

**City of Palmdale  
Department of Public Works  
Engineering Division**

*StormWater Management Plan (SWMP)*

Submitted to:  
Lahontan Regional Water Quality Control Board

For

National Pollutant Discharge Elimination System (NPDES)  
Phase II

Revised: August 21, 2003  
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# **1. Background**

## **1.1 Introduction**

The City of Palmdale Department of Public Works is duly responsible for maintaining all the public improvements within its borders. These include storm water conveyances such as closed conduits, open channels, drainage basins, and dry wells. There are two dry creeks namely Amargosa and Anaverde originating from the Pelona Vista mountain range that meanders through the City and continues to the downstream City of Lancaster. These natural conveyances remains dry most of the year except during rain events.

In the past, several water purveyors or districts have condition the City to protect the recharge capability of the Amargosa Creek by committing to soft bottom channels. The City has since complied and remains committed to protecting the recharge capability and in addition, is committed to preserving the underground water quality as required by the Federal Water Pollution Control Act, also known as Clean Water Act.

## **1.2 Objective**

As a continuation of the City's commitment to preserving water quality, storm water runoff is conveyed by streets and closed conduits to retention or detention basins. Each development is required by City Ordinance to attenuate post-developed flows to 85% of pre-developed flows with the objective of protecting downstream properties. Conveyances discharging to Amargosa or Anaverde will be required to provide some form of BMP to protect the quality of storm water runoff. As a continuation of these efforts, the City will establish ordinances, policies, procedures and practices to provide legal background and enforcement detail to accomplish this task.

## **1.3 Designation**

The State Water Resources Control Board (SWRCB) automatically designated the Palmdale MS4 as a "Small MS4" because it is located within an urbanized area defined by the Bureau of Census 2000.

## **1.4 Permit Application**

Small MS4s has three permitting options for storm water discharges (individual permits, general permits, or inclusion to existing Phase I permit). The City of Palmdale requested and was allowed by the regional board to submit an individual application to the State's General permit. The City is required to submit a Notice of Intent, Storm Water Management Plan, and pay the applicable fee by October 27, 2003 in order to be in compliance.

## **1.5 Program Effectiveness Indicators**

The City will evaluate the suggested program effectiveness indicators described by RWQCB in previous workshops during its ongoing development of the SWMP. As the SWMP develops and BMPs are implemented, program effectiveness indicators will be developed to measure the progress and effectiveness of the BMPs.

## **1.6 Maximum Extent Practicable (MEP)**

The term MEP is a technology-based standard enacted by Congress in CWA §402(p)(3)(B)(iii) that establishes the level of pollutants that discharges must achieve. It emphasizes pollution prevention and source control BMPs as the first line of defense. It is ever evolving, flexible, and advancing concept that recognizes technical and economic feasibility. Communities like Palmdale may meet this requirement by recognizing what can be achieved given the conditions on site and the costs of implementation.

Water purveyors realized the importance of Amargosa Creek as a source of re-charge for the underlying aquifer and therefore has conditioned the City to preserve the percolating capacity of the creek. Hence, the City will be conditioning all developments discharging into the creek to promote and preserve water quality to the MEP by constructing BMPs.

The Public Works, Building and Safety, and Planning Departments will provide staff support that includes Administrative, Engineering, Planning, inspection, and code enforcement, needed to accomplish various task under this SWMP, in the Maximum Extent Practicable.

## **1.7 Statement of Legal Right**

The City of Palmdale Municipal Code sections 7010, 7018, 7019, and 7020 describes the legal authority to enforce and implement the storm water management plan.

## **1.8 Identification of Storm Water Coordinator**

The designated Storm Water Coordinator's name:

Allen Pangan  
City of Palmdale  
Department of Public Works  
Engineering-Drainage

The general duties associated with the SWMP are:

- Assist the City Engineer in coordinating the plan with other groups.
- Coordinate with RWQCB regarding pertinent submittals or reports.
- Other duties as assigned by the City Engineer.

## 2. Permit Requirements

### 2.1 Prohibitions

- A. Discharges of waste that are prohibited by Statewide Water Quality Control Plans or applicable Regional Water Quality Control Plans are prohibited.
- B. Discharges from the MS4s regulated under the permit that cause or threaten to cause nuisance are prohibited.
- C. Discharges of material other than storm water to waters of the United States or another permitted MS4 downstream is prohibited, except for the following:
  - 1. Water line flushing/hydrostatic line testing;
  - 2. Landscape irrigation;
  - 3. Diverted stream flows;
  - 4. Rising ground water;
  - 5. Uncontaminated ground water infiltration (as defined at 40 CFR §35.2005(20)) to separate storm sewer;
  - 6. Uncontaminated pumped water;
  - 7. Discharges from potable water sources;
  - 8. Foundation drains;
  - 9. Air conditioning condensation;
  - 10. Irrigation water;
  - 11. Springs;
  - 12. Water from crawl space pumps;
  - 13. Footing drains;
  - 14. Lawn watering;
  - 15. Individual residential car washing;
  - 16. Flows from riparian habitats and wetlands; and
  - 17. Dechlorinated swimming pool discharges;
  - 18. Monitoring well, well development/purge water

### 2.2 Effluent Limitations

The City must implement Best Management Practices (BMPs) that reduce pollutant in storm water to the technology-based standard of Maximum Extent Practicable (MEP). Storm water discharges regulated by the permit shall not contain a hazardous substance in amount equal to or in excess of a reportable quantity listed in 40 CFR §117 or 40 CFR §302. Section 3

## **2.3 Statement of Intent**

It is the City's desire to provide the annual presentation and report to the Board staff on its website by September 15<sup>th</sup> of each year of the permit cycle. The City staff will also provide for a public presentation between October 15-30 annually to present its assessment of the plan and to gather public comments.

To that effect, the City will assess the effectiveness of this plan in meeting its objectives by analyzing collected data and its effects to ground water quality.

The City will also present overall trends and compliance experienced during the reporting year.

# 3. Storm Water Management Plan

## 3.1 Requirements

1. To maintain, implement, and enforce an effective SWMP, and develop adequate legal authority to implement and enforce the SWMP designed to reduce the discharge of pollutants to Small MS4 to the MEP and to protect water quality.
2. To fulfill the requirements of the six Minimum Control Measures.

## 3.2 Six Minimum Control Measures

### ***1. Public Education Program***

A. Objective:

To educate the public about the importance of the storm water program and the public's role in the program.

B. Best management practices:

1) Organize billboard, bus, and radio ad campaign to increase the knowledge of the general public about stormwater pollution, its impact to groundwater and possible solutions.

2) Distribute printed media about stormwater pollution, its impact to groundwater and "how to" instructions on best management practices.

C. Measurable Goals:

A certain reduction in volume of trash collected from storm drain catch basins

D. Program Management:

Department of Public Works

E. Schedule for Implementation

Complete by 2/1/04	Complete by 5/1/05	Complete by 7/1/06	Complete by 9/1/07
<ul style="list-style-type: none"> <li>• Printed media</li> </ul>	<ul style="list-style-type: none"> <li>• Distribute printed media to public</li> </ul>	<ul style="list-style-type: none"> <li>• Distribute printed media to schools</li> </ul>	<ul style="list-style-type: none"> <li>• Measure of BMP effectiveness</li> </ul>

F. Conduct Public Meetings:

In compliance with NPDES Phase II requirements, a public meeting was held on July 30, 2003 at 38250 Sierra Highway, City of Palmdale Department of

Public Works Development Services Bldg. Only two attended representing the consultants' interest.

Comments noted as follows:

1. Filters used as BMPs may pose a problem due to the lack of disposal or landfill sites that will accept hazardous materials.
2. Business/Commercial sites may need assistance in implementing BMPs due to high cost.
3. Indicators should be established to gauge program effectiveness.

## **2. Public Outreach Program**

### A. Objective:

To conduct outreach activities that will result in broader support of the program and reduce the impacts of polluted storm water discharges on ground water.

### B. Best management practices:

- 1) Community clean-ups.
- 2) Storm drain stenciling.

### C. Measurable Goals:

A certain increase in volunteerism for community clean-ups. Complete a study and prepare a report to City administration. The study shall investigate the establishment of a SWMP steering committee and the potential to expand this program purchasing and using current Los Angeles County resources.

### D. Program Management:

Public Works Department

### E. Schedule for Implementation

Complete by 2/1/04	Complete by 5/1/05	Complete by 7/1/06	Complete by 9/1/07
<ul style="list-style-type: none"> <li>• Buy storm drain stencil</li> </ul>	<ul style="list-style-type: none"> <li>• Organize volunteers to stencil storm drains</li> <li>• Stencil storm drains using volunteer group</li> </ul>	<ul style="list-style-type: none"> <li>• Organize volunteers to do community clean-up</li> <li>• Have a community clean-up with volunteer group</li> </ul>	<ul style="list-style-type: none"> <li>• Measure of BMP effectiveness</li> </ul>

### F. Public Participation/Involvement:

The City shall comply with State and Local public notice requirements when implementing a public involvement/participation program. The City may study

the potential to use the public to assist the City in developing and managing the plan.

### **3. Illicit Discharge Detection and Elimination Program**

A. Objective:

- 1) To develop an ordinance prohibiting discharges other than stormwater runoff into the MS4.
- 2) To identify potential areas through field investigation.
- 3) To develop and implement a monitoring program.

B. Best management practices:

- 1) Conduct storm drain surveys and develop a monitoring program.
- 2) Develop storm drain map of MS4's with outfall to Amargosa Creek.
- 3) Develop and implement storm water ordinance.
- 4) Hazardous Material Information distribution and Authorized non-storm water discharge.

C. Measurable Goals:

Most illicit discharges detected and eliminated by the first permit cycle.

D. Program Management:

Public Works Department

E. Schedule for Implementation

Complete by 12/1/05	Complete by 2/1/06	Complete by 5/1/07	Complete by 7/1/08	Complete by 9/1/09
<ul style="list-style-type: none"> <li>• Organize volunteers to survey storm drains in the Amargosa watershed</li> </ul>	<ul style="list-style-type: none"> <li>• Organize volunteers to survey storm drains in the Amargosa watershed</li> </ul>	<ul style="list-style-type: none"> <li>• Organize volunteers to survey storm drains in the Anaverde watershed</li> </ul>	<ul style="list-style-type: none"> <li>• Organize volunteers to survey storm drains in the Anaverde watershed</li> </ul>	<ul style="list-style-type: none"> <li>• Ordinance development and approval process, introduction, baseline enforcement strategy, and implement enforcement program.</li> </ul>

### **4. Construction Site Stormwater Runoff Control Program**

A. Objective:

To develop an ordinance requiring the implementation of best management practices to control erosion and protect air quality on applicable construction sites.

B. Best management practices:

- 1) Develop ordinance and establish program to control polluted stormwater runoff and protect air quality from construction sites.
- 2) Site plan review to insure compliance to ordinance.
- 3) Field inspection and enforcement of ordinance to deter infractions and provide for public input.
- 4) See Table 4-1 for a list of BMPs.

C. Measurable Goals:

- 1) Ordinance in place by the first year of the permit cycle.
- 2) Procedures for site plan review implementation by the 3<sup>rd</sup> year.
- 3) Field inspection procedures and public input in-place by the 5<sup>th</sup> year.

D. Program Management:

Public Works Department

E. Schedule for Implementation

Complete by 12/1/04	Complete by 2/1/05	Complete by 5/1/06	Complete by 7/1/07	Complete by 9/1/08
<ul style="list-style-type: none"> <li>• Gather information from Engineering staff to draft ordinance</li> <li>• Review of inspection staff procedures</li> </ul>	<ul style="list-style-type: none"> <li>• Draft of Ordinance</li> </ul>	<ul style="list-style-type: none"> <li>• Submit Ordinance to legal counsel for review</li> </ul>	<ul style="list-style-type: none"> <li>• Submit Ordinance to City Council</li> <li>• Submit inspection procedures to City Engineer</li> <li>• Annual report on construction site stormwater runoff control program</li> </ul>	<ul style="list-style-type: none"> <li>• Ordinance development and approval process, introduction, baseline enforcement strategy, in-place and implementation of enforcement program.</li> </ul>

**Table 4-1**

<b>Construction Site BMPs</b>				
<b>ID</b>	<b>BMP NAME</b>	<b>APPROVED FOR USE ON ALL PROJECTS (1)</b>	<b>PROJECT BY PROJECT BASIS ONLY</b>	<b>MINIMUM REQUIREMENT</b>
<b>TEMPORARY SOIL STABILIZATION</b>				
SS-1	Scheduling	X		X
SS-2	Preservation of existing vegetation	X		X
SS-3	Hydraulic Mulch	X		X (2)
SS-4	Hydro seeding	X		X (2)
SS-5	Soil Binders	X		X (2)
SS-6	Straw Mulch	X		X (2)
SS-7	Geotextiles, Plastic Covers, & Erosion Control Blankets/Mats	X		X (2)
SS-8	Wood Mulching	X		
SS-9	Earth Dikes/Drainage Swales & Ditches	X		
SS-10	Outlet Protection/Velocity Dissipation Devices	X		
SS-11	Slope Drains	X		
<b>TEMPORARY SEDIMENT CONTROL</b>				
SC-1	Silt Fence	X		X
SC-2	Desilting Basin	X		
SC-3	Sediment Trap		X	
SC-4	Check Dam		X	
SC-5	Fiber Rolls		X	
SC-6	Gravel Bag Berm		X	
SC-7	Street Sweeping and Vacuuming			X
SC-8	Sandbag Barrier		X	
SC-9	Straw Bale Barrier		X	
SC-10	Storm Drain Inlet Protection		X	X
<b>WIND EROSION CONTROL</b>				
WE-1	Wind Erosion Control	X		X
<b>TRACKING CONTROL</b>				
TC-1	Stabilized Construction Entrance/Exit	X		
TC-2	Stabilized Construction Roadway		X	
TC-3	Entrance/Outlet Tire Wash		X	
<b>NON-STORM WATER MANAGEMENT</b>				
NS-1	Water Conservation Practices	X		
NS-2	Dewatering Operations	X		
NS-3	Paving and Grinding Operations	X		
NS-4	Temporary Stream Crossing	X		
NS-5	Clear Water Diversion	X		
NS-6	Illicit Connection/Illegal Discharge Detection and Reporting	X		X
NS-7	Potable Water/Irrigation	X		
NS-8	Vehicle and Equipment Cleaning	X		X
NS-9	Vehicle and Equipment Fueling	X		X
NS-10	Vehicle and Equipment Maintenance	X		X
<b>WASTE MANAGEMENT AND MATERIALS POLLUTION CONTROL</b>				
WM-1	Material Delivery and Storage	X		X
WM-2	Material Use	X		X
WM-3	Stockpile Management	X		
WM-4	Spill Prevention and Control	X		X
WM-5	Solid Waste Management	X		X
WM-6	Hazardous Waste Management	X		
WM-7	Contaminated Soil Management	X		
WM-8	Concrete Waste Management	X		
WM-9	Sanitary/Septic Waste Management	X		X
WM-10	Liquid Waste Management	X		

(1) Implementation depends on applicability to a project.

(2) The Contractor shall select one of the five measures listed or a combination thereof to achieve and maintain the contract's rainy season disturbed soil area (DSA) requirements.

## 5. Post-Construction Runoff Control Program

### A. Objective:

To develop and implement a program to reduce pollutants in post-construction runoff from new developments and redevelopment projects that result in land disturbance equal or greater than 1 acre.

### B. Best management practices:

- 1) Develop an ordinance requiring the implementation of structural and/or non-structural best management practices (BMPs).
- 2) Develop or revise engineering standards for permanent wind erosion controls.
- 3) Develop a system to maintain permanent BMPs and ensure long-term operation.
- 4) Implementation of new design standards.

### C. Measurable Goals:

- 1) Ordinance in place by the first year of the permit cycle.
- 2) Revised engineering standards by the 5<sup>th</sup> year.
- 3) Affected site mapping and BMP tracking by the 5<sup>th</sup> year.

### D. Program Management:

Public Works Department

### E. Recommended Schedule for Implementation

Complete by 12/1/04	Complete by 2/1/05	Complete by 5/1/06	Complete by 7/1/07	Complete by 9/1/08
<ul style="list-style-type: none"> <li>• Gather information from Engineering staff to draft ordinance</li> <li>• Evaluate new standard options under Appendix C</li> </ul>	<ul style="list-style-type: none"> <li>• Draft of Ordinance</li> </ul>	<ul style="list-style-type: none"> <li>• Submit Ordinance to legal counsel for review</li> </ul>	<ul style="list-style-type: none"> <li>• Submit Ordinance to City Council</li> </ul>	<ul style="list-style-type: none"> <li>• Implement Ordinance</li> </ul>

## 6. Pollution Prevention and Good Housekeeping Program

### A. Objective:

To develop and implement best management practices (BMPs) or good housekeeping procedures such as staff training to promote the plan, and staff training for field sampling of storm water runoff associated with City of Palmdale operations.

### B. Best management practices:

- 1) Street sweeping regularly and more importantly prior to start of rainy season.
- 2) Cleaning storm drain inlet to catch basins.
- 3) City of Palmdale Maintenance Yard vehicle operation area management.
- 4) Repair and maintenance of City storm drain facilities.
- 5) Develop administrative procedures for City of Palmdale employees to address non-compliance to this program or falsification of data.

### C. Measurable Goals:

- 1) Inventory number of street miles swept.
- 2) Inventory number of storm drain inlets cleaned.
- 3) Inventory number of storm drain facilities repaired or maintained.

### D. Program Management:

Public Works Department

### E. Schedule for Implementation

Complete by 12/1/04	Complete by 2/1/05	Complete by 5/1/06	Complete by 7/1/07	Complete by 9/1/08
<ul style="list-style-type: none"> <li>• Continue current street sweeping schedule.</li> </ul>	<ul style="list-style-type: none"> <li>• Continue current street sweeping schedule</li> </ul>	<ul style="list-style-type: none"> <li>• Continue current street sweeping schedule</li> </ul>	<ul style="list-style-type: none"> <li>• Continue current street sweeping schedule</li> </ul>	<ul style="list-style-type: none"> <li>• Complete administrative procedures for City employees to address non-compliance and falsifying data.</li> </ul>

## 4. Strategy for Inspection, Monitoring, Verification, Performance Indicators

### 4.1 Requirements

1. Inspections – TBD
2. Monitoring – TBD
3. Verification/Validation – TBD

### 4.2 Performance Indicators

TBD

### 4.3 Schedule

Complete by 9/1/04	Complete by 9/1/05	Complete by 9/1/06	Complete by 9/1/07
Key tasks objectives	Measurable goal baselines	Verification/Validation Strategic Development	Performance model

# Appendix A Characterization

## A.1 Outfall:

1. Amargosa Creek and Anaverde Creek are the primary outfalls for the City of Palmdale. Hence, all MS4's discharging or conveying stormwater runoff to either one is characterized in the yellow zone. The yellow zone extends over the entire watershed. All other areas are considered in the green zone such that no connection exists that will allow discharge to either one of the creeks.

## A.2 Master Schedule:

Measurable Goals	Inspection Dates	Enforcement Activity	Monitoring/Reporting	Public Comments
TBD	TBD	TBD	TBD	TBD

## **Appendix B Characterization Map**

**Focus area maps (see inserts)**

***B1 – Amargosa Watershed showing the yellow zone.***

***B2 – Anaverde Watershed showing the yellow zone.***

***B3 - Amargosa Watershed and Anaverde Watershed Land Use Map.***

# Appendix C

## Design Standards

### **C.1 Low-Impact Strategy**

1. TBD.
2. TBD.

### **C.2 Source Controls**

1. TBD.
2. TBD.

### **C.3 Treatment Controls**

1. TBD.
2. TBD.

### **C.4 Program Maintenance**

1. TBD.
2. TBD.

# **Appendix D**

## **Separate Implementing Entity (SIE)**

### **D.1 Facility Description and Location**

Antelope Valley Union High School District administers all public schools for Grades 9-12. Highland High School is a site identified as tributary to Amargosa Creek. This site is tributary to Amargosa Watershed and is located at the southwest corner of Avenue P-8 and 25<sup>th</sup> St. West. The outfall is located at Avenue P-12 and finds its way to Amargosa Creek by overland route.

### **D.2 Site Pollutant of Concern (POC)**

Any pollutants generated by automotive vehicles on the school site parking lots.

### **D.3 Measurable Goals**

TBD

### **D.4 Performance Measures**

TBD

### **D.5 Implementation Schedule**

Complete by 9/1/04	Complete by 9/1/05	Complete by 9/1/06	Complete by 9/1/07	Complete by 9/1/08
Coordination between SIE and City	Measurable goals	Implementation of programs	Performance measures	Performance measures

### **D.6 SIE Contact Person**

TBD

The general duties associated with this permit are:

TBD

## 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, to the best of my knowledge and belief, the information submitted is 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.

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Michael Mischel  
City Engineer

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Date