



CITY OF ATASCADERO

Storm Water Management Program



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Prepared By



WALLACE GROUP®

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1 INTRODUCTION

This document serves as the City of Atascadero's National Pollutant Discharge Elimination System (NPDES) Phase II Stormwater Management Program (SWMP). This SWMP describes the City's program to comply with the California NPDES General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) (SWRCB Water Quality Order 2003-0005-DWQ). This permit regulates Phase II MS4s in California. The City's SWMP is a guidance document to be used by the City's regulatory body, the Central Coast Regional Water Quality Control Board (Regional Board), contractors, and the general public. It is an evolving program that will be monitored and revised as necessary in order to address changes in the compliance programs or in the Permit requirements.

The City's SWMP defines strategies and guidelines for protection of water quality and reduction of pollutant discharges to the Maximum Extent Practicable (MEP) from all areas within the City and all City maintained facilities.

The SWMP will be implemented over the next five years (from March 2009 to March 2014) as detailed in Section 4.0. Each minimum control measure and associated best management practice (BMP) included in this SWMP have their own implementation schedule, based on allocated funding and program priorities.

1.1 STORMWATER MANAGEMENT: WHY IT'S IMPORTANT

Items 1 through 6 of the Water Quality Order No. 2003-0005-DWQ state:

1. Urban runoff is a leading cause of pollution throughout California.
2. Pollutants of concern found in urban runoff include sediments, non-sediment solids, nutrients, pathogens, oxygen-demanding substances, petroleum hydrocarbons, heavy metals, floatables, polycyclic aromatic hydrocarbons (PAHs), trash, and pesticides and herbicides.
3. During urban development, two important changes occur. First, where no urban development has previously occurred, the naturally vegetated and pervious land is converted to impervious surfaces such as paved highways, streets, rooftops, and parking lots. Natural vegetated soil can both absorb rainwater and remove some pollutants providing an effective purification process. Because pavement and concrete can neither absorb much water nor remove pollutants, the natural purification and water absorption characteristics of the land are lost under impervious surfaces. Second, urban development creates new pollutant sources as human population density increases and brings with it proportionately higher levels of vehicle emissions, vehicle maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc., all of which can be washed into the MS4s. As a result of these two changes, the runoff leaving a developed urban area may be significantly greater in volume, velocity, and/or pollutant load than pre-development runoff from the same area.
4. A higher percentage of impervious area correlates to a greater pollutant load, resulting in turbid water, nutrient enrichment, bacterial contamination, organic matter loads, toxic compounds, temperature increases, and increases of trash or debris.
5. Pollutants present in stormwater can have damaging effects on both human health and aquatic ecosystems. In addition, the increased flows and volumes of stormwater discharged from

impervious surfaces resulting from development can significantly impact beneficial uses of aquatic ecosystems due to physical modifications of watercourses, such as bank erosion and widening of channels.

6. When water quality impacts are considered during the planning stages of a project, new development and many redevelopment projects can more efficiently incorporate measures to protect water quality.

1.2 REGULATORY REQUIREMENTS

In 1972, the Federal Water Pollution Control Act, which established the NPDES program, was adopted. The NPDES program regulates the discharge of wastes from point sources to surface waters. The Federal Water Pollution Control Act was amended in 1977 and became known as the Clean Water Act (CWA). In 1987 the CWA was again amended to add Section 402, which established a framework for regulating discharges from MS4s as a special category of point source under the NPDES Program. In 1990, the United States Environmental Protection Agency (EPA) promulgated regulations for permitting MS4s serving a population of 100,000 people or more. These regulations, known as the Phase I regulations, require operators of medium and large MS4s to obtain stormwater permits.

The EPA adopted the NPDES Phase II Stormwater regulations, which expanded the NPDES program to cover smaller MS4s, in 1999. The State of California adopted the U. S. Environmental Protection Agency (USEPA) National Pollutant Discharge Elimination System (NPDES) Phase II Final Rule and the State Water Resources Control Board (SWRCB) Water Quality Order No. 2003-00005-DWQ, NPDES General Permit No. CAS000004, "Waste Discharge Requirements for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) General Permit (referred to as the "MS4 General Permit") on April 30, 2003.

An "MS4" is defined by the SWRCB as a conveyance or system of conveyances¹:

1. Designed or used for collecting or conveying clean stormwater;
2. Which is not a combined sewer; and
3. Which is not part of a Publicly Owned Treatment Works (POTW) as defined by Title 40 of the Code of Federal Regulations (CFR) Section 122.2.

The City was designated by the EPA as a regulated Small MS4 because it is located within an urbanized area and not previously permitted under Phase 1 regulations (See attachment 1 of the Phase II General Permit provided in Appendix A).

Section D of the General Permit defines Stormwater Management Program requirements necessary to protect water quality and to reduce the discharge of pollutants from the City to the Maximum Extent Practicable (MEP). It states that SWMP must include BMPs, measurable goals, and timetables for implementation in the following six program areas (minimum control measures):

¹ A collection and conveyance system includes storm drain inlets and roads with catch basins, curbs, gutters, ditches and/or man-made channels.

1. Public Education and Outreach
The Permittee must implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.
2. Public Participation
The Permittee must comply with all State and local public notice requirements when implementing a public involvement/participation program.
3. Illicit Discharge Detection and Elimination
The Permittee must
 - Develop and enforce a program to detect and eliminate illicit discharges;
 - Develop a storm drain system map, including the location of all outfalls and the names and locations of all waters of the U.S. that receive discharges from those outfalls;
 - Prohibit, through ordinance or other regulatory mechanisms, non-storm water discharges into the MS4 and implement appropriate enforcement procedures and actions;
 - Develop and implement a plan to detect and address non-stormwater discharges, including illegal dumping, to the system that are not authorized by a separate NPDES permit;
 - Inform public employees, businesses, and the general public of the hazards that are generally associated with illegal discharges and improper disposal of waste; and
 - Address non-stormwater discharges or flows when they are identified as significant contributors of pollutants to the MS4.
4. Construction Site Stormwater Runoff Control
The Permittee must develop a program consistent with the SWRCB's General Construction Activities Stormwater Permit 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.
5. Post Construction Stormwater Management
The Permittee must require long-term post-construction BMPs that protect water quality and control runoff flow, to be incorporated into development and significant redevelopment projects. Post-construction programs are most efficient when they stress (i) low impact design; (ii) source controls; and (iii) treatment controls.
6. 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.

BMPs and measurable goals incorporated into the SWMP must be chosen that will result in the reduction of pollutant discharge to the MEP. Per the Fact Sheet for the General Permit:

- MEP is a technology-based standard set by Congress in the CWA (Section 402(p)(3)(B)(iii) to establish the level of pollutant reductions the discharger must achieve.

- MEP is generally a result of emphasizing pollution prevention and source control BMPs as the first lines of defense in combination with structural and treatment methods where appropriate serving as additional lines of defense.
- The MEP Approach is an ever-evolving, flexible, and advancing concept, which considers technical and economic feasibility. As knowledge about controlling urban runoff continues to evolve, so does that which constitutes MEP.
- Communities that have greater water quality impacts must put forth a greater level of effort.
- The RWQCB Executive Officer or, if requested, the RWQCB through a public hearing, is responsible for evaluating the SWMP for compliance with the MEP standard.

The Regional Board Executive Officer, Mr. Roger W. Briggs, has issued two letters which clarify the expectations that the Regional Board has regarding the City of Atascadero and the MEP standard. Additional clarification of requirements was also provided in an e-mail from Regional Board staff and is discussed below.

Roger Brigg's Letter 1: February 15, 2008.

The February 15, 2008 letter provided minimum standards that the SWMP must adopt to meet the following Board-identified objects:

- I. Maximize infiltration of clean stormwater and minimize runoff volume and rate
- II. Protect riparian areas, wetlands, and other buffer zones
- III. Minimize pollutant loading
- IV. Provide long-term watershed protection

To meet item I "maximize infiltration of clean stormwater and minimize runoff volume and rate," the Board will allow the City to develop an effective hydromodification control strategy or require the City meet the following interim standards within six months of the SWMP approval by the Executive Officer (or within six months of SWMP adoption by the Regional Board):

- Maintain an effective impervious area (EIA)² of less than five percent for new and re-development projects.
- Require the pre-construction³ and post construction runoff hydrographs to match within one percent of each other over a range of events with return periods from 1-year to 10-years for all new and redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface.
- Preserve the pre-construction drainage density⁴ for all drainage areas serving a first order stream⁵ or larger for projects whose disturbed area exceeds two acres.

² An effective impervious area is an impervious area (such as a roof or parking lot) that is directly connected to a stream or drainage system during the specified design storm. Conversely, an ineffective impervious area is an area that drains to a pervious area, before entering a MS4 component.

³ The pre-construction condition is the area with an assumption of typical vegetation, soil, and stormwater runoff characteristics of open space areas typical of California's central coast unless reasonable historic information is provided that the area was atypical.

⁴ The pre-construction drainage density is a measure of the miles of stream length per square mile of watershed immediately prior to the project.

⁵ A first order stream is stream is a stream which does not have any other stream feeding into it.

- Ensure the pre-construction time of concentration is equal to or greater than the pre-project time of concentration for projects whose disturbed area exceeds two acres.

To meet item II “protect riparian areas, wetlands, and other buffer zone”, the SWMP must include a minimum 30-foot buffer zone for riparian areas and wetlands. The Board also indicates that the SWMP must include consideration and prioritization of local conditions to substantiate the width of buffer zone necessary to protect specific riparian area and wetland areas within the City’s jurisdiction. The SWMP must include a strategy to adopt and implement protection of riparian areas, wetlands and their buffer zones.

To meet item III “Minimize pollutant loading”, the SWMP must include BMPs and/or other control measures to minimize pollutant loading, including volume- and/or flow-based treatment criteria. The BMPs and/or other control measures must be selected and prioritized based on local conditions and include a strategy to reduce pollutant loading.

To meet item IV “Provide long-term watershed protection”, the SWMP must include a strategy to develop watershed based hydromodification⁶ plans that include Low Impact Development strategies that demonstrate a plan to reduce the Effective Impervious Area to no more than three to ten percent of the watershed area within the City’s jurisdiction.

Finally, the February 15, 2008 letter clarifies the Boards expectation that the SWMP include quantifiable measures for evaluating the effectiveness of the program and a plan to communicate evaluation results with stakeholders.

Roger Brigg’s Letter 2: July 10th 2008.

The July 10, 2008 letter re-emphasized that the SWMP must include a schedule of BMPs that will provide long term watershed protection by integrating stormwater management control measures into all aspects of land use planning and development. It also provided an additional six months before the implementation of the interim hydromodification criteria would be applied to projects (revises the implementation time to one year of SWMP approval by the Executive Officer (or within six months of SWMP adoption by the Water Board).

David Innis E-mail: December 17, 2008

The December 17, 2008 e-mail indicated that the Executive Officer has designated all Phase II MS4s, regardless of their exclusion per Attachment 2 (and thus Attachment 4) of the General Permit, be subject to Attachment 4 requirements. Attachment 4 of the General Permit stipulates that the post construction program include design standards for the following types of discretionary development and redevelopment projects:

- Single-Family Hillside Residences
- 100,000 Square Foot Commercial Developments
- Automotive Repair Shops
- Retail Gasoline Outlets
- Restaurants
- Home Subdivisions with 10 or more housing units
- Parking lots 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to stormwater runoff

⁶ Alternation of the natural watershed hydrologic characteristics caused by urbanization or other land uses changes that may result in damage to downstream receiving waters.

The City will be required to meet specific design standards described in Attachment 4 of the General Permit as part of their post-construction program, including but are not limited to:

a. Peak Stormwater Runoff Discharge Rates

Post-development peak stormwater runoff discharge rates shall not exceed the estimated pre-development rate for developments where the increased peak stormwater discharge rate will result in increased potential for downstream erosion.

b. Conserve Natural Areas

If applicable, the following items are required and must be implemented in the site layout during the subdivision design and approval process, consistent with applicable General Plan and Local Area Plan policies:

- 1) Concentrate or cluster Development on portions of a site while leaving the remaining land in a natural undisturbed condition.
- 2) Limit clearing and grading of native vegetation at a site to the minimum amount needed to build lots, allow access, and provide fire protection.
- 3) Maximize trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native and/or drought tolerant plants.
- 4) Promote natural vegetation by using parking lot islands and other landscaped areas.
- 5) Preserve riparian areas and wetlands.

c. Minimize Stormwater Pollutants of Concern

The development must be designed so as to minimize, to the maximum extent practicable, the introduction of pollutants of concern that may result in significant impacts, generated from site runoff of directly connected impervious areas (DCIA), to the stormwater conveyance system as approved by the building official.

d. Protect Slopes and Channels

Project plans must include BMPs consistent with local codes, ordinances, or other regulatory mechanism and the Design Standards to decrease the potential of slopes and/or channels from eroding and impacting stormwater runoff:

e. Provide Storm Drain System Stenciling and Signage

f. Properly Design Outdoor Material Storage Areas

g. Properly Design Trash Storage Areas

h. Provide Proof of Ongoing BMP Maintenance

i. Design Standards for Structural or Treatment Control BMPs

The Permittees shall require that post-construction treatment control BMPs incorporate, at a minimum, either a volumetric or flow based treatment control design standard, or both, as identified below to mitigate (infiltrate, filter or treat) stormwater runoff:

- 1) Volumetric Treatment Control BMP
- 2) Flow Based Treatment Control BMP

2 CITY SWMP DEVELOPMENT PROCESS

The SWRCB through Water Quality Order No. 2003-0005-DWQ, requires regulated small separate storm sewer systems (MS4) to submit a Stormwater Management Program, a Notice of Intent and an appropriate fee. Attachment 1, of Water Quality Order No. 2003-0005-DWQ, designated the City of Atascadero as a "Regulated Small MS4."

The City originally prepared a SWMP to meet the NPDES Phase II regulatory requirements in March of 2003. Between 2004 and 2008, no action was taken by the Board on the City's third plan submittal. The Regional Board recently issued revised criteria and a new timeline for compliance. The revised criteria are based on current Regional Board staff assessments of water quality challenges facing the City and with the Boards clarification of the Maximum Extent Practicable standard (See Section 1.2, February 15, 2008 letter).

The City's SWMP defines strategies and guidelines for protection of water quality and reduction of pollutant discharges to the Maximum Extent Practicable (MEP) from all areas within the City and all facilities maintained by the City. To maximize program resources, the City developed a four step screening process that would focus pollution control efforts on the most pressing pollutants of concern with the ultimate goal of reducing those identified and prioritized as "priority" pollutants. A similar approach was taken to screen potential BMPs and select those that have the greatest ability to reduce pollutants of concern. This section describes the four step process used to revise the SWMP.

2.1 STEP 1. IDENTIFY BASELINE CRITERIA

The city conducted a comprehensive self study of the current conditions of receiving waters. Table 1 provides a list of key water quality report and watershed management plans evaluated for the SWMP.

Table 1 – Key Water Quality Report and Watershed Management Plans

WATER QUALITY DOCUMENT	INTERNET HYPERLINK, WHERE AVAILABLE
Upper Salinas River Watershed Action Plan	http://www.mcwra.co.monterey.ca.us/Agency_data/USLS%20RCD%20Watershed%20Action%20Plan/USLS%20RCD%20Watershed%20Action%20Plan.htm
Salinas River Watershed Management Action Plan, October 1999	http://www.waterboards.ca.gov/centralcoast/WMI/Salinas%20River.pdf
Central Coast Regional Water Quality Control Board Basin Plan	http://www.swrcb.ca.gov/rwqcb3/publications_forms/publications/basin_plan/index.shtml
Watershed Management Initiative, January 2002	http://www.swrcb.ca.gov/rwqcb3/water_issues/programs/wmi/docs/wmi2002_final_document_revised_1_22_02.pdf
Water Quality Priorities and Targeted Projects 2004-2005	http://www.swrcb.ca.gov/rwqcb3/water_issues/programs/wmi/docs/wmi2004waterqualityprioritiesappendixfinal.pdf
Central Coast RWQCB 303(d) Investigations and TMDL Projects	http://www.waterboards.ca.gov/water_issues/programs/tmdl/303d_lists2006_epa.shtml
Central Coast RWQCB 2002 CWA 303(d) List of Impaired Waterbodies	http://www.waterboards.ca.gov/tmdl/docs/2002req3303dlist.pdf
RWQCB Central Coast Ambient Monitoring Program (CCAMP)	http://www.ccamp.org/ccamp/CCAMP_Salinas_Report.pdf

Additionally, the Annual Water Quality Report, produced by Atascadero Mutual Water Company (AMWC), for water testing performed in throughout the 2007 calendar year was reviewed. The sampling detected no radioactive, biological, inorganic, volatile organic and synthetic organic contaminants substances above the levels allowed in drinking waters.

The list of the potential pollutants of concern consisted of pollutants typically found in urban runoff, the pollutants identified in the Central Coast Ambient Monitoring Program (CCAMP) report (CCMAP data is included in Appendix B), pollutants listed on the Regional Boards 303(d) list for the surface water bodies within the City limits or immediately downstream of the City, and those identified during the "Upper Salinas Water Quality Assessment" meeting hosted by the Regional Board on July 8, 2008.

Each pollutant was evaluated to determine if the pollutant had the potential to adversely affect the beneficial uses of each of the surface waters located within or immediately downstream of the City limits.

Beneficial uses for surface and ground waters are divided into twenty standard categories and are provided in Appendix A.

2.2 STEP 2. RANK & PRIORITIZE POLLUTANTS OF CONCERN

The process used for evaluating and prioritizing potential pollutants of concern (POC) consisted of using a scoring/ranking matrix for each pollutant. Criteria used to prioritize identified potential pollutants of concern were as follows:

- Has the constituent or its effects been detected in local urban runoff?
- Is the constituent listed as a source of impairment on local Section 303(d) listings?
- Does the constituent have the potential to cause or contribute to the exceedance of standards in receiving waters?
- Has the constituent been identified as a significant public, regulatory or Permittee concern that has yet to be adequately or completely addressed by draft or adopted federal, state or local water quality criteria or regulations?

Pollutants were either designated as "priority" pollutants, "secondary" pollutants, pollutants that should be studied further or pollutants that could be eliminated from further consideration at this time. This SWMP plan will evaluate BMPs to address priority pollutants. BMPs that address only secondary pollutants (and do not contribute to the reduction or elimination of priority pollutants) will not begin until the level of concern for the secondary pollutant exceeds those that are currently on the priority pollutant list. BMPs that address both priority and secondary pollutants are preferred; however BMPs selection criteria will be based on BMPs that best address the priority pollutants.

2.3 STEP 3. RANK & PRIORITIZE BEST MANAGEMENT PRACTICES

The selection of Best Management Practices (BMPs) began with the list of the U.S. EPA's menu of BMPs (http://cfpub.epa.gov/npdes/storm_water/menuofbmps/index.cfm). This initial list was supplemented with BMPs identified in an evaluation of three approved SWMPs with similar issues, constraints and opportunities. The three programs included San Luis Obispo County, City of Lompoc and City of Paso Robles.

The process used for evaluating and prioritizing potential BMPs consisted of using a decision matrix. BMPs identified as being the most appropriate BMPs for the City were incorporated into the SWMP. The decision criteria used in the BMP prioritization process were as follows:

- Is it a mandatory BMP?
- How effectively will the BMPs address a pollutant (or pollutant source) of concern?
- Does the BMP have public support?
- Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?
- Is the BMP technically feasible considering soils, geography, water resources, etc?

Each criteria was assigned a uniform weighting factor. BMPs receiving a weighted score greater than or equal to two, advanced to the secondary screening process where the following additional criteria were applied:

- Is the BMP Compatible with SWMP Program Goals and Objectives?
- Is the City already implementing (all or a portion of) the BMP being considered?
- Is the BMP easy to implement and quantitatively evaluate success?

After the criteria selection and criteria weighting were complete, BMPs were either dismiss or prioritized. All prioritized BMPs were incorporated into the SWMP. BMPs designated as “Secondary” BMPs will be implemented as funding is available. An overview of the ranking and prioritization process is provided in Figure 1.

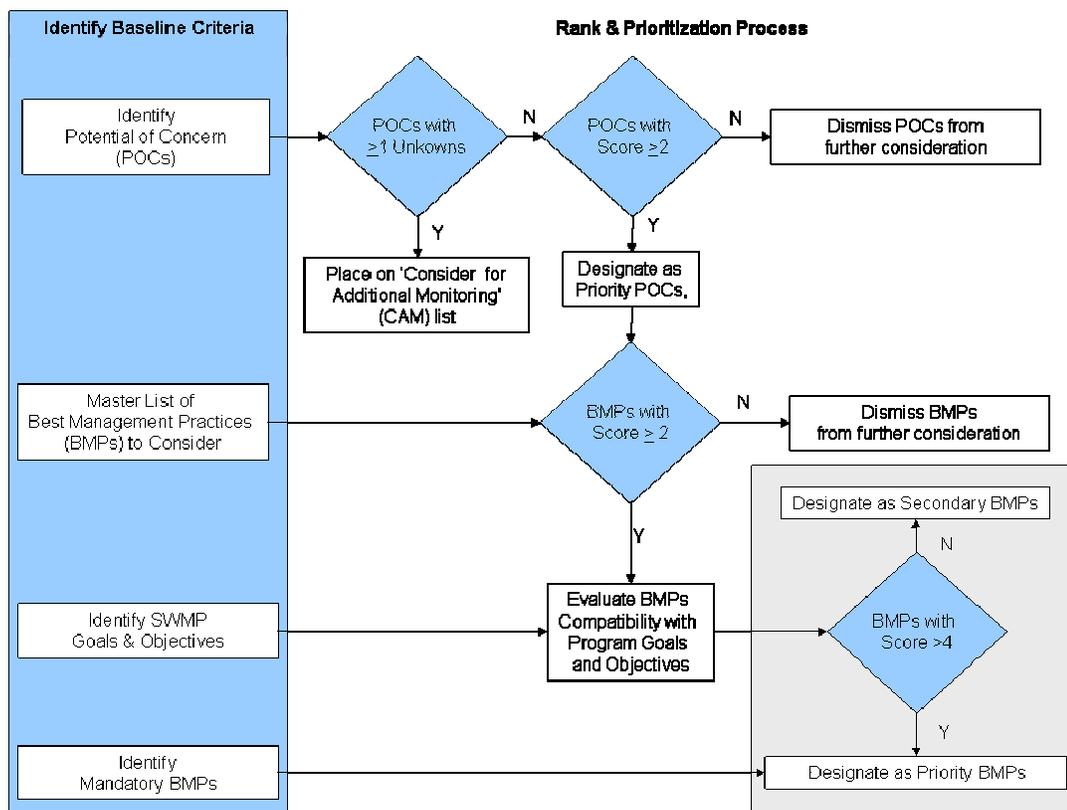


Figure 1 – Prioritization Flowchart

2.4 STEP 4. INCORPORATE COMMUNITY INPUT

The City provided opportunities for community input to the SWMP by conducting a presentation/workshop to stakeholder groups on December 17th. The meeting was intended to give the public an understanding of the new regulation and its implications and an opportunity to review and evaluate the ranking and prioritization process used by the City to prioritize Pollutants of Concern and Best Management Practices. Public feedback was incorporated into the SWMP so that it currently reflects the values and priorities received through the stakeholder process. Lastly, at a January 27, 2009 City Council meeting, the Atascadero City Council provided review comments on the SWMP and authorized City staff to submit the SWMP to the Water Board on January 29, 2009.

2.5 BEGIN IMPLEMENTATION OF BMPS

The SWMP will be implemented over the next five years (from March 2009 to March 2014) as detailed in Section 4. Each minimum control measure and associated best management practices (BMPs) included in this SWMP have their own implementation schedule, based on City funding and program priorities. The schedule for implementation of BMPs over the first five-year permit term will vary depending on the BMPs. More complex BMPs are broken down into a number of stages with measurable goals identified for each. The more complex BMPs will take longer than those that require relatively simple changes to existing practices. Refer to Section 4 for a description of the BMPs and Measurable Goals for each Minimum Control Measure and for the BMP implementation timetable and responsible parties.

2.6 REVIEW AND REPORT ON PROGRAM EFFECTIVENESS

The City will prepare an Annual Report that summarizes the following:

1. SWMP effectiveness
2. Implementation of the SWMP
3. Status of measurable goals
4. Effectiveness of BMPs, in terms of regulatory compliance, changing awareness, changing behavior, pollutant load reductions and runoff and receiving water quality to the extent practicable
5. Improvement opportunities to achieve MEP

To incorporate stakeholder input, the Annual Report will be posted on the City web site and a link will be e-mailed to project stakeholders. The City will publicize the Annual Report's availability and methods of providing feedback. Bi-annually, a stakeholders meeting will be held to provide a public forum for community input to the SWMP program (See BMP PP1).

The City has incorporated measurable goals that are consistent with the California Stormwater Quality Association (CASQA) program documented in the *Municipal Stormwater Program Effectiveness Assessment Guidance* manual. The minimum outcomes for all BMPs will be established as "level one outcomes" (documenting activities). Where adequate base line data currently exists, levels 2 (raising awareness) and 3 (changing behaviors) were used. Level 3 outcomes (changing behaviors) are incorporated into program elements by developing interim milestones that will allow the collection of necessary baseline data to support higher level outcome expectations.

Program funding limitations and BMP implementation priorities require that the City not divert resources from implementing on the ground projects/process improvements to calculate the information necessary to

achieve level 4 outcomes (reducing loads from sources). However, level 4 outcomes are included as measurable goals when information supporting the outcome is readily available (i.e. volume of trash pulled from creek during creek clean up days).

Each BMP will include four categories of information to assist stakeholders in the evaluation of the BMP. The four categories include:

1. BMP Description and Action plan data which provides the BMP title, a summary of the BMP task, the purpose of the BMP and BMP implementation details.
2. BMP Effective Assessment, Measurable Goals and Performance data. This section provides the implementation milestones for each program year, the data that will be collected over the implementation period and the expected outcome of the BMP. This information will be used to define the baseline data necessary to support higher level outcome expectations for the BMP.
3. An Effective Assessment Program Goals section which provides a link between each BMP and the overall Program Goals. Program Goals include the goals established for the Minimum Control Measure the BMP is associated with, the pollutants targeted by the BMP and the overall program objectives (defined in Section 3.1).
4. Relationship to other BMPs and/or external factors. This section describes how the BMP "fits" in with other BMPs or external programs.

For each Minimum Control Measure, the SWMP provides a summary of the objectives and strategies of the Minimum Control Measure. The objectives and strategies are followed by a summary table of the BMPs proposed for each Minimum Control Measure. At the end of each Minimum Control Measure section, BMP implementation detail tables are provided. As shown in Figure 2, the level of detail increases from the left (Minimum Control Measure Summary) to the right (BMP Implementation Detail).

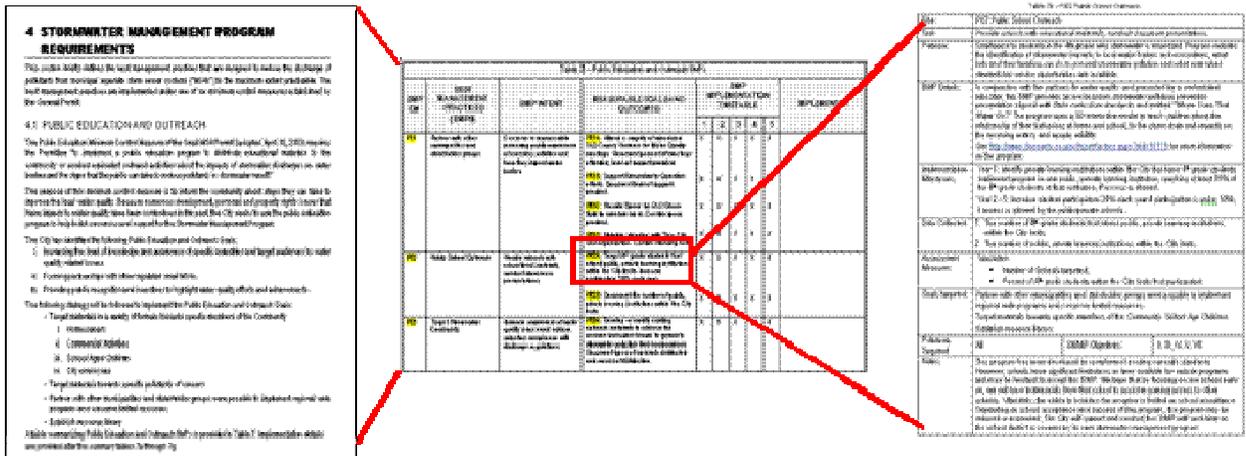


Figure 2 – Minimum Control Measure Review Key

Each BMP Implementation Detail table provides specific actions to be taken to implement the BMP. The table can be divided into the four categories described above (BMP Description and Action, BMP Effective Assessment, Measurable Goals and Performance factors). Figure 3 shows where each of the categories is addressed in the implementation detail tables.

Table 7b – PE2 Public School Outreach

BMP Description & Action Plan

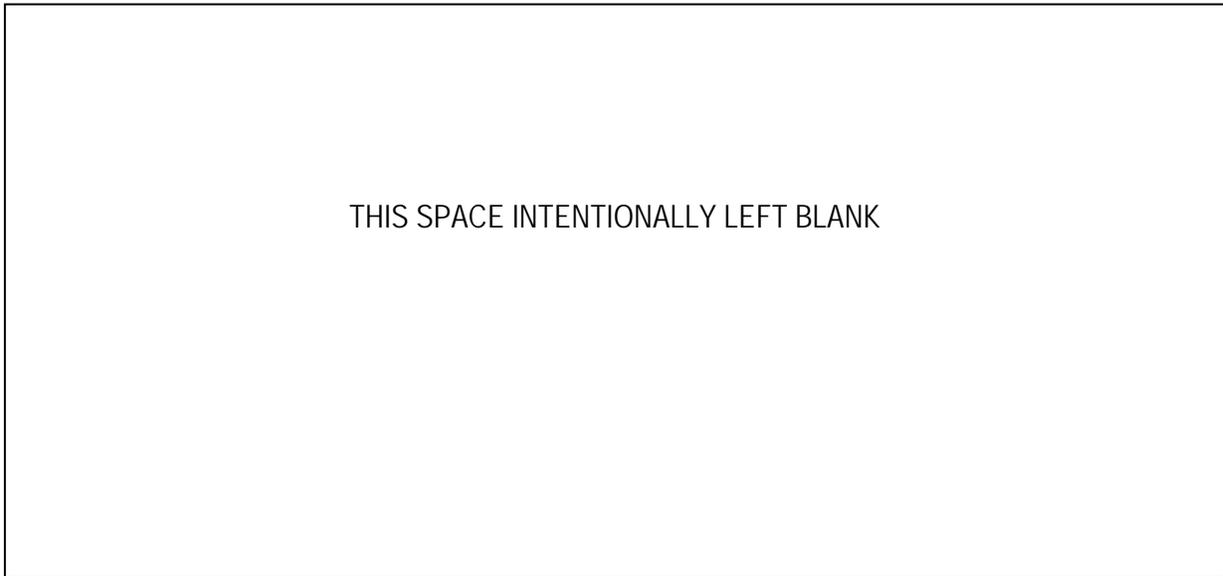
BMP Effectiveness Assessment, Measurable Goals & Performance Data

Effectiveness Assessment Program Goals

Relationship to other BMPs or external factors

Title:	PE2 Public School Outreach		
Task:	Provide schools with educational materials, conduct classroom presentations		
Purpose:	Emphasize to students in the 4th grade why stormwater is important. Program includes the identification of stormwater impacts to local water bodies and ecosystems, what kids and their families can do to prevent stormwater pollution and what watershed stewardship service opportunities are available.		
BMP Details:	In conjunction with the partners for water quality and presented by a credentialed educator, this BMP provides an in-classroom stormwater pollution prevention presentation aligned with State curriculum standards and entitled "Where Does That Water Go?" The program uses a 3D interactive model to teach children about the relationship of their behaviors at home and school, to the storm drain and impacts on the receiving waters and aquatic wildlife. See http://www.sbcounty.ca.gov/AssetFactory.aspx?AssetID=16113 for more information on the resources.		
Implementation Milestones:	Year 1: Identify private learning institutions within the City that have 4 th grade students. Implement program in one public, private learning institution, reaching at least 30% of the 4 th grade students at that institution, if access is allowed. Year 2 - 5: Increase student participation 20% each year if participation is under 50%, if access is allowed by the public/private schools.		
Data Collected:	1. The number of 4 th grade students that attend public, private learning institutions within the City limits. 2. The number of public, private learning institutions within the City limits.		
Assessment Measures:	Tabulation: <ul style="list-style-type: none"> Number of Schools targeted; Percent of 4th grade students within the City limits that participated. 		
Goals Targeted:	Partner with other municipalities and stakeholder groups were proactive to implement regional wide programs and conserve limited resources. Target materials towards specific members of the Community: School Age Children. Establish resource library.		
Pollutants Targeted:	All	SWMP Objectives:	II, III, IV, V, VI
Notes:	This program has been developed to complement existing curricula standards. However, schools have significant limitations on time available for outside programs and may be hesitant to accept this BMP. We hope that by focusing on one school early on, we will have testimonials from that school to assist in gaining access to other schools. Ultimately, the ability to broaden the program is limited on school acceptance. Depending on school acceptance and success of this program, the program may be reduced or expanded. The City will support and conduct this BMP until such time as the school district is covered by its own stormwater management program.		

Figure 3 – Effective Assessment Categories



3 WATER QUALITY BASELINE ASSESSMENT

This section provides an overview of the SWMP-related items unique to the City of Atascadero.

3.1 STORMWATER MANAGEMENT PROGRAM OBJECTIVES

The City has identified the following stormwater management program objectives considering the Regional Boards interpretation of the MEP standard and based on the City's prioritization of the pollutants of concern and development objectives identified by stakeholders:

- I. Maximize infiltration of clean stormwater and minimize runoff volume and rate
- II. Protect riparian areas, wetlands, and other buffer zones
- III. Minimize pollutant loading
- IV. Provide long-term watershed protection
- V. Promote recognition that stormwater and healthy receiving water systems enhance the quality of life
- VI. Balance water quality and economic opportunities
- VII. Promote public participation

The overall goal of the City's SWMP is to define a program of BMPs that facilitate the seven objectives above.

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3.2 STORMWATER MANAGEMENT JURISDICTIONAL AREA

The City is responsible for implementing its SWMP within the area shown in Figure 3.

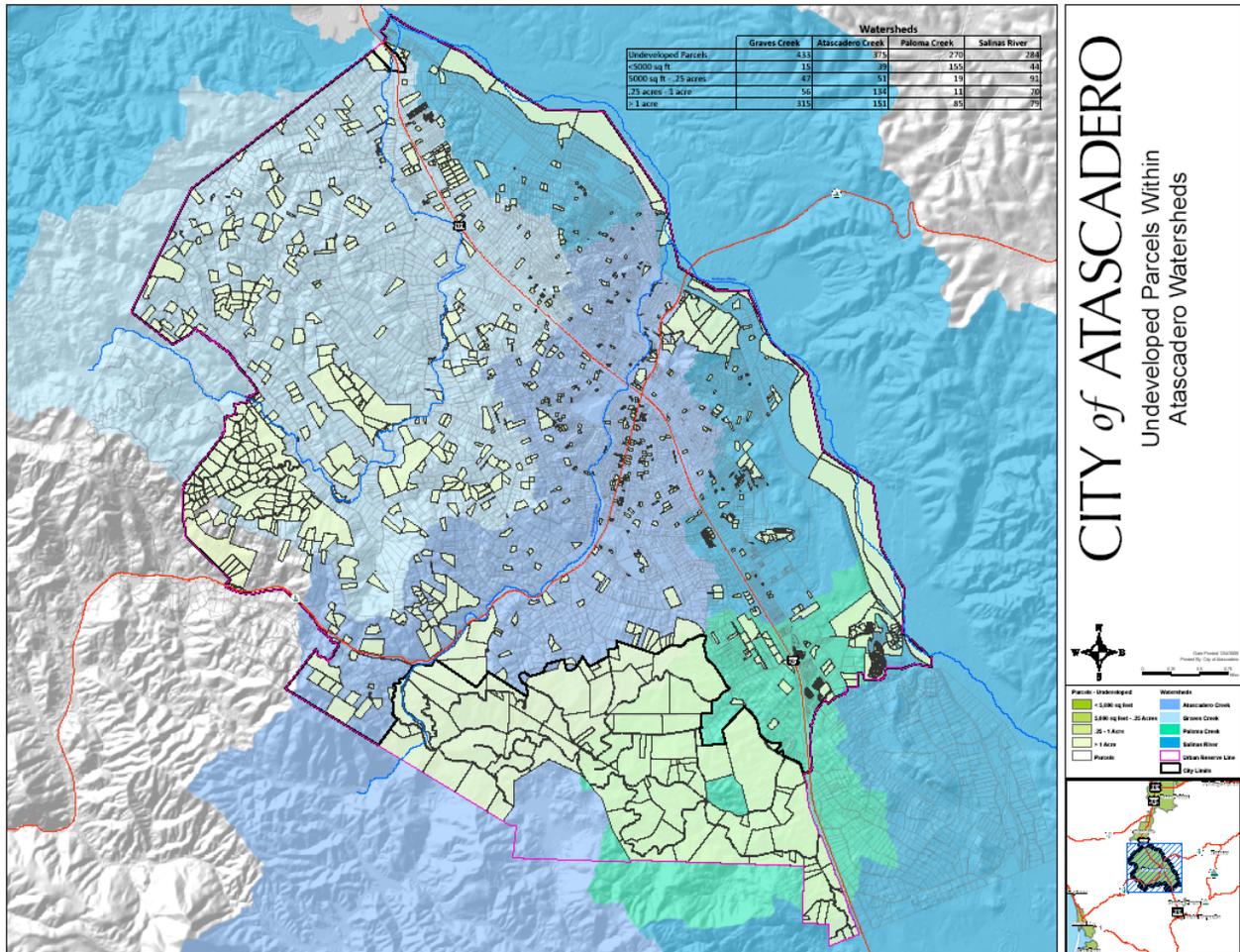


Figure 4 – SWMP Jurisdictional Area

3.3 PROGRAM FUNDING

The City, through currently budgeted programs and operations, annually spends over \$300,000 a year on storm water related work, including planning, engineering, inspection, maintenance and other operation functions. In addition to the operational expenditures, the City currently has \$486,590 programmed for storm water related capital improvements.

The City, however, is currently experiencing a significant budget shortfall and an uncertain financial future. Major revenue sources for the City, including sales tax and development income, are in a decline while growth in property taxes, the City's largest revenue source, is stagnant. The City has already taken measures to counteract this economic downturn such as: implementing a hiring chill, reducing operating expenses, adopting a policy of no new programs or expenditures, reducing service levels, increasing fees to residents and increasing financial monitoring. Even with these measures, in the current fiscal year, the City is expecting expenditures to exceed revenues by 11% or \$2,000,000. Projections show this annual

shortfall will increase to \$2,500,000 or (13%) in 2009/2010 and the City's general fund will be required to borrow cash in order to maintain current or lesser levels of operations.

In accordance with City financial policies regarding additional programs or service levels, (and in fact in accordance with the City's economic realities) any additional funding or work for storm water related items requires corresponding cuts in other City services such as police, fire, recreation, or parks. The City will continue to evaluate and prioritize the most important storm water related work based on available funding. This may mean that some proposed BMPs will not be started or completed. The City will not add new SWMP programs when the City's budget deficit

exceeds 5% of General Fund expenditures and or reserves dip below 20% of annual general fund expenses. The City will provide the Regional Board with budget information to justify its operational decisions. The City believes this is a prudent approach (spend dollars on the highest priorities) given the unprecedented economic conditions currently being experienced.

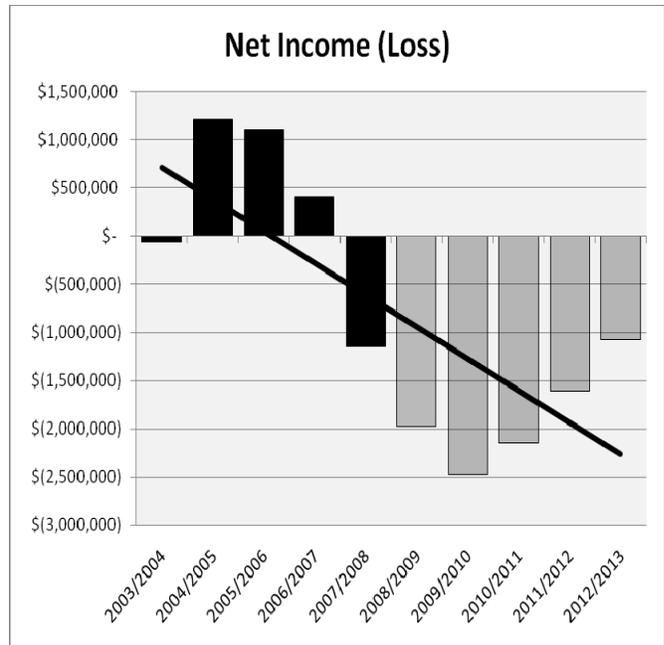


Figure 5 – Net Income (Loss)

The City believes cost is an important and essential tenant of MEP that cannot be ignored, namely economic considerations. The City will evaluate the proposed SWMP programs to ensure minimum operational levels are not sacrificed in order to implement the SWMP. The City's storm water work prioritization methodology is described in greater detail in Section 2. The City will continue to seek ways to reduce implementation costs. Examples of potential costs savings include:

- sharing information and training costs with nearby permitted communities
- partnering with non-profits
- evaluating success of receiving grant funding opportunities and applying for Federal, State and regional grants with high likelihood of award
- utilizing free federal, regional and state service programs (such as the LID center)

3.4 LAND USE PRINCIPLES

Atascadero is framed on the east by the Salinas River and on the west by the Santa Lucia Mountains. The land use in the City is presently a combination of residential, commercial, office professional, industrial, public facilities, agriculture, and parks and open space. Residential land uses make up the single largest land use category in the City and it is expected, under the General Plan (adopted June 2002, Updated June 2004), that the population within the City limits will grow to about 36,000 people by 2025.

Out of concern for environmental protection and resource conservation, the City's general plan was developed using smart growth principles. The City intends to retain the historic Colony land use pattern of a central downtown, ringed with residential neighborhoods that transition into lower-density rural areas.

The City's downtown area has linear commercial corridors along El Camino Real and Morro Road. The City plans to focus mixed uses and moderate densities into this downtown corridor to preserve natural resources and open space in the rural density areas surrounding the urban core.

Figure 6 shows the city limits, designated redevelopment areas, colony boundary, urban service line and urban reserve lines and the distribution of zoning.

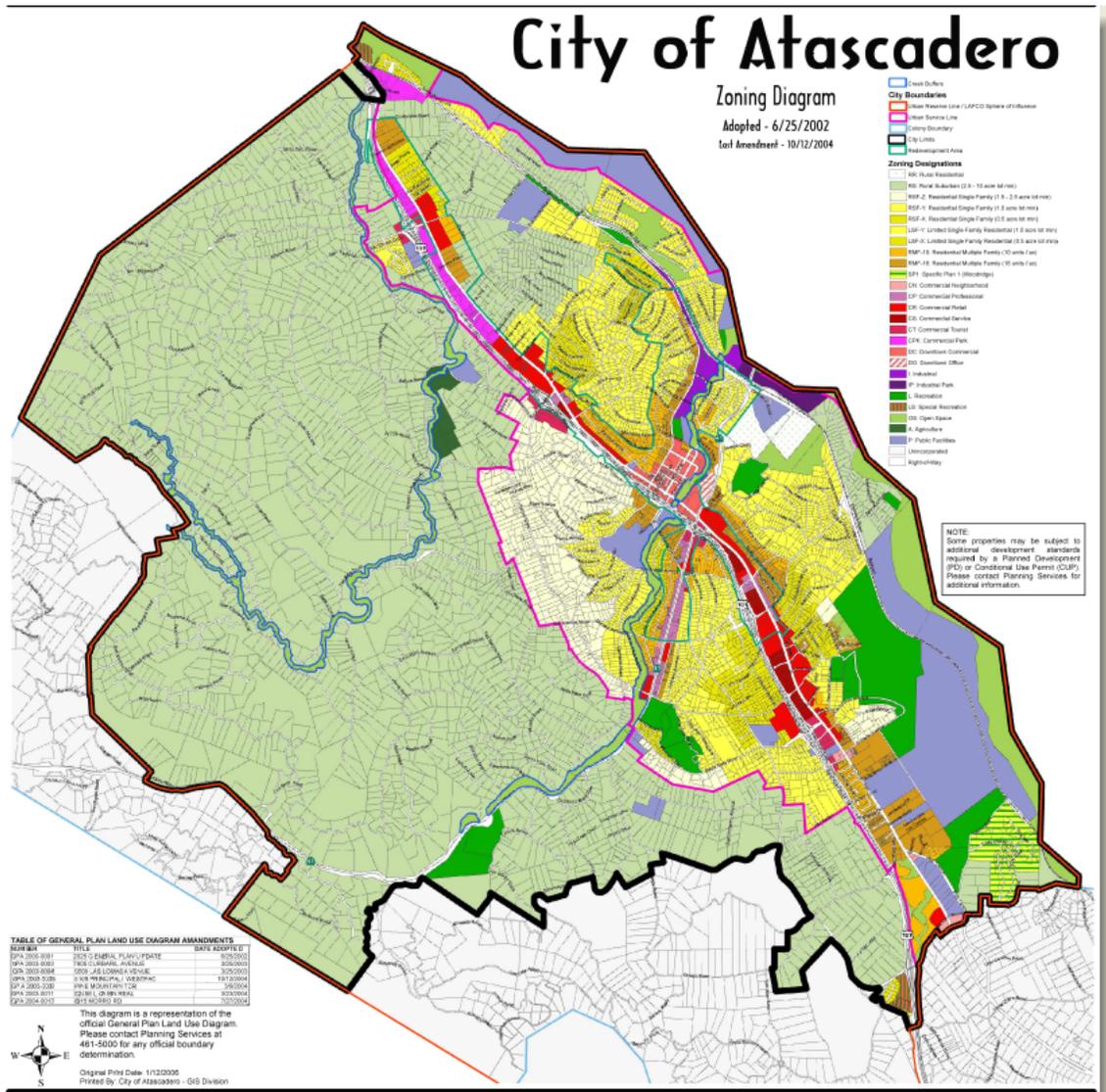


Figure 6 – Zoning

3.5 SURFACE WATERS

This section provides an overview of the location, beneficial uses, pollutants of concern and social issues surrounding each of the surface water located within the City limits.

Atascadero is located in the Salinas River Watershed. The Salinas River, Atascadero (shown as Hale Creek in Figure 7), Graves and Paloma Creeks, and Atascadero Lake are surfaces water bodies that lie

within the City boundaries. They are considered part of the Salinas Hydrologic Unit, Paso Robles Hydrologic Area, and Atascadero Hydrologic Sub Area and all ultimately drain into Monterey Bay.

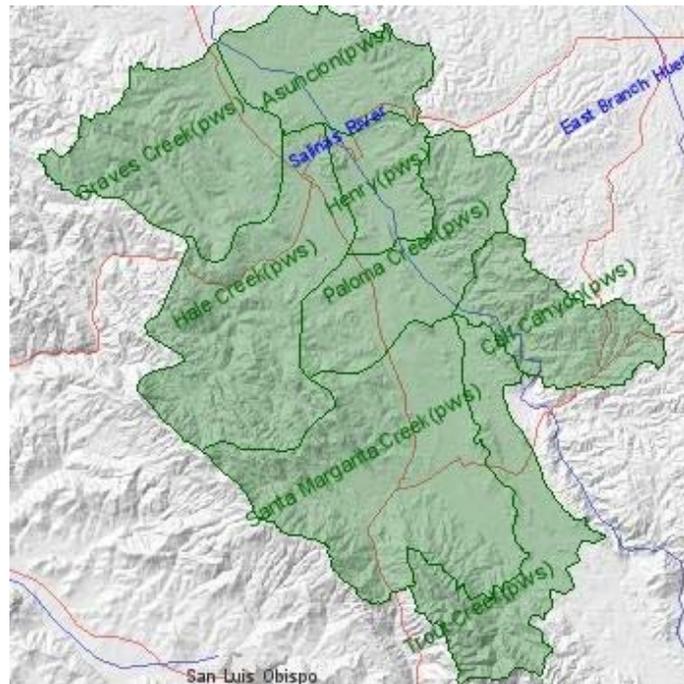


Figure 7 – Salinas Hydrologic Unit (Exhibit by California Watershed Portal)

The City of Atascadero contains three major named creeks: Atascadero Creek, Graves Creek, and Boulder Creek (a tributary to Graves Creek). These creeks are located within creek reservation parcels established with the original recording of the Atascadero Colony subdivision in 1913. These parcels are designated as open space and no new development can occur within these parcels. There are 60 parcels in total ranging in width from approximately 50-feet to in excess of 250-feet and were sized to capture a majority of the riparian area within the reservation boundaries. In total, the City contains 170.46 acres of creek reservation parcels surrounding Atascadero, Graves, and Boulder creeks. The creek reservation parcels, in conjunction with an additional 20-foot setback (measured from the creek reservation boundary), protect the major waterways within the City.

Based on Atascadero's topography, the City also includes over 70 blue-line creeks which feed into Atascadero Creek, Graves Creek, Boulder Creek, the Salinas River, and/or complete their own watershed. These creeks are primarily located on private property and are zoned for a variety of uses. All blue-line creeks not already protected through the creek reservations parcel discussed above, such as Paloma Creek and the Salinas River, are protected by the 20-foot creek setback. The Salinas River setback is measured from the ordinary high water mark on each side of the creek. A majority of the Salinas River is located within parcels owned and managed by the Atascadero Mutual Water Company. This arrangement provides added protection from intensive development.

All other blue-line creeks, such as Paloma Creek, are protected by a 20-foot creek setback. The setbacks for these creeks are measured from the top of bank on each side of the creek.

The only permitted exceptions to the current creek setback regulations require a Conditional Use Permit and must be approved by Planning Commission. In this situation, the Planning Commission must find that

creeks, riparian areas, and site improvement will not be negatively impacted by the exception based on information provided by a qualified biologist and Geotechnical engineer.

3.5.1 Salinas River

The Salinas River defines the eastern boundary of the City, which abuts mostly rural residential land use and some single-family neighborhoods. Many of these parcels are owned and managed by the Atascadero Mutual Water Company.

The River originates in south San Luis Obispo County and flows northwesterly into Monterey County through the Salinas Valley and empties into Monterey Bay, totaling approximately 180 miles (290 kilometers). The flow past Atascadero is seasonal and is dictated by localized rainfall and controls at San Luis Reservoir (near Santa Margarita). Mean monthly flows are commonly in excess of 400 cubic feet per second (cfs) during January through April, but the River rarely contains any measurable surface flow in June through November. The City of Atascadero contributes 0.3 percent of the Salinas River tributary area.

Available monitoring data indicate water quality impairments in the Salinas River watershed are primarily associated with agricultural land uses and groundwater pumping. Recent studies have shown the upper Salinas River is impaired for Chloride and Sodium and targets agriculture and urban runoff as a potential source. The Salinas River is listed as an impacted water body on the Regional Board's 303(d) list.

The beneficial uses for the stretch of the Salinas River between the Salinas Reservoir and the Nacimiento River, as defined by Region 3 Basin Plan, are: MUN, PRO, AGR, GWR, REC1, REC2, WILD, COLD, WARM, SPWN, MIGR, RARE and COMM. See Section 2.1 for an explanation of beneficial use labels.

3.5.2 Graves Creek

Graves Creek begins north of the City and flows southeast to Monterey Road before flowing north on the east side of highway 101 before joining the Salinas River north of town.

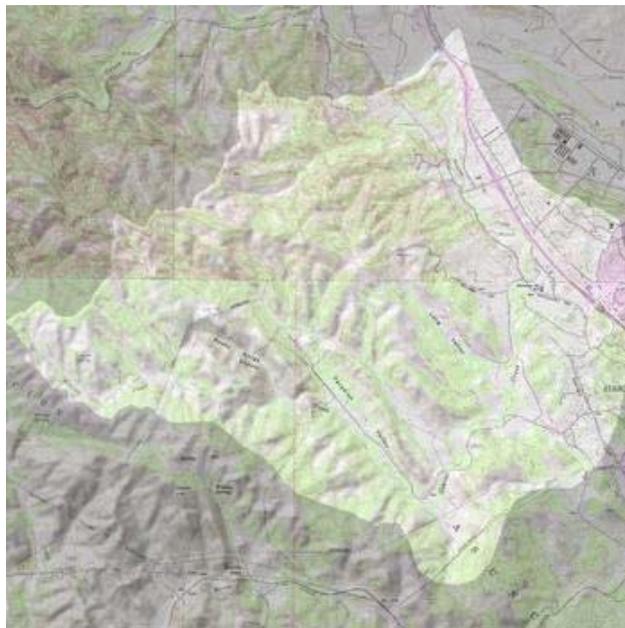


Figure 8 – Graves Creek Tributary Area (Exhibit by California Watershed Portal)

The Regional Board has not yet defined the beneficial uses for Graves Creek and limited water quality monitoring exists for the Creek.

3.5.3 Paloma Creek

Paloma Creek begins south of the City and flows northeast, crossing under 101 at Santa Barbara Road before joining with the Salinas River.



Figure 9 – Paloma Creek Tributary Area (Exhibit by California Watershed Portal)

The Regional Board has not yet defined the beneficial uses for Paloma Creek and no known water quality monitoring exists for the Creek.

3.5.4 Atascadero Creek

Atascadero Creek's headwaters originate on Eagle ranch (west of Atascadero) and end at the Salinas River. The Creek parallels Highway 41 within the City limits. The tributary to Atascadero Creek is shown in Figure 10.

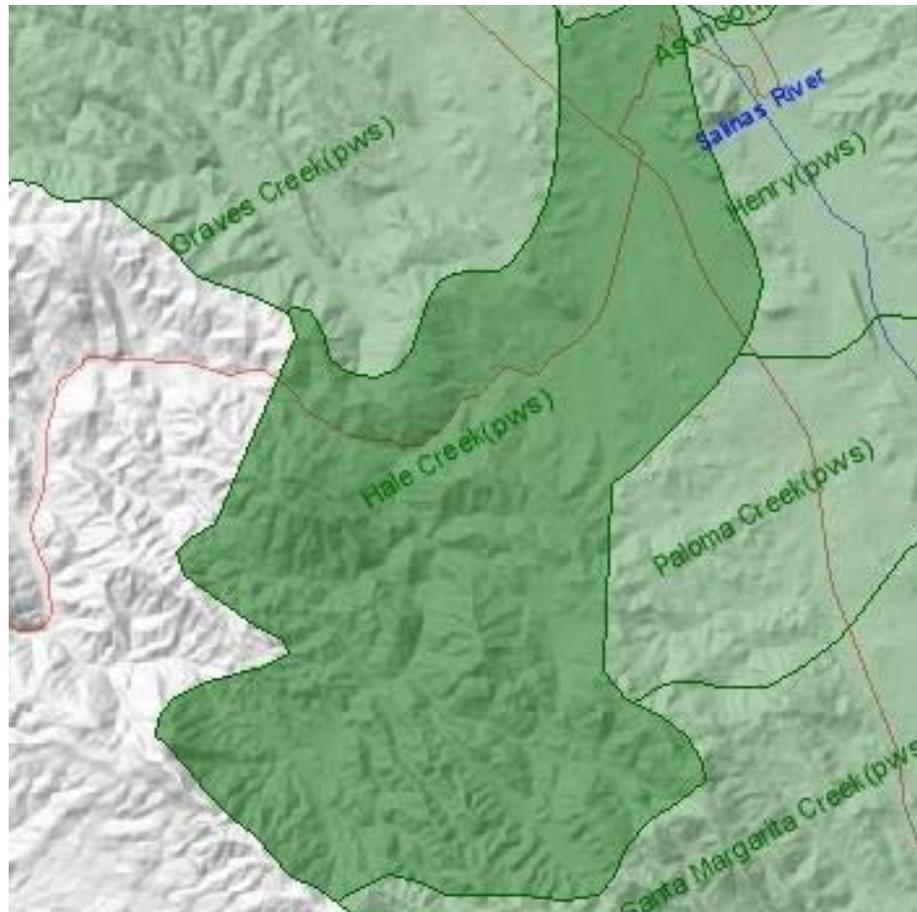


Figure 10 – Atascadero Creek Tributary Area (Exhibit by California Watershed Portal)

Atascadero Creek is listed as an impacted water body on the Regional Board's 303(d) list due to low dissolved oxygen levels and high levels of indicator bacterial (fecal coliform). Available monitoring data were unable to identify the likely sources of these pollutants. Low dissolved oxygen levels are typically associated with excess nutrients while potential sources of fecal coliform bacteria include sewage, domestic pets and wildlife. A significant contributor to both impairments is the ephemeral nature of Atascadero Creek. Typically as water levels begin to wane, temperatures begin to rise. Pools within the watershed become stagnant and because pools capture suspended sediment, they frequently have high nutrient loads. The combination of excess nutrients and too little oxygen result in limited resources for creek inhabitants.

The beneficial uses of Atascadero Creek as defined by Region 3 Basin Plan are: MUN, AGR, GWR, REC1, REC2, WILD, COLD, SPWN, RARE and COMM.

As all sampling of Atascadero Creek occurs below Atascadero Lake. It is unclear if the results are skewed by lake water quality issues during times when the lake is spilling into Atascadero Creek.

3.5.5 Atascadero Lake

Atascadero Lake is the centerpiece of Atascadero Lake Park. The Lake Park is open year-round and includes a walking path that follows the edge of the lake, playground, restroom

facilities, large and small barbecue areas, horseshoe pits, sand volleyball court and the Charles Paddock Zoo. A location map is provided in Figure 11.



Figure 11 – Atascadero Lake (Exhibit by Google)

Atascadero Lake is fed by an upstream ephemeral creek and water diverted from Atascadero Creek. However, both creeks lack enough year-round flow to prevent infrequent algae blooms and fish die-offs in the lake. These unpleasant incidents occasionally occur during prolonged periods of hot summer temperatures. Without intervention, the Lake would undergo the process of eutrophication, i.e. turn into a pond and then ultimately a meadow.

The USGS states that eutrophication is a process whereby water bodies, such as Atascadero lake, receive excess nutrients that stimulate excessive plant growth (algae, periphyton attached algae, and nuisance plants weeds), often called an algal bloom. Algal blooms diminish dissolved oxygen in the water when dead plant material decomposes and can cause other organisms to die.

While nutrients can come from many sources, (fertilizers applied to agricultural fields, golf courses, and suburban lawns; deposition of nitrogen from the atmosphere; erosion of soil containing nutrients; and sewage treatment plant discharges), the bulk of nutrients in this lake are believed to be a result of the indigenous duck population.

Because the community is resistant to reduce the duck populations and the City wants to maintain the lake as a lake (and not a meadow), the City has taken steps to improve water

quality, including increasing the lake’s dissolved oxygen levels by installing Solar Bees to increase water circulation, reducing lake temperatures and the update of nutrients by installing floating wetlands, using portable power aerators, supplementing lake inflows through with well water inflows, posting signs discouraging duck feeding and periodically relocating domestic waterfowl to reduce source of nutrients.

The City currently tests the lake water during summer months to monitor dissolved oxygen levels. The beneficial uses of Atascadero Creek as defined by Region 3 Basin Plan are: MUN, GWR, REC1, REC2, WILD, COLD, WARM, NAV, and COMM.

3.5.6 Other Tributaries

Atascadero has over 70 miles of “blue line” streams. The majorities of these streams are located on private property and have not been characterized. This SWMP includes consideration of these lesser known, and in most cases, unnamed streams within the City limits.

3.6 POLLUTANTS OF CONCERN

The list the potential pollutants of concern initially evaluated consisted of typical pollutants found in urban runoff, the pollutants identified in the Central Coast Ambient Monitoring Program (CCAMP) report, pollutants listed on the Regional Boards 303(d) list for the surface water bodies within the City limits or immediately downstream of the City, and those identified during the “Upper Salinas Water Quality Assessment” meeting hosted by the Regional Board on July 8, 2008.

The Central Coast Ambient Monitoring Program (CCAMP) has two monitoring site relevant to the City. One site was located on the Salinas River at the Highway 41 Bridge. The other location was at Atascadero Creek at Highway 41. Characterization data was collected at these sites between February 1999 and March 2000. Supplemental testing took place during the summer months to capture dissolved oxygen time-relative information. A map of the sampling locations and water quality characterization reports is available in Appendix B. The complete report can be found at: <http://www.ccamp.org/>

Table 2 identifies the pollutants of concern that ranked as ‘priority’ for this SWMP using the ranking and prioritization process discussed in Section 2.2. This SWMP plan will focus on BMPs that are oriented to address these pollutants.

Table 2 – Priority Pollutants of Concern

POLLUTANT OF CONCERN	RECEIVING WATERS				
	ATASCADERO CREEK	ATASCADERO LAKE	PALOMA CREEK	SALINAS RIVER	GRAVES* CREEK
Low Dissolved Oxygen	X	X			X
Indicator Bacteria (Fecal Coliforms)	X				
Nutrients		X			
Chloride				X	
Sodium				X	

*Based on single sampling event.

The likely sources of these pollutants of concern for the City are as follows:

Low Dissolved Oxygen

There have been no studies conducted in the city's receiving waters to clearly identify the source of the low dissolved oxygen (DO) levels. While DO levels are known to fluctuate naturally in waters, DO levels such as observed in monitoring are typically associated with nutrient enrichment or water stagnation. Nutrients can come from many sources, such as fertilizers applied to agricultural fields, golf courses, and suburban landscapes; deposition of nitrogen from the atmosphere; erosion of soil containing nutrients; and sewage treatment plant and septic system discharges domestic pets and wildlife. Water stagnation is common for the creeks in the region due to their ephemeral nature. Typically as water levels begin to wane, temperatures begin to rise. Pools within the watershed become stagnant and because pools capture suspended sediment and attract thirsty wildlife, they frequently have elevated nutrient loads. The combination of excess nutrients and too little oxygen result in limited resources for aquatic creek inhabitants.

BMPs included in this plan to address low dissolved oxygen conditions include: PE1-PE6, PP2-4, ID1-3, CON1-3, PC1-4, GH1-3.

Indicator Bacteria

There have been no studies conducted in the city's receiving waters to clearly identify the source of the high indicator bacterial (Fecal Coliforms) levels. Although indicator bacteria are not necessarily dangerous to humans, their presence in streams indicates that the water is contaminated with fecal waste from warm-blooded animals (such as wildlife, domestic livestock, humans and pets).

BMPs included in this plan to address indicator bacterial concerns include: PE1-PE6, PP2-4, ID1-3, CON1-3, PC1-4, GH1-3.

Nutrients

High levels of nitrogen in waters can produce harmful algal blooms. In turn, these blooms can produce "dead zones" in water bodies where dissolved oxygen levels are so low that most aquatic life cannot survive. Typical activities that contribute to high nutrient loads include over fertilization, domestic and wild animal waste, nutrient rich runoff from impervious surfaces and discharge from treatment plants and septic systems.

BMPs included in this plan to address high nutrient concerns include: PE1-PE6, PP2-4, ID1-3, CON1-3, PC1-4, GH1-3.

Chloride

The RWQCB's 303(d) lists agriculture, pasture grazing, and riparian and/or upland urban runoff as the potential sources of chloride in the Salinas River.

BMPs included in this plan to address chloride concerns include: PE1-PE6, PP2-4, ID1-3, CON1-3, PC1-4, GH1-3.

Sodium

The RWQCB's 303(d) lists agriculture, pasture grazing, and riparian and/or upland urban runoff as the potential sources of chloride in the Salinas River.

BMPs included in this plan to address sodium concerns include: PE1-PE6, PP2-4, ID1-3, CON1-3, PC1-4, GH1-3.

Table 3 identifies the pollutants of concern that ranked as 'secondary for this SWMP.

Table 3 – Secondary Pollutants of Concern

POLLUTANT OF CONCERN	RECEIVING WATERS				
	ATASCADERO CREEK	ATASCADERO LAKE	PALOMA CREEK	SALINAS RIVER	GRAVES CREEK
Sediments	X		X	X	X
Trash	X		X	X	
Oils and Grease	X				
Pesticides & Herbicides	X	X	X	X	X

Pollutants of concern removed from further consideration include pathogens, heavy metals, polycyclic aromatic hydrocarbons, Chlorophyll a, pH, and Salts. Pursuing BMPs that focus solely on these pollutants will dilute the funding and efforts best appropriated to address the priority pollutants identified by the City. However, the actions taken to address Priority and Secondary pollutants may have beneficial positive effects on the above mentioned removed pollutants of concern (i.e. street sweeping may remove sediments that have pathogens, polycyclic aromatic hydrocarbons, salts and heavy metals attached.)

3.7 BEST MANAGEMENT PRACTICES

As discussed in Section 2.3, BMPs were evaluated and ranked to identify and focus efforts on BMPs that would make the most of the cities limited funding. Table 4 lists the BMPs removed from consideration for each of the minimum control measures. For the Illicit Discharge Detection and Elimination and Post Construction Stormwater Runoff Control Program areas, there were no BMPs removed from consideration.

Table 4 – BMPs Dismissed from Further Consideration (this permit cycle)

SWMP PROGRAM AREA	BMPs DISMISSED FROM FURTHER CONSIDERATION	RATIONALE FOR REMOVAL
Public Education and Outreach	Promotional Giveaways	Cost of implementing BMP perceived as not have a reasonable relationship to the pollution control benefits to be received. Anticipated lack of public support for program.
Public Participation	Attitude Surveys	This BMP ranked lower than the other Public Participation BMPs based on the perception that attitude surveys work best if the information they provide is used to tailor the approach of the stormwater program. Given the significant number of mandatory tasks during the first permit cycle, and perceived inability to modify the program based on survey results, this BMP was eliminated for this permit cycle.
Construction Site Stormwater Runoff Control	Contractor training and certification	Given that the State provides criteria for SWPPP certification and monitoring, the City believes that expending additional funds on this BMP is not warranted.
Pollution Prevention/Good Housekeeping for Municipal Operations	Road Salt Application	The City does not apply road salts to its roads. The City uses sand which is swept up during street sweeping activities.

Table 5 shows the BMPs that were designated as priority BMPs. All of these BMPs are mandatory based on the General Permit requirements or on Region 3 specific requirements.

Table 5 – Priority BMPs (this permit cycle)

SWMP PROGRAM AREA	BMP	TITLE
Public Education and Outreach	PE3	Homeowner Outreach
	PE4	Business Outreach
	PE6	Resource Library
Public Participation	PP1	Provide Legal Notice
	PP2	Storm Drain Marking
	PP3	Community Creek Clean Up Day
	PP6	Creek Snapshot Day
Illicit Discharge Detection and Elimination	ID1	Tracking Records & Database
	ID2	Education and Training
	ID3	Illicit Discharge Ordinance
	ID5	Spill Overflow Prevention and Response Program
Construction Site Stormwater Runoff Control	CON1	Discretionary Review Tools (other regulatory mechanism)
	CON2	Construction Site Inspection & Enforcement
	CON3	Erosion and Sediment Control Plans
	CON4	Construction Site Complaint Mechanism
Post Construction Stormwater Management	PC1	Post Construction Ordinance
	PC2	Discretionary Review Tools
	PC3	Construction Stormwater Management Site Inspections
	PC4	Post Construction Stormwater Management BMP Maintenance Inspections
	PC5	Protect Riparian Areas, Wetlands Buffer Zones
Pollution Prevention/Good Housekeeping for Municipal Operations	GH1	Municipal Training
	GH2	Municipal Activities
	GH3	Municipal Facilities

BMPs ranked as 'Secondary BMPs' are provided in Table 6 below, grouped by ranking category.

Table 6 – Secondary BMPs (this permit cycle)

RANK	BMP	TITLE
2	PE1	Participate with other stakeholder groups
2	PE2	Public School Outreach
1	PE5	Pet Waste Management
2	PP4	Develop 'adopt a street' and 'adopt a creek' programs
2	PP5	Collaborate with technical advisory committee
1	ID4	Recycling and Household Hazardous Waste Program

The SWMP includes all Priority and Secondary BMPs. Secondary BMPs will be implemented as funding becomes available. Re-ranking of BMPs will occur at the onset of each SWMP review cycle or if deemed appropriate by the municipality (for example, a secondary BMP may be promoted to a 'priority bmp' based on newly identified concerns or as grant funding opportunities are identified. Priority BMPs will not be re-categorized as secondary BMPs.

3.8 NATURAL ENVIRONMENT PROTECTION POLICIES

The City's general plan currently includes a number of policies and programs to support and protect Atascadero's natural environment and support the continued health of the many creeks, streams, and water bodies located within the City. The General Plan's goals and policies focus on both the preservation of sensitive natural areas and Atascadero's watershed.

The Following Goals, Policies, and Programs are listed in the City's 2002 General Plan and are currently implemented by staff during the review of all development projects. The following guiding principles and programs focus on protection of Atascadero's watershed and sensitive natural areas, by minimizing site disturbance and grading of these riparian areas.

GOAL LOC 5. PRESERVE THE CONTOURS OF THE HILLS. BUILDINGS BUILT ON HILLSIDES SHALL CONFORM TO THE TOPOGRAPHY USING THE SLOPE OF THE LAND AS THE BASIS FOR THE DESIGN OF THE STRUCTURE.

Policy 5.3: Prevent unnecessarily intensive grading of development sites.

Programs:

1. Update and maintain the Municipal Code to require grading plans prior to any site disturbance.
2. Limit grading to the minimum area necessary to accomplish site development.

GOAL LOC 8. WATERSHED AREAS OF ATASCADERO SHALL BE PROTECTED.

Policy 8.1: Ensure that development along Atascadero Creek, Graves Creeks, the Salinas River, blue line creeks, and natural springs, lakes, or other riparian areas does not interrupt natural flows or adversely impact riparian ecosystems and water quality.

Programs:

1. Work with other agencies to implement the Erosion Control Assistance Program for review of development proposals to minimize sedimentation of creeks and the Salinas River.
2. Update the Appearance Review Manual to include provisions for preserving, reclaiming and incorporating riparian features in conjunction with new development.
3. The waterways in the City shall be maintained in a natural state and concrete channelization creeks shall be prohibited.
4. The City shall strongly discourage underground piping, and unnecessary disturbance of creeks and streams, and encourage use of bridges and arched culverts. Any alterations required for public safety will be guided by this policy.
5. Allow flood protection measures (such as selective brush cleaning), low-impact trail development, streambed maintenance and bank protection along streams where appropriate with necessary permits.
6. Prohibit new structures or disturbance of riparian habitat along creek banks except for restoration purposes.
7. Maintain a current GIS-based map of the riparian areas within Atascadero.
8. Prior to permit approval, refer projects along blue-line creeks to the Corps of Engineers, Department of Fish and Game, Regional Water Quality Control, and Upper Salinas-Las Tablas Resource Conservation District.
9. Creek reservations and the Salinas River shall be preserved for open space and recreational use, with appropriate areas left in their natural state for public enjoyment and habitat purposes. Any recreational use of the River and creeks shall minimize its impact on the habitat value and open space qualities of the creeks.
10. Land disturbance shall be minimized in proximity to watercourses including necessary flood protection measures, such as selective brush clearing, and low-impact trail development.
11. Areas subject to flooding, as identified through flood hazard overlay zoning and flood maps, shall be protected from unsound development consistent with the City's flood hazard ordinance requirements.

12. Wellhead and Aquifer Recharge Area Protection Zones
The City shall adopt and maintain an ordinance that identifies existing and potential well sites and aquifer recharge areas, including sufficient buffers to protect them from contamination. The ordinance shall define restricted and prohibited land uses within the wellhead/recharge protection zones and provide for the review and approval by both the City and the Atascadero Mutual Water Company of any project or development within the specified zones. The ordinance will establish a policy to provide for the monitoring of activities within these protection zones.
13. Support the establishment and protection of floodable terraces, wetlands, and revegetation along creeks and streams.

Policy 8.2: Establish and maintain setbacks and development standards for creek side development.

Program:

1. Adopt and maintain a creek setback ordinance that will establish building setbacks and development standards along the banks of Atascadero Creek, Graves Creek, blueline creeks and the Salinas River to ensure the uninterrupted natural flow of the streams and protection of the riparian ecosystem with flexible standards for the downtown area.

Responsibility: CDD, Planning Commission, City Council

Timeframe: Adopt Ordinance in 2003.

2. Prior to adoption of a creek setback ordinance an interim 20-foot creek setback shall be in effect along Atascadero Creek, Graves Creek and all other 7.5 min USGS quadrangle blueline creeks as follows:
 - a) On Atascadero Creek and Graves Creek setbacks shall be measured from the edge of the creek reservation.
 - b) All other blueline creek setbacks shall be measured from ordinary high water mark.
 - c) The Planning Commission may approve exceptions to the interim creek setbacks in the form of a Conditional Use Permit if the finding can be made that creeks, riparian areas and site improvement will not be negatively impacted by the exception.

Policy 8.3: Preserve public creek reserves for public access, and ensure that recreational use does not impact habitat value and open space qualities.

Programs:

1. Develop park, trail, and recreational amenities where appropriate in public creek reserves.
2. Require the dedication of trail easements and access points as part of subdivision maps or development permits consistent with the Circulation Element.

Policy 8.4: Review and regulate all proposed on-site wastewater disposal systems to protect public health and water quality.

Programs:

1. Update and support a Memorandum of Understanding or similar agreement between the City of Atascadero and Regional Water Quality Control Board regarding the standards for the design, approval, exception process, installation, and maintenance of on-site wastewater disposal systems.
2. Require percolation testing of all proposed subdivision lots that will not be served by sewer.
3. The City's Sewer Master Plan shall address sewerage areas with a high concentration of existing lots below 1/2 acre and areas with extremely severe soil percolation constraints.

Policy 8.5: The City shall implement a stormwater control program consistent with the requirements of the National Pollutant Discharge Elimination System (NPDES) Permit Program (Phase II).

Programs:

1. Adopt and implement an Urban Stormwater Quality Management and Discharge Control ordinance.
2. Include design guidelines to minimize impervious surfaces and decrease off-site storm flows in the Appearance Review Manual.
3. New development shall be required to maintain historic off-site storm flows unless improvements are made that maintain historic downstream and upstream flows.
4. The City will develop a stormwater master plan including shared detention facilities.
5. Require Erosion Control Plans and Stormwater Pollution Prevention Plans (SWPPP) for development on sites of 1-acre or more and on smaller sites with slopes over 10%.
6. The City will continue to notify project applicants and actively inspect sediment and erosion control mitigation measures from October 15 to April 15 of each year.

GOAL LOC 10 CONSERVE ENERGY AND RESOURCES BY PREVENTING OR CORRECTING DEGRADATION OF THE ENVIRONMENT

Policy 10.1: Ensure efficient and adequate solid waste disposal by reducing waste volumes through recycling and other methods.

Programs:

1. Pursuant to State law, institute a program to achieve maximum recycling of waste products generated by the community...
2. Continue to reduce solid waste through source reduction, curbside recycling, green waste collection, and recovery, in cooperation with the Integrated Waste Management Board (SLO IWMA).
3. Encourage recycling programs at City facilities, projects, and programs to the maximum extent feasible.
4. Support actions which conserve energy and encourage energy conservation. Consumption of non-renewable resources should be minimized. Renewable resources should be recycled or replenished.

Policy 10.2: Support ongoing water conservation efforts.

Programs:

1. Coordinate water conservation programs with AMWC...
2. Consider expansion of reclaimed water use.
3. Encourage the incorporation of water conservation measures in new development.

Policy 10.5: Encourage soil conservation by minimizing grading and preventing erosion.

Programs:

1. Require soil retention and erosion control as conditions of approval for development projects...
2. Amend the Municipal Code to require sediment and erosion control measures on projects, consistent with NPDES requirements.

GOAL SFN 5 REDUCE THE POTENTIAL FOR HARM TO INDIVIDUALS AND DAMAGE TO THE ENVIRONMENT FROM HAZARDOUS MATERIALS...

Policy 5.1: Reduce the potential for exposure to humans and the environment from hazardous substances.

Programs:

1. Require business that use, store, or transport hazardous materials to ensure that adequate measures are taken to protect health and safety.

Policy 5.2: Reduce the potential for pesticide exposure to humans and the environment.

Programs:

1. Ensure the emergency first responders and dispatch operators know to contact the County Agriculture Commissioner's Office for technical assistance in the event of a pesticide-related emergency.
2. Work with pesticide applicators (including commercial users and homeowners) to ensure necessary measures are taken to protect health and safety.
3. Provide information and technical guidance to encourage implementation of Integrated Pest Management strategies.

3.9 CITY MAINTAINED FACILITIES

The City maintains several types of facilities.

3.8.1 Public Parks

The City maintains the regional Lake Park Complex including playground equipment, barbecues, picnic areas, the lake and grounds, Paloma Creek Park Sports Complex and Playground, Traffic Way Park, Sunken Gardens Park and the Historic Administration Building grounds. These parks are maintained by the City's Park Division. A map of City maintained parks is provided in Appendix B.

3.8.2 Landscaping around Public Building and Lift Station Facilities

The City manages the landscaping of City Hall, the Police Station, Fire Stations, Charles Paddock Zoo, Lift Stations, and Maintenance Buildings. A map of City maintained facilities is provided in Appendix B.

3.8.3 Public Streets

The City manages the landscaping of the City medians, planters and parkways. The City also repairs, rehabilitates and maintains public roads.

3.10 CITY DEPARTMENTS AND COORDINATION

City Departments will work together to implement this SWMP. A brief description of each City Department that will be involved in SWMP implementation is included below:

Community Development Department

The Community Development Department administers the City's General Plan, Zoning Ordinances, Appearance Review Manual, International Building Code, International Fire Code, Native Tree Ordinance, Affordable Housing Program and California Environmental Quality Act (CEQA).

The Community Development Department issues receipt for payment for business license tax. All persons conducting business within the City are required to obtain a license in order to conduct business in the City. This includes mobile washers, Contractors, restaurants and other businesses.

The department's purpose is to ensure the orderly and logical development and growth of the City of Atascadero, while preserving the community's unique quality of life, rural character and natural environment. The Department provides technical analysis and recommendations to the Planning Commission and City Council on community development and land use issues.

Public Works Department

The Public Works Department functions include three primary divisions: they are Administration, Engineering and Operations Section. The Department has 25 full time employees.

The Administration Division provides the following services:

- Coordinates all Public Works activities
- Interacts with other agencies
- Transit Services
- Administers the contract for solid waste collection, disposal and recycling
- Administration of the Community Development Block Grant (CDBG) Program

The Engineering Division provides the following services:

- In-house engineering services for the Capital Projects Program, which includes funding, design and administration of City construction projects
- Review and approval of private development plans submitted to the City
- Inspection of public improvement construction projects and onsite grading and drainage for private developments
- Oversight of all traffic issues, including signage and striping, studies and traffic safety
- Management and implementation of Atascadero's Stormwater Management Program
- Technical and Engineering support for Wastewater

The Public Works Operations Section is divided into 4 Divisions, which are: Streets, Parks, Facilities and Wastewater Operations.

- Streets Division is responsible for 140 miles of roads and 14 bridges; including road surface repair and maintenance, center medians, traffic signals, traffic control devices and signs, traffic markings and striping, various curb painting, drainage structures, tree trimming and brush cutting. This Division also provides pick-up and disposal of dead animals, responds to all emergency situations, provides 24-hour stand-by coverage and performs over 70 different maintenance activities.
- Parks Division provides for City parks, street trees, medians and City grounds. The facilities include Atascadero Lake Park Complex, including playground equipment, barbecues, picnic areas, the Lake and grounds. The Division is responsible for the Lake Water Quality Program, maintaining the Paloma Creek Park Sports Complex and Playground, Colony Park, Sunken Gardens Park, Stadium Park and the City Administration Building grounds. The Parks Division also maintains and manages various City owned open space areas, creek reservations and trails.
- Facilities Division is responsible for the maintenance, repair and operation of all City Buildings including the Historic City Hall, City Hall Annex, Police Station, Fire Stations 1 and 2, Pavilion, Zoo Buildings and new Colony Park Community Center. This Division has adopted a proactive

approach to building care by implementing a maintenance and replacement program prior to a problem occurring. This preventative maintenance approach has helped to minimize the cost of building maintenance and has increased the level of service to the buildings.

- Wastewater Division protects public and environmental health and safety by providing wastewater collection and treatment service to approximately one-half of the City's residences as well as commercial and industrial customers. The Wastewater Division maintains a 2.39 million-gallon per day wastewater treatment facility, over 60 miles of pipeline, and 13 wastewater-pumping stations. The division also reclaims water for irrigation of the Chalk Mountain Golf Course.

Staff in different Divisions of this Section work together to capitalize on manpower for needed projects. Cross training and transferring between sections occurs periodically to provide an efficient and flexible staff to meet the public's needs.

Community Services Department

The Community Services Department functions include Recreation, Facility Management and the Zoo. The department consists of the Recreation and Zoo Divisions. The department is responsible for the management and planning of the parks, Lake Pavilion and the new Colony Park Community Center. The staff provides administrative support for the Parks and Recreation Commission. Staff also serves as a liaison to the San Luis Obispo Zoological Society Board of Directors, Youth Task Force, Visitors and Conference Bureau (VCB) Board and the City's Tourism Committee.

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4 STORMWATER MANAGEMENT PROGRAM REQUIREMENTS

This section briefly defines the best management practices that are designed to reduce the discharge of pollutants from municipal separate storm sewer systems (“MS4s”) to the maximum extent practicable. The best management practices are implemented under one of six minimum control measures established by the General Permit.

4.1 PUBLIC EDUCATION AND OUTREACH

The Public Education Minimum Control Measure of the Small MS4 Permit (adopted April 30, 2003) requires the Permittee “to implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.”

The purpose of this minimum control measure is to inform the community about steps they can take to improve the local water quality. Because numerous development, personal and property rights issues that have impacts to water quality have been contentious in the past, the City seeks to use the public education program to help build consensus and support for the Stormwater Management Program.

The City has identified the following Public Education and Outreach Goals:

- I. Increasing the level of knowledge and awareness of specific industries and target audiences to water quality related issues.
- II. Forming partnerships with other regulated small MS4s.
- III. Providing public recognition and incentives to highlight water quality efforts and achievements.

The following strategy will be followed to implement the Public Education and Outreach Goals:

- Target materials in a variety of formats towards specific members of the Community
 - i. Homeowners
 - ii. Commercial Activities
 - iii. School Aged Children
 - iv. City employees
- Target materials towards specific pollutants of concern
- Partner with other municipalities and stakeholder groups where possible to implement regional wide programs and conserve limited resources.
- Establish resource library

A table summarizing Public Education and Outreach BMPs is provided in Table 7. Implementation details are provided after the summary tables 7a through 7g.

Table 7 – Public Education and Outreach BMPs

BMP ID#	BEST MANAGEMENT PRACTICES (BMPS)	BMP INTENT	MEASURABLE GOALS AND OUTCOMES	BMP IMPLEMENTATION TIMETABLE					IMPLEMETER
				1	2	3	4	5	
PE1	Partner with other municipalities and stakeholder groups	Conserve resources while increasing public awareness of everyday activities and how they impact water bodies.	<p>PE1A: Attend a majority of scheduled SLO County Partners for Water Quality meetings. Document percent of meetings attended, level of support provided.</p> <p>PE1B: Support Groundwater Guardian efforts. Document level of support provided.</p> <p>PE1C: Provide Space for SLO Green Build to maintain kiosk. Confirm space provided.</p> <p>PE1D: Maintain standing with Tree City USA organization. Confirm standing held.</p>	X	X	X	X	X	Public Works, Community Development
				X	X	X	X	X	
				X	X	X	X	X	
				X	X	X	X	X	
PE2	Public School Outreach	Provide schools with educational materials, conduct class room presentations.	<p>PE2A: Target 4th grade students that attend public, private learning institutions within the City limits.</p> <p>PE2B: Increase participation 20% each year.</p>	X	X	X	X	X	Community Development, Public Works
					X	X	X	X	
PE3	Target Homeowner Community	Increase awareness of water quality issues and achieve voluntary compliance with discharge regulations.	PE3A: Develop or modify existing outreach materials to address the common behaviors known to generate stormwater pollution from homeowners. Document types of materials distributed and means of distribution.	X	X	X	X	X	Community Development

Table 7 – Public Education and Outreach BMPs

BMP ID#	BEST MANAGEMENT PRACTICES (BMPS)	BMP INTENT	MEASURABLE GOALS AND OUTCOMES	BMP IMPLEMENTATION TIMETABLE					IMPLEMENTER
				1	2	3	4	5	
PE4	Target materials towards specific members of the business community	Increase awareness of water quality issues and achieve voluntary compliance with discharge regulations.	<p>PE4A: Distribute brochures with 100% of applicable building permit application. Document number of building permits issued.</p> <p>PE4B: Distribute brochures to 100% targeted business. Document number and percent of distribution to target business.</p>	X	X	X	X	X	Community Development
				X	X	X	X	X	
PE5	Pet Waste Management	Reduce the source of pollution to receiving waters through education and enforcement of pet waste disposal and feral cat populations concerns.	<p>PE5A: Post signs and provide "mutt mitts" at public parks. Document the number of signs placed and the number of mutt mitts that were distributed.</p> <p>PE5B: Promote TNR program. Document the number of feral cats treated in program or relocated, support provided.</p>	X	X	X	X	X	Public Works, Community Services
				X	X	X	X	X	
PE6	Establish resource library	Provide a forum for stormwater management information to be disseminated and to allow community feedback.	<p>PE6A: Establish and promote web page.</p> <p>PE6B: Adopt/create a set of community manuals.</p> <p>PE6C: Place relevant links to valuable water quality related resources on City website. Update and promote website.</p>	X		X			IT, Community Development, Public Works
					X	X	X	X	

Table 7a – PE1 Partner with Other Municipalities and Stakeholder Groups

Title:	PE1 Partner with Other Municipalities and Stakeholder Groups
Task:	Use collaborative regional partnerships to leverage shared resources.
Purpose:	Distribute stormwater pollution prevention public education and outreach information, materials and activities.
BMP Details:	<p>In conjunction with the SLO County Partners for Water Quality, collaborate with countywide coalition of regulated MS4s to protect and improve water quality through stormwater pollution prevention. The coalition meets regularly to discuss stormwater issues of interest and concern. The coalition also shares resources and co-sponsors public events and other water quality activities. See http://www.slocounty.ca.gov/PW/Stormwater/Partners for more information on the program.</p> <p>In conjunction with the Atascadero Mutual Water Company:</p> <ol style="list-style-type: none"> a. Support the Groundwater Guardian program. Categories of Groundwater Guardian activities include education and awareness, pollution prevention, public policy, conservation and best management practices. These action oriented activities help to raise community awareness about groundwater issues (and their relation to surface water activities) and coordinate activities with local agencies and organizations already involved in water-related issues. See http://www.groundwater.org/active/community.asp?id=13 for more information about the program. b. Support the Our Water, Our World campaign to provide the public with information about less toxic pest management and less toxic pest controls. See http://www.ourwaterourworld.org/ for more information about the program. c. Provide an area for SLO Green Build to maintain an informational kiosk that contains information regarding green building and the SLO Green Build certification process. d. Maintain standing as a member of the Tree City USA organization, as appropriate. <p>In conjunction with the Upper Las Tablas Resource Conservation District:</p> <ol style="list-style-type: none"> a. Cooperate with the implementation of "Snapshot day." Snapshot day is an annual event that uses volunteers to take typical water quality field measurements and samples for lab-analysis. See http://montereybay.noaa.gov/monitoringnetwork/about_us.html#snapshot for more information regarding this program. b. Grant and watershed enhancement projects as opportunities arise, including additional entities such as Atascadero Land Preservation Society, The Land Conservancy, Regional Water Quality Control Board, Planning and Conservation League Foundation, etc).

Table 7a – PE1 Partner with Other Municipalities and Stakeholder Groups (Continued)

Implementation Milestones:	Year 1 – 5: <ul style="list-style-type: none"> ▪ Participate in majority of SLO County Partners for water quality meetings; ▪ Meet with AMWC semi-annually to coordinate support opportunities; ▪ Provide space for SLO Green Build to maintain a kiosk at the City Permitting Help Desk ▪ Maintain standing with Tree City USA organization. 		
Data Collected:	Coordinate with partnerships.		
Assessment Measures:	Confirmation: <ul style="list-style-type: none"> ▪ Identify coordination efforts, level of support provided. Tabulation: <ul style="list-style-type: none"> ▪ Number of events attended and/or funded. 		
Goals targeted:	Partner with other municipalities and stakeholder groups where possible to implement regional wide programs and conserve limited resources. Target materials towards specific members of the Community: All Establish resource library		
Pollutants Targeted:	All	SWMP Objectives:	VI
Notes:	Education, promotion and publication of events for Integrate Waste Management Authority programs and events are included in the SWMP under ID4 "Integrated Waste Management Authority"		

Table 7b – PE2 Public School Outreach

Title:	PE2 Public School Outreach		
Task:	Provide schools with educational materials, conduct classroom presentations		
Purpose:	Emphasize to students in the 4th grade why stormwater is important. Program includes the identification of stormwater impacts to local water bodies and ecosystems, what kids and their families can do to prevent stormwater pollution and what watershed stewardship service opportunities are available.		
BMP Details:	In conjunction with the partners for water quality and presented by a credentialed educator, this BMP provides an in-classroom stormwater pollution prevention presentation aligned with State curriculum standards and entitled "Where Does That Water Go?" The program uses a 3D interactive model to teach children about the relationship of their behaviors at home and school, to the storm drain and impacts on the receiving waters and aquatic wildlife. See http://www.slocounty.ca.gov/AssetFactory.aspx?did=16119 for more information on the program.		
Implementation Milestones:	<p>Year 1:</p> <ul style="list-style-type: none"> ▪ Identify private learning institutions within the City that have 4th grade students. ▪ Implement program in one public or private learning institution, reaching at least 30% of the 4th grade students at that institution. <p>Year 2 - 5:</p> <ul style="list-style-type: none"> ▪ Increase student participation 20% each year. 		
Data Collected:	<ul style="list-style-type: none"> ▪ Number of 4th grade students that attend public, private learning institutions within the City limits. ▪ Number of public, private learning institutions within the City limits. 		
Assessment Measures:	<p>Tabulation:</p> <ul style="list-style-type: none"> ▪ Number of Schools targeted; ▪ Percent of 4th grade students within the City limits that participated. 		
Goals targeted:	<p>Partner with other municipalities and stakeholder groups were possible to implement regional wide programs and conserve limited resources.</p> <p>Target materials towards specific members of the Community: School Age Children.</p> <p>Establish resource library.</p>		
Pollutants Targeted:	All	SWMP Objectives:	II, III, IV, V, VII
Notes:	<p>Participation is contingent with the permission of the School, which is a State agency. This program has been developed to complement existing curricula standards. However, schools have significant limitations on time available for outside programs and may be hesitant to accept this BMP. We hope that by focusing on one school early on, we will have testimonials from that school to assist in gaining access to other schools. Ultimately, the ability to broaden the program is limited on school acceptance. Depending on school acceptance and success of this program, the program may be reduced or expanded. The City will support and conduct this BMP until such time as the school district is covered by its own stormwater management program.</p>		

Table 7c – PE3 Homeowner Outreach

Title:	PE3 Homeowner Outreach		
Task:	Target outreach materials towards homeowners.		
Purpose:	Increase awareness of water quality issues and achieve voluntary compliance with discharge regulations		
BMP Details:	<p>Develop and distribute materials by tailoring existing materials towards City of Atascadero environment using community-based social marketing techniques. Specific areas of action include common behaviors known to generate stormwater pollution:</p> <ul style="list-style-type: none"> ▪ Chlorinated water discharge options. ▪ Landscape Care ▪ Car washing ▪ Proper disposal of household hazardous wastes ▪ Water Conservation Practices ▪ Alternatives to Toxic Substances ▪ Pest Control ▪ Pet Waste Management ▪ Septic Systems <p>Depending on the subject and funding availability, materials will be placed at strategic locations, provided on the City's web site, included in "Atascadero Magazine" (mailed to all City addresses yearly) or promoted on the City of Atascadero TV Channel 20. The City will partner yearly, or as funding is available, with other agencies to promote NPDES-compatible workshops within City limits (i.e. greywater harvesting, water conservation, sustainable landscapes).</p>		
Implementation Milestones:	<p>Year 1:</p> <ul style="list-style-type: none"> ▪ Landscape and pet waste management behaviors. An assessment of the need to prepare bilingual materials will be made based on census data. <p>Year 2- 5:</p> <ul style="list-style-type: none"> ▪ Remaining topics at a rate of two per year, with priorities based on public feedback. 		
Data Collected:	Develop or modify existing outreach materials to address the common behaviors known to generate stormwater pollution and determine the best venues to distribute developed materials.		
Assessment Measures:	<p>Confirmation:</p> <ul style="list-style-type: none"> ▪ Identify target audiences. ▪ Identify materials were developed and venues for distribution. <p>Tabulation:</p> <ul style="list-style-type: none"> ▪ Identify how many brochures were distributed per location. 		
Goals targeted:	<p>Target materials towards specific members of the Community: Homeowners.</p> <p>Establish resource library.</p>		
Pollutants Targeted:	All	SWMP Objectives:	I, II, III, IV, V, VI, VII
Notes:	<p>Placement of brochures at strategic locations (i.e. chlorinated water discharge brochures next to pool chemical supplier inventory, etc) must be approved by local suppliers. Where not allowed, the City will document efforts to establish collaboration with local suppliers to gain understanding of the business's adversity to allowing it. Channel TV 20 promotions will be used as long as the City Council supports the on-going availability of the channel.</p>		

Table 7d – PE4 Business Outreach

Title:	PE4 Business Outreach		
Task:	Target outreach materials towards businesses.		
Purpose:	Increase awareness of water quality issues and achieve voluntary compliance with discharge regulations		
BMP Details:	<p>Develop and distribute materials by tailoring existing materials towards City of Atascadero environment using community-based social marketing techniques. Specific areas of action include common business types known to generate stormwater pollution:</p> <ul style="list-style-type: none"> ▪ Landscape care ▪ Mobile cleaners (pet wash, carpet cleaning, auto detailers, pressure washing, etc). ▪ Contractors ▪ Automobile maintenance ▪ Pest control ▪ Restaurants ▪ Kennels and vets ▪ Dry Cleaners <p>The City will partner yearly with other agencies to promote NPDES-compatible workshops within City limits (i.e. IPM systems, sustainable landscapes).</p>		
Implementation Milestones:	<p>Year 1:</p> <ul style="list-style-type: none"> ▪ Landscape and pest control behaviors. ▪ Conduct assessment of the need to prepare bilingual materials based on census data. <p>Year 2- 5:</p> <ul style="list-style-type: none"> ▪ Evaluate success of previous year efforts by observing percent of targeted business's who are implementing recommended BMPs. Remaining topics at a rate of two per year, with priorities based on public feedback and observed stormwater violation trends. 		
Data Collected:	Develop BMP fact sheets/brochures. Quantify number of business reached.		
Assessment Measures:	<p>Confirmation:</p> <ul style="list-style-type: none"> ▪ Identify target audiences. Identify materials were developed. <p>Tabulation:</p> <ul style="list-style-type: none"> ▪ Quantify number of businesses where information was distributed. 		
Goals targeted:	<p>Partner with other municipalities and stakeholder groups were possible to implement regional wide programs and conserve limited resources.</p> <p>Target materials towards specific members of the Community: See details list above.</p> <p>Establish resource library.</p>		
Pollutants Targeted:	All	SWMP Objectives:	I, II, III, IV, V, VI, VII
Notes:	<p>All persons operating a business within the City are required to obtain a business license. New businesses license applications will be evaluated for suitability to incorporate into program. The initial list of targeted business will be based on public review and feedback. Notice of Violations will be tracked under IDE3a and additional businesses may be added or removed from the list of targeted businesses to reflect sources of pollutants as they are identified.</p>		

Table 7e – PE5 Animal Waste

Title:	PE5 Animal Waste		
Task:	Target outreach materials towards animal owners and creek side residents.		
Purpose:	Increase awareness of water quality issues associated with animal waste.		
BMP Details:	<p>Encourage pet owners to properly dispose of their animal's waste by launching public education campaigns that inform pet owners about the importance of cleaning up after their pets. Signs and "mutt mitts" will be placed at all public parks.</p> <p>The City will promote and support the North County Humane Societies "Trap, Neuter, and Return" program to reduce the feral cat populations within the City. See http://www.slonchs.org/programs.htm for more information on the North County Humane Society programs.</p>		
Implementation Milestones:	<p>Year 1:</p> <ul style="list-style-type: none"> ▪ Place "mutt mitt" stations at 50% of public parks. Evaluate dog "hot spots". ▪ Develop, in conjunction with North County Humane Society, appropriate measurable goals and timetables to reduce the feral cat population within the City limits and available City funding. <p>Year 2:</p> <ul style="list-style-type: none"> ▪ Place mutt mitt stations at 50% of public parks. <p>Year: 1-5:</p> <ul style="list-style-type: none"> ▪ Maintain mutt mitt stations. ▪ Place a mutt mitt at highest rated "hot spot." ▪ Promote and support the North County Humane Societies "Trap, Neuter, and Return" program 		
Data Collected:	Identification of frequent dog "hot spots" locations (trails, parks, sidewalks, etc) Development BMP fact sheets/brochures.		
Assessment Measures:	<p>Confirmation:</p> <ul style="list-style-type: none"> ▪ Level of support provided to TNR program. ▪ Identify materials were developed. ▪ Frequent "hot spot" locations were identified and prioritized. <p>Tabulation:</p> <ul style="list-style-type: none"> ▪ Number of mutt mitt stations installed. ▪ Number of mutt mitts used on an annual basis. ▪ Number of feral cats spayed or neutered or relocated to appropriate locations. 		
Goals targeted:	<p>Partner with other municipalities and stakeholder groups were possible to implement regional wide programs and conserve limited resources.</p> <p>Target materials towards specific pollutants.</p>		
Pollutants Targeted:	Fecal Coliforms	SWMP Objectives:	II, III, IV, V, VII
Notes:	The TNR program has been used successfully in the past to reduce the feral cat population in Atascadero. The program is effective but expensive to implement and may have political hurdles to address. The focus of this BMP will be on Atascadero Creek.		

Table 7g – PE6 Establish Resource Library

Title:	PE6 Establish Resource Library		
Task:	Provide information related to stormwater management		
Purpose:	To disseminate more detailed public education on stormwater controls.		
BMP Details:	Establish web page with stormwater management educational materials, links to relevant design aids (Construction site BMP and LID technique manuals) and forms for the public to report problems.		
Implementation Milestones:	<p>Year 1:</p> <ul style="list-style-type: none"> ▪ Establish and promote web page. <p>Year 2:</p> <ul style="list-style-type: none"> ▪ Coordinate with Technical Advisory Committee (see PP5) to determine best available manuals and required edits to address City of Atascadero specific concerns and priorities. <p>Year 3:</p> <ul style="list-style-type: none"> ▪ Incorporate recommended manuals into City standards, code, and public education materials. <p>Year 2- 5:</p> <ul style="list-style-type: none"> ▪ Update and promote web page. 		
Data Collected:	Web site usage. Construction Site BMPs and LID techniques manuals. Types of inquiries and City response times.		
Assessment Measures:	<p>Confirmation:</p> <ul style="list-style-type: none"> ▪ Identify web site developed ▪ Verify link to reference manuals and form for the public to provide input or complaints are included. ▪ Web site promoted. ▪ Identify data manuals adopted. <p>Tabulation:</p> <ul style="list-style-type: none"> ▪ Number of web site hits, percent increase in web site hits over time. ▪ Respond to 100% of the inquiries received with 24 hours (72 hours if on the weekend) 		
Goals targeted:	<p>Partner with other municipalities and stakeholder groups were possible to implement regional wide programs and conserve limited resources.</p> <p>Target materials towards specific pollutants.</p> <p>Establish Resource Library.</p>		
Pollutants Targeted:	All	SWMP Objectives:	I-VII
Notes:	The City of Atascadero will participate with a county-wide Technical Advisory Committee, assuming one is established.		

4.2 PUBLIC INVOLVEMENT / PARTICIPATION PROGRAM

The Public Involvement / Participation Minimum Control Measure of the Small MS4 Permit require the Permittee to comply with applicable State and local public notice requirements and to determine the appropriate BMPs to:

- Broaden public support by promoting citizen involvement in the development and decision making process.
- Shorten implementation schedules.
- Broaden the base of expertise and economic benefits.
- Provide a conduit to other programs.

The purpose of this minimum control measure, per EPA fact sheet 2.4 is to have citizens help to develop the program. Citizen inclusion into the process is anticipated to reduce legal challenges and encourage citizens to take an active role in the programs implementation. Additionally, cross-connections and relationships with other compatible programs can reduce program implementation costs and energy by spreading efforts across a greater number of programs.

The City has identified the following Involvement / Participation Goals:

- I. Incorporating public values, assumptions and preferences into water quality-related decision-making processes.
- II. Encouraging volunteerism and feedback of water quality related issues.

The following strategy will be followed to implement the Involvement / Participation Goals:

- Host biennial stakeholders meeting to review, assess SWMP program progress and modify the SWMP program to reflect citizen priorities.
- Encourage community clean up, education and monitoring efforts.
- Establish Adopt a Street / Creek Program

A table summarizing Public Involvement / Participation BMPs is provided in Table 8. Implementation details are provided for each BMP after the summary table in table 8a through 8e.

Table 8 – Public Involvement / Participation

BMP ID#	BEST MANAGEMENT PRACTICES (BMPS)	BMP INTENT	MEASURABLE GOALS AND OUTCOMES	BMP IMPLEMENTATION TIMETABLE					IMPLEMENTER
				1	2	3	4	5	
PP1	Public Notice	Provide the public an opportunity to discuss various viewpoints and to provide input concerning appropriate stormwater management policies and BMPs. See Section 2.6 Review & Report Program.	<p>PP1A: Host Biennial Stakeholders Meeting. Confirm meetings were publicized, document number of attendees, feedback provided.</p> <p>PP1B: Provide legal notice for all ordinance and SWMP public review periods.</p> <p>PP1C: Post Annual Report and provide a mechanism for the public to comment on the program priorities and effectiveness.</p>	X		X		X	Community Development
				X	X	X	X	X	
					X	X	X	X	
PP2	Storm Drain Marking	Raise awareness about the connection between storm drains and receiving waters and to deter littering, excess fertilizer use, dumping, and other practices that contribute to stormwater pollution.	<p>PP2A: Mark 20% of storm drain inlets each year. Count of number of storm drains within City and percent currently marked or in need of marking.</p> <p>PP2B: Modify City Standards 502 through 504. Confirm standards were revised.</p>	X	X	X	X	X	Public Works
					X				
PP3	Community Creek Clean Up Day	Allow concerned citizens to become directly involved in water pollution prevention, educate members of the community about the importance of stream water quality, and improve water quality.	PP3A: Partner with other agencies to assure an Atascadero Creek is included in community creek clean up days. Through City recognition and promotion of community wide events, increase public participation in community wide events each year. Track and trend level of participation and volume or mass of materials collected.	X	X	X	X	X	Community Services, Public Works

Table 8 – Public Involvement / Participation

BMP ID#	BEST MANAGEMENT PRACTICES (BMPS)	BMP INTENT	MEASURABLE GOALS AND OUTCOMES	BMP IMPLEMENTATION TIMETABLE					IMPLEMENTER
				1	2	3	4	5	
PP4	Develop and adopt a street/creek program	Allow concerned citizens to become directly involved in water pollution prevention, educate members of the community about the importance of stream water quality, and improve water quality.	<p>PP4A: Evaluate streets/creek reaches most suitable and in need of an adopt a street/creek program. Confirm map created.</p> <p>PP4B: Develop protocols (interval of clean up, insurance requirements, awareness signs) for adopt a street/creek program. Confirm protocols developed.</p> <p>PP4C: Recruit volunteers for initial demonstration/trial adopt a street/creek program. Document quantity of material removed, community participation levels.</p> <p>PP4D: Promote the program to increase public participation each year. Track and trend quantity of material removed and participation levels.</p>	X					Community Development, Community Services, Public Works
PP5	Technical Advisory Committee	Assist in the development, revision and review of water quality standards and administrative procedures.	<p>PP5A: Help establish makeup, goals and by-laws of technical advisory committee.</p> <p>PP5B: Participate in TAC meetings at intervals defined in PP5A effort and record meeting minutes.</p>	X					Public Works, Community Development
PP6	Creek Snapshot Day	Encourage community clean up, education and monitoring efforts.	PP6A: Partner with US-LT RCD to assure an Atascadero Creek is included in Creek Snapshot day. Promote event to increase public participation each year. Track and trend tested water quality parameters, number of volunteers participating in the program.	X	X	X	X	X	Public Works, Community Development

Table 8a – PP1 Stakeholder Meetings

Title:	PP1 Public Notice and Stakeholder Meetings		
Task:	Conduct biennial stakeholder meetings.		
Purpose:	Informed and solicit feedback from stakeholders of water quality issues in their community, assess SWMP program progress and modify the SWMP program to reflect citizen priorities and MEP standards.		
BMP Details:	Identify stakeholders, schedule and promote meeting. Facilitate discussion and revise programs as necessary.		
Implementation Milestones:	<p>Year 1, 3, 5:</p> <ul style="list-style-type: none"> ▪ Identify stakeholders, schedule and promote meetings. The Year 1 meeting will consist of the SWMP Regional Board adoption process. <p>Years 1-5:</p> <ul style="list-style-type: none"> ▪ Stakeholder meetings, with appropriate legal notice, will be held prior to implementation of any proposed ordinances. <p>Year 1-5:</p> <ul style="list-style-type: none"> ▪ Post annual report and provide mechanism to receive public comments. 		
Data Collected:	<ul style="list-style-type: none"> ▪ Number of citizen interests represented in stakeholder group. ▪ Record of material presented and feedback received. 		
Assessment Measures:	<p>Confirmation:</p> <ul style="list-style-type: none"> ▪ Stakeholders meeting was publicized and held, minutes taken. <p>Tabulation:</p> <ul style="list-style-type: none"> ▪ Number of events held. ▪ Number of attendees participating. <p>Survey:</p> <ul style="list-style-type: none"> ▪ Stakeholder input. 		
Goals targeted:	<p>Incorporating public values, assumptions and preferences into water quality-related decision-making processes.</p> <p>Encouraging volunteerism and feedback of water quality related issues.</p>		
Pollutants Targeted:	All	SWMP Objectives:	I-VII
Notes:	Meetings will be advertised on City Website, via e-mail from stakeholder list and in the local paper. Posting will be placed in accordance with public notification policies. See Section 2.6 for program effectiveness review and report details.		

Table 8b – PP2 Storm Drain Markings

Title:	PP2 Storm Drain Markings		
Task:	Mark 100% storm drains with message relating inlets to receiving waters.		
Purpose:	Raise awareness about the connection between storm drains and receiving waters and to deter littering, excess fertilizer use, dumping, and other practices that contribute to stormwater pollution.		
BMP Details:	Establish a program to comprehensively address storm drain marking of existing storm drains, actively recruit volunteer groups to help, and facilitate volunteer groups that take the initiative to undertake a marking project. Identify an appropriate and affordable means of thanking volunteers. Modify City standards drawing 502, 503 and 504 to require inlet marking for all new storm drains proposed.		
Implementation Milestones:	<p>Year 1:</p> <ul style="list-style-type: none"> ▪ Identify storm drain inlets without markings. Incorporate information into current storm drain GIS system. Mark 20% of unmarked inlets. <p>Year 2:</p> <ul style="list-style-type: none"> ▪ Modify City standards 502 through 504. Mark 20% of unmarked inlets. <p>Year 3 - 5:</p> <ul style="list-style-type: none"> ▪ Mark 20% of unmarked inlets. ▪ When all inlets are marked, inspect and re-mark inlets as needed. 		
Data Collected:	Number and location of existing storm drains present within City limits. Number of volunteers solicited. Number and location of new storm drains installed within City Limits.		
Assessment Measures:	<p>Confirmation:</p> <ul style="list-style-type: none"> ▪ Identify storm drain marking program created and publicized. Record approach of providing recognition to volunteers. ▪ Verify that City Standards have been revised. <p>Tabulation:</p> <ul style="list-style-type: none"> ▪ Number and percent of storm drains marked by volunteers. ▪ Percent of new storm drain inlets verified to include approved storm drain markings. 		
Goals targeted:	Encouraging volunteerism and feedback of water quality related issues.		
Pollutants Targeted:	All	SWMP Objectives:	II, III, IV, V, VII
Notes:	Program will focus storm drain marking projects to occur on one day of each year. Storm drains located in areas considered "high risk" will be marked using City crews.		

Table 8c – PP3 SLO County Creek Day

Title:	PP3 SLO County Creek Day		
Task:	Encourage individuals or groups to volunteer their time to improve water quality of designated creeks within the City Limits.		
Purpose:	Allow concerned citizens to become directly involved in water pollution prevention, educate members of the community about the importance of stream water quality; improve water quality of creeks targeted.		
BMP Details:	Creek Day is an existing County wide collaborative effort to help keep SLO County beautiful and trash free. The City will provide participant materials and support as necessary to assure a successful Atascadero effort. Partner with other agencies (Upper Salinas Las Tables RCD and Atascadero Mutual Water Company) to assure an Atascadero Creek is included in community creek clean up days.		
Implementation Milestones:	Year 1 – 5: Participate and promote county wide creek clean up day.		
Data Collected:	Volume or mass of material collected. Number of participants in local effort. Measures taken to promote event.		
Assessment Measures:	Confirmation: <ul style="list-style-type: none"> ▪ Identify event was held, how it was publicized and what support the City provided. Tabulation: <ul style="list-style-type: none"> ▪ Volume or mass of material collected. ▪ Number of participants. ▪ Track participation rates in program each year. 		
Goals targeted:	Encouraging volunteerism and feedback of water quality related issues.		
Pollutants Targeted:	All	SWMP Objectives:	II, III, V, VII
Notes:	Only stretches of creek accessible to the public will be included in this BMP.		

Table 8d – PP4 Adopt a Creek/Road Program

Title:	PP4 Adopt a Creek/Road Program		
Task:	Implement programs that provide public recognition for individuals or groups volunteering their time to improve water quality.		
Purpose:	Increase public awareness of water quality issues, promote active participation of watershed citizens, and reduce pollutants in the watershed.		
BMP Details:	Identify priority stretches of creeks and roads suitable for diverse participation (i.e. public access, no known safety concerns, etc). Create a map of areas up for adoption and protocols for the program. Create informational packets for distribution to interested organizations. Order materials. Publicize program.		
Implementation Milestones:	<p>Year 1:</p> <ul style="list-style-type: none"> ▪ Identify priority stretches of creeks and roads suitable for diverse participation (i.e. public access, no known safety concerns, etc). ▪ Create map of areas up for adoption and protocols for the program. <p>Year 2:</p> <ul style="list-style-type: none"> ▪ Create informational pack, order support materials. ▪ Solicit one organization for participation in demonstration project. <p>Year 3:</p> <ul style="list-style-type: none"> ▪ Adopt lessons learned from demonstration project. Edit materials accordingly. ▪ Promote program with the goal of increasing program participation each year. 		
Data Collected:	<ul style="list-style-type: none"> ▪ Number/length of reaches adopted. ▪ Volume or mass of material collected. ▪ Record of other enhancement made (weeds pulled, trees planted, etc). 		
Assessment Measures:	<p>Confirmation:</p> <ul style="list-style-type: none"> ▪ Identify materials were developed and program was publicized. <p>Tabulation:</p> <ul style="list-style-type: none"> ▪ Number of reaches adopted. ▪ Volume or mass of material collected. ▪ Record of enhancement made (weeds pulled, trees planted, etc). 		
Goals targeted:	Encouraging volunteerism and feedback of water quality related issues.		
Pollutants Targeted:	All	SWMP Objectives:	II, III, IV, V, VII
Notes:	This program will apply towards public roads and publicly accessible stretches of creek/streams.		

Table 8e – PP5 Technical Advisory Committee (TAC)

Title:	PP5 Technical Advisory Committee (TAC)		
Task:	Utilize local expertise (environmental, development, municipal representation) to review stormwater program.		
Purpose:	Provide for continuous improvement based of technical review of stormwater program elements.		
BMP Details:	Explores issues related to regulatory programs, proposed legislation, funding alternatives and identifying regional consensus for stormwater management programs to support water quality protection in the Regional.		
Implementation Details:	<p>Coordinate with SLO Partners for Water Quality:</p> <p>Year 1:</p> <ul style="list-style-type: none"> ▪ In collaboration with other municipalities, develop application and committee member selection criteria. Recruit and select TAC members. Determine appropriate sub committees and committee by-laws. <p>Year 2:</p> <ul style="list-style-type: none"> ▪ In collaboration with other municipalities, evaluate and make recommendations for region specific construction pollution prevention and LID design standards manual. Identify and prioritize regional priorities. <p>Year 3 – 5:</p> <ul style="list-style-type: none"> ▪ Address timely and technical water quality topics based on priorities established and at the request of the SLO County Partners for Water Quality Group. 		
Data Collected:	Number of participants and areas represented on TAC. Meeting records.		
Assessment Measures:	<p>Confirmation:</p> <ul style="list-style-type: none"> ▪ TAC formed. Meetings held. Recommendations made. <p>Tabulations:</p> <ul style="list-style-type: none"> ▪ Number of meetings attended. 		
Goals targeted:	Encouraging volunteerism and feedback of water quality related issues.		
Pollutants Targeted:	All	SWMP Objectives:	I, II, III, IV, VI
Notes:	Efforts will be collaborated with other members of the SLO Partners for Water Quality and the Regional Water Quality Control Board to establish a county-wide forum. The City will have representation on the TAC team, if a team is formed.		

Table 8c – PP6 Snapshot day

Title:	PP6 Snapshot day		
Task:	Promote community participation in Snapshot day.		
Purpose:	Allow concerned citizens to become directly involved in water pollution prevention, educate members of the community about the importance of stream water quality; improve water quality of creeks targeted.		
BMP Details:	Snapshot day occurs on the first weekend in May and has included Atascadero Creek historically. Support the Upper Salinas Las Tables RCD efforts to assure an Atascadero Creek is continued to be included in Snapshot Day. See http://montereybay.noaa.gov/monitoringnetwork/about_us.html#snapshot for additional information on the program		
Implementation Milestones:	Year 1 – 5: <ul style="list-style-type: none"> ▪ Participate and promote Snapshot day. 		
Data Collected:	Number of parameters that exceeded water quality objectives for Atascadero Creek. Number of participants.		
Assessment Measures:	Confirmation: <ul style="list-style-type: none"> ▪ Identify event was held, how it was publicized and what support the City provided. Tabulation: <ul style="list-style-type: none"> ▪ Track and trend tested water quality parameters. ▪ Track and trend number of volunteers participating in program. 		
Goals targeted:	Encouraging volunteerism and feedback of water quality related issues.		
Pollutants Targeted:	All	SWMP Objectives:	II, III, V, VII
Notes:	Only stretches of creek accessible to the public will be included in this BMP.		

4.3 ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

Illicit discharges are defined to be any discharge to an MS4 that is not composed entirely of stormwater, unless allowed through an exception process (such as discharges from fire-fighting activities).

The Illicit Discharge Detection and Elimination Program Minimum Control Measure of the Small MS4 Permit require Permittees to:

- Develop a storm drain map, showing the location of all outfalls and the names and locations of all waters of the US that receive discharges from those outfalls.
- Establish an ordinance or other regulatory mechanism, to prohibit the discharge of non-stormwater into the MS4. The ordinance must include appropriate enforcement procedures and actions.
- Develop a plan to detect and address non-stormwater discharges, including illegal dumping into the MS4 that are not authorized by a separate NPDES permit.
- Educate public employees, businesses and the general public about the hazards associated with illegal discharges and improper disposal of waste.
- Address non-stormwater discharges or flows when they are identified as significant contributors of pollutants to the MS4.

The purpose of this minimum control measure, per EPA fact sheet 2.5 is to eliminate non stormwater from entering into MS4s. Non stormwater often contributes high levels of pollutants, including heavy metals, toxics, oil and grease, solvents, nutrients, viruses and bacteria to receiving waters. These pollutants threaten the health of the receiving water body and those that depend on it.

The City has identified the following Illicit Discharge Detection and Elimination Program Goals:

- I. Increase awareness of the storm drain and receiving water system.
- II. Increase awareness of public employees, businesses and the general public about the hazards associated with illegal discharges and improper disposal of waste.
- III. Eliminate illicit discharges through education, enforcement and acceptable alternatives.

The following strategy will be followed to implement the Illicit Discharge Detection and Elimination Program Goals:

- Develop a GIS-based storm drain and receiving water atlas and use it to identify and track problem areas, required maintenance and discharge violations.
- Educate public employees, businesses and the general public about the hazards associated with illegal discharges and improper disposal of waste.
- Develop an Illicit Discharge Detection and Elimination ordinance.
- Dedicate staff time towards the inspection of non-stormwater discharges from culvert outfalls.

The City has identified the following categories of non-stormwater discharges or flows to be potential contributors of pollutants to the MS4:

- Irrigation water
- Fire and water line flushing

- Individual residential car washing
- Chlorinated swimming pool discharges
- Effluent from septic tanks and/or failing sewer lines
- Outdoor restaurant mat/floor/patio washing
- Street Wash Water

Not all of the categories above are regulated by the City. Only those that are regulated will be addressed in this IDDE section. The remaining categories are addressed in Minimum Control Measure 1: Public Education and Outreach and include efforts to reduce non-stormwater discharges associated with individual residential car washing and street wash water originating from pressure washers and steam cleaners and in Minimum Control Measure 4: Construction Site Stormwater Runoff Control Program for efforts to reduce non-stormwater discharges associated with street wash water originating from construction activities such as saw cutting slurry.

Categories of illicit discharges identified as non-significant contributors of pollutants to the MS4 are provided in Table 9.

Table 9 – Non-Significant Contributors

ILLICIT DISCHARGE	RATIONALE FOR DETERMINING DISCHARGE IS A NON-SIGNIFICANT CONTRIBUTOR OF POLLUTANTS
Water line flushing	Protocols are established that address chlorine residuals prior to them entering the MS4. If water lines need flushing or if they break, the line may be flushed to the atmosphere if de-chlorination tablets are used to neutralize the chlorine or the water is directed to a stabilized landscaped area. All de-chlorinated discharges shall be appropriately permitted.
Air Conditioning Condensates	This type of discharge is required to be re-infiltrated.
Diverted stream flows	The City does not have the authority to authorize any work that involves diverting stream flows. State and Federal permits define how stream diverting work will be performed. The City requires proof of these permits. If proof cannot be made, the City issues a stop work order and notifies all relevant permitting authorities.
Rising ground waters	The City does not permit the pumping of uncontaminated groundwater to the City storm drain unless the discharger has a valid NPDES Permit for the discharge. In some instances the City may permit pumping uncontaminated groundwater into the sanitary sewer collection system.
Uncontaminated ground water infiltration	This type of discharge is required to be re-infiltrated or in limited circumstances conveyed into the sanitary sewer.
Uncontaminated pumped ground water	Groundwater may be pumped from construction sites during excavation. The City does not permit the pumping of uncontaminated groundwater to the City storm drain unless the discharger has a valid NPDES Permit for the discharge. In some instances the City may permit pumping uncontaminated groundwater into the sanitary sewer collection system.
Discharges from potable water sources	This type of discharge is required to be conveyed to a stabilized landscape area and infiltrated.
Foundation Drains	This type of discharge is required to be conveyed to a stabilized landscape area and infiltrated.
Springs	Water from springs is considered uncontaminated unless identified otherwise. Identified sources of contaminated groundwater are remediated. New sources of contamination are sometimes discovered during excavation that occurs in new development and redevelopment. When a contaminated site is discovered, the City implements procedures to require site remediation and to bring the site into compliance with applicable regulations.

ILLICIT DISCHARGE	RATIONALE FOR DETERMINING DISCHARGE IS A NON-SIGNIFICANT CONTRIBUTOR OF POLLUTANTS
Water from crawl space pumps	This type of discharge is required to be conveyed to a stabilized landscape area and infiltrated.
Footing drains	This type of discharge is required to be conveyed to a stabilized landscape area and infiltrated.
Flows from riparian habitats and wetlands	Contaminants may be introduced into riparian habitats and wetlands by human activities. The City utilizes a number of BMPs to protect wetland areas, such as restricting access, prohibiting activities that may be harmful to the habitat area, and removing trash and debris from these areas. Flows from riparian habitats and wetlands can become contaminated if they come into contact with contaminants. When contaminants are found in a wetland or riparian habitat area, BMPs are used to prevent contact with surface flows.

The list of Illicit Discharge Detection and Elimination Program BMPs is provided in Table 10. Implementation details are provided for each BMP after the summary table in table 10a through 10c.

Table 10 – Illicit Discharge Detection and Elimination BMPs

BMP ID#12	BEST MANAGEMENT PRACTICES (BMPs)	BMP INTENT	MEASURABLE GOALS AND OUTCOMES	BMP IMPLEMENTATION TIMETABLE					IMPLEMETER
				1	2	3	4	5	
ID1	Develop a GIS-based storm drain and receiving water atlas/database.	Identify and track problem areas, required maintenance and discharge violations.	ID1A: Map and characterize entire storm drain and receiving waters located within the City Limits. Establish reporting and response protocols for storm drain outlet investigations and public reports (non-emergencies). ID1B: Update database.	X					Public Works, IT, Community Development
ID2	Educate public employees, businesses and the general public about the hazards associated with illegal discharges and improper disposal of waste.	Improve creek habitat, increase awareness of water quality issues and achieve voluntary compliance with discharge regulations.	ID2A: Provide IDDE specific training to 100% of field crews biennially. ID2B: Create procedures for locating problem areas and responding to complaints. ID2C: Investigate and require corrective action when appropriate for 100% of illicit discharges identified. ID2D: Conduct dry weather inspections. Inspect 100% of high risk outlets annually.		X		X		Public Works, Community Development
ID3	Adopt an Illicit Discharge Detection and Elimination ordinance	Eliminate Illicit Discharges.	ID3A: Confirm ordinance is in place that addresses categories listed in Section D.2.c (6) of the MS4 General Permit.			X			Community Development, Public Works
ID4	Recycling and Household Hazardous Waste Program.	Reduce pollutants in stormwater runoff from litter and illegal dumping.	ID4A: Promote IWMA activities through public outreach. ID4B: Implement measures to reduce illegal dumping. Track and trend illegal dumping sites and volumes.	X	X	X	X	X	Community Development, Public Works

Table 10 – Illicit Discharge Detection and Elimination BMPs

BMP ID#12	BEST MANAGEMENT PRACTICES (BMPS)	BMP INTENT	MEASURABLE GOALS AND OUTCOMES	BMP IMPLEMENTATION TIMETABLE					IMPLEMENTER
				1	2	3	4	5	
ID5	Spill Overflow Prevention and Response Program.	Reduce pollutants in stormwater runoff.	<p>ID5A: Coordinate stormwater program with City Sewer System Management Plan.</p> <p>ID5B: Coordinate with first responders and County Public Health and Environmental Health Services to assure hazardous spill protection and control procedures and training are consistent with the City's Stormwater Management Program.</p>		X				Community Development, Public Works

Table 10a – ID1 Tracking Records and Databases

Title:	ID1 Tracking Records and Databases		
Task:	Develop a GIS-based storm drain and receiving water atlas.		
Purpose:	Allow for geospatial analysis of trends in illicit discharge activity and reduce pollutant loading delivered to receiving waters through illicit discharges.		
BMP Details:	Identify location and characteristics of all storm drain outlets and their receiving water bodies. Incorporate contributing land uses, potential pollutant sources and risks to receiving waters. Identify priority of outlets based on known problem areas and suspected "hot spots." Determine baseline data of extent of illicit discharge problem. Establish complaint reporting mechanism (phone line and internet based form) and procedures for routing complaints. Create IDDE reporting form to log complaints and resolution.		
Implementation Details:	<p>Year 1:</p> <ul style="list-style-type: none"> ▪ Identify data gaps and focus on completing inventory of outlets associated with Atascadero Creek. ▪ Prioritize and create a plan to address remaining areas with data gaps. ▪ Create IDDE reporting form to log complaints and resolution. ▪ Develop reporting and response protocols. <p>Year 1-5:</p> <ul style="list-style-type: none"> ▪ Maintain database once developed. 		
Data Collected:	Number, location and IDDE priority of storm drain outlets. Report and resolution mechanisms.		
Assessment Measures:	<p>Confirmation:</p> <ul style="list-style-type: none"> ▪ Identify GIS system and IDDE reporting mapping and system that was developed. Establish, maintain and promote a phone line and web site based complaint reporting mechanism. ▪ Confirmation that 100% of high risk outlets have stormwater stencil on the inlets. <p>Tabulation:</p> <ul style="list-style-type: none"> ▪ Number of high risk outlets identified. ▪ Number and result of dry weather inspections conducted. ▪ Number of person hours dedicated to dry weather inspections. ▪ Number and types of complaints received, method of complaint, investigation, pollutants or activity involved, response time and resolution provided, confirm follow up inspection took place. ▪ Percent of outlets identified as a problem from year to year. 		
Goals targeted:	Increase awareness of the storm drain and receiving water system; Increase awareness of public employees, businesses and the general public about the hazards associated with illegal discharges and improper disposal of waste; Eliminate illicit discharges through education, enforcement and acceptable alternatives.		
Pollutants Targeted:	All	SWMP Objectives:	II, III, IV
Notes:	This BMP is tightly coordinated with BMP ID2 Education and Training. Response protocols will be coordinated with SSMP and existing HazMat programs (BMP ID5.)		

Table 10b – ID2 Education and Training

Title:	ID2 Education and Training		
Task:	Develop or utilize existing training program and guidelines for maintenance and code enforcement staff		
Purpose:	Standardize illicit discharge response procedures and procedures on how to locate, eliminate and prevent illicit discharges.		
BMP Details:	One hour training sessions will be conducted biennially and be developed / oriented towards City field crews. City field crews will be represented in the development of the training and response procedures. Procedures will include documentation of types of illicit discharges, educational pamphlets prepared/provided to offenders and thresholds and steps to trigger enforcement, if necessary. Procedures will be documented in pocket sized guide. On alternative years, a segment no less than 10-minutes will be dedicated to the IDDE program during other NPDES training topics being covered. Develop procedures for tracing the source of an illicit discharge, and develop plant to detect and address illicit discharges. Dedicate staff time to conduct dry weather monitoring of high risk outlets and to update mapping and database with information from IDDE reporting form.		
Implementation Details:	<p>Year 2:</p> <ul style="list-style-type: none"> ▪ Provide in-house training to present IDDE procedures and increase awareness. Solicit feedback of field crews and revise program as necessary. <p>Year 3-5:</p> <ul style="list-style-type: none"> ▪ Conduct dry weather inspections of 100% of high risk outlets year. Promote public complaint process. <p>Year 4:</p> <ul style="list-style-type: none"> ▪ Provide in-house training to present IDDE procedures and increase awareness. Review results (fines, improvements, etc) made as a result of violations observed and reported during year 2 and 3. Solicit feedback of field crews and revise program as necessary. <p>Year 5:</p> <ul style="list-style-type: none"> ▪ Reduce reported illicit discharges while actively promoting public complaint process. 		
Data Collected:	Training modules used/developed. Number of attendees at training session(s). Result of evaluation form from attendees, results from classroom quizzes, percent improved before and after survey/quiz.		
Assessment Measures:	<p>Confirmation:</p> <ul style="list-style-type: none"> ▪ IDDE focus training took place. Document improvements made to the program. <p>Tabulation:</p> <ul style="list-style-type: none"> ▪ Number of attendees. Results from evaluation forms, pre and post test. 		
Goals targeted:	<p>Increase awareness of the storm drain and receiving water system.</p> <p>Eliminate illicit discharges through education, enforcement and acceptable alternatives.</p>		
Pollutants Targeted:	All	SWMP Objectives:	II, III, IV, V
Notes:	The implementation of this BMP will be coordinated with the AMWC and entities identified in BMP ID4. The phone line will be established and promoted in year 1. If the number of calls to the phone line by year 3 is significant, a separate "hotline" will be established.		

Table 10c – ID3 Illicit Discharge Ordinance

Title:	ID3 Illicit Discharge Ordinance		
Task:	Define and prohibit illicit discharges into the storm sewer system.		
Purpose:	Reduce illicit discharges to protect receiving water quality.		
BMP Details:	Define what constitutes an illicit discharge. Establish responsibility and authority to enforce illicit discharge violations; verify tracking system developed in ID1 is suitable for tracking needs.		
Implementation Details:	<p>Year 3:</p> <ul style="list-style-type: none"> ▪ Draft Ordinance will be developed, provided for public review and adopted. <p>Year 4:</p> <ul style="list-style-type: none"> ▪ Ordinance will be implemented and enforced throughout the term of the permit. Enforcement actions will be documented and trends will be included in the Annual Report. 		
Data Collected:	Review and modification/adoption of revised/new codes to address illicit discharge concerns.		
Assessment Measures:	<p>Confirmation:</p> <ul style="list-style-type: none"> ▪ Illicit discharge ordinance adopted (year 3) or modifications made to other ordinance to address illicit discharges. 		
Goals targeted:	<p>Increase awareness of the storm drain and receiving water system.</p> <p>Eliminate illicit discharges through education, enforcement and acceptable alternatives.</p>		
Pollutants Targeted:	All	SWMP Objectives:	II, III, IV, V
Notes:	<p>IDDE Ordinance will be distributed for public review with at least one public workshop to solicit public input prior to adoption.</p> <p>Reporting of enforcement actions will be tracked per database developed in BMP ID1 and analyzed for trends as part of the annual report.</p>		

Table 10d – ID4 Recycling and Household Hazardous Waste

Title:	ID4 Recycling and Household Hazardous Waste		
Task:	Reduce pollutants in stormwater runoff from litter and illegal dumping.		
Purpose:	Reduce pollutants in stormwater runoff from litter and illegal dumping.		
BMP Details:	The IWMA program is a county-wide effort to reduce hazardous waste. The program generally participates in Earth Day, collaborates with businesses to increase recycling opportunities and promotes actions that divert materials (hazardous and non-hazardous) from the landfill. See http://www.iwma.com/index.html for additional details on the IWMA programs.		
Implementation Details:	<p>Year 1:</p> <ul style="list-style-type: none"> ▪ Survey city maintenance employees for field observations about littering and illegal dumping activities. Identify and prioritize top ten locations and potential to implement improvements to reduce the ease and risk of the public to litter and dump at these locations (by fencing, signage, education and/or increased patrols, etc). <p>Year 1-5:</p> <ul style="list-style-type: none"> ▪ Include IWMA activities on City web site and TV stations, as appropriate. ▪ Implement improvements to address top 2 littering and dumping locations each year. 		
Data Collected:	Tons of material collected at local IWMA stations yearly. Identification of problem areas and opportunities to improve.		
Assessment Measures:	<p>Confirmation:</p> <ul style="list-style-type: none"> ▪ City has a household hazardous waste drop off location. ▪ Household hazardous waste drop off location and IWMA program is included on web site and in applicable brochures. ▪ Coordination provided to promote IWMA programs. ▪ Survey of City field crews took place. Map of problem areas developed. <p>Tabulation:</p> <ul style="list-style-type: none"> ▪ Volume, mass or other applicable measurement (i.e. number of fluorescent tubes and bulbs, etc) ▪ Number and characterization of projects taken to reduce littering or dumping that took place. 		
Goals targeted:	Eliminate illicit discharges through education, enforcement and acceptable alternatives.		
Pollutants Targeted:	All	SWMP Objectives:	II, III, IV, VII
Notes:	The nearest household hazardous waste drop off point is at the Chicago Grade Landfill, located off of HWY 41 at 2290 Homestead Road, Templeton California. The facility is open on Saturdays from 11am to 3pm.		

Table 10c – ID5 Hazardous spill protection and Control

Title:	ID5 Hazardous spill protection and control		
Task:	Integrate Sewer System Management Plan and First Responders HazMat response plans into the SWMP.		
Purpose:	Reduce pollutants in stormwater runoff.		
BMP Details:	<p>The San Luis Obispo Hazmat Team is a multi-agency team comprised of 30 members from Cal Fire, San Luis Obispo City, Arroyo Grande Fire, Paso Robles City, Atascadero Fire, San Luis Obispo County Environmental Health, and the California Men's Colony. Their mission is protection of public health and safety, protection of the environment and mitigation of environmental damage, protection of property and assets and to safety of all emergency responders</p> <p>Besides dealing with typical emergency response challenges, the HazMat Team intentionally intervenes in chemical, biological, and radiological accidents.</p> <p>Containment and cleanup of chemicals and any contaminated equipment and environmental media such as soil or water are regulated by the Environmental Protection Agency (EPA) and the San Luis Obispo County Health. Severe fines, penalties, and criminal enforcement action can be taken against those individuals that violate environmental regulations. The HAZMAT Team must ensure that the laws and regulations of both OSHA and the EPA/County Health are adhered to.</p>		
Implementation Details:	<p>Year 1:</p> <ul style="list-style-type: none"> ▪ Identify or create response plans. ▪ Ensure notification and treatment protocols are reflected in Municipal Operations Plans. 		
Data Collected:	Number of incidents responded to in the City.		
Assessment Measures:	<p>Confirmation:</p> <ul style="list-style-type: none"> ▪ Plans reviewed for consistency. ▪ SWMP or other plans updated as necessary. ▪ 100% of HazMat response calls adhered to response plans. 		
Goals targeted:	Increase awareness of public employees, businesses and the general public about the hazards associated with illegal discharges and improper disposal of waste.		
Pollutants Targeted:	All	SWMP Objectives:	II, III, IV, VII
Notes:			

4.4 CONSTRUCTION SITE STORMWATER RUNOFF CONTROL PROGRAM

Construction sites have the potential to affect storm and receiving water quality.

The Construction Site Runoff Control Program Minimum Control Measure of the Small MS4 Permit seeks to eliminate, where possible, the pollutants contributed from construction sites by requiring that Permittees:

- Establish an ordinance or other regulatory mechanism, to require the implementation of proper erosion and sediment controls, and controls for other wastes, on applicable construction sites, consistent with SWRCB General Construction Activities Stormwater Permit.
- Have procedures for site plan review of construction plans that are consistent with applicable SWPPP and considers potential water quality impacts.
- Have procedures for NOI, SWPPP verification, site inspection and enforcement on control measures.
- Have sanctions to ensure compliance.
- Establish procedures for the receipt and consideration of information submitted by the public.

The City has identified the Construction Site Runoff Control Program Goals:

- I. Increase awareness public employees, businesses and the general public of the pollutant potential of construction sites.
- II. Reduce the pollutant load generated from construction sites.

The following strategy will be followed to implement the Construction Site Runoff Control Program Goals:

- Include erosion and sediment control plan review into the discretionary review process.
- Educate City employees, businesses and the general public about the potential pollutants associated with construction sites.
- Update and maintain the Municipal code, to require the implementation of proper erosion and sediment controls, and controls for other wastes, on applicable construction sites. Applicable projects are those are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity in effect at the time the project submits its Notice of Intent to the Water Board and for smaller sites with slopes over 10%.
- Utilize standardized construction site inspection checklists that include erosion and sediment controls, and non-stormwater discharges.
- Track inspection and enforcement actions.

The list of Construction Site Runoff Control Program BMPs is provided in Table 11. Implementation details are provided for each BMP after the summary table in table 11a through 11c.

Table 11 – Construction Site Runoff Control BMPs

BMP ID#	BEST MANAGEMENT PRACTICES (BMPS)	BMP INTENT	MEASURABLE GOALS AND OUTCOMES	BMP IMPLEMENTATION TIMETABLE					IMPLEMENTER
				1	2	3	4	5	
CON1	Include erosion and sediment control plan review into the discretionary review process	Ensure consistent application of proper E&SC methods.	<p>CON1A: Review and amend existing ordinance to comply with MS4 General Permit and Construction Storm Water Permit requirements. Incorporate reference to BMP manuals into applicable ordinance. Develop standard conditions of approval that are consistent with MS4 General Permit and Construction Storm Water Permit requirements.</p> <p>CON1B: 100% of City staff with discretionary review duties is trained to ensure project include BMPs needed and are in conformance with City- adopted BMP Reference Manuals and City Standards.</p>	X					Community Development
CON2	Educate public employees, businesses and the general public about the potential pollutants associated with construction sites.	Improve awareness; reduce construction site-related discharges.	<p>CON2A: Develop construction site runoff control brochure and construction site inspection checklist.</p> <p>CON2B: Require 100% of construction site inspectors to receive a minimum 1-hour training/refreshers course every year related to proper E&SC/stormwater handling on construction sites.</p> <p>CON2C: Perform inspections to verify that E&SC measures are installed per plan and City Manuals.</p>	X					Community Development
CON3	Erosion and Sediment Control Plans	Eliminate pollutant runoff from construction sites	CON3A: Require E&SC Plans be submitted and approved for 100% of projects requiring a grading permit, prior to commencing earth disturbing activities.	X	X	X	X	X	Community Development
CON4	Establish construction site complaint reporting mechanism	Eliminate pollutant runoff from construction sites	CON4A: Provide ability to report construction site complaints via hotline or internet based form. Respond to 100% of reports within 24-hours or 72-hours if reported on weekend	X	X	X	X	X	Community Development, IT

Table 11a – CON 1 Discretionary Review Tools

Title:	CON 1 Discretionary Review Tools		
Task:	Define minimum E&SC requirements, establish plan review checklist.		
Purpose:	Establish minimum requirements to implement for construction site operators to comply with Construction Stormwater General Permit to control construction-related discharges.		
BMP Details:	Review local codes for E&SC requirements to verify that E&SC plans are required for all projects that trigger a grading permit, that reference is made to an adopted E&SC design guide and a progressive enforcement policy is in place. Develop Standard Conditions of Approval and informational brochure related to E&SC practices that requires specific construction site runoff control measures as required by the MS4 General Permit and Construction Stormwater General Permit, including, but not limited to: use of good site planning, minimization of soil movement, erosion and sediment control BMPs, good housekeeping practices for recycling and disposal of discarded building materials, concrete truck washouts, chemicals, litter, and sanitary waste as construction sites and post-construction BMPs protections in place. Train new plan reviewers on E&SC plan check requirements to ensure that project will include BMPs needed to be in conformance with adopted manual or City Engineer's approval.		
Implementation Details:	<p>Year 1:</p> <ul style="list-style-type: none"> ▪ Identify local codes for E&SC requirements and identify needed Ordinances and Standards revisions if appropriate. ▪ Confirm E&SC plan triggers are appropriate. ▪ Verify all plan checkers have received training related to E&SC practices. <p>Year 2:</p> <ul style="list-style-type: none"> ▪ Ordinances and Standards required revisions adopted if needed. ▪ Develop Standard Conditions of Approval, ▪ Develop informational brochure related to E&SC practices and adopt BMP reference manual. <p>Year 2 – 5:</p> <ul style="list-style-type: none"> ▪ Track reporting data and train plan reviewer staff as necessary. 		
Data Collected:	Review and modification/adoption of revised/new codes to address E&SC plan requirements. Number of grading permits. Number of E&SC plans requiring revision.		
Assessment Measures:	<p>Confirmation:</p> <ul style="list-style-type: none"> ▪ Review and modification of codes made, if needed. ▪ E&SC brochure prepared and distributed. ▪ Code includes reference to adoption BMP reference manual <p>Tabulation:</p> <ul style="list-style-type: none"> ▪ Percent of grading permits issues that included E&SC plans. ▪ Number of permitted receiving education and outreach materials. <p>Surveys:</p> <ul style="list-style-type: none"> ▪ Results from discretionary review training evaluation forms pre & post class testing. 		
Goals targeted:	<p>Increase awareness public employees, businesses and the general public of the pollutant potential of construction sites.</p> <p>Reduce the pollutant load generated from construction sites.</p>		
Pollutants Targeted:	All	SWMP Objectives:	II, III, V
Notes:	Revisions to Grading Ordinance, if required, will be distributed for public review prior to adoption. At least one public meeting to solicit public input will be held if revisions are required.		

Table 11b – CON 2 Construction Site Inspections and Enforcement

Title:	CON 2 Construction Site Inspection and Enforcement		
Task:	Define Construction Site Inspection and Enforcement Protocols.		
Purpose:	Eliminate construction related discharges.		
BMP Details:	Establish standard field inspection forms and follow up procedures to ensure that construction site stormwater BMPs are being implemented and properly maintained. Establish a protocol to determine inspection priorities and frequency based on potential water quality impacts. Developed documentation system to identify active/inactive construction sites, minimum inspection frequencies, and pertinent project information such as owner, contractor, start and completion dates, potential water quality impacts, size of project and active construction areas in acres, inspection date, inspection findings, complaints received and City response to address complaints. Verify inspection staffs are trained in construction site stormwater and water quality related issues. Develop informational brochure related to proper E&SC field practices. Require E&SC responsibilities be a topic in pre-construction meeting for verification of WDID number, expected on-site maintenance of SWPPP, and availability of informational brochure and City-approved reference BMP manuals related for proper implementation of E&SC practices. Post links to Contractor E&SC training opportunities on City web site. Require Construction Site to post hotline number on site.		
Implementation Details:	<p>Year 1:</p> <ul style="list-style-type: none"> ▪ Develop construction site field review checklist and protocols to determine inspection priorities. <p>Year 1 – 5:</p> <ul style="list-style-type: none"> ▪ Hold pre-construction meetings for Major Grading projects (>500 cubic yards disturbed). ▪ Inspect project sites, as needed, subject to General Construction Permit and SWPPP requirements for compliance. ▪ Track reporting data and train inspection staff as necessary. ▪ Update web site with links to Contractor E&SC training opportunities. 		
Data Collected:	Review and modification/adoption of revised/new codes to address enforcement requirements. Number and type of corrective and enforcement actions taken. Number of referrals to RWQCB. Number of repeat offenders and/or problem areas identified.		
Assessment Measures:	<p>Confirmation:</p> <ul style="list-style-type: none"> ▪ E&SC field practices brochure prepared and distributed with applications, posted on web site. ▪ Construction site inspection staff training held. <p>Tabulation:</p> <ul style="list-style-type: none"> ▪ Number of inspections ▪ Number and type of enforcement actions taken ▪ Percent of enforcement actions taken year to year; Percent of major vs. minor enforcement actions; ▪ Number of referrals to RWQCB and repeat offenders/problem areas identified ▪ Number of inspectors trained <p>Surveys:</p> <ul style="list-style-type: none"> ▪ Results from inspection training evaluation forms pre & post class testing. 		
Goals targeted:	Increase awareness of pollutant potential of construction sites. Reduce the pollutant load generated from construction sites.		
Pollutants Targeted:	All	SWMP Objectives:	II, III, V
Notes:			

Table 11c – CON 3 Erosion & Sediment Control Plans

Title:	CON 3 Erosion and Sediment Control Plans		
Task:	Require E&SC plans prior to commencing earth-disturbing activities		
Purpose:	Eliminate construction related discharges.		
BMP Details:	Require Erosion and Sediment Control Plans be submitted and approved for 100% of projects requiring a grading plan, prior to commencing earth disturbing activities.		
Implementation Details:	<p>Year 1 – 5:</p> <ul style="list-style-type: none"> ▪ Require applicable projects to submit and receive approval of an erosion and sediment control plan prior to commencing earth disturbing activities. ▪ Require Erosion and Sediment Control responsibilities as a topic in pre-construction meeting. 		
Data Collected:	<ul style="list-style-type: none"> ▪ Number of projects. ▪ Number of projects requiring and erosion and sediment control plan. ▪ Number of pre-applications meetings held. ▪ Date E&SC plan approved, date earthwork (or other ground disturbing activities) began. 		
Assessment Measures:	<p>Confirmation:</p> <ul style="list-style-type: none"> ▪ Number and percent of projects that had pre-construction meetings with construction site stormwater management as a topic. <p>Tabulation:</p> <ul style="list-style-type: none"> ▪ Number of projects that included pre-application meetings. ▪ Percent of required projects submitted that included erosion and sediment control plans. ▪ Number of projects that began earth-disturbing activities prior to approval of erosion and sediment control plan. 		
Goals targeted:	<p>Increase awareness public employees, businesses and the general public of the pollutant potential of construction sites.</p> <p>Reduce the pollutant load generated from construction sites.</p>		
Pollutants Targeted:	All	SWMP Objectives:	II, III, V, VII
Notes:			

Table 11d – CON 4 Construction Site Complaint Mechanisms

Title:	CON 4 Construction Site Complaint Mechanism		
Task:	Establish Construction Complaint Mechanism; follow up protocols.		
Purpose:	Eliminate construction related discharges.		
BMP Details:	Create and promote stormwater hot line and internet based compliant form. Establish complaint response protocols, including field investigation, data tracking.		
Implementation Details:	<p>Year 1:</p> <ul style="list-style-type: none"> ▪ Create and promote stormwater hot line and internet based compliant form. ▪ Establish protocols to follow up on construction site issues and with originator of complaint, if known. <p>Year 1 – 5:</p> <ul style="list-style-type: none"> ▪ Track reporting data; respond to 100% of citizen reports within 24-hours or 72-hours if reported on weekend. ▪ Review protocols with hotline operators and internet complaint form 'down loaders' prior to each rainy season. 		
Data Collected:	<ul style="list-style-type: none"> ▪ Number and type of complaints received through each medium. ▪ Corrective and enforcement actions taken. ▪ Number of referrals to RWQCB. ▪ Number of repeat offenders and/or problem areas identified. 		
Assessment Measures:	<p>Confirmation:</p> <ul style="list-style-type: none"> ▪ Review phone line, internet based complaint form created and promoted. <p>Tabulation:</p> <ul style="list-style-type: none"> ▪ Number of inspections, Number and type of enforcement actions taken. ▪ Percent of major vs. minor enforcement actions. ▪ Percent of enforcement actions taken year to year. ▪ Number of referrals to RWQCB and repeat offenders/problem areas identified. ▪ Number of inspectors trained <p>Surveys:</p> <ul style="list-style-type: none"> ▪ Follow up with reporter for feedback on action taken. ▪ Follow up with site inspectors for feedback on action taken. 		
Goals targeted:	<p>Increase awareness public employees, businesses and the general public of the pollutant potential of construction sites.</p> <p>Reduce the pollutant load generated from construction sites.</p>		
Pollutants Targeted:	All	SWMP Objectives:	II, III, V, VII
Notes:	Phone line and internet based form created as part of ID1 Tracking Records and Databases.		

4.5 POST-CONSTRUCTION STORMWATER MANAGEMENT FOR NEW AND REDEVELOPMENT PROGRAM

Post-Construction stormwater management controls implemented in new and re-development projects can significantly reduce the impacts of development to receiving water bodies.

The Post-Construction stormwater management controls Program Minimum Control Measure of the Small MS4 Permit seeks to:

- Develop and implement strategies which include a combination of structural and/or non-structural BMPs
- Have an ordinance or other regulatory mechanism requiring the implementation of post-construction runoff controls to the extent allowable under State law.
- Ensure adequate long-term operation and maintenance of controls.

The City has identified the Post-Construction stormwater management controls Program Goals:

- I. Increase awareness of public employees, businesses and the general public of the site, source and treatment controls that can reduce the impacts of development/redevelopment to receiving water bodies.
- II. Incorporate good site, source and treatment controls into City code and the development review process.
- III. Assure mechanism is in place for long-term maintenance of post-construction facilities in new subdivisions.

The following strategy will be followed to update design standards and codes as necessary to implement the Post-Construction stormwater management control program goals:

- Include the site, source and treatment controls plan review into the discretionary review process.
- Ensure all projects limit clearing of native vegetation to minimum necessary, maximize trees and vegetation, and protect slopes and channels from eroding by conveying runoff safely from tops of slopes, utilizing natural drainages, stabilizing permanent channel crossings and vegetating slopes with native vegetation in accordance with Attachment 4 design standards.
- Apply post construction control standards for the following new and redevelopment projects not "deemed complete"⁷ by the end of year 1:
 - Single-Family Hillside Residences on slopes greater than 10%.
 - Automotive Repair Shops
 - Retail Gasoline Outlets
 - Restaurants
 - Home Subdivisions with 10 or more housing units

⁷ "Deemed Complete" means upon certification of the project's EIR, when an EIR is required for the project or upon completion of environmental review by staff, when an EIR is not required for the project.

- Parking lots 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to stormwater runoff
- New development projects that create 5,000 square feet of impervious area
- Redevelopment projects that create or replace 10,000 square feet of impervious area except for the following list of exempted projects
 - Maintenance and utility projects that do not create new impervious areas such as: asphalt overlays, replacement and slurry seals; and installation or repair of subsurface utilities or aerial utilities.
 - Infill sidewalk projects on streets with existing sidewalk.

- Apply hydromodification control standards (as proposed in Appendix D to this plan) by the end of year 2. (See Appendix C provides the technical basis for the proposed hydrodynamic plan.) Hydromodification controls will be required for all project subject to Attachment 4 requirements with the following exceptions:
 - Public projects that have limited ROW, such as installation of ADA ramps or small retaining walls.
 - For street, road, highway or freeway projects, which are under the jurisdiction of the agency issuing the building permit: sidewalks, bicycle lanes, trails, bridge accessories, guardrails, and landscape features associated with the roadway project
 - Projects that are in areas subject to localized flooding during the storm events for which infiltration or flow duration controls are specified.
 - Projects in landslide, liquefaction and soil stability problem areas
 - Projects that drain directly or via a storm drain to a sump.
 - Projects exempted from infiltration requirements include:
 - Projects or portion thereof, that creates housing affordable to persons of low or moderate income.
 - Projects located within ½ mile of a bus stop or within the established urban service line
 - Projects where the water table distance separation is less than ten feet.
 - Projects that take place on an existing brown field or grey field site within a redevelopment area.
 - Projects with industrial activity or high vehicular traffic [25,000 or greater average daily traffic (ADT) on main roadway or 15,000 or more ADT on any intersecting roadway].
 - Projects with recognized situation of impracticality such as unfavorable or unstable soil conditions, or with risk of groundwater contamination because a known unconfined aquifer lies beneath the land surface or an existing or potential underground source of drinking water is less than 10-feet from the surface.
 - Projects exempted from infiltration requirements will be required to chose from one of the following three options:
 - Allowed to pay an in-lieu fee based on a quantifiable measure (to be determined through stakeholder meetings and the public hearing process). Funds generated from the in-lieu fee will be applied towards a comparable watershed enhancement project that the City has determined to be of greater value to the

- overall health of the watershed (and in accordance with "Utilization of Capital Facilities Fee" regulations), or
- Allowed to implement a watershed enhancement project proposed by the applicant and determined by the City Engineer to be of greater value to the overall health of the watershed within 5 years of occupancy, or
- Required to offset the increased volume of water generated as a result of the project elsewhere in the same watershed prior to occupancy.
- Educate City employees, businesses and the general public about the potential impacts to receiving water bodies associated with new and redevelopment projects.
- Develop an ordinance or other regulatory mechanism, to require the implementation of proper site, source and treatment controls, including long-term maintenance of such facilities on applicable new and redevelopment projects to meet Attachment 4 and hydromodification control design standards.
- Utilize standardized construction site inspection checklists that include post-construction BMP control considerations.

The list of Post-Construction Site Runoff Control Program BMPs is provided in Table 12. Implementation details are provided for each BMP after the summary table in table 12a through 12e.

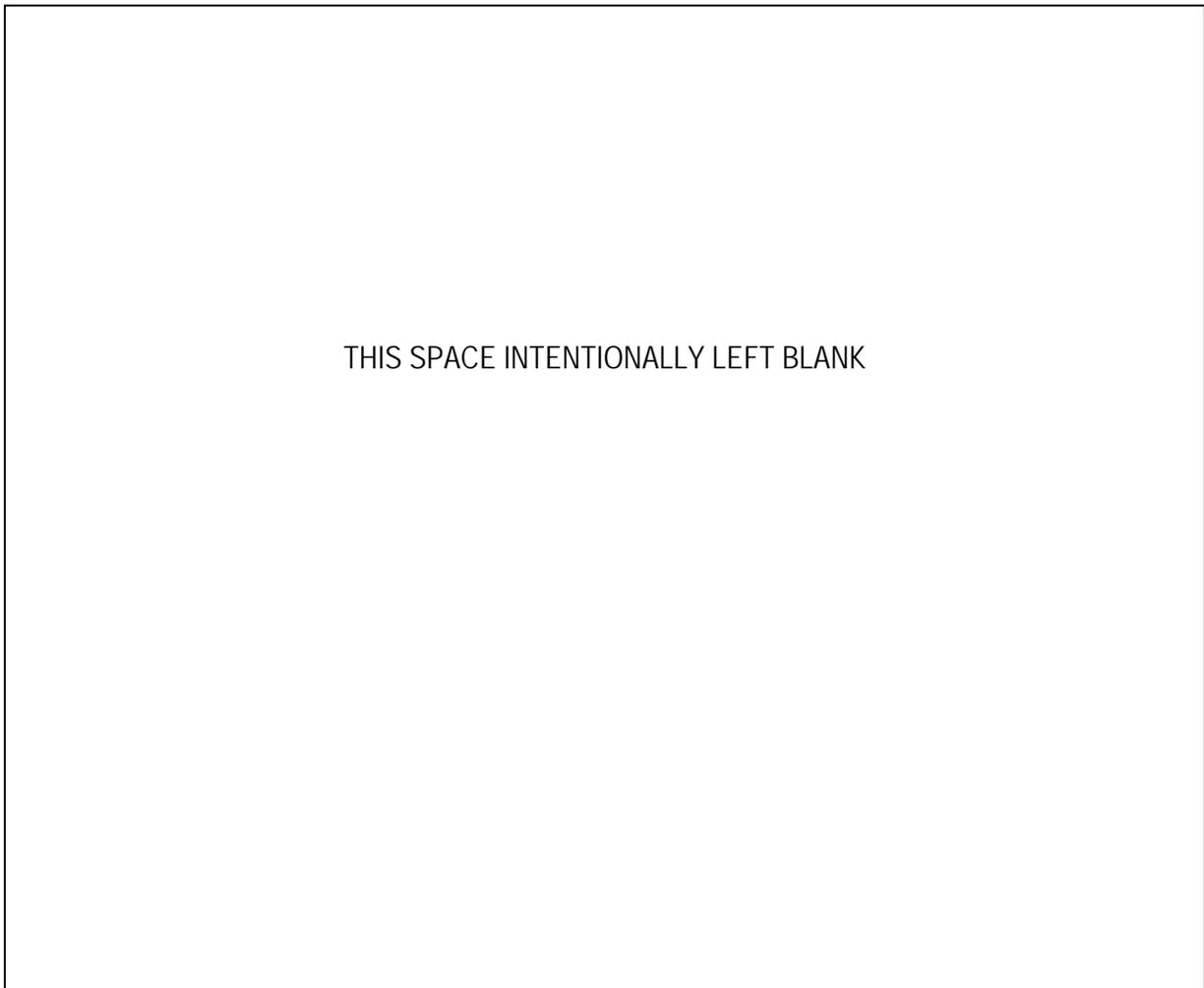


Table 12 – Post-Construction Stormwater Management In New Development and Redevelopment BMPs

BMP ID#	BEST MANAGEMENT PRACTICES (BMPS)	BMP INTENT	MEASURABLE GOALS AND OUTCOMES	BMP IMPLEMENTATION TIMETABLE					IMPLEMENTERS
				1	2	3	4	5	
PC1	Adopt and enforce an ordinance to require specific post-construction stormwater management controls, including attachment 4 criteria and hydromodification controls, for applicable new development and redevelopment projects.	Maximize Infiltration of clean stormwater, and minimize runoff volume and rate; provide long term watershed protection.	<p>PC1A: Train City development review and maintenance staff in good site design and low impact development principals.</p> <p>PC1B: Conduct audit of existing codes and standards to identify conflicts with LID, Attachment 4 and proposed hydromodification controls and opportunities to remove process barriers and integrate smart growth principals.</p> <p>PC1C: Revise existing ordinances to require specific post-construction stormwater management controls.</p> <p>PC1D: Gain approval of interim/long term hydromodification control plan included as Appendix C.</p>	X	X		X		Public Works, Community Development
PC2	Incorporate post-construction stormwater management considerations into the development review process.	Maximize Infiltration of clean stormwater, and minimize runoff volume and rate; provide long term watershed protection.	<p>PC2A: Adopt or create a LID Design Guidance document.</p> <p>PC2B: Revise CEQA initial study checklist.</p> <p>PC2C: Develop a Post Construction Stormwater Management plan review checklist. Require Post Construction Stormwater Management as a topic in pre-application meeting. Train new plan reviewers on Post Construction Stormwater Management plan check requirements.</p> <p>PC2D: Develop Standard Conditions of Approval.</p>		X				Public Works, Community Development
						X	X	X	

Table 12 – Post-Construction Stormwater Management In New Development and Redevelopment BMPs

BMP ID#	BEST MANAGEMENT PRACTICES (BMPS)	BMP INTENT	MEASURABLE GOALS AND OUTCOMES	BMP IMPLEMENTATION TIMETABLE					IMPLEMENTERS
				1	2	3	4	5	
PC3	Incorporate post-construction stormwater management in the development review process.	To reduce pollutants in stormwater runoff by checking for good site design and post-construction stormwater management during the development review process.	<p>PC3A: Standard field inspection forms created.</p> <p>PC3B: Inspection staffs are trained in post construction site stormwater construction practices.</p> <p>PC3C: Include Post Construction Stormwater Management responsibilities as a topic in pre-construction meeting.</p>		X				Community Development, Public Works
PC4	Ensure post construction BMPs are maintained.	To reduce pollutants in stormwater runoff by verifying post-construction stormwater management maintenance is being performed.	<p>PC4A: Standard field inspection forms created. Spot inspections conducted.</p> <p>PC4B: Inspection staffs are trained in post construction site stormwater construction practices.</p> <p>PC4C: Include Post Construction Stormwater Management maintenance responsibilities as a topic in pre-construction meeting.</p>		X	X	X	X	Community Development, Public Works
PC5	Protect riparian areas, wetlands and other buffer zones.	To protect riparian areas, wetlands and other buffer zones.	PC5A: Review effectiveness of existing City standards for consistency with RWQCB required riparian buffer widths.		X				Community Development

Table 12a – PC 1 Post Construction Ordinance

Title:	PC 1 Post Construction Ordinance		
Task:	Define minimum post construction stormwater requirements.		
Purpose:	Establish good site design requirements to protect water quality, receiving waters and watersheds from impact of stormwater discharges.		
BMP Details:	Conduct a self audit of existing post-construction program. Identify appropriate minimum post construction design requirements and require that this information be provided by the Applicant prior to the application being considered "deemed complete". Review local codes to identify necessary revisions. Revise or create new codes to address numeric standards for post-construction design requirements and long-term maintenance provisions. Identify zoning techniques to promote dense development in urban service line. Develop in-lieu fee options for projects unable to comply with minimum post construction design requirements.		
Implementation Details:	<p>Year 1:</p> <ul style="list-style-type: none"> ▪ Train City development and review staff in good site design and Low Impact Development principals and hydromodification policy. ▪ Conduct self audit of post construction program. ▪ Develop in-lieu fee options. ▪ Amend or create ordinances and Standards to reflect required revisions adopted. ▪ Develop interim hydromodification control plan. <p>Year 2 and 4:</p> <ul style="list-style-type: none"> ▪ Train City development and review staff in good site design and Low Impact Development principals and hydromodification policy. 		
Data Collected:	Review and modification/adoption of revised/new codes to address post construction design requirements.		
Assessment Measures:	<p>Confirmation:</p> <ul style="list-style-type: none"> ▪ Audit conducted. ▪ Training held. ▪ Review and modification of codes made. <p>Tabulation:</p> <ul style="list-style-type: none"> ▪ Pre & Post surveys. ▪ Percent of new development projects that incorporate site, source and treatment controls into site design. 		
Goals targeted:	Incorporate good site, source and treatment controls into City code and the development review process. Assure long term maintenance of post construction facilities.		
Pollutants Targeted:	All	SWMP Objectives:	I-VII
Notes:	Revisions to Ordinances will be distributed for public review prior to adoption. At least one public meeting to solicit public input will be held. Proposed in-lieu fee options will be tied to Effective Impervious Area associated with the project and will only be allowed in instances where post construction stormwater requirements are not technically feasible on the site or where the costs to implement said requirements on-site would provide more water quality benefits elsewhere in the watershed. New development review and maintenance staff will be trained in LID and post construction management controls as part of their new employee orientation. "Deemed Complete" defined as the point at which environmental review has been completed (EIR certification for larger projects).		

Table 12b – PC 2 Discretionary Review Tools

Title:	PC 2 Discretionary Review Tools		
Task:	Incorporate Post Construction Stormwater Management into the development review process.		
Purpose:	Reduce volume of runoff and improve runoff quality by design.		
BMP Details:	Incorporate post construction stormwater considerations into the CEQA Initial Study checklist. Develop a Post Construction Stormwater Management (PCSM) plan review checklist to include site, source and treatment control plan elements; Develop Standard Conditions of Approval and informational brochure. Train plan reviewers on PCSM plan check requirements. Require PCSM as a topic in pre-application meeting. Adopt or create a LID Design Guidance document.		
Implementation Details:	<p>Year 2:</p> <ul style="list-style-type: none"> ▪ LID Design Guidance document adopted or created <p>Year 3:</p> <ul style="list-style-type: none"> ▪ Revise CEQA initial study checklist. ▪ Develop a PCSM plan review checklist, ▪ Develop Standard Conditions of Approval ▪ Require PCSM as a topic in pre-application meeting. ▪ Train plan reviewers on PCSM plan check requirements. <p>Year 4 – 5: Track reporting data and train new plan reviewers on PCSM check requirements.</p>		
Data Collected:	Review and modification/adoption of CEQA Initial Study Checklist to address Post Construction Stormwater Management. Number of grading permits. Number of site plans requiring revision.		
Assessment Measures:	<p>Confirmation:</p> <ul style="list-style-type: none"> ▪ Review and modification to CEQA Checklist made, if needed. ▪ Post Construction Stormwater Management plan review checklist created. ▪ Standard Conditions of Approval for Post Construction Stormwater Management developed. <p>Tabulation:</p> <ul style="list-style-type: none"> ▪ Number of grading permits issues that included post construction stormwater management considerations in submitted plans. ▪ Number of plans year to year with post construction stormwater management considerations in submitted plans not requiring revisions. 		
Goals targeted:	<p>Increase awareness of public employees, businesses and the general public of the site, source and treatment controls that can reduce the impacts of development/redevelopment to receiving water bodies.</p> <p>Incorporate good site, source and treatment controls into City code and the development review process.</p> <p>Assure long term maintenance of post construction facilities.</p>		
Pollutants Targeted:	All	SWMP Objectives:	I-VII
Notes:	Revisions to Grading Ordinance, if required, will be distributed for public review prior to adoption. A brochure describing Post Construction Stormwater Management plan requirements will be developed and distributed as part of PE4 Business Outreach.		

Table 12c – PC 3 Post Construction Stormwater Management Site Inspections

Title:	PC 3 Post Construction Stormwater Management Site Inspections		
Task:	Develop Post Construction Stormwater Management Practices Inspection Protocols.		
Purpose:	Ensure Post Construction Stormwater Management Practices are constructed in accordance to plans.		
BMP Details:	Establish standard field inspection forms and verify inspection staffs are trained in post construction site stormwater construction practices. Require Post Construction Stormwater Management responsibilities as a topic in pre-construction meeting.		
Implementation Details:	<p>Year 2:</p> <ul style="list-style-type: none"> ▪ Develop construction site field review checklist. ▪ Train inspection staff. ▪ Include Post Construction Stormwater Management responsibilities as a topic in pre-construction meeting. <p>Year 2 – 5:</p> <ul style="list-style-type: none"> ▪ Inspect project sites subject to post-construction ordinance for compliance with post construction stormwater management controls. ▪ Track and trend reporting data. ▪ Train new inspection staff. 		
Data Collected:	Number and type of corrective and enforcement actions taken.		
Assessment Measures:	<p>Confirmation:</p> <ul style="list-style-type: none"> ▪ Post Construction Stormwater Management inspection checklist created. ▪ Document that construction site inspection staff have a minimum 0.5-hour training/refresher course every year related to proper Post Construction Stormwater Management considerations on construction sites. <p>Tabulation:</p> <ul style="list-style-type: none"> ▪ Number of inspections, number and type of corrective actions taken. ▪ Percent of major vs. minor enforcement actions. <p>Surveys:</p> <ul style="list-style-type: none"> ▪ Results from inspection training evaluation forms pre & post class testing. 		
Goals targeted:	<p>Increase awareness public employees, businesses and the general public of the site, source and treatment controls that can reduce the impacts of development/redevelopment to receiving waterbodies.</p> <p>Assure long term maintenance of post construction facilities.</p>		
Pollutants Targeted:	All	SWMP Objectives:	I-VI
Notes:	New staff will be trained in Post Construction Stormwater Management practices as part of their new employee orientation.		

Table 12d – PC 4 Post Construction Stormwater Management BMP Maintenance

Title:	PC 4 Post Construction Stormwater Management BMP Maintenance		
Task:	Develop Post Construction Stormwater Management Practices Inspection Protocols.		
Purpose:	Ensure Post Construction Stormwater Management Practices are maintained accordance to program schedule.		
BMP Details:	Establish standard field inspection forms and verify inspection staffs are trained in post construction site stormwater maintenance practices. Require Post Construction Stormwater Management maintenance responsibilities as a topic in pre-construction meeting.		
Implementation Details:	Year 2: Develop post construction site field review checklist. Train inspection staff. Include Post Construction Stormwater Management maintenance responsibilities as a topic in pre-construction meeting. Year 2 – 5: Inspect 20 percent of project sites subject to post-construction ordinance for compliance with post construction stormwater management controls. Track reporting data.		
Data Collected:	Number and type of corrective and enforcement actions taken.		
Assessment Measures:	<p>Confirmation:</p> <ul style="list-style-type: none"> ▪ Post Construction Stormwater Management maintenance inspection checklist created. ▪ Document that construction site inspection staff have a minimum 0.5-hour training/refreshers course every year related to proper Post Construction Stormwater Management maintenance considerations. <p>Tabulation:</p> <ul style="list-style-type: none"> ▪ Number of inspections, number and type of corrective actions taken. ▪ Percent of major vs. minor enforcement actions. <p>Surveys:</p> <ul style="list-style-type: none"> ▪ Results from inspection training evaluation forms pre & post class testing. 		
Goals targeted:	<p>Increase awareness public employees, businesses and the general public of the site, source and treatment controls that can reduce the impacts of development/redevelopment to receiving water bodies.</p> <p>Assure long term maintenance of post construction facilities.</p>		
Pollutants Targeted:	All	SWMP Objectives:	I-VI
Notes:	New staff will be trained in Post Construction Stormwater Management maintenance practices as part of their new employee orientation.		

Table 12e – PC 5 Protect Riparian Areas, Wetlands Buffer Zones

Title:	PC 5 Protect Riparian Areas, Wetlands Buffer Zones		
Task:	Review existing riparian areas and wetlands policies.		
Purpose:	Protect function and habitat provided by riparian areas and wetlands.		
BMP Details:	Verify existing policies are appropriate comply with RWQCB riparian protection policies.		
Implementation Details:	Year 2: <ul style="list-style-type: none"> ▪ Review existing policies and setbacks for appropriateness and to ensure that they meet or exceed RWQCB riparian protection policies. 		
Data Collected:	Number of building or grading permits issues along creek and distance from improvement from creek bank. Map of current policy and RWQCB setbacks.		
Assessment Measures:	Confirmation: <ul style="list-style-type: none"> ▪ Existing policies evaluated for appropriateness. ▪ Deficient areas identified and policy updated as necessary. Tabulation: <ul style="list-style-type: none"> ▪ Number of permits issued along creeks. ▪ Percent of those permits that have improvements within the 30-ft of the creek bank. 		
Goals targeted:	Increase public employee, businesses and general public awareness of the site, source and treatment controls that can reduce the impacts of development/redevelopment to receiving water bodies.		
Pollutants Targeted:	All	SWMP Objectives:	I-VII
Notes:	Implement current general plan policies.		

4.6 POLLUTION PREVENTION / GOOD HOUSEKEEPING FOR MUNICIPAL PROGRAM

The Pollution Prevention/Good Housekeeping for Municipal Operations Minimum Control Measure of the Small MS4 Permit (adopted April 30, 2003) requires the Permittee “exam its own activities and develop a program to prevent the discharge of pollutants from these activities.”

The purpose of this minimum control measure is to ensure a reduction in the amount and type of pollution that collects on streets, parking lots, open spaces, storage and vehicle maintenance areas and is discarded in local waterways; and results from actions such as environmentally damaging land development, flood management practices or poor maintenance of the storm drain system.

Table 13 and 14 summarize the potential pollutants associated with municipal facilities and practices as provided by the California Stormwater BMP Handbook and modified by EPA.

Table 13 – Potential Pollutants of Concern Likely Associated with Specific Municipal Facilities

MUNICIPAL FACILITY ACTIVITY	POTENTIAL POLLUTANTS								
	SEDIMENTS	NUTRIENTS	TRASH	METALS	BACTERIA	OIL & GREASE	ORGANICS	PESTICIDES	OXYGEN DEMANDING SUBSTANCES
Building and Grounds Maintenance and Repair	X	X	X	X	X	X	X	X	X
Parking/Storage Area Maintenance	X	X	X	X	X	X	X		X
Vehicle and Equipment Fueling			X	X		X	X		
Vehicle and Equipment Maintenance and Repair				X		X	C		
Vehicle and Equipment Washing and Steam Cleaning	X	X	X	X		X	X		
Outdoor Loading and Unloading of Materials	X	X	X	X		X	X	X	X
Outdoor Container Storage of Liquids		X		X		X	X	X	X
Outdoor Storage of Raw Materials	X	X	X			X	X	X	X
Outdoor Process Equipment	X		X	X	X	X	X	X	X
Over water Activities			X	X	X	X	X	X	X
Landscape Maintenance	X	X	X		X			X	X

Table 14 – Potential Pollutants of Concern Likely Associated with Specific Municipal Activities

MUNICIPAL PROGRAM	ACTIVITIES	POTENTIAL POLLUTANTS								
		SEDIMENTS	NUTRIENTS	TRASH	METALS	BACTERIA	OIL & GREASE	ORGANICS	PESTICIDES	OXYGEN DEMANDING SUBSTANCES
Road, Streets and Highway Operations and Maintenance	Sweeping & Cleaning	X		X	X		X			X
	Street Repair, Maintenance and Striping/Painting	X		X	X		X	X		
	Bridge and structure maintenance	X		X	X		X	X		
Drainage System Operation and Maintenance	Inspection and Cleaning of Stormwater System	X	X	X		X		X		X
	Controlling Illicit Connections and Discharges	X	X	X	X	X	X	X	X	X
	Controlling Illegal Dumping	X	X	X	X	X	X	X	X	X
	Maintenance of Stormwater System	X		X	X		X			X
Waste Handling and Disposal	Solid Waste Collection		X	X	X	X	X	X		X
	Waste Reduction & Recycling			X	X					X
	Household Hazardous Waste Collection			X	X		X	X	X	
	Controlling Litter			X	X	X		X		X
	Controlling Illegal Dumping	X		X		X	X		X	X
Water and Sewer Utility Operation and Maintenance	Water Line Maintenance	X				X	X			
	Sanitary Sewer Maintenance	X				X	X			X
	Spill/leak/overflow Control, Response and Containment	X	X			X		X		X

The Permit requires the City to:

1. Develop and implement an operation and maintenance program with the ultimate goal of preventing or reducing pollutant runoff from municipal operations into the storm drain system.

2. Provide employee training on how to incorporate pollution prevention/good housekeeping techniques into municipal operations such as park and open spaces, and storage and vehicle maintenance area and is discharged into local waterways.

The City has identified the permit requirements above as its Pollution Prevention/Good Housekeeping for Municipal Operations Goals. The City will develop and implement facility-specific water pollution control manual (FPCM) for City facilities not enrolled under the Industrial Activities Stormwater General Permit, and that have activities with a significant potential to release pollutants to storm drains, such as vehicle operations, construction yards, corporation yards and sanitary sewer systems. The anticipated measurable goals for each facility-specific FPCM for the purpose of this SWMP based on anticipated municipal activities are provided in Table 15. This table will be refined during development of the FPCM and standard operating procedures (SOP) manual.

Table 15 – Measurable Goals Associated with Specific Municipal Activities

ACTIVITIES	DATA COLLECTED	MEASURABLE GOAL
Develop Facility Specific Water Pollution Control Manual	<p>Identify type of potential pollutant generating activities conducted at facility.</p> <p>Identify type, method of materials stored at facility; assess risk for potential to pollute stormwater.</p> <p>Identify and eliminate non-stormwater discharges.</p> <p>Identify and map existing BMPs, maintenance protocols and schedule.</p> <p>Identify needed BMPs, implementation schedule. Incorporate new BMPs into BMP maps, inspection and maintenance protocols.</p>	<p>Confirm FPCM developed with number, type and location of BMPs present on site.</p> <p>Track number and type of non-stormwater discharges. Evaluate long term trends.</p> <p>Identify number and percent of BMPs implemented and maintained.</p> <p>(See individual facility activity for data collection and measurable goals of maintenance activities conducted at facilities).</p>
Adopt, develop or supplement existing standard operating procedures (SOP) manual	<p>Identify type of potential pollutants generating during maintenance activities.</p> <p>Identify and eliminate non-stormwater discharges including type of materials used in maintenance activities and document material risk for potential to pollute stormwater and lesser risk alternatives, appropriate transport or disposal methods of materials.</p>	<p>Confirm SOP manual developed for type of procedures conducted by maintenance staff.</p> <p>(See individual activity for data collection and measurable goals of specific maintenance activities).</p>

ACTIVITIES	DATA COLLECTED	MEASURABLE GOAL
Sweeping & Cleaning (Curb & gutter, City maintained parking lots)	Tons or volume of materials swept up. GIS of curb and gutter areas, identifying high priority areas and cleaning schedule and protocols. GIS of city maintained parking lots, identifying high priority areas and cleaning schedule and protocols	Confirmation street and parking lot sweeping conducted at defined frequency and coverage and with proper equipment. Quantify area of parking lots cleaned and length of curb and gutter systems cleaned. Records mass/volume and disposal of waste.
Inspection and Cleaning of Stormwater System	GIS of stormwater system inspection locations, identifying high priority areas. Inspection and follow up protocols developed.	Percent and number of high priority storm systems inspected Percent and number of high priority storm systems that are out of compliance. Confirmation that Initial notification and follow up inspections conducted in accordance with established procedures. Identification and quantification of long term trends through GIS evaluation of problem areas.
Maintenance of Stormwater System	Develop protocols for cleaning. Identification/quantification of GIS of stormwater system, including high priority systems and cleaning schedule. Estimated volume of tons of materials removed from stormwater systems.	Percent, number and quantification of extent that high priority storm systems cleaned. Records mass/volume and disposal of waste. Identification and quantification of long term trends through GIS evaluation of individual stormwater system maintenance efforts.
Controlling Illicit Connections and Discharges	GIS of illicit connection and discharges identified. Follow up protocols developed.	Number and type of illicit connections/discharges reported/identified. Number of violations notices issued. Percent of repeat offenders. Confirmation that Initial notification and follow up inspections conducted in accordance with established procedures. Identification and quantification of long-term trends through GIS evaluation of problem areas.
Controlling Illegal Dumping	GIS of illegal dumping areas identified. Tons/volume of materials removed during clean up; level of effort required to complete cleanup (Man hours, equipment and disposal feeds). Follow up protocols developed.	Records mass/volume and disposal of waste. Record of follow up actions (area signed with fine information, fenced (or other similar method) to increase dumping difficulty).

ACTIVITIES	DATA COLLECTED	MEASURABLE GOAL
Spill/leak/overflow Control, Response and Containment	Develop Spill/leak/overflow Control, Response and Containment program. Number and method that spill/leak/overflows were identified. Number of restaurant/grease trap inspections conducted.	Confirm spill/leak/overflow control, response and containment procedures developed. Track location and frequency of spill/leak/overflows. Track calls and corresponding outreach effort or training program. Track compliance rates with grease trap requirements; follow up procedures for problem areas identified.
Landscape Maintenance	Develop pesticide, herbicide and fertilization application protocols. Evaluate and implement integrated pest management program. Track annual use, by location, of each of the following: pesticide, herbicide, fertilization and implement integrated pest management program. Audit and evaluation of irrigation program protocols.	Confirm pesticide, herbicide and fertilization application protocols developed. Number of acres, type and volume/mass of pesticide, herbicide, fertilization and integrated pest management program applied. % decrease in pesticides applied. Confirm audit of irrigation protocols conducted. Track and quantify changes implemented to conserve water and reduce over-spray.
Bridge Maintenance	Number of bridge repair/replacement projects with incorporated pollution prevention controls in place. Toxic levels of materials used for graffiti removal, painting, etc	Divert or retain 100% of pressure washing runoff. Concrete, steel, wood, metal parts, tools and other work materials prevented from entering storm drains or waterbodies. % decrease in toxicity of materials used.
Trash and Trash Enclosures	Number of trash enclosures protected from rain and wind events. Trash enclosures are adequate for the area served.	% decrease in dumpsters, trashcans and recycling bins not covered (other than when filling or emptying). Confirmation that pick up frequency and trash can locations are adequate for use (no spillovers).

The list of Good Housekeeping BMPs is provided in Table 16. Implementation details are provided for each BMP after the summary table in table 16a through 16c.

Table 16 – Pollution Prevention/Good Housekeeping For Municipal Operations BMPs

BMP ID#	BEST MANAGEMENT PRACTICES (BMPS)	BMP INTENT	MEASURABLE GOALS AND OUTCOMES	BMP IMPLEMENTATION TIMETABLE					IMPLEMENTERS
				1	2	3	4	5	
GH1	Municipal Employee Training and Education	Provide employee training on pollution prevention/hood housekeeping techniques	<p>GH1A: Develop or utilize EPA and Caltrans BMP training materials and BMP guidance. Confirm that facility SWPPPs and BMP guidance documents are available to all employees as a reference</p> <p>GH1B: Incorporate Pollution Prevention/Good Housekeeping BMPs into safety tail gate meeting a minimum of once every four meetings.</p> <p>GH1C: Include Pollution Prevention/Good Housekeeping BMPs in new employee orientation program.</p> <p>GH1D: Conduct periodic unscheduled inspections of facilities and maintenance activities by City management staff.</p>	X					Public Works
				X	X	X	X	X	
				X	X	X	X	X	
					X		X		
GH2	Municipal Activities	Prevent or reduce pollutant runoff from municipal operations.	<p>GH2A: Inventory of municipal activities (all applicable).</p> <p>GH2B: Develop Standard Operating Procedures Handbook.</p>	X					Public Works
					X				

Table 16 – Pollution Prevention/Good Housekeeping For Municipal Operations BMPs

BMP ID#	BEST MANAGEMENT PRACTICES (BMPs)	BMP INTENT	MEASURABLE GOALS AND OUTCOMES	BMP IMPLEMENTATION TIMETABLE					IMPLEMENTERS
				1	2	3	4	5	
GH3	Municipal Facilities	To reduce pollutants in stormwater runoff by checking for good site design and post-construction stormwater management during the development review process.	<p>GH3A: Inventory of municipal facilities.</p> <ul style="list-style-type: none"> o City Corporation Yard o Lake Park Complex o Paloma Creek Park Sports Complex o Charles Paddock Zoo o Traffic Way Park o Sunken Gardens Park o Historic Administration Building Grounds o City Hall landscaping o Police Station Landscaping o Fire Station Landscaping o Lift Stations o City medians, planters & parkways <p>GH3B: Follow Develop Standard Handbook for E&SC and LID</p>	X	X	X	X	X	Public Works

Table 16a – GH 1 Municipal Employee Training and Education

Title:	GH1 Municipal Employee Training and Education		
Task:	Conduct Pollution Prevention/Good Housekeeping training program		
Purpose:	Teach staff about potential sources of stormwater contamination and ways to minimize the water quality impact of municipal activities		
BMP Details:	Develop or utilize EPA and Caltrans BMP training materials and BMP guidance documents to teach field maintenance staff to address safety, materials handling, waste disposal, illicit discharge detection or other operational issues. Incorporate Pollution Prevention/Good Housekeeping BMPs into safety tail gate meeting a minimum of once every four meetings. Include Pollution Prevention/Good Housekeeping BMPs in new employee orientation program. Periodic unscheduled inspections of facilities and maintenance activities by City management will be conducted to gauge what has been learned and opportunities to improve. Confirm that facility SWPPPs and BMP guidance documents are available to all employees as a reference		
Implementation Details:	Year 1-5: Annually conduct training modules; complete a minimum of two unscheduled inspection of facilities or operations to verify Pollution Prevention/Good Housekeeping BMPs are being practiced. Revise program as necessary.		
Data Collected:	Training modules developed number of attendees at training session, Results of evaluation forms from attendees, Results from classroom and/or field quizzes, Percent improved based on scores from before and after survey/quiz. Percent improved results from unscheduled inspections.		
Assessment Measures:	<p>Confirmation:</p> <ul style="list-style-type: none"> ▪ Training modules developed. ▪ Tailgate Safety meetings Held. <p>Tabulation:</p> <ul style="list-style-type: none"> ▪ Identify number of attendees at training session (and percent of field staff attending) ▪ Results from evaluation forms, quizzes. ▪ Number and type, percent decrease over time of deficiencies observed during unscheduled inspection <p>Surveys:</p> <ul style="list-style-type: none"> ▪ Percent increase in awareness before and after the training ▪ Percent awareness from year to year. 		
Goals targeted:	Provide employee training on how to incorporate pollution prevention/hood housekeeping techniques into municipal operations such as park and open spaces, and storage and vehicle maintenance area and is discharged into local waterways.		
Pollutants Targeted:	All	SWMP Objectives:	I-VI
Notes:			

Table 16b – GH 2 Municipal Activities

Title:	GH2 Municipal Activities		
Task:	Establish procedures to eliminate minimize and/or treat pollutants generated from municipal activities.		
Purpose:	Eliminate, minimize and/or treat pollutants generated from municipal activities.		
BMP Details:	Develop inventory of municipal activities and their associated potential pollutants based on Table 13. Evaluate and prioritize BMPs to eliminate, minimize and/or treat pollutants for each type of activity. BMPs that require the purchase of new equipment, if the equipment cannot be rented, will be identified and included on purchase requests submitted as part of the City's budget approval process. Determine schedule and protocols for implementing BMPs and create a standard operating procedures handbook. Implement BMPs. Record quantities addressed/collected as appropriate.		
Implementation Details:	Year 1: Prepare inventory and assessment of typical activities. Year 2: Develop standard operating procedures handbook. Year 2 – 5: Record quantities addressed/collected as appropriate.		
Data Collected:	Develop standard operating procedures handbook. Quantify drain system for cleaning frequency. Develop protocols for cleaning facilities (catch basins, drain pipe, pump stations, drainage basins, etc) Street sweeping records prioritized street segments, corresponding cleaning frequency.		
Assessment Measures:	Confirmation: <ul style="list-style-type: none"> ▪ Identify standard operating procedures manual developed. Tabulation: <ul style="list-style-type: none"> ▪ Number of catch drainage facilities cleaned. ▪ Estimate of waste removed ▪ Quantity of material collected per mile. ▪ See Table 15 for additional assessment measures. 		
Goals targeted:	Develop and implement and operation and maintenance program with the ultimate goal of preventing or reducing pollutant runoff from municipal operations into the storm drain system.		
Pollutants Targeted:	All	SWMP Objectives:	I-VI
Notes:			

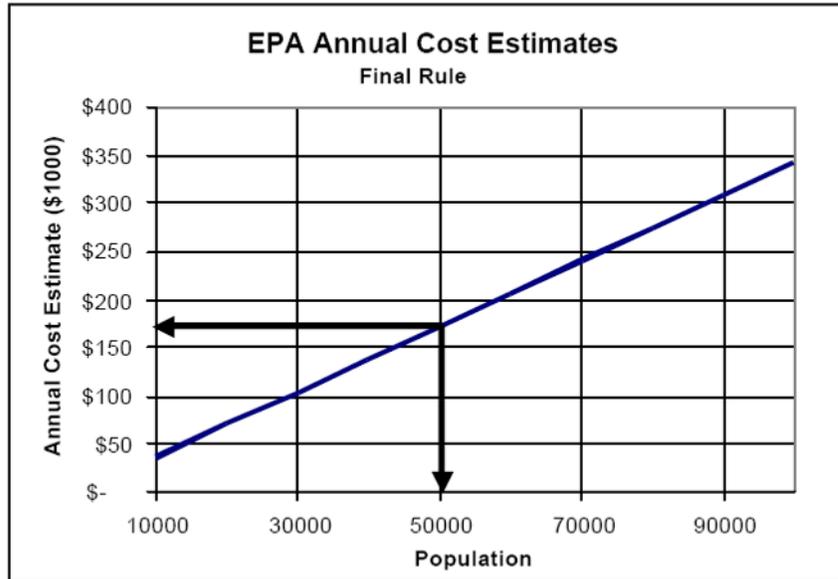
Table 16c – GH 3 Municipal Facilities

Title:	GH 3 Municipal Facilities		
Task:	Establish procedures to eliminate minimize and/or treat pollutants generated from municipal facilities.		
Purpose:	Eliminate, minimize and/or treat pollutants generated from municipal facilities.		
BMP Details:	Develop inventory of municipal facilities and their associated potential pollutants based on Table 14. Inspect facilities for water quality impacts. Verify facilities have complete SWPPP compliant with the General Permit, if required. Evaluate and prioritize BMPs to eliminate, minimize and/or treat pollutants for each facility or types of facility. Determine schedule and protocols for implementing BMPs and create a facility water pollution control manual for all City facilities not enrolled under the Industrial Stormwater General Permit that have activities with a significant potential to release pollutants to storm drains. Implement BMPs. Record quantities addressed/collected as appropriate.		
Implementation Details:	Year 1: Prepare inventory and assessment of municipal facilities. Year 2: Develop standard operating procedures handbook. Year 2 – 5: Record quantities addressed/collected as appropriate.		
Data Collected:	Develop Facility Water Pollution Control manual. Identify pollutant generating activities and develop site map Implement BMPs for pollutant generating activities Identify and eliminate non-stormwater discharges Conduct audit of site for conformance with facility pollution prevention plan.		
Assessment Measures:	<p>Confirmation:</p> <ul style="list-style-type: none"> ▪ Facility pollution prevention plan was developed and is present on site. ▪ Identify audit/inspection of each facility was conducted. <p>Tabulation:</p> <ul style="list-style-type: none"> ▪ Number, type and location of BMPs ▪ Number and type of non-stormwater discharges ▪ Number of non-stormwater discharges eliminated ▪ Quantities collected (i.e. tons of debris collected), used (i.e. volume of pesticides and/or mulch applied, mutt mitts stocked) or addressed (i.e. length of curb swept), % reduction/increase over time (i.e. reduced pesticide use) ▪ See Table 15 for additional assessment measures. 		
Goals targeted:	Develop and implement and operation and maintenance program with the ultimate goal of preventing or reducing pollutant runoff from municipal operations into the storm drain system.		
Pollutants Targeted:	All	SWMP Objectives:	I-VI
Notes:			

5 BMP IMPLEMENTATION TIMELINE SUMMARY

This section summarizes the level of effort for year of the permit years. Per year implementation costs are provided in parenthesis adjacent to the permit header. The cost shown includes BMPs that extend across all five permit year. The projected cost for each BMP is included in parenthesis at the end of the BMP. The costs shown include labor, overhead, equipment, material, waste disposal and printing costs and are estimated only.

The EPA provided an annual cost estimate for municipalities (with 50,000 people) that were implementing model stormwater phase II programs (figure 10).



(Excerpted from "Funding Phase II Stormwater Programs, Andrew J Reese, AMEC, 2000)
Figure 12 – SWMP Jurisdictional Area

Based on an approximate population of 28,000, the City annual cost estimate per the EPA model would be approximately \$100,000 (or \$3.57 per person). However, the preliminary cost estimate to implement the SWMP (priority and secondary BMPs) is \$957,000 (or \$6.83 per person).

With a \$6.83 per capita per year, the Cities SWMP as currently proposed compares favorably to other national benchmarks (National League of Cities, American Public Works Association and EPA) is provided in Table 17.

Table 17 – NPDES Program Per Capital Cost

	BASIC PROGRAM	EXPANDED PROGRAM	LOW END	HIGH END	AVG
Initial Cost (Permit year 1)	\$0.75	\$6.16			
Annual Cost (Permit years 2-5)	\$1.63	\$7.64			
Total Cost (5 year Permit)	\$1.45	\$7.34	\$1.39 (\$1.28)	\$7.83 (\$5.63)	\$9.16
Source	National League of Cities, Stormwater Workshop, March 5, 1999 (not indexed for inflation). Based on 50,000 population, \$50/hr rate.		Designing and Implementing an Effective Stormwater Management Program, proposed Stormwater NPDES Phase II, APWA, 1998. Second permit cycle shown in parenthesis.		Federal Register, 1999. NPDES, Final Rule, December 8, pp 68,791.

5.1 PERMIT YEAR 1 (\$271,000¹)

- PE2 Identify private learning institutions within the City that have 4th grade students. Implement program in one public, private learning institution, reaching at least 30% of the 4th grade students at that institution.
- PE3 Landscape and pet waste management behaviors. An assessment of the need to prepare bilingual materials will be made based on census data.
- PE4 Landscape and pest control behaviors. An assessment of the need to prepare bilingual materials will be made based on census data.
- PE5 Place mutt mitt stations at 50% of public parks. Develop, in conjunction with North County Humane Society, appropriate measurable goals and timetables to reduce the feral cat population within the City limits and available City funding.
- PE6A Establish and promote web page.
- PP1 Host biennial stakeholders meeting.
- PP2 Mark 20% of storm drain inlets.
- PP4A Identify priority stretches of creeks and roads suitable for diverse participation (i.e. public access, no known safety concerns, etc). Create map of areas up for adoption and protocols for the program.
- PP5 In collaboration with other municipalities, develop application and committee member selection criteria. Recruit and select TAC members. Determine appropriate sub committees and committee by-laws.
- ID1A Identify data gaps and focus on completing inventory of outlets associated with Atascadero Creek. Prioritize and create a plan to address remaining areas with data gaps.
- CON1A Identify local codes for E&SC requirements and identify needed Ordinances and Standards revisions if appropriate. Confirm E&SC plan triggers are appropriate. Verify all plan checkers have received training related to E&SC practices.
- CON2A Develop construction site field review checklist, including verification of submission of NOI and on-site maintenance of SWPPP, and an informational brochure related to proper implementation of E&SC practices.
- PC1 Train City development and review staff in good site design and Low Impact Development principals and hydromodification policy. Develop in-lieu fee options.
- GH1A Confirm facility SWPPP are filed if needed. Evaluate suitable manuals or format to develop own manuals.
- GH2A Take inventory and assessment of typical municipal activities.
- GH3A Prepare inventory and assessment of municipal facility: City Corporation yard.

5.2 PERMIT YEAR 2 (\$262,000¹)

- PE2 Increase student participation 20% each year.
- PE3 Two new topics addressed through community based social marketing programs.
- PE4 Two new topics addressed through community based social marketing programs.
- PE5 Place mutt mitt stations at 50% of public parks. Support feral cat population reduction efforts.
- PE6C Maintain and promote web page.
- PP4A Create informational pack, order support materials.
- PP4C Solicit one organization for participation in demonstration project.

- PP5B In collaboration with other municipalities, evaluate and make recommendations for region specific construction pollution prevention and LID design standards manual. Identify and prioritize regional priorities.
- ID1B Identify data gaps and focus on completing inventory of outlets associated with Atascadero Creeks. Prioritize and create a plan to address remaining areas with data gaps. Create IDDE reporting form to log complaints and resolution. Develop response protocols. Begin tracking complaints received and City responses with the goal of investigating 100% of the complaints received within 48 hours.
- ID2 Provide in-house training to present IDDE procedures and increase awareness. Solicit feedback of field crews and revise program as necessary.
- ID5 Spill Overflow Prevention and Response Program.
- PC1A Train City development review and maintenance staff in good site design and LID principals.
- PC2A Adopt LID guidance manual.
- PC3 Develop construction site field review checklist. Train inspection staff. Post construction included in discretionary review process.
- PC3C Post construction management maintenance responsibilities a topic in pre-application meeting.
- PC4A Conduct post construction BMP maintenance inspections.
- PC4C Post construction BMP maintenance inspections included as a top in pre-construction meeting.
- PC5 Verify existing policies are appropriate and exceed RWQCB riparian protection policies.
- GH1D Conduct periodic unscheduled inspections of facilities and maintenance activities by City Management.
- GH2B Develop standard operating procedures handbook for typical municipal activities.
- GH3 Develop standard operating procedures handbook for municipal facilities.
- GH3A Prepare inventory and assessment of municipal facilities: Lake Park Complex, Paloma Creek Park Sports Complex and Charles Paddock Zoo.

5.3 PERMIT YEAR 3 (\$163,000¹)

- PE2 Increase student participation 20%.
- PE3 Two new topics addressed through community based social marketing programs.
- PE4 Two new topics addressed through community based social marketing programs.
- PE5 Maintain mutt mitt stations. Support feral cat population reduction efforts.
- PE6B Incorporate recommended manuals into City standards, code, and public education materials.
- PE6C Maintain and promote web page.
- PP1 Host Biennial Stakeholders Meeting.
- PP2 Modify City standards 502 through 504. Mark 20% of unmarked inlets.
- PP4D Adopt lessons learned from demonstration project. Edit materials accordingly. Promote program. Establish baseline participation metrics.
- PP5B Through the TAC, address timely and technical water quality topics based on priorities established and at the request of the SLO County Partners for Water Quality Group.
- ID1B Update database.
- ID2 Conduct dry weather inspections of 100% of high risk outlets year. Promote public complaint process.
- ID3 Draft Ordinance will be developed, provided for public review and adopted.
- PC1A Train new plan reviewers on Post Construction Stormwater Management plan check requirements.
- PC2B Revise CEQA initial study checklist.
- PC2C Develop a Post Construction Stormwater Management plan review checklist,

- PC2D Develop Standard Conditions of Approval for Post Construction Stormwater Management practices. Require Post Construction Stormwater Management as a topic in pre-application meeting.
- PC3C Post construction management maintenance responsibilities a topic in pre-application meeting.
- PC4A Conduct post construction BMP maintenance inspections.
- PC4C Post construction BMP maintenance inspections included as a top in pre-construction meeting.
- GH3A Prepare inventory and assessment of municipal facilities: Traffic Way Park, Sunken Gardens Park, Historic Administration Building Grounds, City Hall Landscaping.

5.4 PERMIT YEAR 4 (\$ 141,000¹)

- PE2 Increase student participation 20%.
- PE3 Two new topics addressed through community based social marketing programs.
- PE4 Two new topics addressed through community based social marketing programs.
- PE5 Maintain mutt mitt stations. Support feral cat population reduction efforts.
- PE6C Maintain and promote web page.
- PP2 Mark 20% of storm drain inlets.
- PP4D Promote adopt a creek/road program, increase participation each year.
- PP5 Through the TAC, address timely and technical water quality topics based on priorities established and at the request of the SLO County Partners for Water Quality Group.
- ID1 Update database.
- ID2 Conduct dry weather inspections of 100% of high risk outlets year. Promote public complaint process.
- ID4 Provide in-house training to present IDDE procedures and increase awareness. Review results (fines, improvements, etc) made as a result of violations observed and reported during year 2 and 3. Solicit feedback of field crews and revise program as necessary.
- ID3 Ordinance will be implemented and enforced throughout the term of the permit. Enforcement actions will be documented and included in the Annual Report.
- PC1A Train City development review and maintenance staff in good site design and LID principals.
- PC3C Post construction management maintenance responsibilities a topic in pre-application meeting.
- PC4A Conduct post construction BMP maintenance inspections.
- PC4C Post construction BMP maintenance inspections included as a top in pre-construction meeting.
- GH1D Conduct periodic unscheduled inspections of facilities and maintenance actives by City Management.
- GH3A Prepare inventory and assessment of municipal facilities: Fire Station Landscaping, City Lift Stations.

5.5 PERMIT YEAR 5 (\$ 120,000¹)

- PE2 Increase student participation 20%.
- PE3 Two new topics addressed through community based social marketing programs.
- PE4 Two new topics addressed through community based social marketing programs.
- PE5 Maintain mutt mitt stations. Support feral cat population reduction efforts.
- PP1 Host Biennial Stakeholders Meeting.
- PP2 Mark 20% of storm drain inlets.
- PP4 Promote adopt a creek/road program, increase participation each year.

- PP5 Through the TAC, address timely and technical water quality topics based on priorities established and at the request of the SLO County Partners for Water Quality Group.
- PC3C Post construction management maintenance responsibilities a topic in pre-construction meeting.
- ID1 Update database.
- ID2 Conduct dry weather inspections of 100% of high risk outlets year. Promote public complaint process.
- CON1 Train development review staff in construction site runoff controls.
- PC3 Post construction included in discretionary review process
- PC3C Post construction management maintenance responsibilities a topic in pre-application meeting.
- PC4A Conduct post construction BMP maintenance inspections.
- PC4C Post construction BMP maintenance inspections included as a top in pre-construction meeting.
- GH3A Prepare inventory and assessment of municipal facilities: City medians, planters and parkways.

5.6 PERMIT YEAR 1 – 5

(Cost of BMPs applied over all years has been included in individual year totals)

- PE1 Participate in majority of SLO County Partners for water quality meetings; Meet with AMWC semi-annually to coordinate support opportunities; Provide space for SLO Green Build to maintain a kiosk at the City Permitting Help Desk, maintain standing with Tree City USA organization.
- PP1B Provide legal notice (as often as required)
- PP1C Post Annual Report, provide mechanism to comment on program priorities and effectiveness.
- PP3 Participate and promote county wide creek clean up day.
- CON1 Train staff in construction site runoff controls.
- CON2 Require pre-construction meetings be held for Major Grading projects (>500 cubic yards disturbed). Train inspection staff as necessary. Update web site with links to Contractor E&SC training opportunities.
- CON2 Train construction field inspection staff in construction site runoff controls.
- CON3 Establish construction site complaint reporting mechanism. Track complaints.
- GH1 Annually conduct training modules; complete a minimum of two unscheduled inspection of facilities or operations to verify Pollution Prevention/Good Housekeeping BMPs are being practiced. Revise program as necessary.
- GH3 Follow development Standard handbook for erosion and sediment controls and LID practices.
- ** Track and monitor all BMPs. Compile and post annual report.

1 Costs are estimated and may change up or down as the plan are formalized and more information is known.

Appendix A
Potential Pollutants of Concern / CCAMP Characterization Data / Beneficial Uses

Beneficial Use Key

Municipal and Domestic Supply (MUN)

Uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply. According to State Board Resolution No. 88-63, "Sources of Drinking Water Policy" all surface waters are considered suitable, or potentially suitable, for municipal or domestic water supply except where:

- a. TDS exceeds 3000 mg/l (5000 uS/cm electrical conductivity);
- b. Contamination exists, that cannot reasonably be treated for domestic use;
- c. The source is not sufficient to supply an average sustained yield of 200 gallons per day;
- d. The water is in collection or treatment systems of municipal or industrial wastewaters, process waters, mining wastewaters, or stormwater runoff; and;
- e. The water is in systems for conveying or holding agricultural drainage waters.

Agricultural Supply (AGR)

Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.

Industrial Process Supply (PROC)

Uses of water for industrial activities that depend primarily on water quality (i.e., waters used for manufacturing, food processing, etc.).

Industrial Service Supply (IND)

Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well repressurization.

Ground Water Recharge (GWR)

Uses of water for natural or artificial recharge of ground water for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers. Ground water recharge includes recharge of surface water underflow.

Freshwater Replenishment (FRSH)

Uses of water for natural or artificial maintenance of surface water quantity or quality (e.g., salinity) which includes a water body that supplies water to a different type of water body, such as, streams that supply reservoirs and lakes, or estuaries; or reservoirs and lakes that supply streams. This includes only immediate upstream water bodies and not their tributaries.

Navigation (NAV)

Uses of water for shipping, travel, or other transportation by private, military, or commercial vessels. This Board interprets NAV as, "Any stream, lake, arm of the sea, or other natural body of water that is actually navigable and that, by itself, or by its connections with other waters, for a period long enough to be of commercial value, is of sufficient capacity to float watercraft for the purposes of commerce, trade, transportation, and including pleasure; or any waters that have been declared navigable by the Congress of the United States" and/or the California State Lands Commission.

Hydropower Generation (POW)

Uses of water for hydropower generation.

Water Contact Recreation (REC-1)

Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs.

Non-Contact Water Recreation (REC-2)

Uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.

Commercial and Sport Fishing (COMM)

Uses of water for commercial or recreational collection of fish, shellfish, or other organisms including, but not limited to, uses involving organisms intended for human consumption or bait purposes.

Aquaculture (AQUA)

Uses of water for aquaculture or mariculture operations including, but not limited to, propagation, cultivation, maintenance, or harvesting of aquatic plants and animals for human consumption or bait purposes.

Warm Fresh Water Habitat (WARM)

Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

Cold Fresh Water Habitat (COLD)

Uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish or wildlife, including invertebrates.

Inland Saline Water Habitat (SAL)

Uses of water that support inland saline water ecosystems including, but not limited to, preservation or enhancement of aquatic saline habitats, vegetation, fish, or wildlife, including invertebrates.

Estuarine Habitat (EST)

Uses of water that support estuarine ecosystems including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, shorebirds). An estuary is generally described as a semi-enclosed body of water having a free connection with the open sea, at least part of the year and within which the seawater is diluted at least seasonally with fresh water drained from the land. Included are water bodies which would naturally fit the definition if not controlled by tidegates or other such devices.

Marine Habitat (MAR)

Uses of water that support marine ecosystems including, but not limited to, preservation or enhancement of marine habitats, vegetation such as kelp, fish, shellfish, or wildlife (e.g., marine mammals, shorebirds).

Wildlife Habitat (WILD)

Uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

Preservation of Biological Habitats of Special Significance (BIOL)

Uses of water that support designated areas or habitats, such as established refuges, parks, sanctuaries, ecological reserves, or Areas of Special Biological Significance (ASBS), where the preservation or enhancement of natural resources requires special protection.

An ASBS designation implies the following requirements:

Discharge of elevated temperature wastes in a manner that would alter water quality conditions from those occurring naturally will be prohibited. Discharge of discrete, point source sewage or industrial process wastes in a manner that would alter water quality conditions from those occurring naturally will be prohibited. Discharge of waste from nonpoint sources, including but not limited to stormwater runoff, silt, and urban runoff, will be controlled to the extent practicable. In control programs for waste from nonpoint sources, Regional Boards will give high priority to areas tributary to ASBS.

Rare, Threatened, or Endangered Species (RARE)

Uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.

Migration of Aquatic Organisms (MIGR)

Uses of water that support habitats necessary for migration or other temporary activities by aquatic organisms, such as anadromous fish.

Spawning, Reproduction, and/or Early Development (SPWN)

Uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish.

Shellfish Harvesting (SHELL)

Uses of water that support habitats suitable for the collection of filter-feeding shellfish (e.g., clams, oysters, and mussels) for human consumption, commercial, or sport purposes. This includes waters that have in the past, or may in the future, contain significant shellfisheries.

Areas of Special Biological Significance (ASBS)

ASBS are those areas designated by the State Water Resources Control Board as requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable.

The following areas have been designated Areas of Special Biological Significance in the Central Coastal Basin:

1. Ano Nuevo Point and Island, San Mateo County
2. Pacific Grove Marine Gardens Fish Refuge and Hopkins Marine Life Refuge, Monterey County
3. Point Lobos Ecological Reserve, Monterey County
4. Carmel Bay, Monterey County
5. Julia Pfeiffer Burns Underwater Park, Monterey County
6. Ocean area surrounding the mouth of Salmon Creek, Monterey County

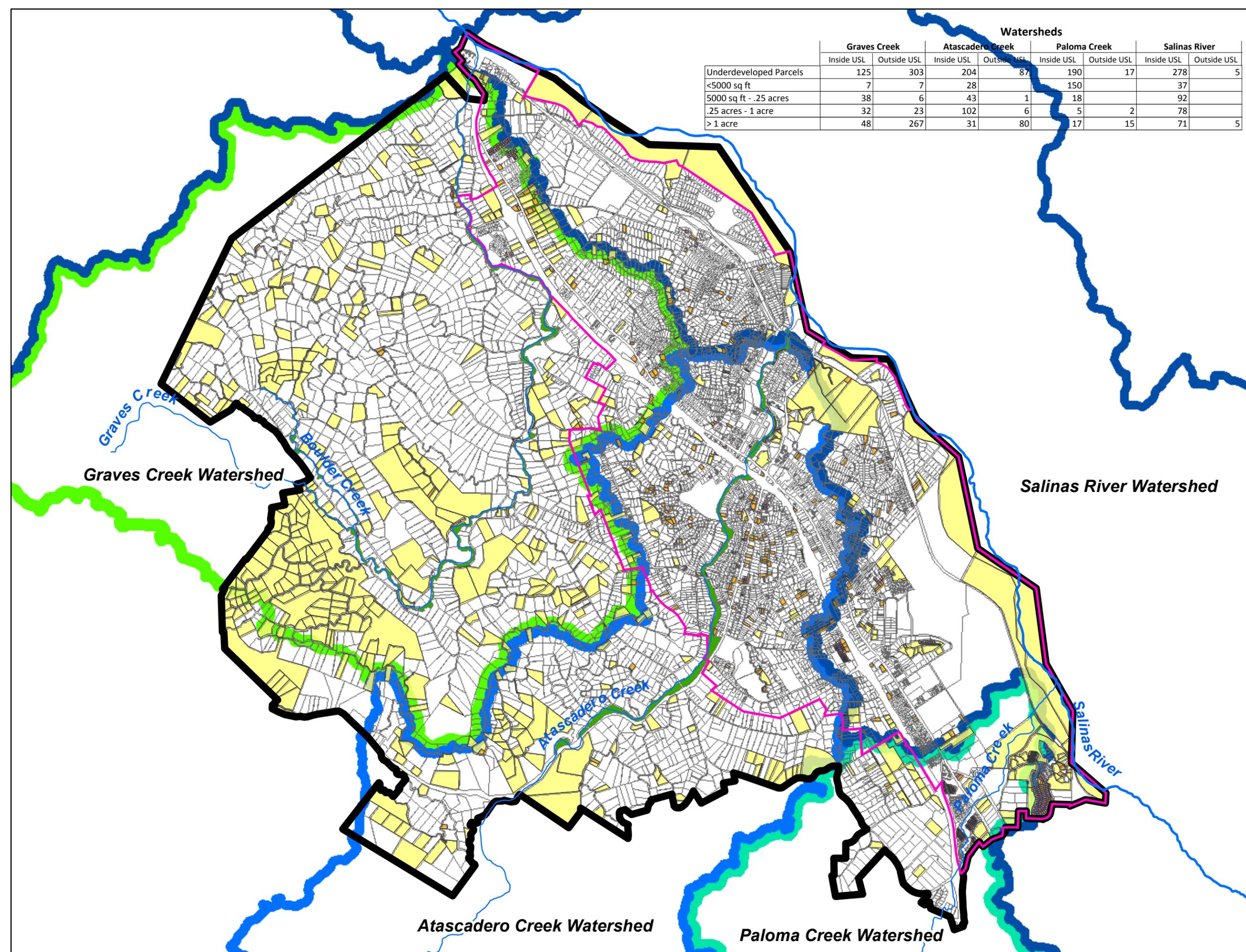
7. Channel Islands, Santa Barbara County - San Miguel, Santa Rosa, Santa Cruz

Appendix B
Maps

CITY of ATASCADERO

Underdeveloped Parcels Within Atascadero Watersheds

	Graves Creek		Atascadero Creek		Paloma Creek		Salinas River	
	Inside USL	Outside USL	Inside USL	Outside USL	Inside USL	Outside USL	Inside USL	Outside USL
Underdeveloped Parcels	125	303	204	87	190	17	278	5
<5000 sq ft	7	7	28		150		37	
5000 sq ft - .25 acres	38	6	43	1	18		92	
.25 acres - 1 acre	32	23	102	6	5	2	78	
> 1 acre	48	267	31	80	17	15	71	5



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- Parcels - Underdeveloped**
- < 5,000 sq feet
 - 5,000 sq feet - .25 Acres
 - .25 - 1 Acre
 - > 1 Acre
- Watersheds**
- Atascadero Creek
 - Graves Creek
 - Paloma Creek
 - Salinas River
 - Creek Reservations
 - Parcels
 - Urban Service Line
 - City Limits



CITY of ATASCADERO

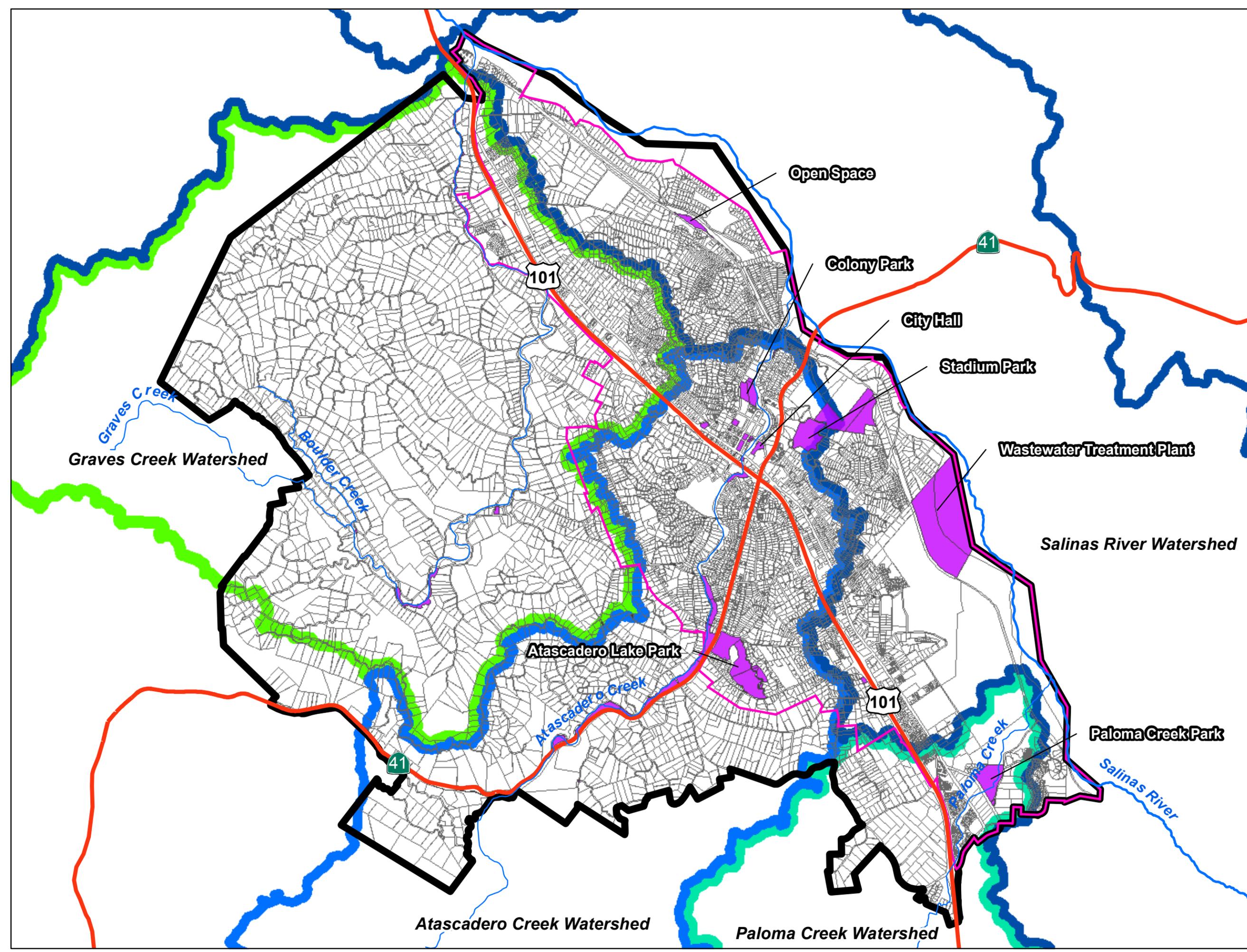
City Owned Facilities

Date Printed: 12/10/2008
 Printed By: City of Atascadero



0 0.25 0.5 0.75 Miles

- Watersheds**
-  Atascadero Creek
 -  Graves Creek
 -  Paloma Creek
 -  Salinas River
 -  Parcels - City Owned
 -  Parcels
 -  Urban Service Line
 -  City Limits



Appendix C
Technical Basis for Hydromodification Plan Approach

Appendix C: Hydromodification Plan

The City will implement a hydromodification control plan consistent with one of the three options below:

- Option 1: Adhere to requirements provided in the Executive Office February 15th, 2008 letter
- Option 2: Adopt hydromodification criteria developed by another local municipality and approved by Board staff, such as the criteria adopted for the City of Salinas
- Option 3: Develop city-specific hydromodification criteria such as the following:
1. Runoff generated from storms with rainfall depths less than or equal to $\frac{3}{4}$ -inch shall be retained or detained and allowed to infiltrate and/or seep away slowly, as occurs in a bioretention facility designed with a minimum 18-inches of soil, a design surface loading rate not to exceed 5 inches per hour, and a total volume (including surface detention, soil interstices, and subsurface storage) equal to the volume of runoff produced by the $\frac{3}{4}$ -inches of rainfall on the drainage area tributary to the facility. Projects unable to fully infiltrate or detain the volume generated from a $\frac{3}{4}$ -inch storm will be required to participate in an in-lieu fee program or mitigation banking program that would retain the project's required infiltration volume elsewhere in the same watershed.
 2. Post-development peak flow rates from basins shall match pre-development peak flow rates for the 2, 10, 25 and 50-year storm events. The allowable low flow rate of each basin is 10 percent of the pre-project 2-year peak discharge rate ($0.1Q_2$). Post development peak flow rates will be determined using commercially available software capable of generating Santa Barbara Unit Hydrographs (SBUH). The Santa Barbara Urban Hydrograph (SBUH) method was developed by the Santa Barbara County Flood Control and Water Conservation District to determine a runoff hydrograph for an urbanized area. It is a simpler method than some other approaches, as it computes a hydrograph directly without going through intermediate steps (i.e., a unit hydrograph) to determine the runoff hydrograph. The SBUH method was developed by the Santa Barbara Flood Control and Water Conservation District. It is a popular method for calculating runoff, since it can be done with a spreadsheet or by hand relatively easily. The SBUH method is the method approved by the City of Portland Bureau of Environmental Services (BES), as well as many other California Communities, for determining runoff when doing flow control calculations.
 3. Projects shall limit directly connected impervious areas to an effective area equivalent to 5% of the development site.

Additionally for projects whose disturbed project area exceeds two acres:
 4. The pre-construction drainage density (miles of stream length per square mile of watershed) for all drainage areas serving a first order stream (defined as a stream with not tributaries) shall be preserved, and ensure that the post-project time of concentration is equal or greater than the pre-project time of concentration.

Should the Water Board staff reject the City's proposed hydromodification control plan, the City reserves the right to appeal the rejection and present the merits of their plan to the Central Coast Regional Water Quality Control Board through the Water Board public hearing process for final determination.

Appendix D
Draft Hydromodification Plan

Appendix D: Technical Basis of the Atascadero Hydromodification Plan

Executive Summary

The City of Atascadero (City) proposed approach to addressing hydromodification issues best addresses both existing and future hydromodification impacts for creeks within and immediately downstream of the City's jurisdiction. The proposed hydromodification plan is intended to comply with the hydromodification control numerical and performance criteria requirements stated in the Central Coast Regional Water Quality Control Board (Water Board) Executive Officer (EO) letter of February 15, 2008.

All projects within the City will be required to implement site, source and treatment controls, including Low Impact Development (LID) practices and effective impervious area limits.

Projects located above the urban service line represent the "headwaters" to our creek and are required to meet a robust set of design standards including:

- Retention of runoff from storms with rainfall depths less than or equal to $\frac{3}{4}$ -inch
- Peak flow rate controls that limit post development discharges to the pre-project¹ peak flow rates for the 2, 10, 25 and 50-year storm return events
- Limits to the maximum allowable low flow discharge rate of 0.1Q₂ pre-project rate for basins requiring extended discharge
- Energy dissipation / erosion controls required at all discharge points
- City Staff review of the stability of immediate downstream receiving waters

Development/redevelopment projects located within the urban service line fall within the City defined targeted area for smart growth. Design standards in this area are focused on encouraging dense development and livable, walkable communities. By concentrating development within the urban service line, there are less societal impacts (those associated with urban sprawl), such as increased infrastructure and emergency response costs, pollutant generation and resource consumption. Projects within the urban service line will be required to implement the site, source and treatment controls, including Low Impact Development (LID) practices and effective impervious area limits, and flow control facilities as those outside of the urban service line, but these projects will not be required to retain the $\frac{3}{4}$ -inch rain event. In lieu of meeting this retention requirement, these projects will be allowed to choose from one of three options:

1. Payment of an in-lieu fee based on a quantifiable measure (to be determined through stakeholder meetings and the public hearing process). Funds generated from the in-lieu fee will be applied towards a comparable watershed enhancement project that the City has determined to be of greater value to the overall health of the watershed (and in accordance with "Utilization of Capital Facilities Fee" regulations), such as construction of LID improvements along City streets, within City parks or on other City controlled properties.
2. Implement a watershed enhancement project proposed by the applicant and determined by the City Engineer to be of greater value to the overall health of the watershed prior to occupancy. Potential projects include purchase of easements to project riparian areas or funding of private improvement projects via a non-profit agency such as the Land Conservancy or quasi-government agencies such as the Upper Salinas Las Tablas Resource Conservation District.

¹ Pre-project refers to the physical existing conditions of the site prior to submittal for a grading or building permit.

3. Options to offset the increased volume of water generated as a result of the project elsewhere in the same watershed prior to occupancy. This might include installation of rain gardens and rain barrels on private properties.

For redevelopment projects, this approach provides the flexibility needed for these denser types of developments and still serves to improve the water quality and quantity characteristics when compared to existing conditions.

The paper is divided into four sections:

- I. Background
- II. Comparison Table of the City's approach with Attachment 4 and Region 3 Executive Officer letter of February 15, 2008 (with timeframes adjusted per July 10, 2008 EO letter)
- III. Detailed description of comparison table contents
- IV. Summary of Conclusions

While there are a few core differences between the Water Board's approach and the City of Atascadero's approach, both agencies share the same goal and commitment to develop a plan that adequately protects receiving waters.

The Water Board's approach is perceived to be strongly oriented towards developing a watershed model and applying all provisions uniformly across all areas and project types within the City's jurisdiction. This has the advantage of eliminating potential inconsistent application of post-construction requirements. The specific criteria set by the Board clearly achieve the Water Board's goal of reducing impacts to the watershed as a result of development. The major downside of the approach is that the criteria established by the Board does not address hydromodification caused by existing development and creates disproportionate costs per watershed benefit for new and redevelopment projects. It also discourages infill and compact, transit oriented growth because these types of projects have limited space to implement cost-effective hydromodification strategies.

The United States Environmental Protection Agency (EPA) specifically encourages the creation of incentives for infill or more compact, transit-oriented growth over a parcel-by-parcel approach because the latter has been demonstrated to exacerbate water quality problems, particularly on a watershed scale, by encouraging low-density scattered development. The Water Board proposal appears to be inconsistent with the following EPA policies from EPA's "Protecting Water Resources with Smart Growth" publication (EPA publication number 231-R-04-002), written in 2004:

- Policy 40 "Create a sliding scale of mitigation requirements based on level of density"
- Policy 52 "Designating smart growth site design as a BMP"
- Policy 53 "Allow offsite mitigation"
- Policy 57 "Maximize use of existing impervious cover"

The EPA has since issued other, more recent publications that support the water quality benefits of higher density developments, such as:

- Protecting Water Resources with High-Density Development (2006 EPA pub no 231-R-06-001)
- Using Smart Growth Techniques as Stormwater Best Management Practices (2005 EPA pub no 231-B-05-002)

The City of Atascadero has developed a draft hydromodification plan with the following assumptions:

- Impacts to receiving waters are real and measurable.
- Preparing the preliminary design of stormwater controls in conjunction with the preliminary site plan can help reduce overall project costs (by minimizing rework and potentially reducing infrastructure costs) and allow for a greater range of choices for handling stormwater.
- There are diminishing returns on investment required to maintain the pre-development hydrologic regime everywhere at all times and still meet current development demands and City smart growth goals, and;
- To maximize the return on post-development stormwater impact mitigation investment and provide assurances to the Water Board that post-construction measures will be applied to adequately address volume-duration discharges, numeric sizing requirements is required.

The following numerical standards are strategically selected to achieve key watershed health criteria. The numeric criteria include:

- Establishing minimum groundwater recharge volumes.
- Maintaining peak runoff rates consistent with pre-development rates to the extent practicable.
- Minimizing directly connected impervious areas where possible.
- Maintaining pre-development drainage densities.

Treatment control standards are based on the 85th percentile storm and are not included in the draft hydromodification plan. See attachment 4 of the Phase II MS4 General Permit for volume and flow control design standards.

The City will also establish qualitative criteria intended to promote Low Impact Development. The City will develop or adopt a site design manual that promotes the following site design/low impact design principles:

- Stormwater is an important natural resource that should be used to replenish our creeks, lakes, and groundwater supplies.
- Post-development stormwater management systems should utilize natural features of the site to mimic the pre-development runoff characteristics (volume, rate, timing and pollutant loading).
- It is generally more efficient and cost-effective to prevent problems rather than attempt to correct them after the fact.
- On-site storage, infiltration, transpiration and evaporation of stormwater are generally preferred over direct discharges to surface water bodies (beyond pre-development rates).
- Structural or maintenance-heavy practices (such as detention basins, hydrodynamic structures, water quality filters, etc) should only be integrated into the design after all non-structural practices have been fully explored and deemed too costly or not-environmentally sound.
- Distributed, small-scale retention systems are preferred over a single retention basin.

I. Background

This section discusses what hydromodification is and what can be done to minimize it.

What is hydromodification?

Hydromodification describes the changes to peak discharge rates, volume of runoff, volume of rainfall infiltrated and duration of runoff as a result of changing land use.

Undeveloped areas such as oak forests and grasslands serve as sponges for excess rainwater. When these areas are covered with impervious surfaces (houses, roads and parking lots, etc.) the amount of rainwater absorbed is limited. As shown in figure 1, the extent of impervious surface of a site can influence how much of a rain storm is intercepted by vegetation, evapotranspirated back into the atmosphere, infiltrated into the ground, or leaves the site as runoff.

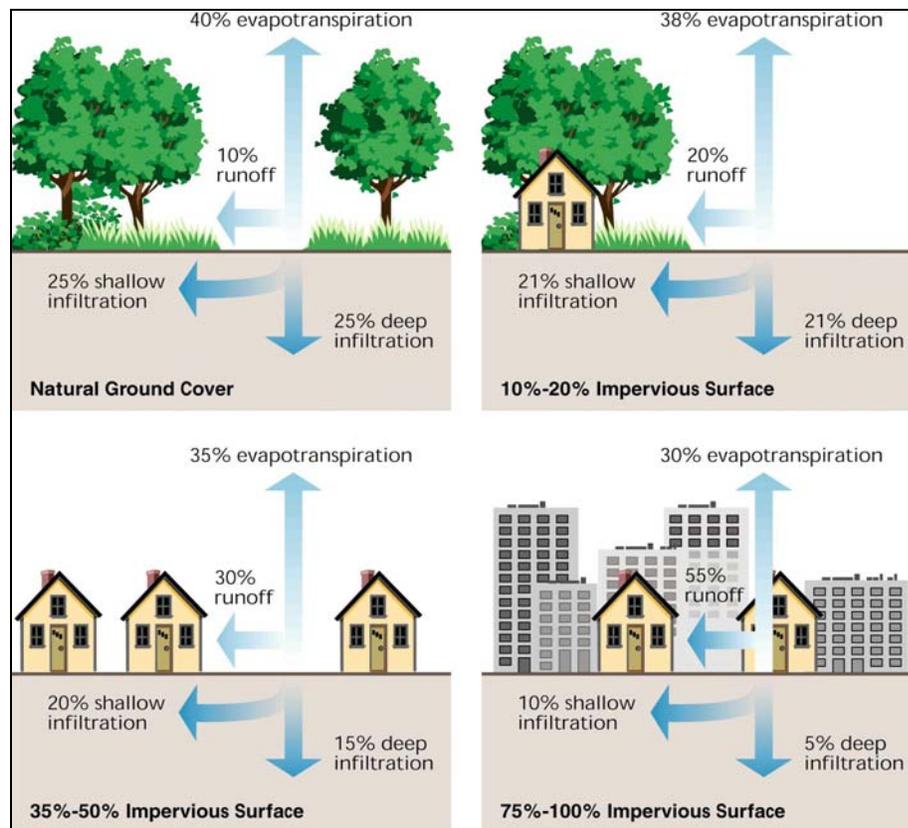


Figure D-1 Relationship between impervious surface, surface runoff, infiltration and evapotranspiration
(Source: Stream Corridor Restoration: Principles, Processes, and Practices, FISWG 1998)

Changing the amount of impervious area of a site can lead to a host of problems, including:

- Increased flooding frequencies and magnitudes
- Increased erosion of streams and hillsides
- Increased contaminate concentration levels in stormwater runoff
- Reduced groundwater recharge rates

The loss of infiltration from urbanization has resulted in profound groundwater changes. As more surface area becomes covered with impervious surfaces, less water is able to seep back into the ground. Reduced groundwater recharge rates may result in lower base flows during dry weather as less groundwater is available to move through the soil and into stream channels and aquifers.

Development projects can also impact neighboring properties. Traditional stormwater management practices emphasize conveyance—using street gutters, curbs, pipes and canals to remove water from the developed areas as quickly as possible, and engineered flood control measures—dams, dikes and levees, and detention facilities to offset the impact of development. This transfers the immediate problems downstream by increasing the volume and peak rate of runoff leaving our sites. The compound effect of increased impervious surfaces with a more efficient collection and conveyance system is often flooding and erosion. When runoff leaves a storm drain network and empties into a creek, its excessive volume and energy can scour creek banks, damaging streamside vegetation and harming aquatic habitat. Even the extended duration of discharge from detention basins has been attributed to adversely affect the shear stress of receiving channels.

Runoff that leaves a developed site by crossing over impervious surfaces, often picks up contaminants that were accumulated on that surface as a result of everyday and seemingly harmless activities such as: driving, maintaining vehicles and lawns, disposing of waste, washing cars and even walking pets. Polluted runoff may contain nutrients, pathogens, hydrocarbons, toxic organics, sediments, metals, trash, and debris. Additionally, higher creek and lake temperatures may result as the runoff picks up heat from the paved surfaces. Contaminates and warmer water are carried to a storm drain system and are discharged into our creeks, lakes, and the ocean where contaminants can accumulate and cause problems for aquatic life.

What can be done to minimize the existing effects of hydromodification?

Stretches of creeks and rivers that have already been impacted by hydromodification can be restored. Restoration practices typically include stabilizing the channel and its banks and re-contouring the floodway.

What can be done to minimize the future effects of hydromodification?

Watersheds in healthy condition can be protected from future effects of hydromodification through stream buffers and runoff management techniques, such as Low Impact Development and water harvesting practices.

The Water Board has mandated specific interim criteria and indicated that final hydromodification criteria must provide measures that are as effective as the interim criteria. The final hydromodification criteria must include:

- Numeric criteria for controlling stormwater runoff volume and rates from new and redevelopment
- Numeric criteria for stream stability required to protect downstream beneficial uses and prevent physical changes to downstream stream channels that would adversely affect the physical structure, biologic condition and water quality of streams.
- Specific applicability criteria, land disturbance acreage thresholds and exemptions.
- Performance criteria for control BMPs and an inspection program to ensure proper long term functioning.
- Education requirements for appropriate municipal staff on hydromodification and low impact development

To evaluate the potential impacts of a project to the watershed, it is necessary to evaluate the geomorphology, ecology and other natural characteristics of the water body that would be impacted. Typically this means developing a model of the watershed.

What type of information is needed to develop a representative hydromodification model?

To develop a model that reflects the geomorphology, ecology and other natural characteristics of the watershed, the City would need:

- Hydrology data (35 to 50 years of rainfall records, preferably in hourly time increments)
- Stream gages to validate rainfall – runoff relationship
- Site Data (land use, soils, vegetation, evapotranspiration rates and topographic conditions)
- Historical and existing channel conditions
 - Geomorph conditions based on historical and current aerial photos
 - Survey data, topographical maps and ortho plots for assessment of lateral adjustment, flood plain area
 - Inventory of instream management activities, flood plain modifications
 - In-field qualitative assessment of stability indicators and cursory quantitative assessment of morphology, such as substrate and riparian vegetation data
 - Dissolved oxygen levels and nutrient / pollutant loadings*

**while not technically hydromodification, this information is necessary to protect downstream beneficial uses and evaluate if projects would adversely affect the physical structure, biologic condition and water quality of streams.*

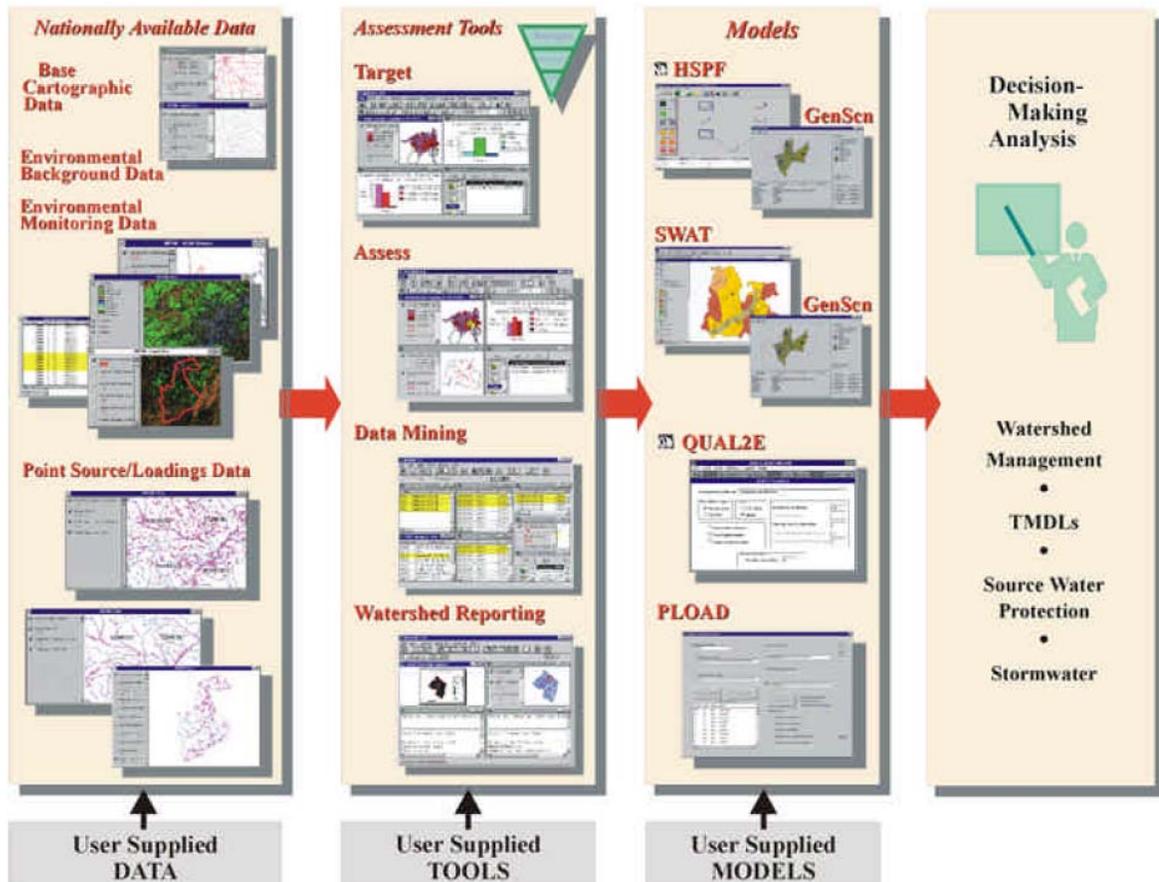


Figure D-2 Overview of Information necessary to decision making analysis (per Better Assessment Science Integrating point and Non-point Sources)

To be effective, the model must also be able to predict receiving water responses to lot level development practices and provide tools for evaluating tradeoffs between instream and out-of-stream uses of water and in-stream and out-of-stream mitigation measures.

By necessity, most watershed models generalize watershed responses to rainfall. Thus a model of the upper Salinas tributary area capable of providing an understanding of the effects of annual rainfall, dam discharge, tributary runoff and water extraction to groundwater resources requires looking at the watershed across the whole watershed over a significant duration of time. However an understanding of geomorphic structure of the river channel that determines the basis of conditions experienced by fish requires appreciation of the physical processes that operate over a few feet and change over a period of hours to a few days.

To convince others (RWQCB, Stakeholders, and potential litigants to 3rd party lawsuits), the model will need to document the appropriateness of all assumptions made, define the limits of the model based on ability to calibrate it with real world data and be able to defend the selection of representative reaches used in the study.

The City has only one rain gauge within the area and it records daily rainfall values. The nearest in-stream gage is downstream from the City limits (in Paso Robles).

What are some of the City of Atascadero concerns with this approach?

The Region Board use of the phrase "as effective as" puts the burden on the City to determine how effective the Boards requirements are and then to develop a program that meets or exceeds those requirements. Natural systems do not easily lend themselves to significant degrees of certainty. Because the relationships in natural systems are so complex, models often need to make simplifying assumptions. The more simplifying assumptions made, the more affordable it is to development the model, but the less accurate the model is at reflecting the natural conditions. The City simply lacks the funding to develop a model representative of the site conditions and capable of being used as a watershed and site scale. Estimated costs to develop a model similar to the ones used in MS4 Phase I communities are estimated to exceed \$400,000. The cost to develop the model for the planned limited number of future development is not warranted given that the city is essentially built out.

The City's proposed approach addresses existing problems within the watershed while the Water Boards approach does not. Many of the existing watershed problems cannot be linked to a responsible party but the City lacks resources to address them. Of the 3,077-acres located within the Urban Service Line and tributary to a creek of concern, 421-acres, representing 519 parcels are likely to be developed or redeveloped. Thus only a small percentage of projects will be required to implement hydromodification control (if the Board rejects the City's proposal). Implementing hydromodification to the full extent for all of these projects may not make the current problem worse, but it also does not address the current problems in the receiving waters.

The City's proposed approach provides a greater increase in watershed benefits for each development dollar invested. The cost of incorporating hydromodification controls for certain types of projects (in-fill, localized flooding areas, etc), is significant because additional engineered elements (sub surface storage, green roofs, etc) are required when there isn't enough room or there are other limitations that prevent runoff from being infiltrated on site through natural, passive practices. Implementing hydromodification controls for these types of projects isn't the most cost-efficient method of addressing watershed problems.

The City's proposed approach encourages compact and in-fill development while the Water Boards Pre and post hydrograph matching to pre-settlement days does not. Significant land is required to affordably implement hydromodification controls (as specified by the Water Boards Interim Criteria). EPA examined storm water runoff from different development densities to determine the comparative difference between scenarios. EPA's analysis demonstrated:

- The higher-density scenarios generate less storm water runoff per house at all scales — one acre, lot, and watershed — and time series build-out examples;
- For the same amount of development, higher-density development produces less runoff and less impervious cover than low-density development; and
- For a given amount of growth, lower-density development impacts more of the watershed.

Taken together, these findings indicate that low-density development may not always be the preferred strategy for protecting water resources. Higher densities may better protect water quality — especially at the lot and watershed levels. To accommodate the same number of houses, denser developments consume less land than lower density developments. For additional information on the EPA study see http://www.epa.gov/smartgrowth/water_density.htm)

The City's proposed approach encourages redevelopment which provides additional water quality benefits. Policy 57 from EPA's "Protecting Water Resources with Smart Growth" publication (EPA publication number 231-R-04-002) states that "re-development of previously developed sites provides water quality benefits by reducing the need to accommodate growth on undisturbed, open land. They also state that impervious land redeveloped to serve multiple uses generally decreases runoff in most cases. Policy 40 "Create a sliding scale of mitigation requirements based on density" suggests that communities reduce mitigation requirements based on density. While the publication recommends (and the City concurs) that many impervious surfaces can be redesigned to capture runoff and using a sliding scale for mitigation requirements works best when combined with smart growth planning concepts, neither approach is accommodated by the strict performance criteria established by the Board.

Pre and post hydrograph matching to pre-settlement days doesn't take into account the flows that are diverted from the Salinas River by the Salinas Reservoir. The City of San Luis Obispo Salinas Reservoir currently has a maximum storage capacity of 23,843 acre-feet. The City of Atascadero comprises of 17,088 acres of land. The City of Atascadero represents 0.3-percent of the tributary area of the Salinas River at a location within the Salinas River, just downstream of the City Limits. If all of the City's 100-year event rainfall (5.5-inches) were collected and stored in the Salinas Reservoir, the Salinas Reservoir would only be at 30% capacity. Considering that not all of the rainfall ends up as runoff (some is intercepted by plants, evapotranspired back into the atmosphere or infiltrated into the soil), the City is significantly built out, and that the City represents such an insignificant portion of the Upper Salinas Watershed, the logic of expending public funds to develop a model is not consistent with Maximum Extent Practicable which allows for an expectation that the funds expended to implement a particular Best Management Practice be proportional to the water quality benefit received².

Rigid pre and post hydrograph matching to within 1% to pre-settlement days does not allow for exceptions where upon infiltrating in the remaining available land (even if the development has been designed with

² (Order WQ 2000-11, http://www.swrcb.ca.gov/water_issues/programs/stormwater/smallms4faq.shtml).

fingerprinting techniques³) will result in geologic or structural instabilities, for the project or neighboring projects. Other communities who have implemented mandatory infiltration (as would be necessary to match pre and post hydrographs) have found that it has yielded some unintended consequences. Examples of the unintended consequences include landslides, foundation failures, and premature failure of roadways as a result of seepage⁴ and longer drain times that significantly exceed design expectations⁵.

Lastly, the Water Boards approach is inconsistent with the hydromodification policies being implemented by Phase I communities. Phase I communities are allowed a low flow release (sized to release without sediment transport). As currently stated, the Boards' position of pre and post hydrograph matching to within 1% to pre-settlement days does not allow a low flow release. Modifying the requirement to allow a low flow release would increase design flexibility and reduce size and cost to implement.

³ Site finger printing is a term used to describe an development approach which restricts ground disturbance by indentifying the smallest possible area and clearly delineating it on the site to preserve the important soils function of undisturbed land, maintain the pre-development curve number (CN) and time of concentration (Tc) and reduce the amount of soil erosion and sediment delivered to receiving streams.

⁴ City of San Diego Low Impact Development Soil, Hydrogeologic & Geotechnical Considerations: Seepage Case Histories. Robert N. Hawk, PE, CEG, CHG, Engineering and Capital Projects

⁵ Siting, Design and Operation of Infiltration BMPs: A Case Study by Brian Currier, Scott Taylor, John Johnston, Howard Yamaguchi, and J. Steven Borroum

Section II. Comparison Table

HYDROMODIFICATION ISSUE	CITY APPROACH	ATTACHMENT 4 CRITERIA	FEBRUARY 15 TH LETTER CRITERIA	CLARIFICATION ON APPROACH
Implementation Date	Upon adoption of post-construction ordinance (anticipated at the completion of permit year 2) for all projects “deemed complete” at that time.	Within 5 years of SWMP adoption.	Interim hydromodification requirements within year 1. Requirement to develop and adopt own control standards. Schedule to be included in SWMP.	<p>City proposed to use February 15th criteria because it is more rigorous than the Attachment 4 criteria. The City’s hydromodification proposal as provided in its SWMP as Attachment D, represents the City’s control standards for hydromodification. It includes:</p> <ul style="list-style-type: none"> ▪ Numeric criteria for controlling stormwater runoff volumes and rates from new and redevelopment; ▪ numeric criteria for stream stability required to protect downstream beneficial uses and prevent changes to downstream stream channels that would adversely affect the physical structure, biologic condition and water quality of streams; specific applicability criteria, land disturbance thresholds and exemptions; ▪ Performance criteria for control BMPs and an inspection program to ensure proper long term functioning; ▪ Education requirements for appropriate municipal staff on hydromodification and low impact development.

HYDROMODIFICATION ISSUE	CITY APPROACH	ATTACHMENT 4 CRITERIA	FEBRUARY 15 TH LETTER CRITERIA	CLARIFICATION ON APPROACH
Applicability criteria: New Development and Re-development Projects	<ul style="list-style-type: none"> • Single-Family Hillside Residences • Automotive Repair Shops • Retail Gasoline Outlets • Restaurants • Home Subdivisions with 10 or more housing units • Parking lots 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to stormwater runoff. • New development projects that create 5,000 square feet of impervious area. • Redevelopment projects that create 10,000 square feet of impervious area. 	<p>For areas subject to high growth or serving a population of at least 50,000 people:</p> <ul style="list-style-type: none"> • Single-Family Hillside Residences • Commercial Developments in excess of 100,000 sf • Automotive Repair Shops • Retail Gasoline Outlets • Restaurants • Home Subdivisions with 10 or more housing units • Parking lots 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to stormwater runoff. 	New and redevelopment projects that create and/or replace 5,000 square feet of impervious surfaces.	<p>City approach is a blend of the attachment 4 and February 15th trigger criteria even though the City of Atascadero is not defined by the General Permit (Attachment 2) as a city subject to attachment 4 criteria.</p> <p>To encourage infill development, the City is not requiring hydromodification for projects that replace < 5,000 square feet of impervious surfaces. However, significant renovation projects are required to comply with hydromodification requirements.</p>
Performance criteria: Types of Hydromodification Controls	<p>Site design measures to maximize pervious areas and encourage disconnection of impervious areas, peak flow controls, volume controls and stream stability criteria.</p> <p>Discretionary review ordinance is discussed in PC1. Inspection program is discussed in BMP PC3. Long term maintenance of Post construction BMPs is discussed in PC1.</p>	Peak storm water runoff for projects where the increase in peak storm water rates will result in potential for downstream erosion.	Site design limited to Effective Impervious Area limitations, post project hydrograph matching within 1% of pre-settlement project.	The City criteria mimic the February 15 th criteria for effective impervious area limits. The City approach is readily understandable (design and review) in terms of establishing peak and volume controls and balances development goals with watershed health goals.
Modeling	Event based hydrograph.	None specified.	Continuous simulation hydrograph	Level of complexity not warranted for discharges to Salinas River (flows impacted by Salinas Reservoir). Additional discretionary review of downstream tributary areas will be included in permit review for other City streams.

HYDROMODIFICATION ISSUE	CITY APPROACH	ATTACHMENT 4 CRITERIA	FEBRUARY 15 TH LETTER CRITERIA	CLARIFICATION ON APPROACH
Educational criteria	Discretionary review and LID training program is discussed in PC1. Inspection training program discussed in BMP PC3.	None specified.	Required for appropriate municipal staff on hydromodification and low impact development.	The City criteria mimic the February 15 th criteria for education topics. The city has scheduled this training to occur in year 1 of the SWMP.
Applicability criteria: Projects exempt from infiltration requirements	<p>Project(s):</p> <ul style="list-style-type: none"> ▪ That support low or moderate income housing ▪ Located within ½ mile of a bus stop, ▪ Components such as sidewalks, bicycle lanes, trails, bridge accessories, guardrails, and landscape features that are associated with roadway improvement projects. ▪ Located in areas subject to localized flooding during the storm events for which infiltration or flow duration controls are specified or where the water table distance separation of less than ten feet. ▪ Taking place on an existing brown field or grey field site within a redevelopment area. ▪ With industrial activity or high vehicular traffic [25,000 or greater average daily traffic (ADT) on main roadway or 15,000 or more ADT on any intersecting roadway]. ▪ With recognized situation of impracticality such as unfavorable or unstable soil conditions, or with risk of groundwater contamination because a known unconfined aquifer lies beneath the land surface or an existing or potential underground source of drinking water is less than 10-feet from the surface. ▪ Projects within the Downtown core of the redevelopment area. 	<p>Project(s):</p> <ul style="list-style-type: none"> ▪ With a water table distance separation of less than ten feet. ▪ With industrial activity or high vehicular traffic [25,000 or greater average daily traffic (ADT) on main roadway or 15,000 or more ADT on any intersecting roadway]. ▪ With recognized situation of impracticality: <ul style="list-style-type: none"> ▪ Unfavorable or unstable soil conditions at a site to attempt infiltration ▪ Risk of groundwater contamination because a known unconfined aquifer lies beneath the land surface or an existing or potential underground source of drinking water is less than 10-feet from the surface ▪ Other waiver classifications as granted by the RWQCB or the RWQCB EO. 	None.	<p>Categories of projects that are exempted from meeting hydromodification infiltration requirements were chosen to balance watershed health from a broader perspective than just peak and volume controls. There are watershed (and other) benefits received from supporting projects that reduce society's dependence on vehicles by promoting livable, walk able communities, reducing new infrastructure costs (by promoting infill) and encouraging redevelopment of previously contaminated sites.</p> <p>Projects that are exempt from all or a portion of the infiltration requirements will be assessed a in-lieu fee that will be used to fund improvement projects within the same watershed.</p>

HYDROMODIFICATION ISSUE	CITY APPROACH	ATTACHMENT 4 CRITERIA	FEBRUARY 15 TH LETTER CRITERIA	CLARIFICATION ON APPROACH
Peak flow rate criteria	Post development peak flows match the pre-project peak flows for 2, 5, 10, 25 and 50 year event intervals.	Peak storm water runoff for projects where the increase in peak storm water rates will result in potential for downstream erosion.	Site design limited to EIA, post project hydrograph matching within 1% pre-settlement project.	The February 15 th letter requirement to match the post project hydrograph to within 1% of the pre-settlement project hydrograph limits watershed protection to new and redevelopment projects that trigger the hydromodification requirements. Because the City is mostly built out, the Water Board approach does not address existing receiving watershed issues. Furthermore, the approach does not incorporate modifications to the receiving water caused by the Salinas Reservoir. The reservoir diverts a tributary area more than seven times the size of the area within Atascadero city control.
Stream stability criteria: Range of storm events to control	Discrete events between 85 th percentile storm or 10% of the 2-year pre-project peak flow (whichever is smaller) to NOAA defined 10 year-24 hour event.	Not defined, assumed all events.	Range of events between the 1 and 10 year event.	Lower range matches up with the treatment control criteria established in attachment 4, upper event is based on flood control criteria established by the City. The City typically requires detention of the 50 year storm for flood control.
Stream stability criteria: allowable low flow	10% of 2 year pre-project peak flow.	Peak storm water runoff controls are required for all projects that result in an increase in peak storm water rates if there is a potential for downstream erosion.	None.	The rate of low flow allowed is presumed to be at a rate stable to the receiving water based on numerous studies north of and south of the project area.

HYDROMODIFICATION ISSUE	CITY APPROACH	ATTACHMENT 4 CRITERIA	FEBRUARY 15 TH LETTER CRITERIA	CLARIFICATION ON APPROACH
Runoff volume control criteria	Runoff generated from storms with rainfall depths less than or equal to 0.75-inches shall be retained or detained and allowed to infiltrate and/or seep away slowly, as occurs in a bioretention facility designed with a minimum 18-inches of soil, a design surface loading rate not to exceed 5 inches per hour, and a total volume (including surface detention, soil interstices, and subsurface storage) equal to the volume of runoff produced by the first 0.75-inches of rainfall on the drainage area tributary to the facility. Projects unable to fully infiltrate or detain the volume generated from a 0.75-inch storm will be required to participate in an in-lieu fee program or mitigation banking program that would retain the project's required infiltration volume elsewhere in the same watershed.	Not addressed.	Post project hydrograph matching within 1% pre-settlement project.	This criterion promotes the reduction of impervious area, captures all nuisance flows, and captures the majority of storm events.
Stream Stability Requirement: Duration of runoff criteria	Implementing multi-stage discharge outlets mimics pre-project duration of runoff events except for the low flow rate.	Not addressed.	Post project hydrograph matching within 1% pre-settlement project.	Basins will be required to be equipped with a multi-stage outlet that releases post development flows for the 2, 5 and 10 year storm events at the pre-settlement peak flow rates for like storms.
Directly Connected Impervious areas: new development	Directly connected impervious areas are limited to 5% of the development site.	Development must be designed so as to minimize, to the maximum extent practicable, the introduction of pollutants of concern that may result in significant impacts, generated from site runoff of directly connected impervious areas.	Directly connected impervious areas are limited to 5% of the development site.	The City criterion mimics the February 15 th criteria for effective impervious area limits.

HYDROMODIFICATION ISSUE	CITY APPROACH	ATTACHMENT 4 CRITERIA	FEBRUARY 15 TH LETTER CRITERIA	CLARIFICATION ON APPROACH
Directly Connected Impervious areas: re-development	Directly connected impervious areas are limited to 5% of the development site, where practical.	Development must be designed so as to minimize, to the maximum extent practicable, the introduction of pollutants of concern that may result in significant impacts, generated from site runoff of directly connected impervious areas.	Directly connected impervious areas are limited to 5% of the development site.	The City will require redevelopment projects to limit their directly connected impervious areas to 5% except in locations where the volume of grading necessary to accomplish the disconnection will result in an environmental impact greater than the benefit gained through the earthwork. The City is proposing that the level of grading to accomplish the disconnection not exceed 10% of the grading required to complete the project.
Drainage Density Criteria	For projects whose disturbed project area exceeds two acres, preserve the pre-construction drainage density (miles of stream length per square mile of watershed) for all drainage areas serving a first order stream (defined as a stream with no tributaries), and ensure that the post-project time of concentration is equal or greater than the pre-project time of concentration.	None.	For projects whose disturbed project area exceeds two acres, preserve the pre-construction drainage density (miles of stream length per square mile of watershed) for all drainage areas serving a first order stream (defined as a stream with not tributaries), and ensure that the post-project time of concentration is equal or greater than the pre-project time of concentration.	The City approach mimics the February 15 th letter criteria for drainage density.
In lieu fee requirements	An in-lieu fee is required for projects that are exempted from complying with infiltration or peak discharge requirements.	Not addressed.	Not addressed.	The goal of the in lieu fee is to maximize the return on investment and health benefits to the watershed
In lieu fee criteria	Pro-rated based on a measurable quality of the project such as directly connected impervious area, impervious area or required storage volume, as determined most appropriate through a public stakeholder process.	Not addressed.	Not addressed.	The criterion selected will be measurable and promotes disconnection of impervious surfaces or site fingerprinting techniques.

HYDROMODIFICATION ISSUE	CITY APPROACH	ATTACHMENT 4 CRITERIA	FEBRUARY 15 TH LETTER CRITERIA	CLARIFICATION ON APPROACH
Record Keeping	<p>The City will collect and retain site plans identifying impervious areas, surface flow directions for the entire site and location of post-construction storm water management controls, applicant drainage report and rationale for any exceptions or impracticability provisions, when appropriate. The city will also collect and retain a certified copy of the O&M maintenance agreement and right of entry.</p> <p>Owners will be responsible for ensuring that the facilities are maintained and continue to function as designed. The property owner will be required to complete an O&M maintenance agreement and Operation and Maintenance Plan.</p> <p>The operation and maintenance plan will also require a right to enter and reimbursement mechanism that allows Roads City Maintenance staff to address maintenance if the responsible party fails to.</p> <p>The O&M Plan will be required to be filed as a covenant to the recorded deeds of all lots to enforce the imposition of any special tax assessment that may be necessary to maintain stormwater treatment facilities if the responsibility party fails or is unable to perform any of the obligations in the Maintenance Agreement.</p> <p>City will develop a post-construction inspection program as part of PC 3 during permit year 2.</p>	<p>Requires verification (developers signed statement) that the project structural and treatment controls BMPs will be maintained by the developer until the property is transferred. The transfer of property to a public or private owner must have conditions for inspection of at least once per year. For residential properties with BMPs located within a common area, the CC&Rs must include language regarding the responsibility for maintenance. Printed educational materials are required to accompany the first deed transfer.</p>	<p>Requires inspection program to ensure proper long term maintenance.</p>	<p>The City approach will mimic the February 15th letter criteria for inspection program during permit year 2 through BMP PC 3 “Post Construction Storm Water Management Site Inspections.”</p>

HYDROMODIFICATION ISSUE	CITY APPROACH	ATTACHMENT 4 CRITERIA	FEBRUARY 15 TH LETTER CRITERIA	CLARIFICATION ON APPROACH
<p>Impracticability Provisions</p>	<p>Recognized situations of impracticability include, (i) extreme limitations of space for treatment on a redevelopment project, (ii) unfavorable or unstable soil conditions at a site to attempt infiltration, and (iii) risk of ground water contamination because a known unconfined aquifer lies beneath the land surface or an existing or potential underground source of drinking water is less than 10 feet from the soil surface.</p>	<p>Recognized situations of impracticability include, (i) extreme limitations of space for treatment on a redevelopment project, (ii) unfavorable or unstable soil conditions at a site to attempt infiltration, and (iii) risk of ground water contamination because a known unconfined aquifer lies beneath the land surface or an existing or potential underground source of drinking water is less than 10 feet from the soil surface. Any other justification for impracticability must be separately petitioned by the Permittee and submitted to the appropriate RWQCB for consideration. The RWQCB may consider approval of the waiver justification or may delegate the authority to approve a class of waiver justifications to the RWQCB EO. The supplementary waiver justification becomes recognized and effective only after approval by the RWQCB or the RWQCB EO. A waiver granted by a Permittee to any development or redevelopment project may be revoked by the RWQCB EO for cause and with proper notice upon petition.</p>	<p>Not addressed.</p>	<p>The impracticality provisions provided are word for word of the impracticability reasons provided in Attachment 4.</p>

II. Comparison Table Details

In Section II, the comparison table provides key hydromodification concerns and how the City is addressing them. Additional columns are provided to compare the criteria established in Attachment 4 and the interim criteria established by the Board. The final column provides additional explanation or justification for the City criteria. Greater detail of each hydromodification issue is provided below.

Implementation Date. The City's hydromodification controls are contingent on successful adoption of a post-construction ordinance. The ordinance is anticipated to be adopted by the completion of permit year 1. Once adopted, the new hydromodification controls will be applied for all projects "deemed complete" at that time. For larger projects, deemed complete coincides with the certification of the environmental document. For projects that do not require an EIR, "deemed complete" will be based upon the completion of environmental review of the project by City staff.

Applicability Criteria: New Development and Redevelopment Projects. The City will implement post-construction program with design standards for the following types of and redevelopment projects:

- Single-Family Hillside Residences
- Automotive Repair Shops
- Retail Gasoline Outlets
- Restaurants
- Home Subdivisions with 10 or more housing units
- Parking lots 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to stormwater runoff
- New development projects that create 5,000 square feet of impervious area.
- Redevelopment projects that create 10,000 square feet of impervious area.

The February 15th letter specified that hydromodification controls should be applied to all new and redevelopment projects that create and/or replace 5,000 square feet or more of impervious surfaces. However, the City views the Board's threshold of extending the applicability requirements to the level for redevelopment projects that replace ≤ 5000 square feet of impervious surfaces as a deterrent to encouraging infill development. Data has proven that higher density projects create less overall watershed impacts and the City believes that infill should be encouraged.

Per the City hydromodification control plan, redevelopment projects that do not increase impervious area and do not increase drainage efficiency from the pre-project condition, will be exempt from complying with hydromodification controls but project proponents will be required to provide to the City:

- An assessment of site opportunities and constraints to reduce imperviousness and retain or detain site drainage;
- Plans of proposed design features and surface treatments used to minimize imperviousness in accordance with City low impact design standards;
- An inventory and accounting of existing and proposed impervious areas; and
- A qualitative and quantitative comparison of pre-project to post-project efficiency of drainage collection and conveyance that demonstrates that hydrologic source controls will be incorporated into the project to the maximum extent practicable.

Exempted in-fill projects and projects exempted from infiltration requirements will be subject to an in-lieu fee based on a quantifiable metric, such as directly connected impervious area, impervious area or retention volume. The exact criteria will be refined through the public hearing process. The funds generated from the in-lieu fee will be applied towards watershed enhancement projects that the City has determined to be of greater value to the overall health of the watershed.

Performance Criteria: Types of Hydromodification Controls. Applicable project subject to the post construction ordinance will be required to implement site design measures per attachment 4 and the hydromodification control design standards. Hydromodification control design standards will include effective impervious area limits, infiltration volumes, peak flow and drainage density requirements as well as water quality and energy dissipation requirements. Owners will be responsible for ensuring that the facilities are maintained and continue to function as designed.

Modeling Criteria: The City proposes to allow commercial software packages capable of generating event based hydrograph programs, if the following criteria are used:

Hydrograph Method:	SBUH
Time Interval:	1 minute
Storm Distribution:	Type I (Synthetic rainfall distribution for southern CA)
Storm Duration:	24-hours
Rainfall Depths:	Corresponding NOAA Isopluvial Precipitation chart
Antecedent Moisture Condition:	AMC II (Soil moisture neither dry or saturated)
Time of Concentration:	Per TR-55 Manual

(http://www.wsi.nrcs.usda.gov/products/W2Q/H&H/Tools_Models/WinTR55.html)

The Natural Resources Conservation Service (NRCS) Curve Number or Rational Coefficient will be derived from discrete units (driveways, roads, roofs, lawn and natural vegetation area) instead of larger categories (single family residence < ¼ acre). Because areas subject to construction equipment traffic will infiltrate less volume than undisturbed soils, post-development curve numbers or rational coefficients will need to reflect changes in soil characteristics expected after construction has been completed unless the plans call to restore the soil structure (i.e. deep tilling, chisel plowing or amending the upper soil surface).

Event based models are easy to use and review and have been used for decades to estimate volume of rainfall and runoff, peak flows and duration of runoff over a variety of rainfall events. A noted draw back of event-based models is that they don't take into account the effects of back-to-back storms. Modelers typically model back to back storms by adjusting tail water elevations of detention basins. This is an improvement over aforementioned approach but still does not take into account saturated soil conditions or losses due to plant uptake and evapotranspiration processes. Event based models are generally considered more conservative than continuous simulation models for volume.

MS4 Phase 1 communities have recently been incorporated continuous simulation models into site development review. Most of the models recommended are based on continuous modeling simulations. The City is concerned about adopting a continuous simulated, flow duration model because of the following:

- Flow duration relationships require calibration with stream gages. There are no in-stream gages within the City of Atascadero to create a flow duration relationship relevant to the City. The closest stream

gages are at the Santa Margarita Reservoir (which is inherently unnatural due to the dam release and diversion fundamental to the Reservoir) and downstream in Paso Robles.

- Continuous simulation models rely on a minimum of 30 years or more of local hourly rainfall data. The city only has daily rainfall data. The process of converting daily data to hourly data reduces its models credibility.
- For models to include the spatial location of one land parcel relative to another in the watershed they require the creation of a significant number of sub watersheds since most models lump simulation processes for each land use type at the sub watershed level. A review of two of the programs used in the San Francisco Region found that while these hydromodification models provide valid conceptual approaches to protecting pre-development flow durations, they have room for improvement, including:
 - how BMPs are sized
 - the need for field verification of underlying assumptions for model calibration
 - Use of LID facilities for hydrologic control, instead of traditional 'end of pipe' solutions (i.e. ponds)
 - Refinement of the simplified infiltration rate assumptions
 - Enhancement to allow an evaluation of the interaction between multiple source areas at a larger scale

The MS4 Phase 1 communities will be investing in model improvements over the next few years and by waiting, the City of Atascadero can defer these significant costs while the challenges are being identified and worked out.

- Establishing a model specific to the local area is relatively expensive. Phase 1 communities have reportedly spent more than two million dollars doing the necessary studies to create a region-specific model. A quote to develop a model specific to the San Luis Obispo Watershed exceeded \$400,000 dollars. This represents a \$771 premium for parcels subject to the new requirement just to develop the model. Spending this amount of money would violate Maximum Extent Practical principals, since the benefit to the watershed would be minimal versus the significant cost.
- The cost of these programs has the potential to be relatively significant once a model specific to the local area has been established. While there are free distributed modeling systems available (Hydrological Simulation Program--Fortran (HSPF), for example, many Phase 1 communities have been using a windows-based front end to the HSPF model from Clear Creek Solutions (used by Alameda, Santa Clara, San Diego and San Mateo Counties) which sells for \$2,500 with annual technical support of \$1,000. This would significantly burden middle and low income housing.
- The discharge from the Salinas Reservoir significantly reduces the flows in Salinas River from their historical levels. Comparison of pre-settlement stream flows with post project stream flows have the risk of allowing greater discharges than event and site based analysis would permit.
- The percent of land available for development/re-develop, and given the zoning applied to this area when compared to the overall watershed tributary to the Salinas River, is significantly limited. The entire area within the City limits is 25.6 square miles, of which, 18.2-square miles is considered developed. The model would be used for the development of 1096 projects, and at \$400k per model, equates to \$775 per parcel outside of the urban service line. Spending this amount of money would violate Maximum Extent Practical principals, since the benefit to the watershed would be minimal versus the significant cost and the return on investment low relative to other BMPs.

- Studies⁶ have shown that flow duration curves are most appropriate for humid, perennial catchments. Semi-arid environments, such as those that feed the Salinas River, it is the large, infrequent storms that do most of the sediment transport and not the small storms (less than 10-year return interval).

To compensate for event based model limitations, the City will require site reviews of downstream receiving waters and implementation of in-stream projects, where appropriate.

The Water Board is recommending the use of pre-and post hydrograph matching. The City is not in favor of using matching hydrographs because of the following:

- Matching hydrographs on a project by project or parcel-by-parcel approach has been demonstrated to exacerbate water quality problems, particularly on a watershed scale, by encouraging low-density scattered development.⁷
- The sophistication of modeling required to demonstrate compliance to within one percent is excessively onerous. For instance, a hydrologic model would need to be developed that would show the timing of each water harvesting, low impact development and flood control facility. A single family house incorporating good site design would need to develop a model that could demonstrate how their rain barrels, unit paver driveway, shallow landscape detention areas, swales, each check dam within the swale, and detention basin areas interrelate for each run-on and runoff location over a range of storm events. A large subdivision of homes would require this type of analysis for each house within the subdivision as well as common areas. In addition, all models are simplified to assume rainfall falls over the entire watershed at the same rate of intensity. Even with this level of detail, the probability of the a single site behaving as the model predicts is limited because rainfall does not fall on a site uniformly, much less a watershed.

Educational Criteria: The Stormwater Management Plan includes milestones for education of key City staff. Key City staff include those involved in the discretionary review process, construction and post-construction inspection processes. This training is schedule to occur in year 1 of the SWMP. Training will be conducted by an organization with stormwater BMP design expertise (e.g., a University, American Society of Civil Engineers, American Society of Landscape Architects, American Public Works Association, or the California Water Environment Association) or certifications (Certified Professional Storm Water Quality, Certified Professional Erosion and Sediment Control).

Applicability Criteria: Projects Exempt from Infiltration Requirements. The following projects are exempt from the infiltration requirements:

- Low or moderate income housing. The City and EPA recognize water quality benefits of promoting high density housing.
- Located within ½ mile of a bus stop or in a designated land use overlay. The City and EPA recognize water quality benefits of promoting livable, walk able communities.
- Located in areas subject to localized flooding during the storm events for which infiltration or peak flow controls are specified. Incorporating infiltration requirements for sites where existing grades have caused ponding adjacent to structures puts the city at risk for property damage and health and safety lawsuits.
- Located where the water table distance separation of less than ten feet, which is consistent with Attachment 4 criteria.

⁶ <http://ag.arizona.edu/oals/watershed/highlands/erosionsedimentation.html> and Sediment Yield from Semiarid Watershed, MH Nichols, KG Renard

⁷ http://www.epa.gov/smartgrowth/water_density.htm), See "Channel Erosion" section

- Taking place on an existing brown field⁸ or grey field⁹ site within a redevelopment area. The City seeks to concentrate development within the Urban Service Line.
- With industrial activity or high vehicular traffic [25,000 or greater average daily traffic (ADT) on main roadway or 15,000 or more ADT on any intersecting roadway], which is consistent with Attachment 4 criteria.
- With recognized situations of impracticality such as unfavorable or unstable soil conditions, or with risk of groundwater contamination because a known unconfined aquifer lies beneath the land surface or an existing or potential underground source of drinking water is less than 10-feet from the surface], which is consistent with Attachment 4 criteria. See 'impracticability provisions' in this section.

Projects exempted from infiltration requirements will either be:

1. Subject to an in-lieu fee based on a quantifiable measures such as directly connected impervious area, total impervious area or required retention volumes. The exact parameter will be determined through stake holder meetings and the public hearing process. The funds generated from the in-lieu fee will be applied towards watershed enhancement projects that the City has evaluated and determined to be of greater value to the overall health of the watershed.
2. Required to retain the equivalent volume of stormwater runoff produced by the project elsewhere within the same watershed.

Categories of projects that are exempted from meeting hydromodification infiltration requirements were chosen to balance watershed health from a broader perspective than just peak and volume controls. There are watershed (and other) benefits received from supporting projects that reduce society's dependence on vehicles by promoting livable, walk able communities, reducing new infrastructure costs (by promoting infill) and encouraging redevelopment and clean up of previously contaminated sites.

Peak flow rate criteria: Applicable projects post development peak flows will be required to match pre-project peak flows for 2, 5, 10, 25 and 50 year event intervals. This approach addresses a wider spectrum of storms than have historically been addressed.

The February 15th letter requirement to match the post project hydrograph to within 1% of the pre-settlement project hydrograph limits watershed protection to new and redevelopment projects that trigger the hydromodification requirements. The approach does not incorporate modifications to the receiving water caused by the Salinas Reservoir. The reservoir diverts a tributary area more than seven times the size of the area within Atascadero city control.

Additionally, the nature of the Salinas River (intermittent surface flows, wide bank widths), are indicative that higher storm events are more significant factors to stream stability than annual events.

For all other receiving waters (except the Salinas River), outside of the Urban Service Line, the combination of infiltration with discharge velocity requirements, and the requirements for post development peak flows to match pre-project peak flows over a range of storm events is presumed to protect receiving waters.

⁸ Brown field are properties whose development or expansion are complicated by the presence of potential presence of hazardous substance, pollutant, or contaminant.

⁹ "Grey field" refers to underutilized real estate assets or land. They generally have underlying infrastructure such as plumbing, sewer, electrical systems, etc) that allow a developer to more efficiently improve the site through capital expenditures and lead to a greater value (i.e. increased rents, highest and best uses for the City).

Stream stability criteria: range of storm events to control The proposed hydromodification control plan provides controls for discrete events ranging from the 85th percentile storm or 10% of the 2-year pre-development peak flow (whichever is smaller) to NOAA defined 10 year-24 hour event. This expands the lower end of the City’s current retention and detention requirements from the 2 year event to the lesser of the 85th percentile storm or 10% of the 2-year pre-development peak flow.

While the February 15th letter indicates that pre and post hydrographs must match within 1% of each other over a range of events from 1-year to 10-years, it would be a significant challenge to fully match the hydrograph, especially when using LID and water harvesting techniques. Models sufficiently complex to accurately predict every one of the sites best management practices, including their relationships over time, antecedent moisture conditions of the soil and each other, run the risk of being very difficult, if not impossible to be understood by discretionary permit reviewers and the general public. As the model’s complexity increases, so does the risk of agencies readily adopting the model output as correct (i.e. potential for significant errors due to incorrect assumptions or incomplete data). While some of this risk could be minimized through the adoption of standard software, many engineers are reluctant to assume the risk of certifying computer-generated sizing of BMPs through ‘black box’ technology.

Additionally, many stretches of the creeks and Salinas River within the City’s jurisdiction serve to recharge the groundwater (as evidence by intermittent dry stretches of stream bed even during rain events). Thus surface discharge from an extended duration basin has a high likelihood of being infiltrated within a very short distance from its point of origin.

Lastly, the nature of the Salinas River (intermittent surface flows, wide bank widths), are indicative that higher storm events are more significant factors to stream stability than annual events. For all other creeks within the City’s jurisdiction, the City intends to comply with the most stringent of receiving water limitations defined in the State.

Stream stability criteria: allowable low flow: This is the flow rate that can “drip” from a basin or site. The rate of low flow allowed is presumed to be at a rate stable to the receiving water based on numerous studies north of and south of the project area. This BMP decreases the lower end of the City’s current allowable detention low flow requirements from the 2 year pre-development peak runoff rate to 10% of the two year pre-project runoff rate.

The City evaluation of acceptable flow volume and rate BMPs demonstrated by detailed studies to be protective of rivers in the state is provided in table D-1. The City selected the most conservative of the allowable low flow rates to offset the risk of not conducting a City-specific study.

Table D-1. Summary of acceptable basin low flows

Allowable low flow	Study Area	Source
0.1Q2	Santa Clara County Streams	Per California Water Board Fact Sheet for Alameda Countywide Clean water Program and Fairfield Suisun Urban Runoff Management Program and San Mateo Stormwater Pollution Prevention Program
0.5Q2	Western Washington	Geosyntec consultants “evaluation of post-construction hydromodification requirements contained in the preliminary draft general construction permit” prepared for the California Building Industry (CBIA) on March 24, 2008 www.swrcb.ca.gov/water_issues/programs/stormwater/docs/constpermits/comments/cbia_hydromod.pdf
0.2Q2	San Francisco Bay Region	Order No. R2-2007-0026, Permit No. CAS612005

Runoff volume control criteria: Projects subject to hydromodification controls will be required to retain the volume associated with a 0.75-inch event. This rain event depth corresponds to the 85th-percentile storm. Because this depth correlates with Attachment 4 treatment control standards, it allows the City and developers to optimize the costs associated with incorporating water quality benefits into a project.

This approach is consistent with earning 2 Leadership in Energy and Environmental Design (LEED) points under the LEED New Development (ND), Green Infrastructure & Building (GIB) Credit 7: Stormwater Management. Credit 7 of LEED ND GIB allows a total of 4 LEED points to be earned based on the percent of storm events retained.

The upstream diversion of water supplies to City of San Luis Obispo is greater than city's increased volume caused by future development (and potentially existing and future development). The City of San Luis Obispo Salinas Reservoir currently has a maximum storage capacity of 23,843 acre-feet. The City of Atascadero comprises of 17,088 acres of land. If 100 percent of the City's 100-year event rainfall (5.5-inches) were collected and stored in the reservoir, the reservoir would only be at 30% capacity.

Stream stability requirement: duration of runoff criteria. The term 'duration' implies the length of time a basin is allowed to discharge into receiving water. However, as used by the Water Board (and hydrologists and geomorphologists), the term represents the percent of times that a given runoff rate exceeds a runoff goal. Because the city lacks adequate data to define the runoff-duration curve for Atascadero Creek and that the Salinas River sediment transport is more influenced by larger storms, the City will not be defining its hydromodification controls based on flow-duration and receiving water relationships. The City will however, incorporate multi-stage discharge outlets to better mimic pre-development runoff regimes and select a conservative allowable low rate to protect downstream resources. The City will use NOAA rain depth as the basis for sizing outlet orifices. A schematic representation of a basin with a multi-stage discharge outlet is shown in Figure D-3 (modified from Figure 1 of the "The Bay Area Hydrology Model – A Tool for Analyzing Hydromodification Effects of Development Projects and Sizing Solutions: J. Bicknell, et al, September 26, 2006).

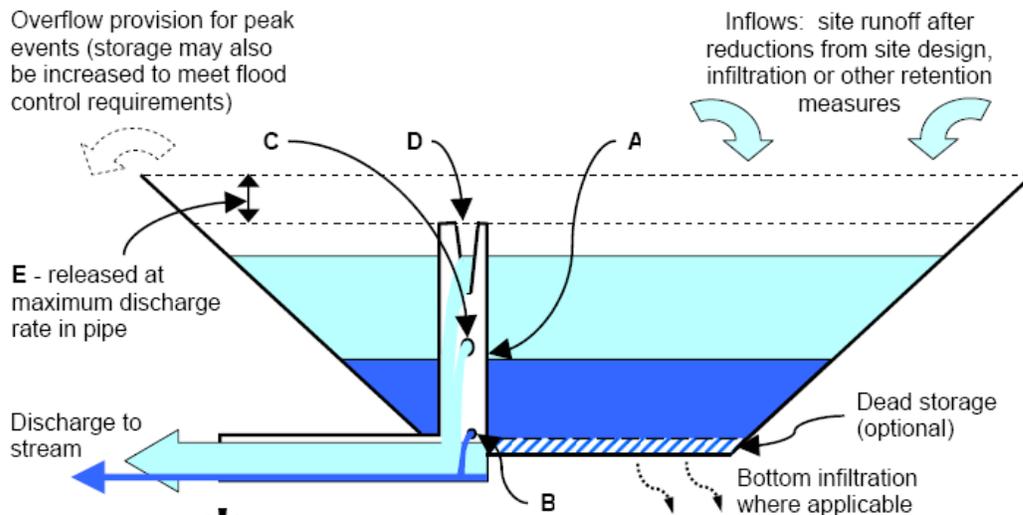


Figure 3 Schematic multi-stage discharge outlet.
Legend: A) outlet riser; B) low flow orifice; C) intermediate orifice (1 shown); D) weir notch (V-type shown); E) freeboard above riser (typically 1 foot)

Directly connected impervious areas: new development. The Water Board February 15, 2008 letter requires that the effective impervious area of new development projects be maintained at less than five percent of the total project area. Effective impervious areas are areas of land which are incapable of either infiltrating rainfall or retaining runoff on site for a 1-yr, 24hr storm, such as rooftops, streets, sidewalks, and parking lots that drain directly to a stream or wetland system via pipes. They are considered “effective” because they effectively drain the flows to storm drains, culverts or creeks.

Impervious areas that drain to landscapes, swales, parks and other pervious areas is considered “ineffective” because the water is allowed to infiltrate through the soil and into groundwater, without a direct connection to the stream or wetland. Disconnecting impervious areas typically results in the decrease of the runoff volume and an increase of the time of concentration.

Historically the City had no requirement to limit effective impervious area. However, in its hydromodification control plan, the City will require new developments to limit their effective impervious area to less than five percent of the total project area. The calculation of total project area will include only the portions of the development that are located on private property (e.g. not on encroachments).

Directly connected impervious areas: re-development. The February 15, 2008 letter requires that the effective impervious area of re-development projects be less than five percent of the total project area. See description above for definition of effective and ineffective impervious areas.

Historically the City had no requirement to limit effective impervious area. However, in its hydromodification control plan, the City will require that the effective impervious area of re-development projects be limited to the maximum extent practicable. The City hydromodification plan does not require a blanket maximum percentage for re-development projects because oftentimes redevelopment projects would require significant grading due to historical or adjacent property grades to meet an ‘effective impervious area’ percent requirement. The magnitude of earthwork and impacts to existing facilities, including utilities, necessary to implement grade changes will be used as part of the City’s analysis in determining the practicality of disconnecting impervious surfaces for redevelopment projects greater than 10,000 square feet.

Drainage Density Criteria. The City approach mimics the February 15, 2008 letter criteria for drainage density. For projects whose disturbed project area exceeds two acres, preserve the pre-construction drainage density (miles of stream length per square mile of watershed) for all drainage areas serving a first order stream (defined as a stream with no tributaries), and ensure that the post-project time of concentration is equal or greater than the pre-project time of concentration.

In lieu fee requirement. An in-lieu fee is required for projects that are exempted from complying with infiltration or peak discharge requirements. The in-lieu fee program will be developed as part of Minimum Control Measure 5, post-construction, Best Management Practice 1 (PC1 Post Construction Ordinance) during permit years 1 and 2 and include public hearings in the process.

In lieu fee criteria. The in lieu fee as currently envisioned will be pro-rated based on the directly connected impervious area of the project. The rationale for using directly connected impervious area is to encourage development to minimize the extent of directly connected impervious areas associated with their project.

The in-lieu fee program will be developed as part of Minimum Control Measure 5, Post Construction, Best Management Practice 1 (PC1 Post Construction Ordinance) during permit years 1 and 2. An appropriate quantifiable metric will be determined through the public process. Examples of potentially appropriate numeric parameters include total impervious area, directly connected impervious areas, and required rainfall retention volumes.

Record Keeping The City will collect and retain site plans identifying impervious areas, pre-development topography for the entire site and location of post-construction storm water management controls, applicant drainage report, and rationale for any exceptions or impracticability provisions, when appropriate. The city will also collect and retain a Professional Engineer certified copy of the O&M maintenance agreement and right of entry.

Owners will be responsible for ensuring that the facilities are maintained and continue to function as designed. The property owner will be required to complete an O&M maintenance agreement and Operation and Maintenance Plan. The post-construction ordinance will provide enforcement tools to better ensure BMP and agreements continue to be effective.

The operation and maintenance plan will also require a right-to-enter that allows City Maintenance staff to address emergency maintenance if the responsible party fails to operate or maintain the BMP satisfactorily.

The O&M Plan will be required to be filed as a covenant to the recorded deeds of all lots to enforce the imposition of any special tax assessment that may be necessary to maintain stormwater treatment facilities if the responsibility party fails or is unable to perform any of the obligations in the Maintenance Agreement.

City will develop a post-construction inspection program as part of BMP PC 3 during permit year 2.

The property owner will be required to complete an Operation and Maintenance (O&M) maintenance agreement and Operation and Maintenance Plan. The O&M plan will:

- Identify who is responsible for maintenance and how the maintenance is funded.
- Include a copy of the maintenance agreement in the O&M Plan.
- Document design parameters, features, methods and materials of construction, intended mode of operation and other key characteristics of the stormwater treatment BMPs on the site.
- Include BMP manufacture data and manuals for proprietary BMP systems.
- Provide a site plan with site drainage patterns, including all discharge points and the location of each treatment BMP.
- Provide a reference, checklist and inspection schedule to be used during verification inspections before, during after construction. The checklists should be used for the maintenance report submitted to the City as required by maintenance agreement and are intended to ensure treatment BMPs continue to operate as intended. Maintenance is required a minimum of once per year and may be as often as pre, during and post rain event, depending on the BMP.
- Identify and itemize the anticipated budget for long term maintenance in perpetuity.
- Maintain inspection records and training logs for a 5-year period.

The City-required O&M Plan will require property owners to file, as a covenant to the recorded deeds, long-term maintenance requirements, permission for the City to inspect private drainage facilities, and implement a funding mechanism as necessary to maintain stormwater treatment facilities.

The City intends to establish an inspection program and begin inspection in SWMP year 3, that will include, but not be limited to: routine inspections, random inspections, inspections based upon complaints or other notice of possible violations, inspection of drainage basins or areas identified as higher than typical sources of sediment or other contaminants or pollutants, inspections of businesses or industries that may cause or threaten water quality. Inspections may include, but are not limited to, reviewing maintenance and repair records, sampling discharges, surface water, groundwater, and material or water in drainage control facilities, and evaluating the condition of drainage control facilities and other stormwater treatment practices.

Impracticality Provisions. Recognized situations of impracticability include, (i) extreme limitations of surface area to allow for treatment BMPs on a re-development project, (ii) unfavorable or unstable soil conditions, and (iii) risk of ground water contamination because a known unconfined aquifer lies beneath the land surface or an existing or potential underground source of drinking water is less than 10 feet from the soil surface. These three criteria are consistent with MS4 Phase 1 General Permit Attachment 4 impracticality criteria and will require engineering judgment from the developer and City engineering staff.

3. Summary of Conclusions

The City of Atascadero hydromodification control plan was developed with the goal and commitment to protect receiving waters through the implementation of numerical volume and peak discharges controls, and site design sizing requirements.

The City evaluated the tradeoffs of developing a city-specific (or region specific) model. However upon looking at available watershed data to calibrate the model, the state of hydromodification control models currently being used by Phase I communities, the City goals and funding constraints, the City decided to utilize an existing stringent hydromodification approach rather than exhaust limited resources defining one specific to the City.