



San Bernardino County Stormwater Program

NON-CATEGORY WATER QUALITY MANAGEMENT PLAN

SAMPLE

WATER QUALITY MANAGEMENT PLAN (WQMP)

For compliance with Santa Ana Regional Water Quality Control Board

Order Number R8-2002-0012 (NPDES Permit No. CAS618036)

for

The Doe Residence

Prepared for:

**John Doe
123 Street
Big Bear Lake**

WQMP Preparation Date

11/1/2006

WATER QUALITY MANAGEMENT PLAN (WQMP)

PROJECT SITE INFORMATION

Name of Project: _____The Doe Residence_____

Project Location: _____123 Street_____

Size of Significant Re-Development on an Already Developed Site (in feet²): ___N/A___

Size of New Development (in feet²): _____1500 sf (house) 2000 sf (driveway)_____

Number of Home Subdivisions: _____N/A_____

SIC Codes: _____N/A_____

Erosive Site Conditions?: _____Site is undeveloped wooded lot_____

Natural Slope More Than 25%?: _____Maximum slope on lot is 20%_____

SAMPLE

WATER QUALITY MANAGEMENT PLAN (WQMP)

Check the appropriate project category below:

Check below	Project Categories
	1. All significant re-development projects. Significant re-development is defined as the addition or creation of 5,000 or more square feet of impervious surface on an already developed site. This includes, but is not limited to, additional buildings and/or structures, extension of existing footprint of a building, construction of parking lots, etc. Where redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to SUSMPs, the design standards apply only to the addition, and not the entire development. When the redevelopment results in an increase of more than fifty percent of the impervious surfaces, then a WQMP is required for the entire development (new and existing).
	2. Home subdivisions of 10 units or more. This includes single family residences, multi-family residence, condominiums, apartments, etc.
	3. Industrial/commercial developments of 100,000 square feet or more. Commercial developments include non-residential developments such as hospitals, educational institutions, recreational facilities, mini-malls, hotels, office buildings, warehouses, and light industrial facilities.
	4. Automotive repair shops (with SIC codes 5013, 5014, 5541, 7532- 7534, 7536-7539).
	5. Restaurants where the land area of development is 5,000 square feet or more.
	6. Hillside developments of 10,000 square feet or more which are located on areas with known erosive soil conditions or where the natural slope is twenty-five percent or more.
	7. Developments of 2,500 square feet of impervious surface or more adjacent to (within 200 feet) or discharging directly into environmentally sensitive areas such as areas designated in the Ocean Plan as areas of special biological significance or waterbodies listed on the CWA Section 303(d) list of impaired waters.
	8. Parking lots of 5,000 square feet or more exposed to storm water. Parking lot is defined as land area or facility for the temporary storage of motor vehicles.
X	The project does not fall into any of the categories described above. (If the project requires a precise plan of development [e.g. all commercial or industrial projects, residential projects of less than 10 dwelling units, and all other land development projects with potential for significant adverse water quality impacts] or subdivision of land, it is defined as a Non-Category Project.)

SECTION 1 INTRODUCTION AND PROJECT DESCRIPTION

1.1 Project Information

- Name of project owner. _____ John Doe _____
- Address of project owner. _____ xxxxxxxx _____
- Telephone for project owner. _____ xxxxxxxx _____
- Project site address. _____ xxxxxxxx _____

1.2 Permits

- List all tract or permit number(s), condition number(s), and any acquired waste discharge identification numbers (WDIDs) pertaining to project.

Building Permit Number ___BU060999_____

1.3 Project Description

- Land Use Type (refer to Tables 1-1 and 2-1 in the WQMP Guidance)

Residential Development (Detached)	
Residential Development (Attached)	X
Industrial/Commercial Development (>10,000 sq. ft.)	
Automotive Repair Shops	
Restaurants (>5,000 sq. ft.)	
Hillside Development (>10,000 sq. ft.)	
Parking Lots (>5,000 sq. ft.)	
Streets/Highways/Freeways	

- Project size. _____ 3500 sf total _____

- Homeowners association or property owner association formation.
 YES _____ NO _____ **X** _____

If yes, information: _____

- **Include location map and site plan identifying storm drain facilities and structures, structural BMPs, stormwater flow (drainage), and the receiving water. The location and site plan may be shown on the same map.**

1.4 Site Description

The Santa Ana Watershed is the major watershed for this region. This watershed is divided into the lower Santa Ana River; Middle Santa Ana River; Chino Basin; Upper Santa Ana; and Big Bear Lake watersheds. This project lies within the Big Bear Lake Watershed within San Bernardino County and contains the following regulated surface water bodies:

- 1.) Big Bear Lake – Impaired by metals, nutrients, and sedimentation
- 2.) Knickerbocker Creek – Impaired by bacteria indicators and metals
- 3.) Rathbone (Rathbun) Creek – Impaired by nutrients and sedimentation
- 4.) Summit Creek – Impaired by nutrients

SECTION 2 POLLUTANTS OF CONCERN AND HYDROLOGIC CONDITIONS OF CONCERN

- 2.1 POLLUTANTS OF CONCERN
(NOT REQUIRED FOR NON-CATEGORY)
- 2.2 HYDROLOGIC CONDITIONS OF CONCERN
(NOT REQUIRED FOR NON-CATEGORY)
- 2.3 WATERSHED IMPACT OF PROJECT
(NOT REQUIRED FOR NON-CATEGORY)

SECTION 3 BEST MANAGEMENT PRACTICE SELECTION PROCESS

3.1 SITE DESIGN BMPS

For listed Site Design BMPS, indicate in the following table whether it will be used (yes/no) and describe how used, or, if not used, provide justification/alternative. Provide detailed descriptions of planned Site Design BMPS, if applicable.

1. Minimize Stormwater Runoff, Minimize Project's Impervious Footprint, and Conserve Natural Areas		
Maximize the permeable area. This can be achieved in various ways, including but not limited to, increasing building density (number of stories above or below ground) and developing land use regulations seeking to limit impervious surfaces.		
Yes	<input checked="" type="checkbox"/>	No
Describe actions taken or justification/alternative: <i>A two story home has been designed and driveway is designed at the minimum width allowed</i>		
Runoff from developed areas may be reduced by using alternative materials or surfaces with a lower Coefficient of Runoff, or "C-Factor".		
Yes	No	<input checked="" type="checkbox"/>
Describe actions taken or justification/alternative: <i>Most alternative building materials are not suitable for the local climate due to freeze/thaw and drought conditions</i>		
Conserve natural areas. This can be achieved by concentrating or clustering development on the least environmentally sensitive portions of a site while leaving the remaining land in a natural, undisturbed condition.		
Yes	<input checked="" type="checkbox"/>	No
Describe actions taken or justification/alternative: <i>Remaining trees and native grasses to be protected</i>		

Construct walkways, trails, patios, overflow parking lots, alleys, driveways, low-traffic streets, and other low-traffic areas with open-jointed paving materials or permeable surfaces, such as pervious concrete, porous asphalt, unit pavers, and granular materials.		
Yes	No <input checked="" type="checkbox"/>	
Describe actions taken or justification/alternative: Not suitable due to freeze/thaw conditions		
Construct streets, sidewalks, and parking lot aisles to the minimum widths necessary, provided that public safety and a pedestrian friendly environment are not compromised ¹ . Incorporate landscaped buffer areas between sidewalks and streets.		
Yes	No <input checked="" type="checkbox"/>	
Describe actions taken or justification/alternative: No Sidewalks proposed or existing		
Reduce widths of street where off-street parking is available ² .		
Yes	No	
Describe actions taken or justification/alternative: N/A		
Maximize canopy interception and water conservation by preserving existing native trees and shrubs, and planting additional native or drought tolerant trees and large shrubs.		
Yes <input checked="" type="checkbox"/>	No	
Describe actions taken or justification/alternative: Existing trees and shrubs outside the building envelope will be protected		

¹ Sidewalk widths must still comply with Americans with Disabilities Act regulations and other life safety requirements.

² However, street widths must still comply with life safety requirements for fire and emergency vehicle access.

Other comparable site design options that are equally effective.		
Describe actions taken or justification/alternative: N/A		
Minimize the use of impervious surfaces, such as decorative concrete, in the landscape design.		
Yes	<input checked="" type="checkbox"/>	No
Describe actions taken or justification/alternative: Small concrete patio behind the house is only hardscape area		
Use natural drainage systems.		
Yes	<input checked="" type="checkbox"/>	No
Describe actions taken or justification/alternative: Existing lot sheet flows toward an existing vegetated swale adjacent to street		
Where soils conditions are suitable, use perforated pipe or gravel filtration pits for low flow infiltration ³ .		
Yes	<input checked="" type="checkbox"/>	No
Describe actions taken or justification/alternative: Gravel drainage swales will be placed at all drip lines and adjacent to the downhill side of the driveway. The Swales will lead to a gravel infiltration pit.		
Construct onsite ponding areas, rain gardens, or retention facilities to increase opportunities for infiltration, while being cognizant of the need to prevent the development of vector breeding areas.		
Yes	<input checked="" type="checkbox"/>	No
Describe actions taken or justification/alternative: A gravel infiltration pit is used to increase opportunities for infiltration		

³However, projects must still comply with hillside grading ordinances that limit or restrict infiltration of runoff. Infiltration areas may be subject to regulation as Class V injection wells and may require a report to the USEPA. Consult the Agency for more information on use of this type of facility.

2. Minimize Directly Connected Impervious Areas		
Where landscaping is proposed, drain rooftops into adjacent landscaping prior to discharging to the storm drain.		
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Describe actions taken or justification/alternative: Roof flows to gravel filled swales at all drip lines.		
Where landscaping is proposed, drain impervious sidewalks, walkways, trails, and patios into adjacent landscaping.		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Describe actions taken or justification/alternative: Gravel infiltration pit will overflow into existing landscape areas and sheet flow towards existing vegetated swale. Concrete patio will drain into relatively level native landscape area		
Increase the use of vegetated drainage swales in lieu of underground piping or imperviously lined swales.		
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Describe actions taken or justification/alternative: No impervious swales or underground pipes are used. Gravel swales are used on site and overflow will be directed towards existing vegetated swale adjacent to road.		
Use one or more of the following:		
Yes	No	Design Feature
X		Rural swale system: street sheet flows to vegetated swale or gravel shoulder, curbs at street corners, culverts under driveways and street crossings
	X	Urban curb/swale system; street slopes to curb; periodic swale inlets drain to vegetated swale/biofilter.
	X	Dual drainage system: First flush captured in street catch basins and discharged to adjacent vegetated swale or gravel shoulder, high flows connect directly to municipal storm drain systems.
	X	Other comparable design concepts that are equally effective.
Describe actions taken or justification/alternative: Existing Rural vegetated swale system in city right-of-way		

Use one or more of the following features for design of driveways and private residential parking areas:		
Yes	No	Design Feature
X		Design driveways with shared access, flared (single lane at street) or wheel strips (paving only under tires); or, drain into landscaping prior to discharging to the municipal storm drain system.
	X	Uncovered temporary or guest parking on private residential lots may be paved with a permeable surface; or designed to drain into landscaping prior to discharging to the municipal storm drain system.
	X	Other comparable design concepts that are equally effective.
Describe actions taken or justification/alternative:		
Single access/shared driveway leads to two car garage		
Use one or more of the following design concepts for the design of parking areas:		
Yes	No	Design Feature
X		Where landscaping is proposed in parking areas, incorporate landscape areas into the drainage design.
	X	Overflow parking (parking stalls provided in excess of the Agency's minimum parking requirements) may be constructed with permeable paving.
	X	Other comparable design concepts that are equally effective.
Describe actions taken or justification/alternative:		
Parking areas and driveway are sloped towards gravel swale which leads to gravel infiltration pit.		

3.2 SOURCE CONTROL BMPS

Complete the following selection table for Source Control BMPS, by checking boxes that are applicable. All listed BMPs shall be implemented for the project. Where a required Source Control BMP is not applicable to the project due to project characteristics, justification and/or alternative practices for preventing pollutants must be provided. In addition to completing the following tables, provide detailed descriptions on the implementation of planned Source Control BMPS.

Source Control BMP Selection Matrix*

Project Category	Source Control BMPs																									
	Education of Property Owners	Activity Restrictions	Spill Contingency Plan	Employee Training/Education Program	Street Sweeping Private Street and Parking Lots	Common Areas Catch Basin Inspection	Landscape Planning (SD-10)	Hillside Landscaping	Roof Runoff Controls (SD-11)	Efficient Irrigation (SD-12)	Protect Slopes and Channels	Storm Drain Signage (SD-13)	Inlet Trash Racks	Energy Dissipaters	Trash Storage Areas (SD-32) and Litter Control	Fueling Areas (SD-30)	Air/Water Supply Area Drainage	Maintenance Bays and Docks (SD-31)	Vehicle Washing Areas (SD-33)	Outdoor Material Storage Areas (SD-34)	Outdoor Work Areas (SD-35)	Outdoor Processing Areas (SD-36)	Wash Water Controls for Food Preparation Areas	Pervious Pavement (SD-20)	Alternative Building Materials (SD-21)	
Significant Re-development	X	X				X	X	X			X			X												
Home subdivisions of 10 or more units																										
Commercial/Industrial Development >100,000 ft ²																										
Automotive Repair Shop																										
Restaurants																										
Hillside Development >10,000 ft ²																										
Development of impervious surface >2,500 ft ²																										
Parking Lots >5,000 ft ² of exposed storm water																										

* Provide justification of each Source Control BMP that will not be incorporated in the project WQMP, or explanation of proposed equally effective alternatives in the following table.

Justification for Source Control BMPs not incorporated into the project WQMP			
Source Control BMP	Used in Project (yes/no)?	Justification/Alternative*	Implementation Description
Education of Property Owners	YES	Owner is responsible for maintenance of BMP's	Owner has read and understands WQMP
Activity Restrictions	YES	No public events allowed Based on zoning regulations	None
Spill Contingency Plan			
Employee Training/Education Program			
Street Sweeping Private Street and Parking Lots			
Common Areas Catch Basin Inspection			
Landscape Planning (SD-10)	YES	To provide landscape buffers	Existing landscape and trees to be protected
Hillside Landscaping	YES	To prevent hillside erosion	Gravel swales used in site design
Roof Runoff Controls (SD-11)	YES	To prevent splash and erosion	Gravel Swales placed at all drip lines
Efficient Irrigation (SD-12)			
Protect Slopes and Channels	YES	To protect existing vegetation	Existing vegetated swale will not be disturbed
Storm Drain Signage (SD-13)			
Inlet Trash Racks			
Energy Dissipaters	YES	To slow flows and encourage infiltration	Gravel infiltration pit used at bottom of gravel swale
Trash Storage Areas (SD-32) and Litter Control			
Fueling Areas (SD-30)			
Air/Water Supply Area Drainage			
Maintenance Bays and Docks (SD-31)			
Vehicle Washing Areas (SD-33)			
Outdoor Material Storage Areas (SD-34)			
Outdoor Work Areas (SD-35)			
Outdoor Processing Areas (SD-36)			
Wash Water Controls for Food Preparation Areas			
Pervious Pavement (SD-20)			
Alternative Building Materials (SD-21)			
*Attach additional sheets if necessary for justification.			

**3.3 TREATMENT CONTROL BMPS
(Not required for Non-Category projects)**

**3.4 BMP DESIGN CRITERIA
(Not required for Non-Category projects)**

**SECTION 4
OPERATION AND MAINTENANCE**

4.1 Operations and Maintenance

Operation and maintenance (O&M) requirements for all Source Control, Site Design, and Treatment Control BMPs shall be identified within the WQMP. The WQMP shall include the following:

4.1.1 O&M DESCRIPTION AND SCHEDULE THAT MUST:

- List and identify each BMP that requires O&M. Gravel Drainage Swale – Gravel Infiltration Pits – Native landscape area behind home
- O&M shall include at a minimum clearing BMP's of debris seasonally and after heavy storm events and repairing as necessary. Removal of sediment may be required periodically based on regular inspection & monitoring. List any additional O&M required for project BMP's NONE
- Permanent BMP's shall be installed as part of the construction process and fully functional before final inspection.
- The property owner(s) are responsible for funding of all O&M activities.

4.1.2 INSPECTION & MONITORING REQUIREMENTS THAT MUST:

- Property owner(s) are responsible for all Inspection and Monitoring of the site BMP's and shall keep records of inspection, monitoring, and maintenance activities.

4.1.3 IDENTIFICATION OF RESPONSIBLE PARTIES THAT MUST:

- The responsible parties that must provide funding and record keeping for O&M, inspection and monitoring is/are

John Doe

XXXXX

XXXXX

XXXXX

**SECTION 5
FUNDING**

5.1 Funding

The Permit requires that for all Treatment Control BMPs, a funding source or sources for operation and maintenance of each BMP be identified within the WQMP. Project proponents must:

See Section 4.1.3

SECTION 6 WQMP CERTIFICATION

6.1 Certification

- The applicant is required to sign and certify that the WQMP is in conformance with Santa Ana Regional Water Quality Control Board Order Number R8-2002-0012 (NPDES Permit No. CAS618036).
- The applicant is required to sign and date the following statement ‘word-for-word’ certifying that the provisions of the WQMP have been accepted by the applicant and that the applicant will have the plan transferred to future successors (transferability statement). The certification must be signed by the property owner, unless a written designation by the owner allows a designee to sign on the owner’s behalf.

“This Water Quality Management Plan has been prepared for John Doe by ENGINEERS-R-US. It is intended to comply with the requirements of the City of Big Bear Lake, for Tract/Parcel Map No. 101010, Condition Number 2004-065 requiring the preparation of a Water Quality Management Plan (WQMP). The undersigned is aware that Best Management Practices (BMPs) are enforceable pursuant to the City’s/County’s Water Quality Ordinance No. 2004-337. The undersigned, while it owns the subject property, is responsible for the implementation of the provisions of this plan and will ensure that this plan is amended as appropriate to reflect up-to-date conditions on the site consistent with San Bernardino County’s Municipal Stormwater Management Program and the intent of the NPDES Permit for San Bernardino County and the incorporated cities of San Bernardino County within the Santa Ana Region. Once the undersigned transfers its interest in the property, its successors in interest and the city/county shall be notified of the transfer. The new owner will be informed of its responsibility under this WQMP. A copy of the approved WQMP shall be available on the subject site in perpetuity. “

“I certify under a penalty of law that the provisions (implementation, operation, maintenance, and funding) of the WQMP have been accepted and that the plan will be transferred to future successors.”

Applicant’s Signature

Date

Applicant’s Name

Applicant’s Telephone Number

ATTACH A VICINITY MAP SHOWING PHYSICAL LOCATION OF THE SITE
WITHIN BIG BEAR LAKE

SAMPLE

ATTACH A FULL SIZE SITE PLAN (11X17 MINIMUM)
SITE PLAN MUST SHOW EACH BMP LISTED WITHIN THE WQMP

SAMPLE