MOUNTAIN HOUSE
COMMUNITY SERVICES DISTRICT

STORM WATER MANAGEMENT PROGRAM

Prepared for:
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NPDES REQUIREMENTS

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INTRODUCTION

The Mountain House Community is located a few miles north of Tracy, California, 20 miles southwest of Stockton, California, and 20 miles east of Livermore. Mountain House is bordered by Old River to the north, Highway 205 to the south and Alameda County to the west. The southeast border runs parallel to Mountain House Parkway and the northeast is bounded by an Old-River irrigation inlet called the Wicklund Cut.

This document is the Mountain House Storm Water Management Program (SWMP) that was developed to comply with the NPDES Phase II requirements for small municipal separate storm sewer systems (MS4s). The goal of the SWMP is to reduce the discharge of storm water pollutants to the Maximum Extent Practicable (MEP), protect water quality and satisfy the requirements of the Clean Water Act (CWA). The SWMP includes the implementation of best management practices (BMPs) in each of six categories, an implementation schedule, and measurable goals to help ensure that storm water discharged is of the highest quality that is economically possible.

BACKGROUND

Mountain House

Mountain House is a 4,800 acre, master-planned community that upon full build-out will include 16,000 new homes in 12 neighborhoods. The population is anticipated to reach 44,000 people in approximately 15 to 20 years. Mountain House will include 11 K–8 schools and 1 high school, which will be built as the new neighborhoods are completed. The population is currently around 7,800 with 2,900 homes.

The Mountain House Community Services District (MHCSD), the government agency of Mountain House, was formed in 1996. The MHCSD sets policies, ordinances and regulations for the benefit of Mountain House residents. The MHCSD is one of the few public agencies that enforces Master Restrictions, which are similar to CC&Rs (Conditions, Covenants & Restrictions). Currently, the San Joaquin County Board of Supervisors serves as the MHCSD Board of Directors which appoints the MHCSD General Manager. The General Manager is in charge of the administration of all government activities for the Mountain House community. The MHCSD provides municipal and public utilities, transportation, leisure, cultural, social, and general government services. Storm water and flood control are included in Mountain House's municipal services.

In 2007, Mountain House reached a milestone 1000 registered voters and held an election on November 6th to determine the future governing board. Mountain House voted to become an independent district and will elect its own representatives to the Board of Directors. Elections are scheduled for November 2008 and the new board will take office December 5th 2008.

Mountain House History

The Mountain House area was originally inhabited by the American Indian Cholbon tribelet of the Northern Valley Yokuts. The tribelet's territory extended westward along Old River to just west of Bethany. In the late 18th century the Spanish explorers led by Juan Bautista de

Anza, traveled from the San Francisco Bay to the Sacramento-San Joaquin Delta. The Spanish never settled in this region and the land was mostly used for agriculture and stopping off points for transportation and trade.

In 1878, the first train ran through Bethany Railroad Station and Bethany became a new center for trade. To accommodate growth, the Byron-Bethany Irrigation District was formed in 1916 to transport water, which eased dependency on dry farming. Through the 1920s Bethany grew to include a church, blacksmith shop, general store, bar, dancehall and post office. During this time the Mountain House School was built in the foothills of the region.

In 1940, the last remaining structure of Bethany, the Bethany Post Office was torn down. Since then, the land in the Mountain House area has primarily been used for agriculture.

The Mountain House Community was first initiated in 1984. The Mountain House Master Plan was developed over the next ten years and was adopted by San Joaquin County on November 10, 1994. On May 14, 2001, the master developer Trimark Communities, LLC, broke ground on the Mountain House project. The first home was completed in June 2003. The first school, Wicklund Elementary opened on August 24, 2004. On December 7, 2007, the San Joaquin Delta College site was annexed by Mountain House. The satellite campus is scheduled to open in late 2008. Construction is currently underway on the third of 12 planned neighborhoods.

Mountain House Creek Water Quality

A prominent feature of Mountain House Community is Mountain House Creek that flows from southwest to northeast through the center of the development. Mountain House Creek is a tributary to Old River located to the north of the Community.

Prior to development of Mountain House, Mountain House Creek was a naturally ephemeral stream that was highly altered for use as an agricultural drain. The creek was a constructed channel with a soft mud bottom and a narrow strip of willows for a riparian zone. The last 3.5 miles of the creek before emptying into Old River was dominated by agricultural return flows during the irrigation season primarily from alfalfa. The RWQCB has monitored the quality of the water in Mountain House Creek in the past. Site SJC509 (Exhibit 1) at Byron Road (Lat: 37.7856 N, Long: 121.5356 W) was monitored monthly from December 2000 through November 2003.

According to the RWQCB, the Mountain House Creek site was characterized by high metal concentrations, poor riparian habitat and low biological diversity. Historic water quality data for this site are included in **Appendix A**. Since there has been considerable restoration of the stream corridor along Mountain House Creek and changes from a farming land use to residential it is unlikely that these data reflect the current water quality conditions in Mountain House Creek. These data are included to provide a historic perspective that would be useful for comparison to future water quality monitoring data.

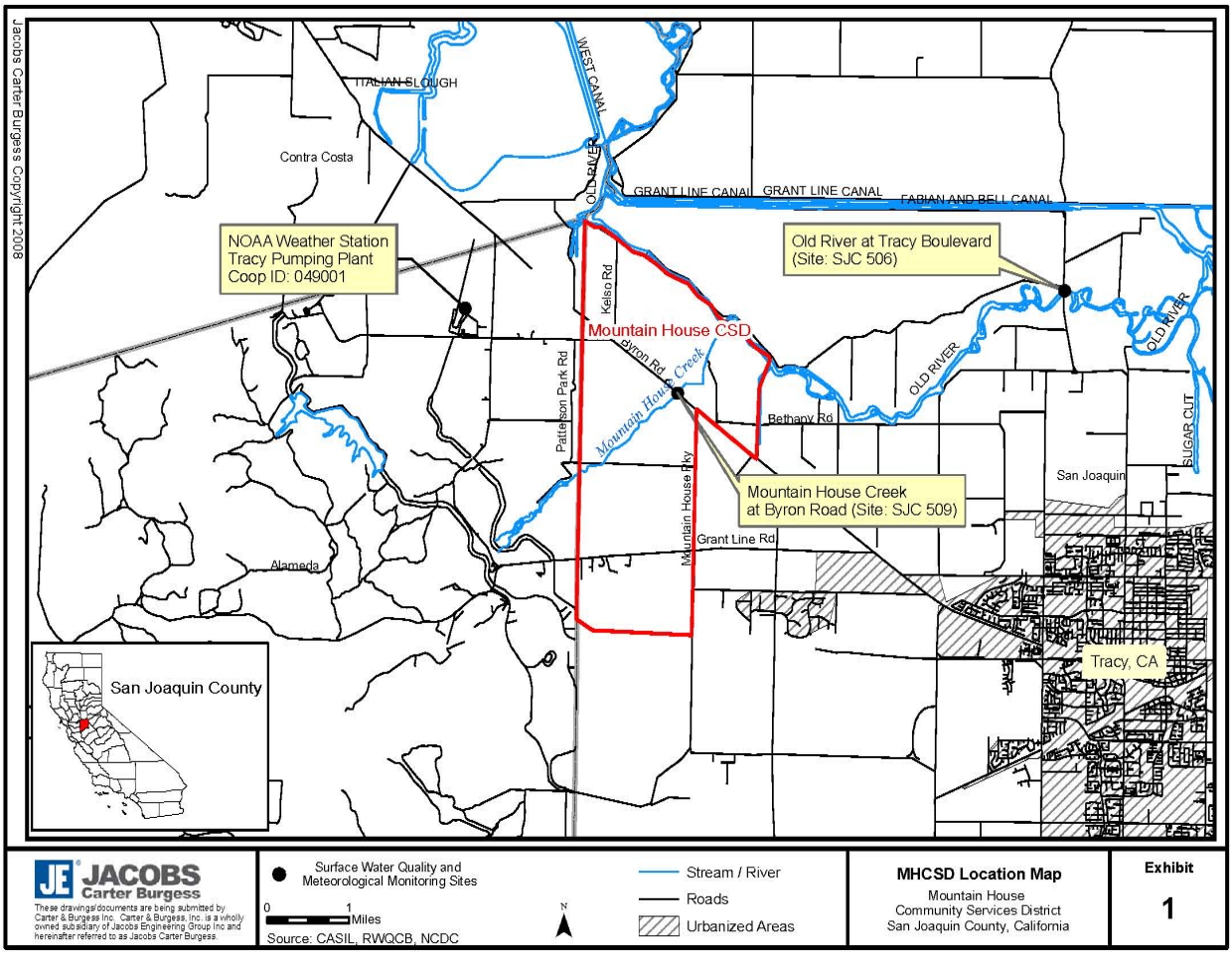
Restoration of Mountain House Creek is described in Mountain House Creek Phase One Habitat Restoration Plan (Specific Plan I, June 2003). Restoration associated with Phase One involved the establishment of a new 200 feet wide creek corridor around the existing creek and wetlands. Approximately 54 acres of native vegetation were restored to the wetlands and upland buffer habitats within the creek corridor. The existing tributary, wet meadow and perennial marsh habitats were retained and enhanced. Areas adjacent to the

creek that were used for agricultural and pasture land were restored to seasonal marsh, riparian, native prairie and oak woodland habitats.

Restoration of the Mountain House Creek corridor also included the construction of grassed swales and a series of wet and dry detention basins that provide for regional BMP treatment of storm water prior to entering Mountain House Creek.

The goals for the creek restoration were to:

1. Restore of a diverse, self-sustaining riparian system throughout the corridor
2. Provide flood protection for adjacent land and infrastructure
3. Provide recreational use consistent with the protection of created habitats
4. Minimize the impact of infrastructure crossing the creek
5. Provide for treatment of all storm water draining to the creek prior to their entry into Mountain House Creek



Pollutants of Concern

Pollutants are deposited on the ground surface through a variety of urban activities and can be transported to nearby rivers and streams during periods of rainfall. Common pollutants found in storm water include oil and grease and metals from roadways, pesticides and fertilizers from lawns, sediment from construction sites, and carelessly discarded trash, such

as cigarette butts, paper wrappers, and plastic bottles. When deposited into nearby waterways through municipal separate storm sewer system (MS4) discharges, these pollutants can impair the waterways, thereby discouraging recreational use of the resource, contaminating drinking water supplies, and interfering with the habitat for fish, other aquatic organisms, and wildlife. A summary of common pollutants, possible sources, and possible impacts are addressed in Table 1.

Pollutants	Common Sources	Possible Impacts
Nutrients: Nitrogen, Phosphorus	Animal waste, fertilizers, failing septic systems, atmospheric deposition, vehicular deposition	Algal growth, reduced clarity, other problems associated with eutrophication (oxygen deficits, release of nutrients and metals from sediments)
Sediments: Suspended in water column and deposited on bottom of water body	Construction sites, other disturbed and/or non-vegetated lands, eroding banks, road sand	Increased turbidity, reduced clarity, lower dissolved oxygen, deposition of sediments, smothering of aquatic habitats including spawning sites
Organic Materials	Leaves, grass clippings	Oxygen deficit in receiving waters, fish kills, turbidity
Pathogens: Bacteria and Viruses	Animal waste, dumpsters	Human health risks associated with drinking supply, consumption of affected shellfish, and swimming beach contamination
Metals: Lead, Copper, Cadmium, Zonc, Mercury Chromium, Aluminum, others	Industrial processes, automobile wear, emissions and fluid leaks, waste oil	Toxicity of water column and sediment, bioaccumulation through the food chains
Hydrocarbons: Oil and Grease, PAHs such as Napthalenes & Pyrenes	Industrial processes, normal wear of auto brake linings and tires, automobile emissions and fluid leaks, metal roofs	Toxicity of water column and sediment, bioaccumulation in aquatic species through the food chain, fish kills
Synthetic Chemicals: PCBs, Pesticides	Pesticides (herbicides, insecticides, fungicides, rodenticides), industrial processes	Toxicity of water column and sediment, bioaccumulation through the food chain, fish kills
Chlorides	Leaching from naturally occuring sources, septic tanks, fertilizers, and pesticides	Toxicity of water column and sediment
Trash and Debris	Litter washed through storm drain netowrks, commercial parking lots adjacent to surface water, overflowing	Degradation of surface water aesthetics, threat to wildlife

Table 1: Common Storm Water Pollutants, Sources, and Possible Impacts

One of the reasons that Mountain House was designated as a regulated MS4 by the RWQCB was because storm water from the community discharges to a sensitive water body that is listed as impaired on the State's 303(d) list. Mountain House Creek discharges to Old River that is listed as a Water Quality Limited Segment on the CWA Section 303(d) list. The pollutant/stressor in Old River is low dissolved oxygen. Pollutants of concern for Mountain House are those that consume oxygen (i.e., have high biochemical or chemical oxygen demands). In developing this SWMP, MHCSD and the Storm Water Stakeholder

Group considered the water quality benefits of possible BMPs in their selection process. BMPs and public education topics that focus on increasing the amount of dissolved oxygen in storm water discharges to Mountain House Creek were included in this SWMP.

Mountain House Climate

The Mountain House Community is located in the southwestern portion of San Joaquin County. The western boundary of the Mountain House Community lies on the county line between Alameda and San Joaquin Counties. Mountain House is located in the Great Central Valley of California on a broad delta formed by the confluence of the San Joaquin and Sacramento Rivers. The surrounding terrain is flat, irrigated farm and orchard land. With elevations near sea level, the hydrography of the region consists of rivers and canals of the delta that are controlled by a system of levees.

The City of Stockton is the county seat of San Joaquin County. Approximately 25 miles east and northeast of Stockton lie the foothills of the Sierra Nevada mountain range, rising gradually to an elevation of about 1,000 feet. Beyond the foothills, the mountains rise abruptly to over 9,000 feet in elevation. In general, the Sierra Nevada range has little or no effect on the weather of San Joaquin County but does contribute to stream flows through snow melt.

To the west and southwest, the Coast Range forms a barrier separating the Central Valley from the marine air which dominates the climate of the coastal communities. Peaks of the Coast Range exceed 2,000 feet. Several gaps in the Coast Range in the San Francisco Bay Area permit the passage inland of sea breezes which moderates the summer heat. The summer climate in San Joaquin County is characterized by warm, dry days and relatively cool nights with clear skies and little rainfall. Winter is characterized by mild temperatures and relatively light rains with frequent heavy fogs.

According to National Weather Service data collected at the Stockton Metro Airport, the annual rainfall in the area averages about 14 inches. Ninety percent of the precipitation falls from November through April. Thunderstorms are infrequent, occurring on 3 or 4 days a year. Snow is practically unknown in the area.

In summer, temperatures exceeding 100 degrees can be expected on about 15 days in the Mountain House area. The hot afternoon air is extremely dry, with relative humidities running generally less than 20 percent. Summer evening temperatures fall into the low 50s. In winter, the low temperatures may be slightly below freezing and highs in the mid 60s.

In late autumn and early winter, clear still nights are conducive to the formation of dense fog. Fog normally settles in during the night and burns off during the day. December and January is considered the fog season. Under stagnant atmospheric conditions the fog may last for as long as 4 or 5 weeks with only brief and temporary periods of clearing.

A NOAA cooperative weather observer station is located at the Tracy Pumping Plant (Cooperative ID: 049001), approximately 1-1/2 miles west of the Mountain House Community. The location of this NOAA station is depicted in Exhibit 1. According to weather measurements collected at the Tracy Pumping Plant over the past 20 years (1987 – 2006), the average annual rainfall is 12.63 inches. The dry season (May through October) is characterized by an average of 1.62 inches of rain and the wet season (November through April) is characterized by 11.01 inches or rain. Monthly mean temperatures and

precipitation measured at the Tracy Pumping Plant for 1987- 2006 are summarized in the Table 2.

Table 2: Mean Temperature and Precipitation Data
(Coop ID: 049001, Elevation: 18.6 m (61') above s/l, Latitude: 37°48'N, Longitude: 121°35'W, County: Alameda)

Weather Parameter	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Monthly Precipitation	2.53	2.44	1.68	0.75	0.72	0.11	0.01	0.02	0.15	0.62	1.31	2.30	12.63
Monthly Temperature	48.0	51.7	56.54	61.2	67.5	72.9	77.0	76.8	73.6	66.4	55.2	47.9	
Monthly High Temperature	64.8	70.2	78.1	88.1	95.8	102.5	105.4	103.4	99.8	92.3	76.6	66.6	
Monthly Low Temperature	28.7	31.9	36.4	40.9	46.2	49.9	54.4	53.8	51.4	44.0	34.4	28.0	
# of days > 0.1" Precipitation	6	6	4	2	2	0	0	0	0	1	3	5	

NPDES History

In 1972, the federal Water Pollution Control Act (also known as the Clean Water Act) was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with an NPDES permit. In 1987, further amendments to the CWA added Section 402(p), which established a framework for regulating municipal and industrial storm water discharges under the NPDES program through a two-phase implementation plan.

Phase I regulations, promulgated in 1990 by the U.S. Environmental Protection Agency (EPA), targeted medium and large MS4s and required metropolitan areas with populations greater than 100,000 and specific categories of industrial facilities, to obtain an NPDES permit for storm water discharges. Phase I regulations also regulated construction sites of 5 acres or more. These regulations required MS4 operators to obtain individual storm water permits for their jurisdictions.

Phase II regulations were promulgated on December 8, 1999 by the EPA, requiring permits for storm water discharges from small MS4s and from construction sites disturbing between one and five acres of land. States with delegation authority from EPA for the NPDES permitting program were given until March 10, 2003 to develop and release their General Permit for storm water discharges from small MS4s. California's General Permit (CAS000004), Waste Discharge Requirements for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems was adopted by the SWRCB on April 30, 2003.

PHASE II NPDES PERMIT REQUIREMENTS

Regulated Small MS4s that are traditional MS4s designated by the State Water Resources Control Board (SWRCB) or Regional Water Quality Control Board (RWQCB) must submit to the appropriate RWQCB, within 180 days of notification of designation (or at a later date stated by SWRCB or RWQCB), a Notice of Intent (NOI), a complete SWMP (one hard copy and one electronic copy in Word or PDF format), and an appropriate fee.

Mountain House was designated as a regulated small MS4 on October 19, 2006 based on two of the five designation criteria used by the RWQCB:

> Criteria 1: High growth or growth potential – Mountain House is anticipated to grow from its current population of 6,000 to 44,000 over the next 15 to 20 years and would have a growth rate of more than 25 percent over a 10-year period.
>
> Criteria 2: Discharge to sensitive water bodies – Sensitive water bodies are receiving waters, which require priority protection. Impaired water bodies listed on the CWA 303(d) list are considered sensitive water bodies. Storm water from Mountain House discharges to Mountain House Creek, which flows into Old River. Old River is listed as a Water Quality Limited Segment on the CWA Section 303(d) list. The pollutant/stressor in Old River is low dissolved oxygen.

MHCSD developed a Storm Water Management Program (SWMP) to fulfill NPDES Phase II requirements and submitted it along with an NOI and permit fee to the RWQCB by April 18, 2007. Comments received from the RWQCB on June 8, 2007 have been addressed in this revision.

Permit requirements for BMPs are grouped into six program areas or Minimum Control Measures as described in Table 3. In addition to satisfying the general requirements of the six minimum control measures, areas subject to high growth must comply with additional supplemental provisions set forth in Attachment 4 of the General Permit. Attachment 4 includes receiving water limitations and design standards for development and redevelopment projects that fall into one of the following categories:

1. **Single-Family Hillside Residences –** Hillside means property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope this is 25 percent or greater.

2. **100,000 Square Foot Commercial Developments –** This category is defined as any development on all private land that is not for heavy industrial or residential uses. The category includes, but is not limited to, hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, commercial nurseries, car wash facilities, mini-malls and other business complexes, shopping malls, hotels, office buildings, public warehouses, and other light industrial facilities.

3. **Automotive Repair Shops –** This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.

4. **Retail gasoline outlets –** Retail gasoline outlet is defined as any facility engaged in selling gasoline and lubricating oils.

5. **Restaurants –** This category is defined as a stand-alone facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812).

6. **Home Subdivisions with 10 or more housing units–** This category includes single-family homes, multi-family homes, condominiums, and apartments.

7. **Parking lots 5,000 square feet or more or with 25 or more parking spaced and potentially exposed to storm water runoff –** Parking lot is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.

Table 3: NPDES Phase II Requirements

Public Education	Educate the public in its permitted jurisdiction about the importance of the storm water program and the public's role in the program.
Public Participation	The Permittee must comply with all state and local notice requirements when implementing a public involvement/participation program.
Illicit Discharge Detection and Elimination	The Permittee must adopt and enforce ordinances or take equivalent measures that prohibit illicit discharges. The Permittee must also implement a program to detect illicit discharges.
Construction Site Storm Water Runoff Control	The Permittee must develop a program to control the discharge of pollutants from construction sites greater than or equal to one acre in size within its permitted jurisdiction. The program must include inspections of construction sites and enforcement actions against violators.
Post Construction Storm Water Management	The Permittee must require long-term post-construction BMPs that protect water quality and control runoff flow, to be incorporated into development and significant redevelopment projects.
Pollution Prevention/Good Housekeeping for Municipal Operations	The Permittee must examine its own activities and develop a program to prevent the discharge of pollutants from these activities. At a minimum, the program must educate staff on pollution prevention, and minimize pollutant sources.

Discussion of Required BMPs

Public Education and Outreach

An informed and knowledgeable community is crucial to the success of a storm water management program since it contributes to success through support and compliance.

Summary of Regulatory Requirements

- Implement a public education program to distribute educational materials to the community, or conduct equivalent outreach activities about the impacts of storm water discharges on local water bodies and the steps that can be taken to reduce storm water pollution

- Determine the appropriate best management practices and measurable goals for this minimum control measure.

Selected BMPs

MHCSD and the Storm Water Stakeholders Group selected the following BMPs to meet the requirements for this Minimum Control Measure (MCM). Details of each BMP are discussed in Section 3.

- PE-1 Storm Drain Markers for New Inlets
- PE-2 Classroom Storm Water Education
- PE-3 Citizen Outreach Materials
- PE-4 Public Service Announcements in Community Newsletter
- PE-5 Storm Water Web Page
- PE-6 Educational Signs

Public Participation / Involvement

The public can provide valuable input and assistance to a regulated small MS4's municipal storm water management program and, therefore, suggests that the public be given opportunities to play an active role in both the development and implementation of the program. An active and involved community is crucial to the success of a storm water management program.

Summary of Regulatory Requirements

- Operators of regulated small MS4 should include the public in developing, implementing, and reviewing their storm water management programs. The public participation process should make every effort to reach out and engage all economic and ethnic groups.

Mountain House included the public in the development of their SWMP through a Stakeholder process. Mountain House formed a Storm Water Stakeholder Group made up of MHCSD staff, developers, homebuilders, service contractors, and educators from the community and surrounding areas. A meeting of the Storm Water Stakeholder Group was held at the Mountain House Board Room on April 3, 2008. The meeting was attended by 24 representatives from the following groups:

- MHCSD staff
- Pacific Advanced Civil Engineering, Inc. (PACE)
- Teichert Inc.
- Trimark Communities, LLC
- Harris & Associates
- Delta College
- San Joaquin County
- West Valley Disposal
- Lammersville Elementary School District
- PMA Consultants
- West Yost Associates
- South West Water Company

The Storm Water Stakeholders Group discussed each of the proposed BMPs along with comments received from the RWQCB and voted on their preference of BMPs. The BMPs contained in this SWMP were ranked in the order of stakeholders preference.

Selected BMPs

MHCSD and the Storm Water Stakeholders Group selected the following BMPs to meet the requirements for this Minimum Control Measure (MCM). Details of each BMP are discussed in Section 3.

- PI-1 Storm Drain Markers for Existing Inlets
- PI-2 Community Cleanup Projects
- PI-3 Storm Water Phone Line
- PI-4 Storm Water Stakeholders Group
- PI-5 Public Notice on Web Site
- PI-6 Clean Water Business Partner Program
- PI-7 San Joaquin County Phase II Storm Water Committee

Illicit Discharge Detection and Elimination

Detection and elimination shall be easier in Mountain House than in other municipalities because the community has been designed to discharge into BMP basins before discharging into the main waterway called Mountain House Creek.

If contamination is found, the source will be very easily narrowed down because each BMP basin and tributaries is mapped in drawings that are easily accessible. If a problem is found, the proper course of action will be determined on a case by case basis once the contamination is located.

Summary of Regulatory Requirements

To comply with NPDES Phase II program requirements, Mountain House must:

- Develop, implement, and enforce a program to detect and eliminate illicit discharges [as defined at Sec. 122.26(b)(2)] into the small MS4.
- If not already completed, develop a storm sewer system map, showing the location of all outfalls and the names and locations of all waters of the United States that receive discharges from those outfalls.
- To the extent allowable under state, tribal or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into the municipal storm sewer system and implement appropriate enforcement procedures and actions.
- Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to the MS4 system.
- Inform public employees, businesses, and the general public of hazards associated with illegal discharges to the MS4 and improper disposal of waste.
- Mountain House needs to address the following categories of non-storm water discharges or flows (i.e., illicit discharges) only if they represent 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)],
    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,
17. dechlorinated 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 United States.

Selected BMPs

MHCSD and the Storm Water Stakeholders Group selected the following BMPs to meet the requirements for this Minimum Control Measure (MCM). Details of each BMP are discussed in Section 3.

- ID-1 Household Chemical Disposal
- ID-2 Illegal Dumping
- ID-3 Storm Drain System Mapping
- ID-4 Illicit Connection Regulations
- ID-5 Dry Weather Screening
- ID-6 Illicit Connection Investigations

Construction Site Runoff Control

Polluted storm water runoff from construction sites often flows to MS4 and is ultimately discharged into local rivers and streams. During a short period of time, construction sites can contribute more sediment to streams than can be deposited naturally during several decades. The resulting siltation and the contribution of other pollutants from construction sites, can cause physical, chemical, and biological harm to our nation's waters.

Summary of Regulatory Requirements

- The Community must develop, implement, and enforce a program to reduce pollutants in storm water runoff to the MS4 from construction activities that result in a land disturbance of one acre or larger. Reduction of storm water discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more.

- The program should include the development and implementation of, at a minimum:

  - An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under state or local law.

- Requirements for construction site operators to implement appropriate erosion and sediment control (ESC) best management practices.

- Requirements for construction site operators to control waste, such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste, at the construction site that may cause adverse impacts to water quality.

- Procedures for site plan review which incorporate consideration of potential water quality impacts.

- Procedures for receipt and consideration of information submitted by the public.

- Procedures for site inspection and enforcement of control measures (grading permits).

- A program to inspect construction sites and enforce actions against violators.

Selected BMPs

MHCSD and the Storm Water Stakeholders Group selected the following BMPs to meet the requirements for this Minimum Control Measure (MCM). Details of each BMP are discussed in Section 3.

- C-1 Construction Inspection
- C-2 Developer / Builder Meetings
- C-3 Plan Review Procedures
- C-4 Erosion and Sediment Control Regulatory Mechanism
- C-5 Construction Inspectors Training Program
- C-6 Receipt and Consideration of Information Submitted by the Public

Post-Construction Runoff Control

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

Summary of Regulatory Requirements

Mountain House must develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than, or equal to, one acre, including projects less than one acre that are part of a larger common plan of development or sale that discharge into the MS4. The program must ensure that controls are in place that would prevent or minimize water quality impacts.

Mountain House must:

- Develop and implement strategies which include a combination of structural and/or nonstructural best management practices appropriate for the community.
- Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under state or local law.
- Ensure adequate long-term operation and maintenance of BMPs.
- Comply with supplemental provisions of Attachment 4 to develop specific design standards for certain categories of development and redevelopment projects.

Selected BMPs

MHCSD and the Storm Water Stakeholders Group selected the following BMPs to meet the requirements for this Minimum Control Measure (MCM). Details of each BMP are discussed in Section 3.

- PC-1 Long Term Operation and Maintenance of BMPs
- PC-2 Catch Basin Inserts
- PC-3 Community Design
- PC-4 Site Specific BMP Design Standards
- PC-5 Regional BMP Treatment Processes
- PC-6 Post Construction Plan Review Procedures
- PC-7 Post Construction Enforcement Mechanism

Pollution Prevention / Good Housekeeping

The Pollution Prevention/Good Housekeeping measure requires Mountain House to implement practices to reduce the amount of storm water pollution from MHCSD facilities, including infrastructure owned and operated by MHCSD. This includes public streets, parking lots, open spaces, public golf courses, storm drain system and sanitary sewer system. This measure, while primarily meant to improve or protect receiving water quality, can also result in a cost savings for Mountain House by encouraging proper and timely maintenance of the storm sewer systems, which will help avoid repair costs from damage caused by deterioration and neglect.

Summary of Regulatory Requirements

Mountain House must develop and implement an operation and maintenance program that includes a training component which has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials that are available from the EPA, the State of California, or other organizations, the program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.

Selected BMPs

MHCSD and the Storm Water Stakeholders Group selected the following BMPs to meet the requirements for this Minimum Control Measure (MCM). Details of each BMP are discussed in Section 3.

- GH-1 Storm Sewer Maintenance
- GH-2 Street Cleaning
- GH-3 Municipal Litter Control
- GH-4 Hazardous Materials Management Plan
- GH-5 Storm Water Pollution Prevention Training

Reporting Requirements

Upon approval of the SWMP, MHCSD will be required to submit annual reports to the RWQCB. A copy of the most recent Annual Report Form and Guidance Document that is available from the RWQCB is included in **Appendix B**.

The annual report should summarize the activities performed during the reporting period include the following:

- Status of compliance with permit conditions
- Assessment of the appropriateness and effectiveness of BMPs
- Status of measurable goals
- Results of information collected and analyzed, including monitoring data (if any) for the reporting period
- Summary of the storm water activities that are planned for the next reporting cycle
- Any proposed changes to the SWMP along with a justification for changes
- Any change in the person or persons implementing and coordinating the SWMP.

The reporting periods generally extend from July 1st to June 30th each year with the annual report due by September 15th each year. MHCSD will follow this reporting cycle unless instructed otherwise by the RWQCB.

Reissued Permit Requirements

The current MS4 General Permit was adopted on April 30, 2003 and set to expire five years from the date of adoption. Since a new General Permit has not been issued, the current General Permit continues in force and in effect until a new permit is issued. Upon reissuance of the MS4 General Permit, MHCSD will be required to revise their SWMP to incorporate any new requirements set forth in the General Permit. MHCSD will have five years from the date of reissuance to implement any new requirements.

EXISTING STORM WATER COLLECTION AND DRAINAGE

Mountain House maintains an intricate, gravity-based storm water system built around a number of detention basins that discharge storm water runoff to Mountain House Creek. The BMP detention basins are located within the Mountain House Creek corridor and the maintenance of these basins is outsourced to contractors during non-runoff periods. The

location of wet and dry detention basins and associated drainage areas are depicted in Exhibit 2 (**Appendix C**).

OPERATIONS AND MAINTENANCE PROCEDURES

The MHCSD has very few employees compared to other Phase II municipalities. The community is growing fast and in the future, their departments will expand to service the growing community. Currently, most maintenance procedures are outsourced. No maintenance yard will be built for at least 5 years.

Inspector Vehicles

Mountain House currently owns two inspector vehicles. All vehicle maintenance is completed offsite at commercial facilities.

Inlets, Catch Basins and Manholes

Mountain House's storm water and sanitary sewer systems are inspected and maintained by a company called SouthWest Water Company. At the time of inspection, the manholes are cleaned and maintained / repaired as necessary. Maintenance responsibilities for catch basin inserts are contracted to Inventive Resources, Inc. as specified in MHCSD's Standard Conditions of Approval.

Street Sweeping

Street sweeping is a regular maintenance activity performed by West Valley Disposal.

Landscaping

Landscaping maintenance within MHCSD is currently contracted to Valley Crest Landscaping.

Sanitary Sewer Treatment Plant

Currently, all operations and maintenance procedures are outsourced to SouthWest Water Company.

Roadway Maintenance

Roadway maintenance is specified in MHCSD Pavement Plan and is contracted as needed. Currently, all roadways are less than five years old.

CURRENT BEST MANAGEMENT PRACTICES

Throughout the process of developing the Mountain House Master Plan, the designers kept in mind how many of the new regulations, such as NPDES, would be affecting their community in the future. As is pointed out in the BMP pages in Section 3, many of the BMPs were specified in the Mountain House Master Plan that was adopted November 10, 1994. These BMPs have been implemented on a regional basis throughout the MHCSD.

BMP guidance documents that may be used by MHCSD include the California Stormwater Quality Association Stormwater Best Management Practice Handbook (Order form located in **Appendix D**). These manuals may be downloaded for free at:
http://www.cabmphandbooks.com/Development.asp
http://www.cabmphandbooks.com/Construction.asp
http://www.cabmphandbooks.com/Industrial.asp
http://www.cabmphandbooks.com/Municipal.asp

A joint publication by regulated entities in the Sacramento area, entitled "Stormwater Quality Design Manual for the Sacramento and South Placer Regions", dated May 2007 is a comprehensive design manual that MHCSD may consult and utilize to develop site specific design standards for Mountain House BMPs. The title page and table of contents is included in **Appendix E**. The document may be downloaded for free from the Sacramento Stormwater Quality Partnership at:

http://www.msa.saccounty.net/sactostormwater/SSQP/development.asp.

Community Design

Many of the Master Plan design concepts promote the use of low impact development techniques that limit the amount of directly connected impervious area.

Regional BMP Treatment Processes

Mountain House has implemented a series of wet and dry detention basins as part of their regional BMP treatment process. The regional BMP treatment consists of 25 detention basins, with 17 dry detention and 8 wet detention basins. The BMP basins are designed to capture and detain runoff from storm events, which serves to control erosion, remove pollutants, and create habitat for wildlife. Treatment processes include sedimentation, absorption, filtration, and biological uptake. Runoff is treated within the basins and slowly released into a pair of perforated pipes buried in a gravel bed for dry detention basins. Given a sufficient detention period, a substantial reduction of target pollutants can be achieved prior to its discharge into Mountain House Creek.

Catch Basin Inserts

The Water Decontaminator is a proprietary storm drain and catch basin insert treatment device created by Inventive Resources, Inc. It is being used by MHCSD as a post-construction BMP to remove contaminants at the drain source. According to Inventive Resources, Inc., the efficiency of the "absorber material may remove up to 70% or more of the hydrocarbons and sediment passing through the cartridge" (Paoluccio). A description of the Water Decontaminator and contact information for Inventive Resources can be found in **Appendix F**.

BUDGET PROCEDURES

The Mountain House Community Services District's fiscal year begins July 1st of each year and ends on June 30th of the following year. The budgeting process begins prior to June 1 when the General Manager submits to the Board of Directors of the MHCSD a proposed one year budget for the fiscal year commencing the following July. Following a public hearing, the budget is legally enacted through passage of a resolution prior to July 1st.

As part of the SWMP development, a detailed cost estimate has been prepared for BMP implementation. The cost of implementing elements of this SWMP will be included in the MHCSD budget to ensure adequate personnel and financial resources are available for full implementation over the next five years.

MOUNTAIN HOUSE STORM WATER MANAGEMENT CHALLENGES

Mountain House Community Services District is unique in the fact that the community is being constructed where there used to be nothing but open land with the ultimate goal of becoming a community with 44,000 people. Since the community has not yet grown large enough to generate the resources needed to support all the needs of a regular community, some of the typical tasks of an MS4 are outsourced. Service contracts are utilized for outsourced elements of this SWMP.

Mountain House is also unique in that it is a master-planned community that is governed by a Community Services District, which operates differently than a traditional municipality. Municipalities generally use city ordinances to enforce storm water regulations. The NPDES Phase II General Permit requires the operators of small MS4s to develop and implement regulatory mechanisms to enforce illicit discharge, construction and post-construction provisions to the extent allowable under State and local law.

Pursuant to California Government Code section 61601.10, MHCSD has the right, but not the duty to enforce private covenants, conditions and restrictions adopted for property within the boundaries of the MHCSD. These private covenants, conditions and restrictions are know as Master Restrictions. MHCSD Resolution No. 2005-706 adopted on December 13, 2005 authorized the enforcement of Master Restrictions. Resolutions 2005-707 and 2005-708 also adopted on December 13, 2005 approved the Master Restrictions and the fee and penalty schedule. MHCSD will use their Master Restrictions along with Standard Conditions of Approval to enforce certain aspects of this SWMP. The use of Master Restrictions and Standard Conditions of Approval are discussed in greater detail in Section 2 of this SWMP.

SECTION 2

MOUNTAIN HOUSE

REGULATORY AUTHORITY

TABLE OF CONTENTS

MHCSD REGULATORY AUTHORITY

The MHCSD, the governing agency of Mountain House, sets policies, ordinances and regulations for the benefit of Mountain House residents. Currently, the San Joaquin County Board of Supervisors serves as the MHCSD Board of Directors but in November 2008 Mountain House voters, for the first time, will elect their own representatives to the Board. The MHCSD General Manager is in charge of administration of all government activities for the Mountain House community.

The NPDES Phase II General Permit requires that the operators of small MS4s develop and implement regulatory mechanisms to enforce illicit discharge, construction and post-construction provisions to the extent allowable under State and local law. This section discusses the authority and regulatory mechanisms that MHCSD will use to enforce these provisions.

Mountain House Master Plan

In 1992, San Joaquin County implemented a planning process for new communities within the County through the use of a Master Plan and phased Specific Plans. The purpose of phased Specific Plans is to allow each plan to respond to prevailing conditions over the long-term build out of the community.

The Mountain House Master Plan was adopted by the San Joaquin County Board of Supervisors on November 10, 1994. The Master Plan includes objectives, policies, implementation measures and standards for Mountain House development. The Master Plan is intended to serve as the overall community-wide policy document that will guide subsequent Specific Plans, Tentative Maps and Development Agreements. The 4,784 acre community is divided into 3 areas that are governed by Specific Plans. The Specific Plans contain requirements that are unique to the three areas while remaining consistent with the provisions of the overall Master Plan. Development and design standards in the Master Plan provide a guide for all development within Mountain House.

Chapter 15 of the Mountain House Master Plan sets forth the policies related to storm drainage and flood protection. Section 15.7 of the Master Plan outlines Mountain House policies and requirements for storm water BMPs. 15.7(a) states that “site specific and regional treatment BMP’s shall be incorporated into the design of all improvements including all structures and infrastructure”. Implementation of BMPs to comply with Phase II NPDES requirements are outlined in Section 15.7. Section 6.7 of the Master Plan also includes BMPs dealing with hazardous materials and household chemical disposal. The BMPs specifically authorized by the Master Plan have been incorporated in this SWMP. A cross-reference between the BMPs authorized in the Master Plan and those incorporated in the SWMP are listed below in Table 4.

Table 4: SWMP BMP – Mountain House Master Plan Cross-Reference

SWMP BMP #	Master Plan BMP	Master Plan Section #
ID-1 Household Chemical Disposal	Waste Management, Household Hazardous Waste	6.7 (h)
ID-2 Reduce Illegal Dumping	Illegal Dumping	15.7(f)
ID-4 Illicit Connection Regulation	Illicit Connections	15.7(g)
PC-1 Long Term Operation and Maintenance of BMPs	Maintenance Program	15.7(h)
PC-3 Community Design	Community Design	15.7(c)
PC-4 Site Specific BMP Design Standards	Site Specific BMPs	15.7(i)
	BMP Processes	15.7(j)
	Material Management Plan	15.7(d)
	Spill Prevention and Cleanup Plan	15.7(e)
PC-5 Regional BMP Treatment Processes	Regional Treatment	15.7(k)
	Regional Processes	15.7(l)
GH-2 Street Cleaning	Source Control BMPs, Maintenance Program	15.7(a), (h)
GH-4 Hazardous Material Management Plan	Waste Management, Hazardous Materials from Treatment Plants	6.7 (i)

In addition to the Master Plan, three specific plans have been developed for different areas of the community. State law allows specific plans to be policy (adopted by resolution), regulatory (adopted by ordinance), or a combination of the two. The Mountain House Specific Plans are a combination of policy and regulation. Certain sections such as those dealing with zoning and land use are regulatory sections adopted by ordinance while other sections are policy that are adopted by resolution.

Specific Plan I was adopted on November 10, 1994 and covers the first stage of Mountain House development. Specific Plan I covers 1,348 acres of the 4,701 acres in the community, including 3 of the 12 planned neighborhoods. Specific Plan I includes three areas, a mixed use area called Central Mountain House, Mountain House Business Park and Old River Industrial Park.

Specific Plan II was adopted on February 8, 2005 with amendments through March 11, 2008 and encompasses 2,300 acres of the community, including 7 of the 12 planned neighborhoods,

the Town Center, commercial area and associated parks, schools, open space and infrastructure.

Specific Plan III was adopted on November 22, 2005 with amendments through September 11, 2007. Specific Plan III covers 816 acres of the community and includes 2 neighborhoods and a satellite campus of for Delta Community College.

The Specific Plans each contain sixteen chapters that correspond to the chapters of the Master Plan so Chapter 15 of the Specific Plans contain provisions for implementation of the storm water Best Management Practices outlined in the Master Plan. The Specific Plans reference the MHCSD's Design Guidelines including:

- MHCSD Design Manual for Public Facilities
- MHCSD Parks, Recreation and Leisure Plan
- Mountain House Single Family Residential Design Manual
- Mountain House Multi-Family Development Design Manual
- Mountain House Commercial, Office and Industrial Design Manual

MHCSD will modify the Design Manuals to incorporate site specific design standards required by Attachment 4 of the MS4 General Permit. A copy of the MS4 General Permit including Attachment 4 was provided to MHCSD by the SWRCB in the designation letter dated October 19, 2006. Electronic copies of the MS4 General Permit and Attachments may be downloaded from the SWRCB web site. A link to the Phase II Small MS4 General Permit is provided below. (www.swrcb.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml)

Master Restrictions

Pursuant to California Government Code section 61601.10, MHCSD had the right, but not the duty to enforce private covenants, conditions and restrictions adopted for property within the boundaries of the MHCSD. These private covenants, conditions and restrictions are know as Master Restrictions. MHCSD is one of the few public agencies that enforces Master Restrictions. MHCSD Resolution No. 2005-706 adopted on December 13, 2005 authorized the enforcement of Master Restrictions. Resolutions 2005-707 and 2005-708 also adopted on December 13, 2005 approved the Master Restrictions and the fee and penalty schedule. MHCSD will use their Master Restrictions along with standard Conditions of Approval to enforce certain aspects of this SWMP.

Article 4, "Permitted and Prohibited Uses of Property" of the Master Restrictions contains several sections that regulate illegal dumping and illicit discharge. Section 4.04(H) "Refuse" and Section 4.04(I) "Accumulation on Lots" prohibit illegal dumping on lots. Section 4.04(O) "Water Protection" prohibits non storm water discharges to the storm drainage system. This section states that:

> *"no waste materials, sewage, garbage, petroleum, antifreeze, or other chemical product shall be permitted in the storm drainage system or in the streets or gutters that drain into the system. There shall be no disposal of petroleum, chemical products or the salts from soft water systems within the Community"*

MHCSD has reviewed the list of authorized non-storm water discharges specified in the MS4 General Permit (Section D.2.c.6) to determine if any are identified as significant contributors of

pollutants to the MS4. MHCSD does not anticipate that any of the 17 authorized non storm water discharges will be considered significant contributors of pollutants. MHCSD will adopt the State's list through amendments to the Master Restrictions and clearly specify which non-storm water discharges are prohibited and which are allowable.

The Master Restrictions may also be amended to enforce provision of the Construction and Post-Construction requirements of the MS4 General Permit.

Conditions of Approval

Conditions of Approval are issued by MHCSD for each Major Subdivision Application that is approved by the Board of Supervisors. Conditions of Approval are developed for individual tracts within the subdivisions and issued upon approval of Tentative Maps. All Conditions of Approval and ordinance requirements must be complied with prior to approval of the Final Map. Final Maps, improvement plans, and all subsequent development and building applications must be consistent with the Conditions of Approval as well as the Master Plan and relevant Specific Plans.

Section II.2 of the Standard Conditions of Approval states that

> *"the developer shall comply with all Local, County, State and Federal requirements relative to air quality, storm water discharge, waste disposal and hazardous waste and mitigation measures contained in the EIR for the Tentative Map."*

The standard Conditions of Approval will be modified to enforce the site specific design standards that are required for the following categories of development and redevelopment projects under Attachment 4 of the MS4 General Permit.

- **Single-Family Hillside Residences** located in an area with know erosive soil conditions, where the development contemplates grading on any natural slope this is 25 percent or greater.
- **100,000 Square Foot Commercial Developments** that includes, but is not limited to hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, commercial nurseries, car wash facilities, mini-malls and other business complexes, shopping malls, hotels, office buildings, public warehouses, and other light industrial facilities.
- **Automotive Repair Shops** that are categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.
- **Retail gasoline outlets** engaged in selling gasoline and lubricating oils.
- **Restaurants** facilities that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812).
- **Home Subdivisions** with 10 or more housing units including single-family homes, multi-family homes, condominiums, and apartments.
- **Parking lots** 5,000 square feet or more or with 25 or more parking spaced and potentially exposed to storm water runoff.

Other Storm Water Regulations

In addition to the MS4 storm water permit requirements, owners/developers of some of the sites in the Community may also be subject to the State of California's general permit for storm water discharge from industrial activities (Industrial General Permit) and general permit for storm water from construction activities (Construction General Permit). The control measures provided in this SWMP may assist the owner/developer in meeting the requirements of the State's permit.

SECTION 3

BEST MANAGEMENT PRACTICES

MOUNTAIN HOUSE

STORM WATER MANAGEMENT PROGRAM

TABLE OF CONTENTS

INTRODUCTION

Best Management Practices (BMPs) are used to reduce the discharge of storm water pollutants to the Maximum Extent Practicable (MEP). This section describes the BMPs that Mountain House has selected based on existing practices, BMPs outlined in the Mountain House Master Plan, BMPs recommended by the Storm Water Stakeholder Group, and comments received from the RWQCB. The BMPs are organized based on the six minimum control measures (MCMs):

- Public Education and Outreach (PE)
- Public Involvement (PI)
- Illicit Discharge Detection and Elimination (ID)
- Construction Site Storm Water Runoff Control (C)
- Post-Construction Storm Water Management for New Development and Redevelopment (PC)
- Pollution Prevention/Good Housekeeping for Municipal Operations (GH)

The BMPs have been given a unique, alphanumeric identifier with the MCM abbreviation followed by a number and ordered based on stakeholder preference. For example, the highest ranking public education BMP was denoted PE-1, the second highest ranking PE-2, etc. A total of 37 BMPs were selected for implementation in Mountain House. The following BMP sheets give a description of each BMP, rational for selection, responsible authority, applicability to target audiences, implementation schedule and measurable goals.

The entity responsible for implementation of each BMP is listed in the Responsible Authority section. The primary entity responsible for implementation is listed in bold font with a single asterisk "*". Entities that perform a supporting role in the implementation of BMPs are listed in regular font with two asterisks "**".

Each of the BMPs described in this SWMP address target audiences as outlined in federal regulations including residents, visitors, public service employees, commercial, industrial and construction. The target audiences are noted in the Applicability Section of the BMP sheets.

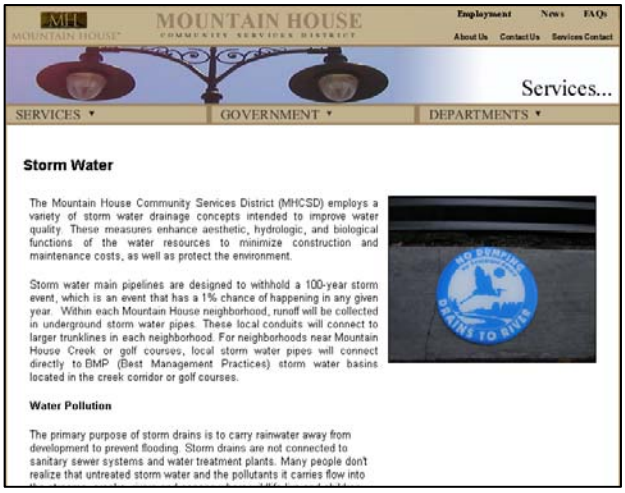
MHCSD has selected these BMPs based on the technical feasibility, cost, effectiveness, and public acceptance as described in the MS4 General Permit. Based on current conditions, MHCSD believes that these 37 BMPs meet the MEP standard. In the future, as the Mountain House Community grows and more staff is hired, additional BMPs may be required to meet the MEP technology-based standard. Should additional BMPs be required, MHCSD will implement additional BMPs and measures as outlined in the *California Stormwater Quality Association Stormwater Best Management Practices Handbook* (**Appendix D**) or the *Stormwater Quality Design Manual for the Sacramento and South Placer Regions* (**Appendix E**), as appropriate.

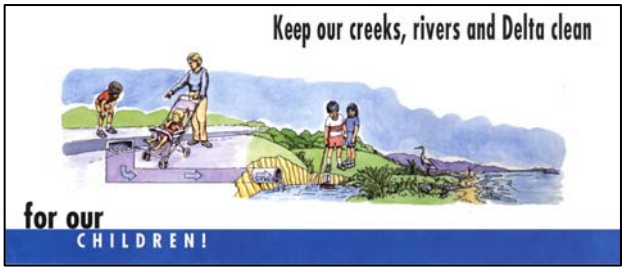
ACRONYMS

BMPs ..... Best Management Practices
CC&Rs..... Covenants, Conditions and Restrictions
CGP ..... Construction General Permit
COA..... Conditions of Approval
EPA ..... Environmental Protection Agency
GIS ..... Geographic Information System
GPS ..... Global Positioning System
HOA..... Home Owners Association
HHW ..... Household Hazardous Waste
LID ..... Low Impact Development
MHCSD..... Mountain House Community Services District
MS4 ..... Municipal Separate Storm Sewer System
NOI ..... Notice of Intent
NPDES ..... National Pollutant Discharge Elimination System
PSA ..... Public Service Announcement
RWQCB..... Regional Water Quality Control Board
SJPIISWC..... San Joaquin County Phase II Storm Water Committee
SO ..... Standard Operations
SWMP..... Storm Water Management Program
SWPPP..... Storm Water Pollution Prevention Plan
SWRCB ..... State Water Resources Control Board
SWSG..... Storm Water Stakeholders Group
TV ..... Television
WTP..... Water Treatment Plant
WWTP ..... Wastewater Treatment Plant

Public Education and Outreach

(PE)



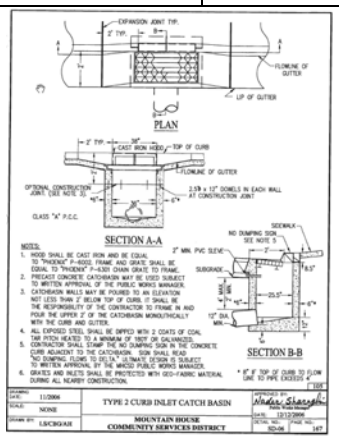


STORM DRAIN MARKERS FOR NEW INLETS

PE-1

DESCRIPTION

Attachment 4 of the MS4 General Permit requires storm drain markers be applied to all storm drain inlets in areas of new development or redevelopment. MHCSD has included specifications in their standard details requiring the contractors to stamp "No Dumping" signs in the concrete adjacent to catch basins. MHCSD will review and update their Design Manual to ensure compliance with this requirement. In areas of existing development, the public will assist in the marking of existing storm drains as a public involvement activity.



RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

APPLICABILITY

X	Residents
X	Visitors
X	Public Service Employees
X	Commercial
X	Industrial
X	Construction

RATIONALE FOR SELECTION

- Required by Attachment 4
- Mountain House has approved customized design for markers

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• None	None
2	• Review and modify Design Manual and/or Public Works Standards to include storm drain markers on all inlets	Pages from Design Manual and/or Public Works Standards
3	• Track number of markers installed by contractors	Number of markers
4	• Track number of markers installed by contractors	Number of markers
5	• Track number of markers installed by contractors	Number of markers

CLASSROOM STORM WATER EDUCATION

PE-2

RESPONSIBLE AUTHORITY

*** MHCSD &**
** Lammersville Unified School District

** Primary authority*
*** Support role*

DESCRIPTION

The Lammersville School District opened its first K-8 school in 2004 and its second in 2007, and eventually Mountain House will have 11 K-8 schools.

A classroom education program will be developed for MHCSD to educate students on storm water related issues. Storm water related book covers will be provided to students as a tool for classroom education. The classes may decide to perform a creek cleanup for Earth Day or mark storm drain inlets. Lesson plans and student materials are available free of charge from the California Water Boards Water Quality Service Learning Program Web Site (www.waterlessons.org). Units of study are available for 4th, 5th and 6th grade students and are consistent with the California Content Standards and the Education and the Environment Initiative.

APPLICABILITY

X	Residents
	Visitors
	Public Service Employees
	Commercial
	Industrial
	Construction

RATIONALE FOR SELECTION

- Classroom education has been shown to be a very effective way to increase environmental awareness of children as well as their parents.
- There are many ways to educate students that can be incorporated into the current teacher's curriculum, especially science and biology classes.
- Free curricula and educational materials are available from the State.

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• None	None
2	• Review existing pre-packaged storm water curricula • Meet with school district official to identify requirements • Develop storm water curriculum modifications	Catalog of curricula Meeting minutes List of modifications
3	• Determine which grades are appropriate • Locate receptive teachers • Order book covers and educational materials • Provide 1 book cover per student for selected grades	List of grades List of teachers Invoice Number of students
4	• Order book covers and educational materials • Provide 1 book cover per student for selected grades • Begin classes	Invoice Number of students
5	• Order book covers and educational materials • Distribute book covers and materials • Continue classes	Invoice Number of students

Citizen Outreach Materials

PE-3

RESPONSIBLE AUTHORITY

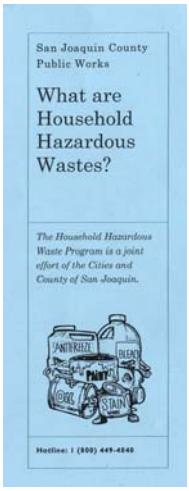
*** MHCSD**

** Primary authority*
*** Support role*

DESCRIPTION

The MHCSD provides materials to educate homeowners when they first move in and on a regular basis through utility bill inserts. Pamphlets on storm water management and proper disposal of household hazardous waste are in the welcome packet each new homeowner receives. Utility bill inserts are included in the water utility bill to educate the public with brief and concise information on a variety of storm water related topics. The following messages are suggested for utility bill inserts:

- Storm water web site
- Storm water phone line
- Community cleanup events and storm drain marking events
- Proper disposal of yard waste
- Proper disposal of household chemicals



APPLICABILITY

X	Residents
	Visitors
X	Public Service Employees
X	Commercial
X	Industrial
	Construction

RATIONALE FOR SELECTION

- Initial outreach is accomplished by including storm water related materials in the welcome packet
- Outreach is continued on a regular basis through utility bill inserts, which convey a variety of short, simple messages and are very economical to produce
- Outreach materials can also be distributed at community events such educational booths at the Kite Festival, Fun Run and Environmental Day

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Develop and mail 1 insert to introduce storm water web site • Catalog existing outreach materials	Copy of 1 insert 1 catalog
2	• Provide pamphlets in welcome packets • Develop and mail insert to advertise storm water phone line	Number of packets Copy of 1 insert
3	• Provide pamphlets in welcome packets • Develop/mail insert to advertise community clean up events	Number of packets Copy of 1 insert
4	• Provide pamphlets in welcome packets • 1 Insert to advertise community clean up/marking events • Develop and mail 1 insert on proper disposal of yard waste	Number of packets Copy of 2 inserts
5	• Provide pamphlets in welcome packets • 1 insert to advertise community clean up/marking events • 1 insert on proper household chemical disposal	Number of packets Copy of 2 inserts

Public Service Announcements in Community Newsletter

PE-4

RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

DESCRIPTION

Public service announcements (PSAs) will be distributed through the community newsletter to educate the public on storm water issues and promote many of the public involvement BMPs. Mountain House's newsletter, "Neighborhood News" is published quarterly. Full length articles about storm water issues will be published once per year. Smaller advertisements promoting Mountain House's storm water web page and storm water phone line will be also be published once per year. The newsletter is mailed to all residents of Mountain House. Copies of the current newsletter and archives will be also posted on Mountain House's web site.


Neighborhood News

Inside this Issue:
1 "Smart" Irrigation
2 "Green" Mountain House
3 Word from the General Manager
4 Construction Agenda
4 Contact Information

Intelligent Central Control System Provides Mountain House with "Smart" Irrigation

APPLICABILITY

X	Residents
	Visitors
X	Public Service Employees
X	Commercial
X	Industrial
	Construction

RATIONALE FOR SELECTION

- Can use existing newsletter to educate the public
- Reaches entire community through quarterly mailings
- Can be converted to pdf format and posted on web site

RESIDENTS/ YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Publish 1 full length article in community newsletter • Advertise storm water web site and storm water phone line in 1 newsletter	Copy of 1 newsletter article Copy of 1 newsletter ad
2	• Publish 1 full length article in community newsletter • Advertise storm water web site and storm water phone line in 1 newsletter	Copy of 1 newsletter article Copy of 1 newsletter ad
3	• Publish 1 full length article in community newsletter • Advertise storm water web site and storm water phone line in 1 newsletter	Copy of 1 newsletter article Copy of 1 newsletter ad
4	• Publish 1 full length article in community newsletter • Advertise storm water web site and storm water phone line in 1 newsletter	Copy of 1 newsletter article Copy of 1 newsletter ad
5	• Publish 1 full length article in community newsletter • Advertise storm water web site and storm water phone line in 1 newsletter	Copy of 1 newsletter article Copy of 1 newsletter ad

Storm Water Web Page

PE-5

RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

DESCRIPTION

Mountain House's Storm Water Web Page will be used to disseminate information related to storm water and water quality. The web site will also be used to promote public involvement activities such as community cleanup events, storm drain marking events, and stakeholder meetings. Public notices will be posted informing the public of the 60-day review period for the Storm Water Management Program and availability of the annual reports.

The residents can report Illegal dumping or maintenance issues through a web reporting system. The MHCSD staff will keep a log of complaints and investigations.

APPLICABILITY

X	Residents
X	Visitors
X	Public Service Employees
X	Commercial
X	Industrial
X	Construction

RATIONALE FOR SELECTION

- This BMP is an effective tool to reach a wide audience in the community including visitors.
- May be used to promote many of the public involvement BMPs.
- Effective way to receive and track illicit discharge and illegal dumping complaints.

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Continue to maintain web site (http://www.ci.mountainhouse.ca.us/) • Post public notice during 60-day public review period for SWMP	Screen capture Document number of Web Page visits
2	• Introduce Storm Water Management Program and BMPs • Publicize storm water phone line and community events • Post Year 1 Annual Report when finalized	Screen capture Document number of Web Page visits
3	• Update the web page as necessary • Publicize storm water phone line and community events • Add links to pdf versions of the Neighborhood News newsletter • Post Year 2 Annual Report when finalized	Screen capture Document number of Web Page visits
4	• Update the web page as necessary • Publicize storm water phone line and community events • Post Year 3 Annual Report when finalized	Screen capture Document number of Web Page visits
5	• Update the web page as necessary • Publicize storm water phone line and community events • Post Year 4 annual report when finalized	Screen capture Document number of Web Page visits

Educational Signs

PE-6

RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

DESCRIPTION

Educational signs will be used to inform the public of storm water impacts. The MHCSD Parks, Recreation and Leisure Plan includes provisions for educational signs at locations within the Mountain House Creek and Old River corridors to identify the values of the creek corridor and encourage its protection.

Attachment 4 of the MS4 general permit also requires signs to be posted at public access points along channels with messages that prohibit illegal dumping. Attachment 4 requirements are applicable to areas of new development or redevelopment. MHCSD will develop design standards for these signs that are consistent with their Master Plan theme and architectural style. These design standards will be included in their Design Manual, Public Works Standards or Parks, Recreation and Leisure Plan, as appropriate.

APPLICABILITY

X	Residents
X	Visitors
X	Public Service Employees
	Commercial
	Industrial
	Construction

RATIONALE FOR SELECTION

- Capable of reaching a large audience including residents and visitors to the Mountain House Community
- MHCSD currently uses signs for public education
- Signage prohibiting illegal dumping is required by Attachment 4 for areas of new development and redevelopment

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Develop design standards consistent with Master Plan	Copy of design standard
2	• Determine the amount of signs needed and proposed locations on a per project basis • Install signs	Document number of signs installed
3	• Determine the amount of signs needed and proposed locations on a per project basis • Install signs	Document number of signs installed
4	• Determine the amount of signs needed and proposed locations on a per project basis • Install signs	Document number of signs installed
5	• Determine the amount of signs needed and proposed locations on a per project basis • Install signs	Document number of signs installed

Public Involvement

(PI)

Storm Drain Markers For Existing Inlets

PI-1

RESPONSIBLE AUTHORITY

*** MHCSD**

** Delta College

** Primary authority*
*** Support role*

DESCRIPTION

This activity consists of volunteers affixing plastic buttons with a "No dumping. Drains to Delta" message to storm drain inlets. This storm drain marking effort will be used in every area of the community. Students and involved community citizens can mark inlets through classroom education projects and community involvement projects. The community will try to utilize as many youth organizations as possible including Little League and Boy / Girl Scouts to mark the inlets. Establishing this BMP in this manner will provide many educational and public involvement opportunities. This BMP will be used for existing storm drain inlets. For new development and redevelopment projects, design standards will require buttons to be installed at all inlets during construction. The Delta College Mountain House Campus will coordinate volunteers during Environmental Day, which is an all day event focusing educational activities, trash cleanup, and storm drain marking. Environmental Day is usually held in the Fall after public schools start.

APPLICABILITY

X	Residents
	Visitors
X	Public Service Employees
X	Commercial
	Industrial
	Construction

RATIONALE FOR SELECTION

- Storm drain marking has been used by many municipalities and is generally a very effective BMP.
- The effectiveness of this activity multiplies when various volunteer groups and organizations are utilized to mark the inlets.
- Delta College Mountain House Campus will coordinate volunteers during Environmental Day

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• None	None
2	• Advertise program to organizations • Develop marked inlet GIS coverage • Hold first marking event	One web site ad GIS inlet map At least 1 marking event
3	• Advertise program to organizations • Hold / sponsor marking events • Update marked inlet GIS coverage	At least two marking events Updated GIS map
4	• Advertise program to organizations • Hold / sponsor marking events • Update marked inlet GIS coverage	At least two marking events Updated GIS map
5	• Advertise program to organizations • Hold / sponsor marking events • Update marked inlet GIS coverage	At least two marking events Updated GIS map

Community Cleanup Projects

PI-2

RESPONSIBLE AUTHORITY

*** MHCSD**

** Delta College

** Primary authority*
*** Support role*

DESCRIPTION

The MHCSD will coordinate community cleanup projects with various local volunteer groups and organizations. These events can be scheduled to coincide with Shoreline Cleanup Day in September. The cleanup projects will focus on community parks which are adjacent to Mountain House Creek and Old River.

Specific sites will be selected based on impact by trash, especially those areas with heavy pedestrian and vehicular traffic for optimum aesthetic improvement. Access will also guide site selection for convenience of the volunteers. The Delta College Mountain House Campus will coordinate volunteers and clean-up activities during the Fall Environmental Day.

APPLICABILITY

X	Residents
X	Visitors
X	Public Service Employees
X	Commercial
	Industrial
	Construction

RATIONALE FOR SELECTION

- Community cleanup projects are an effective way to improve aquatic habitat, water quality, and aesthetics while promoting storm water awareness.
- This BMP is generally inexpensive and the Mountain House community can coordinate the participation of volunteer groups with assistance of Delta College.
- Schools may also become involved as part of the Classroom Education program.
- This program does not require a long-term commitment, which may make this program more appealing to citizens or groups.

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• None	None
2	• Note potential locations during dry weather screening • Develop guidance materials	List of locations 1 mock up packet
3	• Advertise program to organizations & citizens • Note potential locations during dry weather screening • Schedule and hold first cleanup event	Advertise-web site & inserts Updated location list 1 clean up event
4	• Advertise program to organizations & citizens • Note potential locations during dry weather screening • Schedule and hold one cleanup event	Advertise-web site & inserts Updated location list 1 clean up event
5	• Advertise program to organizations & citizens • Note potential locations during dry weather screening • Schedule and hold one cleanup event	Advertise-web site & inserts Updated location list 1 clean up event

Storm Water Phone Line

PI-3

Storm Water Phone Line
(209) 831-5061
Report Water Quality Problems

RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

DESCRIPTION

Storm water phone lines provide citizens with an avenue to voice concerns and report potential violations to the appropriate authorities. The Mountain House Community Services District will utilize a dedicated phone line as a storm water phone line for reporting potential violations. This phone line will be aggressively promoted through several of the previously mentioned BMPs. The MHCSD will also establish a location on their website for citizens to email these concerns or potential violations. MHCSD contractor will take calls and respond to environmental concerns or violations. The phone line is equipped with voice mail for documenting incoming calls after normal business hours. The MHCSD contractor will maintain a database of complaints received on the phone line.

APPLICABILITY

X	Residents
X	Visitors
X	Public Service Employees
X	Commercial
X	Industrial
X	Construction

RATIONALE FOR SELECTION

- The MHCSD currently administers this program and has a contractor that responds to complaints
- SouthWest Water Company currently is the maintenance contractor that responds to complaint calls and will track and report the number of investigations to MHCSD

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Develop standard procedures for logging complaints and follow-up • Publicize storm water phone line on web site • Track complaint investigations from phone line	Written procedures Screen capture of web page List of investigations
2	• Publicize storm water phone line on web site • Track complaint investigations from phone line	Screen capture of web page List of investigations
3	• Publicize storm water phone line on web site and newsletter • Track complaint investigations from phone line	Screen capture of web page Copy of newsletter List of investigations
4	• Publicize storm water phone line on web site and newsletter • Track complaint investigations from phone line	Screen capture of web page Copy of newsletter List of investigations
5	• Publicize storm water phone line on web site and newsletter • Track complaint investigations from phone line	Screen capture of web page Copy of newsletter List of investigations

Storm Water Stakeholders Group

PI-4

RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

DESCRIPTION

Mountain House formed a Storm Water Stakeholder Group (SWSG) to review the draft Storm Water Management Program (SWMP), Best Management Practices (BMPs) and comments received from the Regional Water Quality Control Board. MHCSD invited representatives from 34 different groups including District staff, contracted service providers, community organizations, builders and developers to participate in the SWSG. Storm water managers from neighboring communities were also invited to participate. The SWSG used a balloting process to prioritize the BMPs to be included in the SWMP. A total of 24 representatives attended the initial meeting.

APPLICABILITY

X	Residents
X	Visitors
X	Public Service Employees
X	Commercial
X	Industrial
X	Construction

RATIONALE FOR SELECTION

- Involving community stakeholders in the development of Mountain House's SWMP will ensure that the BMPs submitted are appropriate for the community.
- Stakeholders will become educated on storm water issues.
- The SWSG will be reconvened annually to review the Annual Reports, provide input on BMP effectiveness and suggest changes as needed.

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Develop invitation list • Conduct 1 Storm Water Stakeholders Group meeting to prioritize BMPs	Invitation list and letter Copy of sign-in sheet
2	• Conduct 1 Storm Water Stakeholders Group meeting to review Year 1 Annual Report	Copy of sign-in sheet
3	• Conduct 1 Storm Water Stakeholders Group meeting to review Year 2 Annual Report	Copy of sign-in sheet
4	• Conduct 1 Storm Water Stakeholders Group meeting to review Year 3 Annual Report	Copy of sign-in sheet
5	• Conduct 1 Storm Water Stakeholders Group meeting to review Year 4 Annual Report	Copy of sign-in sheet

Public Notice on Web Site

PI-5

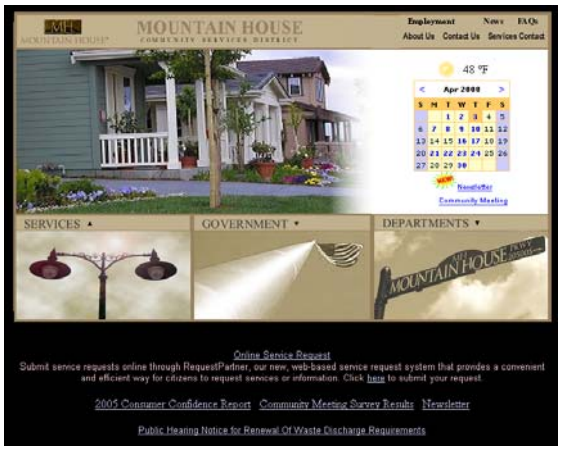
RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

DESCRIPTION

Mountain House will post a notice on their storm water web page notifying the public that their Storm Water Management Program is available for review during the 60-day public review period. The notice will include information where the public may submit comments. Public notices will also be posted on the storm water web page each year when the SWMP Annual Reports are finalized.



APPLICABILITY

X	Residents
X	Visitors
X	Public Service Employees
X	Commercial
X	Industrial
X	Construction

RATIONALE FOR SELECTION

- This BMP was recommended by the RWQCB.

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Post public notice on web site for 60-day public review period	Screen capture of public notice
2	• Post public notice for Year 1 Annual Report	Screen capture of public notice
3	• Post public notice for Year 2 Annual Report	Screen capture of public notice
4	• Post public notice for Year 3 Annual Report	Screen capture of public notice
5	• Post public notice for Year 4 Annual Report	Screen capture of public notice

Clean Water Business Partner Program

PI-6

RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

DESCRIPTION

This BMP is designed to assist businesses in safe disposal practices. Participating businesses will educate their customers about how to prevent storm water pollution while also demonstrating proper waste water disposal practices. The MHCSD will provide participating businesses with simple tools and information to encourage their employees and customers to be more conscious about keeping storm drains free of pollutants. In addition, participating businesses are included in the program's advertising campaign and can distribute pamphlets to customers.

The Clean Water Business Partner Program does not impose additional regulations on participating businesses. It provides assistance and incentives to local businesses that follow proper procedures for disposal of wastewater, while promoting clean water awareness.

This BMP will focus on carpet cleaners, landscapers, and mobile pressure washers.

APPLICABILITY

	Residents
	Visitors
	Public Service Employees
X	Commercial
	Industrial
	Construction

RATIONALE FOR SELECTION

- The participation of businesses will decrease the chances of an unlawful disposal of waste and increase the level of protection of the environment.

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• No businesses	None
2	• No businesses anticipated	None
3	• Develop a list of businesses • Develop informational flyer	Potential Business List Copy of informational flyer
4	• Meet and form a partnership with local businesses • Update list of businesses on web site • Develop & distribute educational materials	Minutes/sign-in sheet Web page screen capture Copy of materials
5	• Update list of businesses on web site • Revise partnership if needed • Distribute educational materials	Web page screen capture Updated Partnerships Copy of materials`

San Joaquin County Phase II Storm Water Committee

PI-7

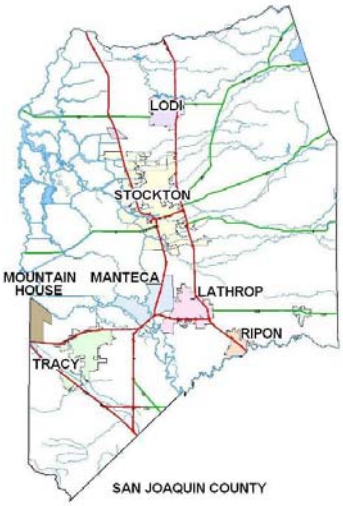
RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

DESCRIPTION

Phase II MS4 permittees in San Joaquin County meet once a month as a partnership with the goal of sharing their resources and knowledge base for implementing their MS4 elements. The San Joaquin County Phase II Storm Water Committee (SJPIISWC) includes the Phase II cities include Tracy, Lathrop, Lodi, Manteca, Ripon, along with San Joaquin County. Stockton is a Phase I city that is also represented on the committee. The MHCSD will send representatives to these meetings in order to learn and share information.



APPLICABILITY

	Residents
	Visitors
X	Public Service Employees
	Commercial
	Industrial
	Construction

RATIONALE FOR SELECTION

- Many of the other Phase II cities in the County have been permitted since 2003 and have well developed programs.
- This BMP was recommended by the RWQCB.

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Contact the group to obtain information and send a representative to the meetings	Copy of sign-in sheets
2	• Attend SJPIISWC meetings	Copy of sign-in sheets
3	• Attend SJPIISWC meetings	Copy of sign-in sheets
4	• Attend SJPIISWC meetings	Copy of sign-in sheets
5	• Attend SJPIISWC meetings	Copy of sign-in sheets

Illicit Discharge Detection and Elimination

(ID)

Household Chemical Disposal

ID-1

RESPONSIBLE AUTHORITY

*** MHCSD**

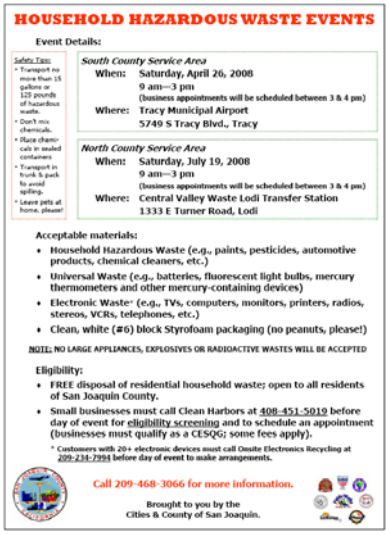
** Primary authority*
*** Support role*

APPLICABILITY

X	Residents
	Visitors
	Public Service Employees
	Commercial
	Industrial
	Construction

DESCRIPTION

Many common household products contain potentially hazardous chemicals. Improper disposal of these household chemicals into the sanitary sewer or storm drain system can pose significant risks to human health and the environment. The first line of defense against improper disposal of Household Hazardous Waste (HHW) is through public education. Many residents are simply unaware of the hazards associated with these products and methods for proper disposal.


HOUSEHOLD HAZARDOUS WASTE EVENTS

Event Details:

South County Service Area
When: Saturday, April 26, 2008
9 am—3 pm
(business appointments will be scheduled between 3 & 4 pm)
Where: Tracy Municipal Airport
5749 S Tracy Blvd., Tracy

North County Service Area
When: Saturday, July 19, 2008
9 am—3 pm
(business appointments will be scheduled between 3 & 4 pm)
Where: Central Valley Waste Lodi Transfer Station
1333 E Turner Road, Lodi

Acceptable materials:
- Household Hazardous Waste (e.g., paints, pesticides, automotive products, chemical cleaners, etc.)
- Universal Waste (e.g., batteries, fluorescent light bulbs, mercury thermometers and other mercury-containing devices)
- Electronic Waste* (e.g., TVs, computers, monitors, printers, radios, stereos, VCRs, telephones, etc.)
- Clean, white (#6) block Styrofoam packaging (no peanuts, please!)

NOTE: NO LARGE APPLIANCES, EXPLOSIVES OR RADIOACTIVE WASTES WILL BE ACCEPTED

Eligibility:
- FREE disposal of residential household waste; open to all residents of San Joaquin County.
- Small businesses must call Clean Harbors at 408-451-5019 before day of event for eligibility screening and to schedule an appointment (businesses must qualify as a CESQG; some fees apply).

* Customers with 20+ electronic devices must call Onsite Electronics Recycling at 209-234-7994 before day of event to make arrangements.

Call 209-468-3066 for more information.

Brought to you by the Cities & County of San Joaquin.

Many residents are simply unaware of the hazards associated with these products and methods for proper disposal.

Public education and outreach materials will be developed to inform the public about proper storage, handling, and disposal of hazardous chemicals. Pamphlets describing proper disposal methods for household chemicals are distributed to all new residents in Mountain House's welcome packet. MHCSD will advertise the locations of collection centers and collection events for the disposal of household hazardous wastes on their web site and newsletter.

RATIONALE FOR SELECTION

- Improves quality of surface and ground water resources
- Educates public on proper storage, handling and disposal of HHW
- Increases the longevity of landfill liners
- HHW collection events conducted by San Joaquin County are free to all residents of the County.
- This activity is described in Section 6.7 of the Mountain House Master Plan.

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Distribute HHW pamphlets in Mountain House Welcome Packets	# of pamphlets distributed
2	• Distribute HHW pamphlets in Mountain House Welcome Packets • Advertise events conducted by San Joaquin County on the storm water web site and in Neighborhood News newsletter	# of pamphlets # of web site hits
3	• Distribute HHW pamphlets in Mountain House Welcome Packets • Advertise events conducted by San Joaquin County on the storm water web site and in Neighborhood News newsletter	# of pamphlets # of web site hits
4	• Distribute HHW pamphlets in Mountain House Welcome Packets • Advertise events conducted by San Joaquin County on the storm water web site and in Neighborhood News newsletter	# of pamphlets # of web site hits
5	• Distribute HHW pamphlets in Mountain House Welcome Packets • Advertise events conducted by San Joaquin County on the storm water web site and in Neighborhood News newsletter	# of pamphlets # of web site hits

Illegal Dumping

ID-2

RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

APPLICABILITY

X	Residents
X	Visitors
X	Public Service Employees
X	Commercial
X	Industrial
X	Construction

DESCRIPTION

Until Mountain House is fully built out, there will be tracts of vacant land that provide temptation for illegal dumping. Once identified, the MHCSD requires the property owner to clean it up. A plan to detect and address illegal dumping is a required component of illicit discharge detection and elimination, mandated under Phase II. Illegal dumping consists of disposal of waste in undesignated areas or pouring of liquid wastes or disposal of trash down storm drains. The most effective method of curbing illegal dumping is to implement an aggressive public education program.

Public education programs will be utilized by MHCSD and will include signs prohibiting illegal dumping at access points to waterbodies, citizen outreach materials, utility bill stuffers, web sites, storm drain marking, public service announcements, and a storm water phone line.

RATIONALE FOR SELECTION

- Required component of NPDES Phase II regulations
- Mountain House has a provision in their Master Plan (Section 15.7(f)) for an illegal dumping regulation to be adopted and enforced.
- Mountain House's Master Restrictions Section 4.01.0 prohibits illegal dumping in the storm drain system. Residents must comply with the Master Restrictions.

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Enforce Master Restriction related to illegal dumping • Establish system to track illegal dump sites and investigations	Tracking system procedures
2	• Develop educational materials • Track locations of identified illegal dumping sites • Report on disposition of dumping sites and investigations	Draft materials GIS map Disposition report
3	• Distribute educational materials • Track locations of identified illegal dumping sites • Report on disposition of dumping sites and investigations	GIS map of dump locations Disposition report
4	• Distribute educational materials • Track locations of identified illegal dumping sites • Report on disposition of dumping sites and investigations	GIS map of dump locations Disposition report
5	• Distribute educational materials • Track locations of identified illegal dumping sites • Report on disposition of dumping sites and investigations	GIS map of dump locations Disposition report

Storm Drain System Mapping

ID-3

RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

APPLICABILITY

	Residents
	Visitors
X	Public Service Employees
	Commercial
	Industrial
	Construction

DESCRIPTION

To facilitate the illicit discharge detection and elimination program, a storm sewer system map must identify the location of all outfalls and the names and locations of the surface waters to which they drain. Mountain House's storm drain system map is in a Geographic Information System (GIS). Since Mountain House is a relatively new community, all existing outfalls are known and mapped based on the engineering designs. As storm drain infrastructure is added, the new outfalls and associated attributes will be added to the GIS database and an updated GIS map will be produced.

RATIONALE FOR SELECTION

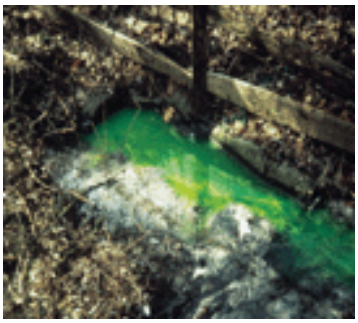
- A storm drain system map is a required component of this minimum control measure and must identify the locations of all outfalls and the names and locations of the surface waters to which they drain.
- The MHCSD has already developed a storm drain system map utilizing CAD, which can be updated on an as needed basis to reflect current conditions.

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Obtain storm drain system map in GIS format	Existing GIS map
2	• Review and modify attributes of system map to include all outfalls and surface waters to which they drain	Updated GIS map
3	• Update GIS Map for new outfalls from as-built plans	Updated system map
4	• Update GIS Map for new outfalls from as-built plans	Updated system map
5	• Update GIS Map for new outfalls from as-built plans	Updated system map

Illicit Connection Regulation

ID-4

DESCRIPTION



As a new master planned community, Mountain House is not likely to have many illicit connections to their storm drain system. However, to prepare for removal of illicit connections if they are discovered, the MHCSD will review their Master Restrictions to determine the most effective means to prohibit illegal connections to the storm drain system with sanctions and penalties to ensure compliance, to the extent allowable under State and local law. This may consist of modifications to existing ordinances or implementation of a new ordinance.

RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

APPLICABILITY

X	Residents
	Visitors
X	Public Service Employees
X	Commercial
X	Industrial
X	Construction

RATIONALE FOR SELECTION

- Since the Phase II NPDES regulations require the establishment of a regulatory mechanism, the MHCSD will need to strengthen their existing Master Restrictions to specifically prohibit illicit discharges and illegal connections to their storm drain system.
- This BMP is described in Section 15.7(g) of the Mountain House Master Plan.

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Review Master Restrictions to determine modifications	Review memo
2	• Draft modifications	One draft ordinance
3	• Adopt modifications	One adopted ordinance Publicize amendments
4	• Develop enforcement procedures to bring various violators into compliance with the Master Restrictions • Report on disposition of illicit connections	Written enforcement procedures Disposition report
5	• Report on disposition of illicit connections	Disposition report

Dry Weather Screening

ID-5

DESCRIPTION

The MHCSD staff will utilize dry weather screening to aid in illicit connection detection. Based on the screening results, additional investigations may be warranted. The community is currently under construction with virtually every storm drain pipe being less than five years old. Along Mountain House Creek all storm drain outfalls discharge to a specific regional treatment BMP, which discharges to Mountain House Creek. Dry weather screening will be conducted at 5 locations along Mountain House Creek to determine if excessive quantities of pollutants are present. If a pollutant is detected in sufficient quantity, it will trigger additional testing and investigations as described in (ID-6) to isolate and remove the source of illicit discharge or illegal connection.

RESPONSIBLE AUTHORITY

*** MHCSD**

** County Environmental Health

** County Sheriff

** Primary authority*
*** Support role*

APPLICABILITY

X	Residents
	Visitors
X	Public Service Employees
X	Commercial
X	Industrial
X	Construction

RATIONALE FOR SELECTION

- Required component of Phase II regulations

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Purchase dry weather screening kits • Develop written procedures and reporting forms • Select locations for screening	Invoice Written procedures Map of screening locations
2	• Conduct dry weather screening at 5 locations along Mountain House Creek	Copy of screening results
3	• Conduct dry weather screening at 5 locations along Mountain House Creek	Copy of screening results
4	• Conduct dry weather screening at 5 locations along Mountain House Creek	Copy of screening results
5	• Conduct dry weather screening at 5 locations along Mountain House Creek	Copy of screening results

Illicit Connection Investigations

ID-6

DESCRIPTION

The MHCSD staff will utilize one of the following techniques for illicit connection investigations. Fluorescent dye testing is a method of detecting illegal connections through the flushing of colored or fluorescent dye into drain water in suspect pipes. The presence of this dye in storm drain discharges would confirm the presence of an illegal connection. Smoke testing involves the injection of non-toxic zinc chloride smoke in sewer manholes. Observations of smoke escaping through storm drain inlets indicate illegal connections**.** Remote TV camera inspections are used more commonly to detect illegal connections of business wastewater to the storm drain system. This method can detect improper connections such as cross-connections and also allows MHCSD employees to examine the physical condition of the manholes and storm sewer lines. The most suitable method for detection will be used for each situation in order to track down illegal connections to the storm drain system.

RESPONSIBLE AUTHORITY

*** MHCSD**

**County Environmental Health

** Primary authority*
*** Support role*

APPLICABILITY

X	Residents
	Visitors
X	Public Service Employees
X	Commercial
X	Industrial
X	Construction

RATIONALE FOR SELECTION

- Required component of Phase II regulations
- The community is currently under construction with virtually every storm drain pipe being less than five years old. Illicit connection investigations will ensure that the network will last until the end of its planned life.

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Develop service contract for performance on an as needed basis	Contract
2	• Conduct investigations as needed based on dry weather screening and storm water hotline input	List of investigation types and locations
3	• Conduct investigations as needed based on dry weather screening and storm water hotline input	List of investigation types and locations
4	• Conduct investigations as needed based on dry weather screening and storm water hotline input	List of investigation types and locations
5	• Conduct investigations as needed based on dry weather screening and storm water hotline input	List of investigation types and locations

Construction Site Storm Water Runoff Control

(C)

Construction Inspection

C-1

DESCRIPTION

Construction sites lacking adequate storm water controls can contribute significant amounts of sediment to streams and lakes. To reduce the water quality impacts of active construction sites, NPDES regulations require that many construction projects install and maintain appropriate erosion and sediment control, storm water management, and housekeeping BMPs. In addition, the NPDES regulations require many municipalities to implement programs to control runoff from construction sites. These regulations include reviewing construction plans, conducting site inspections, and enforcing control measures necessary to minimize water quality impacts. Random daily observations of construction sites are conducted by MHCSD personnel. In addition, contract construction inspectors generate a list of observations and recommendations that they transmit along with pertinent photographs to the construction site operator via email. MHCSD inspectors will track the number of inspections conducted.

RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

APPLICABILITY

	Residents
	Visitors
	Public Service Employees
	Commercial
	Industrial
X	Construction

RATIONALE FOR SELECTION

- Federal regulations require municipal permittees to develop a storm water program that includes procedures for the inspection of construction projects to ensure that appropriate BMPs are installed and maintained.
- The MHCSD Public Works Department currently contracts out inspections to consulting firms for all projects while the MHCSD performs random daily observations.
- This procedure appears to be effective and will continue until the MHCSD decides to conduct inspections internally. An important component of this review process is well-organized documentation of all activities.

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Continue existing construction inspections by contractor • Conduct random daily observations	Contractor invoice Number of observations
2	• Continue existing construction inspections by contractor • Conduct random daily observations	Contractor invoice Number of observations
3	• Continue existing construction inspections by contractor • Conduct random daily observations	Contractor invoice Number of observations
4	• Continue existing construction inspections by contractor • Conduct random daily observations	Contractor invoice Number of observations
5	• Continue existing construction inspections by contractor • Conduct random daily observations	Contractor invoice Number of observations

Developer/Builder Meetings

C-2

DESCRIPTION

Mountain House holds weekly meetings with its builders and developers. MHCSD will use these meetings to inform the builders and developers of storm water issues and discuss Construction General Permit requirements.

California's Construction General Permit is set to be reissued in 2008 and may contain significant new requirements. MHCSD will review these new requirements with builders and developers upon release of the reissued CGP.

RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

APPLICABILITY

	Residents
	Visitors
	Public Service Employees
	Commercial
	Industrial
X	Construction

RATIONALE FOR SELECTION

- MHCSD currently conducts weekly meetings with their developers and builders, which could easily incorporate storm water topics at 4 meetings per year.
- Upon reissue of the State's Construction General Permit (Water Quality Order 99-08-DWQ) both the District and its builder and developer community would need to become familiar with any new requirements for compliance.

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Discuss changes to CGP upon reissue by State at 1 meeting • Modify plan review procedures as necessary	Attendance sheet for meeting
2	• Discuss BMPs in meetings with developers/builders quarterly • Modify plan review procedures as necessary	Attendance sheet for Quarterly meetings
3	• Discuss BMPs in meetings with developers/builders quarterly • Modify plan review procedures as necessary	Attendance sheet for Quarterly meetings
4	• Discuss BMPs in meetings with developers/builders quarterly • Modify plan review procedures as necessary	Attendance sheet for Quarterly meetings
5	• Discuss BMPs in meetings with developers/builders quarterly • Modify plan review procedures as necessary	Attendance sheet for Quarterly meetings

Plan Review Procedures

C-3

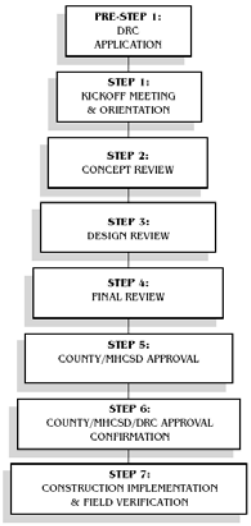
RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

DESCRIPTION

As part of their development review procedures, the MHCSD currently reviews construction plans, including erosion control and grading plans. MHCSD's plan review process is outlined in a 7 step process as depicted in the graphic. Plans go through three reviews, a conceptual review, design review, and final review. Storm Water Pollution Prevention Plans (SWPPPs) are required for submittal. MHCSD will develop a checklist to facilitate review of construction SWPPPs and will also document the number of SWPPPs submitted and the number of SWPPPs reviewed.



APPLICABILITY

	Residents
	Visitors
	Public Service Employees
	Commercial
	Industrial
X	Construction

RATIONALE FOR SELECTION

- The Phase II NPDES regulations require the establishment of plan review procedures that consider potential water quality impacts.
- The Mountain House Community Services District currently performs review of development plans, including SWPPPs.

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Establish procedures to track SWPPPs submitted and reviewed • Develop SWPPP review checklist	Written procedures Copy of checklist
2	• Review SWPPPs as part of plan review	Number of SWPPPs reviewed
3	• Review SWPPPs as part of plan review	Number of SWPPPs reviewed
4	• Review SWPPPs as part of plan review	Number of SWPPPs reviewed
5	• Review SWPPPs as part of plan review	Number of SWPPPs reviewed

Erosion and Sediment Control Regulatory Mechanism

C-4

RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

APPLICABILITY

	Residents
	Visitors
	Public Service Employees
	Commercial
	Industrial
X	Construction

DESCRIPTION

The NPDES MS4 general permit requires Mountain House to develop, implement and enforce a program to reduce pollutants in runoff from construction activities. MHCSD will comply with the General Construction Permit and will adopt a policy that strengthens or ensures compliance. MHCSD will implement an ordinance or other regulatory mechanism to require erosion and sediment controls and sanctions to ensure compliance. There are several options that MHCSD will explore during Year 1 to provide for a regulatory mechanism. Options include adoption of an ordinance, revisions to their Master Restrictions or CC&Rs, revisions to their standard conditions of approval or a resolution. MHCSD's legal authority will be reviewed to determine the most appropriate mechanism.

RATIONALE FOR SELECTION

- Federal and state regulations require permittees to develop a regulatory mechanism with sanctions to ensure compliance

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Explore different options for regulatory mechanism • Select regulatory approach • Draft or revise relevant documents for regulation	Draft regulation
2	• Adopt regulatory mechanism	Adopted regulation
3	• Fully implemented	None
4	• Fully implemented	None
5	• Fully implemented	None

Construction Inspectors Training Program

C-5

DESCRIPTION

A training program will be developed for construction inspectors to provide consistent procedures and follow up procedures. Inspectors, whether contractors or MHCSD staff, will attend annual training sessions. MHCSD will develop written procedures and inspection checklists to use during the inspection process. Training will be conducted in August or September each year, prior to the rainy season.

RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

APPLICABILITY

	Residents
	Visitors
	Public Service Employees
	Commercial
	Industrial
X	Construction

RATIONALE FOR SELECTION

- Recommended by RWQCB
- Will provide consistency in construction inspection and observation process (see C-1)

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Develop written procedures and inspection checklists • Conduct annual training for in-house and contracted inspectors	Written procedures Training sign-in sheet
2	• Conduct annual training for in-house and contracted inspectors	Training sign-in sheet
3	• Conduct annual training for in-house and contracted inspectors	Training sign-in sheet
4	• Conduct annual training for in-house and contracted inspectors	Training sign-in sheet
5	• Conduct annual training for in-house and contracted inspectors	Training sign-in sheet

Receipt and Consideration of Information Submitted By the Public

C-6

RESPONSIBLE AUTHORITY

*** MHCSD**

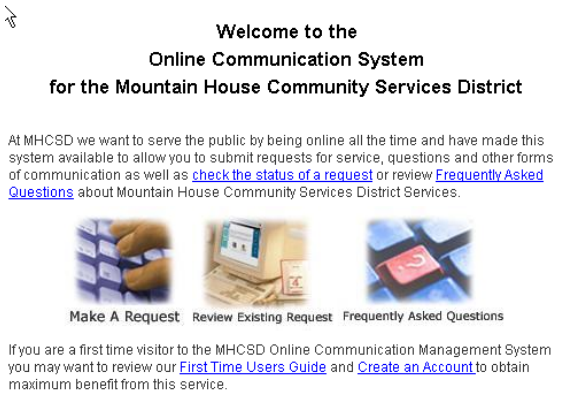
** Primary authority*
*** Support role*

APPLICABILITY

	Residents
	Visitors
	Public Service Employees
	Commercial
	Industrial
X	Construction

DESCRIPTION

Mountain House will develop and implement a system for the receipt and consideration of information submitted by the public. MHCSD may use their existing web-based Online Communication Management System to log and track information submitted. The Frequently Asked Questions document will be updated to include how the public can submit construction related information and how MHCSD uses and considers this information.



RATIONALE FOR SELECTION

- Required by NPDES regulations
- MHCSD can modify their current online system to accept information related to construction activities and use this system to track the number of submittals

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Develop procedures for receipt of information from the public • Revise FAQ document on Online Communication Management System	Written procedures Copy of FAQ with construction Q&A
2	• Document and track the number of submittals from the public	# of construction related submittals
3	• Document and track the number of submittals from the public	# of construction related submittals
4	• Document and track the number of submittals from the public	# of construction related submittals
5	• Document and track the number of submittals from the public	# of construction related submittals

Post-Construction Storm Water Management for New Development and Redevelopment

(PC)

Long Term Operation and Maintenance of BMPs

PC-1

RESPONSIBLE AUTHORITY

***MHCSD**

** Primary authority*
*** Support role*

APPLICABILITY

	Residents
	Visitors
X	Public Service Employees
	Industrial
	Commercial
	Construction

DESCRIPTION

This BMP involves an inspection process to be conducted by the Public Works Department or a designated contractor. The inspections are necessary to determine the effectiveness of a BMP, which can significantly be reduced by the lack of maintenance. If a maintenance issue is identified, the MHCSD Maintenance and Operations Department or contractor will perform the actual maintenance activities. Additional inspections and maintenance may result from citizen reporting and complaints through several of the previously mentioned BMPs such as the storm water phone line. MHCSD has developed an inspection and maintenance schedule for permanent BMPs such as the Wet and Dry Basins constructed as part of their Regional BMP Treatment Process (PC-5). Maintenance of the Catch Basin Inserts (PC-2) is the responsibility of the HOA per MHCSD Standard Conditions of Approval.

RATIONALE FOR SELECTION

- The NPDES Small MS4 General Permit requires the long-term operation and maintenance of the post-construction BMPs that are constructed in new development projects.
- Since MHCSD is an entirely new development, permanent BMP basins are master planned into the community and will require long-term maintenance and operation.
- Proper maintenance of the post-construction BMPs requires a regular inspection process.

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Develop map of permanent BMPs that require inspection and maintenance • Develop written inspection and maintenance procedures, schedule and checklist • Continue inspection/maintenance for permanent BMPs	Map of permanent BMPs Written procedures/checklist List of maintenance activities
2	• Update map of permanent BMPs • Continue inspection/maintenance for permanent BMPs	Updated map of BMPs List of maintenance activities
3	• Update map of permanent BMPs • Continue inspection/maintenance for permanent BMPs	Updated map of BMPs List of maintenance activities
4	• Update map of permanent BMPs • Continue inspection/maintenance for permanent BMPs	Updated map of BMPs List of maintenance activities
5	• Update map of permanent BMPs • Continue inspection/maintenance for permanent BMPs	Updated map of BMPs List of maintenance activities

Catch Basin Inserts

PC-2

RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

APPLICABILITY

	Residents
	Visitors
X	Public Service Employees
	Commercial
	Industrial
X	Construction

DESCRIPTION

A catch basin insert called "The Water Decontaminator" was designed by Inventive Resources, Inc. to remove contaminants at the drain source. This catch basin is designed to target sediment, hydrocarbons and chemicals from the first flush of storm water runoff.

The Water Decontaminator captures oil and allows sediment and debris to settle. The filtration and hydrocarbon absorption efficiency of the design increases as flow rate decreases. It also uses an oil absorbent fiber material in conjunction with activated carbon. To assure proper performance, the following maintenance is conducted: inspections, sediment and debris removal, cleaning leaves and debris near the grate. Replacement of absorbent materials is conducted per the manufacturer's recommendation.

As specified in Mountain House's Conditions of Approval, developers must install these catch basin inserts and maintenance of the filters is the responsibility of the Inventive Resources, Inc. MHCSD will track the number of catch basin inserts installed.

RATIONALE FOR SELECTION

- This BMP is designed to target the major pollutants of concern.
- MHCSD is requiring installation of these inserts at all new catch basins.

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Require inserts in all new catch basins • Track number of inserts installed	Number of catch basins inserts installed
2	• Require inserts in all new catch basins • Track number of inserts installed	Number of catch basins inserts installed
3	• Require inserts in all new catch basins • Track number of inserts installed	Number of catch basins inserts installed
4	• Require inserts in all new catch basins • Track number of inserts installed	Number of catch basins inserts installed
5	• Require inserts in all new catch basins • Track number of inserts installed	Number of catch basins inserts installed

Community Design | PC-3

DESCRIPTION

Mountain House is a master planned community that was envisioned with the concepts of Low Impact Development (LID) in mind. The community was designed to minimize the amount of directly connected impervious area that is connected to the storm drainage system and to provide setbacks from environmentally sensitive areas (Mountain House Master Plan Section 15.7(c)). Design concepts include clustering of neighborhoods and preserving natural areas as open space as required by Attachment 4 (2.b) of the General Permit. Where possible, runoff will be directed to landscaped areas, grass buffer strips and grass lined swales to promote filtering and infiltration of storm water runoff.

RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

APPLICABILITY

	Residents
	Visitors
	Public Service Employees
	Commercial
	Industrial
X	Construction

RATIONALE FOR SELECTION

- Satisfies requirement of Attachment 4
- This approach is described in Section 15.7(c) of the Mountain House Master Plan

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Continue to promote LID concepts through the Master Plan and Master Restrictions • Track the LID practices used in new neighborhoods	List of LID practices
2	• Continue to promote LID concepts through the Master Plan and Master Restrictions • Track the LID practices used in new neighborhoods	List of LID practices
3	• Continue to promote LID concepts through the Master Plan and Master Restrictions • Track the LID practices used in new neighborhoods	List of LID practices
4	• Continue to promote LID concepts through the Master Plan and Master Restrictions • Track the LID practices used in new neighborhoods	List of LID practices
5	• Continue to promote LID concepts through the Master Plan and Master Restrictions • Track the LID practices used in new neighborhoods	List of LID practices

Site Specific BMP Design Standards

PC-4

RESPONSIBLE AUTHORITY

*** MHCSD**

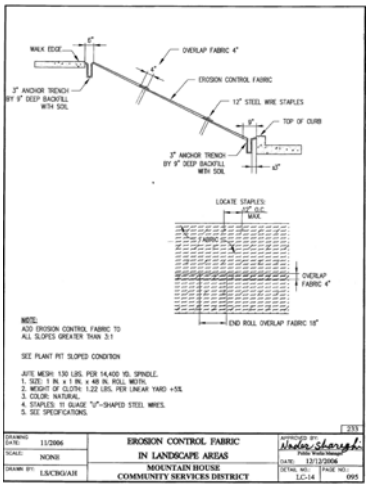
** Primary authority*
*** Support role*

APPLICABILITY

	Residents
	Visitors
X	Public Service Employees
X	Commercial
X	Industrial
X	Construction

DESCRIPTION

As specified in Mountain House Master Plan Section 15.7(i), site specific BMPs will be required for industries, public facilities and businesses which generate polluted runoff which differs in concentration and/or content from residential runoff. These types of operations may be required to treat on-site runoff prior to discharge to the storm drain system. Requirements of the NPDES General Permit Attachment 4 will be implemented through site specific BMPs that will be specified in Mountain House's Standard Conditions of Approval. The MHCSD will also modify their Design Manual and Standards to incorporate the Attachment 4 requirements for certain categories of development.



RATIONALE FOR SELECTION

- These BMPs are described in Section 15.7(i) and (j) of Mountain House Master Plan.
- Required by the Phase II MS4 General Permit Attachment 4

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Modify Design Manual and/or Standards for site specific BMPs based on development categories specified in Attachment 4	Design manual or Standards pages
2	• Enforce Standard Conditions of Approval • Track number of projects with site specific BMPs	# of projects by category
3	• Enforce Standard Conditions of Approval • Track number of projects with site specific BMPs	# of projects by category
4	• Enforce Standard Conditions of Approval • Track number of projects with site specific BMPs	# of projects by category
5	• Enforce Standard Conditions of Approval • Track number of projects with site specific BMPs	# of projects by category

Regional BMP Treatment Processes

PC-5

RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

DESCRIPTION

The Regional BMP Treatment Process consists of a series of wet and dry detention basins that are located along the banks of Mountain House Creek. The wet BMP basins are designed to retain permanent pools during dry conditions between storm events while the dry BMP basins are designed to drain after every storm. There are seventeen dry BMPs and eight wet BMPs which serve to control erosion, remove pollutants, and create a habitat for wildlife. These BMP basins provide a second line of protection to the creeks and river.

The storm drain system is designed to ensure drainage of the initial one-half inch of rainfall runoff (first flush) into the BMP basins. They are designed to capture and detain nuisance flow and runoff from storm events.

APPLICABILITY

	Residents
	Visitors
X	Public Service Employees
	Commercial
	Industrial
X	Construction

RATIONALE FOR SELECTION

- The combination of wet and dry BMP basins provides enhanced treatment of storm water through sedimentation, absorption, filtration, and biological uptake.
- Wet ponds are aesthetically pleasing, permanent BMPs that provide a habitat for wildlife.
- These BMPs are described in Section 15.7(k) and (l) of the Mountain House Master Plan.

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• All BMP basins planned for the Community are already installed. • Inspection and maintenance conducted under PC-1.	Map of wet and dry BMP basins
2	• Inspection and maintenance conducted under PC-1	None
3	• Inspection and maintenance conducted under PC-1	None
4	• Inspection and maintenance conducted under PC-1	None
5	• Inspection and maintenance conducted under PC-1	None

Post-Construction Plan Review Procedures

PC-6

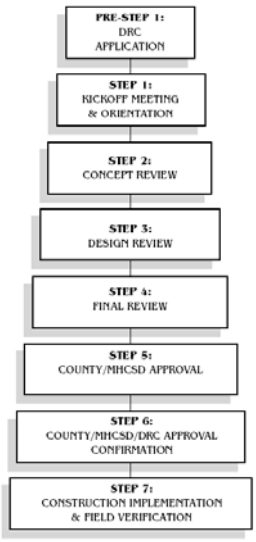
RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

DESCRIPTION

As part of their development review procedures, the MHCSD currently reviews development plans for post-construction requirements. MHCSD's plan review process is outlined in a 7 step process as depicted in the graphic. Plans go through three reviews, a conceptual review, design review, and final review. MHCSD will develop a checklist to facilitate review of post-construction requirements and develop Standard Conditions of Approval for those categories of new development and redevelopment projects outlined in Attachment 4 of the General Permit.



APPLICABILITY

	Residents
	Visitors
X	Public Service Employees
X	Commercial
X	Industrial
X	Construction

RATIONALE FOR SELECTION

- The Phase II NPDES regulations require the establishment of plan review procedures that consider potential water quality impacts from post-construction runoff.
- The Mountain House Community Services District currently performs review of development plans for post-construction requirements.

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Develop Standard Conditions of Approval for development categories outlined in Attachment 4 • Develop checklist for review of post-construction requirements	Standard Conditions of Approval Checklist
2	• Perform post-construction plan reviews • Use checklist as tracking mechanism	Number of plans reviewed
3	• Perform post-construction plan reviews • Use checklist as tracking mechanism	Number of plans reviewed
4	• Perform post-construction plan reviews • Use checklist as tracking mechanism	Number of plans reviewed
5	• Perform post-construction plan reviews • Use checklist as tracking mechanism	Number of plans reviewed

POST CONSTRUCTION ENFORCEMENT MECHANISM

PC-7

RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

APPLICABILITY

	Residents
	Visitors
X	Public Service Employees
X	Commercial
X	Industrial
X	Construction

DESCRIPTION


BEFORE THE BOARD OF DIRECTORS OF THE MOUNTAIN HOUSE COMMUNITY SERVICES DISTRICT, COUNTY OF SAN JOAQUIN, STATE OF CALIFORNIA

RESOLUTION NO. 2005- 706

RESOLUTION AUTHORIZING THE ENFORCEMENT OF MASTER RESTRICTIONS SETTING FORTH COVENANTS, CONDITIONS, AND RESTRICTIONS WITHIN THE MOUNTAIN HOUSE COMMUNITY SERVICES DISTRICT SPHERE-OF-INFLUENCE

WHEREAS, the Mountain House Community Services District (MHCSD) has the right, but not the duty, pursuant to Government Code section 61601.10 to enforce private covenants, conditions and restrictions adopted for property within the boundaries of the MHCSD Sphere-of-Influence, and to exercise the duties of architectural control as adopted in such Master Restrictions setting forth covenants, conditions and restrictions; and

WHEREAS, the Local Agency Commission of San Joaquin County granted these powers to the MHCSD upon its formation as confirmed in the Certificate of Completion recorded on May 20, 1996 of the Official Records of San Joaquin County as Document No. 96057700; and

WHEREAS, it is feasible, economically sound, and in the public interest that MHCSD enforce the covenants, conditions, and restrictions within its boundaries and within its Sphere of Influence as territory is annexed to the MHCSD;

NOW, THEREFORE, BE IT RESOLVED that the MHCSD hereby assumes the responsibility for the enforcement of the private covenants, conditions and restrictions, known as the Master Restrictions, adopted for property within the boundaries of the MHCSD, and to exercise the duties of architectural control as provided in such covenants, conditions and restrictions.

BE IT FURTHER RESOLVED that the MHCSD assumes the aforesaid responsibilities and duties for each existing and future tract within its boundaries as its boundaries may be changed from time to time resulting from annexations of territory within the MHCSD Sphere-of-Influence.

The NPDES MS4 general permit requires Mountain House to develop, implement and enforce a program to address post-construction runoff from new development and redevelopment projects to the extent allowable under State and local law. MHCSD will implement an ordinance or other regulatory mechanism to require post-construction controls and sanctions to ensure compliance. There are several options that MHCSD will explore during Year 1 to provide for a regulatory mechanism. Options include adoption of an ordinance, revisions to their Master Restrictions or CC&Rs, revisions to their Standard Conditions of Approval or a resolution. MHCSD's legal authority will be reviewed to determine the most appropriate mechanism.

It will be necessary to require different BMPs for different site conditions or categories of development so the design criteria would need to be specified in Mountain House's Design Manual or Public Works Standards. Site specific BMP design standards will be developed under BMP PC-4.

RATIONALE FOR SELECTION

- The NPDES Small MS4 General Permit requires the development of a regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State and local law.

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Explore different options for regulatory mechanism • Select regulatory approach • Draft or revise relevant documents for regulation	Draft regulation
2	• Adopt regulatory mechanism	Adopted regulation
3	• Fully implemented	None
4	• Fully implemented	None
5	• Fully implemented	None

Pollution Prevention/Good Housekeeping for Municipal Operations

(GH)

Storm Sewer Maintenance

GH-1

RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

APPLICABILITY

X	Residents
	Visitors
X	Public Service Employees
X	Industrial
X	Commercial
X	Construction

DESCRIPTION

The purpose of this BMP is to reduce the amount of debris, trash and other pollutants in the storm drain system through maintaining and cleaning the storm water inlets on a regular basis. Special attention should be given to areas with relatively flat or low grades, as these areas typically do not have high enough flows to be self-cleaning.

In areas of the community under active development, infrastructure is inspected and maintained at least twice during the construction phase. The contractor sweeps roads and performs TV inspection of storm drains after the infrastructure is built. Homebuilders also sweep and inspect storm drains after new homes are constructed. After all construction is completed, MHCSD inspects the storm sewer on an annual basis and performs maintenance as needed.

RATIONALE FOR SELECTION

- Removing clogged material from the storm drain inlet can prevent overflows.
- Cleaning the inlets can also reduce levels of bacteria, increase dissolved oxygen, support the stream habitat and restore the catch basins' sediment trapping capacity.
- This BMP is described in Section 15.7 (a) and (h) of the Mountain House Master Plan.

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Inspect annually by monitoring discharges into the basins. Clean pipes if needed.	Document dates
2	• Inspect annually by monitoring discharges into the basins. Clean pipes if needed.	Document dates
3	• Inspect annually by monitoring discharges into the basins. Clean pipes if needed.	Document dates
4	• Inspect annually by monitoring discharges into the basins. Clean pipes if needed.	Document dates
5	• Inspect annually by monitoring discharges into the basins. Clean pipes if needed.	Document dates

Street Cleaning

GH-2

RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

APPLICABILITY

	Residents
	Visitors
X	Public Service Employees
	Industrial
	Commercial
X	Construction

DESCRIPTION

The MHCSD will continue to contract out their street sweeping and cleaning to be conducted at the current frequency. In active construction areas, streets are swept at least twice during construction, once after the infrastructure is built and again after home construction is completed. Teichert also sweeps all arterial streets after asphalt is hauled. Once construction of a neighborhood is completed, sweeping is performed once per year on all primary streets, and on an as needed basis for residential streets. The current contract for street sweeping will be renewed July 1, 2008. As part of the new contract, the service contractor will track the number of curb miles swept by using GPS tracking devices in sweepers. A GIS overlay map can be provided by the contractor to document areas swept on an annual basis.

RATIONALE FOR SELECTION

- Several other programs and procedures also help reduce the volume of debris or trash on the Mountain House streets and in waterways.
- This BMP is described in Section 15.7 (a) and (h) of the Mountain House Master Plan.

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Re-establish a street sweeping contract • Develop a system for tracking number of lane miles swept • Continue existing regenerative street sweeping	New contract Set lane miles goal as a percentage of total miles Document lane miles swept
2	• Continue existing regenerative street sweeping • Track the number of lane miles swept	Document lane miles
3	• Continue existing regenerative street sweeping • Track the number of lane miles swept	Document lane miles
4	• Continue existing regenerative street sweeping • Track the number of lane miles swept	Document lane miles
5	• Continue existing regenerative street sweeping • Track the number of lane miles swept	Document lane miles

Municipal Litter Control

GH-3

RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

DESCRIPTION

Municipal litter control is a management practice that involves educating and training municipal employees on the proper storage and disposal of all materials found at a municipal facility. The goal of a municipal litter control program is to prevent the discharge of trash, debris and other pollutants from municipal facilities into local waterways and maintain safe and healthy work places. Employees will receive appropriate training during the annual Storm Water Pollution Prevention Training (GH-5). MHCSD will develop and implement litter abatement guidelines within its jurisdiction. MHCSD maintains trash receptacles at all public areas including municipal buildings and community parks. The Parks, Recreation and Leisure Plan contains specifications for trash receptacles to be maintained at park staging areas, picnic areas and restroom parking areas.

APPLICABILITY

	Residents
	Visitors
X	Public Service Employees
	Industrial
	Commercial
	Construction

RATIONALE FOR SELECTION

- In addition to a reduction in potential contaminated discharges to storm water runoff, a well-implemented program can greatly enhance the aesthetics of municipal facilities.

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• None	None
2	• Develop and implement guidelines for routine litter abatement	Litter abatement guidelines
3	• Perform routine litter abatement	List of dates litter abatement performed
4	• Perform routine litter abatement	List of dates litter abatement performed
5	• Perform routine litter abatement	List of dates litter abatement performed

Hazardous Materials Management Plan

GH-4

RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

APPLICABILITY

	Residents
	Visitors
X	Public Service Employees
X	Industrial
	Commercial
	Construction

DESCRIPTION

This BMP involves the proper storage of materials at MHCSD facilities to prevent or reduce the discharge of pollutants to storm water. These practices typically involve storing material in a designated area, installing secondary containment, inspecting the storage areas frequently and training employees. Hazardous materials are stored in several locations within the MHCSD water and wastewater treatment plants. This BMP will involve the development of a Hazardous Materials Management Plan for the WTP and WWTP. In addition, annual training will be provided for all MHCSD WTP and WWTP employees.

RATIONALE FOR SELECTION

- This BMP is described in Section 6.7 of the Mountain House Master Plan

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Develop a Hazardous Materials Management Plan for the WTP and WWTP	Copy of plan
2	• Develop a standard operations guidelines and training program	Written procedures
3	• Conduct training for WTP and WWTP employees	At least 1 training session Training sign-in sheet
4	• Conduct training for WTP and WWTP employees	At least 1 training session Training sign-in sheet
5	• Conduct training for WTP and WWTP employees	At least 1 training session Training sign-in sheet

Storm Water Pollution Prevention Training

GH-5

RESPONSIBLE AUTHORITY

*** MHCSD**

** Primary authority*
*** Support role*

APPLICABILITY

	Residents
	Visitors
X	Public Service Employees
	Industrial
	Commercial
	Construction

DESCRIPTION

In addition to the specific BMPs for Good Housekeeping and Pollution Prevention, the MHCSD will also prepare and implement general training for employees on storm water pollution prevention techniques. This will consist of the development of a BMP / Standard Operations (BMP/SO) manual for use by MHCSD staff charged with the facility and maintenance operations (both fixed facility staff and field operations), along with an accompanying annual training curriculum. The course will be structured such that it can be held in two-hour training sessions at the department level. Since the MHCSD is currently hiring new employees, a regularly scheduled training effort will train new employees on storm water pollution prevention techniques within their first 12 months, and will also provide a refresher course for existing employees to remind them of their role in storm water pollution prevention.

RATIONALE FOR SELECTION

- Required component of NPDES Phase II MS4 regulations

YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOALS
1	• Develop BMP/SO Manual • Develop a training program for MHCSD facilities and maintenance staff	BMP/SO Manual Training Program
2	• Update BMP/SO Manual pages as necessary • Conduct training for MHCSD facilities and maintenance staff	Updated BMP/SO pages One Training Training sign-in sheet
3	• Update BMP/SO Manual pages as necessary • Conduct training for MHCSD facilities and maintenance staff	Updated BMP/SO pages One Training Training sign-in sheet
4	• Update BMP/SO Manual pages as necessary • Conduct training for MHCSD facilities and maintenance staff	Updated BMP/SO pages One Training Training sign-in sheet
5	• Update BMP/SO Manual pages as necessary • Conduct training for MHCSD facilities and maintenance staff	Updated BMP/SO pages One Training Training sign-in sheet

REFERENCES:

CASQA Stormwater Best Management Practice (BMP) Handbooks, California Stormwater Quality Association (CASQA), www.cabmphandbooks.com.

City of Sacramento Phase I NPDES Storm Water Program, http://www.sacstormwater.org/.

City of Stockton Phase I NPDES Storm Water Program, http://www.stocktongov.com/MUD/General/stormwater/stormwater_main.cfm.

City of Tracy Storm Water Management Program, http://www.ci.tracy.ca.us/modules/dms/file_retrieve.php?function=view&obj_id=85.

EPA's National Menu of Stormwater Best Management Practices, http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm

Inventive Resources Inc., Water Decontaminator Catch Basin Insert, P.O. Box 1316, 5038 Salida Blvd., Salida, CA 95368, Ph 209.545.1663, Fax 209.545.3533, Email info@JPCE.com, http://www.jpce.com/html/water_decontam.html

Mountain House Master Plan, http://www.sjgov.org/commdev/cgi-bin/cdyn.exe?grp=planning&htm=mhmasterplan.

Mountain House Master Restrictions, http://www.ci.mountainhouse.ca.us/mhcsd/Master_Restrictions.pdf

Mountain House Specific Plan I, http://www.sjgov.org/commdev/cgi-bin/cdyn.exe?grp=planning&htm=mhsp1.

Mountain House Specific Plan II, http://www.sjgov.org/commdev/cgi-bin/cdyn.exe?grp=planning&htm=mhsp2.

Mountain House Specific Plan III, http://www.sjgov.org/commdev/cgi-bin/cdyn.exe?grp=planning&htm=mhsp3.

Mountain House Website, http://www.ci.mountainhouse.ca.us/MountainHouse/.

Sacramento Stormwater Quality Partnership, Stormwater Quality Design Manual for the Sacramento and South Placer Regions, May 2007, http://www.msa.saccounty.net/sactostormwater/SSQP/development.asp.

San Joaquin County Storm Water Management Program, http://www.swrcb.ca.gov/stormwtr/docs/san_joaquin_co_swmp_cvrl.pdf

Ventura County, 2002. Technical Guidance Manual for Stormwater Quality Control Measures, Ventura Countywide Stormwater Quality Management Program. http://www.vcstormwater.org/documents/programs_planninglanddevelopment/tech-man1-03.pdf

STORM WATER MANAGEMENT PROGRAM

PROGRAM SUMMARY

The table below lists the measurable goals developed for each BMP and the year in which these goals are to be implemented.

BMPs	Description	Year 1	Year 2	Year 3	Year 4	Year 5
PUBLIC EDUCATION AND OUTREACH						
(PE-1)	Storm Drain Markers For New Inlets	None	Pages from design manual	Number of markers	Number of markers	Number of markers
(PE-2)	Classroom Storm Water Education	None	Catalog of curricula Meeting minutes List of modifications	List of grades /teachers Book cover invoice Number of students	Book cover invoice Number of students	Book cover invoice Number of students
(PE-3)	Citizen Outreach Materials	1 bill insert Catalog of materials	# of welcome packets 1 bill insert	# of welcome packets 1 bill insert	# of welcome packets 2 bill insert	# of welcome packets 2 bill insert
(PE-4)	Public Service Announcements in Community Newsletter	1 Newsletter article 1 Newsletter ad	1 Newsletter article 1 Newsletter ad	1 Newsletter article 1 Newsletter ad	1 Newsletter article 1 Newsletter ad	1 Newsletter article 1 Newsletter ad
(PE-5)	Storm Water Web Page	Screen shot of page # of web page visits	Screen shot of page # of web page visits	Screen shot of page # of web page visits	Screen shot of page # of web page visits	Screen shot of page # of web page visits
(PE-6)	Educational Signs	Copy of design std	# of signs installed	# of signs installed	# of signs installed	# of signs installed
PUBLIC INVOLVEMENT						
(PI-1)	Storm Drain Markers For Existing Inlets	None	1 web site ad GIS inlet map 1 marking event	2 marking events Updated inlet GIS map	2 marking events Updated inlet GIS map	2 marking events Updated inlet GIS map
(PI-2)	Community Cleanup Projects	None	List of locations Guidance material/packet	Web site ad & bill insert Updated location list 1 clean up event	Web site ad & bill insert Updated location list 1 clean up event	Web site ad & bill insert Updated location list 1 clean up event
(PI-3)	Storm Water Phone Line	Written procedures Web screen capture List of investigations	Web screen capture List of investigations	Web screen capture Copy of newsletter ad List of investigations	Web screen capture Copy of newsletter ad List of investigations	Web screen capture Copy of newsletter ad List of investigations
(PI-4)	Storm Water Stakeholders Group	Invitation list/letter Sign-in sheet	Sign-in sheet	Sign-in sheet	Sign-in sheet	Sign-in sheet
(PI-5)	Public Notice on Web Site	Screen capture of public notice	Screen capture of public notice	Screen capture of public notice	Screen capture of public notice	Screen capture of public notice
(PI-6)	Clean Water Business Partner Program	None	None	Potential business list Informational flyer	Minute/sign-in sheet Web screen capture Educational materials	Minute/sign-in sheet Web screen capture Educational materials
(PI-7)	San Joaquin County Phase II Storm Water Committee	Meeting sign-in sheets	Meeting sign-in sheets	Meeting sign-in sheets	Meeting sign-in sheets	Meeting sign-in sheets
ILLICIT DISCHARGE DETECTION AND ELIMINATION						
(ID-1)	Household Chemical Disposal	# of pamphlets	# of pamphlets # of web site hits	# of pamphlets # of web site hits	# of pamphlets # of web site hits	# of pamphlets # of web site hits
(ID-2)	Illegal Dumping	Tracking procedures	Educational material GIS illegal dump map Disposition report	GIS illegal dump map Disposition report	GIS illegal dump map Disposition report	GIS illegal dump map Disposition report
(ID-3)	Storm Drain System Mapping	Existing GIS map	Updated GIS map	Updated system map	Updated system map	Updated system map
(ID-4)	Illicit Connection Regulations	Master Restrictions review memo	Draft regulation / ordinance	Adopted regulation / ordinance	Written procedures Disposition report	Disposition report
(ID-5)	Dry Weather Screening	Invoice Written procedures Screening map	Copy of screening results	Copy of screening results	Copy of screening results	Copy of screening results
(ID-6)	Illicit Connection Investigations	Service contract	List of investigations	List of investigations	List of investigations	List of investigations
CONSTRUCTION SITE STORM WATER RUNOFF CONTROL						
(C-1)	Construction Inspection	Contractor invoice # of observations	Contractor invoice # of observations	Contractor invoice # of observations	Contractor invoice # of observations	Contractor invoice # of observations
(C-2)	Developer / Builder Meetings	Attendance sheet for 1 meeting	Attendance sheet for 4 meetings	Attendance sheet for 4 meetings	Attendance sheet for 4 meetings	Attendance sheet for 4 meetings
(C-3)	Plan Review Procedures	Written procedures Copy of checklist	# of SWPPPs reviewed	# of SWPPPs reviewed	# of SWPPPs reviewed	# of SWPPPs reviewed
(C-4)	Erosion and Sediment Control Regulatory Mechanism	Draft regulation	Adopted regulation	None	None	None
(C-5)	Construction Inspectors Training Program	Written procedures Training sign-in sheet	Training sign-in sheet	Training sign-in sheet	Training sign-in sheet	Training sign-in sheet
(C-6)	Receipt and Consideration of Information Submitted by the Public	Written procedures Copy of FAQ / Q&A	# of submittals	# of submittals	# of submittals	# of submittals
POST-CONSTRUCTION STORM WATER MANAGEMENT FOR NEW DEVELOPMENT AND REDEVELOPMENT						
(PC-1)	Long Term Operation and Maintenance of BMPs	Permanent BMP map Written procedures List of maintenance	Updated BMP map List maintenance activities	Updated BMP map List maintenance activities	Updated BMP map List maintenance activities	Updated BMP map List maintenance activities
(PC-2)	Catch Basin Inserts	# of catch basin inserts	# of catch basin inserts	# of catch basin inserts	# of catch basin inserts	# of catch basin inserts
(PC-3)	Community Design	List of LID practices	List of LID practices	List of LID practices	List of LID practices	List of LID practices
(PC-4)	Site Specific BMP Design Standard	Design manual pages	# of projects w/ BMPs	# of projects w/ BMPs	# of projects w/ BMPs	# of projects w/ BMPs
(PC-5)	Regional BMP Treatment Processes	Map of wet/dry BMP basins	None	None	None	None
(PC-6)	Post Construction Plan Review Procedures	Standard Conditions of Approval Checklist	# of plans reviewed	# of plans reviewed	# of plans reviewed	# of plans reviewed
(PC-7)	Post Construction Enforcement Mechanism	Draft regulation	Adopted regulation	None	None	None
POLLUTION PREVENTION / GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS						
(GH-1)	Storm Sewer Maintenance	Dates of maintenance activities	Dates of maintenance activities	Dates of maintenance activities	Dates of maintenance activities	Dates of maintenance activities
(GH-2)	Street Cleaning	New contract # of lane miles swept	# of lane miles swept	# of lane miles swept	# of lane miles swept	# of lane miles swept
(GH-3)	Municipal Litter Control	None	Litter abatement guidelines	List of litter abatement dates/activities	List of litter abatement dates/activities	List of litter abatement dates/activities
(GH-4)	Hazardous Materials Management Plan	Copy of plan	Written procedures	1 Training session Training sign-in sheet	1 Training session Training sign-in sheet	1 Training session Training sign-in sheet
(GH-5)	Storm Water Pollution Prevention Training	BMP/SO manual Training materials	Updated BMP/SO pages 1 Training sign-in sheet	Updated BMP/SO pages 1 Training sign-in sheet	Updated BMP/SO pages 1 Training sign-in sheet	Updated BMP/SO pages 1 Training sign-in sheet

APPENDIX A

WATER QUALITY DATA

Monitoring Site ID: SJC 509
Site Name: Mountain House Creek @ Mountain House Parkway
Latitude/Longitude: Latitude: 37.7856 N
Longitude: 121.5356 W

Date	Time	Temp (C)	Field EC (umhos)	pH	Dissolved Oxygen (mg/L)	Boron (mg/L)	Se (ug/L)	Turbidity (ntu)	TOC (mg/L)	Total Coli MPN	E. Coli MPN
Water Year 2001											
12/27/2000	11:15 AM	6.9	2840	7.8		5.1			2.6		
1/23/2001	11:00 AM	8.5	2930	7.6		5.3			6.1		
2/10/2001	2:10 PM	8.5	2860	7.2		5.2			3.1		
2/11/2001	4:43 AM	6.8	2900	8.1		5.2			6.6		
2/11/2001	4:43 AM	6.8	2900	8.1							
2/20/2001	11:12 AM	9.8	2780	7.9		5.1			4.2		
3/27/2001	11:10 AM	14.9	531	7.9		0.4					
4/24/2001	1:00 PM	22.7	1040	7.3							
5/29/2001	11:00 AM	21	467	7.6		0.3			14		
6/26/2001	12:28 PM	23.3	485	7.5	2.9				13		
8/28/2001	11:38 AM	23.9	647	7.8	8.8	0.2			9.8		
9/25/2001	10:39 AM	17.5	737	7.8	11.9	0.2			9.2		
Water Year 2002											
4/23/2002	11:58 AM	17.4	353	7.7	9.7	0.3					
6/18/2002	9:55 AM	17.9	344	7.3	8.1	0.2			5.8		
7/31/2002	10:04 AM	19.1	551	8.8	7			260		>2419.6	1046
9/24/2002	10:30 AM	18.5	715	7.6	9.2	0.2			4.7		
Water Year 2003											
10/29/2002	11:27 AM	13.4	676	7.8	10.2	0.2	<0.400	121	2.8		
12/17/2002	9:00 AM	10.1	1660	7.8	10.6			274	14		
3/25/2003	9:06 AM	11.5	656	7.5	10.8	1.1		75.6	4.6		
5/27/2003	10:40 AM	20	531	7.8	8.1	0.7		41			
7/29/2003	8:35 AM	20.8	246	7.6	9			141		>2419.6	1203
Site Discontinued											

Date	Chloride (mg/L)	Sulfate (mg/L)	Hardness (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	TDS (mg/L)	Carbonate (mg/L)	Bicarbonate (mg/L)	Total Alkalinity (mg/L)	Sodium (mg/L)
Water Year 2001										
12/27/2000	410	430	410	72	57	1800	<1	480	400	480
1/23/2001	400	480	460	82	61	1800	<1	470	380	480
2/10/2001	400	470	470	84	63	1800	<1	460	380	480
2/11/2001	410	490	480	86	64	1900	<1	450	370	490
2/20/2001	370	470	460	85	60	1800	<1	440	360	450
3/27/2001	60	60	120	26	14		<1	120	100	57
5/29/2001	51	45	120	25	14	250	<1	88	88	45
8/28/2001	120	31	90	23	8	390	<1	96	79	77
9/25/2001	140	42	130	24	17		<1	99	81	93
Water Year 2002										
4/23/2002	26	23	94	19	11	240	<1.0	100	83	37
6/18/2002	35	30	100	21	11		<1.0	82		35
9/24/2002	150	32	140	24	19		<1.0	100	83	98
Water Year 2003										
10/29/2002	130	35	130	22	18	430	<1.0	110	89	87
3/25/2003	80	31	120	22	15					
5/27/2003	66	63	110	21	14					
Site Discontinued										

Date	Nitrate (mg/L)	TKN (mg/L)	Phosphorus (mg/L)	Ortho-phosphate-P (mg/L)	Potassium (mg/L)	BOD 5-Day (mg/L)	BOD 10-Day (mg/L)
Water Year 2001							
12/27/2000	5.2	2.6	0.2	<1	22	2.8	6.6
1/23/2001	7.6	2.3	0.2	<1	21	2.2	5.2
2/10/2001	4.9	<2	0.2	<1	19	1.4	3.7
2/11/2001	5.5	<2	0.2	<1	20		
2/20/2001	5.7	<2	0.2	0.2	19	1.7	3.4
3/27/2001	5.3	<2	0.3	<1	5.9	2.4	3.9
5/29/2001	2.2	2.1	0.3	<1	6.5	7.0	11.6
6/26/2001	2.5	<2	0.4	<1	7.4	8.0	15.3
8/28/2001	4.8	<2	0.3	<1	6.1		
9/25/2001	<2	<2	0.2	<1	10		
Water Year 2002							
4/23/2002					4.3	1.2	2.1
6/18/2002		0.9		0.2	5.0	2.7	4.5
9/24/2002			0.1	0.1	6.2	1.9	3.3
Water Year 2003							
10/29/2002		0.6	0.1	<0.03	3.9	1.3	2.0
12/17/2002		3.4	0.3	0.3	13	7.0	13.2
3/25/2003							
5/27/2003							
Site Discontinued							

Date	Total								Dissolved							
	Arsenic (ug/L)	Cadmium (ug/L)	Chromium (ug/L)	Copper (ug/L)	Lead (ug/L)	Nickel (ug/L)	Zinc (ug/L)	Mercury (ug/L)	Arsenic (ug/L)	Cadmium (ug/L)	Chromium (ug/L)	Copper (ug/L)	Lead (ug/L)	Nickel (ug/L)	Zinc (ug/L)	Mercury (ug/L)
Water Year 2001																
12/27/2000			1.3	3.7	<5	6.3	2.2				<1	2.1	<5	5.2	<2	
1/23/2001			1.0	3.8	<5	5.7	<2				<1	2.2	<5	5.0	<2	
2/10/2001			1.8	4.3	<5	6.0	3.4				<1	2.7	<5	<5	<2	
2/11/2001			2.2	5.4	<5	6.6	4.7				<1	2.9	<5	<5	<2	
2/20/2001			1.4	4.6	<5	5.7	<2				<1	3.4	<5	<5	<2	
3/27/2001			3.2	6.5	<5	7.8	8.6				<1	3.3	<5	<5	2.8	
5/29/2001			2.4	6.8	<5	7.8	7.7				<1	4.3	<5	<5	4.5	
6/26/2001	2.1	<1	1.5	8.0	<5	7.7	6.9	<0.2	2.0	<1	<1	6.2	<5	5.6	3.3	<0.2
8/28/2001	3.1	<1	7.0	8.6	<5	12	20		2.3	<1	<1	3.9	<5	<5	5.4	
9/25/2001	<4	<0.1	2.5	5.5	<5	6.1	6.2	<0.2	<4	<0.1	<1	3.6	<5	<5	15	<0.2
Water Year 2002																
4/23/2002	<4.0	<0.1	1.4	5.1	<5.0	<5.0	5.7	<0.2	<4.0	<0.1	<1.0	4.1	<5.0	<5.0	3.7	<0.2
6/18/2002	<4.0	<0.1	2.9	6.0	<5.0	6.1	8.0	<0.2	<4.0	<0.1	<1.0	1.5	<5.0	<5.0	2.8	<0.2
9/24/2002	<4.0	<0.1	6.0	8.4	<5.0	9.7	15	<0.2	<4.0	<0.1	<1.0	3.1	<5.0	<5.0	<2.0	<0.2
Water Year 2003																
10/29/2002	<4.0	<0.1	3.5	7.8	<5.0	6.6	8.7	<0.2	<4.0	<0.1	<1.0	3.8	<5.0	<5.0	<2.0	<0.2
3/25/2003	<4.0	<0.1	3.7	5.3	<5.0	6.1	7.8	<0.2								
5/27/2003	<4.0	<0.1	2.3	10	<5.0	5.3	5.5	<0.2								
Site Discontinued																

Site Code	Date	96h Acute Fathead Minnow (% Survival)		48h Acute Ceriodaphnia Dubia (% Survival)	
		Result	Control	Result	Control
Water Year 2001					
SJC509	1/23/2001	100	100	100	NA
SJC509	2/20/2001	80	90	100	100
SJC509	3/27/2001	100	100	100	100
SJC509	5/29/2001	85	95	100	100
SJC509	6/19/2001	100	100	100	90
SJC509	6/26/2001	95	100	80	100
Water Year 2002					
SJC509	4/23/2002	100	95	100	100
SJC509	6/18/2002	100	100	100	100
SJC509	9/24/2002	95	100	100	100
Water Year 2003					
SJC509	10/29/2002	100	95	100	100

APPENDIX B

ANNUAL REPORT FORM

AND

GUIDANCE

ANNUAL REPORT

General Permit for the Discharger of Storm Water from Small Municipal Separate Storm Sewer Systems (General Permit)

(See Small MS4 Annual Report Guidance for additional guidance on completing this Annual Report Form)

Check box if this is a new name, address, etc.

A. Permittee Information

1. Permittee (Agency Name): _____ ☐
2. Contact Person: _____ ☐
3. Mailing Address: _____ ☐
4. City, State and Zip Code: _____ ☐
5. Contact Phone Number: _____ ☐

6.. WDID # _____

7. Have any areas been added to the MS4 due to annexation or other legal means? ☐ YES ☐ NO

If YES

Outfall	Has map been updated?		Has SWMP been updated?		Receiving Water Name
	YES	NO	YES	NO	

8. Are you subject to the Design Standards contained in Attachment 4 of the General Permit? ☐ YES ☐ NO

If yes, report on the implementation of the Design Standards in section D.5 of this Annual Report Form.

B. Reporting Period (check one): ☐ Coverage Commencement ( )to June 30, 2004 **-or-**

☐ July 1, 2004 to June 30, 2005

(Report is due by September 15 each year)

☐ July 1, 2005 to June 30, 2006

☐ July 1, 2006 to June 30, 2007

☐ July 1, 2007 to June 30, 2008

C. Executive Summary

D. Minimum Control Measures

Report on the status and effectiveness of BMPs and measurable goals by completely answering the following questions. Include any proposed modifications to the SWMP and anticipated changes to the schedule. You may use the tables provided and use narrative sections to highlight information. Alternatively, you may wish to only provide information in a narrative format. If the "Status of Measurable Goals" question is completely addressed by the table, you may write "see table" in that narrative section.

1. Public Education and Outreach

BMP	***Description***	***Status***					
		Implemented	**Not Applicable**	**Modlfied**	**Effective**	**Unknown**	**Not Effective**

a. BMPs

i. General summary

ii. Status of Measurable Goals

iii. Appropriateness

iv. Effectiveness

v. Proposed Modifications

b. Present results of information collected and analyzed, if any, during the reporting period, including any monitoring data used to assess the success of the program at reducing the discharge of pollutants to the MEP.

c. Briefly summarize the storm water activities you plan to undertake during the next reporting cycle (including an implementation schedule). If you propose activities that differ from those originally proposed in the approved SWMP, provide justification.

BMP	**Proposed Measurable Goal**	**Modified?**		**Schedule**	
		YES	NO	Complete this year	Ongoing Implementation

2. Public Involvement and Participation

BMP	*Description*	*Status*					
		Implemented	Not Applicable	Modified[1]	Effective	Unknown	Not Effective

a. BMPs

i. General summary

ii. Status of Measurable Goals

iii. Appropriateness

iv. Effectiveness

v. Proposed Modifications

b. Results of information collected and analyzed, if any, during the reporting period, including any monitoring data used to assess the success of the program at reducing the discharge of pollutants to the MEP.

c. Briefly summarize the storm water activities you plan to undertake during the next reporting cycle (including an implementation schedule). If you propose activities that differ from those originally proposed in the approved SWMP, provide justification.

BMP	**Proposed Measurable Goal**	**Modified?**		**Schedule**	
		YES	NO	Complete this year	Ongoing Implementation

3. Illicit Discharge Detection and Elimination

BMP	*Description*	*Status*					
		Implemented	Not Applicable	Modified[1]	Effective	Unknown	Not Effective

a. BMPs

i. General summary

ii. Status of Measurable Goals

iii. Appropriateness

iv. Effectiveness

v. Proposed Modifications

b. Results of information collected and analyzed, if any, during the reporting period, including any monitoring data used to assess the success of the program at reducing the discharge of pollutants to the MEP.

c. Briefly summarize the storm water activities you plan to undertake during the next reporting cycle (including an implementation schedule). If you propose activities that differ from those originally proposed in the approved SWMP, provide justification.

BMP	**Proposed Measurable Goal**	**Modified?**		**Schedule**	
		YES	NO	Complete this year	Ongoing Implementation

4. Construction Site Storm Water Control

BMP	*Description*	*Status*					
		Implemented	Not Applicable	Modified[1]	Effective	Unknown	Not Effective

a. BMPs

i. General summary

ii. Status of Measurable Goals

iii. Appropriateness

iv. Effectiveness

v. Proposed Modifications

b. Results of information collected and analyzed, if any, during the reporting period, including any monitoring data used to assess the success of the program at reducing the discharge of pollutants to the MEP.

c. Briefly summarize the storm water activities you plan to undertake during the next reporting cycle (including an implementation schedule). If you propose activities that differ from those originally proposed in the approved SWMP, provide justification.

BMP	**Proposed Measurable Goal**	**Modified?**		**Schedule**	
		YES	NO	Complete this year	Ongoing Implementation

5. Post-Construction Storm Water Management

If your community is subject to Attachment 4 (Supplemental Provisions) of the General Permit, note your compliance with and progress implementing the Design Standards in this section, if applicable.

BMP	***Description***	***Status***					
		Implemented	**Not Applicable**	**Modified**[1]	**Effective**	**Unknown**	**Not Effective**

a. BMPs

i. General summary

ii. Status of Measurable Goals

iii. Appropriateness

iv. Effectiveness

v. Proposed Modifications

b. Results of information collected and analyzed, if any, during the reporting period, including any

monitoring data used to assess the success of the program at reducing the discharge of pollutants to the MEP.

c. Briefly summarize the storm water activities you plan to undertake during the next reporting cycle (including an implementation schedule). If you propose activities that differ from those originally proposed in the approved SWMP, provide justification.

BMP	**Proposed Measurable Goal**	**Modified?**		**Schedule**	
		YES	NO	Complete this year	Ongoing Implementation

6. Pollution Prevention and Good Housekeeping for Municipal Operations

BMP	*Description*	*Status*					
		Implemented	Not Applicable	Modified[1]	Effective	Unknown	Not Effective

a. BMPs

i. General summary

ii. Status of Measurable Goals

iii. Appropriateness

iv. Effectiveness

v. Proposed Modifications

b. Results of information collected and analyzed, if any, during the reporting period, including any monitoring data used to assess the success of the program at reducing the discharge of pollutants to the MEP.

c. Briefly summarize the storm water activities you plan to undertake during the next reporting cycle (including an implementation schedule). If you propose activities that differ from those originally proposed in the approved SWMP, provide justification.

BMP	**Proposed Measurable Goal**	**Modified?**		**Schedule**	
		YES	NO	Complete this year	Ongoing Implementation

E. Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature of Permittee (legally responsible person) Date Signed

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Name (printed) Title

Small MS4 Annual Report Guidance

This annual report guidance (Guidance) is intended to assist dischargers permitted under the Small Municipal Separate Storm Sewer System General Permit (General Permit) with evaluating their storm water program and preparing a report of the status of measurable goals, as required by the General Permit. While it addresses the suggested Annual Report Form provided by the state, you are not required to use the form and may submit an annual report in a different format. Use of this form does not guarantee compliance with the General Permit's annual reporting requirements, nor does it in any way establish new regulatory requirements, or change existing regulatory requirements.

This document begins with general notes, then provides specific guidance on completing the suggested Annual Report Form, and finally provides a series of "brainstorming" questions meant to initiate the program evaluation process and to suggest features of your program to discuss in an annual report.

General Notes

The General Permit requires an annual evaluation of program effectiveness. It is important to evaluate your program's strengths and weaknesses so that it may evolve to become more effective over time. Effectiveness is a measure of how well your program is working and has two components: Best Management Practice (BMP) selection and BMP implementation.

Use of Assessment Parameters

Assessment parameters are quantifiable measurements that indicate or reflect BMP or minimum control measure (MCM) effectiveness. Once a permittee chooses an assessment parameter, the permittee can then record data over time and use the data, as a yard-stick associated with BMP or MCM effectiveness.

Assessment parameters should not be confused with "measurable goals." Even though both are quantifiable, an assessment parameter serves a different purpose from a measurable goal. A measurable goal indicates effort (i.e. miles of roads swept, number of storm water brochures distributed, etc.), while an assessment parameter is related to effectiveness.

As an example of an assessment parameter, "Number of Illicit Discharge Hotline Calls Received from the Public" is one because it is a yard-stick that can indicate or reflects effectiveness. It could quantitatively indicate (directly or indirectly) that the public education MCM is working, as more members of the public know of the hotline number and are using it to protect water quality. It could also reflect a need to improve the Illicit Discharge MCM, as the ordinances may not be deterring illicit discharges. In any event, it is useful to keep track of that parameter, as the data sheds light on historical trends, and allows the permittee to compare its own efforts with real world indicators. You may discuss your use of assessment parameters in Section D.b. of the Annual Report Form.

Completing the Annual Report Form

The following provides assistance for completing the Annual Report Form provided by the State Water Resources Control Board (SWRCB). Using the Form is not a requirement, as you may choose to comply with the General Permit's annual report requirements by using your own format.

Section A: Permittee Information

Provide the requested information. Check the boxes if the information being provided has changed since previous submittals.

Section B: Reporting Period

Check the box that corresponds to the appropriate reporting period. If this is the first reporting period, also write the date that you received permit coverage within the parentheses.

Section C: Executive Summary

The Executive Summary briefly covers all of the major sections of the annual report. In completing the Executive Summary, the preparer should answer the following questions:

- How effective was your program at reducing pollutants in your storm water discharge?
- Were you in compliance with the General Permit?
- What was the most successful part of the program?
- What was the most challenging?

This section will likely comprise about half of a page, but could be longer or shorter, depending on the scope of your SWMP.

Section D: Minimum Control Measures

The table provided may be used to list your BMPs and whether they were effective, not effective, or of unknown effectiveness. Also, indicate whether each associated measurable goal was completed, not completed, or modified. Use the narrative to justify measurable goals that were not completed and to discuss assessing effectiveness.

a. BMPs

In addressing the following sections, it may be helpful to draw from the thoughts,

discussions, and results of your brain storming session.

i. Give a general summary of the BMPs implemented for this minimum control measure. How much did the success of the particular BMP have on the

overall minimum control measure?

ii. Describe whether each measurable goal was completed within the time proposed in the SWMP. If they were not completed, provide justification.

iii. Assess the appropriateness of each identified BMP. Factors to consider in determining appropriateness include, but are not limited to, appropriate for local population, pollution sources, receiving water concerns, and integration with local management procedures.

iv. Discuss the effectiveness of your individual BMPs and their effectiveness when implemented together under one minimum control measure. Describe your progress towards achieving the statutory goal of reducing the discharge of pollutants to the Maximum Extent Practicable (MEP). What indicators (assessment parameters) have you used to determine this?

v. Summarize any proposed change(s) to the SWMP. Because opportunities for improvement often become apparent during periodic evaluation, you should propose any necessary SWMP modifications (accompanied by justification) during the annual reporting process. Proposed SWMP modifications must follow the same formal approval procedure as the initial SWMP application, and do not become effective until a modified SWMP is approved.

b. Results of Information Collected, If Any

Water Quality monitoring is not a requirement under the permit. However, if you did collect any water quality monitoring data for storm water discharges within your jurisdiction, you must summarize your results here. Additionally, if any program elements included data collection, you must submit a short summary of the information and any analysis completed. For example, you may report your assessment parameter data (miles of riverbank cleaned up, number of hits on a website before and after a public education campaign, survey/polling results, etc.). Data listed under Item 1.c, Measurable Goals, does not need to be repeated here.

c. Upcoming Activities

Provide a short summary based on your existing SWMP implementation schedule of upcoming activities. If the upcoming activities are already fully described in the SWMP, it is not necessary to repeat the information in the annual report. If any changes to the descriptions provided in the application or previous reports are proposed, they should be summarized along with an explanation as to why the change is necessary or appropriate. Proposed changes do not become effective unless a modified SWMP is formally approved.

Brain Storming Questions

These questions are meant to be used as a tool by the preparer of the annual report. The questions can generate discussion or thoughts on what the results of BMP implementation indicate and ways that program progress can be tracked or conveyed over time. The answers to the questions are not required in the annual report; furthermore, some of the questions may not be applicable to your SWMP. However, this is by no means an exhaustive list. Additional questions and answers pertinent to the specific program should be generated.

General

What informal relationships exist in regards to implementing your SWMP? Are informal relationships proving to be helpful? Can they be utilized in other areas? Can they be improved upon?

In terms of program coordination, what parts are working particularly well? Which aspects need improvements?

Do you have regularly scheduled storm water workgroup meetings? If yes, what are the participants' affiliations?

Is implementation of the SWMP multi-departmental? Is there a particular department that is not as cooperative? What may be some reasons for this and how might the issues be resolved?

What staff training was conducted over the last reporting year? How does this compare with past years? What staff were targeted for which program areas? How were positions targeted for certain training? Was the training effective? How did do you measure the training effectiveness? Do you propose to change things? If yes, how will the training be changed and why will it be changed?

The following chart may be used to summarize training activities and training trends.

Class	Date	Department(s) in Attendance	Effectiveness	Number of Participants	Number of Participants – Previous Year
Other	-	-	-	-	
Total					

Have there been any instances in which a storm water ordinance did not provide the authority necessary to stop unauthorized discharges and/or enforce storm water requirements? Why? What is being done to correct this deficiency?

How does the quality of your water resources compare with other communities? How does your storm water program compare with other communities' programs?

Was there a particular focus of your program this year? Why? Will that change over the next five years?

Has your program reduced pollutant loadings from your storm water discharges?

Does your program utilize community resources (natural resources as well as existing organizations, infrastructure, etc.)? For example, does your education program explain the connection between storm water quality and the quality of *local* waterbodies? Do you encourage Girl and Boy Scout troops to participate in creek clean-ups? Do you use pre-treatment or CUPA inspectors to look for storm water violations?

How often are policies revisited?

What Minimum Control Measure requires the most resources (staff time, contract money, capital expenditures, maintenance, etc.)? What Minimum Control Measure requires the least? What BMP requires the most resources? What BMP requires the least? In general, are the BMPs that require more resources also the ones that are most effective?

Public Education and Outreach

Have you or are you planning to provide storm water education and outreach material in multiple languages?

Are certain community demographics more receptive to environmental issues? How might you reach out to those that do not appear to be as receptive?

What types of business outreach activities have been conducted?

What percentage of the population do you estimate you have reached with your different types of outreach?

How much time is dedicated to public inquires and requests for additional information?

Has awareness regarding storm water pollution increased in your community? How was this measured?

How did you seek survey participation? Was it difficult to get enough participants?

Has the program led to or will it lead to behavioral changes? How is this evaluated?

Public Involvement and Participation

Is the public participating in your storm water program? Are the meeting times or locations hindering participation?

How many people or community groups have gotten involved in your storm water program? Is there any correlation with your storm water education campaigns?

How does involvement in the storm water program compare to involvement in other similar programs in the community?

If you have a storm water hotline, has the number of calls increased or decreased?

Illicit Discharge Detection and Elimination

If you have a storm water hotline, has the number of calls increased or decreased? Are legitimate storm water issues reported? Is the hotline being abused (i.e. used as a weapon between quarreling neighbors)? Are there any trends in the calls (e.g. recurring neighborhoods, same types of discharges)? Do you ask how people learned about the hotline? Do you track that information?

Do you receive public complaints directly from the internet?

How much time is spent detecting illicit discharges? Are you able to effectively trace the illicit discharge back to its source? How much time is spent identifying the sources of illicit discharges?
Describe the process for taking enforcement actions for illicit discharges, including the types of actions that are taken and the procedures for resolving them. Are the enforcement actions appropriate for the violations? Are they too harsh to typically be invoked or too lenient to provide deterrence?

How does the amount of resources spent on education compare to the amount spent on enforcement? How has this changed over time?

Did you prioritize certain areas of the community (e.g. geographic, types of businesses, types or land use, etc.) for illicit discharge detection activities? Has this prioritization enabled you to leverage and stretch your resources to reduce more storm water pollution at a lesser cost?

The following chart can be used to track illicit discharge detection and elimination results over time.

	Issue	This Reporting Period	Previous Reporting Period	Comments (such as type/source, geographic location, time, etc.)
1)	How many non-storm water discharges were detected during the reporting year			
2)	How many of these were “illicit” (i.e. not authorized)?			
3)	How many illicit dischargers were fined or otherwise penalized?			

Construction Site Storm Water Management

Do you require an erosion and sediment control plan? If yes, how are they reviewed and approved? Do you require the preparation, submittal, approval, and implementation of a Storm Water Pollution Prevention Plan (SWPPP) or equivalent prior to the issuance of a grading permit?

How do site plans and erosion and sediment control plans compare to conditions in the field?

How many plans included adequate erosion and sediment controls/storm water BMPs upon the first submittal? In general, are multiple re-submittals required before storm water management controls are adequate?

Describe the process for taking enforcement actions for construction site violations, including the types of actions that are taken and the procedures for resolving them. Are the enforcement actions appropriate for the violations? Are they too harsh to typically be invoked or too lenient to provide deterrence?

How does the amount of resources spent on education compare to the amount spent on enforcement? How has this changed over time?

Describe how you track the issuance of grading permits, building permits, and other construction-related permits.

The following table can be used to track your construction program activities.

	Issue	This Reporting Period	Last Reporting Period	Comments
1)	How many erosion and sediment control plans were reviewed?			
2)	How many construction sites were inspected to determine compliance with your construction storm water requirements?			
3)	At how many construction sites were violations noted?			
4)	At these sites, how many site owners or operators were penalized through a formal enforcement action?			

Post-Construction Storm Water Management

Have you modified your planning procedures? In preparing and reviewing CEQA documents, do you consider potential storm water quality impacts and provide for appropriate mitigation? Can you provide examples showing how storm water quality impacts were addressed in CEQA documents for projects over the reporting period?

Have you implemented a system (such as a database) to track the type and location of installed post-construction BMPs?

What mechanism is used to require proper operation and maintenance of post-construction BMPs? Do inspections or complaints verify that this mechanism works?

How many plans included adequate post-construction BMPs upon the first submittal?

The following table can be used to summarize results of your post-construction program.

	Issue	This Reporting Period	Last Reporting Period	Comments (ex. frequently seen project types, types of BMPs)
1)	How many post-construction plans were reviewed?			
2)	How many plans included post-construction BMPs?			
3)	How many sites were inspected to verify installation of post-construction BMPs?			
4)	How many sites were inspected to verify the proper operation and maintenance of post-construction BMPs?			

Pollution Prevention and Good Housekeeping for Municipal Operations

How are municipal programs and activities reviewed? How many changes were implemented?

How much debris is collected during street sweeping? Is this a decrease? Is more debris collected from certain streets in your jurisdiction than from others? Have you experimented with increasing frequencies? What were the results? Are parked cars a problem?

Have the number of flood events increased or decreased during program implementation?

Have there been changes in uses of landscaping fertilizers, pesticides, and herbicides?

APPENDIX C
STORM WATER SYSTEM / DETENTION BASIN MAP

Exhibit 2 - Storm System Map

Mountain House Community Services District
Wet / Dry Detention Basins and Associated Drainage Areas

PACE
PACIFIC ADVANCED CIVIL ENGINEERING
17520 NEWHOPE STREET, SUITE 200
FOUNTAIN VALLEY, CA 92708
PH (714) 481-7300 FAX (714) 481-7299

SWA

cbg

NORTH
NTS

APPENDIX D

CALIFORNIA STORMWATER QUALITY ASSOCIATION STORMWATER BEST MANAGEMENT PRACTICE HANDBOOK

(ORDER PAGE AND TABLE OF CONTENTS)

P.O. Box 2105
Menlo Park, CA 94026-2105
http://www.casqa.org
http://www.cabmphandbooks.com

California Stormwater Quality Association
Best Management Practice Handbooks Order Form

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New Development and Redevelopment Handbook

The New Development and Redevelopment Handbook provides general guidance for selecting and implementing Best Management Practices (BMPs) to reduce pollutants in runoff in newly developed areas and redeveloped areas to waters of the State. This handbook also provides guidance on developing project-specific stormwater management plans including selection and implementation of BMPs for a particular development or redevelopment project.

Click here to view the 2004 Errata Pages.

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CASQA
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Construction Handbook

The Construction Handbook provides general guidance for selecting and implementing Best Management Practices (BMPs) that will eliminate or reduce the discharge of pollutants from construction sites to waters of the state and developing and implementing stormwater pollution prevention plans (SWPPPs) that document the selection and implementation of BMPs for a particular construction project. SWPPP Template.

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	EC-6 Straw Mulch	81 KB	1/1/20
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	EC-8 Wood Mulching	442 KB	1/1/20
	EC-9 Earth Dikes and Drainage Swales	91 KB	1/1/20
	SE-1 Silt Fence	191 KB	2/2/20
	SE-10 Storm Drain Inlet Protection	271 KB	1/1/20
	SE-11 Chemical Treatment	117 KB	1/1/20
	SE-2 Sediment Basin	225 KB	9/30/20
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Appendix A	General Permit	1,099 KB	9/30/20
Appendix B	SWPPP Template	1,710 KB	7/10/20
Appendix C	Construction Stormwater Sampling and Analysis Guidance (Handbook Reference)	652 KB	9/30/20

Template: To download the template, right click the link below, choose "Save Target As" and save to a drive at your site. You may then open the document in Microsoft Word and use it to build a SWPPP. If you are using MS Office 2000 and/or XP, you should have installed the latest Microsoft Office Patch (Service Release No. 3) to make sure that the template will work correctly.

Stormwater Pollution Prevention Plan	1,762 KB	7/10/20
SWPPP ReadMeFirst	161 KB	9/28/20
SWPPP Attachments (Zip File)	3,012 KB	7/10/20

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Industrial and Commercial Handbook

The Industrial and Commercial Handbook provides general guidance for selecting and implementing Best Management Practices (BMPs) to reduce the discharge of pollutants in runoff from industrial facilities and selected commercial businesses to waters of the state.

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Appendix D Business Category Stormwater Pollution Control Guide Sheets 1,055 KB 9/30/20

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Municipal Handbook

The purpose of this handbook is to provide general guidance for selecting and implementing Best Management Practices (BMPs) to reduce pollutants in runoff from municipal operations.

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		SC-76 Water & Sewer Utility Maintenance	286 KB	1/1/20
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		TC-12 Retention/Irrigation	90 KB	1/1/20
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		TC-22 Extended Detention Basin	206 KB	1/1/20
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Appendix B		Assessment of Municipal Operations	41 KB	9/30/20
Appendix C		BMP Selection Process	24 KB	9/30/20
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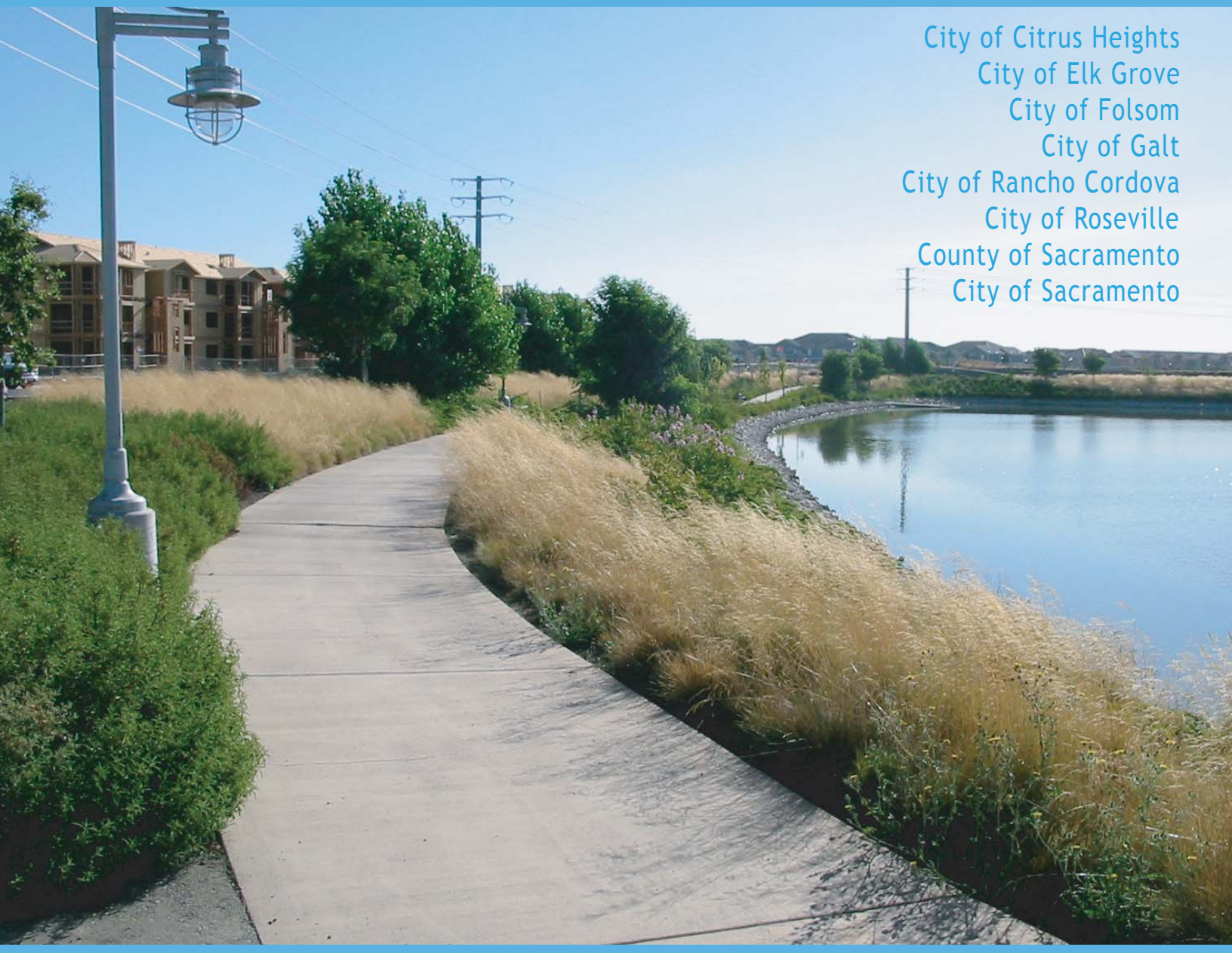
APPENDIX E

STORMWATER QUALITY DESIGN MANUAL FOR THE SACRAMENTO AND SOUTH PLACER REGIONS

(TITLE PAGE AND TABLE OF CONTENTS)

Stormwater Quality Design Manual

for the Sacramento and South Placer Regions



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May 2007

Stormwater Quality Design Manual was created in partnership by:

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May 2007

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First Edition — May 2007

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APPENDIX F

APPROVED PROPRIETARY DEVICES

Alternative and Proprietary Control Measures

This Plan provides guidance for the selection and design of some of the more common on-site storm water treatment control measures for new development. The standard treatment control measures are non-proprietary designs that have been reviewed and evaluated by MHCSD and determined to be generally acceptable.

MHCSD recognizes, however, that these non-proprietary treatment control measures may not be appropriate for all projects due to physical site constraints. Thus, MHCSD will allow the use of proprietary control measures that have been approved for general use by MHCSD in those projects where the use of non-proprietary treatment control measures have been demonstrated by the applicant to the satisfaction of MHCSD to be infeasible or impractical.

The only proprietary device that is currently approved for general use is the Water Decontaminator, a run-off water treatment system designed by Inventive Resources, Inc.

MHCSD encourages the development of innovate storm water control measures and may consider a limited number of promising alternative control measures that are not on the approved list, including proprietary devices, on a 'pilot basis.' In order for a pilot project to be considered for proprietary devises, the manufacturer and/or property owner must commit to participate and fund a monitoring program to verify the device's performance. Site designers should anticipate additional review time and contact MHCSD staff early in the process to request consideration of pilot installation projects.

INVENTIVE RESOURCES, INC.

P.O. Box 1316, 5038 Salida Blvd., Salida, CA 95368
Ph 209.545.1663 Fax 209.545.3533 email info@JPCE.com web www.JPCE.com

Project: STORM WATER TREATMENT – CATCH BASIN INSERTS

Re: THE WATER DECONTAMINATOR / RUN-OFF WATER TREATMENT SYSTEM

Subject: GENERAL INFORMATION & DETAILS

Problem: Parking lots and roadways accumulate pollutants, such as:

- ❑ Sediment from aerial deposition and landscaping.
- ❑ Oil and grease from vehicles.
- ❑ Hydrocarbons and chemicals from buildings, landscaping and other activities.

Rainfall on roads & parking lots washes these accumulated pollutants to the rainwater catch basin drains, particularly during the first-flush events. The water then drains to rock wells or storm drain piping systems. These contaminants can clog systems & contaminant groundwater.

Solution: The following treatment method is presented as one convenient and practical method of addressing this pollution problem. The Water Decontaminator, a storm drain & catch basin insert treatment device helps remove the contaminants at the drain source.

Product Description: The Water Decontaminator is a patented system that treats run-off water at each catch basin. The unit is placed under the grate to intercept and treat the early low flow run-off. Each unit is furnished with the following:

- Support assembly – custom designed to suit the grate and inlet framing.
- Water deflector, plastic- directs incoming water from grate into the housing.

- Housing – captures the incoming run-off and allows for sediment and heavy solids to settle. It builds up elevation head to increase flow rate through absorber cartridge.
- Absorber cartridge - Provides for straining and filtering of solids along with deep bed filtration loading to minimize plugging up or being blinded by fines. The absorber media absorbs hydrocarbons, including oils and greases, antifreeze and many other contaminants. During low flow rates all the drain water flows through a fairly uniform thickness of absorbent material.
- Overflow - A large overflow area allows for heavy rains to simply by-pass the unit.

Advantages of The Water Decontaminator:

- It is an engineered treatment system specifically designed for removing sediment, hydrocarbons and chemicals from the first flush of storm water run-off.
- It has been designed to be fail-safe, so when the storm rate increases the excess water will simply overflow and by-pass the unit.
- The lower the flow rates the higher the filtration and hydrocarbon absorption efficiency. The very low flow rates may flow through a lower section of activated carbon filtration.
- Approximately one cubic foot of absorption media is used for filtration and to capture oil.
- The urban run-off water flows into the housing where sediment & debris can settle.
- The intercepted first flush water flows through a uniform thickness of absorber media.
- The absorbent material also acts like a deep bed filter, thereby being capable of capturing a larger volume of sediment before plugging up.
- The absorbent material type can be changed to suit site-specific conditions.
- The spent absorber cartridge can be inexpensively disposed of by incineration.
- The primary absorbent media includes recycled forest products, made in a proprietary manner that is safe for the environment. Oil absorbing absorbent fiber material is also used along with activated carbon.

Basic sequence of operation and features:

- The first-flush event water is directed into the housing assembly by a custom formed deflector.
- The sediment and heavy solids tend to settle to the bottom of the HDPE plastic housing.
- As the water starts to rise, it drains through a vertical absorber cartridge.
- The first cartridge layer is a strainer & filter that blocks the larger solids and debris.
- As the dirty water passes through the porous absorbent it is further cleaned. The absorbent material also acts as a deep bed filter.
- The dirty water passes through the absorbent material where hydrocarbons are captured. The dirty water is treated to a cleaner state.
- In certain units the absorber material includes activated carbon and that acts to capture more chemicals and hydrocarbons.
- The treated water then passes through a perforated drain tube that exits the bottom of the housing. The treated water then flows to a rock well or storm drain piping system.
- As the filter absorber cartridge becomes saturated and plugged with hydrocarbons, sediment, chemicals and other pollutants, the water level rises in the housings, thereby directing the water to a cleaner portion of absorber material. This puts all of the absorber material to work for maximum efficiency.
- Foam filter pads between the filter absorber cartridge and the bottom of the housing helps to slowly drain standing water at the bottom of the unit.

- Optional leaf screens or pre-filter can be added at the grate to prevent entry into unit.
- The stainless steel support frame allows the housing to be securely held in place.
- The housing should be periodically cleaned of sediment and debris by vacuum or by simply lifting out housing assembly and dumping the sediment into an approved area or landfill. Check unit regularly and clean when dry in summer to minimize weight.
- The absorber cartridge should be changed, during summer, on at least a 1 to 2 year basis depending on the exposure to contaminants. Periodic inspections and tests can help determine practical change out schedule. Units located near new construction areas, and where fallen leaves are present, require more frequent inspection and service.

Efficiency: The absorber material may remove up to 70% or more of the hydrocarbons and sediment passing through the cartridge during low flow rates and at heavy concentrations. However, like most catch basin insert treatment devices, they are commonly rated at much lower efficiencies due to the great number of variables and uncontrollable conditions that may exist at each installation. It is recommended that inlet and outlet water tests be conducted at each typical site to determine the water quality. Test information may indicate that a site specific absorbent material should be used.

Typical Applications: Storm drains and catch basins are usually 18" to 24" diameter or rectangular with 16"x24" or larger grates. They may be 4' to 6' deep or more. They may be of any number of sizes, shapes and types. The catch basin acts as an interceptor and becomes a practical location to treat the first-flush rainwater.

Selection: The following unit selection was custom fitted to the grate support of a typical catch basin drain at the Mountain House development Track 3196.
Model No: WD-10x18A w/ 15 gallon housing. This model is practical for medium parking lots and residential roadways. The absorber cartridge is a nominal 10" diameter by 18" high and rated at 20 GPM initial clean flow rate.

The HDPE housing is 14" diameter x 29" high. The stainless steel frame support is sized to fit the nominal 24" x 16" grate. The stainless steel and or plastic water deflector is formed for a custom fit.

The absorber material selected for this project includes a combination of absorbent materials, polypropylene and activated carbon. Other materials may be selected. A similar housing unit was used at the curb inlet type drains.

Performance – The flow rates shown are relative only to indicate changes in filter sequence:

- Flow rate at 0 or no-flow mode: The unit cartridge dries out and is always ready for receiving any type flow or illegal dumping such as used motor oil.
- Flow rate from 0 to 5 gpm: (First flush period). During very low periods of flow, as may occur during summer irrigation of lawns. The water level in the housing may only rise approximately 6". The low flow rate urban drain water may pass through a layer of absorbent filter, fiber material and a layer of activated carbon located near the bottom of the cartridge. This continues until eventually, the lower level of absorbent material becomes plugged and the level of water rises to the cleaner coarser absorbent materials above.
- Flow rate from 5 to 20 gpm. (First flush period). As the flow rate continues to climb up to approximately 20 gpm (Nominal clean flow rate) the water continues to be treated by the coarser absorbent materials. This continues until the cartridge becomes saturated with hydrocarbons, sediment and other pollutants. The flow rate through the cartridge decreases as the absorber materials becomes plugged and the excess flow overflows the unit.
- Flow rate above 20 gpm to 100 gpm and higher storm flow conditions: (Storm flow periods). During high or full flow conditions the excess water simply overflows the housing and continues flowing without reducing incoming flow rate.

Sizes: Numerous other size cartridges, housings and frames can be provided.

A drawing of each catch basin type is helpful in selecting the proper units. Accessories may include a leaf strainer or pre-strainer.

Absorber material: Absorber cartridges can be provided with a broad mix of absorber materials to suit the site conditions and application. Activated carbon can be added to the primary media where a higher degree of efficiency is required. Custom made units with site specific absorbents can also be provided. The unique cartridge design allows for easy change-out.

Installation, Service & Disposal: The unit is provided with Installation and Operating Instructions or arrangements can be made for service required.

Maintenance: Periodic maintenance includes inspection, sediment and debris removal from unit housing - during dry summer periods. Allow for several inspections during the year.

This includes cleaning leaves and debris near grate entry when present.

Replacement of absorber / filter may be changed yearly or as needed. The sediment in housing may need to be removed more frequently near new construction. This includes removal of absorber cartridge and installation of new absorber cartridge. Disposal of spent cartridges, in quantity, may be made at an incineration plant or landfill. Note: Certain conditions apply, including standard road hydrocarbon type contaminants and certain minimum delivery charges to disposal site.

COSTS INFORMATION: (Call for pricing)

Initial Installation ----------

WD-10-18A unit complete with:

Stainless steel support frame

HDPE housing

Filter / Absorber Cartridge

Water Deflector

Installation:

Yearly Service: ----------

Filter / Absorber cartridge replacement

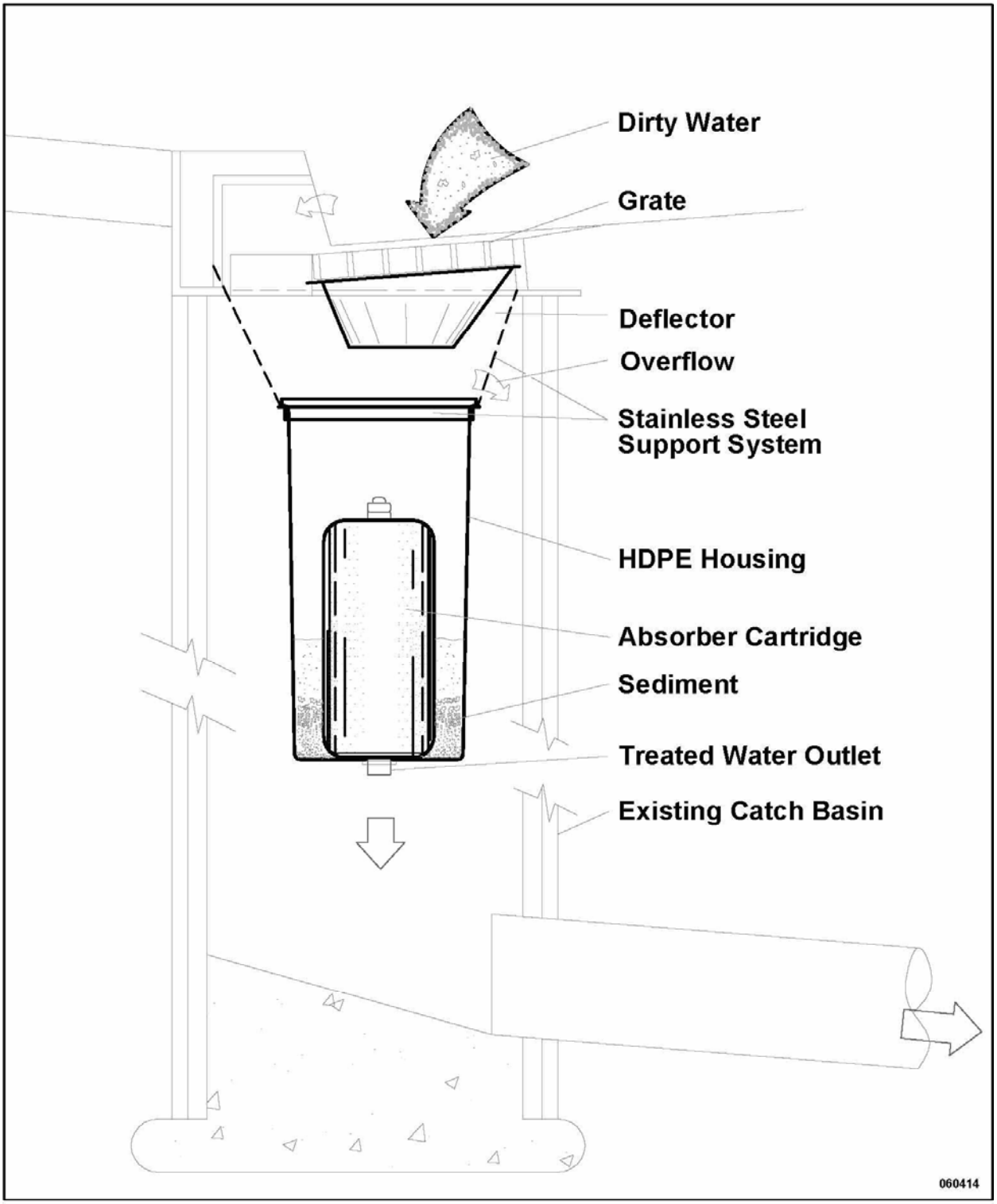
Service to check / clean unit early winter

Service to check / clean unit middle winter

Service to check / clean unit in summer

Note: Service includes visual inspection of exterior pre-filter and grate, debris and sediment build-up in unit, cleaning of debris and removal of sediment if necessary, and installation of a replacement filter / absorber cartridge.

Information: Visit our web site at www.jpce.com/html/water_decontam.html or call 209-545-1663 for your specific application.



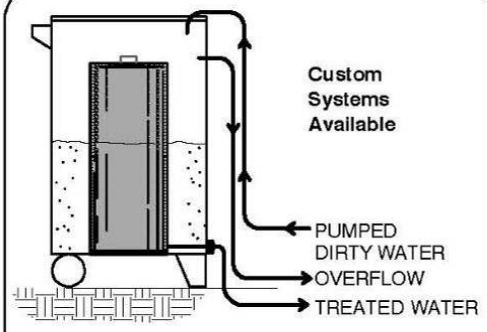
THE WATER DECONTAMINATOR

TYPE 1 CURB INLET CATCH BASIN

INVENTIVE RESOURCES, INC.
5038 SALIDA BLVD, SALIDA CA 95368
PH (209) 545-1662 FAX (209) 545-3533
http://www.jpce.com/html/water_decontam.html

"WATER DECONTAMINATOR"

HELPS REMOVE SOLIDS, OILS and CHEMICALS from DRAINWATER



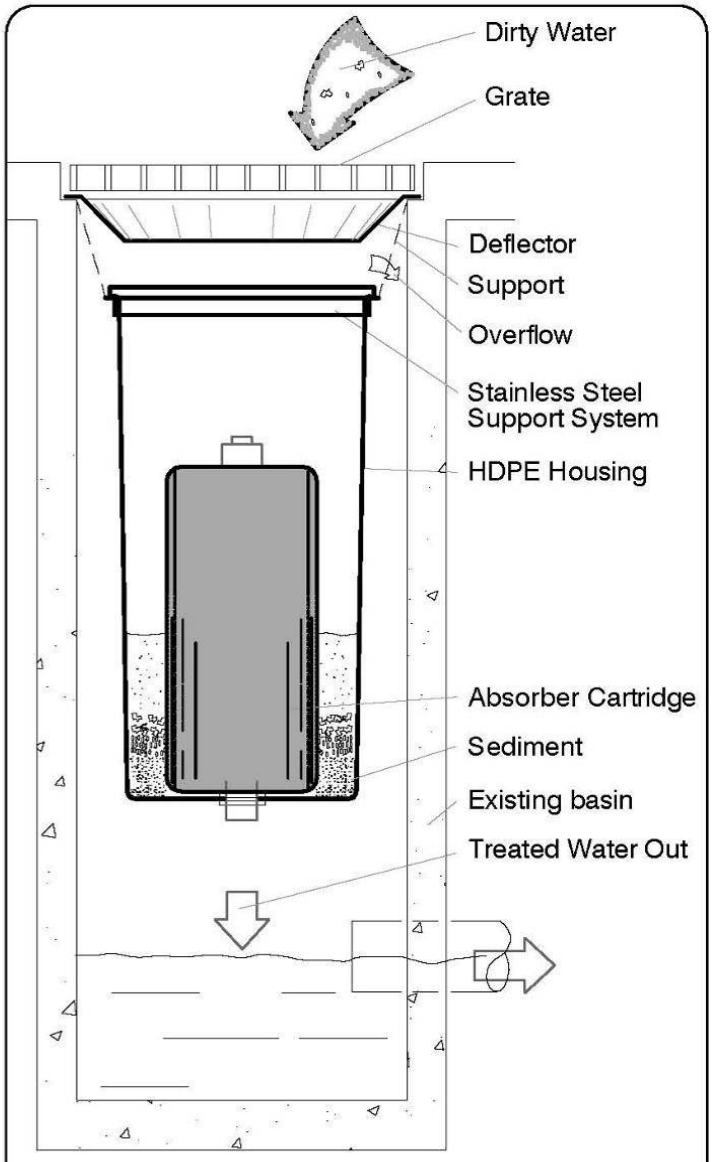
ABOVE GRADE "DECONTAMINATOR"

Cleans parking lot run-off, catch basins, ponds, sumps and spills. Cleans dirty water by separating dirt, debris and other solids in trap. Oils & chemicals are absorbed in a disposable cartridge.

Applications include removal of oil and chemicals from water run-off sources:

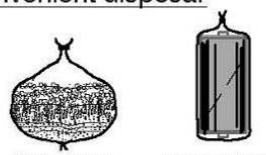
Urban run-off	Marinas and Ports
Roof Drains	Industrial Sites
Oil and Fuel spills	Factories
Chemical Spills	Maintenance Areas
Parking Lots	Sumps / Pumps
Airports	Fire Water
Military Bases	Equipment
Storm Drains	Washdown
Rock Wells	

The "Water Decontaminator" is a new product that can be placed under a grate to remove oil and contaminants from water. It uses recycled waste products, essentially fighting pollution with pollution.



"WATER DECONTAMINATOR" - Patented

Convenient disposal



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