURE	7105-01
EFFECTIVE	7/10/08
SUPERSEDES	8/30/02

TANDARD OPERATING PROCEDURE NO. 7105-01
ediment and Turbidity Control During Open Channel Water Discharges

Overview of Sediment Control Procedures

Sediment control is accomplished through implementation of one of the following categories of Best Management Practices (BMPs): 1) use of vacuum truck to eliminate discharge, 2) filtration with straw rolls before discharge to storm drain (urban area), 3) retention of water in a settling basin, or 3) overland filtration. Residual sediment should be shoveled and either used as fill[1], or hauled off-site for appropriate disposal. Success of these procedures will depend on appropriate implementation.

Roles and Responsibilities

Distribution Crew Leader is responsible for:

- Determining method of dewatering
- Monitoring
- Contacting Water Resources Management staff for consultation

Water Resources Management is responsible for:

- Determining necessity of further procedures for environmental protection.
- Consultation with regulatory agencies (RWQCB, DFG, others as appropriate)[2].
- Annual training of Distribution Staff on monitoring techniques and SOP implementation

Impacts of Turbidity and Sedimentation on Aquatic Habitat

Sedimentation (the result of discharge of soil laden water to surface, or "receiving" waters) causes degradation of aquatic habitat through filling of pools and embedding spawning gravels, limiting respiration of aquatic life, and enriching receiving waters with nutrients; thereby increasing incidence of algae blooms. Elevated turbidity can also impede the ability of aquatic life to locate prey and feed normally.

Priority of Control Measures Relative to Other Jobsite Tasks

For any activity involving dewatering and sediment control, jobsite tasks should be prioritized in order of the following concerns:

1. Worker Health and Safety (e.g., don safety gear, set up traffic control, identify any site contamination concerns).
2. Public Health & Safety (e.g., stop dewatering sediment control if flows into traffic are causing a hazard, or if delays in dewatering are resulting in an inability to repair a leaking main and ability to provide water).
3. Environmental Protection (e.g., set up dechlorination and/or sediment control equipment as necessary, ensure trench spoils are disposed of properly).

[1] In areas of potential soil contamination (gasoline, etc.) refer to draft SOP #7105-03 for more information before determining appropriate course of action. This procedure for working with contaminated soils has yet to be developed.

[2] Reporting required as follows: Any discharge to surface waters requires notification to RWQCB within **24 hours.** Report to DFG should be made **in writing** within 14 days of beginning of **emergency** work. All dewatering work that is not emergency work should not involve any discharge to surface waters and therefore does not require a discharge permit but may require consultation with DFG, USFWS, etc. regarding biotic issues. See Attachment 1– Sample Notification Letter.

PROCEDURE	7105-01
EFFECTIVE	7/10/08
SUPERSEDES	8/30/02

TANDARD OPERATING PROCEDURE NO. 7105-01
ediment and Turbidity Control During Open Channel Water Discharges

Control Equipment

- Vacuum Truck (urban setting, if possible)
- Straw rolls
- Flat Blade Shovel
- Container for residual sediment disposal
- Straw bales (rural setting)[4]
- Filter fabric (rural setting)
- Pump
- Prevention of entrainment/impingement on pump intake
  - Screened intake, per DFG/USFWS/NOAA criteria or equivalent (to be determined in consultat with Water Resources) required for sites with aquatic life present[3].
- Straw and Seed[4]
- Whirl-Paks or other containers for holding water samples (for turbidity analysis).

Water Sampling Guidelines

The following is applicable to samples taken from the downstream receiving water:

1. Where natural turbidity is between 0 and 50 units (NTU), increases shall not exceed 20 percent.
2. Where natural turbidity is between 50 and 100 units, increases shall not exceed 10 units.
3. Where natural turbidity is greater than 100 units, increases shall not exceed 10 percent.

Changes to Procedure

This is a formal procedure. Any previously released informal procedures are no longer acceptable and should be replaced with this SOP. This procedure may evolve over time as new sediment control technology or methods become available that make sediment control quicker, easier or more effective.

Related SOPs

Please reference SOPs # 7102-01-01, 7102-02 and 7102-04 for dechlorination, 7105-02 for protection of red-legged frogs, and 7105-03[5] for contaminated soil disposal procedures.

Scenario	Procedure
1. Dewatering in vegetated, rural setting.	1. Ascertain that aquatic life is not present in ponded water *(for example repairs of leaks on the North Coast[5] require consultation with Water Resources Management staff before dewatering or other work can begin).* 2. Screen pump with ¼ inch mesh if frogs or fish may be present (*if frogs or fish may be present, consultation with Water Resources Management staff is required*). If they are determined to not be present, screening is not required. 3. Dissipate discharge by discharging directly into a straw bale. Discharge should not cause erosion or transport sediment to any nearby surface waterbody. Discharge should be as far from nearest waterbody as possible and located on flat, well vegetated ground if possible. If it is necessary for

[3]Sites with potential aquatic life present require consultation with Water Resources Management staff and possibly presence of a qualified biologist before work can be initiated. Any site on the North Coast requires consultation with Water Resources Management staff before initiation of work. Water Resources Management staff will consult with regulatory agencies before initiation of any work if possible in cases with aquatic life present. Tail gate meetings with biologist will be held at the beginning of every work day at such sites. Biologist has authority, within reason and with deference to Dept. priorities as stated in this SOP, to direct dewatering work such that impacts to aquatic life are minimized.

[4] Straw should be rice or barley straw. Seed should consist of a mix of red clover and barley or local native mix to be determined at time of application in consultation with Water Resources Management Section.

[5] This procedure for working with contaminated soils has yet to be developed.

[6] See Attachment 2– Map

	the discharge to occur near a waterbody or in an area that flows directly into a waterbody (e.g., a slope above a stream), discharge water should be retaining temporarily in a settling basin constructed of straw bales and lined with filter fabric to filter out suspended sediment. 4. Pump as necessary, ascertaining that discharge water is not eroding soil and that sediment is settling out of discharge water before entering any surface water. 5. Collect samples upstream and downstream in receiving waters during procedure if work site is near any surface water body. Document turbidity and estimate discharge volume. Insert this information into the data sheet (Attachment 3) and check that downstream turbidity increases do not exceed the limits listed. 6. If downstream limits are exceeded, attempt to lower surface water impacts by decreasing turbidity of discharge water, based on applicability to the site: 1) move outlet farther from receiving water, 2) slow pumping speed, 3) increase amount of straw rolls/and or straw bales and filter fabric that water must travel through, 4) check that intake location is raised as high as practicable in the work hole and not sucking bottom mud. Repeat sampling and re-assess exceedance. Keep ALL data. 7. Follow up with straw/seed soil stabilization as necessary immediately following completion of work, or prior to the end of the day if the U.S. Weather Service forecast is a "chance" (30% or more) of rain before the next day, and prior to weekend or other shutdown periods during winter months (October 15 – April 15).
2. Dewatering trench in a paved, urban setting *with* vacuum truck available.	1. Secure vacuum truck for end-hauling of water to wastewater treatment plant. 2. No further action required for dewatering if no discharge exists.
3. Dewatering trench in a paved, urban setting *without* vacuum truck available.	1. Remove debris (sediment, branches, garbage, etc.) from discharge flow path. If the discharge is caused by a main or service break and there is surface flow, isolate the main or service prior to excavation if it is appropriate to do so based on standard main or service break repair procedures. Once the surface flow is stopped, remove all sediment and debris from the flow path. If there is surface flow and debris is present, remove debris if it can be removed without causing it to become entrained in the flow. For breaks where there is no surface flow (street is dry) or for main dewatering or other clean water discharges, inspect the flow path between the flow source and discharge location (the storm drain or receiving water into which the flow will discharge). Remove any debris or accumulated sediment from the flow path. 2. Place straw rolls in flow path and around nearest downslope storm drain. Beware of safety issues related to ponded water on pavement and place traffic cones around perimeter of ponded water. 3. Begin pumping. 4. Check straw rolls periodically to ensure they are staying in place and performing their function. If the sediment has built up behind straw rolls, remove sediment as necessary if an opportunity occurs (flow has temporarily ceased). Do not attempt to remove sediment during discharge. Do not allow accumulated sediment to enter storm drain. 5. Collect sample(s) of water being discharged to storm drain throughout the process (after it has drained through straw rolls) and document estimated discharge volume and turbidity. 6. When discharge is complete, allow any water that is ponded behind the straw rolls to drain, then shovel as much sediment as possible into backhoe bucket or other available container. Hose down remaining sediment on pavement ensuring that flow of this cleanup water drains to straw rolls at downslope stormdrain. When hosing is complete, allow any water that is ponded behind the straw rolls to drain. Retrieve all equipment and store in appropriate field vehicle(s). 7. Haul residual sediment off-site for disposal or use as fill on-site. Empty the sediment and debris

	from the backhoe bucket or container into the dump truck if available. Otherwise, the sediment may be 1) spread out on an appropriate unpaved ground locally, if an appropriate location exists, 2) transported to a City facility and deposited on an appropriate unpaved surface, if an appropriate location exists, 3) added to open trench spoils bins, or disposed of in a dumpster. Non-sediment debris must be disposed of in a dumpster or garbage can.[9]
Regulatory Agencies	• Central Coast Regional Water Quality Control Board (RWQCB) • United States Environmental Protection Agency (USEPA) • United States Fish and Wildlife Service (USFWS) • National Marine Fisheries Services (NMFS) • California Department of Fish and Game (DFG) • Santa Cruz County Planning • City of Santa Cruz
Applicable Regulations	• Federal Clean Water Act • County of Santa Cruz Water Quality Ordinance • California Water Code • Endangered Species Act
Notifications	All projects: • California Department of Fish and Game (Mike Kirchner, mkirchner@dfg.ca.gov) **within 14 days** • Central Coast RWQCB (Mike Higgins, mhiggins@rb3.swrcb.ca.gov) **within 24 hours** • County of Santa Cruz (John Ricker, jricker@co.santa-cruz.ca.us) **within 24 hours** • City of Santa Cruz (Chris Berry, cberry@ci.santa-cruz.ca.us) **within 24 hours** Additional for projects on State Parks Property: • California State Parks (Victor Roth, vroth@parks.ca.gov and Chris Spohrer, cspoh@parks.ca.gov) **within 24 hours**
Attachments	1. Sample Agency Notification Letter 2. Map 3. Data Sheet
References	• EBMUD Environmental Compliance Manual • Central Coast Basin Plan

[9] In areas of potential soil contamination (gasoline, etc.) refer to SOP #7105-02 (yet to be developed) for more information before determining appropriate course of action.

Attachment 1 – Sample Notification Letter

PROCEDURE	7105-01
EFFECTIVE	7/10/08
SUPERSEDES	8/30/02

[email to all relevant regulators]

To all relevant parties:

I am writing to notify you of emergency repair work on the City's North Coast water main during the week of July 30 – August 3, 2001. This work was precipitated by a significant leak in the north coast raw water main and was necessary to maintain drinking water supply to the City from the north coast sources. In brief, this work included pumping of ponded water from the leaking pipeline and groundwater that seeped into a hole (which had been excavated by the leak) approximately 10 ft. across and 10 feet deep, excavation and replacement of the failed section of pipeline and filling of the hole. This repair work occurred in the riparian zone on the east side of Old Dairy Gulch just south of Highway 1 on, and in the vicinity of, the City's pipeline easement through APN 00-001-045. The City hired Green Construction to complete this repair. As you requested, I have compiled the following information regarding this work.

- July 30, 2001: Approximately 6,000 gallons of water pumped from the hole by the Santa Cruz Water Department (SCWD) and discharged such that sediment would settle out. Discharge was dissipated by directing discharge into straw bale staked into crotch of mature willow tree, and was temporarily retained in a basin constructed of straw bales lined with filter fabric.

- July 31, 2001: Approximately 2,000 gallons of water pumped from hole by Green Construction and discharged into such that sediment would settle out.

- August 1, 2001: Approximately 4,000 gallons of water pumped from hole by Green Construction and discharged such that sediment would settle out.

- At approximately 7:30 am on this day I encountered Green Construction discharging turbid water pumped from the hole directly to Old Dairy Gulch and informed them that this was unacceptable. The foreman immediately moved the discharge line to the straw bale retention basin. As Green Construction crews had only been on site for approximately half an hour at that point and the discharge was occurring at 400 gallons/hour, no more than 200 gallons of turbid water was discharged directly to the creek.

- August 2, 2001: Approximately 1,600 gallons of water pumped from hole by Green Construction and discharged into vegetation 100 feet from Old Dairy Gulch on 1-3% slope such that sediment would settle out. Discharge was dissipated by directing discharge into strawbale staked into crotch of mature willow tree.

- All water pumped from the hole was turbid. This suspended sediment was composed of native material deposited by the creek in the riparian zone of this low gradient reach of

Old Dairy Gulch. Though discharge water still had some fines suspended when it entered creek, deposition of the bulk of the suspended sediment in the vegetation at the discharge point was successful. Turbidity of the discharge water in the detention basin was 850 NTU on August 1. Turbidity measured in Old Dairy Gulch upstream of the discharge site on August 1 was 8.2 NTU; turbidity downstream of the discharge site was 125 NTU, a substantial improvement over the raw discharge water.

Attachment 1[not shown here] is the project site location map. Attachment 2 [not shown here] is documentation of biological surveys and work related to California Red Legged Frogs performed by Rana Aurori – the wildlife biologist who was retained by the City to assist us with this project. A restoration plan for the site disturbed by this work will be developed and implemented by the City.

Thank you for your consideration. If you have any questions please feel free to call me at 420-5483.

Sincerely,

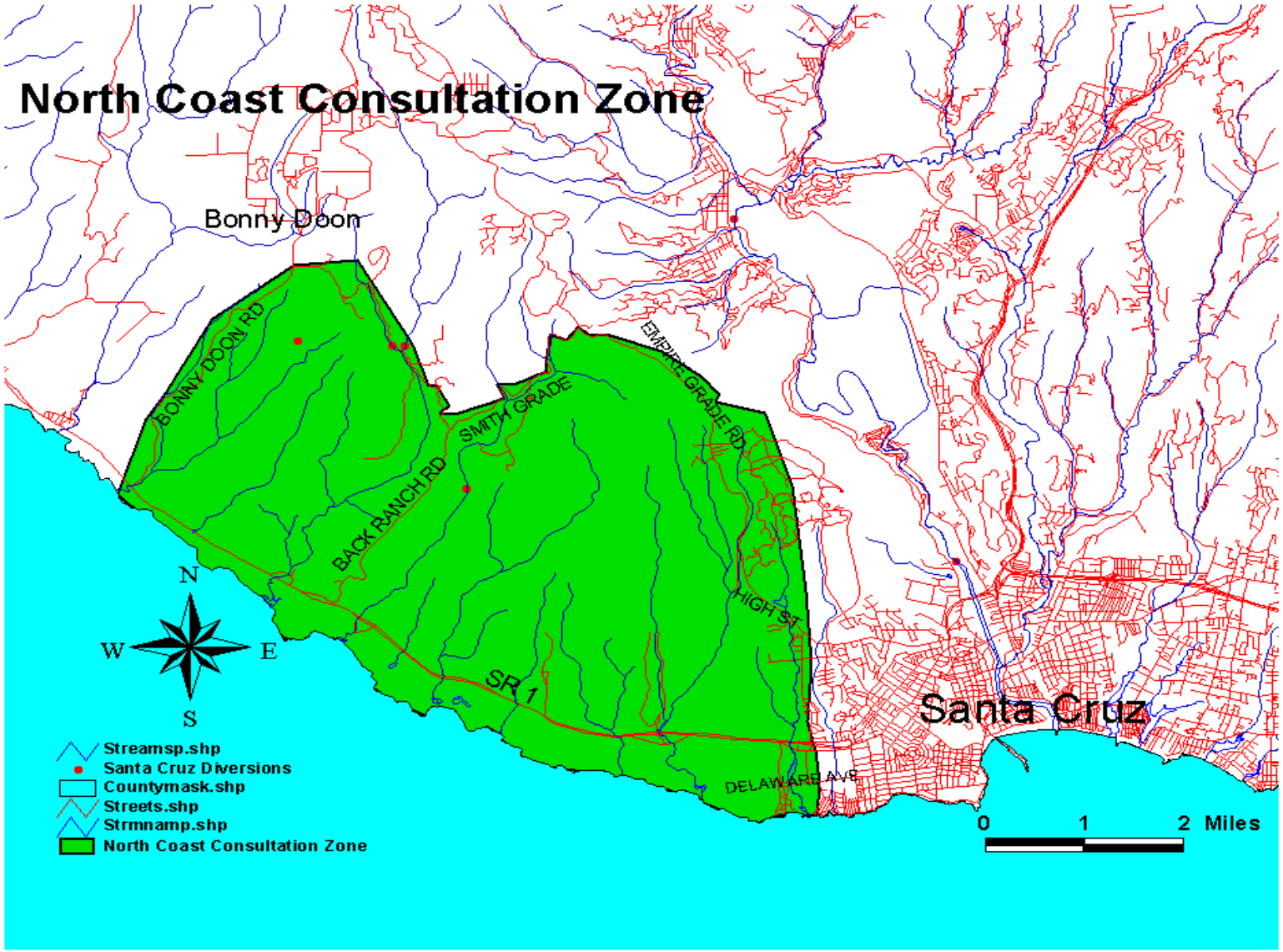
SCWD Water Resources Manager

[include as attachment a map of the discharge site]

cc: read file, SCWD Operations Manager, USFWS, DFG, NMFS, RWQCB, SCCO Planning

PROCEDURE	7105-01
EFFECTIVE	7/10/08
SUPERSEDES	8/30/02

Attachment 2 – Map



Attachment 3 – Data sheet

DEWATERING DATA	DESCRIPTION	UNITS	LIMIT	SAMPLE
	Chlorine residual	mg/l	0	
Discharge	Turbidity	NTU	Reached when discharge causes natural turbidity of receiving water (measured upstream of project site) to exceed guidelines for downstream samples (see below)	
	pH	NA	6.5-8.5	
	Temperature	Degrees Celsius		
	Volume	gallons		
Upstream	Chlorine residual	mg/l	0	
	Turbidity	NTU	N/A, this is natural site turbidity	
	pH	NA	N/A, this is natural site pH	
	Temperature	Degrees Celsius		
	Presence of aquatic life?	Y/N		
	Presence of visible sheens, films, discoloration?	Y/N		
	Presence of erosion or sediment transport or % embeddedness	Y/N or %		
Downstream	Chlorine residual	mg/l	0	
	Turbidity* *Limits are taken from the Basin Plan's JTU guidelines to provide an approximate benefit in NTU units	NTU	1. Where natural turbidity is between 0 and 50 units, increases shall not exceed 20 percent. 2. Where natural turbidity is between 50 and 100 units, increases shall not exceed 10 units. 3. Where natural turbidity is greater than 100 units, increases shall not exceed 10 percent.	
	pH	NA	6.5-8.5	
	Temperature	Degrees Celsius		
	Presence of aquatic life?	Y/N		
	Presence of visible sheens, films, discoloration?	Y/N		
	Presence of erosion or sediment transport or % embeddedness	Y/N or %		
Date: Time: Sampler's Initials: Measurement Instrument Type/ID Code if applicable:		Notes:		Weather:

Attachment 1 – Sample Notification Letter

PROCEDURE	7105-01
EFFECTIVE	7/10/08
SUPERSEDES	8/30/02

CONSTRUCTION WORK

Best Management Practices

Chapter 4 of the Best Management Practices Manual for the City's Storm Water Management Program

Planning Department
Public Works Department
809 Center Street, Santa Cruz, CA 95060

Published: March 2007
Authorized by Municipal Code Chapter 16.19

BEST MANAGEMENT PRACTICES (BMPs) FOR CONSTRUCTION WORK

In the City of Santa Cruz, water in the streets, gutters, and storm drains flows directly to local creeks, the San Lorenzo River, or Monterey Bay without any treatment. If certain precautions are not taken, construction sites and even small home construction projects can generate wastewater and runoff that carry debris, paint, concrete, and other harmful pollutants into our storm drain system. These pollutants can clog storm drain inlets and pipes, damage sensitive creek habitats, and pollute our bay and ocean. Also, unless proper erosion control measures are taken, runoff from construction sites can cause erosion and the deposition of soil and sediment in our waterways. This, in turn, leads to the degradation of creeks and rivers and can inhibit fish populations.

Therefore, in order to reduce the amount of pollutants reaching the storm drain system and local waterways, the City developed "Best Management Practices (BMPs)" for construction work. All types of construction projects, whether large sites or small projects, must abide by these BMPs, as applicable, in addition to complying with the City Municipal Code. Construction work includes, but is not limited to, clearing, grading, excavation, stockpiling, building, masonry and concrete work, and roadwork. These BMPs apply to commercial, retail, industrial, and residential projects, and to both new construction sites and remodeling projects. The City Planning and Public Works Departments may also place additional conditions or requirements on a construction project in accordance with the Municipal Code.

Applicants for a construction permit should also be aware that the State of California requires construction sites equal to or greater than one acre (or less than one acre but part of a larger common plan of development or sale) to obtain the state's Construction Activities Storm Water General Permit. The landowner is responsible for filing a Notice of Intent (NOI) with the State Regional Water Quality Control Board (RWQCB) and for developing a Storm Water Pollution Prevention Plan (SWPPP) prior to commencement of any soil disturbing activities. For more information about the Construction Activities Storm Water General Permit, please call the State Water Quality Control Board at (916) 341-5537 or refer to their website at:

http://www.swrcb.ca.gov/stormwtr/construction.html.

The Best Management Practices (BMPs) for construction work are detailed on the following pages. *If you have any questions, please call the City of Santa Cruz Planning Department, Inspection Services, at 420-5120, or the Public Works Department at 420-5131.*

PLANNING CONSTRUCTION PROJECTS

- Site development shall be fitted to the topography and soil in order to minimize the potential for erosion.
- Conduct grading operations in phases in order to reduce the amount of disturbed areas and exposed soil at any one time. In addition, unless specifically approved on the project's *Erosion Control Plan*, clearing, excavation, and grading shall not be conducted during rainy weather. All rainy season grading must be in accordance with Section 18.45.040 of Title 18 of the City's Municipal Code. An exception may be granted for minor clearing or grading that does not present a hazard and is approved by the Building Official.
- Clearing limits, easements, setbacks, sensitive or critical areas, trees, drainage courses, and buffer zones must be delineated to prevent excessive or unnecessary disturbances and exposure prior to construction.
- Align roads and driveways, whether temporary or permanent, along slope contours as feasible.
- Plan to route construction traffic over areas that must be disturbed for other construction activities in order to reduce the amount of area that must be cleared.
- Access roads and entrances must be constructed to minimize the tracking of soil, mud, or hazardous materials into the roadway or drains. Shaker roads and/or wash down facilities for construction vehicles must be installed on any site greater than one acre and on a case-by-case basis for smaller sites. Either City Public Works or Inspection Services staff must approve shaker road design and maintenance prior to installation. Mud, dirt, gravel, sand, and other materials tracked or dropped on city streets must be cleaned up to prevent washing into storm drains. Heavy equipment that is not rubber wheeled or smooth–tracked must be offloaded on the construction site, not in the street.
- Plan to recycle waste or demolition materials whenever possible. Call the City's Customer Service Division, at (831) 420-5220, for information about what may be recycled and to arrange to have recycling bins or dumpsters brought to the site.
- If your construction site is equal to or greater than one acre in size (or is less than one acre but part of a larger development), you must file a Notice of Intent (NOI) with the state Regional Water Quality Control Board (RWQCB) for the Construction Activities Storm Water General Permit prior to commencing work and prior to applying for a construction permit with the City of Santa Cruz.

EROSION AND SEDIMENT CONTROL

Minimizing Land Disturbance and Vegetation Removal

- Erosion and sediment control BMP's shall be in place and implemented, as appropriate, prior to commencing grading or vegetation removal. Such measures shall be maintained on all disturbed areas in order to prevent a net increase of sediment load in a site's storm water discharge relative to pre-construction levels.

- All on-site erosion control measures and structural devices, both temporary and permanent, shall be properly installed and maintained. If damaged during construction, they shall be promptly repaired or reinstalled.
- Minimize land disturbance such as cuts and fills. Stabilize slopes and all disturbed areas as soon as grading is finished or cut-and-fills are made.
- Use one or more of the following to reduce the erosion potential from bare, exposed, or disturbed soil: filter fabric, erosion control blankets, geotextiles, mulching, seeding, vegetation planting, or other appropriate cover material. If vegetative cover is used, a uniform vegetative cover with a minimum of 70 percent coverage must be established.
- Vegetation removal shall be limited to the amount necessary and according to approved erosion control plans.
- Prior to commencing vegetation or topsoil removal, clearly mark the proposed limits of land disturbance to ensure that only the required land is cleared.
- Cleared vegetation may not be disposed of in a creek, gully, or waterway.
- Waste vegetation should be disposed of through the City's GreenCycle! program. The program accepts many types of vegetation including brush, plants, branches, and tree trunks (not exceeding 24 inches in diameter and four feet in length). Vegetation may be dropped off at the City's Resource Recovery Facility or placed in a City GreenCycle! container for pickup by the City. For more details, please call the City's Customer Service Division at (831) 420-5220.
- As permanent vegetation is maturing, temporary vegetation shall be established on all disturbed areas as needed to stabilize the soil and as each grading phase is completed.
- Jute netting, mulching, fertilizing, and irrigation must be used to protect new plantings. When planting trees for retention, protect tree crowns and root zones.

Preventing Water and Sediment Runoff

- Effective erosion and sediment control measures must be implemented and maintained on all disturbed areas in order to prevent a net increase of sediment load in a site's storm water discharge relative to pre-construction levels.
- During the rainy season, erosion control measures must also be located at all appropriate locations along the site's perimeter and at all inlets to the storm drain system. Effective methods to protect storm drain inlets include sand bag barriers, heavy rubber mats to cover and seal the inlet, and sediment traps or basins.
- Effective filtration devices, barriers, and settling devices shall be selected, installed and maintained properly.
- Silt fences must be installed so that the drainage around each fence does not create additional erosion and rills down slope of the fence.
- If straw bales are used to filter sediment from runoff, ensure that the bales are actually filtering the water (and not just causing the water to travel around the bale) and that straw pieces are not carried into the storm drain system.

- Whenever possible, use terracing, surface roughening (e.g. with a dozer), and energy dissipaters (such as riprap, sand bags, and rocks) on slopes to reduce runoff velocity and trap sediments. Do not use asphalt rubble or other demolition debris for this purpose.
- All on-site erosion control measures and structural devices, both temporary and permanent, shall be properly maintained so that they do not become nuisances with stagnant water, odors, insect breeding, heavy algae growth, debris, and/or safety hazards.
- A qualified person should conduct inspections of all on-site BMPs during each rainstorm, if possible, and after a storm is over to ensure that the BMPs are functioning properly. For sites greater than one-acre, on-site inspections are required in accordance with the State Water Quality Control Board Construction Activities Storm Water General Permit.

LANDSCAPING

- Existing trees or tree stands located on a site for which a discretionary permit is required shall not be removed until such a permit is approved by the Planning Department.
- Trees subject to the Heritage Tree Ordinance and other trees designated for protection by a development proposal shall be protected through the use of barricades or other appropriate methods during the construction phases.
- Never dump or leave soil, mulch, vegetation, and other landscape products into the street, gutter, or storm drain system.
- At the end of each day, sweep up soil and other landscape products that remain on pavement, such as the sidewalk, driveway, or street.

PAINTING

- Paint, paint thinner, and rinse water containing either of these may never be discharged into the storm drain system. In addition, rinse water that contains paint or pain thinner may never be discharged into the storm drain system.
- When there is a risk of a spill reaching storm drains, nearby storm drain inlets must be protected prior to starting painting.
- When work is conducted on a bridge, take precautions to prevent runoff from reaching the water body beneath the bridge.
- Clean up spills immediately.
- Paintbrushes, rollers, and containers may never be cleaned or rinsed into a street gutter or storm drain inlet.
- When cleaning brushes and rollers after painting, brush out excess paint onto newspaper or cardboard. If using latex paints, the brush or roller may then be rinsed in a sink that is plumbed to the sanitary sewer. If using oil-based paints, the brush or roller needs to be cleaned with paint thinner. Paint thinners cannot be discharged to the sanitary sewer and must be disposed of as hazardous waste.

- Leftover paint in the roller pan should be drained back into the paint can. If using paint hoses and guns, spray out the paint residue into the paint can.
- Leftover water-based (latex) paint should be recycled, returned to the supplier or donated to someone who will use it. Dried latex paint and empty paint cans may be disposed of in the garbage.
- Leftover oil-based paint may be recycled or disposed of as hazardous waste. Paint thinners must be disposed of as hazardous waste. For more information about hazardous waste disposal, please contact the County Environmental Health Department at (831) 454-2022.
- Non-hazardous paint chips and dust from dry stripping and sand blasting may be swept up or collected in plastic drop cloths and disposed of as trash. Residue from chemical paint stripping and chips and dust from marine paints or paints containing lead or tributyl tin must be disposed of as a hazardous waste.
- When using high-pressure water to strip or clean building exteriors prior to painting, cover or berm nearby storm drain inlets to prevent discharge into the storm drain system. The wastewater must be collected and should be discharged to the sanitary sewer if the paint does not contain lead (usually buildings painted after 1978) or mercury. If paint containing lead or mercury was used, contact an Environmental Compliance Inspector, at (831) 420-6050, for information about the appropriate discharge or disposal options prior to commencing the work.
- If grinding or blasting is used to remove old paint, protect nearby storm drain inlets with some type of a protective cover such as a heavy rubber mat. Paint dust, particles, and other debris must be completely cleaned up, preferably by sweeping, after the job is done.

MASONRY AND CONCRETE WORK

- Concrete, cement, and masonry products may never be discharged into the storm drain system. Concrete, cement, and masonry mixing containers may not be washed or rinsed into the street or storm drain system. If a concrete transit mixer is used, a suitable washout box, excavation or self-washing mixer able to contain the waste material shall be provided on-site.
- Sediment or pollutant laden water may not be discharged into the storm drain system
- Do not mix fresh concrete or cement mortar in a gutter, over a storm drain inlet, or immediately adjacent to a water body.
- The discharge of slurry to the storm drain system is prohibited. During tile cutting, ensure that the slurry water does not run off into the street or storm drain system. Also, dried slurry must be cleaned up and properly disposed so that it will not be carried into the storm drain system by wind, traffic, or rain.
- Store materials under cover and protected from wind, rain, and runoff.
- Small amounts of excess concrete, grout, and mortar may be disposed of in the trash.

- Wash out from concrete mixers may never be disposed of in the street or storm drain system. If possible, pump the washout back into the mixer for reuse.

ROADWORK AND PAVING

- Protect nearby storm drain inlets (preferably with heavy rubber mats) and adjacent water bodies prior to breaking up asphalt or concrete.
- The discharge of saw cut slurry to the storm drain system is prohibited. Take measures to contain the slurry and, if necessary, protect nearby catch basins or gutters. If slurry enters the storm drain system, remove material immediately.
- Dried saw cut slurry must be cleaned up and properly disposed so that it will not be carried into the storm drain system by wind, traffic, or rainfall.
- After breaking up old pavement, sweep up materials and recycle as much material as possible. Properly dispose of non-recyclable materials.
- Cover and seal nearby storm drain inlets and manholes before applying seal coat, slurry seal, etc. Leave covers in place until the oil sealant is dry or the end of the day.
- If it rains unexpectedly, take appropriate action to prevent pollution of storm water runoff (e.g., divert runoff around work areas, cover materials).
- Park paving machines over drip pans or absorbent materials if they have a drip or leak.
- Never wash sweepings from exposed aggregate concrete into a street or a storm drain inlet. Collect and return to aggregate base stockpile or dispose of in the trash.
- Remove and clean up material stockpiles (i.e. asphalt and sand) by the end of each week or, if during the rainy season, the end of the day. Stockpiles must be removed by the end of each day if they are located in a public right-of-way.

EQUIPMENT AND VEHICLE MAINTENANCE AND CLEANING

- Inspect equipment and vehicles frequently and repair any leaks as soon as possible. Perform major maintenance and repairs off-site.
- Clean up leaks, drips, and spills immediately. Use dry cleanup methods if possible.
- If refueling or repair of vehicles and equipment must be done on-site, use a designated location away from storm drain inlets, water bodies, and other sensitive areas.
- If equipment is washed on-site, wash water may not be discharged to the storm drain system. If possible, wash vehicles at an appropriate off-site facility.
- Recycle used motor oil, other vehicle fluids, and vehicle parts whenever possible.

MATERIAL AND SOIL STOCKPILES AND STORAGE

- Material and soil stockpiles must be located away from gutters, storm drain inlets, and water bodies. In addition, keep stockpiles away from steep slopes and unstable soil in order to minimize the chance of an accidental release to the environment. Stockpiles may never be stored on a street or in an alley unless specifically approved by the City.
- Store materials, including stockpiles and excavation spoils, under cover and protected from wind, rain, and runoff. Cover piles of soil, construction materials and wastes with plastic sheeting or tarps so that wind or rain will not carry them into the street or storm drain. Open bags of particulate, granular, or powder materials (such as plaster or concrete) should be stored indoors if possible. If stored outside, they must be covered at all times and, during the rainy season, kept within secondary containment.
- Paints, chemicals, solvents, and other hazardous materials must be stored inside or within a shed with double containment.
- Open bags of particulate, granular, or powder materials (such as plaster or concrete) should be stored indoors if possible. If stored outside, they must be covered or closed, and during the rainy season they must kept within secondary containment.
- During the rainy season, after October 15th or sooner if rain is forecast, control measures must be implemented for the items listed below if stored outside in order to prevent sediment, litter, and other pollutants from leaving the site and/or being discharged into the storm drain system.
    - Material stockpiles
    - Soil stockpiles
    - Excavation spoils
    - Construction materials

WASTE DISPOSAL: VEGETATION, BUILDING MATERIALS, AND DEMOLITION WASTES

- Waste vegetation, discarded building materials and demolition wastes must never be left in a street, gully, or waterway.
- Wastes should be stored in containers or a dumpster whenever possible. Piles of uncontained wastes should be covered and protected from wind and rain.
- Waste vegetation should be disposed of through the City's GreenCycle! program. The program accepts many types of vegetation including brush, plants, branches, and tree trunks (not exceeding 24 inches in diameter and four feet in length). Vegetation may be dropped off at the City's Resource Recovery Facility or placed in a City GreenCycle! container for pickup by the City. For more details, please call the City's Customer Service Division at (831) 420-5220.
- Recycle waste, such as vegetation or demolition materials, whenever possible. Call the City's Customer Service Division, at telephone (831) 420-5220, for information about

what may be recycled and to make arrangements to have recycling bins or dumpsters brought to the work site.

There are reduced rates available for certain waste materials separated according to type. These waste types are: 1) green waste, lumber and wood; 2) mixed construction and demolition debris; 3) dirt; and 4) broken brick, asphalt, and concrete. When calling Customer Service, please ask about the "Other Materials" box rates and tonnage fees for separated materials. The same tonnage fees are also available at the landfill for self-hauled separated loads.

- Construction projects at commercial or industrial sites must obtain any detached roll-off boxes, dumpsters, debris-boxes or other containers for collection of waste materials (to be disposed of or recycled) from the City's Sanitation Services at (831) 420-5220. A private hauling service may be used only if all roll-off boxes or containers are left attached to the service's vehicle the entire time the box is at the site.
- Recycle broken concrete from concrete structures and pavement whenever possible. To facilitate recycling, do not mix concrete with other types of waste.
- Unpainted and untreated waste lumber should be disposed of through the City's GreenCycle! program.
- Scrap metal and appliances may be recycled at the City's Resource Recovery Facility. Toilets and sinks may also be recycled if the plumbing fixtures are removed. For more information, please call the City's Customer Service Division at (831) 420-5220.
- Asbestos and other debris containing hazardous materials must be disposed of as hazardous waste. For more information about hazardous waste disposal, please contact the County Environmental Health Department at (831) 454-2022.

SITE CLEANUP

- When cleaning up, sweep instead of hosing down whenever possible. Litter and debris must be picked up and disposed of properly.
- The street, sidewalk, and other paved areas may not be cleaned by washing or by directing sediment, concrete, asphalt, or other particles into the storm drain system. If water is used to flush sediment or particles from pavement, the water must be directed to a landscaped or grassy area large enough to absorb all the water.
- If conducting road or sidewalk work, material stockpiles must be removed and cleaned up by the end of each day.
- Discarded building materials and demolition wastes must never be left in a street, gully, or waterway. Dispose of all wastes properly including leftover paint and chemicals. Materials that cannot be reused or recycled must be taken to an appropriate landfill or disposed of as hazardous waste.
- When the job is completed, collect all unused or waste materials and dispose of properly. Never leave or abandon materials or excavation spoils onsite. Ensure that nothing has "drifted" towards the street, gutter, or catch basin.

GOOD HOUSEKEEPING PRACTICES

- Prior to beginning a project, identify all storm drains, drainage swales, and creeks located at and nearby the construction site. Ensure all subcontractors are aware of these locations.
- Protect vegetation and trees from accidental damages from construction activities by surrounding them with fencing, tree armoring, or retaining walls.
- Clean up leaks, drips, and other spills immediately. Use dry cleanup methods if possible.
- Leaks, spills, and drips of hazardous materials and chemicals must be contained and cleaned up as quickly as possible to minimize run-off or soak in. This includes fuel and motor oil, hydraulic fluid, and glycol based anti-freeze from vehicles. Encountered abandoned fuel/oil tanks (and their contents) must be removed in a manner consistent with methodology approved by both the City and the Santa Cruz County Environmental Health Department.
- Place trash cans around the site to reduce litter. Dispose of non-hazardous construction wastes in covered dumpsters or recycling receptacles.
- Keep dumpster lids closed and secured. For dumpsters or bins that don't have a lid, cover them with plastic sheeting or a tarp during rainy or windy weather.
- If portable toilets are used, ensure that the leasing company properly maintains the toilets and promptly makes repairs as needed. Conduct visual inspections for leaks.

TRAINING

- Train your employees on these BMPS and familiarize them with storm water issues prior to beginning work. Inform your subcontractors about storm water requirements and be sure that they also abide by these BMPs.
- If your site is required by the Regional Water Quality Control Board to implement a Storm Water Pollution Prevention Plan (SWPP), ensure that the individuals responsible for SWPPP preparation, implementation, and permit compliance are appropriately trained, and that this training is documented. This includes those personnel responsible for installation, inspection, maintenance, and repair of BMPs. Those responsible for overseeing, revising, and amending the SWPPP must also document their training.

ADDITIONAL REFERENCE MANUAL

For general state guidelines and more in-depth information on erosion and sediment control practices to protect water quality during construction projects, please refer to the *Erosion and Sediment Control Field Manual*, Fourth Edition August 2002, produced by the CA Regional Water Quality Control Board, San Francisco Bay Region. This manual may be obtained by contacting the San Francisco Estuary Project, at 510-622-2465, or ordering online at the ABAG (Association of Bay Area Governments) web store at: http://store.abag.ca.gov/construction.asp.

For more information, please call the City of Santa Cruz:

Planning Department, Inspection Services, at 420-5120

or

Public Works Department at 420-5131.

TRABAJO DE CONSTRUCCIÓN

Las mejores prácticas de control

Capítulo 4 del *Manual de las mejores prácticas de control* para el Programa de control de las aguas pluviales en la ciudad

Departamento de Planificación
Departamento de Obras Públicas
809 Center Street, Santa Cruz, CA 95060

Publicado: marzo de 2007
Autorizado por el Capítulo 16.19 de Código Municipal

LAS MEJORES PRÁCTICAS DE CONTROL (MPC) PARA EL TRABAJO DE CONSTRUCCIÓN

En la ciudad de Santa Cruz el agua de las calles, los desagües y los drenajes de aguas pluviales corren directamente a los arroyos locales, al río San Lorenzo o a la Bahía de Monterrey, sin ningún tipo de tratamiento. Si no tomamos medidas de control apropiadas, los sitios de construcción y hasta los proyectos menores de construcción en los hogares pueden generar aguas residuales y aflujos que acarreen basura, pintura, concreto y otros elementos de polución dañosos a nuestro sistema de desagüe de aguas pluviales. Esta polución puede tapar las tomas y los caños, dañar los hábitats sensibles de nuestros arroyos y polucionar nuestra bahía y el océano. Además, a menos que se tomen medidas para controlar apropiadamente la erosión, el aflujo de agua de sitios de construcción puede causar erosión y la deposición de polvo y sedimentos en nuestras vías fluviales. Esto, a su vez, lleva a la degradación de arroyos y ríos y puede inhibir las poblaciones de peces.

Por lo tanto, para reducir la cantidad de polución que llega al sistema de drenaje de aguas pluviales y a las vías fluviales locales, la ciudad ha desarrollado "Las mejores prácticas de control (MPC)" para el trabajo de construcción. Todos los tipos de proyectos de construcción, ya sean grandes o pequeños, deben cumplir con estas MPC, según sean pertinentes, además de cumplir con el Código Municipal de la ciudad. El trabajo de construcción incluye, pero no se limita a, desmontar, nivelar, excavar, acopiar, construir, trabajo de albañilería y con concreto, y arreglo o construcción de calles. Estas MPC son pertinentes a proyectos comerciales, minoristas, industriales y residenciales, y tanto a la nueva construcción como a proyectos de remodelación. Los Departamentos de Planificación y de Obras Públicas de la ciudad pueden también poner condiciones o requisitos adicionales a un proyecto de construcción, de acuerdo al Código Municipal.

Quienes soliciten un permiso de construcción deberían tener presente que el estado de California requiere que los proyectos de construcción en un sitio de un acre o más (o menos de un acre pero parte de un mayor plan común de desarrollo o venta) obtengan el permiso general de Actividades de construcción alrededor de las aguas pluviales. El propietario del terreno es responsable de registrar una Notificación de Intento (NOI) ante la Junta estatal de control de calidad del agua regional (*State Regional Water Quality Control Board (RWQCB)*, y de desarrollar un Plan de prevención contra la polución de las aguas pluviales antes de comenzar cualquier actividad que disturbe el terreno. Para más información sobre el permiso general de Actividades de construcción alrededor de las aguas pluviales, por favor llame a la Junta estatal de control de calidad del agua regional al (916) 341-5537, o visite su sitio en Internet en:

http://www.swrcb.ca.gov/stormwtr/construction.html.

Las mejores prácticas de control (MPC) para el trabajo de construcción están detalladas en las siguientes páginas. *Si tiene alguna pregunta, por favor llame al Departamento de Planificación de la ciudad de Santa Cruz, Servicios de Inspección, al 420-5120, o al Departamento de Obras Públicas al 420-5131.*

PLANEANDO PROYECTOS DE CONSTRUCCIÓN

- El desarrollo del sitio de construcción debe ajustarse a la topografía y al terreno para poder reducir al mínimo la posibilidad de erosión.
- Realice las operaciones de nivelación en fases para reducir la cantidad de áreas disturbadas y de tierra expuesta a la vez. Además, a menos que esté especialmente aprobado en el *Plan de Control de Erosión* del proyecto, el desmonte, la excavación y la nivelación no pueden realizarse durante la temporada de lluvias. Todas las nivelaciones durante la temporada de lluvias deben estar de acuerdo a la Sección 18.45.040 del Título 18 del Código Municipal de la ciudad. Se puede hacer una excepción para el desmonte menor o nivelación menor que no presenten peligro y debe ser aprobada por el Oficial de Construcción.
- Límites de desmonte, accesos, reajustes, áreas sensitivas o críticas, árboles, cursos de drenaje y zonas divisorias deben ser delineadas para prevenir excesivas o innecesarias alteraciones y exposiciones antes de la construcción.
- Alínee las calles y las entradas, ya sea provisoria o permanentemente, a lo largo del contorno del declive mientras sea posible.
- Planee dirigir el tráfico de construcción a las áreas que deben ser disturbadas para otras actividades de construcción para reducir la cantidad de áreas que deben ser desmontadas.
- Las rutas de acceso y las entradas deben ser construidas reduciendo al mínimo el acarreo de tierra, lodo o materiales tóxicos a la calle o a las tomas. Se deben instalar calles sacudidoras y / o lugar para lavar los vehículos de construcción en los sitios de construcción de más de un acre y en los sitios más pequeños según el caso. Ya sea el Departamento de Obras Públicas o el personal de Servicios de Inspección deben aprobar el diseño de las calles sacudidoras y de mantenimiento antes de ser construidas. Lodo, tierra, grava, arena y otros materiales acarreados por las ruedas de los vehículos o desparramados en las calles de la ciudad deben ser limpiados para prevenir que lleguen a los drenajes de aguas pluviales. Equipo pesado que no tenga ruedas de goma o lisas debe ser descargado en el sitio de construcción, no en la calle.
- Planee reciclar los desperdicios o materiales de demolición siempre que sea posible. Llame a la División de Servicios al Cliente de la ciudad al (831) 420-5220 para información sobre lo que puede reciclarse y para pedir que traigan al sitio de construcción contenedores de reciclaje o basureros.
- Si su sitio de construcción tiene un acre o más (o menos de un acre pero es parte de un proyecto mayor), debe registrar una Notificación de Intento (NOI) ante la Junta estatal de control de calidad del agua regional (*State Regional Water Quality Control Board (RWQCB))* para el Permiso general de actividades de construcción alrededor de las aguas pluviales, antes de comenzar el trabajo y antes de solicitar un permiso de construcción a la ciudad de Santa Cruz.

CONTROL DE EROSIÓN Y SEDIMENTO

Reduciendo al mínimo el disturbio de la tierra y la remoción de la vegetación

- Las MPC con respecto a erosión y sedimento deben ser implementadas, según sea apropiado, antes de comenzar la nivelación o la remoción de la vegetación. Estas medidas deberán mantenerse en todas las áreas disturbadas para prevenir un aumento neto de sedimento en la descarga de aguas pluviales en relación a los niveles previos a la construcción.
- Todas las medidas de control de la erosión en el sitio de construcción y los artefactos estructurales, tanto provisorios como permanentes, deberán ser apropiadamente instalados y mantenidos. Si se dañaran durante la construcción, deberán ser prontamente reparados o vueltos a instalar.
- Reduzca al mínimo el disturbio de la tierra como cortar y rellenar. Estabilice los declives y todas las áreas disturbadas tan pronto termine la nivelación o después de cortar y rellenar.
- Use uno o más de los siguientes métodos para reducir la posibilidad de erosión de tierra desnuda, expuesta o disturbada: tela de filtrar, frazadas de control de erosión, geotextiles, cubierta orgánica, semillas, plantado de vegetación u otro material apropiado para cubrir la tierra. Si se usa una cubierta vegetal, debe establecerse una cubierta vegetal uniforme cubriendo un mínimo de 70 por ciento.
- La remoción de vegetación debe estar limitada a la cantidad necesaria y de acuerdo a los planes aprobados de control de erosión.
- Antes de comenzar la remoción de vegetación o de la capa fértil de suelo, marque claramente los límites propuestos de tierra a disturbar para asegurar que sólo desmonte la tierra necesaria.
- La vegetación desmontada no puede echarse en un arroyo, barranca o extensión de agua.
- La vegetación desmontada debería descartarse a través del programa GreenCycle! de la ciudad. El programa acepta muchos tipos de vegetación incluyendo maleza, plantas, ramas y troncos de árboles (que no excedan las 24 pulgadas de diámetro y cuatro pies de largo). La vegetación puede ser dejada en la Planta de Recuperación de Recursos de la ciudad o puesta en un contenedor de GreenCycle! de la ciudad para que la ciudad lo levante. Para más detalles, por favor llame a la División de Servicios al Cliente al (831) 420-5220.
- Mientras la vegetación permanente crece, la vegetación provisoria debe ser establecida en todas las áreas disturbadas según se necesite para estabilizar la tierra y a medida que se completada cada fase de la nivelación. .
- Se deben utilizar redes de yute, cubierta orgánica e irrigación para proteger la nueva plantación. Al plantar árboles para retención, proteja la corona de los árboles y las zonas de raíces.

Prevenir el aflujo de agua y sedimentos

- Efectivas medidas de control de erosión y sedimentos deben ser implementadas y mantenidas en todas las áreas disturbadas para prevenir un aumento neto de sedimento en las descargas de aguas pluviales en relación a los niveles previos a la construcción.
- Durante la temporada de lluvias, medidas de control de erosión deben también tomarse en todos los lugares apropiados a lo largo del perímetro y en todas las tomas del sistema de drenaje de aguas pluviales. Métodos efectivos para proteger las tomas de drenaje de aguas pluviales incluyen barreras de bolsas de arena, esteras de goma pesadas para cubrir y sellar las tomas y trampas de sedimento o cuencas.
- Efectivos artefactos de filtración, barreras y artefactos de asentamiento deberán ser seleccionados, instalados y mantenidos apropiadamente.
- Cercos de cieno deben instalarse de manera que el drenaje alrededor de cada cerco no cree erosión adicional y arroyuelos bajando el declive del cerco.
- Si se utilizan fardos de paja para filtrar el sedimento de las aguas que corren, asegúrese que los fardos estén verdaderamente filtrando el agua (y no simplemente causando que el agua dé la vuelta alrededor del fardo) y que trozos de paja no sean acarreados al sistema de drenaje de aguas pluviales.
- Siempre que sea posible, haga terrazas, aumente la rugosidad del terreno (como con un buldózer) y use disipadores de energía (como pila de piedras, bolsas de arena y rocas) en los declives para reducir la velocidad del agua que corre y atrapar los sedimentos. No use escombros de asfalto u otros desperdicios de demolición para este propósito.
- Todas las medidas de control de erosión en el sitio de construcción y los artefactos estructurales, tanto provisorios como permanentes, deberán ser apropiadamente mantenidos para que no se conviertan en molestias con agua estancada, olores, engendrando insectos, promoviendo el crecimiento de alga, juntando basura y / o presenten peligros de seguridad.
- Una persona calificada debería realizar inspecciones de todas las MPC en el sitio de construcción durante cada tormenta, si fuera posible, y después de una tormenta, para asegurar que las MPC estén funcionando correctamente. Para los sitios de más de un acre, las inspecciones del sitio son obligatorias de acuerdo con el Permiso general de actividades de construcción alrededor de las aguas pluviales de la Junta estatal de control de calidad del agua regional.

DISEÑO DE JARDINES

- Árboles existentes o bases ubicadas en un sitio para el que es obligatorio obtener un permiso discrecional no serán removidos hasta que dicho permiso sea aprobado por el Departamento de Planificación.
- Árboles sujetos a la Ordenanza de Árboles Patrimoniales y otros árboles designados para protección por una propuesta de lotificación deberán ser protegidos usando barricadas u otros métodos apropiados durante las fases de construcción.

- Nunca arroje o deje tierra, cubierta orgánica, vegetación y otros productos de jardinería en la calle, la cuneta o el sistema de drenaje de aguas pluviales.
- Al final de cada día barra la tierra y otros productos de jardinería que queden en el pavimento, ya sea en la acera, en la entrada o en la calle.

PINTURA

- Pintura, disolvente y agua de enjuague que contenga cualquiera de los dos no pueden nunca echarse en el sistema de drenaje de aguas pluviales. Además, las aguas residuales o aflujos que contengan pintura o disolvente no pueden nunca ser echados en un drenaje de aguas pluviales.
- Cuando exista el riesgo de derrame que pueda llegar al drenaje de aguas pluviales, las tomas cercanas del drenaje deben ser protegidas antes de comenzar a pintar.
- Cuando realice trabajo en un puente, tome precauciones para prevenir que no caiga nada en la extensión de agua debajo del puente.
- Limpie lo que se vuelque inmediatamente.
- Los pinceles y contenedores no se deben limpiar nunca ni enjuagar en una calle, cuneta o canal, arroyo o drenaje de aguas pluviales.
- Al limpiar los pinceles y rollos después de pintar, limpie el exceso de pintura en un papel de diario o cartón. Si usa pintura de látex el pincel o rollo puede ser enjuagado en un fregadero que esté conectado con las cloacas. Si usa pintura a base de aceite, el pincel o rollo debe ser limpiado con disolvente. Los disolventes no pueden echarse en cañerías conectadas con las cloacas sino que deben desecharse como desechos tóxicos.
- La pintura que quede en la bandeja del rollo debería echarse en el bote nuevamente. Si usa mangueras y pistolas para pintar, vacíe la pistola en el bote de pintura.
- Recicle, devuelva al proveedor o done la pintura a base de agua (látex) que ya no desee. Los botes de pintura seca o los botes vacíos pueden arrojarse a la basura.
- La pintura a base de aceite que le sobre puede ser reciclada o desechada como desecho tóxico. Los disolventes deben ser desechados como desechos tóxicos. Para más información sobre cómo deshacerse de desechos tóxicos comuníquese por favor con el Departamento de Sanidad Ambiental del condado llamando al (831) 454-2022.
- Trozos o polvo de pintura seca no tóxica resultante del desvestimiento en seco y del pulido con chorro de arena pueden ser barridos o juntados en una sábana de plástico y echados a la basura. Los residuos de desvestimientos químicos de pintura y trozos y polvo de pinturas marinas o que contengan plomo o estaño tributyl deben ser desechados como desechos tóxicos
- Cubra o bordee las tomas de drenaje de aguas pluviales al desvestir o limpiar el exterior de edificios con alta presión de agua antes de pintar. Las aguas residuales no pueden echarse en el sistema de drenaje de aguas pluviales. Las aguas residuales deben juntarse y pueden echarse en cañerías conectadas a las cloacas si la pintura exterior del edificio no contiene plomo (usualmente los edificios pintados después de 1978) o mercurio. Si la

pintura contiene plomo o mercurio, comuníquese con un Inspector de Conformidad Ambiental llamando al (831) 420-6050, para información sobre las opciones para deshacerse apropiadamente de los desperdicios antes de comenzar el trabajo.

- Si remueve la pintura vieja por medio de pulverización o demolición, proteja las tomas de drenaje de aguas pluviales cercanas con una cubierta protectora como una estera de goma pesada. El polvo, las partículas de pintura y toda otra basura deben ser completamente limpiados, preferiblemente barriendo, al terminar el trabajo.

ALBAÑILERÍA Y TRABAJO EN CONCRETO

- Concreto, cemento y productos de albañilería no pueden nunca ser echados en el sistema de drenaje de aguas pluviales. Los contenedores para mezclar concreto, cemento y productos de albañilería no pueden ser lavados ni enjuagados en la calle ni cerca del sistema de drenaje de aguas pluviales. Si se usa un vehículo mezclador de concreto se debe proveer en el sitio una caja de lavado apropiado, una excavación o mezclador de auto-lavado que pueda contener el material del lavado.
- Sedimentos o aguas cargadas de polución no pueden descargarse nunca en el sistema de desagüe de aguas pluviales.
- No mezcle concreto fresco o argamasa de cemento en un canal de desagüe, sobre una toma de drenaje de aguas pluviales o inmediatamente adyacente a una extensión de agua.
- Está prohibido echar la lechada en el sistema de drenaje de aguas pluviales. Al cortar azulejos, asegúrese que el agua lechada no corra a la calle o al sistema de drenaje de aguas pluviales. Además, la lechada seca debe también ser limpiada y descartada adecuadamente para que no sea llevada al sistema de drenaje de aguas pluviales por el viento, el tránsito o la lluvia.
- Guarde los materiales bajo techo y protéjalos del viento, la lluvia y el agua que corre.
- Pequeñas cantidades que sobren de concreto, lechada y argamasa pueden tirarse a la basura.
- El agua al lavar los mezcladores de concreto no puede ser arrojada en la calle ni en el sistema de drenaje de aguas pluviales. Si es posible, bombee el agua nuevamente a los mezcladores para volver a usarla.

CONSTRUCCIÓN DE CALLES Y PAVIMENTO

- Proteja las tomas de drenaje de aguas pluviales (preferiblemente con esteras pesadas de goma) y las extensiones de agua adyacentes antes de comenzar a romper asfalto o concreto.
- La descarga de lechada cortada con sierra al drenaje de aguas pluviales está prohibida. Tome medidas para contener la lechada y, si es necesario, proteja los canales de desemboque cercanos o las cunetas. Si la lechada entra en el sistema de drenaje de aguas pluviales remueva el material inmediatamente.

- La lechada seca cortada con sierra debe ser limpiada y descartada apropiadamente para que no sea acarreada al sistema de drenaje de aguas pluviales por el viento, el tránsito o la lluvia.
- Después de cortar el pavimento viejo, barra los materiales y recicle la mayor cantidad de material posible. Deshágase apropiadamente de los materiales no reciclables.
- Cubra y selle las tomas de drenaje de aguas pluviales cercanas y las bocas de acceso antes de aplicar la capa selladora, capa impermeable, etc. Deje las cubiertas en el lugar hasta que el material de sellado se haya secado o hasta el fin del día.
- Si llueve repentinamente, tome las medidas apropiadas para prevenir la polución del sistema de drenaje de aguas pluviales (por ejemplo, cambie el rumbo de las aguas alrededor de las áreas de trabajo, cubra los materiales).
- Estacione las máquinas de pavimentar con bandejas debajo o materiales absorbentes si pierden o gotean.
- Nunca lave los desperdicios de concreto agregado expuesto en la calle o cerca de una toma de drenaje de aguas pluviales. Junte los desperdicios y póngalos en la pila de agregado base o tírelos a la basura.
- Remueva y limpie las pilas de materiales de reserva (como asfalto y arena) al término de cada semana o, durante la temporada de lluvias, al fin del día. Las pilas de desperdicios deben ser removidas al fin de cada día si están en una calle o lugar con derecho de paso.

MANTENIMIENTO Y LIMPIEZA DE EQUIPOS Y VEHÍCULOS

- Inspeccione el equipo y los vehículos con frecuencia y repare cualquier pérdida lo antes posible. Realice el mantenimiento y las reparaciones mayores fuera del sitio de construcción.
- Limpie las pérdidas, las goteras y lo que se derrame inmediatamente. Use métodos de limpieza en seco si fuera posible.
- Si el equipo o los vehículos se deben cargar de combustible o reparar en el sitio de construcción, use un lugar designado alejado de las tomas de drenaje de aguas pluviales, de extensiones de agua y de otras áreas sensitivas.
- Si se lava el equipo en el sitio, el agua usada no puede ser descargada en el sistema de drenaje de aguas pluviales. Si es posible, lave los vehículos en una planta apropiada fuera del sitio.
- Recicle el aceite de motor, otros fluidos del vehículo y las partes descartadas del vehículo cuando sea posible.

PILAS DE MATERIALES Y TIERRA DE RESERVA Y ALMACENAMIENTO

- Las pilas de materiales y de tierra de reserva deben ser ubicadas lejos de las cunetas, tomas de drenaje de aguas pluviales y extensiones de agua. Además, mantenga las pilas

de reserva lejos de terrenos con mucho declive y de suelos inestables para reducir al mínimo la posibilidad de su caída accidental en el medio ambiente. Los materiales de reserva no pueden apilarse nunca en una calle o callejuela a menos que haya sido específicamente aprobado por la ciudad.

- Almacene los materiales, incluyendo las pilas de reserva y los desperdicios de excavación, cubriéndolos y protegiéndolos del viento, la lluvia y las aguas que corren. Cubra las pilas de tierra, de materiales de construcción y de desperdicios con sábanas de plástico o lona impermeable para que el viento o la lluvia no los acarreen a la calle o a un drenaje de aguas pluviales.
- Pinturas, productos químicos, disolventes y otros materiales tóxicos deben ser guardados al interior o en un cobertizo con doble contención.
- **Bolsas abiertas de materiales en partículas, gránulos o polvo (como la argamasa o el concreto) deberían guardarse al interior si fuera posible. Si se guardan afuera, deben estar cubiertas en todo momento y, durante la temporada de lluvias, deben ser mantenidas dentro de un contenedor secundario.**
- Durante la temporada de lluvias, después del 15 de octubre o más pronto si se pronostica lluvia, deben implementarse medidas de control para los artículos mencionados a continuación si están guardados al exterior, para prevenir que sedimento, basura y otras sustancias contaminantes dejen el sitio o sean descargadas en el sistema de drenaje de aguas pluviales.
    - Pilas de materiales de reserva
    - Pilas de tierra de reserva
    - Desperdicios de excavación
    - Materiales de construcción.

ELIMINACIÓN DE DESECHOS: VEGETACIÓN, MATERIALES DE CONSTRUCCIÓN Y DESPERDICIOS DE DEMOLICIÓN

- Los desechos vegetales, materiales de construcción descartados y desperdicios de demolición no deben ser nunca dejados en la calle, en una barranca o una vía de agua.
- Los desperdicios deberían guardarse en contenedores o en un basurero cuando sea posible. Las pilas de desperdicios que no estén en contenedores deberían cubrirse y estar protegidas contra el viento y la lluvia.
- Los desechos de vegetación deberían descartarse a través del programa GreenCycle! de la ciudad. El programa acepta muchos tipos de vegetación, incluyendo maleza, plantas, ramas y troncos de árboles (que no excedan las 24 pulgadas de diámetro y cuatro pies de largo). La vegetación puede dejarse en la Planta de Recuperación de Recursos de la ciudad o puesta en un contenedor de GreenCycle! para que la ciudad la recoja. Para más detalles por favor llame a la División de Servicios al Cliente al (831) 420-5220.
- Recicle los desperdicios, como la vegetación o los materiales de demolición, siempre que sea posible. Llame a la División de Servicios al Cliente al (831) 420-5220 para

información sobre qué puede ser reciclado y para concertar que le lleven al sitio de construcción los contenedores para reciclaje o los basureros.

Hay tarifas reducidas disponibles para ciertos materiales de desperdicios separados según su tipo. Estos tipos de desperdicios son: 1) desechos vegetales, madera y leña; 2) desperdicios de materiales mezclados de construcción y demolición; 3) tierra; y 4) ladrillos rotos, asfalto y concreto. Al llamar a Servicios al Cliente, por favor pregunte la tarifa para el contenedor de "Otros materiales" y el cargo por tonelada para materiales separados. Los mismos cargos por tonelada están disponibles en los vertederos de basura a los que puede llevar usted mismo los desperdicios separados.

- Los proyectos de construcción en sitios comerciales o industriales deben obtener cualquier caja con ruedas, basureros, cajas para desechos u otros contenedores para la recolección de materiales de desperdicio (para ser desechados o reciclados) de los Servicios de Obras Sanitarias de la ciudad, llamando al (831) 420-5220. Un servicio privado de acarreo de desperdicios puede ser usado solamente si todas las cajas con ruedas o contenedores se dejan agarrados al vehículo de servicio durante todo el tiempo que la caja esté en el sitio de construcción.
- Recicle los trozos de concreto de estructuras de concreto y pavimento cuando sea posible. Para facilitar el reciclaje, no mezcle el concreto con otros tipos de desperdicios.
- Madera sin pintar y no tratada debería desecharse a través del programa GreenCycle! de la ciudad.
- Desechos de metal y artefactos eléctricos pueden ser reciclados en la Planta de Recuperación de Recursos de la ciudad. Los excusados y lavabos pueden también reciclarse si se les quitan los detalles de plomería. Para más información por favor llame a la División de Servicios al Cliente al (831) 420-5220.
- Asbestos y otros desperdicios que contengan materiales tóxicos deben ser desechados como desechos tóxicos. Para más información sobre cómo desechar materiales tóxicos por favor llame al Departamento de Salubridad Ambiental del condado al (831) 454-2022.

LIMPIEZA DEL SITIO DE CONSTRUCCIÓN

- Al limpiar, barra en vez de lavar con la manguera cuando sea posible. La basura y los desechos deben ser juntados y debe deshacerse de ellos apropiadamente.
- La calle, las aceras y otras áreas pavimentadas no pueden limpiarse lavándolas ni dirigiendo el sedimento, concreto, asfalto u otras partículas al sistema de drenaje de aguas pluviales. Si se usa agua para lavar el sedimento o las partículas del pavimento, el agua debe ser dirigida a una zona de jardín o de césped lo suficientemente grande como para absorber toda el agua.
- Si se realiza trabajo de calle o de acera, las pilas de materiales de reserva deben ser removidas y limpiadas al final del día.
- Los materiales de construcción descartados y los desperdicios de demolición no deben ser nunca dejados en la calle, en una barranca o vía de agua. Deshágase de todos los

desperdicios apropiadamente incluyendo pintura que le haya sobrado y productos químicos. Los materiales que no pueden ser vueltos a usar ni reciclados deben llevarse al vertedero de basura apropiado o descartados como desechos tóxicos.

- Al completar el trabajo, junte todos los materiales no usados y los desperdicios y deshágase de ellos apropiadamente. No deje nunca ni abandone materiales o desperdicios de excavación en el sitio de construcción. Asegúrese que nada se haya "deslizado" hacia la calle, la cuneta o canal.

BUENAS PRÁCTICAS DE CUIDADO

- Antes de comenzar un proyecto identifique el lugar de las tomas de drenaje de aguas pluviales, drenajes abiertos y arroyos alrededor del sitio de construcción. Asegúrese que todos los sub-contratistas tengan presentes estos lugares.
- Proteja la vegetación y los árboles contra daños accidentales causados por las actividades de construcción, rodeándolos con cercos, protección para árboles o paredes de retención.
- Limpie las pérdidas, goteras y otros derrames inmediatamente. Use métodos de limpieza en seco si fuera posible.
- Las pérdidas, derrames y goteras de materiales tóxicos y productos químicos deben ser contenidos y limpiados lo más rápidamente posible para reducir al mínimo la posibilidad de que corran o se impregnen. Esto incluye el combustible y el aceite de motor, líquido hidráulico y anticongelante a base de glicol de los vehículos. Tanques de combustible o de aceite hallados abandonados (y su contenido) deben ser desechados de manera consistente con la metodología aprobada tanto por la ciudad de Santa Cruz como por el Departamento de Salubridad Ambiental del condado.
- Ponga botes de basura alrededor del sitio para reducir la cantidad de basura que tiran. Deshágase de los desperdicios de construcción no tóxicos en basureros cubiertos o en contenedores para reciclaje.
- Mantenga las tapas de los basureros cerradas y aseguradas. A los basureros o botes que no tengan tapa cúbralos con sábanas de plástico o lona impermeable los días de lluvia o viento.
- Si se usan excusados portátiles asegúrese que la compañía que los alquila mantenga apropiadamente los excusados y repare prontamente lo que sea necesario. Inspecciónelos visualmente para ver que no pierdan.

CAPACITACIÓN

- Adiestre a sus empleados sobre estas MPC y familiarícelos con los asuntos relacionados a las aguas pluviales antes de comenzar el trabajo. Comuníqueles a sus sub-contratistas los requisitos para las aguas pluviales y asegúrese que ellos también cumplan con estas MPC.
- Si la Junta de control de calidad del agua regional requiere que su sitio de construcción implemente un Plan de prevención de polución de las aguas pluviales, asegúrese que los individuos responsables de la preparación de este Plan, de su implementación y del

permiso de cumplimiento estén apropiadamente capacitados y que esa capacitación esté documentada. Esto incluye los miembros del personal responsables de la instalación, inspección, mantenimiento y reparación de MPC. Las personas responsables de la supervisión, revisión y enmiendas del Plan deben también documentar su capacitación.

MANUAL ADICIONAL PARA REFERENCIA

Para guías estatales en general y para información en más detalle sobre erosión y prácticas de control de sedimentos para proteger la calidad del agua durante los proyectos de construcción, por favor refiérase al *Erosion and Sediment Control Field Manual*, cuarta edición, agosto de 2002, producido por la Junta de control de calidad del agua regional de California, región de la Bahía de San Francisco. Este manual puede obtenerse comunicándose con *San Francisco Estuary Project*, llamando al 510-622-2465, u ordenándolo por Internet en el sitio de ABAG (*Association of Bay Area Governments*) en: http://store.abag.ca.gov/construction.asp.

Para más información por favor llame a la ciudad de Santa Cruz:

Departamento de Planificación, Servicios de Inspección, al 420-5120

o

Departamento de Obras Públicas, al 420-5131.

City of Santa Cruz Public Works Department

PAINTING

Best Management Practices

In the City of Santa Cruz, water in the streets, gutters, and storm drains flows directly to local creeks, the San Lorenzo River, or Monterey Bay without any treatment. If proper control measures are not taken, construction sites and even small home construction projects can generate wastewater and runoff that carry debris and other harmful pollutants into our storm drain system. These pollutants can clog storm drain inlets and pipes, damage sensitive creek habitats, and pollute our bay and ocean.

In order to reduce the amount of pollutants reaching the storm drain system and local waterways, the City developed "Best Management Practices (BMPs)" for various types of construction work. The BMPs listed below are mandatory for painting work including both commercial and residential projects:

- Paint, paint thinner, and rinse water containing either of these may never be discharged into the storm drain system. In addition, wastewater or runoff containing paint or pain thinner may never be discharged into a storm drain.
- When there is a risk of a spill reaching the storm drain, nearby storm drain inlets must be protected prior to starting painting.
- When work is conducted on a bridge, take precautions to prevent runoff from reaching the water body beneath the bridge.
- Clean up spills immediately.
- Paintbrushes and containers may never be cleaned or rinsed into a street, gutter, creek, or storm drain.
- When cleaning brushes and rollers after painting, brush out excess paint onto newspaper or cardboard. If using latex paints, the brush or roller may then be rinsed in a sink that is plumbed to the sanitary sewer. If using oil-based paints, the brush or roller needs to be cleaned with paint thinner. Paint thinners cannot be discharged to the sanitary sewer and must be disposed of as hazardous waste.
- Leftover paint in the roller pan should be drained back into the paint can. If using paint hoses and guns, spray out the paint residue into the paint can.
- Recycle, return to supplier or donate unwanted water-based (latex) paint. Dried latex paint and empty paint cans may be disposed of in the garbage.
- Leftover oil-based paint may be recycled or disposed of as hazardous waste. Paint thinners must be disposed of as hazardous waste. For more information about hazardous waste disposal, please contact the County Environmental Health Department at (831) 454-2022.

Additional BMPs on back

- Non-hazardous paint chips and dust from dry stripping and sand blasting may be swept up or collected and disposed of as trash. Chemical paint stripping residue and chips and dust from marine paints or paints containing lead or tributyl tin must be disposed of as a hazardous waste.
- Cover or berm nearby storm drain inlets when stripping or cleaning building exteriors with high-pressure water prior to painting. The wastewater may not be discharged to the storm drain system. The wastewater must be collected and may be discharged to the sanitary sewer if the building exterior paint does not contain lead (usually buildings painted after 1978) or mercury. If paint containing lead or mercury was used, contact an Environmental Compliance Inspector, at (831) 420-6050, for information about the appropriate discharge or disposal options prior to commencing the work.
- If grinding or blasting is used to remove old paint, protect nearby storm drain inlets with a protective cover such as a heavy rubber mat. Paint dust, particles, and other debris must be completely cleaned up, preferably by sweeping, after the job is done.
- When the job is completed, collect all unused or waste materials and dispose of properly. Never leave or abandon materials onsite, and ensure that nothing has “drifted” towards the street, gutter, or catch basin.

For a copy of the brochure on Best Management Practices for Construction Work, please call the Public Works Department at (831) 420-5131.

Revised March 2007

Departamento de Obras Públicas de la ciudad de Santa Cruz

PINTURA
Las mejores prácticas de control

En la ciudad de Santa Cruz el agua de las calles, los desagües y los drenajes de aguas pluviales corren directamente a los arroyos locales, al río San Lorenzo o a la Bahía de Monterrey, sin ningún tipo de tratamiento. Si no tomamos medidas de control apropiadas, los sitios de construcción y hasta los proyectos menores de construcción en los hogares pueden generar aguas residuales y aflujos que acarreen basura y otros elementos de polución dañosos a nuestro sistema de desagüe de aguas pluviales. Esta polución puede tapar las tomas y los caños, dañar los hábitats sensibles de nuestros arroyos y polucionar nuestra bahía y el océano.

Para reducir la cantidad de elementos de polución que llegan al sistema de desagüe de aguas pluviales y a las aguas de nuestro medio ambiente, la ciudad de Santa Cruz ha desarrollado "Mejores prácticas de control (MPC)" para varios tipos de trabajo de construcción. Las MPC enumeradas a continuación son obligatorias para el trabajo de pintura, incluyendo tanto los proyectos comerciales como los residenciales:

- Pintura, disolvente y agua de enjuague que contenga cualquiera de los dos no pueden nunca echarse en el sistema de drenaje de aguas pluviales. Además, las aguas residuales o aflujos que contengan pintura o disolvente no pueden nunca ser echados en un drenaje de aguas pluviales.
- Cuando exista el riesgo de derrame que pueda llegar al drenaje de aguas pluviales, las tomas cercanas del drenaje deben ser protegidas antes de comenzar a pintar.
- Cuando realice trabajo en un puente, tome precauciones para prevenir que no caiga nada en la extensión de agua debajo del puente.
- Limpie lo que se vuelque inmediatamente.
- Los pinceles y contenedores no se deben limpiar nunca ni enjuagar en una calle, cuneta o canal, arroyo o drenaje de aguas pluviales.
- Al limpiar los pinceles y rollos después de pintar, limpie el exceso de pintura en un papel de diario o cartón. Si usa pintura de látex el pincel o rollo puede ser enjuagado en un fregadero que esté conectado con las cloacas. Si usa pintura a base de aceite, el pincel o rollo debe ser limpiado con disolvente. Los disolventes no pueden echarse en cañerías conectadas con las cloacas sino que deben desecharse como desechos tóxicos.
- La pintura que quede en la bandeja del rollo debería echarse en el bote nuevamente. Si usa mangueras y pistolas para pintar, vacíe la pistola en el bote de pintura.
- Recicle, devuelva al proveedor o done a alguien que vaya a usarla la pintura a base de agua (látex). Los botes de pintura seca o los botes vacíos pueden arrojarse a la basura.

MPCs adicionales al reverso

- La pintura a base de aceite que le sobre puede ser reciclada o desechada como desecho tóxico. Los disolventes deben ser desechados como desechos tóxicos. Para más información sobre cómo deshacerse de desechos tóxicos comuníquese por favor con el Departamento de Sanidad Ambiental del Condado llamando al (831) 454-2022.
- Trozos o polvo de pintura seca no tóxica resultante del desvestimiento en seco y del pulido con chorro de arena pueden ser barridos o juntados y echados a la basura. Los residuos de desvestimientos químicos de pintura y trozos y polvo de pinturas marinas o que contengan plomo o estaño tributyl deben ser desechados como desechos tóxicos.
- Cubra o bordee las tomas de drenaje de aguas pluviales al desvestir o limpiar el exterior de edificios con alta presión de agua antes de pintar. Las aguas residuales no pueden echarse en el sistema de drenaje de aguas pluviales. Las aguas residuales deben juntarse y pueden echarse en cañerías conectadas a las cloacas si la pintura exterior del edificio no contiene plomo (usualmente los edificios pintados después de 1978) o mercurio. Si la pintura contiene plomo o mercurio, comuníquese con un Inspector de Conformidad Ambiental llamando al (831) 420-6050, para información sobre las opciones para deshacerse apropiadamente de los desperdicios antes de comenzar el trabajo.
- Si remueve la pintura vieja por medio de pulverización o demolición, proteja las tomas de drenaje de aguas pluviales cercanas con una cubierta protectora como una estera de goma pesada. El polvo, las partículas de pintura y toda otra basura deben ser completamente limpiados, preferiblemente barriendo, al terminar el trabajo.
- Cuando haya terminado el trabajo junte todos los materiales no usados y los desperdicios y deshágase de ellos apropiadamente. Nunca deje o abandone materiales en el lugar de trabajo y asegúrese que nada se haya “desplazado” hacia la calle, las cunetas o los canales.

Para recibir una copia del folleto de *Las mejores prácticas de control para el trabajo de construcción* por favor llame al Departamento de Obras Públicas al (831) 420-5131.

Revisado en marzo de 2007

City of Santa Cruz Public Works Department

MASONRY AND CONCRETE WORK

Best Management Practices

In the City of Santa Cruz, water in the streets, gutters, and storm drains flows directly to local creeks, the San Lorenzo River, or Monterey Bay without any treatment. If proper control measures are not taken, construction sites and even small home construction projects can generate wastewater and runoff that carry debris and other harmful pollutants into our storm drain system. These pollutants can clog storm drain inlets and pipes, damage sensitive creek habitats, and pollute our bay and ocean.

In order to reduce the amount of pollutants reaching the storm drain system and local waterways, the City developed "Best Management Practices (BMPs)" for various types of construction work. The BMPs listed below are mandatory for masonry and concrete work including both commercial and residential projects:

- Concrete and cement may never be discharged into or allowed to reach the storm drain system.
- Sediment or pollutant laden water may not be discharged into the storm drain system.
- Do not mix fresh concrete or cement mortar in a gutter, over a storm drain inlet, or immediately adjacent to a water body.
- During tile cutting, ensure that the slurry water does not run off into the street or storm drain system. The discharge of slurry to the storm drain system is prohibited. Dried slurry must also be cleaned up and properly disposed so that it will not be carried into the storm drain system by wind, traffic, or rainfall.
- Never wash or rinse mixing containers and tools into the gutter, storm drain inlets, drainage ditches, or water body.
- Wash out from concrete mixers may never be disposed of in the storm drain system, including street, gutters, drainage ditches, and creeks. If possible, pump the washout back into the mixer for reuse.
- Store materials under cover and protected from wind, rain, and runoff. Open bags of particulate, granular, or powder materials (such as plaster or concrete) should be stored indoors if possible. If stored outside, they must be covered or closed, and during the rainy season they must kept within secondary containment.
- Small amounts of excess concrete, grout, and mortar may be disposed of in the trash.
- If conducting sidewalk work, material stockpiles must be removed and cleaned up by the end of each day. Sweep or collect unused materials and debris that remain on pavement, such as the sidewalk, driveway, or street, and dispose of properly.
- When the job is completed, collect all unused or waste materials and dispose of properly. Never leave or abandon materials onsite. Ensure that nothing has "drifted" towards the street, gutter, or catch basin.

Departamento de Obras Públicas de la ciudad de Santa Cruz

ALBAÑILERÍA Y TRABAJO EN CONCRETO

Las mejores prácticas de control

En la ciudad de Santa Cruz el agua de las calles, los desagües y los drenajes de aguas pluviales corren directamente a los arroyos locales, al río San Lorenzo o a la Bahía de Monterrey, sin ningún tipo de tratamiento. Si no tomamos medidas de control apropiadas, los sitios de construcción y hasta los proyectos menores de construcción en los hogares pueden generar aguas residuales y aflujos que acarreen basura y otros elementos de polución dañosos a nuestro sistema de desagüe de aguas pluviales. Esta polución puede tapar las tomas y los caños, dañar los hábitats sensibles de nuestros arroyos y polucionar nuestra bahía y el océano.

Para reducir la cantidad de elementos de polución que llegan al sistema de desagüe de aguas pluviales y a las aguas de nuestro medio ambiente, la ciudad de Santa Cruz ha desarrollado "Mejores prácticas de control (MPC)" para varios tipos de trabajo de construcción. Las MPC enumeradas a continuación son obligatorias para el trabajo de albañilería y concreto, incluyendo tanto los proyectos comerciales como los residenciales:

- El concreto y el cemento no pueden nunca ser arrojados ni se puede permitir que lleguen al sistema de desagüe de aguas pluviales.
- Sedimentos o aguas cargadas de polución no pueden descargarse nunca en el sistema de desagüe de aguas pluviales.
- No mezcle concreto fresco o argamasa de cemento en un canal de desagüe, sobre una toma de drenaje de aguas pluviales o inmediatamente adyacente a una extensión de agua.
- Al cortar azulejos, asegúrese que el agua lechada no corra a la calle o al sistema de drenaje de aguas pluviales. Está prohibido descargar agua lechada en el sistema de drenaje de aguas pluviales. La lechada seca debe también ser limpiada y descartada adecuadamente para que no sea llevada al sistema de drenaje de aguas pluviales por el viento, el tránsito o la lluvia.
- Nunca lave ni enjuague contenedores de mezcla ni herramientas en un canal, toma de aguas pluviales, zanja de drenaje o extensión de agua.
- El agua al lavar los mezcladores de concreto no puede ser arrojada en el sistema de drenaje de aguas pluviales, incluyendo en la calle, las cunetas o canales, las zanjas de drenaje ni los arroyos. Si es posible, bombee el agua nuevamente a los mezcladores para volver a usarla.
- Guarde los materiales bajo techo y protéjalos del viento, la lluvia y el agua que corre. Bolsas abiertas de materiales de partículas, gránulos o polvo (como argamasa o concreto) deberían guardarse en el interior si es posible. Si se guardan afuera, deben estar cubiertas o cerradas y durante la temporada de lluvias deben ser mantenidas en contenedores adicionales.
- Pequeñas cantidades que sobren de concreto, lechada y argamasa pueden tirarse a la basura.

- Al realizar trabajo en las aceras, las pilas de materiales de reserva deben ser removidas y limpiadas al final de cada día. Barra o junte los materiales no usados y la basura que quede en el pavimento, ya sea en la acera o en la calle, y deshágase de ellos apropiadamente.
- Cuando el trabajo esté completo, junte todos los materiales no usados y la basura y deshágase de ellos apropiadamente. Nunca deje o abandone materiales en el lugar de trabajo. Asegúrese que nada se haya “desplazado” hacia la calle, la cuneta o el canal.

Revisado en marzo de 2007

DEVELOPMENT AND REMODELING PROJECTS

Best Management Practices

Chapter 6 of the Best Management Practices Manual for the City's Storm Water Management Program

Planning Department
Public Works Department
809 Center Street, Santa Cruz, CA 95060

Revised March 2007
Initial Publication: March 8, 2004
Authorized by Municipal Code Chapter 16.19

TABLE OF CONTENTS

Background.....2

Applicability 2

State of CA Construction Activities Storm Water General Permit...3

Best Management Practices:

1. Peak Storm Water Runoff Discharge Rates 4
2. Conserve Natural Areas 4
3. Minimize Storm Water Pollutants of Concern.....4
4. Protect Slopes and Channels 5
5. Provide Storm Drain System Stenciling and Signage 5
6. Properly Design Material Storage Areas.....5
7. Properly Design Trash Storage Areas 6
8. Properly Design Parking Lot Areas 6
9. Additional Requirements For Restaurants and Food Processing/Manufacturing Facilities Including Wineries 6
10. Additional Requirements For Retail Gasoline Outlets and Other Fueling Areas.....7
11. Additional Requirements For Automotive Repair Shops.....7
12. Additional Requirements For Commercial and Industrial Developments Equal to or Greater Than 1 Acre.....9
13. Structural and Treatment Control BMPs.....9
14. Provide Proof of Ongoing BMP Maintenance 11
15. Waiver.....11
16. Limitation on Use of Infiltration BMPs 12

City Contacts 12

Appendices

Appendix A: Definitions.....13

Appendix B: Resources and References 15

Appendix C: Examples of Best Management Practices (BMPs) 16

Appendix D: Unit Basin Storage Volume Sizing Curves 17

Appendix E: Maintenance Agreement……19

BEST MANAGEMENT PRACTICES (BMPs)
FOR
DEVELOPMENT AND REMODELING PROJECTS

BACKGROUND

New state and federal storm water regulations require development and remodeling projects in the City to incorporate design standards and Best Management Practices (BMPs) in order to reduce storm water pollution and minimize the potential for erosion. The City developed these mandatory BMPs based on the minimum design standards specified by the California Water Quality Control Board. Project plans for a development or a remodeling project must include these BMPs as applicable and consistent with the City Municipal Code. The BMPs should be addressed during the initial planning process to ensure that they are incorporated into a project's design from the beginning.

APPLICABILITY

Any project that falls into one of the following categories is subject to these storm water BMPs:

- **Hillside Residences** (includes single-family homes, apartments, condos, townhouses, and mobile homes)- All new construction and remodeling projects.
- **Commercial and Industrial Developments Equal to or Greater Than 1 Acre-** All new construction and remodeling projects.
- **Automotive Repair Shops-** All new construction and remodeling projects. In addition, any construction activity shall subject the facility to these Design Standards unless specifically exempted by the City.
- **Retail Gasoline Outlets-** All new construction and remodeling projects. In addition, any construction activity shall subject the facility to these Design Standards unless specifically exempted by the City.
- **Restaurants and Food Processing/Manufacturing Facilities including Wineries-** All new construction and remodeling projects. In addition, any construction activity shall subject the facility to these Design Standards unless specifically exempted by the City.
- **Multi-Family Housing Developments of 3 to 9 units-** All new construction projects are subject to these Design Standards although specific exemptions may be granted by the City.
- **Housing Developments of 10 or more units** (includes single or multi-family homes, apartments, condos, townhouses, and mobile homes)- All new construction and redevelopment projects.
- **Parking lots 1,000 square feet or more in size, or with 25 or more parking spaces and potentially exposed to storm water runoff**- All new construction and redevelopment projects.

State of CA Construction Activities Storm Water General Permit

Please be aware that the State of California requires that **construction sites equal to or greater than one acre or less than one acre but part of a larger common plan of development or sale** to obtain coverage under the state's Construction Activities Storm Water General Permit. The landowner is responsible for filing a Notice of Intent (NOI) with the State Regional Water Quality Control Board (RWQCB) and for developing a Storm Water Pollution Prevention Plan (SWPPP) prior to commencement of any soil disturbing activities. For more information about the Construction Activities Storm Water General Permit, please call the State Water Quality Control Board at (916) 341-5537 or refer to their website at:

http://www.swrcb.ca.gov/stormwtr/construction.html.

Therefore, **in order to obtain a construction or building permit from the City** for a construction site that falls into this category, an applicant must provide the City with proof of coverage under the state's Construction Activities Storm Water General Permit. Proof of coverage shall include a copy of the letter of receipt and Waste Discharger Identification (WDID) number issued by the State Water Quality Control Board (SWQCB) that acknowledges the property owner's submittal of a complete Notice of Intent (NOI) package. Therefore, please allow sufficient time for the RWQCB/SWQCB to process your NOI package prior to applying for a construction or building permit from the City.

Lastly, the City has mandatory Best Management Practices (BMPs) for construction work. A copy of these BMPs may be obtained at either the City's Planning or Public Works Departments, or on the City's web site at: http://www.ci.santa-cruz.ca.us/.

STORM WATER BEST MANAGEMENT PRACTICES (BMPs)

1. Peak Storm Water Runoff Discharge Rates

a) **Peak** storm water runoff discharge rates shall not exceed the estimated pre-development rate if this will result in increased potential for downstream erosion.

b) Storm water runoff resulting from the project must be minimized. Sediment loading in storm water runoff may not be increased above pre-construction levels.

c) The City may require that structural devices, such as sediment basins and filtration devices, or system controls, such as swales and retention basins, be installed or implemented to minimize storm water runoff and to prevent additional sediment loadings. This will be determined on a case-by-case basis as appropriate, or as specified in an adopted area plan or wetlands management plan.

2. Conserve Natural Areas

If applicable, the following items are required and must be implemented in the site layout during the subdivision design and approval process:

a) Concentrate or cluster development on portions of a site while leaving the remaining land in a natural undisturbed condition.

b) Limit clearing and grading of native vegetation at a site to the minimum amount needed to build lots, allow access, and provide fire protection.

c) Maximize trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native and/or drought tolerant plants.

d) Promote and preserve natural vegetation by using parking lot islands and other landscaped areas.

e) Preserve riparian areas and wetlands.

3. Minimize Storm Water Pollutants of Concern

Storm water runoff from a site has the potential to contribute oil and grease, suspended solids, metals, gasoline, pesticides, and pathogens to the storm drain system. A new development or redevelopment site must be designed to minimize, to the maximum extent practicable (MEP), the introduction of pollutants of concern that may result in significant impacts to the storm drain system. A pollutant of concern is a pollutant that exhibits one or more of the following characteristics:

- a current or past impact on the beneficial uses of a receiving water,
- elevated levels of the pollutant are found in sediments of a receiving water and/or have the potential to bio-accumulate in organisms therein, or

- the potential discharge amount of the pollutant is at a concentration or load considered potentially toxic to humans or flora and fauna.

Therefore, the most appropriate Best Management Practice (BMP), or combination of BMPs, must be selected and included in the project design in order to reduce pollutant loadings to the Maximum Extent Practicable.

4. Protect Slopes and Channels

Project plans must include the following to decrease the potential of slopes and/or channels from eroding and impacting storm water runoff:

a) Convey runoff safely from the tops of slopes and stabilize disturbed slopes.

b) Utilize natural drainage systems to the maximum extent practicable.

c) Stabilize permanent channel crossings.

d) Vegetate slopes with native or drought tolerant vegetation, as appropriate.

e) Install energy dissipaters, such as riprap, at the outlets of the new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion, with the approval of all agencies with jurisdiction.

5. Provide Storm Drain System Stenciling and Signage

Storm drain stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets. The stencil shall consist of a brief statement prohibiting the dumping of improper materials into the storm drain system. Graphical icons, either illustrating anti-dumping symbols or images of receiving water fauna (i.e. native fish), are effective supplements to the anti-dumping message. All storm drain inlets and catch basins within the project area must be stenciled with prohibitive language (such as: *No Dumping–Drains To Bay*) and/or graphical icons to discourage illegal dumping. Signs and prohibitive language or graphical icons, which prohibit illegal dumping, must be posted at public access points along channels and creeks within the project area. Legibility of stencils and signs must be maintained.

6. Properly Design Material Storage Areas

Improper storage of materials outdoors may provide an opportunity for toxic compounds, oil and grease, heavy metals, nutrients, suspended solids, and other pollutants to enter the storm water conveyance system. If project plans include a material storage area(s), the following is required:

a) If the storage area will or may contain materials with the potential to contaminate storm water, the area must be located indoors. The floor must be constructed of material sufficiently impervious to contain leaks and spills.

b) Tallow drum storage areas must be located indoors.

7. Properly Design Trash Storage Areas

A trash storage area refers to an area where a trash receptacle or receptacles (dumpsters) are located for use as a repository for solid wastes. All trash storage areas, except those at a single-family residence, must meet the following requirements:

a) The trash storage area must have drainage from adjoining roofs and pavement diverted around the area.

b) The trash storage area must be screened or walled to prevent off-site transport of trash.

c) The trash storage area shall have a roof to prevent storm water from entering.

d) The trash storage area shall be paved and impervious to leaks and spills.

e) Storm drains are prohibited in a trash storage area.

f) The trash storage area must have a drain to the sanitary sewer so that wastewater from the cleaning of this area may be drained to the sanitary sewer unless exempted by the Department of Public Works.

g) The trash storage area must be large enough to accommodate projected amounts of both refuse and recyclable materials.

8. Properly Design Parking Lot Areas

Parking lots may accumulate oil, grease, and water insoluble hydrocarbons from vehicle drippings and engine system leaks. In order to limit oil contamination and minimize the offsite transport of pollutants from motor vehicles, the following is required:

a) Reduce impervious land coverage of parking areas.

b) Infiltrate or treat runoff. One or more oil and sediment traps must be installed as directed by and in accordance with design criteria specified by the Department of Public Works. The Department of Public Works may require a more effective structural BMPs or bioswale to be installed in lieu of an oil and sediment trap.

c) For a parking lot that will be heavily used, a treatment system to remove oil and petroleum hydrocarbons is required. Heavily used parking lots are considered associated with one of the following: fast food outlets, lots with 25 or more parking spaces, sports event parking lots, shopping malls, grocery stores, and discount warehouse stores.

d) Ensure adequate operation and maintenance of treatment systems, particularly sludge and oil removal, and system fouling and plugging prevention control.

9. Additional Requirements For Restaurants and Food Processing/Manufacturing Facilities Including Wineries

a) <u>Properly Design Equipment and Accessory Wash Areas</u>
Project plans must include an area for the washing/steam cleaning of equipment and accessories including floor mats. The wash area must be:

a) Self-contained, equipped with a grease trap or interceptor, and properly connected to the sanitary sewer. Food processing/manufacturing facilities including wineries may be exempted from this specific requirement by the Department of Public Works.

b) If the wash area is to be located outdoors, it must be covered, paved, have secondary containment, and be connected to the sanitary sewer.

c) Whether located inside or outdoors, the wash area drain shall have a screen to retain particles larger than one-half inch in order to prevent the discharge of these particles to the sanitary sewer.

b) Location and Design of Grease Interceptors, Trash Enclosures, and/or Wash Areas Relative to Storm Drain Inlets

If project plans include an outdoor grease interceptor, trash enclosure, or wash area, these areas shall be located and designed in such a manner that an accidental overflow, blockage, leak, or spill cannot discharge or runoff into a storm drain inlet. Project design shall incorporate proper sloping, berming, and/or channeling.

10. Additional Requirements For Retail Gasoline Outlets and Other Fueling Areas

The fueling area shall be properly designed to minimize the potential for gasoline, oil and grease, solvents, car battery acids, and coolants to reach the storm drain system. Project plans for a fueling area must include the following:

a) The fuel dispensing area must be covered with an overhanging roof structure or canopy. The canopy's minimum dimensions must be equal to or greater than the area within the grade break. The canopy must not drain onto the fuel dispensing area, and the canopy downspouts must be routed to prevent drainage across the fueling area.

b) The fuel dispensing area must be paved with Portland cement concrete (or equivalent smooth impervious surface approved by the City). The use of asphalt concrete is prohibited.

c) The fuel dispensing area must have a 2% to 4% slope to prevent "ponding," and must be separated from the rest of the site by a grade break that prevents run-on of storm water to the maximum extent practicable.

d) At a minimum, the concrete fuel dispensing area must extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.

11. Additional Requirements For Automotive Repair Shops

a) Properly Design Repair and Maintenance Bays

Design plans for repair and maintenance bays must include the following:

1) Repair and maintenance bays must be located indoors.

2) Floor drains connected to the sanitary sewer or storm drain system are prohibited.

b) Properly Design Vehicle and Equipment Wash Areas

Project plans must include an area for the washing and/or steam cleaning of vehicles and equipment. This wash area design must include the following:

1) If only washing is conducted (not steam cleaning), the wash area must be self-contained and equipped with a clarifier or other pretreatment system (i.e. interceptor). The pretreatment system must be properly connected to either the sanitary sewer, as permitted by the Department of Public Works, or to a recycling system, holding tank, or some other type of "zero discharge" system.
2) If steam cleaning is conducted or if the wash area will be used for engine or parts cleaning, the wash area must be self-contained and all drains directed to a closed-loop recycling system or a holding tank for disposal off-site. If no drains are installed, then the area must be bermed or sloped and trenched (with no exit) to allow for the capture and collection of the wastewater. No wastes, including rinse water, from any engine or parts cleaning may be discharged to the sanitary sewer or storm drain system.
3) The wash pad area must be sloped and bermed to prevent discharge to the storm drain and to prevent excess storm water from running to the wash pad drain. The wash pad must be covered.

c) Properly Design Loading/Unloading Dock Areas

Loading dock areas must include the following in order to minimize the potential for spills to be quickly transported to the storm drain system:

1) Cover loading dock areas or design drainage to minimize run-on and runoff of storm water.
2) Direct connections to a storm drain from depressed loading docks (truck wells) are prohibited.

d) Properly Design Fueling Areas

Project plans for an automotive repair shop or other type of vehicle service facility with a fueling area must include the following:

1) The fuel dispensing area must be covered with an overhanging roof structure or canopy. The canopy's minimum dimensions must be equal to or greater than the area within the grade break. The canopy must not drain onto the fuel dispensing area, and the canopy downspouts must be routed to prevent drainage across the fueling area.
2) The fuel dispensing area must be paved with Portland cement concrete (or equivalent smooth impervious surface approved by the City). The use of asphalt concrete is prohibited.
3) The fuel dispensing area must have a 2% to 4% slope to prevent "ponding," and must be separated from the rest of the site by a grade break that prevents run on of storm water to the extent practicable.
4) At a minimum, the concrete fuel dispensing area must extend 6.5 feet (2.0meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.

12. Additional Requirements For Commercial and Industrial Developments Equal to or Greater Than 1 Acre

a) Loading/Unloading Dock Areas

To minimize the potential for material spills to be quickly transported to the storm water conveyance system, the following design criteria are required:

1) Cover loading dock areas or design drainage to minimize run-on and runoff of storm water.
2) Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.

b) Repair/Maintenance Bays

Project plans for repair and/or maintenance bays must include the following:

1) Repair/maintenance bays must be located indoors.
2) Floor drains connected to the sanitary sewer or the storm drain systems are prohibited.

c) Vehicle or Equipment Wash Areas

Project plans must include an area for washing or steam cleaning of vehicles and equipment. The area must be:

1) If only washing is conducted (not steam cleaning), the wash area must be self-contained and equipped with a clarifier or other pretreatment system (i.e. interceptor). The pretreatment system must be properly connected to either the sanitary sewer, as permitted by the Department of Public Works, or to a recycling system, holding tank, or some other type of "zero discharge" system.
2) If steam cleaning is conducted or if the wash area will be used for engine or parts cleaning, the wash area must be self-contained and all drains directed to a closed-loop recycling system or a holding tank for disposal off-site. If no drains are installed, then the area must be bermed or sloped and trenched (with no exit) to allow for the capture and collection of the wastewater. No wastes, including rinse water, from any engine or parts cleaning may be discharged to the sanitary sewer or storm drain system.
3) The wash pad area must be sloped and bermed to prevent discharge to the storm drain and to prevent excess storm water from running to the wash pad drain. The wash pad must be covered unless exempted by the Department of Public Works.

13. Structural and Treatment Control BMPs

Where applicable or appropriate, the City may require that project plans include a structural or treatment control BMP, or a combination of BMPs, to reduce potential pollutant loadings in storm water runoff to the maximum extent practicable. The structural or treatment control BMP shall be designed to keep runoff at pre-development rates and to keep storm water from flowing onto adjacent sites. A structural or treatment control BMP may be used alone or in combination with another BMP, subject to approval by the City.

Structural or treatment control BMPs may include, but are not limited to, the following:

a. infiltration systems (e.g. infiltration trench or basin)
b. retention/detention systems (wet pond, detention basin)
c. biological or vegetative systems (e.g. vegetated strips, grassy swales)
d. filtration systems (e.g. silt and grease trap, media filtration, or CDS unit)

Project plans shall include the details of any and all BMPs such as the location, size, and hydraulic calculations that show how the BMP meets City requirements. Project plans shall also include a signed certification from a licensed Civil Engineer or Architect registered in the State of California that the proposed Structural or Treatment Control BMP(s) meet the design standards criteria established herein.

All required structural or treatment control BMPs must meet the following requirements:

a) The BMP shall be an above ground system whenever possible. An underground system may be proposed if it can be demonstrated that above ground treatment is inferior or impractical due to extreme space limitations, excessive cost, or another limiting factor.

b) The BMP shall be located on-site and in an area where it can be easily inspected and maintained at all times. In addition, long-term BMP inspection and maintenance is required (see Section 14).

c) The BMP shall incorporate either a volumetric or flow based treatment control design standard, or both, as identified below to mitigate (infiltrate, filter or treat) storm water runoff:

1) <u>Volumetric Treatment Control BMP</u>

(i) The 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, from the formula recommended in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, (1998); or

(ii) The volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in the California Storm Water Best Management Practices Handbook–Industrial & Commercial, (2003) (see Appendix D for Unit Basin Storage Volume Sizing Curves); or

(iii) The volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for “treatment” that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event.

2) <u>Flow Based Treatment Control BMP</u>

(i) The flow of runoff produced from a rain event equal to at least two times the 85th percentile hourly rainfall intensity for the area; or

(ii) The flow of runoff produced from a rain event that will result in treatment of the same portion of runoff as treated using volumetric standards above.

3) Limited Exclusion

Restaurants and retail gasoline outlets, where the land area for development or redevelopment is less than 5,000 square feet, are excluded from Section 13 (c) only.

d) If project plans include a vegetated system, such as a grassy swale, biofilter, or a bio-retention system, as a control BMP, the system should be sized to provide 800-1,000 sq. feet for each acre of directly connected impervious area.

14. Provide Proof of Ongoing BMP Maintenance

Improper maintenance is one of the primary reasons a structural or treatment control BMP may cease to function properly. Therefore, if a structural or treatment control BMP is required, the property owner shall be responsible for inspection and maintenance of the BMP. As part of the project application, the property owner shall agree in a signed statement, entitled "Maintenance Agreement" which is included in Attachment E, to the following conditions:

1. To inspect and maintain the BMP on a schedule, at a minimum of once per year, by **October 1st**, or more as necessary in order to retain the required capacity.
2. For residential properties, if the BMP is located in a common area that will be maintained by a homeowner's association, the homeowner's association shall be responsible for the inspection and maintenance.
3. To provide proof of inspection and maintenance to the City of Santa Cruz, Department of Public Works, Engineering Division, at 809 Center Street, Room 201, Santa Cruz, CA 95060. Proof of inspection and maintenance shall be submitted by **December 1st** annually.
4. To ensure that, if the property is sold, transferred, or leased to another person or entity, the sales, transfer, or lease agreement is conditioned so that the recipient assumes responsibility for Conditions 1-3 above and this condition. The first deed transfer or any lease agreements shall include the details of these requirements and information about the BMP such as the following: a) BMP location; b) how and when to perform the necessary inspections and maintenance; and c) how to send proof of inspection and maintenance to the City. The transfer of this information shall also be required with any subsequent sale of the property.

15. Waiver

A waiver from the requirements may be obtained from the City (Department of Public Works or the Department of Planning) if impracticability for a specific property can be established. A waiver of impracticability shall be granted only when all other Structural or Treatment Control BMPs have been considered and rejected as infeasible. Recognized situations of impracticability include: (i) extreme limitations of space for treatment on a redevelopment project, (ii) unfavorable or unstable soil conditions at a site to attempt infiltration, and (iii) risk of ground water contamination because a known unconfined aquifer lies beneath the land surface or an existing or potential underground source of drinking water is less than 10 feet from the soil surface. Any other justification for impracticability must be separately petitioned by the City and

submitted to the Central Coast Regional Water Quality Control Board (RWQCB) for consideration. The RWQCB may consider approval of the waiver justification or may delegate the authority to approve a class of waiver justifications to the RWQCB EO. The supplementary waiver justification becomes recognized and effective only after approval by the RWQCB or the RWQCB EO. A waiver granted by the City to any development or redevelopment project may be revoked by the RWQCB EO for cause and with proper notice upon petition.

16. Limitation on Use of Infiltration BMPs

Three factors significantly influence the potential for storm water to contaminate ground water. They are (1) pollutant mobility, (2) pollutant abundance in storm water, and (3) soluble fraction of pollutant. The risk of contaminating groundwater may be reduced by the pretreatment of storm water. A discussion of limitations and guidance for infiltration practices is contained in *Potential Groundwater Contamination from Intentional and Non-Intentional Stormwater Infiltration, Report No. EPA/600/R-94/051, USEPA (1994).* In addition, the distance of the groundwater table from the infiltration BMP may also be a factor determining the contamination risk. A water table distance separation of ten feet depth in California presumptively poses negligible risk for storm water not associated with industrial activity or high vehicular traffic.

Site-specific conditions must be evaluated when determining the most appropriate BMP. Additionally, monitoring and maintenance must be provided to ensure groundwater is protected and the infiltration BMP is not rendered ineffective by overload. This is especially important for infiltration BMPs for areas of industrial activity or areas subject to high vehicular traffic [25,000 or greater average daily traffic (ADT) on main roadway or 15,000 or more ADT on any intersecting roadway]. In some cases, pretreatment may be necessary.

For more information, please contact:

Department of Planning and Community Development:

Alex Khoury, Acting Director, at (831) 420-5116

Dick Stubendorff, Chief Building Official, at (831) 420-5127

Department of Public Works:

Tony Lau, Assistant Engineer, at (831) 420-5177

Suzanne Healy, Environmental Projects Analyst, at (831) 420-5131

APPENDIX A

Definitions

“Best Management Practice (BMP)” means any program, technology, process, operational methods or measures, or engineered systems, which when implemented prevent, control, remove, or reduce pollution.

“Development” means land disturbing activities requiring a permit; structural development, including construction or installation of a building or structure; remodels; expansions; creation of impervious surfaces; and land subdivision.

“Directly Connected Impervious Area (DCIA)” means the area covered by a building, impermeable pavement, and/ or other impervious surfaces, which drains directly into the storm drain without first flowing across permeable land area (e.g. lawns).

“Directly Discharging” means outflow from a drainage conveyance system that is composed entirely or predominantly of flows from the subject property, and not commingled with the flows from adjacent lands.

“85th percentile 24-hour runoff event” means the 85th percentile 24-hour runoff event as defined by the Regional Water Quality Control Board.

“Hillside” means a slope greater than 30 % percent.

"Remodeling Project" means any construction project that includes or is due to any of the following: a) an increase in 1000 square feet or 50% or more of a facility's existing square footage, which ever is less; b) remodeling of 50% or more of a facility's existing square footage; c) intensification (change) of a facility's use; or d) the addition of 1,000 square feet or more of impervious surface area on an already developed site. Remodeling projects do not include routine maintenance activities.

“Source Control BMP” means any schedule of activities, structural devices, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.

“State of California Design Standards” means the design standards specified in the State Water Quality Control Board Storm Water General Permit, Attachment #4, to WQ Order No. 2003-0005-DWQ, Section B, Design Standards, April 2003.

“Structural BMP” means any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution. The category may include both Treatment Control BMPs and Source Control BMPs.

APPENDIX A
(continued)

Definitions

"Treatment Control BMP" means any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media adsorption or any other physical, biological, or chemical process.

APPENDIX B

Resources and References

SUGGESTED RESOURCES	HOW TO GET A COPY
Start at the Source (1999) by Bay Area Stormwater Management Agencies Association Detailed discussion of permeable pavements and alternative driveway designs presented.	**Bay Area Stormwater Management Agencies Association** 2101 Webster Street Suite 500 Oakland, CA (510) 286-1255
California Storm Water Best Management Practices Handbooks (2003) for Construction Activity, Municipal, and Industrial/Commercial Presents a description of a large variety of Structural BMPs, Treatment Control, BMPs and Source Control BMPs	**CASQA-CA Storm Water Quality Association** c/o City of San Diego-Storm Water Pollution Prevention Program 1970 B. Street, MS 27A San Diego, CA 92102 (619) 525-8647
Caltrans Storm Water Quality Handbook: Planning and Design Staff Guide Best Management Practices Handbooks (1998) Presents guidance for design of storm water BMPs	**California Department of Transportation** P.O. Box 942874 Sacramento, CA 94274-0001 (916) 653-2975

APPENDIX C

Examples of Best Management Practices (BMPs)

The following are examples of BMPs that can be used for minimizing the introduction of pollutants to the storm water conveyance system:

- Permeable materials or pavers for private sidewalks, driveways and spillover parking areas
- Vegetated landscaping strips adjacent to sidewalks, driveways, and parking lots
- Curb cuts in parking lots to allow runoff to drain to landscaping
- Biological or vegetative systems such grassy or vegetated swales
- Dry detention basins
- Retention/detention basins such as wet ponds
- Media filtration units or treatment systems
- Silt and grease traps
- Constructed wetlands

Appendix D
Unit Basin Storage Volume Sizing Curves

Design Storm Volume Calculation

Hydrologic calculations for design of volumetric-based storm water quality BMPs shall be in accordance with the procedures set forth herein.

Calculation Procedure:

1. Review the area draining to the proposed BMP. Determine the percentage of Directly Connected Impervious Area (DCIA), the drainage area that is considered impervious. Impervious area includes paved areas, roofs, and other developed, non-vegetated areas. Non-vegetated, compacted soil areas shall be considered an impervious area.

2. Figure B-1 provides a direct reading of Unit Detention Basin Storage Volumes required for 80% annual capture of runoff based on the percentage of Directly Connected Impervious Area (DCIA) on the site. Enter the vertical axis of Figure 1 with the percentage DCIA. Move horizontally across Figure 1 until the line is intercepted. Move vertically down Figure 1 from this point until the horizontal axis is intercepted. Read the Unit Basin Storage Volume along the horizontal axis.

3. The basin volume or basic volume of the BMP is then calculated by multiplying the Unit Basin Storage Volume by the BMP's drainage area. Due to the mixed units that result (e.g., acre-inches, acre-feet) it is recommended that the resulting volume be converted to cubic feet for use during design.

Example Use of Unit Basin Storage Volume Curves Sizing a Dry Detention Basin

- Determine the drainage area for the BMP, A_t.
  Example: 10 acres.

- Determine the area of impervious surfaces in the drainage area, A_i.
  Example: 6 acres.

- Calculate the percentage of imperious, Percent Impervious = $(A_i/ A_t)*100$
  Example: Percent Impervious = $(A_i/ A_t)*100$ = (6 acres/10 acres)*100 = 60%

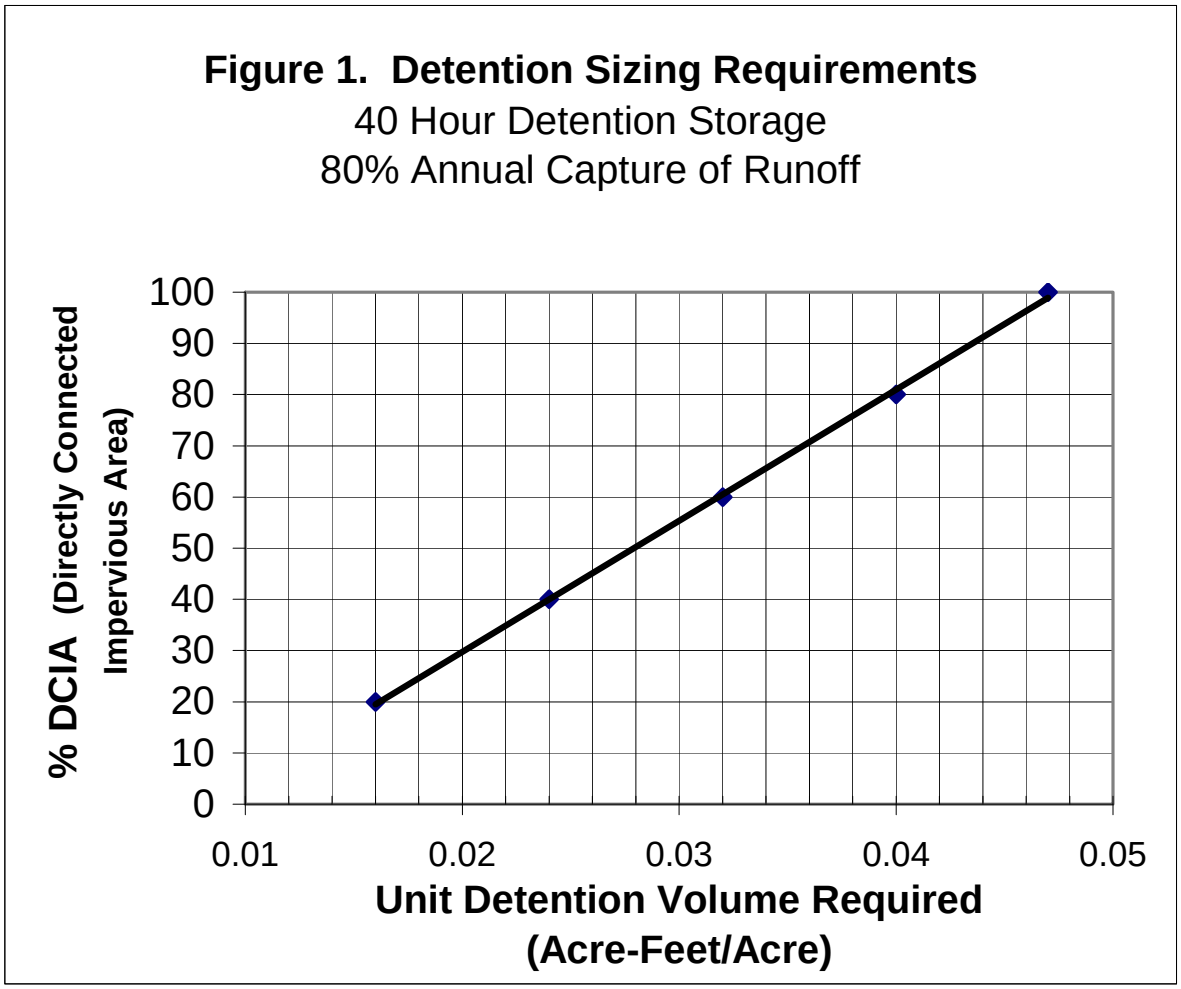
- Determine the Unit Basin Storage Volume for 80% Annual Capture, V_u using Figure 1. Interpolate between curves, if necessary.
  Example: For DCIA = 0.60, the Detention Basin Storage Volume, V_u = 0.032 acre-feet/acre.

- Calculate the volume of the basin, V_b, where $V_b = V_u * A_t$.
  Example: V_b = (.032 acre-feet/acre)(10 ac)= .32 acre-feet

To convert to cubic feet, multiply by (43,560 ft^2 / ac):

(.32 acre-feet) (43,560 ft^2 /acre) = 13,939 ft^3.

Solution: Size the dry detention basin for 13,939 ft^3 (.32 acre-feet) and 40-hour drawdown.



Appendix E

Maintenance Agreement Regarding Maintenance of Structural or Treatment Control Best Management Practices (BMPs)

for: Address _____

*APN No.*_____

I, _____, being the owner of the real property, APN No. _____, which is located at _____, Santa Cruz, California, consents and agrees to inspect and maintain any and all structural or treatment control Best Management Practices (BMPs) a minimum of once per year prior to **October 1** on the subject property. The structural or treatment control BMPs on the subject property include(s): _____.

I agree to send a letter that provides proof of inspection and maintenance to the City of Santa Cruz, Public Works Department, Environmental Projects Analyst, prior to **December 1** of each year. Proof of inspection and maintenance shall include a log of inspection and maintenance dates for the past year, and receipts if conducted by a hired service. The log should also indicate any significant observations or repairs made.

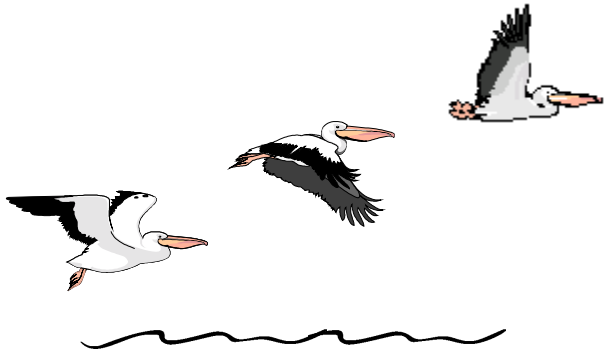
In the event that the property is sold, transferred, or leased, the obligations hereby imposed on the property owner shall be assumed by subsequent property owners and lessees. To this end, property owner, in any deed transferring an ownership interest in the property or in any lease agreement for the property, shall include a term by which the subsequent property owner or lessee acknowledges his or her understanding of the obligations imposed by this agreement and expressly agrees to accept and assume responsibility for complying with all said obligations imposed by this agreement.

In addition, I will provide printed information to the new property owner or lesee regarding proper BMP inspection and maintenance frequency and methods. The information shall accompany the first deed transfer. This information shall include the following: (1) a description of any and all storm water structural or treatment control BMPs; (2) a map of the property indicating the BMP locations; and (3) a description of how inspections and necessary maintenance can be performed. The transfer of this information shall also be required with any subsequent sale of the property.

I have read the above agreement and understand it.

_____ _____

Owner Date



Only Rain Down the Drain

Storm drains are designed to carry only rainwater. Therefore, they flow directly to local creeks, the San Lorenzo River, and into Monterey Bay without receiving any type of treatment. Storm drains are separate from the City's sanitary sewer system, which treats wastewater from your sink, toilet, and other indoor drains.

Whether you live right next to the ocean or not, polluted runoff from your home will eventually reach Monterey Bay through the storm drains or the nearest creek.

Even if polluted runoff doesn't immediately reach the storm drain or the water evaporates, the problem isn't gone. Pollutants still remain on the pavement and will be washed into the storm drain the next time it rains.

Storm water pollution is toxic to fish and other wildlife, and it degrades our beaches and ocean. The tips in this brochure will help you reduce pollution from your home activities and protect our environment.

For more information, call the City's Environmental Compliance Inspectors at 420-6050 or the Environmental Projects Analyst at 420-5160.

City of Santa Cruz
809 Center Street, Room 201
Santa Cruz, CA 95060
831-420-5160

Printed on Recycled Paper

Home Maintenance, Painting and Repair

Pollution Prevention Tips

CITY OF SANTA CRUZ

Taking Care of Your Home and the Environment

Painting

Oil-based paints, paint thinners, and cleaning solvents must be disposed of as hazardous wastes.

- Never rinse paint brushes or paint containers in the street or storm drain.
- After painting, brush out excess paint onto newspaper or cardboard prior to cleaning brushes and rollers. If using latex paints, the brush or roller may be rinsed in the sink. If using oil based paints, the brush or roller needs to be cleaned with paint thinner.
- Drain leftover paint from the roller pan back into the paint can. Spray the paint remaining in spray guns and hoses back into the paint can.
- Reuse paint thinners by filtering or letting the paint residue settle out. Dispose of thinners as Household Hazardous Waste. Never pour them on the ground or into storm drains.
- Used paint can be recycled at the County's Household Hazardous Waste Facility. Please call **454-2606** for recycling and disposal information.

General Home Maintenance

Some common household wastes, such as motor oil, antifreeze, oil-based paints, pesticides, and herbicides, are hazardous wastes! They must be disposed of properly—they cannot be poured down the sink, toilet, on the ground, or into the storm drain.

- Do not plumb the drain from your dishwasher or washing machine to outside areas because soapy wastes belong in the sanitary sewer—not the environment.

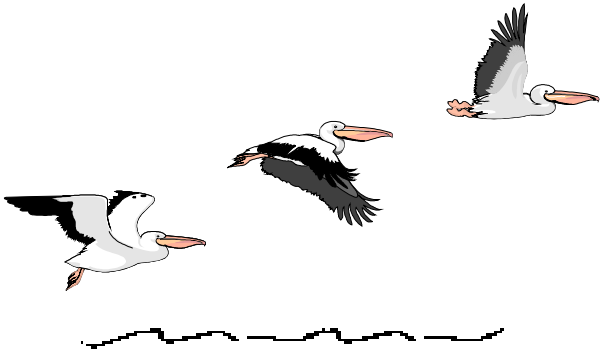
- Dispose of soapy water, such as water from window or carpet cleaning, into the sink or toilet—not the storm drain. If you hire a cleaning service, ask them where they discharge the wastewater. Be sure that they do not discharge it into a storm drain.
- Keep garbage can lids on securely. Also, keep recyclable items inside of the recycling bins. Loose debris and litter often are blown into the street and end up clogging gutters and polluting our waterways.
- Sweep walkways and driveways rather than hosing them off. If you must use water to clean them, sweep first and don't use any soap or cleansers.

Concrete, Masonry, and Asphalt

Paving and construction materials, if allowed to reach the street via wind or rain, clog our gutters, storm drains, and creeks.

- Use a tarp under mixers or on areas used for mixing.
- Cement and plaster particles are particularly susceptible to being blown away by the wind. Be sure to cover and store open bags, loose materials, and debris so that wind or rain will not carry them into the street or storm drain.
- Sweep, instead of hosing down, when cleaning up.
- Dispose of small amounts of excess dry concrete, grout, and mortar in the trash.
- Collect and reuse excess gravel and sand, or give them away to a neighbor.
- Rinse off mixers, tools, and other equipment in a dirt area where the water can soak into the ground and won't run off into the street or storm drain.
- If you contract out the work, be sure that the contractor abides by the City Municipal Code and these pollution prevention tips.

Pollution prevention can be easy—most of the time it only involves making small changes in the way you do things around the house and in your yard.



Only Rain Down the Drain

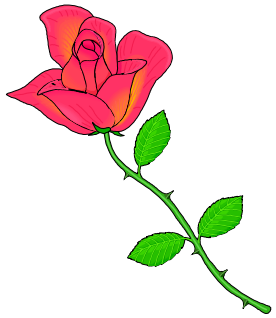
Storm drains are designed to carry only rainwater. Therefore, they flow directly to local creeks, the San Lorenzo River, and into Monterey Bay without receiving any type of treatment. Storm drains are separate from the City's sanitary sewer system, which treats wastewater from your sink, toilet, and other indoor drains.

Whether you live right next to the ocean or not, polluted runoff from your home will eventually reach Monterey Bay through the storm drains or the nearest creek.

Even if polluted runoff doesn't immediately reach the storm drain or the water evaporates, the problem isn't gone. Pollutants still remain on the pavement and will be washed into the storm drain the next time it rains.

Storm water pollution is toxic to fish and other wildlife, and it degrades our beaches and ocean. The tips in this brochure will help you reduce pollution from your home activities and protect our environment.

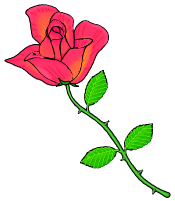
For more information, call the City's Environmental Compliance Inspectors at 420-6050 or the Environmental Projects Analyst at 420-5160.



City of Santa Cruz
809 Center Street, Room 201
Santa Cruz, CA 95060
831-420-5160

Printed on Recycled Paper

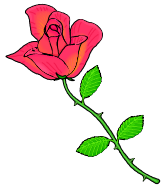
Garden, Pool and Spa Maintenance



Pollution Prevention Tips

CITY OF SANTA CRUZ

Tending Your Garden, Pool & Spa and the Environment



Garden and Landscaping

Eliminate the use of pesticides and herbicides, if possible. Try using "natural" alternatives first!

- Use pesticides and herbicides only if there is an actual problem–not as a preventative measure.
- Try not to buy large containers of pesticides unless they will be completely used up.
- Use the minimum amount of pesticides or herbicides necessary for the job, and be sure to read the label on the bottle.
- Do not mix or prepare pesticides or herbicides near a storm drain.
- Be careful not to over-apply pesticides or apply them before it rains. Rain can carry pesticides into our streets and storm drain inlets.
- Don't dump leftover pesticides or herbicides into a street or storm drain! Also, do not dump them down the sink since they are hazardous and the City's wastewater treatment plant was not designed to treat them. So, either give leftovers to a neighbor or dispose of them as a household hazardous waste.
- For information on pesticide or herbicide disposal, call the County's Household Hazardous Waste Program at **454-2606**.
- Collect lawn and garden clippings, prunings, and tree trimmings. Compost, put them in your *GreenCycle!* cart, or drop them off at the City's Resource Recovery Facility.

- Do not blow or rake leaves into the street.
- Do not over-water plants. Runoff water can carry soil, fertilizers, herbicides, and pesticides into the storm drain.
- Try planting native species in your yard. They will generally grow better and require less water and less pesticides or herbicides.
- If you hire someone to landscape your yard or maintain your garden, make sure that they follow these pollution prevention tips.

Pool and Spa Maintenance

Never discharge swimming pool or spa water to the street, gutter, or storm drain!

- Discharge swimming pool and spa water into the sanitary sewer, preferably via a sewer "clean out" on your property. If you don't have a clean out, the water may be pumped into an appropriate drain in your house.
- Swimming pool and spa water may be slowly drained to landscaping or lawns as long as the water does not run off into the street or storm drain. Prior to draining, allow enough time since the last addition of chlorine to ensure that the chlorine has been "off-gassed" or broken down.
- Do not clean pool or spa filters in the street, over a catch basin or near any other type of storm drain.

Pollution prevention can be easy—most of the time it only involves making small changes in the way you do things around the house and in your yard.

Vehicle Repair and Washing

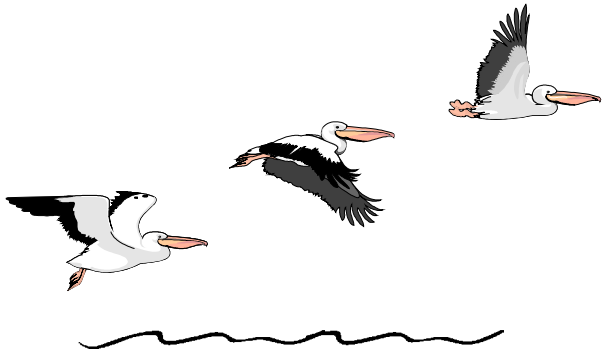
Pollution Prevention Tips

CITY OF SANTA CRUZ

For more information, call the City's Environmental Compliance Inspectors at 420-6050 or the Environmental Projects Analyst at 420-5160.

City of Santa Cruz
809 Center Street, Room 201
Santa Cruz, CA 95060
831-420-5160

Printed on Recycled Paper



Only Rain Down the Drain

Storm drains are designed to carry only rainwater. Therefore, they flow directly to local creeks, the San Lorenzo River, and into Monterey Bay without receiving any type of treatment. Storm drains are separate from the City's sanitary sewer system, which treats wastewater from your sink, toilet, and other indoor drains.

Whether you live right next to the ocean or not, polluted runoff from your home will eventually reach Monterey Bay through the storm drains or the nearest creek.

Even if polluted runoff doesn't immediately reach the storm drain or the water evaporates, the problem isn't gone. Pollutants still remain on the pavement and will be washed into the storm drain the next time it rains.

Storm water pollution is toxic to fish and other wildlife, and it degrades our beaches and ocean. The tips in this brochure will help you reduce pollution from your home activities and protect our environment.

Taking Care of Your Vehicle and the Environment

Home Auto Repair

Keep your car maintained to prevent leaks of oil, antifreeze, and other fluids. Check your car regularly for leaks!

- Fix leaks as soon as possible! Leaks and drips of oil and other automotive fluids end up in our driveways, streets, and parking lots. When it rains, these pollutants are washed off into the nearest storm drain—which flows directly to the nearest creek, San Lorenzo River or Monterey Bay.
- When working on your car, use drip pans to catch drips and spills.
- Clean up drips and spills immediately using dry absorbents, such as rags or kitty litter.
- Don't drain or pour oil, antifreeze, radiator rinse water, or any other automotive fluids into the street or a storm drain. These fluids are toxic to aquatic life. Instead, recycle used motor oil, oil filters, and antifreeze.

- The City picks up waste motor oil and oil filters as part of the curbside recycling collection program. If you need an oil container or if you have any questions, please call the City of Santa Cruz Customer Service Department at **420-5220**. For antifreeze disposal, call the County's Household Hazardous Waste Facility at **454-2606**.
- Do not use engine, brake, or wheel cleaners in areas where these products or rinse waters will flow to a street or storm drain. In fact, it is better to wipe these products off with a rag or paper towel instead of rinsing with water.
- Take your vehicle to a repair shop that uses environmentally sound practices.

Vehicle Washing

Even biodegradable soap is toxic to many types of aquatic life. The term "biodegradable" doesn't mean that something is safe for plants and animals—it just means that the substance will break down at some time in the future.

- Use minimal amounts of soap and water when washing your car or truck.
- Wash your vehicle in an area that does not drain into the street or a storm drain. For example, wash your car on a gravel driveway, a dirt or grassy area, or on pavement that slopes towards dirt.
- After washing, pour the bucket of soapy water into a sink—not the street or gutter.
- Wash your vehicle at a commercial car wash that recycles water.

Pollution prevention can be easy—most of the time it only involves making small changes in the way you do things around the house and in your yard.

INDUSTRIAL FACILITIES

Best Management Practices

Chapter 7 of the Best Management Practices Manual for the City's Storm Water Management Program

Public Works Department
809 Center Street, Santa Cruz, CA 95060
831-420-5160

Published: November 2003

Authorized by Municipal Code Chapter 16.19

Introduction

In the City of Santa Cruz, water in streets, gutters, and storm drains flows directly to local creeks, the San Lorenzo River, or Monterey Bay without any treatment. So, when pollutants get spilled, leaked or washed into the street or storm drain, they can harm our aquatic environment. In fact, discharging any kind of polluting substance into a storm drain or any place where it will run off into a storm drain is against the law. Potential sources of pollutants from industries include accidental spills, improperly stored materials, improper waste disposal, outdoor activities such as equipment or vehicle maintenance, and parking lots.

In order to reduce the amount of pollutants reaching local storm drains, the City developed "Best Management Practices" (BMPs) for various types of businesses. All industrial facilities are required to abide by the following mandatory BMPs. In addition, the State Water Resources Control Board (SWRCB), under the new NPDES regulations, is regulating industrial activities that have the potential to discharge pollutants to the storm drain system. The new regulations require specific types of industries, based on their Standard Industrial Classifications [SIC] code, to file a Notice of Intent (NOI) under the state's General Industrial Activities Storm Water Permit (General Industrial Permit). These industries are also required to prepare and implement a storm water pollution prevention plan (SWPPP) and a storm water monitoring program. Information about the General Industrial Permit may be found on the SWRCB website at:

http://www.swrcb.ca.gov/stormwtr/industrial.html

The City's mandatory Best Management Practices (BMPs) for all industrial facilities are detailed on the following pages. *If you have any questions, please call a City of Santa Cruz Environmental Compliance Inspector at (831) 420-6050.*

Mandatory Best Management Practices

1. Practice **good housekeeping procedure**s both indoors and outside.

2. **Do not dump or discharge wastewater, cleaning or rinse water, chemicals, or debris to the storm drain system, streets, or curbs.**

3. Keep **spill prevention and cleanup materials** in stock and conveniently located.

4. Keep **outside areas, including parking lots, loading docks, delivery areas, and driveways,** clean and free of debris, dust and fluids from industrial operations/equipment. Preferably, clean these areas by sweeping or spot cleaning using dry absorbent materials.

5. **Sidewalks, gutters, outdoor eating areas, steps, building exteriors, walls, and driveways** may be cleaned with water provided that one of the following methods is used:

   Method A

   a) Clean up spills using dry absorbent materials;

b) Next, sweep up debris, trash, cigarette butts, dirt, leaves, and other particles;

c) Then, mop with minimal amounts of water only—**no soap or cleansers**.

or

Method B

a) First, clean up spills using absorbent materials;

b) Next, pick up large debris;

c) Then, place a screen in the nearest downstream catch basin. The screen must be made of expanded metal and have a metal hem on the perimeter. The mesh size must be a 1/2 inch size or less. The screen must be sufficiently large to cover the entire catch basin;

d) Mop or hose down (using a regular garden hose) the area without soap or cleansers. This method does not apply if pressure washing or steam cleaning equipment is used, or if hand scrubbing is conducted;

e) Lastly, remove the screen as soon as the wash water has drained through. Screens may not be left in the catch basin in between cleaning events. The screen should be cleaned after each use and the debris discarded in the trash.

or

Method C

a) Pressure washing, steam cleaning, and hand scrubbing may be conducted if the wastewater is collected and disposed of into the sanitary sewer. **This wastewater may not runoff to the street or discharge to the storm drain system.**

6. If water is used to clean **parking lots, loading docks and delivery areas,** the wash water may not be discharged into the street or storm drain system, or left as "standing" water. Wash water from these areas must be discharged into the sanitary sewer in accordance with the Sewer Use Ordinance.

7. If **cleaning solvents** are used outside to clean ground surfaces, such as sidewalks, walkways, plazas, patios, driveways, loading docks, delivery areas, or dumpster areas, the solvent must be cleaned up and properly disposed of.

8. **If water is used to remove paint or graffiti** from building exteriors, walls, steps, signs, and other surfaces, the wastewater and paint particles may not be discharged to the street or storm drain system. **If blasting or sanding is conducted to remove paint or graffiti**, the paint particles, blasting material, sand, or dust may not be allowed to reach the storm drain system.

9. If **vehicle washing** is conducted, washing must be done in a City approved wash pad unless the vehicles are rinsed with water only. The wash pad area must be sloped and bermed (or otherwise constructed) to prevent discharge to the storm drain and to prevent excess storm water from running to the pad area drain. The City may require that the wash pad area be covered. Treatment may be required prior to discharge to the sanitary sewer system.

10. Protect **storm drains located in or near loading docks** whenever the area is cleaned or if a spill occurs.

11. Ensure that **cooling water** from equipment and refrigeration units is plumbed to the sanitary sewer and not piped outside to the ground or storm drain system.

12. Wastewater from the cleaning of **garbage dumpster areas and areas where trash is stored or contained** may not be discharged to or allowed to reach the street or storm drain system. In addition, the wastewater may not be left as "standing" water. This wastewater must be discharged to the sanitary sewer in accordance with the Sewer Use Ordinance. Also, **leakage from dumpsters or trash containers** may not be discharged to or allowed to reach the storm drain system.

13. **Dumpsters, garbage cans, and other trash containers** must be watertight and used with secured lids. Do not allow trash to spill out or overflow the dumpster, cans or containers.

14. Keep **chemical and material storage areas** clean and free of leaks and spills. Chemical and material containers must be properly sealed and labeled. If **hazardous materials or wastes** are stored, compliance with all hazardous material and waste storage regulations is required.

15. Cover and protect **outdoor material and parts stockpiles** so that wind and rain will not cause debris and fluids to reach the storm drain system.

16. A **spill response plan** must be maintained and kept current. The spill response plan shall be made available to City inspectors upon request.

17. Keep **storm drains, catch basins, and outdoor sumps** clean and functional, and free of any leaves, dirt, and debris. **Storm drains and catch basins must be cleaned between September 1st and October 15th each year.**

18. **Landscaping waste**, such as leaves, clippings, and mowed grass, may never be placed, dumped, raked, or blown into the street or storm drain system. In addition, **pesticides and herbicides** may not be dumped into the street or storm drain system, nor poured down an indoor drain. Unwanted pesticides and herbicides must be disposed of as hazardous waste. If your facility uses a landscaping service for grounds maintenance, ensure that the service personnel also abide by these Best Management Practices.

19. **Train employees in these Best Management Practices** upon hiring and annually thereafter. Keep a log of all training events during the past year onsite and available to the City upon request.

20. Ensure that any **janitors and contractors** working onsite are aware of and follow these Best Management Practices.

Additional Mandatory Best Management Practices for Industrial Facilities with a Machine Shop or Vehicle Repair Shop

21. **Vehicle fluids, chemicals, hazardous materials, and floor cleaning wastewater** may not be discharged, directly or indirectly, to the storm drain system. Take measures to prevent fluids, materials, and dust from machine or vehicle repair work from reaching the outdoors.

22. **Drip pans and adequate spill prevention and clean-up materials** must be kept on-site and easily available for use.

23. **Mop water** from floor cleaning may not be discharged outside or to the storm drain system. Mop water must be discharged to the sanitary sewer as long as it does not contain any hazardous waste. The following procedure is mandatory for shops that mop their floors:
    - Clean up spills with rags or dry absorbent.
    - Sweep the floor.
    - Mop floor and discharge mop water to the sanitary sewer via a sink or toilet.

24. **If changing, adding, or draining equipment or vehicle fluids outside,** all work must be conducted within areas where spills can be contained and cleaned up immediately.

25. **Wastewater from parts cleaning, engine cleaning, drive train and undercarriage cleaning, and radiator flushing** must be contained and may not be discharged, directly or indirectly, into the storm drain or the sanitary sewer.

For more information, call the
City's Environmental Compliance Inspectors
at: 831-420-6050

Please remember to contact the City's Planning Department, at 420-5100, prior to making any plumbing changes!

BEST MANAGEMENT PRACTICES CHECKLIST FOR INDUSTRIAL FACILITIES

1. Are good housekeeping procedures practiced both indoor and outside? **yes** ☐ **no** ☐

2. Are measures taken to prevent wastewater, cleaning or rinse water, chemicals, or debris from being dumped or discharged into the street or storm drain system? **yes** ☐ **no** ☐

3. Are spill prevention and cleanup materials kept in stock and conveniently located? **yes** ☐ **no** ☐

4. Are outside areas, including parking lots, loading docks, delivery areas, and driveways, kept clean and free of debris, dust, and fluids from industrial operations and equipment? **yes** ☐ **no** ☐

5. If sidewalks, gutters, outdoor eating areas, steps, building exteriors, walls, and driveways are cleaned with water, is either a) no soap or cleansers used; or b) the area mopped or hosed down with a regular garden hose and 1/2 inch mesh screens inserted in nearby downstream storm drains to catch debris and particulates? **yes** ☐ **no** ☐

   Or, if pressure washing or steam cleaning is conducted, is the wastewater collected and discharged to the sanitary sewer? **yes** ☐ **no** ☐

6. If water is used to clean parking lots, loading docks or delivery areas, is the wash water discharged to the sanitary sewer? **yes** ☐ **no** ☐

7. If cleaning solvents are used on outside ground surfaces, such as sidewalks, patios, loading docks, delivery areas, or dumpster areas, is the solvent cleaned up and properly disposed of? **yes** ☐ **no** ☐

8. If water is used to remove paint or graffiti from building exteriors, walls, steps, signs, and other surfaces, are measures taken to prevent discharge of the wastewater and paint particles to the street or storm drain system? Also, if blasting or sanding is conducted to remove paint or graffiti, are measures taken to prevent the paint particles, blasting material, sand, or dust from reaching the storm drain system? **yes** ☐ **no** ☐

9. If vehicle washing is conducted on-site, is it done in a City approved wash pad or are the vehicles rinsed with water only? **yes** ☐ **no** ☐

-

10. Are storm drains located in or near loading docks kept free of debris and adequately protected when the area is cleaned or a spill occurs? **yes** ☐ **no** ☐

11. Is equipment-cooling water plumbed to the sanitary sewer? **yes** ☐ **no** ☐

12. Is the cleaning wastewater from garbage dumpster areas discharged to the sanitary sewer system? Are all leaks and spills prevented from reaching the storm drain system? **yes** ☐ **no** ☐

13. Are all dumpsters and garbage containers watertight and used with secured lids? Is trash kept from spilling out? **yes** ☐ **no** ☐

14. Are chemical and material storage areas kept clean and free of leaks and spills? If hazardous materials or wastes are stored, are they in compliance with all hazardous material and waste storage regulations? **yes** ☐ **no** ☐

15. Are outdoor material and parts stockpiles covered and protected so that wind and rain will not cause debris and fluids to reach the storm drain system? **yes** ☐ **no** ☐

16. Is a current spill response plan kept onsite and available to City inspectors upon request? **yes** ☐ **no** ☐

17. Are storm drains, catch basins and gutters kept clean and functional, and free of leaves, dirt, and debris? Are they cleaned between September 1st and October 15th each year? **yes** ☐ **no** ☐

18. Are landscaping wastes collected properly and kept out of the street or storm drain system? In addition, are unused pesticides and herbicides disposed of as hazardous waste? Do hired landscaping services also abide by these Best Management Practices? **yes** ☐ **no** ☐

19. Are employees trained in these Best Management Practices upon hiring and annually thereafter? Is a log of all training events kept onsite and available to City inspectors upon request? **yes** ☐ **no** ☐

20. Are janitors and any contractors working on-site aware of these Best Management Practices and do they abide by them? **yes** ☐ **no** ☐

If your facility has a machine shop or vehicle repair shop:

21. Are measures taken to prevent vehicle fluids, chemicals, hazardous materials, dust, and floor cleaning wastewater from being discharged outside or to the storm drain system?
yes ☐ **no** ☐

22. Are drip pans and adequate spill prevention and clean-up materials kept on-site and easily available for use? **yes** ☐ **no** ☐

23. Is mop water discharged to the sanitary sewer (as long as it does not contain any hazardous waste)? If floors are mopped, is the procedure below followed?
    - Clean up spills with rags or dry absorbent,
    - Next, sweep the floor.
    - Then, mop floor and discharge mop water to the sanitary sewer via a sink or toilet.

    yes ☐ **no** ☐

24. Is outside work conducted within an area where spills can be contained and cleaned up immediately? **yes** ☐ **no** ☐

25. Is wastewater, from parts cleaning, engine cleaning, drive train and undercarriage cleaning, and radiator flushing, contained and prevented from reaching the storm drain or sanitary sewer system? **yes** ☐ **no** ☐

If you have any questions, please call the
City's Environmental Compliance Inspectors at: 831-420-6050

VEHICLE SERVICE FACILITIES

Best Management Practices

Chapter 1 of the Best Management Practices Manual for the City's Storm Water Management Program

Public Works Department
809 Center Street, Santa Cruz, CA 95060
831-420-5160

Published: June 2003

Authorized by Municipal Code Chapter 16.19

Introduction

In the City of Santa Cruz, water in streets, gutters, and storm drains flows directly to local creeks, the San Lorenzo River, or Monterey Bay without any treatment. So, when vehicle fluids get spilled, leaked or washed into the street, they can harm our aquatic environment. Wash water used in vehicle cleaning often carries dirt, soap and degreasers, which also damage sensitive creek habitats and finally end up polluting our bay and ocean. In fact, discharging any kind of polluting substance into a storm drain or any place where it will run off into a storm drain is against the law.

In order to reduce the amount of pollutants reaching local storm drains, the City developed "Best Management Practices" (BMPs) for various types of businesses. All vehicle service facilities, including auto repair shops, gas stations, car and truck rental companies, auto body repair shops, car wash and detail businesses, and vehicle dealerships, are required to abide by the following Mandatory BMPs. "Recommended BMPs" have been included to help achieve compliance with the mandatory Best Management Practices.

Mandatory Best Management Practices

Shop Practices

1. **Wastewater from parts cleaning, engine cleaning, drive train and undercarriage cleaning, and radiator flushing must be contained and may not be discharged, directly or indirectly, into the storm drain or the sanitary sewer.** Vehicle fluids, chemicals, hazardous materials, and floor cleaning wastewater may not be discharged, directly or indirectly, to the storm drain system.

2. **All indoor floor drains that are connected to the storm drain system must be permanently plugged.**

3. **Floor drains in work areas are prohibited.** The exception is if the work area is used exclusively for washing of vehicle exteriors. In that case, the floor drain may be connected to the sanitary sewer.

4. **Drip pans and adequate spill prevention and clean-up materials must be kept on-site and easily available for use.**

5. **Mop water from floor cleaning must be discharged to the sanitary sewer. The following procedure is mandatory for shops that mop their floors:**
    - Clean up spills with rags or dry absorbent.
    - Sweep the floor.
    - Mop floor and discharge mop water to the sanitary sewer via a sink or toilet.

Outdoor Practices

6. **When changing, adding, or draining vehicle fluids outside, all work must be conducted within areas where spills will be contained and cleaned up immediately.**

7. **Small leaks and spills may be cleaned up using minimal amounts of water if the following procedure is used:**
   - Use dry cleanup methods to absorb leaks and spills.
   - Sweep up litter and debris.
   - If necessary, spot clean or mop with minimal amounts of water and dispose of water via the sanitary sewer.

8. **Dry methods must be used to clean fueling islands and adjoining areas.** Dry methods include using rags or absorbents, sweeping, and vacuuming.

9. **Drip pans and open containers containing vehicle fluids must not be left unattended unless they are covered securely and within secondary containment.**

10. **Exterior vehicle washing using detergents or cleansers must be conducted in a City approved wash pad area.** The wash pad area must be sloped and bermed to prevent discharge to the storm drain and to prevent excess storm water from running to the pad area drain. The City may require that the wash pad area be covered. Treatment may be required prior to discharge to the sanitary sewer system.

11. **Discharge of vehicle wash water to the storm drain is limited to water from the washing of vehicle exteriors with plain water only,** except that auto body repair businesses may not discharge any wash water to the storm drain system.

12. **All waste receptacles must be watertight and used with secured lids.**

13. All paved areas must be swept and outdoor sumps and catch basins must be cleaned between September 1st and October 15th each year.

14. **Sidewalks, gutters, plazas, alleyways, outdoor eating areas, steps, building exteriors, walls, and driveways** may be cleaned with water provided that one of the following methods is used:

    Method A

    a) Clean up spills using dry absorbent materials;

    b) Next, sweep up debris, trash, cigarette butts, dirt, leaves, and other particles;

    c) Then, mop with minimal amounts of water only—**no soap or cleansers**.

    or

Method B

a) First, clean up spills using absorbent materials;

b) Next, pick up large debris;

c) Then, place a screen in the nearest downstream catch basin. The screen must be made of expanded metal and have a metal hem on the perimeter. The mesh size must be a 1/2 inch size or less. The screen must be sufficiently large to cover the entire catch basin;

d) Mop or hose down (using a regular garden hose) the area without soap or cleansers. This method does not apply if pressure washing or steam cleaning equipment is used, or if hand scrubbing is conducted;

e) Lastly, remove the screen as soon as the wash water has drained through. Screens may not be left in the catch basin in between cleaning events. The screen should be cleaned after each use and the debris discarded in the trash.

or

Method C

a) Pressure washing, steam cleaning, and hand scrubbing may be conducted if the wastewater is collected and disposed of into the sanitary sewer. **This wastewater may not runoff to the street or discharge to the storm drain system.**

15. **Wastewater from the cleaning of garbage dumpster areas and areas where trash is stored or contained** may not be discharged to or allowed to reach the street or storm drain system. In addition, the wastewater may not be left as "standing" water. This wastewater must be discharged to the sanitary sewer in accordance with the Sewer Use Ordinance. Also, **leakage from dumpsters or trash containers** may not be discharged to or allowed to reach the storm drain system.

16. Wastewater from the cleaning of **parking lots, loading docks and delivery areas** may not be discharged to the street or storm drain system, or left as "standing" water. Wash water from these areas must be discharged to the sanitary sewer in accordance with the Sewer Use Ordinance. Loading dock and delivery areas must be kept clean and free of food waste and debris at all times.

17. Cleaning solvents **may not be used outside to clean ground surfaces, such as sidewalks, walkways, plazas, patios, driveways, loading docks, delivery areas, or dumpster areas, unless the solvent is cleaned up and properly disposed.**

Other Practices

18. **All hazardous material and waste storage regulations must be complied with.**

19. **A spill response plan must be maintained and kept current.** The spill response plan shall be made available to City inspectors upon request.

20. **Storm drains** must be kept free of leaves, dirt, and debris.

21. **All employees are required to be trained on Best Management Practices upon hiring and annually thereafter.** A log of all training events, during the past year, must be kept on-site and made available to the City upon request.

Recommended Best Management Practices

Housekeeping

Keep a clean shop at all times!

- Clean up leaks, drips, and spills immediately without using water. Use dry absorbents such as rags, kitty litter, or a wet vacuum. Remember, drips and leaks are not "cleaned up" until the absorbent is picked up and disposed of properly.
- Sweep or vacuum shop floors instead of hosing or mopping with water.
- Remove unnecessary hoses to discourage employees from hosing down floors and outdoor paved areas.
- Collect metal filings, dust, and paint chips from grinding, shaving, and sanding and dispose of properly. Wet mop the floor in machining areas only after all metal particles have been removed.
- Collect brake pad dust and dispose of properly. Never discharge brake pad dust to the storm drain or sanitary sewer.

General Shop Practices

Try to be a "zero discharger!"

- Eliminate or plug all floor drains if possible.
- Use drip pans under leaking vehicles to capture fluids.
- Provide secondary containment in your shop and all storage areas for liquid products and wastes.
- Consider using an oleophilic (oil absorbing) mop for cleaning up oil leaks and spills. This enables the oil to be more easily recycled.

Changing Oil and Other Fluids

Never pour vehicle fluids into sinks, toilets, floor drains, outside storm drains, or in the garbage!

- Change vehicle fluids indoors and only over nonporous surfaces.
- Immediately transfer drained fluids to a designated waste storage area.

Outside Work and Cleaning

Avoid working outside, except for vehicle washing, whenever possible!

- Surround outside work areas with a berm or grading to prevent runoff. If necessary, absorbent socks may be used to berm an area temporarily. Consider installing a roof to protect the work area from rain.
- Do not work over asphalt or blacktop because these surfaces are absorbent.
- If a wrecked vehicle is delivered to your shop, place drip pans under the vehicle as soon as possible.
- Drain all fluids from wrecked vehicles and "parts" cars into appropriate containers as soon as possible. Be sure to park wrecked vehicles and "parts" cars over concrete, not asphalt or dirt.

Cleaning Engines and Parts, and Flushing Radiators

Never discharge wastewater from engine and parts cleaning or radiator flushing to the storm drain or sanitary sewer!

- Designate specific areas or service bays for engine, parts, or radiator cleaning. Do not wash or rinse parts outdoors.
- Use self-contained sinks and tanks when working with solvents and aqueous cleaners.
- Keep solvent sinks and tanks covered when not in use. Remember, neither solvents nor waste aqueous cleaners may be discharged to the storm drain or sanitary sewer.
- Rinse and drain parts over a solvent sink or tank so that the solvent will not drip onto the floor. Use drip pans to catch excess solvent and divert it back to a sink or tank.
- Allow parts to dry over the hot tank. If rinsing is required, rinse over the tank as well.
- Regularly inspect degreasing solvent sinks for leaks and make necessary repairs immediately.
- Collect and reuse parts cleaning solvents and the water used in flushing and testing radiators. When reuse is no longer possible, these solutions are considered hazardous waste (unless otherwise determined) and must be disposed of properly.
- Avoid soldering over drip tanks. Sweep up drips and recycle or properly dispose.

Vehicle Washing

Never discharge vehicle wash water to the street or storm drain if detergents or cleaners are used. Even biodegradable soaps are toxic to many forms of aquatic life!

- Minimize the use of acid-based wheel cleaners. If you do use them, be sure that the rinse water does not runoff to the storm drain. If the rinse water is discharged to the sanitary sewer, it may need to be treated (to comply with pH and other limits) prior to discharge.

- When removing the protective coating (i.e., cosmolene) from a new car, do not discharge any materials to the storm drain. If a solvent is used, the waste fluids may not be discharged to the sanitary sewer either.

Auto Body Repair and Painting

Vehicle wash water from an auto body repair or painting shop may never be discharged or allowed to flow into the storm drain!

- Conduct body repair, sanding, and painting work indoors.
- When receiving damaged vehicles, inspect for leaks. Use drip pans if necessary.
- When wet sanding, place a pan under the panel being sanded to catch drips. Pour the collected fluid back into the wet sanding bucket.
- Clean up wet sanding drips with a rag, or let the drips dry and then sweep or vacuum.
- Sweep shop floors instead of mopping.
- Do not use hose-off degreasers when cleaning auto body parts before painting.
- Minimize wastes by carefully calculating paint needs based on surface area and by using the proper sprayer cup size.
- Do not use water to control over-spray or dust in the paint booth unless the water is collected and treated prior to discharge into the sanitary sewer.
- Clean spray guns in a self-contained cleaner. Recycle the cleaning solution when it becomes too dirty. Never discharge paint gun cleaning wastes to the sanitary sewer or storm drain.

Spill Control and Response

The best spill control is prevention!

- Ensure that all employees are familiar with the spill response plan. Spills are easier to clean up when quickly contained! Ensure that employees know how to use spill response equipment and materials, and train them on personal safety.
- Keep a portable berm and extra drain pans readily available for immediate spill response. If you have a storm drain on your property, keep a large rubber mat on hand that can be placed on top of the storm drain in case of a spill.
- Keep rags and absorbent materials easily accessible from anywhere in the shop. Recycle used cleaning rags through an industrial laundry.
- Minimize the distance between waste collection points and storage areas. Keep lids and containers secured when transferring wastes.
- Check floor drains to be sure that they are not connected to the storm drain system.

Chemicals, Materials, and Waste Storage

Keep waste fluids separate unless otherwise advised by your waste hauler. Combining wastes generally reduces your ability to recycle and can greatly increase your disposal costs.

- Keep chemicals, materials, and wastes stored indoors. If stored outside, keep within secondary containment and protected from rain and runoff.
- Store bulk chemicals within secondary containment whenever possible. Hazardous materials and wastes, including oil and antifreeze, must be stored within secondary containment.
- Keep storage areas clean and dry. Inspect storage areas regularly for leaks and spills.
- Keep containers lids on securely.
- Hazardous wastes must be labeled and stored according to hazardous waste regulations. Call the County Department of Environmental Health, at 454-2022, for details.
- Store batteries within secondary containment. Locate batteries either on the floor or on the lower levels of secured shelving for earthquake protection.

Outdoor Waste Receptacle Area

Wastewater from the cleaning of garbage dumpster areas and areas where trash is stored or contained may not be discharged to or allowed to reach the street or storm drain system.

- Use watertight receptacles and keep the lids on securely.
- Spot clean leaks and drips to prevent runoff, particularly during the rainy season.

Purchasing, Recycling, and Disposal

Purchase the least toxic products whenever you can!

- Purchase reusable or recyclable products whenever possible. Reduce or eliminate the hazardous materials that you use.
- Consider switching to water based cleaners instead of using chlorinated solvents. However, used water based cleaners may not be discharged to the storm drain or sanitary sewer. Both water based cleaners and solvents must be recycled or disposed of off-site.
- Consider buying rags for spill cleanup, rather than absorbents, because rags may be cleaned by an industrial laundry and reused. Saturated absorbents, in general, must be disposed of as hazardous waste.

Education and Training

Ensure that all your employees understand and follow Best Management Practices. Mistakes and misunderstandings can lead to violations and costly cleanups!

- All employees are required to be trained on Best Management Practices upon hiring and annually thereafter.
- Educate your customers and let them know that you take extra measures to be an environmentally proactive business.
- Post emergency telephone numbers to the City's Fire Department and Wastewater Treatment Facility.

  Fire Department.....911

  Wastewater Treatment Facility.....420-6050
- Post signs above sinks prohibiting the discharge of vehicle fluids and wastes.
- Stencil or post signs near all storm drains located on your property with a message—*"No Dumping–Flows to Bay."*
- Take advantage of **FREE** educational materials provided by the DTSC/EPA. These materials include Best Management Practices and worksheets, which can be found on the Environmental Protection Agency website at:

  http://www.epa.gov/region09/cross_pr/p2/autofleet/factauto.html.

  You can also ask your City Environmental Compliance Inspector about obtaining additional materials.

Call the City's Environmental Compliance Inspectors for more information at: 831-420-6050

Please remember to contact the City's Planning Department, at 420-5100, prior to making any plumbing changes!

ESTABLECIMIENTOS PARA EL SERVICIO DE VEHÍCULOS

Las Mejores Prácticas de Control

Capítulo 1 del Manual de Las Mejores Prácticas de Control para el programa de
Control de las aguas pluviales de la ciudad

Departamento de Obras Públicas
809 Center Street, Santa Cruz, CA 95060
831-420-5160

Publicado: Junio de 2003

Autorizado por el capítulo 16.19 del Código Municipal

Introducción

En la ciudad de Santa Cruz, el agua de las calles, de las canaletas y de los desagües de tormentas corre directamente a los arroyos locales, al río San Lorenzo o a la bahía de Monterrey sin ningún tratamiento. Por lo tanto, cuando fluidos de vehículos se vuelcan, gotean o se lavan en las calles, pueden dañar nuestro hábitat acuático. El agua usada al lavar los vehículos a menudo lleva tierra, jabón y desengrasadores, que también dañan el ambiente sensitivo de los arroyos y terminan contaminando nuestra bahía y nuestro océano. El hecho es que, echando cualquier tipo de substancia contaminante en un desagüe de tormentas o en cualquier lugar del cual el agua pueda correr a un desagüe de tormentas es una violación de la ley.

Para poder reducir la cantidad de agentes contaminantes que llegan a los desagües de tormentas, la ciudad desarrolló las "Mejores Prácticas de Control" (MPC) para varios tipos de negocios. Todos los establecimientos para el servicio de vehículos, incluyendo los talleres de reparación de automóviles, las estaciones de servicio, las compañías que alquilan automóviles y camiones, los talleres de carrocería, los lugares para lavar y detallar vehículos y las concesionarias, están obligados a cumplir con las MPCs obligatorias. Se han incluido algunas "MPCs recomendadas" para ayudarles a cumplir con las mejores prácticas de control obligatorias.

Las Mejores Prácticas de Control obligatorias

Prácticas en el taller

1. **El agua usada para lavar repuestos, limpiar motores, ejes y chasis, y para rebalsar radiadores debe ser contenida y no puede ser echada, directa o indirectamente, ni en desagües de tormentas ni en desagües cloacales del edificio.** Fluidos de vehículos**,** productos químicos, materiales peligrosos y agua de limpiar los pisos no pueden ser echados, directa o indirectamente, en el sistema de desagües de tormentas.

2. **Todos los drenajes de pisos interiores que estén conectados al sistema de desagües de tormentas deben estar permanentemente tapados.**

3. **Los drenajes de piso en las áreas de trabajo están prohibidos.** Se hace una excepción si el área de trabajo es usada exclusivamente para lavar el exterior de los vehículos. En ese caso, el drenaje del piso puede estar conectado a un desagüe cloacal interno.

4. **Las bandejas colectoras, los materiales para la adecuada prevención de derramamientos y los materiales de limpieza deben mantenerse en el lugar y a mano para ser usados en caso de necesidad.**

5. **El agua usada para lavar el piso debe ser echada en un desagüe cloacal del edificio. El siguiente procedimiento es obligatorio para los talleres que lavan los pisos:**
    - Limpiar lo que se vuelque con trapos o materiales absorbentes.
    - Barrer el piso.

- Lavar el piso y echar el agua sucia en un desagüe cloacal interno, como lavabo o escusado.

Prácticas para el exterior

6. **Al cambiar, agregar o drenar fluidos de vehículos en el exterior, todo el trabajo debe hacerse dentro de un área donde lo que se vuelque sea contenido y limpiado inmediatamente.**

7. **Goteras y derramamientos menores pueden ser limpiados usando una cantidad mínima de agua si se usa el siguiente procedimiento:**
   - Usar métodos de limpieza en seco para absorber lo que se haya volcado.
   - Barrer y levantar la basura o los desperdicios.
   - Si es necesario, limpiar una mancha o lavarla con una mínima cantidad de agua y echar el agua en un desagüe cloacal del edificio.

8. **Métodos de limpieza en seco deben ser usados para limpiar los lugares donde se carga gasolina y las áreas adjuntas.** Los métodos de limpieza en seco incluyen usar trapos o absorbentes, barrer y pasar la aspiradora.

9. **Bandejas colectoras y envases abiertos que contengan fluidos de vehículos no deben dejarse desatendidos a menos que estén bien tapados y dentro de un segundo envase.**

10. **Lavar el exterior de los vehículos usando detergentes o limpiadores debe hacerse en un lugar aprobado por la ciudad para lavar.** Esta área para lavado debe ser inclinada y tener un borde elevado para prevenir que el agua corra al desagüe de tormentas desde el lugar de lavado. La ciudad puede requerir que el área de lavado esté cubierta. Puede requerir también que el agua sea tratada antes de ser desagotada en el sistema de cloacas.

11. **Se puede echar el agua en el desagüe de tormentas solamente si se ha usado únicamente agua para lavar el exterior del vehículo,** excepto los talleres de carrocerías, que no pueden echar en el desagüe de tormentas ningún tipo de agua usada para lavar.

12. **Todos los receptáculos para basura deben no perder agua y ser usados con tapas seguras.**

13. Todas las áreas pavimentadas deben ser barridas y todos los colectores de agua y retenes deben ser limpiados entre el 1° de septiembre y el 15 de octubre cada año.

14. **Veredas, canaletas, plazas, pasadizos, áreas externas para comer, escalones, exteriores de edificios, paredes y callejones** pueden ser lavados con agua siempre que se use uno de los siguientes métodos:

    <u>Método A</u>

    a) Limpiar lo que se vuelque usando materiales absorbentes secos;

b) Barrer luego los desperdicios, la basura, las colillas de cigarrillos, tierra, hojas y otras partículas;

c) Luego lavar con trapo con una mínima cantidad de agua solamente —**no jabón ni limpiadores.**

o

<u>Método B</u>

a) Primero, limpiar lo que se vuelque con materiales absorbentes secos;

b) Luego levantar la basura más grande;

c) Luego, poner una rejilla en el retén de agua más próximo en bajada. La rejilla debe estar hecha de metal expandido y debe tener un borde de metal en el perímetro. El enrejado debe ser de una ½ pulgada o menos. La rejilla debe ser lo suficientemente grande para cubrir todo el retén.

d) Pasar el estropajo con agua o lavar con manguera (usando manguera común de jardín) el área, sin jabón ni limpiadores. Este método no es pertinente si se usa equipo de lavado a presión o a vapor, o si se lava a mano;

e) Finalmente, sacar la rejilla tan pronto como el agua haya terminado de pasar. No se pueden dejar las rejillas en los retenes de agua de un lavado a otro. Las rejillas deben lavarse después de cada uso y los desperdicios deben ser tirados a la basura.

o

<u>Método C</u>

a) Lavado a presión, limpieza a vapor y lavado a mano pueden realizarse si el agua es juntada y echada en un desagüe cloacal. **Esta agua no se puede dejar correr a la calle ni ser echada en el sistema de desagües de tormentas.**

15. **El agua usada para lavar el área de los contenedores de basura y las áreas donde se guarda o junta la basura** no puede ser echada, ni permitir que corra, a la calle ni a los desagües de tormentas. Además, esta agua no puede quedar "estacionada". Debe ser echada a un desagüe cloacal según la *Ordenanza para el uso de las cloacas*. Además, **las pérdidas de líquidos de los contenedores o botes de basura** no pueden ser echadas, ni permitir que corran, al sistema de desagües de tormentas.

16. El agua usada para limpiar **plazas de estacionamiento, desembarcaderos y zonas de entrega de mercadería,** no puede ser echada a la calle, ni al sistema de desagües de tormentas, ni dejada "estacionada". El agua usada para lavar estas áreas debe ser echada en un desagüe cloacal según la *Ordenanza para el uso de las cloacas*. Los desembarcaderos y las áreas de entrega de mercadería deben ser mantenidos limpios y libres de desperdicios de comida y de basura, en todo momento.

17. Los solventes de limpieza **no pueden usarse afuera para limpiar superficies como veredas, caminos, plazas, patios, callejones, desembarcaderos, áreas de entrega de mercadería o área de basureros, a menos que el solvente se limpie y se eche en lugar apropiado.**

Otras prácticas

18. **Todas las reglamentaciones sobre materiales peligrosos y almacenamiento de desperdicios deben ser cumplidas.**

19. **Se debe mantener al corriente un plan en caso de derrame.** El plan en caso de derrame se le presentará al inspector de la ciudad cuando lo pida.

20. **Los desagües de tormentas** deben mantenerse limpios, sin tierra ni basura.

21. **Se requiere que todos los empleados sean adiestrados sobre las Mejores Prácticas de Control en el momento de ser empleados y una vez por año de allí en adelante.** Se debe mantener una carpeta documentando todos los eventos de adiestramiento durante el último año que debe presentarse al inspector de la ciudad cuando la pida.

Las Mejores Prácticas de Control recomendadas

Limpieza

Mantener un taller limpio en todo momento

- Limpie las goteras y lo que se derrame inmediatamente, sin usar agua. Use absorbentes secos como trapos o en material usado en las cajas que usan los gatos (*kitty litter)*, o aspiradora en húmedo. Recuerde, las goteras y las pérdidas no se consideran "limpias" hasta que el material absorbente se haya recogido y se haya tirado donde corresponda.
- Barra los pisos o pase la aspiradora en vez de lavar con manguera o trapo de piso.
- Remueva las mangueras que no sean necesarias para no tentar a los empleados a usarlas en los pisos y en las áreas pavimentadas.
- Junte el metal, el polvo o los trocitos de pintura que resulten del pulir, afilar y lijar y deshágase de ellos apropiadamente. Pase el trapo húmedo por el piso en el área de las máquinas sólo después de haber juntado todas las partículas de metal.
- Junte el polvo de la almohadilla del freno y deshágase de él apropiadamente. No eche nunca el polvo de la almohadilla del freno en un desagüe de tormentas o en el desagüe cloacal del edificio.

Prácticas generales en el taller

¡Trate de ser un "héroe del hábitat"!

- Elimine o tape todos los desagües del piso si es posible.
- Use bandejas debajo de los vehículos que pierdan, para evitar los fluidos en el piso.

- Provea envases secundarios en su taller y en todas las áreas de almacenamiento, para todos los productos líquidos y los desperdicios.
- Considere el uso de un estropajo que absorba aceite para limpiar las pérdidas y los derrames. Esto da la posibilidad de reciclar el aceite más fácilmente.

Cambiando el aceite y otros fluidos

Nunca eche los fluidos de un vehículo en lavabos, escusados, drenajes del piso, desagües de tormentas o en la basura.

- Cambie los fluidos de los vehículos adentro y sólo sobre superficies no porosas.
- Transfiera inmediatamente los fluidos drenados al envase designado para guardarlo.

Trabajo y limpieza afuera

Evite trabajar afuera, excepto al lavar los vehículos, siempre que sea posible.

- Rodee el área de trabajo afuera con un retén o inclinación para prevenir que el agua corra al desagüe. Si es necesario se pueden usar materiales absorbentes que sirvan de retén provisorio del área. Considere la instalación de un techo para proteger de la lluvia el área de trabajo.
- No trabaje sobre el asfalto o el alquitrán porque estas superficies son muy absorbentes.
- Si le traen al taller un vehículo chocado, ponga bandejas debajo del vehículo lo antes posible.
- Drene todos los fluidos del vehículo chocado y de vehículos para “repuestos”, en los envases apropiados y lo antes posible. Asegúrese de estacionar los vehículos chocados y los vehículos para “repuestos” sobre concreto y no sobre asfalto ni tierra.

Limpiando motores y repuestos y rebalsando radiadores

No eche nunca en un desagüe de tormentas o en un desagüe cloacal el agua con la que ha lavado un motor o partes del vehículo o ha usado para rebalsar el radiador.

- Designe áreas específicas o un área de servicio para la limpieza de motores, repuestos o partes del vehículo o para rebalsar el radiador. No lave ni enjuague las cosas fuera del edificio.
- Use lavabos sin drenaje y tanques al trabajar con solventes y limpiadores acuosos.
- Mantenga los lavabos y tanques para solventes tapados cuando no estén en uso. Recuerde, ni los solventes ni los limpiadores acuosos pueden echarse en los desagües de tormentas ni en los desagües cloacales.
- Enjuague y escurra las partes sobre el lavabo o tanque para solventes para que el solvente no caiga en el piso. Use bandejas para juntar el exceso de solvente y volverlo a poner en el lavabo o tanque.

- Permita que las partes se sequen sobre el tanque. Si debe enjuagarlas, enjuáguelas también sobre el tanque.
- Inspeccione regularmente los lavabos de solventes desengrasadores para ver que no pierdan y para hacer las reparaciones necesarias inmediatamente.
- Junte y vuelva a usar los solventes para limpiar repuestos y el agua usada para rebalsar y chequear los radiadores. Cuando ya no se puedan volver a usar, estos líquidos se consideran materiales peligrosos (a menos que se determine lo contrario) y debe deshacerse de ellos correctamente.
- Evite soldar sobre tanques con líquidos. Barra los desperdicios después de soldar y recíclelos o deshágase de ellos apropiadamente.

Lavado de vehículos

Nunca eche el agua con la que lavó un vehículo a la calle o a un desagüe de tormentas si usó detergente o limpiador. ¡Aun los jabones biodegradables son tóxicos para muchos tipos de vida acuática!

- Reduzca al mínimo el uso de limpiadores de ruedas a base de ácido. Si los usa, asegúrese que el agua de enjuague no corra a un desagüe de tormentas. Si el agua de enjuague se echa en un desagüe cloacal, puede necesitar ser tratada (para cumplir con el pH y otros límites) antes de echarla.
- Al remover la capa protectora (i.e., cosmolene) de un automóvil nuevo, no eche ningún material en el desagüe de tormentas. Si usa solvente, lo que reste no puede echarse tampoco en un desagüe cloacal.

Taller de carrocería y pintura

¡El agua con la que se ha lavado un vehículo en un taller de carrocería o pintura nunca puede echarse, ni permitir que llegue, a un desagüe de tormentas!

- Realice el trabajo de reparación de la carrocería, lijado y pintura dentro del edificio.
- Al recibir vehículos dañados, inspeccione para ver si hay pérdidas. Use bandejas colectoras si es necesario.
- Al lijar en húmedo, ponga una bandeja debajo del panel que lija para recoger lo que caiga. Ponga el líquido recogido en el balde de lijado en húmedo.
- Limpie las últimas gotas con un trapo o deje que se sequen y luego barra o pase la aspiradora.
- Barra el piso del taller en vez de lavar con trapo mojado.
- No use desengrasadores que necesiten ser lavados con manguera al limpiar partes de la carrocería antes de pintar.
- Reduzca al mínimo los desperdicios calculando cuidadosamente la pintura que necesita en base a la superficie y usando el tamaño apropiado del pulverizador.

- No use agua para controlar el exceso de pintura o el polvo en el lugar donde pinta, a menos que el agua sea juntada y tratada antes de echarla en el desagüe cloacal.
- Limpie las pistolas pulverizadoras en un envase contenido. Recicle el limpiador cuando se ensucie demasiado. Nunca eche los restos al limpiar las pistolas pulverizadoras en un desagüe cloacal o en un desagüe de tormentas.

Control de derramamientos y respuesta

¡El mejor control de derramamientos es la prevención!

- Asegúrese que todos los empleados se familiaricen con el plan en caso de derramamiento. ¡Lo derramado se limpia más fácilmente cuando se contiene rápidamente! Asegúrese que todos los empleados sepan como usar el equipo y los materiales de respuesta a un derramamiento, y que estén adiestrados en seguridad personal.
- Mantenga un retén portátil y bandejas colectoras adicionales disponibles para responder inmediatamente a un derramamiento. Si tiene en su propiedad un desagüe de tormentas, mantenga a mano una alfombra grande de goma para ponerla sobre el desagüe en caso de derrame.
- Mantenga trapos y materiales absorbentes a mano y accesibles en cualquier lugar del taller. Recicle los trapos de limpieza usados a través de una lavandería industrial.
- Reduzca al mínimo la distancia entre los puntos donde se ponen los desperdicios y las áreas de almacenamiento. Mantenga las tapas y los envases bien seguros al transferir los desperdicios.
- Controle los desagües en los pisos para asegurarse que no estén conectados al sistema de desagües de tormentas.

Almacenamiento de productos químicos, materiales y desperdicios

Mantenga los fluidos usados separadamente, a menos que se aconseje lo contrario. Combinar los desperdicios generalmente reduce la habilidad de reciclar y puede aumentar considerablemente sus costos de eliminación.

- Mantenga los productos químicos, materiales y desperdicios dentro del edificio. Si los mantiene afuera, póngalos dentro de un envase secundario y protéjalos de la lluvia y del agua.
- Almacene los productos químicos que se venden sueltos dentro de un envase secundario cuando sea posible. Los materiales peligrosos y los desperdicios, incluyendo el aceite y el anticongelante, deben ser almacenados en un envase secundario.
- Mantenga las áreas de almacenamiento limpias y secas. Inspeccione las áreas de almacenamiento periódicamente para descubrir pérdidas y derramamientos.
- Mantenga los envases bien tapados.

- Los desperdicios peligrosos deben tener etiqueta y ser almacenados de acuerdo a las reglamentaciones sobre materiales peligrosos. Para más detalles, llame al Departamento de Salud Ambiental del condado, 454-2022.
- Almacene las baterías y pilas en un envase secundario. Ponga las baterías o en el piso o en los estantes más bajos siempre que tengan protección contra terremotos.

Área exterior de colección de basura

El agua usada para lavar las áreas de los contenedores de basura y las áreas donde se almacena la basura no puede echarse ni permitir que llegue a la calle o al sistema de desagües de tormentas.

- Use receptáculos a prueba de agua y mantenga las tapas bien puestas.
- Limpie las manchas de goteras o pérdidas para evitar que se desparramen, particularmente durante la temporada de lluvias.

Comprando, reciclando y eliminando

¡Compre los productos menos tóxicos siempre que pueda!

- Compre productos re-usables o reciclables siempre que le sea posible. Reduzca o elimine los materiales peligrosos que usa.
- Considere cambiar a limpiadores a base de agua en vez de usar solventes clorinados. Sin embargo, una vez usados, los limpiadores a base de agua no pueden echarse en los desages de tormentas o desagües cloacales. Tanto los limpiadores a base de agua como los solventes deben ser reciclados o llevados al lugar apropiado.
- Considere comprar trapos para limpiar los derramamientos en vez de materiales absorbentes, porque los trapos pueden ser limpiados por una lavandería industrial y vueltos a usar. Debe deshacerse de los materiales absorbentes saturados, en general, como si fuera un desecho peligroso.

Educación y adiestramiento

Asegúrese que todos sus empleados comprendan y sigan las Mejores Prácticas de Control. ¡Los errores y los malentendidos pueden llevar a violaciones de la ley y a limpiezas muy costosas!

- Es obligatorio que todos los empleados sean adiestrados sobre las Mejores Prácticas de Control al ser empleados y anualmente de allí en adelante.
- Eduque a sus clientes y déjeles saber que usted toma precauciones extras para que su negocio mantenga una actitud positiva en la protección del medio ambiente.
- Ponga a la vista los números de teléfono en caso de emergencia del Departamento de Bomberos de la ciudad y del Servicio de Tratamiento de Aguas Residuales.

Departamento de Bomberos 911

Servicio de Tratamiento de Aguas Residuales 420-6050

- Ponga señales sobre los lavabos prohibiendo echar los fluidos de los vehículos y demás líquidos desechados.
- Escriba o ponga señales cerca de todos los desagües de tormentas en su propiedad, que digan "*No echar nada - va a nuestra bahía"*.
- Saque ventaja de los materiales educativos **GRATUITOS** provistos por DTSC/EPA. Estos materiales incluyen las Mejores Prácticas de Control y folletos que pueden verse en la página del Web de la Agencia de Protección Ambiental en:

  http://www.epa.gov/region09/cross_pr/p2/autofleet/factauto.html.

  Puede también preguntarle a un Inspector de Cumplimiento Ambiental de la ciudad cómo obtener materiales adicionales.

Llame a los inspectores de Cumplimiento Ambiental para más información: 831-420-6050

¡Por favor recuerde llamar al Departamento de Planificación de la ciudad al 420-5100, antes de hacer cualquier cambio en el sistema de plomería!

FOOD SERVICE FACILITIES

Best Management Practices

Chapter 2 of the Best Management Practices Manual for the City's Storm Water Management Program

Public Works Department
809 Center Street, Santa Cruz, CA 95060
831-420-5160

Published: June 2003

Authorized by Municipal Code Chapter 16.19

Introduction

In the City of Santa Cruz, water in streets, gutters, and storm drains flows directly to local creeks, the San Lorenzo River, or Monterey Bay without any treatment. Wash water used in outdoor cleaning often carries dirt, debris, soap, degreasers, and other harmful pollutants that clog storm drains, damage sensitive creek habitats, and finally end up polluting our bay and ocean. In fact, discharging any kind of polluting substance into a storm drain or any place where it will run off into a storm drain is against the law.

In order to reduce the amount of pollutants reaching local storm drains, the City developed "Best Management Practices (BMPs)" for various types of businesses. All food service facilities, including restaurants, fast food establishments, cafes, and food preparation facilities, are required to abide by the following Mandatory BMPs. Recommended BMPs have been included to provide you with additional practices that can be implemented to help achieve compliance with the Mandatory Best Management Practices.

Mandatory Best Management Practices

1. **Sidewalks, gutters, plazas, alleyways, outdoor eating areas, steps, building exteriors, walls, and driveways** may be cleaned with water provided that one of the following methods is used:

   Method A

   a) Clean up spills using dry absorbent materials;

   b) Next, sweep up debris, trash, cigarette butts, dirt, leaves, and other particles;

   c) Then, mop with minimal amounts of water only—**no soap or cleansers**.

   or

   Method B

   a) First, clean up spills using absorbent materials;

   b) Next, pick up large debris;

   c) Then, place a screen in the nearest downstream catch basin. The screen must be made of expanded metal and have a metal hem on the perimeter. The mesh size must be a 1/2 inch size or less. The screen must be sufficiently large to cover the entire catch basin;

   d) Mop or hose down (using a regular garden hose) the area without soap or cleansers. This method does not apply if pressure washing or steam cleaning equipment is used, or if hand scrubbing is conducted;

   e) Lastly, remove the screen as soon as the wash water has drained through. Screens may not be left in the catch basin in between cleaning events. The screen should be cleaned after each use and the debris discarded in the trash.

   or

Method C

a) Pressure washing, steam cleaning, and hand scrubbing may be conducted if the wastewater is collected and disposed of into the sanitary sewer. **This wastewater may not runoff into the street or be discharged into the storm drain system**.

2. **Do not clean floor mats, equipment or exhaust filters in an outside area where wash water may flow to a street, gutter, catch basin, storm drain, or waterway.**

   Floor mats may be washed in an outdoor area only if ALL of the following conditions are met:

   - the area has a drain plumbed to the sanitary sewer,
   - the area is enclosed, sloped or bermed to prevent discharge to the storm drain and to prevent excess storm water from running into the sanitary sewer drain,
   - the area's sanitary sewer drain must have a grate or screen to retain particles larger than one half inch, and
   - there is no chance that the wash water will runoff into a parking lot, alley, street, gutter, catch basin, storm drain, or creek.

3. **Floor and window cleaning wastewater** (including mop water) may not be discharged to a street or the storm drain system. Be sure that employees or a hired cleaning service dispose of these wastes into the sanitary sewer.

4. **Cleaning solvents** may not be used outside to clean ground surfaces, such as sidewalks, walkways, plazas, patios, driveways, loading docks, delivery areas, or dumpster areas, unless the solvent is cleaned up and properly disposed of.

5. **Wastewater from the cleaning of parking lots, loading docks and delivery areas** may not be discharged to the street or storm drain system, or left as "standing" water. Wash water from these areas must be discharged to the sanitary sewer in accordance with the Sewer Use ordinance. Loading dock and delivery areas must be kept clean and free of food waste and debris at all times.

6. **If water is used to remove paint or graffiti** from building exteriors, walls, steps, signs, and other surfaces, the wastewater and paint particles may not be discharged to the street or storm drain system. This wastewater may be discharged to the sanitary sewer if the paint does not contain lead and the large paint particles are filtered out prior to discharge. (If the paint contains lead, please call the County of Santa Cruz Household Hazardous Waste Facility at 454-2606 for disposal information.)

   If blasting or sanding is used to remove paint or graffiti, the paint particles, blasting material, sand, or dust may not be allowed to reach the storm drain system.

7. **Grease traps and interceptors must be cleaned at least as frequently as required by the City. When cleaning a grease trap or interceptor, the entire contents must be removed.**

8. **Waste cleaned from grease traps of 100# size or greater must be hauled and disposed of by a licensed liquid waste hauler.**

9. **Keep grease trap/interceptor cleaning logs or receipts for the past year posted on site and easily available for inspection by City inspectors.**

10. **Never dispose of grease trap or grease interceptor waste into a storm drain, to the environment, or to the sanitary sewer.** Save recyclable oil, grease, and meat fat in a tallow bin or other sealed container.

    Any spills or leaks from tallow bins or grease containers must be cleaned up immediately using the following procedure:

    - Use dry cleanup methods to absorb leaks and spills,
    - Sweep up litter and debris, and
    - If necessary, spot clean or mop with minimal amounts of water and dispose of the water via the sanitary sewer.

11. **All solid and liquid wastes, such as tallow, must be stored and transferred in watertight covered containers.**

12. **Do not place leaking containers or garbage bags into a dumpster.**

13. **Dumpster and garbage can lids** must be kept on securely. Do not allow trash to spill out or overflow the dumpster or garbage can.

14. **Wastewater from the cleaning of garbage dumpster areas and areas where trash is stored or contained may not be discharged to or allowed to reach the street or storm drain system. In addition, the wastewater may not be left as "standing" water.** This wastewater must be discharged to the sanitary sewer in accordance with the Sewer Use Ordinance. Also, leakage from dumpsters or trash containers may not be discharged to or allowed to reach the storm drain system.

15. **Wash water from the cleaning of exhaust filters must be discharged through a grease trap or an interceptor.**

16. **Storm drains** must be kept free of leaves, dirt, and debris.

17. **All employees must be trained on the mandatory Best Management Practices for Food Service Facilities** prior to engaging in any related activities. Businesses are responsible for ensuring that employees and hired contractors know and abide by these BMPs.

Recommended Best Management Practices

Cleaning Floor Mats, Exhaust Filters, and Equipment

Never clean floor mats, exhaust filters, or equipment in an area where the wash water may flow to a street, gutter, catch basin, storm drain, or waterway!

- Clean equipment in an indoor area such as a mop sink or pot sink. A floor area may be used if there is a drain connected to the sanitary sewer via an interceptor.
- Clean equipment in a covered, bermed outdoor area with a drain connected to the sanitary sewer. Do not allow food waste to accumulate in this area.
- Check floor drains to ensure that they do not discharge to the storm drain system.

Kitchen Oil, Grease Handling and Disposal

Never pour oil or grease, or other fatty liquid anywhere outside or into a sink, floor drain, or storm drain.

- Strain or drain meats so that the drippings may be placed in tallow containers. Do not strain or drain meats into a sink or any other drain leading to the storm drain or sanitary sewer.
- When cleaning kitchen pans and equipment, be sure that food particles and grease/oil are wiped into the trash prior to washing or placing in a dishwasher.
- Do not contaminate recyclable fats with waste grease from an interceptor or trap unless permitted by your waste hauler.
- Be sure that waste grease is disposed of properly. Ask your waste hauler where your waste grease is disposed.

Alleys, Dumpsters, and Garbage Areas

Use only dry methods when cleaning up alleys, dumpsters, and garbage areas. Never discharge water from dumpsters or garbage areas to the storm drain system!

- Keep dumpsters or the dumpster enclosure locked to prevent illegal dumping.
- Spot clean leaks and drips routinely. If your dumpster is leaking or needs a cleaning, call the City of Santa Cruz Customer Service for Water, Sewage, and Garbage (if the dumpster is rented through the City's garbage service) at # 420-5220. The City will repair leaks and clean each City rented dumpster once per year for free. If your dumpster is not a City rented dumpster, then call the dumpster leasing company.
- Keep spill cleanup materials handy near the dumpsters and garbage areas.

Spill Cleanup

Never hose down spills into the street, gutter or a storm drain.

- Spot clean leaks and drips routinely. Leaks are not cleaned up until the absorbent is picked up and disposed of properly.

- Clean up spills immediately. Be sure that the spill has been stopped at its source. If spilled fluids might enter a storm drain, protect the drain with sandbags, absorbent rags, or a pile of dirt.
- Use a mop, rags or granular absorbents (e.g. cat litter) to absorb spills. Dry sweep and dispose of used absorbent in the garbage as long as hazardous materials have not been spilled.

Cooling and Refrigeration Equipment Maintenance

Make sure all discharges from cooling and refrigeration equipment go to the sanitary sewer and not to the street or storm drain.

- Be sure that your maintenance person or contractor is knowledgeable and skilled at minimizing corrosion with correct chemical treatments.

Landscaping and Grounds Maintenance

Never dispose of leftover pesticides in the gutter, street, or storm drain! Pesticides must be either used up or disposed of as a hazardous waste.

- Do not blow or rake leaves, grass, or garden clippings into the street, gutter, catch basin, or storm drain.
- If you use pesticides or herbicides, do not over apply them or apply if rain is forecast.
- Dispose of unwanted pesticides and herbicides as hazardous waste.

Education and Training

Train all employees upon hiring and annually thereafter on personal safety, chemical management, and proper methods for handling and disposing of waste. Make sure that all employees understand storm water and wastewater discharge requirements including these Best Management Practices. Use a training log to document employee training.

- Be sure that all contractors, hired to clean inside or outside of your facility, implement the "Mandatory Best Management Practices" and are familiar with your facility's written procedure to comply with these requirements.

Call the City's Environmental Compliance Inspectors for more information at: 831-420-6050

Please remember to contact the City's Planning Department, at 420-5100, prior to making any plumbing changes!

ESTABLECIMIENTOS DE SERVICIOS ALIMENTICIOS

Las Mejores Prácticas de Control

Capítulo 2 del manual de Las Mejores Prácticas de Control
para el programa de
Control de las aguas pluviales de la ciudad

Departamento de Obras Públicas
809 Center Street, Santa Cruz, CA 95060
831-420-5160

Publicado: Junio de 2003

Autorizado por el capítulo 16.19 del Código Municipal

Introducción

En la ciudad de Santa Cruz, el agua de las calles, de las canaletas y de los desagües de tormentas corre directamente a los arroyos locales, al río San Lorenzo o a la bahía de Monterrey sin ningún tratamiento. El agua usada al lavar fuera del edificio lleva tierra, basura, jabón, desengrasadores y otros contaminantes que tapan el desagüe, dañan el ambiente sensitivo de los arroyos y terminan contaminando nuestra bahía y nuestro océano. El hecho es que, echando cualquier tipo de sustancia contaminante en un desagüe de tormentas o en cualquier lugar del cual el agua pueda correr a un desagüe de tormentas es una violación de la ley.

Para poder reducir la cantidad de agentes contaminantes que llegan a los desagües de tormentas, la ciudad desarrolló las "Mejores Prácticas de Control" (MPC) para varios tipos de negocios. Todos los establecimientos de servicios alimenticios, de venta de comida rápida y de preparación de comida, están obligados a cumplir con las MPCs obligatorias. Se han incluido algunas "MPCs recomendadas" para darle a usted prácticas adicionales que puedan ser implementadas para ayudarle a cumplir con las Mejores Prácticas de Control (MPC) obligatorias.

Las Mejores Prácticas de Control obligatorias

1. **Veredas, canaletas, plazas, pasadizos, áreas externas para comer, escalones, exteriores de edificios, paredes y callejones** pueden ser lavados con agua siempre que se use uno de los siguientes métodos:

   Método A

   a) Limpiar lo que se vuelque usando materiales absorbentes secos;

   b) Barrer luego los desperdicios, la basura, las colillas de cigarros, tierra, hojas y otras partículas;

   c) Luego lavar con trapo con una mínima cantidad de agua solamente —**no jabón ni limpiadores.**

   o

   Método B

   a) Primero, limpiar lo que se vuelque con materiales absorbentes secos;

   b) Luego levantar la basura más grande;

   c) Luego, poner una rejilla en el retén de agua más próximo en bajada. La rejilla debe estar hecha de metal expandido y debe tener un borde de metal en el perímetro. El enrejado debe ser de una ½ pulgada o menos. La rejilla debe ser lo suficientemente grande para cubrir toda el área de retén de agua.

   d) Pasar el estropajo con agua o lavar con manguera (usando manguera común de jardín) el área, sin jabón ni limpiadores. Este método no es pertinente si se usa equipo de lavado a presión o a vapor, o si se lava a mano;

e) Finalmente, sacar la rejilla tan pronto como el agua haya terminado de pasar. No se pueden dejar las rejillas en los retenes de agua de un lavado a otro. Las rejillas deben lavarse después de cada uso y los desperdicios deben ser tirados a la basura.

o

<u>Método C</u>

a) Lavado a presión, limpieza a vapor y lavado a mano pueden realizarse si el agua es juntada y echada en un desagüe cloacal. **Esta agua no se puede dejar correr a la calle ni ser echada en el sistema de desagües de tormentas.**

2. **No limpie las alfombrillas, el equipo ni los filtros de escape afuera, donde el agua usada pueda correr a la calle, a las canaletas, a un lugar de retención del agua, al desagüe de tormentas o a cualquier otra ruta del agua.**

   Las alfombrillas pueden lavarse afuera sólo si se dan TODAS las siguientes condiciones:

   - el área tiene drenaje conectado al desagüe cloacal,
   - el área está cerrada, inclinada o tiene retén para prevenir que el agua corra al desagüe de tormentas y, por otro lado, para prevenir que el exceso de aguas de lluvia corra al desagüe cloacal,
   - el desagüe cloacal del área debe tener una rejilla o pantalla para retener las partículas más grandes de media pulgada, y
   - no hay manera en que el agua usada pueda correr a un estacionamiento, callejón, calle, canaleta, retén de aguas de lluvia, desagüe de tormentas o arroyo.

3. **El agua usada para lavar pisos y ventanas** (incluyendo el agua del estropajo) no puede ser echada a la calle o al sistema de desagües de tormentas. Asegúrese que los empleados o el servicio de limpieza contratado eche esta agua sucia al desagüe cloacal.

4. **Los solventes de limpieza** no pueden usarse afuera para limpiar superficies como veredas, caminos, plazas, patios, callejones, desembarcaderos, áreas de entrega de mercadería o área de basureros, a menos que el solvente se limpie y se tire en lugar apropiado.

5. El agua usada para limpiar **plazas de estacionamiento, desembarcaderos y zonas de entrega de mercadería,** no puede ser echada a la calle ni al sistema de desagües de tormentas, ni dejada "estacionada". El agua usada para lavar estas áreas debe ser echada en un desagüe cloacal según la *Ordenanza para el uso de las cloacas*. Los desembarcaderos y las áreas de entrega de mercadería deben ser mantenidas limpias y libres de desperdicios de comida y de basura en todo momento.

6. **Si el agua es usada para remover pintura o graffiti** del exterior de edificios, paredes, escalones, carteles y otras superficies, el agua usada y las partículas de pintura no pueden echarse a la calle o al sistema de desagües de tormentas. Esta agua puede echarse en un

desagüe cloacal si la pintura no contiene plomo y las partículas más grandes se filtran antes de echarla. (Si la pintura contiene plomo, por favor llame a la planta del condado para Desechos Peligros del Hogar, 454-2606 para informarse sobre cómo deshacerse de ella.)

Si se ha hecho limpieza a presión o con arena para remover pintura o graffiti, no puede permitirse que las partículas de pintura, el material usado para la limpieza a presión, la arena o el polvo lleguen al sistema de desagüe de tormentas.

7. **Las bandejas para atrapar grasa y los interceptores deben ser limpiados por lo menos con la frecuencia requerida por las reglamentaciones de la ciudad. Al limpiar una bandeja para grasa o un interceptor, se debe remover todo el contenido.**

8. **La grasa a desechar al limpiar una bandeja de grasa de tamaño 100 o más grande debe ser retirada del establecimiento y eliminada por una compañía autorizada para desechar líquidos.**

9. **Mantenga los recibos de la limpieza de las bandejas para atrapar grasa y de los interceptores durante el último año en lugar accesible y listos para ser controlados por los inspectores de la ciudad.**

10. **Nunca eche la grasa de las bandejas o de los interceptores en un desagüe de tormentas, ni en la tierra, ni en un desagüe cloacal.** Guarde el aceite, la grasa y la manteca animal que puedan reciclarse en un envase apropiado y con tapa que no pierda.

    Cualquier derramamiento o pérdida de estos envases de grasa deben limpiarse inmediatamente usando los siguientes procedimientos:

    - Use métodos de limpieza en seco para absorber lo derramado,
    - Barra la basura y los desechos, y
    - Si es necesario, limpie la mancha o pásele el trapo con una cantidad mínima de agua y eche el agua en un desagüe cloacal.

11. **Todos los desechos que pueden ser sólidos y líquidos, como el sebo, deben ser almacenados y transferidos a envases cubiertos e impermeables.**

12. **No ponga envases que pierdan o bolsas de basura en el contenedor de basura (*dumpster*).**

13. Mantenga los **contenedores de basura y los botes de basura** bien tapados. No permita que la basura se vuelque o rebalse del contenedor o del bote de basura.

14. **El agua usada para lavar el área de los contenedores de basura y las áreas donde se guarda o junta la basura no puede ser echada, ni permitir que corra, a la calle ni a los desagües de tormentas. Además, esta agua no puede quedar "estacionada".** Debe ser echada a un desagüe cloacal según la *Ordenanza para el uso de las cloacas*. Además, las

pérdidas de líquidos de los botes o contenedores de basura no pueden ser echadas ni permitir que corran al sistema de desagües de tormentas.

15. **El agua usada para lavar los filtros de escape debe ser pasada por un atrapador de grasa o un interceptor.**

16. **Los desagües de tormentas** deben mantenerse libres de hojas, tierra y basura.

17. **Todos los empleados deben ser adiestrados sobre las Mejores Prácticas de Control para Establecimientos de Servicios Alimenticios** antes de comenzar a trabajar en cualquier actividad relacionada a ellos. Los comerciantes son responsables de asegurarse que todos los empleados y los contratistas empleados conozcan y cumplan con estas prácticas.

Las Mejores Prácticas de Control recomendadas

Limpieza de alfombrillas, filtros de escape y equipos

¡Nunca limpie las alfombrillas, los filtros de escape o el equipo en un área donde el agua usada pueda correr a la calle, canaletas, retenes de agua, desagües de tormentas u otra ruta del agua!

- Limpie el equipo adentro en un lavabo o balde. Puede usar un área del piso si la misma tiene drenaje conectado al desagüe cloacal con interceptor de partículas.
- Limpie el equipo afuera, en un área cubierta y rodeada de un retén del agua, con drenaje conectado con el desagüe cloacal. No permita que los desperdicios de comida se acumulen en esta área.
- Controle los drenajes del piso para asegurarse que no estén conectados con el sistema de desagües de tormentas.

Manejándose y deshaciéndose del aceite y la grasa de la cocina

Nunca eche aceite o grasa u otros líquidos grasos en ninguna parte afuera, ni en un lavabo, drenaje de piso o desagüe de tormentas.

- Cuele o deje escurrir las carnes para que el líquido caiga en un envase para sebo. No cuele o deje escurrir la carne en el lavabo ni en cualquier otro drenaje que esté conectado con un desagüe de tormentas o con un desagüe cloacal.
- Al limpiar las ollas y el equipo de la cocina, asegúrese que las partículas de comida y la grasa y el aceite se tiren a la basura antes de lavar o poner en el lavaplatos.
- No contamine las grasas reciclables con los desperdicios grasosos de un interceptor o atrapador a menos que la compañía que se encarga de la eliminación de los mismos se lo permita.
- Asegúrese que los desperdicios de grasa sean eliminados apropiadamente. Pregúntele a la compañía que se encarga de la eliminación cómo se deshacen ellos de las grasas.

Callejones, contenedores de basura y áreas de basura

¡Use solamente métodos secos al limpiar los callejones, los contenedores de basura y las áreas donde se almacena la basura. Nunca eche el agua usada para lavar todo esto en un desagüe de tormentas!

- Mantenga bajo llave los contenedores de basura o el área donde se encuentran para prevenir que alguien tire basura ilegalmente.
- Limpie periódicamente las manchas y las goteras. Si el contenedor pierde o necesita ser limpiado, llame al departamento de Servicios al Cliente para Aguas, cloacas y basura de la ciudad de Santa Cruz, teléfono 420-5220 (siempre que el contenedor sea alquilado y pertenezca al servicio de basura de la ciudad). La ciudad repara los que estén rotos y limpia todos los contenedores alquilados una vez por año. Si su contenedor no es propiedad de la ciudad, llame a la compañía que se lo alquila.
- Mantenga a mano, cerca de los contenedores de basura, los materiales para limpiar lo que se derrame.

Limpieza de lo derramado

Nunca limpie lo derramado con manguera dejando que el agua corra a la calle, a una canaleta o a un desagüe de tormentas.

- Limpie las manchas y las goteras periódicamente. Lo derramado no se ha limpiado hasta haber juntado los materiales absorbentes y hasta haberlos eliminado apropiadamente.
- Limpie lo que se derrame inmediatamente. Asegúrese que ha dejado de gotear o derramarse. Si hay posibilidad que los líquidos derramados entren en un desagüe de tormentas, proteja el desagüe con bolsas de arena, trapos absorbentes o un montón de tierra.
- Use un estropajo o absorbentes granulares (como el material usado en las cajas para uso de los gatos) para absorber lo que se derrame. Barra en seco y tire el material absorbente usado a la basura, siempre que los materiales derramados no sean peligrosos.

Mantenimiento del equipo de enfriamiento y refrigeración.

Asegúrese que todo lo que sale del equipo de enfriamiento y refrigeración vaya a un desagüe cloacal y no a la calle o a un desagüe de tormentas.

- Asegúrese que la persona o contratista a cargo del mantenimiento posea el conocimiento y la habilidad para reducir al mínimo la corrosión con el correcto tratamiento químico.

Mantenimiento del jardín y del terreno

Nunca tire en una canaleta, a la calle o en un desagüe de tormentas lo que le sobre de pesticidas. Los pesticidas deben ser usados en su totalidad o eliminados como desechos peligrosos.

- No rastrille ni haga volar las hojas, los restos del zacate ni los restos de la limpieza del jardín a la calle, a una canaleta, retén de agua o desagüe de tormentas.
- Si usa pesticidas o herbicidas, no eche mas de lo necesario, ni cuando esté por llover.
- Deshágase de los pesticidas y herbicidas que ya no le sirvan como desechos peligrosos.

Educación y adiestramiento

Adiestre a todos los empleados al contratarlos y de allí en adelante anualmente sobre la seguridad personal, el uso de productos químicos y los métodos adecuados para manejarse con, y deshacerse de, los desechos. Asegúrese que todos los empleados comprendan los requisitos con respecto a los desagües de tormentas y a los desagües cloacales, incluyendo estas Mejores Prácticas de Control. Use una carpeta de adiestramiento para documentar todos los adiestramientos de los empleados.

- Asegúrese que todos los contratistas empleados para limpiar adentro o afuera del edificio implementen las "Mejores Prácticas de Control"obligatorias y estén familiarizados con los procedimientos escritos por su compañía para cumplir con estos requisitos.

Llame a los inspectores de Cumplimiento Ambiental para más información: 831-420-6050

Retail and Commercial Businesses

Best Management Practices

Chapter 3 of Best Management Practices Manual
for the Stormwater Program

Public Works Department
809 Center Street
Santa Cruz, CA 95060

Introduction

In the City of Santa Cruz, storm drains flow directly to local creeks, the San Lorenzo River, or the Monterey Bay without any wastewater treatment. Storm drains are separate from the sanitary sewer system, which treats wastewater from your sink, toilet, and other indoor drains. Therefore, when debris, wastewater, or chemicals get dumped, spilled, leaked or washed into a street or parking lot, they can flow (or be carried by the next rain) to the nearest creek or waterbody. Storm water pollution can be toxic to fish and other wildlife, and it degrades our beaches and ocean.

Discharging any kind of polluting substance into a storm drain, or any place where it will run off into a storm drain, is against the law. In order to reduce the amount of pollutants reaching local storm drains, the City developed "Best Management Practices" (BMPs) for various types of businesses. All retail and commercial businesses are required to abide by the following mandatory BMPs. "Recommended BMPs" have been included to suggest practices that can be implemented to help achieve compliance. Restaurants, dry cleaners, auto service facilities, and some other types of businesses have additional requirements.

Mandatory Best Management Practices

1. As of March 10, 2003, the wastewater from **pressure washing, steam cleaning, and hand scrubbing** of sidewalks, gutters, plazas, alleyways, outdoor eating areas, steps, building exteriors, walls, driveways, and other outdoor surfaces may not runoff to the street or be discharged to the storm drain system.

   Pressure washing, steam cleaning, and hand scrubbing may be conducted if the wastewater is collected and disposed of into the sanitary sewer.

2. **Sidewalks,gutters, plazas, alleyways, outdoor eating areas, steps, building exteriors, walls, and driveways** may be cleaned with water provided that one of the following methods is used:

   Method A

   a) Clean up spills using dry absorbent materials;

   b) Next, sweep up debris, trash, cigarette butts, dirt, leaves, and other particles;

   c) Then, mop with minimal amounts of water only—no soap or cleansers.

   or

   Method B

   a) First, clean up spills using absorbent materials;

   b) Next, pick up large debris;

   c) Then, place a screen in the nearest downstream catch basin. The screen must be made of expanded metal and have a metal hem on the perimeter. The mesh size must be a 1/2 inch size or less. The screen must be sufficiently large enough to cover the entire catch basin;

   d) Clean (using a mop and bucket) or hose (using a regular garden hose) down the area without soap or cleansers. (This method does not apply if pressure washing or steam cleaning equipment is used or if hand scrubbing is conducted);

   e) Lastly, remove the screen as soon as the wash water has drained through. Screens may not be left in the catch basin in between cleaning events. The screen should be cleaned after each use and the debris discarded in the trash.

   or

Method C

a) Pressure washing, steam cleaning, and hand scrubbing may be conducted if the wastewater is collected and disposed of into the sanitary sewer.

3. Wastewater from the cleaning of **garbage dumpster areas and areas where trash is stored or contained** may not be discharged to or allowed to reach the street or storm drain system. In addition, the wastewater may not be left as "standing" water. This wastewater must be discharged to the sanitary sewer in accordance with the Sewer Use Ordinance. Also, **leakage from dumpsters or trash containers** may not be discharged to or allowed to reach the storm drain system.

4. Wastewater from the cleaning of **parking lots, loading docks and delivery areas** may not be discharged to the street or storm drain system, or left as "standing" water. Wash water from these areas must be discharged to the sanitary sewer in accordance with the Sewer Use ordinance. Also, loading dock and delivery areas must be kept clean and free of food waste and debris at all times.

5. **Cleaning solvents** may not be used outside to clean ground surfaces, such as sidewalks, walkways, plazas, patios, driveways, loading docks, delivery areas, or dumpster areas, unless the solvent is cleaned up and properly disposed of.

6. If water is used to **remove paint or graffiti** from building exteriors, walls, steps, signs, and other surfaces, the wastewater and paint particles may not be discharged to the street or storm drain system. If paint or graffiti is removed by blasting or sanding, the paint particles, blasting material, sand, or dust may not be allowed to reach the storm drain system.

7. The discharge of **vehicle wash water** to the storm drain is limited to water from the rinsing of vehicle exteriors with plain water only. Wash or rinse water from engine, undercarriage, or auto parts cleaning may not be discharged to the storm drain or sanitary sewer. Auto body repair shops may not discharge vehicle wash water to the storm drain.

8. **Equipment cleaning or degreasing** wastewater, cleansers, and solvents may never be discharged to the storm drain. Solvents may never be discharged to the sanitary sewer.

9. **Floor** and **window cleaning** wastewater (including mop water) may not be discharged to a street or storm drain system. Be sure that employees or a hired cleaning service dispose of these wastes in the sanitary sewer.

10. **Carpet cleaning** waste fluids may not be discharged to the street or storm drain system. Wastewater containing soap, but not solvents, may be discharged to the sanitary sewer.

11. **Paintbrushes, paint spray guns, paint trays or containers, and paint cans** may never be cleaned or rinsed into the street or storm drain system.

12. **Dumpster and garbage can lids** must be kept on securely. Do not allow trash to spill out or overflow the dumpster.

13. **Leaves and vegetation** clippings, mowing, and pruning waste may never be placed, dumped, raked, or blown into the street or storm drain system. Contact the City Recycling Customer Service Office, at 420-5220, for information on *GreenCycle!* curbside yardgreens collection services.

14. **Pesticides and herbicides** may not be dumped into the street or storm drain system, nor poured down an indoor drain. Unwanted pesticides and herbicides must be disposed of as hazardous waste.

15. **Storm drains** must be kept free of leaves, dirt, and debris.

16. **All employees must be trained** on the mandatory ***Best Management Practices for Retail and Commercial Businesses*** prior to engaging in any related activities. Businesses are responsible for ensuring that employees and hired contractors know and abide by these BMPs.

Recommended Best Management Practices

Sidewalks, Driveways, and Parking Lots

Litter and debris in parking lots contribute to urban runoff pollution.

- Clean up litter and debris by sweeping.
- Clean up spills, such as leaked motor oil, using dry absorbent material.
- Post signs prohibiting litter.
- Post signs prohibiting automotive work, including changing vehicle fluids, in the parking lot.
- Sweep paved areas and clean outdoor sumps and catch basins prior to October 15th each year.

Trash and Dumpster Areas

Never dispose of toxic chemicals or hazardous materials in the dumpster!

- Keep the waste receptacle area clean and free of debris. Do not leave containers, such as paint cans, in the waste receptacle area.
- Spot clean leaks routinely. If your dumpster is leaking or needs a cleaning, call the City's Customer Service at 420-5220 (if the dumpster is rented through the City's refuse service). The City will repair leaks and clean rented dumpsters once per year for free.

Landscaping and Grounds Maintenance

Eliminate the use of pesticides if possible! Try using natural alternatives first.

- Use pesticides and herbicides only if there is an actual problem, not on a regular preventative schedule.
- Use the minimum amount of pesticides, herbicides, or fertilizers necessary for the job.
- Do not buy large containers of pesticides or herbicides unless you will use them up.
- Be careful not to over apply pesticides, herbicides, or fertilizers, or apply them before it rains. Do not mix or prepare these products in the street, gutter, or over a storm drain inlet.
- Pesticides and herbicides may not be dumped in the sink.
- Store pesticides, fertilizers, and other chemicals indoors or in a storage shed.
- Try planting native species! They generally grow better, have fewer pest problems, and need less water.
- Store stockpiles of landscaping materials under secured tarps and do not store them in the street.
- Schedule grading and excavation projects for dry weather.

Painting

Oil based paints, paint thinners, and cleaning solvents must be disposed of as hazardous waste!

- When cleaning brushes and rollers, first brush out excess paint onto a newspaper or cardboard. If latex paint was used, the brush or roller may be rinsed in the sink.
- Reuse paint thinner several times prior to disposal as a hazardous waste.
- Drain leftover paint back into the can. Spray residual paint, from hoses and spray guns, into the paint can or another container.
- Latex paint may be recycled at the City Resource Recovery Facility at 605 Dimeo Lane. Call the County Environmental Health Department at 454-2022 regarding disposal of hazardous wastes.

Cooling Systems Maintenance

Cooling system water may never be discharged to a street, gutter, or storm drain.

- Clean and maintain cooling systems often to prevent algae build up problems.
- Avoid using copper-based algaecides.
- Manage pH and hardness to minimize corrosion of copper pipes. Make sure your maintenance person is knowledgeable about proper chemical treatment.

Chemical and Waste Storage

Hazardous materials and wastes, including used oil and antifreeze, must be stored within secondary containment. Call the County Environmental Health Department at 454-2022 for more information.

- Keep waste fluids separate unless advised by your waste hauler. Combining wastes generally reduces your ability to recycle and increases disposal costs.
- Store chemicals, materials, and wastes indoors.
- If storing fluid wastes outside, use secondary containment in case a leak occurs in the primary container. Keep protected from rain and runoff.
- Keep all storage areas clean and dry. Inspect storage areas regularly for leaks and spills.
- Flammable substances may require special storage conditions. Contact the Fire Department at 420-5280 for more information.

Spill Control

The best spill control is prevention!

- Keep adequate spill prevention materials on-site and readily available for use.
- Spot clean leaks and drips. Leaks are not considered "cleaned up" until the absorbent is picked up and disposed of properly.
- Keep solid and liquid wastes covered, especially during transfer.

Education and Training

Make sure that your employees and any hired contractors understand and follow the Mandatory Best Management Practices.

- Post signs above sinks prohibiting the discharge of chemicals, vehicle fluids, and other wastes.
- Stencil storm drain inlets on your property with the message "No Dumping—Flows to Ocean."
- Educate your customers and let them know that you take extra measures to be an environmentally proactive business.

Miscellaneous

When in doubt, check with a City Environmental Compliance Inspector at 420-6050 regarding what may or may not be discharged to the sanitary sewer or storm drain.

- Wash water from equipment cleaning may be acceptable for discharge to the sanitary sewer. Prior to discharge, call an Environmental Compliance Inspector at 420-6050.
- Paint over graffiti rather than sand blasting, high pressure washing, or washing with cleansers.

Help Protect Our Creeks, the San Lorenzo River, and Monterey Bay!

Published by: City of Santa Cruz
Public Works Department
809 Center Street, Santa Cruz, CA 95060
831-420-5160
Publication date: December 12, 2002
Authorized by: Municipal Code Chapter 16.19

Call the City's Environmental Compliance Inspectors for more information: 831-420-6050.

Printed on Recycled Paper

CHAPTER 4.0

WATERCOURSE DEVELOPMENT PERMIT PROCEDURES

This chapter describes the overall watercourse management goals and outlines the categories of watercourses that will be subject to the Watercourse Development Permit. A summary table of the watercourse categories and recommended setbacks is provided for each watercourse. The section also outlines the process for obtaining watercourse permits and variances, the type of developments and activities that are subject to permits, and the uses permitted within the designated setback areas. Development standards to protect and/or enhance habitat conditions and water quality are presented.

IN THIS SECTION

4.1 Management Plan Goals
4.2 Watercourse Categories
4.3 Recommended Setbacks
4.4 Permit Procedures
4.5 Development Standards
4.6 Variances

4.1 MANAGEMENT PLAN GOALS

The purpose of this *Management Plan* is to identify appropriate riparian corridors and development setbacks for each watercourse within the City and provide development guidelines and standards for the management of lands adjacent to watercourses that will protect and enhance watercourse functions and habitat values. Locating development away from sensitive watercourse areas and requiring implementation of measures to protect, improve and/or enhance riparian areas and water quality will enable both urban and natural areas to co-exist. Long-term goals to manage these resources include:

- Reduce and/or eliminate pollutants discharged to aquatic bodies,
- Improve water quality,
- Improve and restore natural habitat,
- Increase biodiversity,
- Lower water temperatures,
- Increase public awareness of the value of watershed quality.

The recommended setback regulations are designed to:

- Implement of the goals of the *Management Plan*, consistent with General Plan/LCP resource protection goals;
- Provide appropriate protection of watercourses based on the existing environmental, geomorphic, hydrologic and biologic characteristics found within each watercourse;
- Provide feasible implementation requirements given the urban character of many of the City's watercourses; and
- Provide simplicity of interpretation.

4.2 WATERCOURSE CATEGORIES

Watercourses differ tremendously in their overall configuration and resource characteristics. This is especially true for the Santa Cruz area due to the varied physical geography of the watersheds, the different types of watercourses, and the proximity of existing development adjacent to many of the City's watercourses. The creation of setbacks, buffer, and development standards recognizes this wide difference in the characteristics of the watercourses.

In order to determine the level of review required for the variety of watercourse types within the city, all watercourses and watercourse reaches have been categorized as either an "A", "B" or "C" watercourse. These categories are based on the quality, continuity, and enhancement potential of the riparian habitat associated with each watercourse, the potential for the watercourse to support special status species, and the ability of the habitat to be expanded based upon existing development. A description of each of the watercourse categories is presented below; the categories are identified for each watercourse on Table 4.1.

Category "A" includes watercourses and/or watercourse reaches that support high quality riparian habitat with a vegetated corridor that is continuous and with few gaps. Category "A" watercourses abut undeveloped lands or rural residential yard areas, and also allow for wildlife use in adjacent areas, with some available area for riparian vegetation to expand over time. This category generally has the known presence of special status species, or a high potential for presence due to habitat conditions. *The goals of this category include protecting and restoring existing vegetated watercourses as wildlife movement corridors through removal of invasive non-native plant species and restoration of native vegetation, as well as protection and improvement of water quality with implementation of proper erosion control and best management practices, and planting of appropriate species.*

Category "B" includes watercourses and/or watercourse reaches that are located in urban areas and that function primarily as a drainage system. This category includes watercourses with limited riparian habitat that is generally confined by adjacent land uses with limited area to expand. Issues of water quality and flow conveyance are the focus for this category. *The goals of this category include improving habitat by voluntary removal of invasive, non-native plant species and improving water quality and flow with implementation of proper erosion control and best management practices, and planting of appropriate species.*

Category "C" includes drainage channels that are concrete or man-made, and above or below ground culverts, with very low to no habitat value. The corridor is fragmented or non-existent, with little to no room for restoration without significant land acquisition or easements. The primary function of these watercourses is flow conveyance and water quality is a concern. *Category "C" watercourses are exempt from the watercourse regulations.*

4.3 SUMMARY OF RECOMMENDED SETBACKS

Table 4-1 summarizes the recommended watercourse category, *riparian corridor*, *development setback* area, and *management area* for each watercourse or watercourse reach. Refer to the aerial photos provided under separate cover or online at: www.ci.santa-cruz.ca.us (under Planning & Community Development Department) for a visual depiction of these setback recommendations. The map page(s) that correspond with each watercourse reach is also provided in Table 4-1.

TABLE 4-1. SUMMARY OF WATERCOURSE CATEGORIES & RECOMMENDED SETBACKS

Watercourse Name and Reach	Category (A, B, C)	Riparian Corridor	Development Setback	Management Area	Map Page(s)
		(In feet, measured outward from centerline of watercourse)			
Antonelli Pond	(see map)	(see map)	(see map)	(see map)	K03, K04
Arana Gulch Creek 1a	B	60	80	105	R08, R09
Arana Gulch Creek 1b	B	20	25	50	R08
Arana Gulch Creek 1c	A	100	130	155	R09, R10, R11, R12
Arana Gulch Creek 1d	B	40	60	85	R09, R10
Arana Gulch Creek 1e	A	55	75	100	R10
Arana Gulch Creek 1f	A	55	75	100	R10, R11
Arana Gulch Creek 1g	A	55	75	100	R11
Arana Gulch Creek 1h	A	55	75	100	R12
Arana Gulch Creek 2	B	10	15	40	R09
Arana Gulch Creek 3a	B	20	30	55	R09
Arana Gulch Creek 3b	B	5	5	30	R09
Arana Gulch Creek 3c	B	15	20	45	R09, R10
Arana Gulch Creek 3d	A	55	75	100	R10
Arana Gulch Creek 4a	B	10	15	40	Q09, R09
Arana Gulch Creek 4b	C	0	0	0	Q09
Arana Gulch Creek 4c	B	5	10	35	Q09, Q10
Arana Gulch Creek 4d	A	55	75	100	Q10, Q11
Arana Gulch Creek 4e	A	55	75	100	Q10
Arana Gulch Creek 5a	C	0	0	0	Q09
Arana Gulch Creek 5b	B	10	15	40	Q09
Arana Gulch Creek 5c	B	20	30	55	Q09, Q10
Arana Gulch Creek 5d	A	40	60	85	Q10
Arana Gulch Creek 5e	A	55	75	100	Q10
Arana Gulch Creek 6a	C	0	0	0	Q09
Arana Gulch Creek 6b	B	20	30	55	P09, P10
Arana Gulch Creek 6c	A	55	75	100	P10, Q10
Arana Gulch Creek Harbor	(see map)	(see map)	(see map)	(see map)	Q04, Q05, Q06
Arana Wetland	(see map)	(see map)	(see map)	(see map)	Q06, Q07, R07, R08
Arroyo de San Pedro Regaldo 1	B	10	20	45	N08
Arroyo de San Pedro Regaldo 2a	B	10	20	45	M09, N08, N09
Arroyo de San Pedro Regaldo 2b	C	0	0	0	M08, N08, N09
Arroyo de San Pedro Regaldo 3	B	40	60	85	M08, M09
Arroyo Seco 1	C	0	0	0	L02, L03
Arroyo Seco 10a	B	20	30	55	L07
Arroyo Seco 10b	B	5	10	35	L07
Arroyo Seco 2	B	15	20	45	L03

TABLE 4-1. SUMMARY OF WATERCOURSE CATEGORIES & RECOMMENDED SETBACKS

Watercourse Name and Reach	Category (A, B, C)	Riparian Corridor	Development Setback	Management Area	Map Page(s)
		(In feet, measured outward from centerline of watercourse)			
Arroyo Seco 3	A	50	70	95	L03, L04
Arroyo Seco 4	B	15	20	45	L04
Arroyo Seco 5	B	60	100	125	L04, L05, L06, L07
Arroyo Seco 6	B	40	60	85	L05, L06
Arroyo Seco 7	B	40	60	85	L05
Arroyo Seco 8	B	40	60	85	L06
Arroyo Seco 9a	B	20	50	75	L06, L07
Arroyo Seco 9b	B	5	10	35	L07
Bay Avenue Creek 1	B	5	5	30	M06
Bay Avenue Creek 2	B	20	30	55	L06, M06
Bay Avenue Creek 3	B	5	10	35	L07
Bayona Creek	B	20	30	55	L05, L06, M05
Bethany Creek 1	B	20	30	55	M03
Bethany Creek 2	B	5	5	30	M04
Branciforte Creek 1	B	30	50	75	O06, O07, O08, P08
Branciforte Creek 2	A	50	70	95	P08, P09, P10, P11, Q11, Q12
Carbonera Creek	A	50	70	95	O10, O11, P09, P10, P11, P12
Chrystal Gulch	B	10	15	40	N06
Dodero Spring Creek 1a	B	5	10	35	M06, M07
Dodero Spring Creek 1b	C	0	0	0	M07
Dodero Spring Creek 2	B	25	30	55	M07, M08
Dodero Spring Creek 3	B	10	15	40	M08
Dodero Spring Creek 4	B	25	30	55	M08
Dodero Spring Creek 5	B	10	15	40	L08, M08
Glen Canyon Creek	A	50	70	95	P11, P12
Hagemann Gulch 1	B	40	60	85	Q06, Q07
Hagemann Gulch 2	B	10	15	40	Q07
Hagemann Gulch Harbor	(see map)	(see map)	(see map)	(see map)	Q06
Jessie Street Channel	B	10	15	40	P05, P06
Jessie Street Marsh	(see map)	(see map)	(see map)	(see map)	P06
Kalkar Quarry Spring	(see map)	(see map)	(see map)	(see map)	L08, M08
Laurel Creek 1	B	20	30	55	N05
Laurel Creek 2	B	10	15	40	N05, N06
Laurel Creek 3	B	20	30	55	N06
Laurel Creek 4	B	10	15	40	M06, N06
Laurel Creek 5	C	0	0	0	M06

TABLE 4-1. SUMMARY OF WATERCOURSE CATEGORIES & RECOMMENDED SETBACKS

Watercourse Name and Reach	Category (A, B, C)	Riparian Corridor	Development Setback	Management Area	Map Page(s)
		(In feet, measured outward from centerline of watercourse)			
Laurel Creek 6	B	10	15	40	M06
Laurel Creek 7	B	20	30	55	M06, M07
Lighthouse Drainage	(see map)	(see map)	(see map)	(see map)	N02, N03
Longview Creek 1a	B	5	10	35	M06, M07
Longview Creek 1b	C	0	0	0	M07
Moore Creek 1	A	100	130	155	K02, K03
Moore Creek 2	A	100	150	175	K04, K05, K06, K07,L05
Moore Creek 3	A	100	130	155	K07, K08
Moore Creek 4	A	100	150	175	J07, K05, K06, K07
Moore Creek 5	A	70	100	125	K06, K07
Natural Bridges Creek	A	80	100	125	K02, L02, L03
Neary Lagoon	(see map)	(see map)	(see map)	(see map)	N04, N05, O04,
Ocean Villa Creek	B	50	70	95	P05, P06
Ojos de Agua 1	B	5	10	35	M06, M07
Ojos de Agua 2	C	0	0	0	M07
Ojos de Agua 3	B	5	10	35	M07
Ojos de Agua 4	C	0	0	0	M07
Pasatiempo Creek 1	C	0	0	0	O08
Pasatiempo Creek 2	C	0	0	0	O08, O09
Pasatiempo Creek 3	A	80	100	125	O09, O10
Pilkington Creek 1	B	30	40	65	P05
Pilkington Creek 2	B	10	15	40	P05
Pogonip Creek 1	C	0	0	0	N09
Pogonip Creek 2	B	40	60	85	N09
Pogonip Creek 3	A	70	100	125	M09, M10, N09
Redwood Creek	A	60	90	115	M11, N11
Salz Pond	(see map)	(see map)	(see map)	(see map)	N09
San Lorenzo River Lower	(see map)	(see map)	(see map)	(see map)	N08, O05, O06, O07, O08, P04, P05
San Lorenzo River Upper East Bank	A	120	150	175	N08, N09, N10, N11
San Lorenzo River Upper West	A	100	120	145	N08, N09, N10, N11
Tick Drainage	B	5	10	35	N09, N10
Wagner Seep 1	B	50	70	95	M08, N08
Wagner Seep 2	B	50	70	95	N08
Westlake Pond	(see map)	(see map)	(see map)	(see map)	M07
Woods Creek 1	B	20	30	55	Q05, Q06
Woods Creek 2	B	10	15	40	Q06
Woods Creek Harbor	(see map)	(see map)	(see map)	(see map)	Q05

4.4 WATERCOURSE DEVELOPMENT PERMIT PROCEDURES

4.4.1 Areas Subject to Watercourse Development Permits

Adoption of this *Management Plan* and the accompanying the Zoning Ordinance amendments establishes the requirements for obtaining a Watercourse Development Permit, and specifies uses permitted within the designated *management area*, *development setback area* and *riparian corridor*. The *management area* is the area where the watercourse regulations would apply. Any development located outside of the *management area* would not be subject to watercourse regulations.

Development projects within the *management area* would be subject to City review to assure compliance with *Management Plan* and zoning requirements, and to determine whether an activity is exempt or requires a Watercourse Development Permit. This would include review of some activities that are not always subject to building, grading, or other permits, such as landscaping, decks, fencing, paving, etc. Except for exempt projects listed below, all development projects in the *management area* would be subject to administrative review and approval of a Watercourse Development Permit by City staff (Zoning Administrator) without a public hearing unless the permit is part of larger project that requires a hearing. Generally, Watercourse Development Permits would be required for development within any zone of a Category A watercourse and for development within the riparian and development setback areas of a Category B watercourse. Development activities within Category C watercourses are exempt. It should be noted that in addition to any required City permits, property owners are responsible for obtaining any necessary state or federal permits and complying with applicable state and federal regulations. For undeveloped parcels or those applying for a Watercourse Development Permit, landowners will be required to adhere to the setback width established in this *Management Plan* for new development as a condition of project approval.

Projects subject to approval of other City permits would also be subject to environmental review. During the environmental review process, site-specific review of sensitive habitat and species would be undertaken, if applicable, based on known and potential habitat areas identified on Table 2-2 of the *Management Plan*, and additional protective measures may be recommended. Although site visits were made to as many individual properties as possible during preparation of the *Management Plan*, the *Management Plan* focuses on creek segments and reaches. There may be some limited, very rare circumstances in which an identified setback is recommended to be increased based on the outcome of the environmental review.

The *Management Plan* also maps known wetland areas. For wetlands and other unique areas of ponding water, the *Management Plan* recommends further site-specific biotic review (as currently required), since detailed analysis or wetland delineations were not conducted as part of the preparation of this *Management Plan*. Parcels that may require site-specific biotic review (shown by a green and yellow dot on the aerial photo maps), are parcels near ponds or known wetlands where appropriate setbacks would be determined through further study. The biotic review would only be required if the ponds would potentially be impacted (depending on the location of the development on the parcel in relation to the location of the pond or wetland).

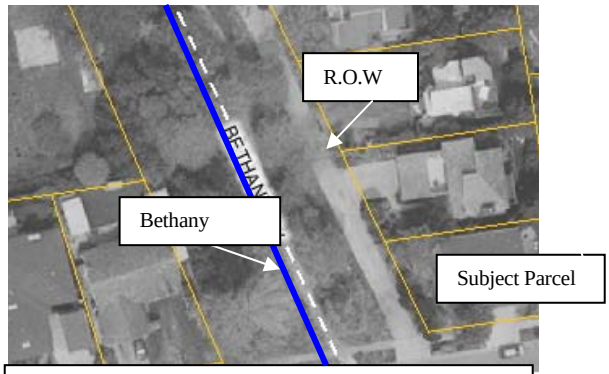
4.4.2 Types of Projects

4.4.2.1 Emergency Projects. When an emergency measure is necessary to protect life and property from imminent danger, or to restore, repair, or maintain public works, utilities, or services during and immediately following a disaster or serious accident, a Watercourse Development Permit or Watercourse Variance may be issued, provided that within three days of the disaster or discovery the Planning Director is notified and a preliminary application is filed containing the nature of the disaster and the type and location of work to be performed, and that within 30 days a completed application for the necessary permits is filed. It should be noted that permits may be required by other agencies.

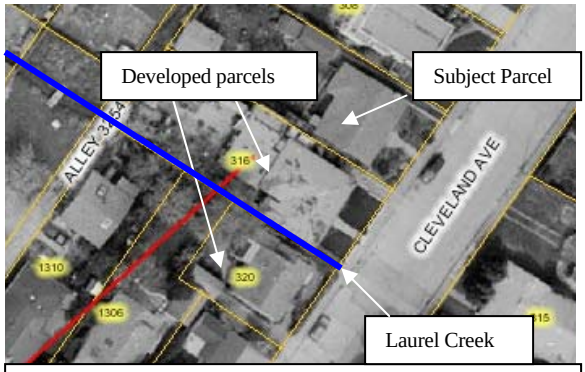
4.4.2.2 Exempt Projects. Certain types of projects would be eligible for an exemption. The intent of an exemption is to allow certain types of development when the resource clearly would not be impacted and the goals of the *Management Plan* would be supported. In any case where it is not clear whether a project would be eligible for an exemption under these guidelines, the determination would be made by the Zoning Administrator, based on the goals herein. Exempt projects are outlined in Table 4.2. The example below illustrates one of the exemptions.

Exemption Example: Any development on a parcel that either:

1. *has an established road right-of-way between the subject parcel and the watercourse (where the development would occur) – see Example 1; or*
2. *has a separate parcel with legal development that is located between the subject parcel and the watercourse (where the development would occur) – see Example 2.*



Ex. 1. ROW between development and watercourse



Ex. 2. Developed parcel between subject parcel & watercourse

4.4.2.3 Projects Subject to a Watercourse Development Permit. Projects that are not eligible for an exemption but are listed as allowable uses on Table 4.3 would be subject to administrative review and approval as a Watercourse Development Permit, provided that the project complies with the appropriate Watercourse Development Standards (discussed in Section 4.5). Any other use or project determined by the Zoning Administrator to be of the same general character as those listed in Table 4.3, and which will not impair the goals of the *riparian corridor* or *development setback* area, may be allowed by a Watercourse Development Permit. Generally, new development would not be allowed in the *riparian corridor*, where the watercourse most directly functions to convey the flow of water, filter storm water, and support natural habitat, except for specified activities outlined on Table 4.3. New development within the *development*

setback area, which serves as a buffer between new development and the watercourse, generally would be limited to landscaping and limited pervious surfaces. New development would be allowed in the area between the *management area* boundary and the *development setback* area.

4.4.2.4 Prohibitions. The following are prohibited:

- Obstructions are not allowed within any watercourse.
- Channel redirection and hardening are not allowed within any Category "A" watercourse unless other measures prove to be infeasible.

4.4.3 Periodic Plan Review

The *Management Plan* would be reviewed by the Planning Commission in five years to evaluate how successful implementation of the *Management Plan* has been and to determine what, if any, components of the *Management Plan* may need to be modified to assure continuing adequate protection of watercourse and wetland resources. Any modifications would require a public hearing. At this time, if a watercourse has been restored to such an extent that it may be upgraded to a different category, it would be evaluated through the public hearing process. (Voluntary improvement and restoration of watercourses, especially Category "B" and possibly "C" watercourses, are encouraged, as further described in section 4.5.5 below.)

TABLE 4-2. PROJECTS EXEMPT FROM WATERCOURSE DEVELOPMENT PERMITS

Development and Structural Improvements

- Any development on a "C" Category watercourse.
- Development projects within a Category B watercourse located outside of the designated *riparian corridor* and *development setback* area (in the remaining *management area*).
- Any development adjacent to a closed culverted section of a watercourse.
- Any development that has an established road right-of-way between the subject parcel and the watercourse or has a separate legally developed parcel located between the subject parcel and the watercourse.
- Interior remodeling of an existing legal structure within the existing structure footprint.
- Repair and maintenance of existing legal structures.
- Demolition of existing structures outside the *riparian corridor*, in accordance with City demolition regulations, provided that no mechanized machinery is utilized and no disturbance occurs within the *riparian corridor*.
- Reconstruction of a damaged nonconforming structure where nonconformance only relates to watercourse setbacks provided the applicable watercourse development standards are implemented.

Exterior Improvements

- Exterior treatments such as painting, roofing, surface treatments, window replacement, that do not increase the density or intensity of land use, or increase surface coverage.
- Exterior safety lighting in the *development setback area*, including low-level walkway, motion detector security, driveway, and entry lighting, that is hooded & directed downward, away from the watercourse.
- Open style fencing (e.g. wire strand or split rail) that permits the free passage of wildlife, limited to the outer edge of the *riparian corridor*.
- Installation of pervious surfaces (outside of the *riparian corridor*), including at-grade decks, patios, and walkways, when the total square footage is less than 25 percent of the *development setback area*, provided that the pervious surfaces meet those requirements specified in the Watercourse Development Standards.

Landscaping and Vegetation Removal

- Landscaping with non-native vegetation within the *development setback area* provided non-invasive species are used.
- Minor vegetation removal of invasive or exotic plant species, except removal of mature eucalyptus trees in known Monarch butterfly habitat areas.
- Thinning of riparian vegetation within a flood or high fire hazard area when required by the City Fire Department for public safety with review and approval of a fire-vegetation management plan or when required by the City Public Works Department for flood protection maintenance with review and approval of a maintenance plan.
- Removal of tree(s) that are hazardous or likely to have an adverse effect upon the structural integrity of a building, utility, or public right of way, or a tree with that has the physical condition such as disease or infestation which warrants alteration or removal, in accordance with the City's Heritage Tree Ordinance and with a plan prepared by a qualified professional .
- Removal of impervious surfaces outside of the *riparian corridor*.
- Mowing and grazing on public lands, consistent with an adopted Parks or Fire Management Plan.

Roads, Public Facilities and Utilities

- Road maintenance of existing legal public roads, private roads and driveways (no expansion or improvements).
- Construction of public trails and bridges on public lands, consistent with an adopted Parks Master Plan or Management Plan, including the location and siting of trails and bridges.
- Maintenance of non-structural and structural storm water Best Management Practices (BMPs).
- Installation and improvements to non-structural BMPs within the *development setback* area.
- Repair, maintenance, or minor alteration of existing public utility, drainage, flood control, and water storage and provision facilities, including pumps and other appurtenant structures where there is no or negligible expansion of use.

Others

- Projects that concurrently are reviewed and approved by another authorizing permitting agency (CDFG, NOAA, USFWS or ACOE) for maintenance, flood protection, restoration or enhancement of a natural resource where the regulatory process involves procedures for protection of the environment, provided proof of permit approval is submitted to the Planning Director.
- Removal of fish passage barriers and installation of in-stream aquatic habitat enhancement structures, in accordance with a plan for said activities prepared by a qualified professional and approved by the City Planning Director.
- Interpretative signage designed to provide information about the value and protection of the resource that is limited to the outer edge of the *riparian corridor*, and must meet other City sign regulations.
- Installation of new and maintenance of existing water flow gauges.
- Water quality testing.
- Continued operation and maintenance of existing cemetery plots.

TABLE 4-3. ALLOWABLE USES AND ACTIVITIES WITH A WATERCOURSE DEVELOPMENT PERMIT

Allowable uses and activities in the *riparian corridor* include:

- Watercourse and wetland restoration, major removal of invasive and/or exotic vegetation where appropriate, minor removal of mature eucalyptus trees in known Monarch butterfly habit areas, removal of non-hazardous trees, (i.e. invasive species and/or for habitat or fire management) in accordance with the City's Heritage Tree Ordinance and a plan prepared by a qualified professional, and removal of impervious surfaces in the riparian corridor..
- Demolition of existing structures inside the *riparian corridor*, in accordance with City demolition regulations.
- Installation of and improvements to storm water BMPs provided that removal of riparian vegetation is avoided whenever possible.
- Channel bank protection and the repair of existing channel bank protection structures. Soft" measures (e.g., landscaping with appropriate native plants that will provide bank stabilization) rather than hardened structures should be used where possible.
- Improvements to existing roads, trails, and crossings, including replacement of existing bridge footings and abutments, as well as consideration of new footings, when studies prepared by qualified professionals demonstrate that the existing or new bridge footings and abutments will not substantially decrease biological values, cause an increase in floodwater surface elevations, redirect flow, or cause erosion to an extent greater than the existing structure, except for uses on public lands that are consistent with an adopted Parks Master Plan or Management Plan. The goal of the replacement and/or improvements would be to reduce the hydrologic and geomorphic impacts of the existing roads and bridge structures with the new structures, consistent with the City's floodplain management regulations.
- Property line fences that provide adequate room for flow conveyance and wildlife movement.
- Incidental public works facilities, including but not limited to, the installation of new, replacement of existing, or improvements to existing buried cables, pipes, and culverts, or inspection of piers and improvements to existing intake and outfall lines, when special studies prepared by qualified professionals have demonstrate that there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects.
- Channel maintenance, including, but not limited to vegetation management and removal of downed trees, in accordance with a channel maintenance plan prepared by a qualified professional and approved by the City.
- Flood protection when no other method for protecting existing structures in the floodplain is feasible and where such protection is necessary for public safety or to protect existing legal development, when special studies prepared by qualified professionals demonstrate that the flood protection use shall not diminish creek capacity, percolation rates, and/or habitat values, if applicable. Channel redirection or hardening may be permitted only if less intrusive flood control/bank stabilization designs have been considered and have been found to be infeasible, including, but not limited to integrated bank repair structures, vegetation, vegetative erosion control, and soil bioengineering.
- Under channel borings at sufficient depth when special studies prepared by qualified professionals have been submitted and approved by the City's Planning Director that demonstrate that the under channel borings will result in no adverse impact to the watercourse, *riparian corridor*, or the *development setback* area.

Allowable Uses and activities in the *development setback* area include:

- All uses allowed in the *riparian corridor*.
- Upper floor additions to existing legal structures (where permitted by the Zoning Ordinance) within the existing footprint area.
- Retaining walls.
- Solid fencing that meets the City fencing regulations.
- Kennels and animal containment areas that comply with storm water BMPS.

Allowable Uses and activities in the remaining *management* area include:

- All other development projects within Category A watercourses allowed by the Municipal Code located in the remaining *management area* (outside of the designated *riparian corridor* and *development setback area*).

NOTE: Some allowable uses and activities may also require approval from the California Department of Fish and Game, the U.S. Army Corps of Engineers, and/or the National Marine Fisheries Service.

4.5 WATERCOURSE DEVELOPMENT STANDARDS

Allowable projects or activities would be required to comply with the applicable Watercourse Development Standards. Management Guidelines also are identified that property owners would be encouraged to implement. The standards address the issues identified below and are further described in this section. Table 4.4 summarizes required standards and recommended guidelines.

- Use of permeable paving;
- Drainage and water quality protection;
- Use of suitable plant materials;
- Use of appropriate lighting;
- Habitat enhancement;
- Construction Best Management Practices;
- Management in High Fire Hazard Areas; and
- Erosion control and bank protection measures.

4.5.1 Use of Permeable Paving Materials

A development site is a mixture of pervious (undisturbed soils that allow surface water to percolate into the soil) and impervious (roofs, pavement, etc.) area. Impervious areas can cause increased flow in channels, resulting in erosion of pervious areas. Utilizing permeable paving materials strives to restore natural infiltration into the soil allows for natural cleansing and restoration of groundwater reservoirs.

Although pervious paving materials can be greatly beneficial, there are some limitations to its application. Permeable paving materials must have sufficient infiltration capacity and void space to allow entry of runoff into the underlying soil or base coarse materials, storage in the voids, and slow release to the subsoil. It is not appropriate, for example, in soils with low permeability or high shrink-swell potential (i.e., tight clay, as determined by a geotechnical report). Also, systems such as reinforced grass paving can primarily be used for low traffic volume areas, though improvements in technology have allowed greater flexibility, such as use for fire lanes. All of the systems above are more effective when used in conjunction with swales (shallow trenches that hold water and allow it to infiltrate).

STANDARD 1: *Permeable paving materials must be considered, where feasible. The following types of permeable paving materials shall be acceptable for use in meeting the intent of the Watercourse Development Standards. Other permeable materials may be utilized upon review and approval by the City's Planning Director*

- *Porous concrete and porous asphalt materials (porous nature must be demonstrated by manufacturer specifications prior to approval of use).*
- *Paving strips.*
- *Bark.*
- *Cobblestone, natural stone, or brick laid on a bed of sand. These can either be backfilled with gravel, or planted with a groundcover. The spacing must be adequate to allow for infiltration.*
- *Precast pavers, ungrouted stone, or open block pavers (i.e., turf block) laid on a bed of sand. The open block pavers can be either backfilled with gravel, or planted with a groundcover. The spacing must be adequate to allow for infiltration.*
- *Granular materials, such as decomposed granite or gravel.*

TABLE 4-4. SUMMARY OF WATERCOURSE DEVELOPMENT STANDARDS AND GUIDELINES

Development Standard	REQUIRED	RECOMMENDED
USE OF PERMEABLE PAVING	1. Use permeable paving materials (see list in *Management Plan*). 2. Construct pedestrian walkways or patios with loose aggregate, wooden decks or well-spaced paving stones within the *development setback area*.	▪ Retain permeable vegetated zones such as overflow parking or emergency access lanes, where possible. ▪ Encourage use of permeable paving for parking areas.
DRAINAGE AND WATER QUALITY	3. Direct drainage from impervious surfaces into City-approved drainage system, utilizing a method that facilitates filtration of pollutants whenever possible (i.e. drainage swales, French drains). 4. Implement water quality BMPS, as appropriate, including application of native or other appropriate erosion-control hydroseed to exposed soils to prevent erosion.	▪ Plant riparian vegetation to facilitate filtration of pollutants from runoff. ▪ Encourage implementation of measures to decrease non-point source pollutants, such as limiting use of fertilizers and pesticides (see list in Plan).
LANDSCAPING	5. Plant only native riparian and wetland species within *riparian corridor* (see list on Table 4.5). 6. Prohibit use of non-native invasive species (see list on Table 4.6).	▪ Avoid using non-native plants in *development setback* area, and encourage planting of native plants.
USE OF APPROPRIATE LIGHTING	7. Prohibit lighting in *riparian corridor*, except for lighting on public lands and facilities for safety and security, consistent with an adopted Management Plan 8. Limit exterior lighting in the *development setback* area to low-level walkway, motion detector security, driveway, or entry lighting. 9. Design lighting to be hooded and directed downward, away from the watercourse.	
HABITAT ENHANCEMENT	10. Avoid mowing or removal of riparian vegetation. 11. For Category A watercourses require the following: plant variety of native plants; avoid clearing dense riparian understory; remove and control spread of non-native species; and avoid planting non-native species. 12. Pre-construction bird nesting surveys adjacent to identified habitat areas.	▪ For Category A and B watercourses encourage the following: use organic compost; remove weeds by hand; and use integrated pest management. ▪ For Category B watercourses encourage the following: plant variety of native plants; avoid clearing dense riparian understory; remove and control spread of non-native species; and avoid planting non-native species. ▪ Consider other enhancement measures specified for certain watercourse reaches (See Table 3.4 in Chapter 3.0).
CONSTRUCTION BEST MANAGEMENT PRACTICES	13. Implement Best Management Practices (BMPs) during construction to protect water quality in adjacent watercourse in accordance with City requirements.	
HIGH FIRE HAZARD AREAS	14.. Protect riparian vegetation within the *riparian corridor* and *development setback area*. Prohibit planting of combustible vegetation in high fire hazard areas (see list on Table 4-7). 15. Require design of new development with fire-resistant or retardant features and landscaping. Increase development setback if necessary to protect structures without removal of riparian vegetation.	
EROSION CONTROL AND BANK STABILIZATION	16. Apply native or other appropriate erosion-control hydroseed mix on exposed soils and slopes and use biotechnical bank stabilization to the maximum extent feasible. Use bio-engineered structures (e.g. rootwads, cribwalls, instream woody debris) or natural materials for needed bank stabilization, when possible (see Plan text for further details).	▪ Expand native woody riparian vegetation to stabilize eroded channels. ▪ Property owners should implement measures to treat small erosion problems using revegetation and biotechnical slope protection measures when possible.

STANDARD 2: *Pedestrian surfaces, such as walkways or patios, shall be constructed with loose aggregate, wooden decks with adequate spacing between, or well-spaced paving stone within the development setback area.*

Guidelines: Where possible, retain permeable vegetated zones, such as overflow parking or emergency access lanes, and encourage use of permeable paving for parking areas. For example, utilize permeable pavers laid on sand or block reinforced turf.

4.5.2 Drainage and Water Quality Protection

Good water quality in the City's watercourses is necessary to support fish, amphibian, and other aquatic species both within the local watercourses as well as within the greater Monterey Bay. Water quality protection measures shall be used, as appropriate, to decrease the amount of runoff from impervious surfaces flowing directly into waterways, increase the amount of runoff being infiltrated into the ground, and reduce the amount of contaminants and organics entering the system.

STANDARD 3: *Drainage from impervious surfaces shall be directed into a City-approved drainage system consistent with the City's urban runoff program and the City's Drainage Control Ordinance (i.e., use of drainage swales, filter swales, small detention basins, percolation pits, and French drains). Percolation of storm runoff on-site through vegetated swales, percolation pits, retention basins, permeable paving materials, or other similar methods to slow and clean runoff prior to direct discharge into the creek corridor, shall be encouraged, where appropriate hydrologic conditions exist. Direct impermeable connections shall be discouraged.*

STANDARD 4: *The following measures shall be implemented, as appropriate, to protect the water quality of watercourses and wetlands:*

- *Apply native or other appropriate erosion-control hydroseed mix at all locations with exposed soil and slopes greater than 5% to prevent soil erosion, reduce water pollution, and help preserve the existing landscape character.*
- *Implement BMPs, including erosion control, for storm water runoff during project design and construction, as described in greater detail in the Department of Public Works Best Management Practices Manual.*
- *Initiate bank stabilization projects that will minimize channel erosion when a project entails work on a bank (see Bank Protection and Erosion Control standards), which may require a Watercourse Development Permit.*

Guidelines: The following measures are encouraged to be implemented, as appropriate, to protect the water quality of watercourses and wetlands:

- Plant riparian vegetation in a manner to facilitate filtration of pollutants from storm runoff.
- Encourage property owners to implement measures to decrease non-point source pollution, including:
  - Eliminate car washing on private driveways, especially near storm drains.

- Limit use of residential fertilizers and pesticides, particularly within the *riparian corridor*, consistent with Integrated Pest Management (IPM) principles.
- Convert ornamental landscaping to native vegetation that requires less fertilizer and watering, consistent with IPM principles.
- Properly dispose of household and small business wastes in City-supplied garbage and recycling containers, and at the City landfill.
- Maintain an operational and updated septic system (for properties not part of the City sewer system).

- Encourage alternative parking area designs to include items such as permeable parking areas and vegetated swales rather than curbs to filter and control runoff.

4.5.3 Use of Suitable Plant Materials

Native vegetation within a riparian corridor supports food and shelter for fish, aquatic insects, and other wildlife. Overhanging vegetation is important, too, because it drops insects into the water and provides shade which keeps the water cool for aquatic species. Streamside plants also filter out sediments and pollution and plant roots help stabilize the bank and hold the soil together, preventing erosion. Healthy watercourses need banks with undisturbed native vegetation.

Table 4-5 provides a list of some suitable plant species. These plants provide low maintenance, attractive landscaping, as well as habitat for native wildlife. Native plants often require less water and are more resilient to insects and disease than many non-native ornamentals. When planted properly, native plants can also help prevent soil erosion. Local native plant nurseries should be able to assist in determining which plants are best suited for a particular area. Additional information regarding revegetation can be found in Appendix C, Revegetation Guidelines.

Table 4-6 provides a list of non-native invasive plant species that are not allowed to be planted and are also recommended for removal. Removal of mature eucalyptus trees, as defined by the Heritage Tree Ordinance, is not encouraged in known Monarch butterfly habitat due to importance of protection of this habitat. Areas identified to date include known roosts at Natural Bridges, Moore Creek just north of Hwy 1, upper Arroyo Seco Creek, lower end of Pilkington Gulch, Wagner Seep, lower Branciforte Creek, and the drainage along Depot Park. (*A Plague of Plants: Controlling Santa Cruz County's Invasive Plants* is a helpful resource guide for some undesirable plant species. A copy can be obtained through: Wildlands Restoration Team, P.O. Box 7333, SC, CA 95061-7333, (831)662-WILD, or www.wildwork.org.)

STANDARD 5: *Only native riparian and wetland plant species are allowed to be planted in the designated riparian corridor (see Table 4-5).*

STANDARD 6: *The planting of non-native, invasive plant species is not allowed (see Table 4-6).*

Guidelines: Avoid using non-native plants in *development setback* area. Planting of native vegetation is encouraged in *development setback* area; however, both native and non-native (non-invasive) plant species are allowed in the *development setback* area and the remainder of the *management area*.

TABLE 4-5. PRINCIPAL PLANT SPECIES SUITABLE FOR RIPARIAN AND WETLAND REVEGETATION

Common Name	Scientific Name
Coast Live Oak Riparian Woodland	
Coast live oak	*Quercus agrifolia*
Hazel nut	*Corylus cornuta*
California rose	*Rosa californica*
Blue blossom	*Ceanothus thyrsiflorus*
Coffee berry	*Rhamnus californica*
Flowering Currant	*Ribes californicum*
Sticky monkey flower	*Mimulus aurantiacus*
California blackberry	*Rubus ursinus*
Bracken Fern	*Pteridium aquilinum*
Wood fern	*Dryopteris arguta*
Mugwort	*Artemisia californica*
Willow and Mixed Riparian Woodland	
Willow	*Salix* spp.
Black Cottonwood	*Populus tricocharpa.*
Mule Fat	*Baccharis salcifolius*
California rose	*Rosa californica*
Flowering Currant	*Ribes californicum*
California blackberry	*Rubus ursinus*
Freshwater Marsh	
Cattail	*Typha* spp.
Bulrush/Tule	*Scirpus* spp.
Bog Rush	*Juncus patens*
Brown-headed Rush	*Juncus pynocephalus*
Water smartweed	*Polygonum* spp.
Brackish/Salt Water Marsh	
Pickleweed	*Salicornia virginica*
Salt Grass	*Distichlis spicata*
Alkali Heath	*Frankenia grandiflora*
Jaumea	*Jaumea carnosa*
Upland Grassland	
Purple Needlegrass	*Nassella pulchra*
Blue Wildrye	*Elymus glaucus*
California Brome	*Bromus carinatus*
California poppy	*Eshscholzia californica*
Blue-eyed grass	*Sisyrinchium bellum*
Bi-colored Lupine	*Lupinus bicolor*
Common Yarrow	*Achillea millefolium*
Meadow Barley *	*Hordeum brachyantherum*
California Oatgrass	*Danthonia californica*
Eucalyptus and Monterey Pine Tree Groves	
Coast live oak	*Quercus agrifolia*
Blue blossom	*Ceanothus thyrsiflorus*
Coffee berry	*Rhamnus californica*
Sticky monkey flower	*Mimulus aurantiacus*
California blackberry	*Rubus ursinus*
Bracken Fern	*Pteridium aquilinum*
Mugwort	*Artemisia californica*
Toyon	*Heteromeles arbutifolia*

Source: Biotic Resources Group, 2001; * Note: Meadow barley is suitable for moist and seasonally wet areas.

TABLE 4-6. INVASIVE SPECIES PROHIBITED FROM USE AND RECOMMENDED FOR REMOVAL	
Common Name	**Scientific Name**
Trees	
Acacia (all types)	*Acacia* spp.
Eucalyptus (all types)**	*Eucalyptus* spp.
Tree-of-Heaven	*Ailanthus altissima*
Shrubs	
French Broom	*Genista monspessulanus*
Scotch Broom	*Cytisus scoparius*
Spanish Broom	*Spartium junceum*
Cotoneaster	*Cotoneaster sp.*
Pyracantha	*Pyracantha sp.*
Perennial sweet pea	*Lathyrus latifolius*
English holly	*Ilex aquifolium*
Other Perennials and Annuals	
Iceplant or Seafig	*Carpobrotus* sp. and *Mesembryanthemum* sp.
Periwinkle	*Vinca major* and *Vinca minor*
English ivy and Algerian Ivy	*Hedera helix* and *Hedera* sp
Cape ivy	*Delaireia odorata*
Honeysuckle	*Lonicera* sp.
Pampas grass	*Cortederia selloana* and *C. jubata*
Morning glory	*Calystegia* sp., *Convolulus* sp. and *Ipomea* sp.
Vetch	*Vicia* sp.
Himalayan blackberry	*Rubus procerus* or *R. discolor*
Sticky Ageratina (Mexican Eupatory)	*Ageratina adenophora*
** Removal of mature eucalyptus trees, as defined by the Heritage Tree Ordinance, is not encouraged in known Monarch butterfly habitat due to importance of protection of this habitat.	

Source: Biotic Resources Group, 2001

4.5.4 Appropriate Lighting

Exterior lights that are directed toward riparian habitats can result in disruption to nesting species and affect overall habitat use.

STANDARD 7: *Prohibit lighting in riparian corridor, except for lighting on public lands and facilities for safety and security, consistent with an adopted Management Plan.*

STANDARD 8: *Limited exterior safety lighting in the development setback area shall be allowed. Examples of safety lighting include: low-level walkway lighting; motion detector security lighting, driveway lighting, entry lighting.*

STANDARD 9: *Lighting shall be hooded and directed downward and away from the watercourse/wetland.*

4.5.5 Habitat Enhancement

Potential enhancement and/or restoration measures are also described for each watercourse and are summarized in Chapter 3.0. These measures include planting riparian vegetation and removal of invasive, non-native plant species. Opportunities to enhance wildlife habitat include preserving snags (i.e., dead trees, when they do not pose a public safety hazard) and installing bird and bat nest boxes to improve nesting sites, planting riparian trees and shrubs to improve habitat structure and diversity, maintaining vegetative cover over the water to benefit aquatic resources, and preserving large woody debris in the channel to benefit aquatic resources (including steelhead). In some areas bank erosion repair measures or removal of trash and debris also have been identified.

Voluntary improvement and restoration of watercourses, especially Category "B" and possibly "C" watercourses, are encouraged. This would be accomplished primarily through distribution of brochures and educational material that will be prepared and provided upon adoption of the *Management Plan* to the public. The brochures/educational materials will explain what one could do to improve a watercourse, and activities/materials to avoid adjacent to a watercourse. It should be noted that the City's Construction BMP Manual provides information about what activities and/or materials to avoid adjacent to watercourses, which is attached to building permits.

STANDARD 10: *Avoid mowing, clearing, or stripping riparian vegetation. To be an effective filter, the riparian corridor must be sufficiently wide, and the shrubs, vines, and grasses of the understory, not just the trees, must be present.*

STANDARD 11: *The following measures are* ***required for Category A watercourses*** *to enhance the riparian habitat of watercourses and wetland areas:*

- *Expand and enhance riparian vegetation to meet designated riparian corridor width. Plant a variety of appropriate native riparian species including ground covers, shrubs, trees, and native flowering plants to attract beneficial insects, such as ladybugs, lacewings, and parasitic wasps. Riparian vegetation should be planted in such a manner to facilitate filtration of pollutants from storm runoff.*
- *Avoid clearing dense native understory vegetation to create open areas.*
- *Avoid planting non-native plants.*
- *Remove or control the spread of non-native, invasive species.*
- *Within landscaped areas, use Integrated Pest Management (IPM) methods that encourage the use of non-chemical methods for weed removal; least-toxic pesticides are used as a last resort. If alternative pest management techniques do not work, use the least-toxic chemical available (City of Santa Cruz, 2000).*

  [For more information on IPM principles and pest management, refer to the UC Statewide IPM Program website at: http://www.ipm.ucdavis.edu].

STANDARD12: *Require that a pre-construction nesting survey be conducted by a qualified wildlife biologist if construction, including tree removal, is scheduled to begin between March and late July adjacent to bird habitat areas identified on Table 2-2 of the Management Plan, to determine if nesting birds are in the vicinity of the construction sites. If nesting raptors are found, construction may need to be delayed until late-August or after the wildlife biologist has determined the nest is no longer in use or unless a suitable construction buffer zone can be identified by the biologist.*

Guideline: The following measures are encouraged to be implemented for Category B watercourses to enhance the riparian habitat of watercourses and wetland areas:

- Expand and enhance riparian vegetation to meet designated riparian corridor width. Plant a variety of appropriate native riparian species including ground covers, shrubs, trees, and native flowering plants to attract beneficial insects, such as ladybugs, lacewings, and parasitic wasps. Riparian vegetation should be planted in such a manner to facilitate filtration of pollutants from storm runoff.
- Avoid clearing dense native understory vegetation to create open areas.
- Avoid planting non-native plants.
- Remove or control the spread of non-native, invasive species.
- Use organic compost as a natural slow-release fertilizer (outside of riparian corridor).
- Remove weeds by hand or use mulch or weed cloth to suppress weeds.
- Within landscaped areas, use Integrated Pest Management (IPM) methods that encourage the use of non-chemical methods for weed removal; least-toxic pesticides are used as a last resort. If alternative pest management techniques do not work, use the least-toxic chemical available (City of Santa Cruz, 2000). [For more information on IPM principles and pest management, refer to the UC Statewide IPM Program website at: http://www.ipm.ucdavis.edu].

Guideline: Consider other enhancement measures specified for certain watercourse reaches (see Table 3.4 in Chapter 3.0).

4.5.6 Construction Best Management Practices

For construction projects, refer to the Department of Public Works *Construction Work Best Management Practices Manual* (Chapter 4 of the Best Management Practices Manual for the City's Storm Water Management Program, December 2003), which is included as Appendix D of this *Management Plan*. For project design, refer to *Development and Remodeling Projects Best Management Practices* (Chapter 6 of the Best Management Practices Manual for the City's Storm Water Management Program, June 29, 2004), which is included in Appendix E.

STANDARD 13: *Implement Best Management Practices (BMPs) during construction to protect water quality in adjacent watercourses in accordance with City requirements (see Appendix D).*

4.5.7 Management in High Fire Hazard Areas

Certain areas within the City are within high fire hazard areas. Within these areas, fires can be a serious hazard due to type of vegetation, vegetation build-up, and topographic conditions in relation to adjacent urban development. Property owners need to be aware that riparian vegetation within the *riparian corridor* and *development setback* area is protected under this *Management Plan*. Table 4-7 provides a list of combustible vegetation that should not be planted within high fire hazard areas.

STANDARD 14: *Protect riparian vegetation within the riparian corridor and development setback area. Prohibit planting of combustible vegetation in high fire hazard areas. Thinning of riparian vegetation may be allowed on a limited basis upon review and approval of plans by the City's Planning Director and the Fire Department.*

STANDARD 15: *New development within high fire hazard areas that offers inadequate distance for fire protection will be responsible for fire prevention activities such as visible house numbering, use of fire-resistant and fire-retardant building and landscape materials, in addition to responsible management. Increased setbacks may also be required in these areas where fire protection standards are inadequate to separate the structures from wildfire hazards, rather than clearing of vegetation*

TABLE 4-7. COMBUSTIBLE VEGETATION IN THE CITY OF SANTA CRUZ

Very Combustible These species have a high oil content and will burn rapidly, producing an intense heat.	**Less Combustible** These species have a lower oil content, but are easily ignited; will burn rapidly and produce a high heat.
Black sage	Bush poppy
California yerba santa	California blackberry
Chamise	California wild rose
Coastal sagebrush	Canyon gooseberry
Coffeeberry	Chaparral pea
Coyote brush	Creambush
Huckleberry	Elderberry
Manzanita	
Mountain mahogany	
Poison oak	
Red-berried buckthorn	
Scotch broom	
Scrub Oak	
Sticky Monkeyflower	
Toyon	

Source: City of Santa Cruz General Plan and LCP, 1994

4.5.8 Bank Protection and Erosion Control

For streambank work that involves structural bank protection or stabilization, a plan shall be developed by a qualified hydrologist, engineer, or erosion control specialist. Typically, these plans are subject to review and approval by the CDFG pursuant to a Streambed Alteration Agreement. The plan shall specify actions to protect the streambank as well as an evaluation that the proposed actions will prevent adverse effects on adjacent properties (e.g., cause downstream erosion).

STANDARD 16: *Erosion control measures shall be employed, especially when a project entails work on a bank, to protect the water quality and reduce the amount of fine sediment entering watercourses and wetlands, as well as minimize adverse impacts to riparian and wetland habitats. Channel bank protection and the repair of existing bank repair structures are to use the concepts of biotechnical bank stabilization to the maximum extent feasible. The following measures shall be implemented to control erosion and protect the integrity of watercourse banks, when applicable:*

- *Apply native or other appropriate erosion-control hydroseed mix at all locations with exposed soil and slopes greater than 5% to prevent soil erosion, reduce water pollution, and help preserve the existing landscape character.*
- *Use bio-engineered structures (e.g., rootwads, cribwalls, instream woody debris) or natural materials (e.g., rock slope protection) for banks needing more direct bank stabilization when possible. Materials and colors should be natural in character and indigenous to the region. Rock slope protection areas should also incorporate planting areas to further stabilize and soften the appearance of the rock face. Concrete slab slope protection should be avoided.*
- *Use erosion control blankets in areas requiring more direct soil stabilization when possible. Erosion control fabrics and logs should be installed using biodegradable materials and selected for appropriateness. Certain erosion control fabrics should be avoided due to mesh size/materials known to cause mortality to wildlife species (e.g., small mesh size).*
- *If hard surfaces are used (i.e., rip-rap, gabions, retaining walls or revetments) and riparian vegetation is removed, require revegetation of adjacent disturbed areas within the riparian corridor. Guidelines for revegetation and maintaining and monitoring the revegetation are presented in Appendix H.*
- *Other erosion control and water pollution prevention practices can be utilized as well, as recommended by a qualified professional experienced in riparian restoration and enhancement and approved by the City's Planning Director.*

Guideline: Expand and enhance native woody riparian vegetation to meet designated riparian corridor width. Riparian vegetation will help stabilize eroded channels.

Guideline: Property owners shall implement measures to treat small erosion problems using revegetation and biotechnical slope protection measures when possible.

4.6 PROJECTS SUBJECT TO A WATERCOURSE VARIANCE

Projects that do not comply with the development setbacks or projects requesting exceptions to the Watercourse Development Standards would be subject to Planning Commission review and approval as a Watercourse Variance at a public hearing. Lesser setbacks would be permitted only in unique or extraordinary circumstances. One example would be if application of the minimum setback standards would render the parcel physically unusable for a principal permitted use as allowed in the City's Zoning Ordinance. In allowing a reduction in the minimum setbacks, they should be reduced only to the point at which a principal permitted use (as modified as much as is practical from a design standpoint) can be accommodated. A watercourse variance is not encouraged nor is it a situation that is expected to arise often. However, there may be limited situations in which a variance may be requested based on more site-specific data than is available or included in this *Management Plan*. A variance process is therefore included, consistent with other provisions of the City's Zoning Ordinance.

Zoning Ordinance modifications or variances to required development standards that are not related to watercourse protection (street setbacks, height limits, parking requirements, etc.) should be considered first to offset increased watercourse protection or enhancement. Protection of watercourse setback areas should take priority over other development standards.

Where there is a conflict between general development standards and watercourse and/or public access protection, the standards that are most protective of watercourse habitat and public access should be favored. When considering a variance that reduces total buffer size, setback reductions should be made first to the *development setback area*. In general, variances that permit additional uses within the designated *riparian corridor* and especially the watercourse bed and banks should be avoided.

4.6.1 Special Studies Required for a Watercourse Variance

Additional information needed to evaluate requests for a Watercourse Variance may include the following, depending on the type, scale, and location of the proposed project:

- Site-specific **Biologic and Hydrologic Studies** prepared by qualified professionals submitted by the applicant that justify from a biologic, hydrologic, and geomorphic standpoint the narrower setback or other exceptions to the Watercourse Development Standards requested. The studies must demonstrate that requested setbacks and exceptions to the Watercourse Development Standards would still:

    - Provide adequate area to contain storm water flows and provide water quality improvements; and
    - Protect existing biological values of the watercourse corridor such as shade provision, water temperature maintenance, nutrient filtering, wildlife movement corridors, unimpeded fish movement, and wildlife habitat; and
    - Maintain opportunities for restoration and enhancement, if the area lends itself to restoration or enhancement (contiguous to other habitat, able to sustain riparian area, etc); and
    - No special status plant or wildlife species are present within that portion of the setback area requested to be disturbed or narrowed

- A **Vegetation Management Plan** that identifies native and non-native trees and shrubs to be removed. The plan should show the location, limits, and square footage of the proposed vegetation management, the specific size (diameter at breast height, and tree height), the species of native and non-native trees and shrubs to be managed, their condition and health, and the reason for their removal. The Vegetation Management Plan should also discuss the proposed method of removal (cutting, mowing, spraying) and should include a Planting Plan.

- An **Erosion Control Plan** (prepared in accordance with the requirements contained in Section 24.14.060, subsection (4) of the Municipal Code).

- A **Restoration and Enhancement Plan**, prepared by a qualified professional for restoration or enhancement of the proposed narrower setback, including riparian vegetation and fisheries enhancement, and a Statement that the applicant has committed

to implement the Plan. The Restoration Plan shall also describe how the replanted vegetation shall be monitored.

4.6.2 Project Components to be Included in Requests for a Watercourse Variance

Project features that improve watercourse conditions, provide public open space opportunities or contribute to other watershed-wide benefits should be considered when granting exceptions that will allow reasonable use of the parcel yet provide needed watercourse protection. Project components to be considered (as determined to be feasible or appropriate for the given project) when granting exceptions to the required setback include:

- Habitat restoration using native plant materials.
- The reduced setback maintains to the greatest extent feasible the width of the riparian corridor and development setback area.
- Erosion control and bank stabilization.
- Retrofitting existing parking areas adjacent to watercourses. using permeable materials, incorporating storm water quality management facilities, and berming to direct surface flows away from the watercourse.
- Passive park and open space dedication.
- Trail construction, consistent with General Plan/LCP goals and policies.
- Removal of fish passage barriers.

APPENDIX H

SUMMARY OF CITY ADOPTED OR PENDING MANAGEMENT PLANS

APPENDIX H
SUMMARY OF CITY ADOPTED OR PENDING MANAGEMENT PLANS

H.1 SAN LORENZO URBAN RIVER PLAN

The San Lorenzo River runs through the City for approximately 2.7 miles from Sycamore Grove to the Pacific Ocean. The lower 2.2-mile reach was channelized in 1958 for flood-control purposes by construction of a levee system, dredging of the riverbed and removal of vegetation. The river supports a wide variety of birds, animals and aquatic species. Fishery resources include steelhead trout, which are a federally-listed threatened species and a state-listed sensitive species. The San Lorenzo River has been designated as critical habitat for steelhead trout and coho salmon. According to the National Marine Fisheries Service (NMFS), the San Lorenzo River supported coho salmon (another federally-listed threatened species) until the drought of 1976-77, though a study conducted in 1981 identified coho salmon in several tributaries (Swanson Hydrology & Geomorphology, 2001). Presently, coho salmon are found south of San Francisco in only Waddell Creek, Scott Creek and Mill Creek (northern Santa Cruz County); however, accessible reaches of the San Lorenzo River are included in the critical habitat designation for the species. The coho salmon south of San Francisco are also listed as an endangered species by the State of California under the California Endangered Species Act (CESA).

The *San Lorenzo Urban River Plan* (*Urban River Plan*) provides an update to the 1987 *San Lorenzo River Design Concept Plan* and the 1989 *San Lorenzo River Enhancement Plan*. These earlier plans guided flood control, vegetation restoration, and public access improvements along the San Lorenzo River and Jessie Street Marsh from 1989 through the late 1990s. In 1999, the Santa Cruz City Council requested that these plans be updated due to: the initiation of the U.S. Army Corps of Engineers flood control improvement project; the listing of the steelhead trout and coho salmon as federally-threatened species; and federal designation of the San Lorenzo River as critical habitat for these species. The City Council appointed a citizen task force to update the plan, emphasizing community involvement as the foundation for plan development. The City Council adopted the *Urban River Plan* in 2003.

The *Urban River Plan* articulates a community vision for the corridor encompassing the lower San Lorenzo River, Branciforte Creek, and Jessie Street Marsh as a wildlife area as well as a public amenity for recreation, transportation, and open space. It contains recommendations for habitat enhancement, public access and trail improvements, public art, and community programs. It seeks to guide the City of Santa Cruz in re-establishing and improving its management of and relationship to this major, recently expanded landscape feature over the next 20 years. The primary goals of the *Urban River Plan* are to:

- Enhance and restore biotic values of the San Lorenzo River, Branciforte Creek and Jessie Street Marsh as habitat for fish and wildlife;
- Maintain flood control capacity of the San Lorenzo River and Branciforte Creek;
- Improve the scenic and recreational value of the Riverfront;

- Improve public access and pedestrian/bicycle movement to and along the San Lorenzo River;
- Improve the urban and neighborhood interface with the San Lorenzo River, Branciforte Creek and Jessie Street Marsh; and
- Incorporate the San Lorenzo River, Branciforte Creek, and Jessie Street Marsh into the surrounding urban fabric and downtown and neighborhoods.

The *Lower San Lorenzo River and Lagoon Management Plan* comprises the biological restoration plan for the San Lorenzo River and Lagoon and is included in the *Urban River Plan* as an appendix. The primary management and restoration recommendations of the *Lower San Lorenzo River and Lagoon Management Plan* are to:

- Develop annual vegetation and sediment management plan for flood control maintenance;
- Develop a plan to manage summer lagoon water levels;
- Establish a streamflow standard for inflow into the lagoon and maintenance of a low flow channel;
- Enhance streambed aquatic cover and substrate in estuarine and transitional reaches;
- Enhance shoreline habitat in transitional and estuarine reaches;
- Enhance shoreline and riparian corridor vegetation; and,
- Develop planning for floodplain and marsh restoration in special planning areas.

H.2 NEARY LAGOON MANAGEMENT PLAN

Neary Lagoon is located in the central portion of the City. The lagoon is an important natural area within the urban matrix of the City. It provides important habitat for wildlife and a unique resource for the community. The lagoon has been encroached upon by residential development, industrial land uses (i.e., water treatment plant), the introduction of invasive, non-native plant and animal species, the receipt of urban runoff and increased public use. The lagoon and its environs, described as the Neary Lagoon Management Area, comprise about 44 acres, most of which is wetland, riparian and woodland habitats. Neary Lagoon is a well-known bird-watching area and has been featured in national birding magazines.

The *Neary Lagoon Management Plan* (City of Santa Cruz, 1992) was prepared as both a guide and a directive for managing the lagoon area to ensure its long-term viability as an ecosystem and its value as a unique resource for the community. Goals, objectives and actions described in the plan are designed with the purpose of preserving and enhancing the lagoon's environmental integrity and quality while satisfying other purposes for public recreation and safety. The *Neary Lagoon Management Plan* is intended to guide all aspects of operation, maintenance, protection, improvement and monitoring consistent with these purposes.

The *Neary Lagoon Management Plan* provides direction for creating a balance between the lagoon's various purposes for wildlife values, public use and safety, flood protection, water

quality, and mosquito control. Achieving this balance of purposes requires a detailed level of ongoing management that is comprehensive and adaptive to changes. Without such management, the lagoon could eventually have adverse impacts on wildlife, people, or both, and valuable resources may be diminished or lost as a result. The specific goals, policies and programs of the *Neary Lagoon Management Plan* have been incorporated into the General Plan/LCP; these goals are listed as an appendix to the plan. As part of the 1992 *Neary Lagoon Management Plan, Phase 1,* the Coastal Commission approved a 100-foot wide wetland buffer zone/reserve, which is included in the Neary Lagoon Management Plan area. Figure H-1 depicts riparian and wetland vegetation at Neary Lagoon.

The primary goals of the *Neary Lagoon Management Plan* are:

- Manage lagoon hydrology for flood protection, and enhancement of wildlife, vegetation, water quality, mosquito control, and aesthetics;
- Improve water quality at Neary Lagoon;
- Improve and maintain native vegetation diversity and health in the management area;
- Protect and improve opportunities for maintaining and increasing populations of native wildlife at Neary Lagoon;
- Maintain important views and visual features of the management area and provide enhanced viewing opportunities;
- Manage land uses to preserve and protect the lagoon's character and resources;
- Maintain access and avoid damage to infrastructure in the management area;
- Provide improved, high-quality and safe public access, recreation, and environmental education opportunities consistent with other purposes of the management area; and
- Protect important cultural resources at Neary Lagoon.

FigureH-1. View of riparian and wetland vegetation at Neary Lagoon.

H.3 MOORE CREEK CORRIDOR ACCESS AND MANAGEMENT PLAN

Moore Creek is an intermittent stream that lies at the western boundary of the City. Moore Creek originates on the UCSC campus and flows, via Antonelli Pond, into a coastal lagoon at Natural Bridges State Park. The creek includes east and west branches; the West Branch of Moore Creek traverses Moore Creek Preserve, a City-owned greenbelt. Its watershed is largely undeveloped, and the creek's physical isolation from the surrounding urban area by steep slopes gives the Moore Creek Corridor a unique wilderness feeling, unmatched in the City limits. Flora and fauna are abundant in the canyon, which provides an important wildlife corridor and ecological link between the open lands of the University and Natural Bridges State Park.

The *Moore Creek Corridor Access and Management Plan* was developed in 1987 to provide the policy and action plan necessary to ensure the protection of this unique natural area while making it more accessible to passive recreational uses. Due to existing development patterns and physical accessibility, the plan focuses on providing access, and applying management programs to the east branch of Moore Creek. Management issues focus on improving water quality and reducing soil erosion, sedimentation and vegetation removal. Improving access to the Moore Creek corridor is based on the goal of keeping the corridor undeveloped. Toward this end, paved pathways and prominent signs are not recommended for the east branch. The specific goals and policies of the *Moore Creek Corridor Access and Management Plan* (which have also been incorporated into the General Plan/LCP) are listed as an appendix to the plan. The plan does not cover development on adjacent parcels.

The primary goal of the *Moore Creek Corridor Access and Management Plan* is:

- The existing vegetation along the Moore Creek Corridor shall be retained and protected to the maximum extent feasible.

H.4 MOORE CREEK PRESERVE INTERIM MANAGEMENT PLAN

Moore Creek Preserve is a 246-acre natural area located on the western edge of the City. The City acquired the preserve, an area designated as one of the City's greenbelt lands, in 1998. The majority of the property lies within the Moore Creek watershed (west branch of Moore Creek); a portion of the preserve lies within the watershed of the east branch of Wilder Creek. The preserve supports a diversity of habitats as well as several threatened and endangered plant and animal species. Two federally-listed species occur on the preserve: the Ohlone tiger beetle (a federally-listed endangered species) and San Francisco popcorn flower (a federally-listed endangered species) (City of Santa Cruz, 2001). The preserve also supports locally unique species, such as roost sites for the monarch butterfly.

The draft *Moore Creek Preserve Interim Management Plan* was approved by the City Council in 2002. Since a portion of the money used for the preserve's purchase were derived from the California Wildlife Conservation Board and the California Environmental Enhancement and Mitigation Program, development of the plan was guided by conservation

and resource protection objectives in accordance with easements held on the land by the State of California. The proposed uses and infrastructure improvements addressed in the interim plan include:

- Hiking trails (dogs prohibited);
- Cattle grazing;
- Study, preservation, enhancement and protection of native species and their habitat;
- Installation of interpretive, regulatory and directional signs;
- Fencing for grazing and property boundaries; and
- Erosion control measures.

H.5 ANTONELLI POND MANAGEMENT PLAN

Antonelli Pond is an artificial impoundment on lower Moore Creek, just upstream from where Delaware Avenue crosses Moore Creek. It is owned by the Santa Cruz County Land Trust. It was created in the early 1900's when Moore Creek was dammed to form a millpond. Although Antonelli Pond is man-made, this artificial impoundment serves as an ecologically beneficial feature. The pond provides additional freshwater marsh habitat to augment the greatly diminished amount of natural freshwater wetlands along the Central Coast. Antonelli Pond provides habitat for numerous freshwater-dependent bird and animal species, including threatened species such as the California red-legged frog (Bulger, John, pers. comm., 2000).

A draft *Antonelli Pond Interim Management Plan* was prepared in 1980. In 1995, a draft *Antonelli Pond Conceptual Management Plan* was prepared. These two existing studies have shown siltation in the pond to be a significant problem. These two documents are to be revised and updated by the Land Trust of Santa Cruz County, which owns the site (Bernie Goldner, Land Trust of Santa Cruz County, pers. comm., 2000). The updated plan will be submitted to the City and Coastal Commission for adoption. Major components of the plan are expected to include: assessment of impacts of surrounding land uses; site planning for the pond area; hydrologic and water quality analyses; surveys and a protection plan for the threatened California red-legged frog and other sensitive species; and strategies to enhance interpretive and educational opportunities (Bernie Goldner, Land Trust of Santa Cruz County, pers. comm., 2000).

H.6 JESSIE STREET MARSH MANAGEMENT PLAN

Jessie Street Marsh is located in the lower Ocean Street section of the City of Santa Cruz. The marsh is bounded by the San Lorenzo River and levee system to the west and south, Broadway to the north, and the Branciforte bluff to the east. Historically, the marsh was part of a large tidal estuary that was open to the San Lorenzo River and encompassed much of the lower Ocean Street and downtown areas. Construction of the levee system after the 1955 flood blocked most tidal and river flows from entering the marsh and significantly limited water circulation. The marsh has thus been converted to a less ecologically valuable

brackish and freshwater system that is currently fed by limited tidal inflow, hillside springs, groundwater, and urban runoff. Figure H-2 depicts riparian and wetland vegetation that has established in the upper portion of the marsh.

In 1998, the City prepared a management plan for Jessie Street Marsh. The plan, and accompanying environmental document, was approved by the City in 1999. The plan was incorporated as an appendix to the *San Lorenzo Urban River Plan.* The *Jessie Street Marsh Management Plan* identifies actions to preserve and enhance the natural resources of the marsh, improve water quality, manage floodwaters and provide for public access and environmental education in appropriate areas of the marsh. The plan proposes to create a combination of salt and freshwater habitat within the marsh by making structural modifications to allow for increased tidal exchange with the San Lorenzo River. Installation or repair of a new slide gate at the San Lorenzo River is proposed to allow tidal exchange between the marsh and the river lagoon during non-storm periods. Low-impact construction plans are currently being prepared to implement the plan actions under direction of the City Parks and Recreation Department.

The major goals of the management plan are:

- Preserve, enhance and restore the natural resources values of the marsh and adjacent upland areas to maximize biological resource values;
- Reduce the impacts of human activities (including water quality, sedimentation, and erosion) on marsh resources;
- Provide passive recreational uses of the marsh and adjacent habitat where compatible with natural resource management and adjacent land uses;
- Increase surface water exchange between the marsh and the San Lorenzo River;
- Develop Best Management Practices (BMP's) for the marsh and immediate vicinity; and,
- Provide natural resource interpretation for the residents of, and visitors to, the Jessie Street Marsh area.

Figure H-2. View of wetland and riparian vegetation that has established in the upper portion of Jessie Street Marsh.

H.7 LIGHTHOUSE FIELD STATE BEACH GENERAL PLAN

Lighthouse Field State Beach is located on the north coast of the City along West Cliff Drive. The property is bounded by Monterey Bay and Pelton Street. The State of California acquired the property in 1978 as part of the State Park System, and responsibility for its operation and maintenance is shared between the City and County of Santa Cruz, with the City acting as the lead agency. The *Lighthouse Field State Beach General Plan* was prepared in 1984. Plan objectves include: provide a park with minimum development and minimum maintenance costs; preserve and protect the open space and enhance the natural qualities of the field; preserve and enhance coastal views; provide limited recreational development; protect the neighborhood; improve access from the cliffs; and improve the amenities at the State Beach: benches, trash receptacles, signing, fencing, lighting, picnic facilities.

H.8 ARANA GULCH INTERIM MANAGEMENT PLAN

Arana Gulch is a 63-acre, City-owned parcel located on the eastern portion of the City north of the Santa Cruz Yacht Harbor. In 1994, the City purchased the property and developed an Interim Management Plan. The Interim Plan provides guidelines for maintenance and management of existing conditions. It allows for continued hiking and bicycle trail use and resource protection, including management of the Santa Cruz tarplant population. A Master Plan is currently being prepared for the area, which would establish long range uses and specific resource management measures.

H.9 POGONIP MASTER PLAN

Pogonip is a 630-acre open space area, which lies between UCSC, Henry Cowell State Park, Highway 9, the Harvey West area and two residential areas. The Pogonip property was purchased by the City in 1988. In 1994, the City developed an interim management plan as part of the *Greenbelt Master Plan.* The *Pogonip Master Plan* was adopted by the City in 1998 and identified the following public uses: protection of views, habitats and watershed areas; protection and management of sensitive habitat areas; hiking trails; nature preserve areas; nature trails; a bike trail; homeless garden site, and informal picnic areas. The specific objectives for the long-term use and management of Pogonip are to:

- Foster appreciation and understanding of the natural environment;
- Rehabilitate the historic clubhouse to serve as a staging area for educational programs, a meeting and retreat center and a site for special events;
- Create an outdoor youth education camp;
- Provide a permanent garden site for the Homeless Garden Project;
- Enhance existing trails. Provide trail connections to other destinations, such as the UCSC campus and Henry Cowell Redwoods State Park, and loop trails for Pogonip visitors;

- Identify Resource Management Areas to enhance and protect sensitive natural resources;
- Preserve and interpret historic structures, features, and sites; and
- Encourage use of alternative transportation and off-site parking to minimize parking and road improvement needs within Pogonip.

H.10 LONG MARINE LABORATORY COASTAL LONG RANGE DEVELOPMENT PLAN

The Long Marine Laboratory Coastal Long Range Development Plan area is an approximately 98-acre tract of land fronting along the coast on the City's far-west side, located west of De Anza Mobile Home Park. The project site includes the existing Long Marine Laboratory as well as adjacent lands owned by UCSC. The eastern half of the site (previously known as Terrace Point) is mostly undeveloped except for the Seymour Marine Discovery Center and the NOAA building. The undeveloped portion of the property consists primarily of non-native grassland habitat and coyote brush shrub-grassland habitat (UCSC, 2001). Seasonal wetlands also exist on this portion of the site. Figure H-3 depicts the grassland and seasonal wetland vegetation that occurs in this area. In 2001, UCSC prepared a Coastal Long Range Development Plan. As part of this plan, UCSC has proposed to preserve the wetland resources on the site (UCSC, 2001). As the land is owned by UCSC, a State agency, the City of Santa Cruz does not have approval authority.

Figure H-3. View of the non-native grassland and seasonal wetlands within the Long Marine Laboratory Coastal Long Range Development Plan Area.

H.11 YOUNGER LAGOON NATURAL RESERVE MANAGEMENT PLAN

Younger Lagoon Natural Reserve is a 15-acre brackish marsh that is fed by the drainage of an approximately 180-acre watershed just west of UCSC's Long Marine Lab. The lagoon is part of the University of California's Natural Reserve System and provides habitat for numerous native plant and wildlife species (particularly birds). An adaptive management plan for Younger Lagoon has been in place since 1977. Long-term management of the reserve is incorporated into UCSC's Long Marine Laboratory Coastal Long Range

Development Plan.. As the land is owned by UCSC, a State agency, the City of Santa Cruz does not have approval authority.

H.12 NATURAL BRIDGES STATE BEACH GENERAL PLAN

Natural Bridges State Beach is located on the north coast of the City along West Cliff Drive. The property is bounded by Monterey Bay and Delaware Avenue. The State Department of Parks and Recreation prepared a general plan for the State Beach. The *Natural Bridges State Beach General Plan* identifies actions to preserve and enhance the natural resources of the area and provide for public access in appropriate areas.

RJF

County of Santa Cruz

DEPARTMENT OF PUBLIC WORKS

701 OCEAN STREET, ROOM 410, SANTA CRUZ, CA 95060-4070
(831) 454-2160 FAX (831) 454-2385 TDD (831) 454-2123

THOMAS L. BOLICH
DIRECTOR OF PUBLIC WORKS

May 16, 2008

Mr. Jeffrey S. Young, Chairman and all Members of the
Central Coast Regional Water Quality Control Board
895 Aerovista Place
San Louis Obispo, CA 93401

SUBJECT: ALTERNATIVE HYDROMODIFICATION STANDARDS

Chairman Young and Members of the Board:

As discussed at our April 28, 2008, meeting in Salinas with Roger Briggs and members of his staff, Santa Cruz County and the municipalities within the county, collectively called Santa Cruz agencies are very concerned that the interim hydromodification criteria proposed in Mr. Briggs' February 15, 2008, letter may not be technically feasible. We would therefore propose alternative interim hydromodification criteria be considered for Santa Cruz agencies. Specifically, methods for using 1 percent hydrographs have not been established. It will be very problematic for the County and the Cities within to implement new, untested standards that have not been used by other agencies. The new criteria deviate extensively from the state General Permit requirements and other approved Storm Water Management Plans in this and other regions, and puts the Phase II agencies in this region at a level not even reached by Phase I agencies that have had more than 18 years of experience in dealing with the National Pollutant Discharge Elimination System storm water permit regulations.

We would ask that you please direct your staff to provide us with the research and analysis used for the numeric criteria called for in their February 15, 2008, letter. We are also extremely concerned about whether your staff has considered the economic costs of implementing these new standards and the impact on the regional housing and urban sprawl in the county and municipalities in our area when/if the new numeric criteria is implemented.

Based on the May 5, 2008, email that we received from Phillip Hammer of Mr. Briggs' staff, it is our understanding that the Regional Water Board is requesting that Santa Cruz agencies submit a plan by no later than May 20, 2008, for developing alternative hydromodification criteria. We understand that the information submitted will be used by the Board to further develop guidance for the hydromodification portions of stormwater management

plans. While we find this two week timeline to provide such a plan to be completely inadequate, we have done our best to summarize our proposed alternative interim hydromodification criteria for Santa Cruz agencies. The attached plan includes 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

We look forward to further discussing this plan and our alternative hydromodification criteria with you and your staff. Please contact Rachel Fatoohi, County of Santa Cruz Storm Water Manager, at (831) 454-2160 should you have any questions about our proposal and to inform us whether we should proceed with the proposed plan.

Yours truly,

THOMAS L. BOLICH
Director of Public Works
County of Santa Cruz

STEVE JESBERG
Director of Public Works
City of Capitola

for
MARK DETTLE
Director of Public Works
City of Santa Cruz

for
DAVID KOCH
Director of Public Works
City of Watsonville

KEN ANDERSON
Director of Public Works
City of Scotts Valley

RJF:mh

Copy to: Steve Jesberg, Director of Public Works, Capitola
Mark Deetle, Director of Public Works, Santa Cruz
David Koch, Director of Public Works, Watsonville
Ken Anderson, Director of Public Works, Scotts Valley
University of California Santa Cruz
Santa Cruz County Board of Supervisors
Lori Pettgrew, Eisenberg, Olivieri, & Associates, Inc.
Tom Burns, Planning Department

hydomodificationmh.wpd

PLAN FOR DEVELOPING ALTERNATIVE HYDROMODIFICATION CRITERIA

Santa Cruz Agencies
May 2008

The County of Santa Cruz and the cities within (Santa Cruz agencies) understand the importance of developing criteria that are protective of beneficial uses while also being practical for agencies' staff to implement. With this in mind, the agencies will investigate hydromodification criteria currently being used by Phase I and Phase II communities and evaluate the potential applicability to the agencies.

In addition, the Water Board has indicated that the alternative criteria should include the following:

1. Numeric criteria for controlling storm water runoff volumes and rates
2. Numeric criteria to protect stream stability and prevent physical changes to down stream channels
3. Numeric criteria to maximize low-impact development implementation
4. Thresholds for various numeric criteria

   These numeric criteria will be considered when evaluating interim hydromodification criteria for the agencies.

The Plan includes the following elements:

5. Evaluating Existing Hydromodification Criteria
6. Evaluating Protection of Beneficial Uses
7. Meeting with Water Board Staff
8. Developing Alternative Hydromodification Criteria for Santa Cruz agencies
9. Plan Milestones

<u>Review and Evaluate Existing Hydromodification Criteria</u>

The Santa Cruz agencies will review hydromodification criteria currently being used by Phase I and Phase II communities and evaluate the potential suitability to the agencies. Specifically, the following programs and hydromodification criteria will be reviewed and evaluated for potential use in the Santa Cruz County Stormwater Program:

1. Recently adopted Phase II SWMPs in Region 3 (The Counties of SLO, Santa Barbara, and Monterey)
2. Numeric control standards for Phase I Programs
3. Draft General Construction Permit Requirements
4. San Diego County Hydromodification Interim Criteria
5. Contra Costa County Tool Box
6. Attachment 4, Phase II permit
7. Existing land use conditioning/requirements by Santa Cruz agencies

   Each of these Program's hydromodification criteria will be critically reviewed to determine the basis for each criterion and the types of numeric controls being used.

A matrix, summarizing the numeric flow control standards and overall Program design will be developed to compare the Programs and requirements. Rationale used to justify each criterion will also be summarized if available. This information will be used to later develop hydromodification criteria specific to Santa Cruz agencies

Evaluate Protection of Beneficial Uses

As described in the May 5, 2008, email, the Water Board needs assurance that alternative interim criteria are as protective of beneficial uses as those interim criteria included in the February 15, 2008, letter. To address this issue; the Santa Cruz agencies will compare available data and literature regarding hydromodification criteria and protection of beneficial uses. This work will include reviewing the basis of the interim criteria proposed in the February 15, 2008, Board letter and build on the research and analysis conducted by Water Board staff. This information will be used to later develop hydromodification criteria specific to Santa Cruz agencies.

Meet with Water Board Staff

Upon completing review of existing programs and beneficial uses the Santa Cruz agencies will meet with Water Board staff to discuss potential hydromodification criteria.

Develop Alternative Hydromodification Criteria

Based on information gathered from existing hydromodification criteria, review of criterion used by the Water Board to develop the current alternative hydromodification criteria, and discussions with Water Board staff, the agencies will develop alternative hydromodification criteria to compliment the current Stormwater Program.

Milestones

Table 1 provides the milestones for investigating and developing interim hydromodification criteria. As shown on the Table, review and summary of existing programs will be completed in 10 weeks from receiving Water Board concurrence on the proposed process. Review of Water Board data will be completed within eight weeks of receipt of data, research and analysis.

TABLE 1
ALTERNATIVE INTERIM HYDROMODIFICATION CRITERIA MILESTONES

Milestone	Completion Time
1. Review of Existing Criteria	10 Weeks
2. Develop Matrix of Existing Standards. Include rationale for criterion if available.	5 Weeks
3. Evaluate Beneficial Use Protection (Water Board data)	8 Weeks
4. Meet with Board Staff	4 Weeks
5. Develop Alternative Hydromodification Criteria and necessary changes to Santa Cruz agencies' policies and requirements	52 Weeks

Linda S. Adams
Agency Secretary

California Regional Water Quality Control Board
Central Coast Region

Arnold Schwarzenegger
Governor

Internet Address: http://www.waterboards.ca.gov/centralcoast
895 Aerovista Place, Suite 101, San Luis Obispo, California 93401-7906
Phone (805) 549-3147 • FAX (805) 543-0397

June 9, 2008

Mr. Mark Dettle
Director of Public Works
City of Santa Cruz
809 Center Street, Room 201
Santa Cruz, CA 95060

Dear Mr. Dettle:

SANTA CRUZ COUNTY AGENCIES' PLAN FOR DEVELOPING ALTERNATIVE HYDROMODIFICATION CRITERIA

We are writing in reference to your May 16, 2008 letter to Central Coast Water Board members containing a Plan for Developing Alternative Hydromodification Criteria. Staff has reviewed the letter and finds that it broadly defines an appropriate strategy for alternative interim hydromodification criteria development. As such, you should proceed with your plan, which identifies five milestones to be achieved according to a proposed schedule.

By concurring with your proposal, we are providing flexibility to the Santa Cruz County agencies regarding the interim hydromodification criteria included in our February 15, 2008 letter. We find the Santa Cruz County agencies' develop alternative interim hydromodification criteria will meet our goals for healthy watersheds and our expectations for the maximum extent practicable standard, provided that the criteria to be developed are numeric and as protective of beneficial uses as the interim hydromodification criteria we initially proposed. We believe this flexibility will allow you to address the issues raised in your letter, such as economic cost, regional housing, and urban sprawl.

We will develop and issue further guidance regarding alternative interim hydromodification criteria to all Central Coast stormwater agencies in the next several weeks. As you requested, this guidance will include literature citations supporting the criteria that were included in our February 15, 2008 letter. The guidance will further clarify our expectations regarding alternative interim hydromodification criteria.

We are encouraged by your proactive approach to addressing impacts to beneficial uses resulting from hydromodification. We look forward to working with you closely during each step of your plan. In particular, we anticipate meeting with you to discuss the potential alternative interim hydromodification criteria that you identify during the early stages of your proposed process.

If you have any questions regarding this letter, please contact Phil Hammer at phammer@waterboards.ca.gov or 805-549-3882 or Matt Thompson at (805) 549-3159.

Sincerely,

Roger W. Briggs
Executive Officer

cc:

Steve Wolfman
City of Santa Cruz
809 Center Street, Room 201
Santa Cruz, CA 95060

Suzanne Healy
City of Santa Cruz
809 Center Street, Room 201
Santa Cruz, CA 95060

S:\Stormwater_Stormwater Program_Municipal Program\Phase II\MS4 Enrollment Strategies\Hydromod Criteria\Response2SantaCruz interim HMC plan City of SC.doc

RDF

County of Santa Cruz

DEPARTMENT OF PUBLIC WORKS

701 OCEAN STREET, ROOM 410, SANTA CRUZ, CA 95060-4070
(831) 454-2160 FAX (831) 454-2385 TDD (831) 454-2123

THOMAS L. BOLICH
DIRECTOR OF PUBLIC WORKS

May 16, 2008

Mr. Jeffrey S. Young, Chairman and all Members of the
Central Coast Regional Water Quality Control Board
895 Aerovista Place
San Louis Obispo, CA 93401

SUBJECT: ALTERNATIVE HYDROMODIFICATION STANDARDS

Chairman Young and Members of the Board:

As discussed at our April 28, 2008, meeting in Salinas with Roger Briggs and members of his staff, Santa Cruz County and the municipalities within the county, collectively called Santa Cruz agencies are very concerned that the interim hydromodification criteria proposed in Mr. Briggs' February 15, 2008, letter may not be technically feasible. We would therefore propose alternative interim hydromodification criteria be considered for Santa Cruz agencies. Specifically, methods for using 1 percent hydrographs have not been established. It will be very problematic for the County and the Cities within to implement new, untested standards that have not been used by other agencies. The new criteria deviate extensively from the state General Permit requirements and other approved Storm Water Management Plans in this and other regions, and puts the Phase II agencies in this region at a level not even reached by Phase I agencies that have had more than 18 years of experience in dealing with the National Pollutant Discharge Elimination System storm water permit regulations.

We would ask that you please direct your staff to provide us with the research and analysis used for the numeric criteria called for in their February 15, 2008, letter. We are also extremely concerned about whether your staff has considered the economic costs of implementing these new standards and the impact on the regional housing and urban sprawl in the county and municipalities in our area when/if the new numeric criteria is implemented.

Based on the May 5, 2008, email that we received from Phillip Hammer of Mr. Briggs' staff, it is our understanding that the Regional Water Board is requesting that Santa Cruz agencies submit a plan by no later than May 20, 2008, for developing alternative hydromodification criteria. We understand that the information submitted will be used by the Board to further develop guidance for the hydromodification portions of stormwater management

plans. While we find this two week timeline to provide such a plan to be completely inadequate, we have done our best to summarize our proposed alternative interim hydromodification criteria for Santa Cruz agencies. The attached plan includes 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

We look forward to further discussing this plan and our alternative hydromodification criteria with you and your staff. Please contact Rachel Fatoohi, County of Santa Cruz Storm Water Manager, at (831) 454-2160 should you have any questions about our proposal and to inform us whether we should proceed with the proposed plan.

Yours truly,

THOMAS L. BOLICH
Director of Public Works
County of Santa Cruz

STEVE JESBERG
Director of Public Works
City of Capitola

for
MARK DETTLE
Director of Public Works
City of Santa Cruz

for
DAVID KOCH
Director of Public Works
City of Watsonville

KEN ANDERSON
Director of Public Works
City of Scotts Valley

RJF:mh

Copy to: Steve Jesberg, Director of Public Works, Capitola
Mark Deetle, Director of Public Works, Santa Cruz
David Koch, Director of Public Works, Watsonville
Ken Anderson, Director of Public Works, Scotts Valley
University of California Santa Cruz
Santa Cruz County Board of Supervisors
Lori Pettgrew, Eisenberg, Olivieri, & Associates, Inc.
Tom Burns, Planning Department

hydomodificationmh.wpd

PLAN FOR DEVELOPING ALTERNATIVE HYDROMODIFICATION CRITERIA

Santa Cruz Agencies
May 2008

The County of Santa Cruz and the cities within (Santa Cruz agencies) understand the importance of developing criteria that are protective of beneficial uses while also being practical for agencies' staff to implement. With this in mind, the agencies will investigate hydromodification criteria currently being used by Phase I and Phase II communities and evaluate the potential applicability to the agencies.

In addition, the Water Board has indicated that the alternative criteria should include the following:

1. Numeric criteria for controlling storm water runoff volumes and rates
2. Numeric criteria to protect stream stability and prevent physical changes to down stream channels
3. Numeric criteria to maximize low-impact development implementation
4. Thresholds for various numeric criteria

These numeric criteria will be considered when evaluating interim hydromodification criteria for the agencies.

The Plan includes the following elements:

5. Evaluating Existing Hydromodification Criteria
6. Evaluating Protection of Beneficial Uses
7. Meeting with Water Board Staff
8. Developing Alternative Hydromodification Criteria for Santa Cruz agencies
9 Plan Milestones

Review and Evaluate Existing Hydromodification Criteria

The Santa Cruz agencies will review hydromodification criteria currently being used by Phase I and Phase II communities and evaluate the potential suitability to the agencies. Specifically, the following programs and hydromodification criteria will be reviewed and evaluated for potential use in the Santa Cruz County Stormwater Program:

1. Recently adopted Phase II SWMPs in Region 3 (The Counties of SLO, Santa Barbara, and Monterey)
2. Numeric control standards for Phase I Programs
3. Draft General Construction Permit Requirements
4. San Diego County Hydromodification Interim Criteria
5. Contra Costa County Tool Box
6. Attachment 4, Phase II permit
7. Existing land use conditioning/requirements by Santa Cruz agencies

Each of these Program's hydromodification criteria will be critically reviewed to determine the basis for each criterion and the types of numeric controls being used.

A matrix, summarizing the numeric flow control standards and overall Program design will be developed to compare the Programs and requirements. Rationale used to justify each criterion will also be summarized if available. This information will be used to later develop hydromodification criteria specific to Santa Cruz agencies

Evaluate Protection of Beneficial Uses

As described in the May 5, 2008, email, the Water Board needs assurance that alternative interim criteria are as protective of beneficial uses as those interim criteria included in the February 15, 2008, letter. To address this issue; the Santa Cruz agencies will compare available data and literature regarding hydromodification criteria and protection of beneficial uses. This work will include reviewing the basis of the interim criteria proposed in the February 15, 2008, Board letter and build on the research and analysis conducted by Water Board staff. This information will be used to later develop hydromodification criteria specific to Santa Cruz agencies.

Meet with Water Board Staff

Upon completing review of existing programs and beneficial uses the Santa Cruz agencies will meet with Water Board staff to discuss potential hydromodification criteria.

Develop Alternative Hydromodification Criteria

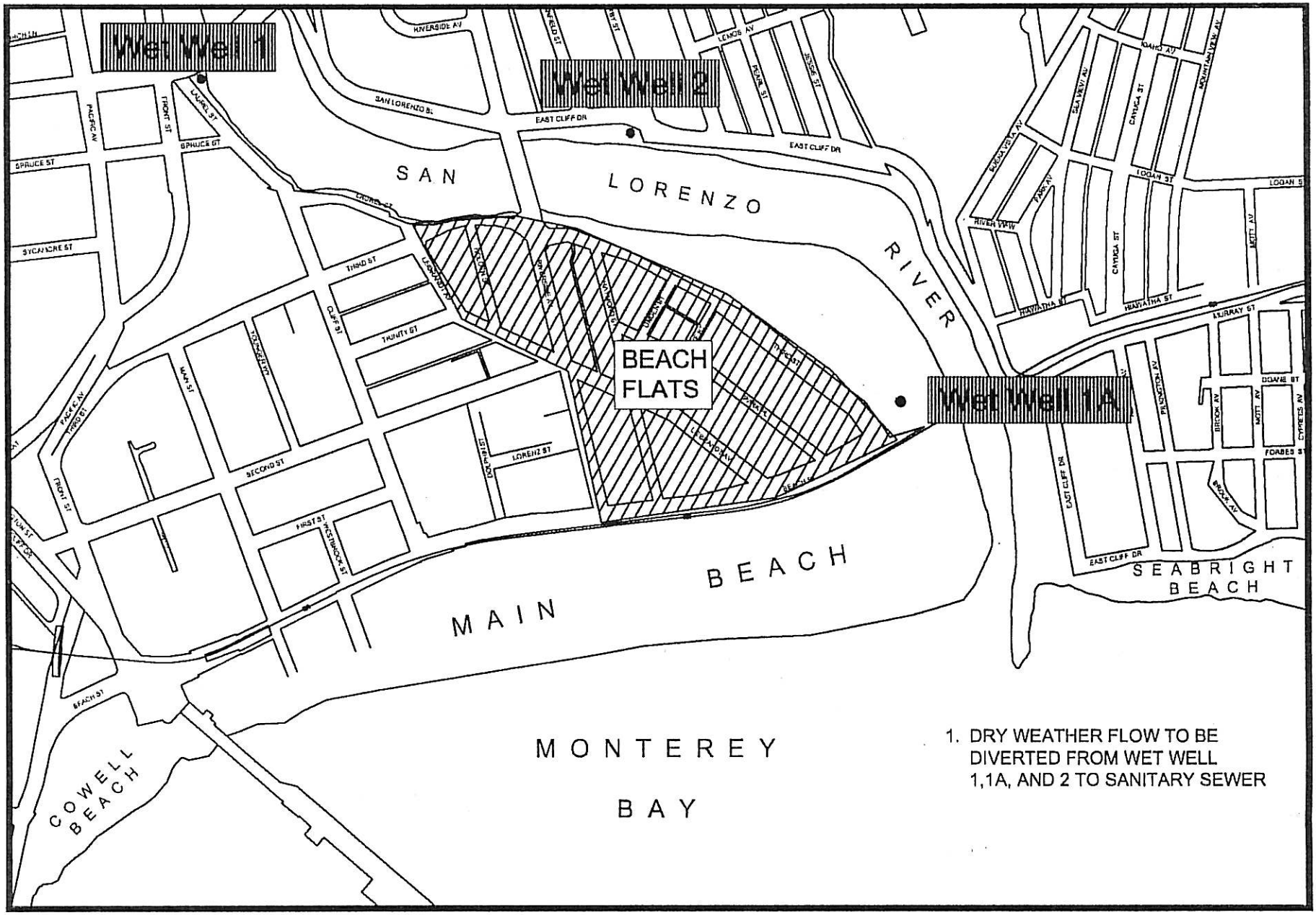
Based on information gathered from existing hydromodification criteria, review of criterion used by the Water Board to develop the current alternative hydromodification criteria, and discussions with Water Board staff, the agencies will develop alternative hydromodification criteria to compliment the current Stormwater Program.

Milestones

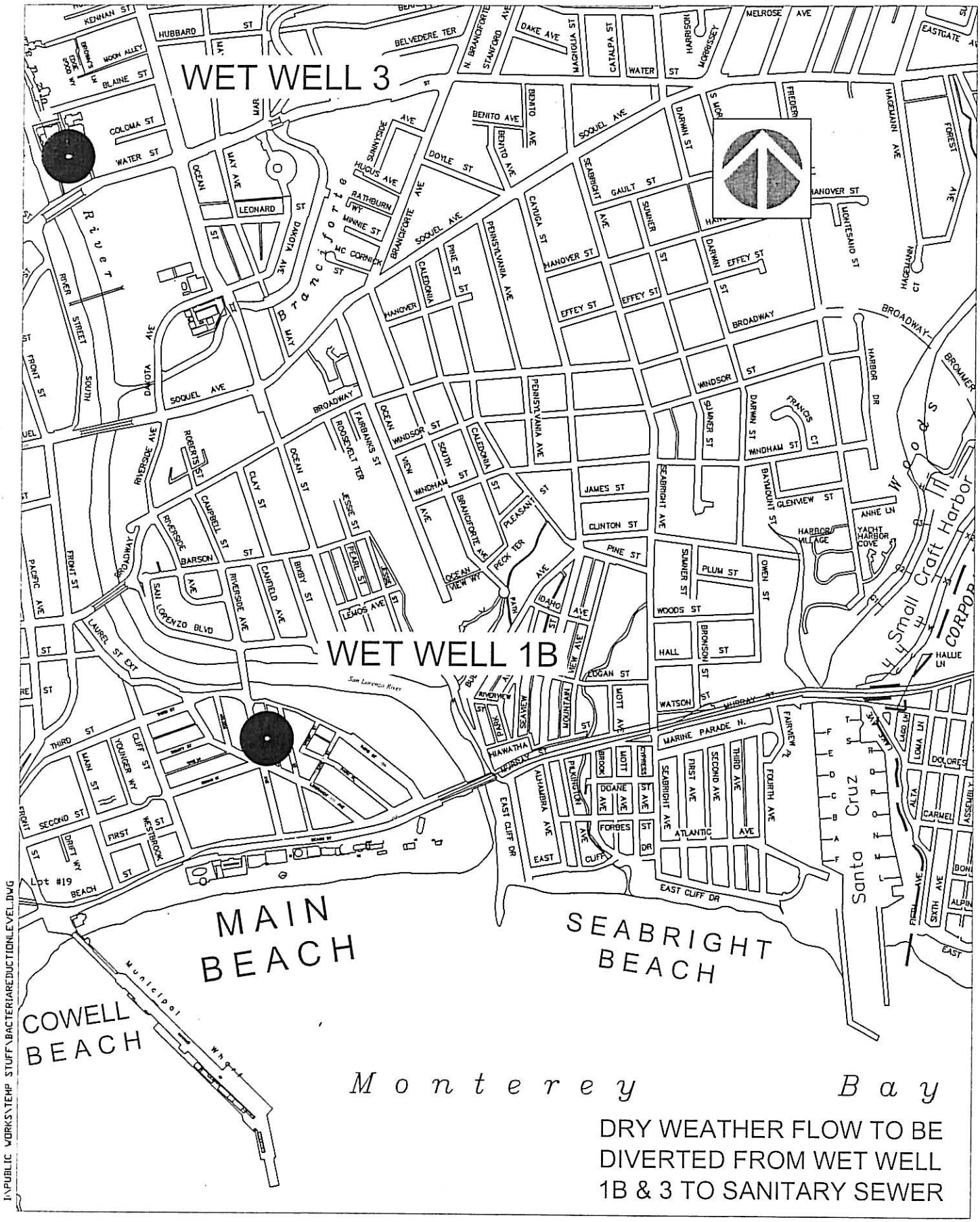
Table 1 provides the milestones for investigating and developing interim hydromodification criteria. As shown on the Table, review and summary of existing programs will be completed in 10 weeks from receiving Water Board concurrence on the proposed process. Review of Water Board data will be completed within eight weeks of receipt of data, research and analysis.

TABLE 1
ALTERNATIVE INTERIM HYDROMODIFICATION CRITERIA
MILESTONES

Milestone	Completion Time
1. Review of Existing Criteria	10 Weeks
2. Develop Matrix of Existing Standards. Include rationale for criterion if available.	5 Weeks
3. Evaluate Beneficial Use Protection (Water Board data)	8 Weeks
4. Meet with Board Staff	4 Weeks
5. Develop Alternative Hydromodification Criteria and necessary changes to Santa Cruz agencies' policies and requirements	52 Weeks



PROGRAM FOR REDUCING BACTERIA LEVELS
AT MAIN BEACH, COWELL BEACH
AND SEABRIGHT BEACH



PROGRAM FOR REDUCING BACTERIA LEVELS AT MAIN BEACH AND COWELL BEACH

Linda S. Adams
Agency Secretary

California Regional Water Quality Control Board
Central Coast Region

Arnold Schwarzenegger
Governor

Internet Address: http://www.waterboards.ca.gov/centralcoast
895 Aerovista Place, Suite 101, San Luis Obispo, California 93401-7906
Phone (805) 549-3147 • FAX (805) 543-0397

July 2, 2008

Ms. Suzanne Healy
City of Santa Cruz
809 Center Street, Room 201
Santa Cruz, CA 95060

Dear Ms. Healy:

ADDRESSING TOTAL MAXIMUM DAILY LOADS IN STORM WATER MANAGEMENT PLANS

We are writing this letter to convey our expectations regarding how Total Maximum Daily Loads (TMDLs) should be addressed in Storm Water Management Plans (SWMPs). TMDLs that identify urban storm water as a source of water quality impairment are important components of SWMPs. Since TMDLs and other available guidance provide limited information on the steps storm water managers should take to incorporate TMDL provisions into SWMPs, we are providing you with this guidance. We hope this letter is helpful as you draft your SWMPs and update them in the future.

TMDLs generally require that municipalities subject to the TMDLs explain in their SWMPs how they will achieve the provisions (e.g., wasteload allocations) of the TMDLs. As such, we are not requiring new work to be conducted with this letter. However, since TMDLs ultimately require receiving water quality standards to be achieved, they necessitate particular attention when SWMPs are drafted and updated. By providing this guidance to you, we expect that the SWMPs will expressly target the pollutants for which TMDLs have been developed within your jurisdictions.

We understand that you are currently in the process of drafting your SWMPs, and that the enrollment schedule for adopting the SWMPs is compressed. For this reason, we are limiting our expectations regarding the content of the forthcoming SWMPs. In future iterations of the SWMPs, however, we will expect the process and actions for addressing the TMDLs to be expanded. In the sections below, our TMDL expectations for the forthcoming SWMP submittals and future versions of the SWMPs are discussed in greater detail.

Addressing TMDLs in the Forthcoming SWMP Submittals

As we previously stated during the recently conducted water quality assessment process, each municipality's SWMP must address each applicable TMDL within their jurisdiction, provided that the TMDL has been adopted by the Central Coast Regional Water Quality Control Board (Water Board). The SWMPs must be tailored to directly target the pollutants for which TMDLs have been adopted. Municipalities can address each applicable TMDL in their SWMPs by committing to implementation of measures that target impairing pollutants on a jurisdiction-wide basis, or by committing to implementation of targeted measures in those portions of their jurisdictions subject to each TMDL.

At a minimum, the forthcoming SWMP submittals must clearly identify those best management practices (BMPs) and other measures that will be implemented to directly reduce the discharge of pollutants that have been addressed by Water Board-adopted TMDLs. We recommend that the

specific BMPs and other measures that will be implemented to address a particular TMDL pollutant be compiled and listed in one location of the SWMP. This will facilitate municipality and Water Board assessment of the BMPs and other measures to determine the likelihood that they will be effective in ultimately achieving the TMDLs' wasteload allocations. We further recommend that BMPs and other measures addressing a particular TMDL pollutant be organized by watershed or sub-watershed, thereby exhibiting that their implementation will occur in locations subject to the TMDL.

In addition to the above measures, we anticipate that attaining wasteload allocations through the implementation of storm water programs will eventually require significant planning and assessment efforts on the part of the municipalities managing the programs. Moreover, TMDL compliance schedules often span decades, necessitating a carefully planned approach to achieving wasteload allocations. As such, we expect that the forthcoming SWMPs will include a BMP to develop, prior to the beginning of the second full implementation year, Wasteload Allocation Attainment Plans for each pollutant addressed by a TMDL that applies to their jurisdictions. Wasteload Allocation Attainment Plans can apply either jurisdiction-wide or on a watershed or sub-watershed basis. An example of the type of BMP language that should be included in the forthcoming SWMPs follows:

> "Wasteload Allocation Attainment Plans will be developed for each applicable TMDL within the municipality's jurisdiction. The plans will describe the actions that will be taken to attain the applicable TMDLs' wasteload allocations, and will address: development of an implementation and assessment strategy; source identification and prioritization; BMP identification, prioritization, implementation, analysis, and assessment; monitoring program development and implementation; coordination with stakeholders; and other pertinent factors. The Wasteload Allocation Attainment Plans will be developed prior to the beginning of the second full implementation year."

For submitted SWMPs that do not include an adequate commitment to develop and implement necessary Wasteload Allocation Attainment Plans, Water Board staff will draft specific resolutions for Water Board consideration that will incorporate Wasteload Allocation Attainment Plan development and implementation into the SWMPs.

The expected content of the Wasteload Allocation Attainment Plans, to be developed by municipalities prior to the beginning of the second full implementation year, is discussed in detail below.

Addressing TMDLs Through SWMP Updates

With each annual report submitted, the General Phase II Municipal Storm Water Permit requires municipalities to include any updates to the SWMPs (section F.1.g). As such, you should include the Wasteload Allocation Attainment Plans as part of your SWMP updates in the annual reports. At a minimum, the Wasteload Allocation Plans should be appended to the SWMPs. New BMPs and other SWMP modifications identified in the Wasteload Allocation Plans should also be incorporated directly into updated SWMPs where appropriate. Since we expect the Wasteload Allocation Attainment Plans to be developed prior to the second full implementation year, the plans should be included in the annual reports submitted for the first full implementation year.[1]

[1] We anticipate that annual reports for the first full implementation year will be due on September 15, 2010.

We expect the Wasteload Allocation Attainment Plans to be thorough plans designed to guide the implementation of activities that will achieve TMDL wasteload allocations. In many cases, municipalities and the Water Board have already made progress during the TMDL development process on some of the tasks necessary for development of Wasteload Allocation Attainment Plans. TMDL Project Reports and Resolutions can provide useful information during the development of the Wasteload Allocation Attainment Plans. The expected principle components of the Wasteload Allocation Attainment Plans are outlined below.

1. A detailed description of a strategy that will be used to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations.
2. Identification of sources of the impairment within the municipality's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction.
3. Prioritization of sources within the jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors.
4. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants.
5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors.
6. Identification of BMPs to be implemented, including an implementation schedule. For each BMP, identify any milestones to be used for tracking implementation, as well as any measurable goals to be used to assess implementation efforts. Expected BMP implementation for the future implementation years should be included to the extent possible, with the understanding that future BMP implementation plans may change as new information is obtained.[2]
7. An analysis exhibiting the connection between BMP implementation and wasteload allocation attainment, based on the expected wasteload reductions attributable to the BMPs to be implemented.
8. A detailed description of a monitoring program to be implemented to assess discharge and receiving water quality and BMP effectiveness, including a schedule for implementation of the monitoring program. At a minimum, the water quality monitoring program should be consistent with any monitoring program information included in the TMDL documentation.
9. A detailed description of how BMP and plan effectiveness will be assessed. The description should incorporate the assessment methods described in the California Stormwater Quality Association's *Municipal Stormwater Program Effectiveness Assessment Guide*.
10. A detailed description of how the plan will be modified to improve upon BMPs determined to be ineffective during the effectiveness assessment.
11. A detailed description of information to be included in annual reports.[3]
12. A detailed description of how the municipality will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Plan.
13. Any other items identified by TMDL Project Reports or Resolutions or currently being implemented to address TMDL provisions.

---

[2] Municipalities currently implementing programs to attain wasteload allocations are encouraged to build upon existing BMPs, milestones, and time-schedules.

[3] Wasteload Allocation Attainment Plans, annual reports, and related documents are expected to be used by Water Board staff to assess TMDL implementation (e.g., TMDL Triennial Reviews).

We plan to work closely with you during development of your Wasteload Allocation Attainment Plans. Upon receipt of the Wasteload Allocation Attainment Plans, we will review the plans, provide comments, and work with you to modify the plans, if necessary. The Wasteload Allocation Attainment Plans will be reviewed for the items above, as well as the overall likelihood of the plans ultimately achieving the applicable TMDLs' wasteload allocations according to the schedule outlined in the TMDL. We believe this standardized process of development, implementation, assessment, and review of the Wasteload Allocation Attainment Plans provides the greatest likelihood for the TMDLs' wasteload allocations to be attained.

In summary, we expect that the forthcoming SWMP submittals will (1) clearly identify the BMPs that will be implemented to address applicable Water Board-adopted TMDLs, according to the guidance discussed above, and (2) include commitments by the municipalities to develop, prior to the beginning of the second full implementation year, Wasteload Allocation Attainment Plans for pollutants addressed by applicable Water Board adopted-TMDLs. In addition, we expect that the annual reports for the first full implementation year will include SWMP updates in the form of Wasteload Allocation Attainment Plans for pollutants addressed by applicable Water Board adopted-TMDLs.

We are requesting the above information pursuant to sections F and G of the General Phase II Municipal Storm Water Permit (Water Quality Order No. 2003-0005-DWQ), as well as sections 13267 and 13383 of the California Water Code. The Water Board needs this information to assess the municipalities' progress towards attaining TMDL wasteload allocations in order to determine if the water quality and beneficial uses of the subject impaired water bodies will be restored. The municipalities have been identified as causing or contributing to the impairment of the subject water bodies in the Project Reports and Resolutions written for the various TMDLs within Santa Cruz County.

Thank you for your continued efforts to improve water quality and protect beneficial uses. If you have any questions regarding this letter, please contact Phil Hammer at (805) 549-3882, phammer@waterboards.ca.gov, or Matt Thompson at (805) 549-3159, mthompson@waterboards.ca.gov.

Sincerely,

for Michael Thomas

Roger W. Briggs
Executive Officer

S:\Stormwater\Stormwater Facilities\Santa Cruz Co\Municipal\City of Santa Cruz\Santa Cruz TMDL Expectation Ltr July08.doc

SAN LORENZO RIVER SEDIMENT TMDL
TRIENNIAL REPORTING FORM

Check box if this is a new name, address, etc.

A. General Information

1) Implementing Party(s): City of Santa Cruz ☐
2) Partnering Entities: _____ ☐
3) Contact Person: Suzanne Healy ☐
4) Mailing Address: 809 Center Street ☐
5) City, State and Zip Code: Santa Cruz, CA 95060 ☐
6) Contact Phone Number: 831-420-5131 ☐
7) Contact Email: **shealy@ci.santa-cruz.ca.us** ☐

This reporting form is intended to facilitate efficient and effective TMDL implementation progress evaluation. This report form is due every three years on January 31st, beginning on January 31, 2007 (based on a triennial review schedule that begins with the TMDL adoption date, December 18, 2003). Implementing Parties are encouraged to coordinate reporting with other Implementing Parties and partnering entities so that one form is submitted per TMDL action. You may rely on information contained in another existing report (e.g., Storm Water Permit annual report, grant documents). If you choose to rely on an existing report, please submit this form every three years on January 31st indicating that the information on this form is or will be covered by another report and referring to pages or sections of your existing report that relate to the questions on this reporting form.

B. Reporting Period (check one):

- ☑ December 1, 2003 to November 30, 2006
- ☐ December 1, 2006 to November 30, 2009
- ☐ December 1, 2009 to November 30, 2012
- ☐ December 1, 2012 to November 30, 2015
- ☐ December 1, 2015 to November 30, 2018
- ☐ December 1, 2018 to November 30, 2021
- ☐ December 1, 2021 to November 30, 2025
- ☐ December 1, 2025 to November 30, 2028

Return completed forms to:

Central Coast Regional Water Quality Control Board
395 Aero Vista Drive, San Luis Obispo, CA 93401
Attn: Watershed Assessment Unit/TMDL Implementation Tracking
Please call (805) 549-3336 or 549-3147 to submit electronically

C. Trackable Implementation Actions

Report on the status and effectiveness of Trackable Implementation Actions (identified in Resolution No. R3-2002-0063) per the time schedules (established in February 2005) by answering the following questions. List each Implementation Action in which you are identified as an Implementing Party, along with the time schedule and overall progress in the table. Use the narrative sections below to highlight information.

Are you identified as an Implementing Party on multiple Implementation Actions in the TMDL?

☑ YES ☐ NO

If yes, add additional rows as needed to the table and complete a narrative section (questions 1-5) for each Implementation Action.

Implementation Action	***Time Schedule***	***Overall Progress***					
		Not Started	Some Progress	Moderate Progress	Significant Progress	In Place and On-going	Complete
(G) Create public road database to inventory and prioritize problems for correction.	In place since 1990's					x	
(N) Evaluate need to revise erosion control provisions in City of Santa Cruz Grading Regulations and Erosion Control Ordinance to better protect sandy-soil areas.	Revised Grading Ordinance in May 2004						x

Implementation Action	***Time Schedule***	***Overall Progress***					
		Not Started	Some Progress	Moderate Progress	Significant Progress	In Place and On-going	Complete
(P) Implement education programs and modify policies and procedures to improve riparian corridor protection, maintain channel integrity, implement alternatives to hard bank protection, and retain woody material.	1) City staff continually work with other agencies (DFG, RWQCB, CDF, County of SC) to prioritize and address water quality violations and erosion problems throughout the San Lorenzo Valley. 2) The City has an ongoing program with the San Lorenzo Valley High School (Watershed Management Internship Program). 3) In 2006, the City produced and disseminated a brochure for private landowners upstream of the Tait Street intake on the San Lorenzo River to inform them about the need to protect riparian corridors and general proper functioning condition of the River. 4) A turbidity monitoring meter was installed on the San Lorenzo River in 2004 and in Newell Creek in 2006. 5) In 1999, the City initiated the San Lorenzo Urban River Project. 6) In February 2006, the City adopted a *City-wide Creeks and Wetlands Management Plan* and Ordinance.					x	

Implementation Action	*Time Schedule*	*Overall Progress*					
		Not Started	Some Progress	Moderate Progress	Significant Progress	In Place and On-going	Complete
(S) Develop and implement SWMPs and SWPPPs consistent with NPDES Phase II Storm Water Regulations.	2nd SWMP draft submitted to RWQCB in April 2004. RWQCB comments pending.					x	
(T) Identify the San Lorenzo River Watershed as a priority for site inspection and enforcement of control measures in SWMPs and SWPPPs. Establish mechanism by which operators and owners of one-acre and greater construction projects are notified of the requirement to prepare SWPPS.	SLR watershed was identified as a priority for site inspection and enforcement of control measures in SWMPs and SWPPPs in the City's 2nd SWMP draft submitted to RWQCB in April 2004. In addition, in 2004, the City modified its discretionary (zoning) permit boiler plate conditions to include a condition that requires the applicant of a construction site of one acre or greater to provide the City with proof of coverage under the state's Construction Activities Storm Water General Permit. Construction permits are not issued by the City for a project unless proof of coverage under this state permit, which requires that a site prepare a SWPPP, is provided.					x	x
(U) Consider incorporation of sediment control programs/projects into SWMPs and SWPPPS.	This was identified in the City's 2nd SWMP draft submitted to RWQCB in April 2004.					x	

1) General Summary (Describe activities undertaken by your agency, organization, or affiliation to implement TMDL action; other implementing parties, partnering agencies and organizations; funding mechanisms to implement action, etc…)

Please see descriptions with timelines for each implementation action in #2 below.

2) Describe progress per established time schedule such as i.) completion dates or end of a period (e.g. annually); ii.) interim milestones, or measurable goals/indications of what was completed (e.g. number of enforcement calls, cases handled, or violations; or number of erosion-control projects completed related to a number of landowners or road segments); and iii.) evidence, or information relied upon (e.g. SWMP annual report, grant submittal, database, or visual inspection)

For Implementation Action (G): The City of Santa Cruz, Department of Public Works, has had a public road database since the 1990s that inventories and prioritizes problems for correction. Our database includes a "pavement management system" which utilizes a pavement condition index number as a tool to prioritize which public roads need to be fixed, paved, overlaid, reconstructed, etc. In addition, there are no unpaved public roads within the City of Santa Cruz (this does not include alleyways).

For Implementation Action (N): The City of Santa Cruz Grading Regulations and Erosion Control Ordinance was revised in May 2004 to improve erosion control provisions. Also, at that time other modifications to the Grading Ordinance were made including the addition of construction site management Best Management Practices for storm water pollution prevention.

For Implementation Action (P):

1) Given that the San Lorenzo River provides up to 60% of the City of Santa Cruz's water supply and is an important recreational and natural resource for City residents, City staff continually work with other agencies (DFG, RWQCB, CDF, County of SC) to prioritize and address water quality violations and erosion problems throughout the San Lorenzo Valley.

2) The City has an ongoing program with the San Lorenzo Valley High School (Watershed Management Internship Program). The curriculum for this program ranges from watershed processes to fisheries conservation, drinking water source protection and drinking water production.

3) In 2006, the City Water Department produced and disseminated a brochure for private landowners upstream of the Tait St. intake on the San Lorenzo River. While not explicitly aimed at addressing erosion and sedimentation issues, this brochure was intended to inform upstream stakeholders about the need to protect riparian corridors and general proper functioning condition of the River

4) A turbidity monitoring meter was installed on the San Lorenzo River in 2004 and in Newell Creek in 2006. The City Water Department provides stakeholders, including the RWQCB, with monitoring results on an ongoing basis.

5) In 1999, the City initiated the San Lorenzo Urban River Project to develop a long-range plan for restoring the San Lorenzo River and developing a river parkway for residents of Santa Cruz. As part of this project, a management plan was developed entitled *Lower San Lorenzo River and Lagoon Management Plan*. This Plan was developed by Swanson Hydrology & Geomorphology and City staff, with funding provided by the State Coastal Conservancy and the City. The project area covered the lower 2.2 miles of the river, from Highway 1 to the mouth of the river at Monterey Bay.

6) In February 2006, the City adopted a *City-wide Creeks and Wetlands Management Plan* and Ordinance. This Plan includes the non-urban portions of the San Lorenzo River located north of the Highway 1 and Route 9 within city limits. The purpose of this plan is to identify and map the watercourses and known wetlands within the City limits, identify appropriate development setbacks, recommend management actions which promote the preservation of riparian and wetland resources, define development guidelines and standards for areas where development adjacent to watercourses may be appropriate, and provide a framework for permitting development adjacent to watercourses.

For Implementation Action (S):

The City of Santa Cruz has developed a SWMP, per the MS4 Storm Water Permit program and NPDES Phase II Storm Water Regulations. The second draft was submitted to the RWQCB in April 2004 as requested. RWQCB comments are pending.

For Implementation Action (T):
The San Lorenzo River watershed was identified as a priority for site inspection and enforcement of control measures in SWMPs and SWPPPs in the City's 2nd SWMP draft submitted to RWQCB in April 2004.

In 2004, the City modified the discretionary (zoning) permit boiler plate conditions to include a condition that requires the applicant of a construction site equal to or greater than one acre, or less than one acre but part of a larger common plan of development or sale, to provide the City with proof of coverage under the state's Construction Activities Storm Water General Permit. Proof of coverage must include a copy of the letter of receipt and Waste Discharger Identification (WDID) number issued by the State Water Quality Control Board (SWQCB) that acknowledges the property owner's submittal of a complete Notice of Intent (NOI) package. The City's Building Division requests this proof of coverage prior to issuance of construction permits, such as grading and building permits, to sites equal to or greater than one acre in size.

Between 2004 and 2006, there were 3 construction projects within the San Lorenzo River watershed that were equal to or greater than 1 acre in size. Theses projects included the following sites: 1) Depot Park at 119 and 127 Washington Street; 2) 125 River Street; and 3) Salz Tannery at 1040 River Street. The Depot Park project was completed in 2005 and the latter two are still in progress. There have been no violations or enforcement actions taken to date for these sites.

In addition, there currently is another such project within the City limits but not within City jurisdiction: Metro Transit District Corporate Office Headquarters and Fueling and Maintenance Facility at Encinal and River Streets.

For Implementation Action (U):
The City of Santa Cruz will consider incorporation of sediment control programs/projects into the City's SWMP. As mentioned above in (S), the City's second draft SWMP was submitted in April 2004 and RWQCB comments are pending.

3) Present results of information collected and analyzed, if any, during the reporting period, including any information or monitoring data (e.g. water quality data, results of the effectiveness of specific erosion-control projects, such as information provided as part of the Project Assessment & Evaluation Plan requirement of grants or contracts) used to assess the success of the program at reducing erosion and sedimentation

The City maintains continuous turbidity monitoring stations at the head of Loch Lomond and on the mainstem San Lorenzo River. A turbidity monitoring meter was installed on the San Lorenzo River in 2004 and in Newell Creek in 2006. The City Water Department provides stakeholders, including the RWQCB, with monitoring results on an ongoing basis. Over the course of the TMDL, this data will be invaluable in discerning trends in persistent turbidity as they affect the MUN and other beneficial uses currently being addressed by the Sediment TMDL. Over time, this data may allow policy makers to develop a better understanding of the effects of sedimentation (and associated turbidity) on beneficial uses and provide important feedback on efficacy of implementation actions.

4) Identify ways to overcome obstacles, if any, to implementing the action

5) Summarize the implementation activities you plan to undertake during the next 3-year reporting cycle (include interim milestones, or measurable goals/indications). Include any anticipated changes to the established time schedule and justification, along with a revised time schedule, including interim milestones, or measurable goals/indications. If you propose a modification to the Trackable Implementation Action included in the approved TMDL, provide justification and time schedule for consideration.

The City plans to continue implementing the tasks listed as "In place and Ongoing" in the table above. The City also anticipates receiving MS4 Storm Water permit coverage from the RWQCB within the next 3-year reporting period and will continue implementation of the Storm Water Management Plan.

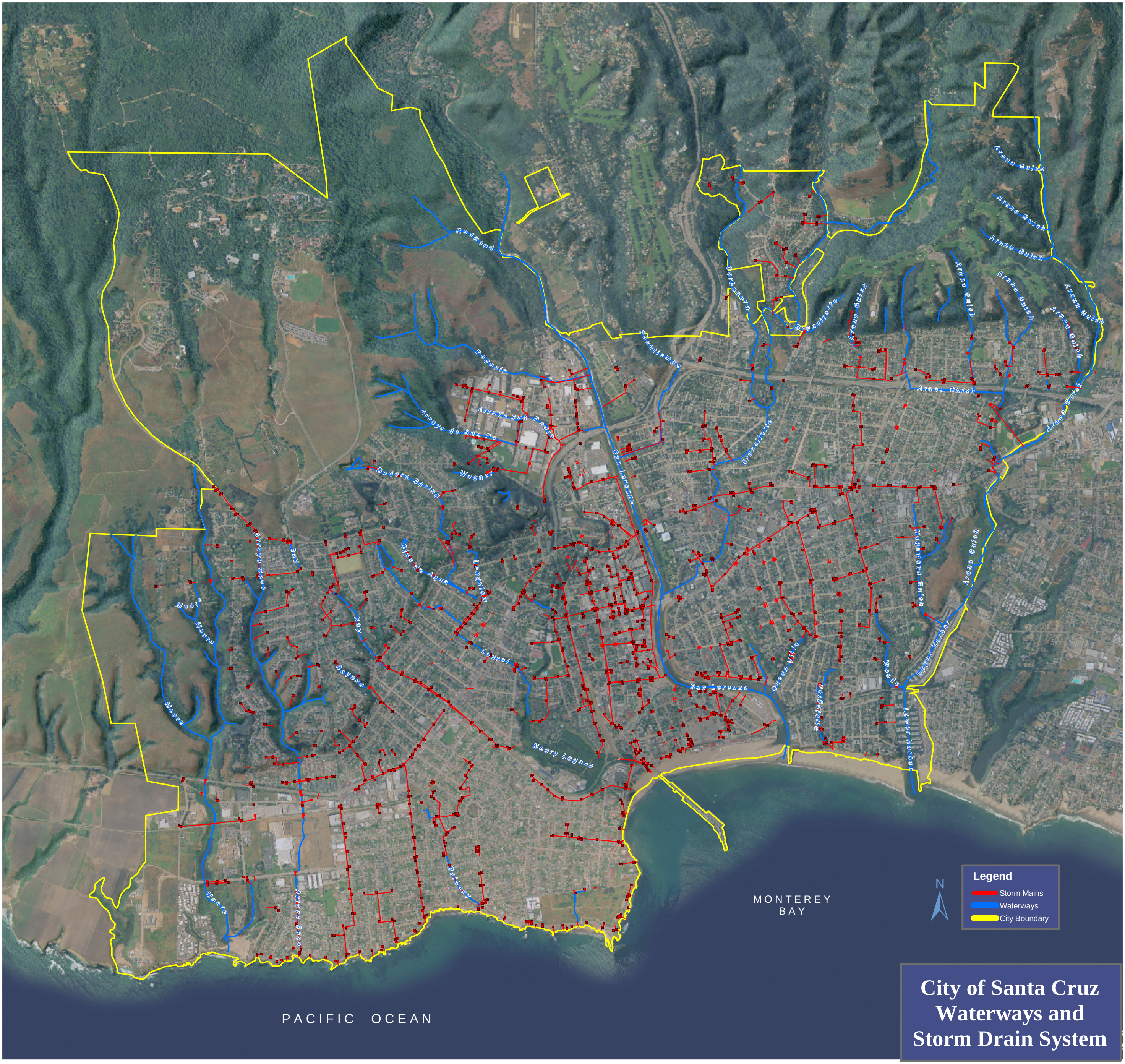
D. Other

1) Identify the locations, if any, of persistent erosion or sedimentation problems, and the relative degree of severity of problems

The City is unaware of any significant persistent erosion or sedimentation problems within City limits that drain directly to the San Lorenzo River.

2) Provide additional information, if any, to demonstrate progress towards TMDL compliance and protection of beneficial uses from sediment discharges

A variety of City staff, from the Public Works, Planning/Building, and Parks and Recreation Departments, received training during this reporting period, on Construction Best Management Practices (BMPs) for Storm Water Pollution Prevention. These training classes covered BMPs for erosion and sediment control during construction projects.


City of Santa Cruz Waterways and Storm Drain System
Legend
Storm Mains
Waterways
City Boundary
N
PACIFIC OCEAN
MONTEREY BAY
San Lorenzo
Neary Lagoon
Arana Gulch
Moore
Redwood
Laurel
Bay
Bethany
Pilkington
Ocean Villa
Woods
Wagner
Branciforte
Carbonera