

Jurisdictional Urban Runoff Management Plan

Appendix B

Municipal Regulations Standard Urban Stormwater Mitigation Plan





City of Escondido

Stormwater Management Requirements

A Manual for Construction & Permanent
Stormwater Best Management Practices Requirements

March 2008



City of Escondido
Standard Urban Stormwater Mitigation Plan

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I. INTRODUCTION

1. STORMWATER STANDARDS MANUAL ORGANIZATION

This manual is intended to provide information on how to comply with the permanent and construction stormwater requirements for new private and public development projects in the City of Escondido. This manual further guides the project applicant through the selection, design, and incorporation of stormwater BMPs into the project's design plan. This manual is organized as follows:

Section I, "Introduction," describes stormwater pollution information and legal or regulatory requirements associated with stormwater pollution control.

Section II, "Project Review & Permitting Process," outlines the project plan review and approval process for both discretionary actions and construction permits for private and public development projects.

Applicants should use Section II as the roadmap to ensure stormwater requirements are accurately and efficiently incorporated into their projects during project review. The remaining sections provide technical information necessary to incorporate the stormwater requirements in the review process outlined in Section II.

Section III, "Permanent Stormwater BMP Selection Procedure," lists the permanent stormwater BMP requirements, which are organized into a progression intended to dovetail with a typical project planning and design process and maximize stormwater protections while minimizing project costs.

Section IV, "Construction Stormwater BMP Performance Standards," describes the City's construction stormwater BMP standards.

Section V, "Implementation & Maintenance of Requirements," describes how implementation and maintenance of construction and permanent BMPs must be assured for both construction permits and discretionary actions. For permanent BMPs, this section provides a process and requirements for executing a maintenance agreement with the City.

Section VI contains appendices to the Stormwater Standards that are either necessary or designed to provide guidance in completing the stormwater requirements in this manual.

This manual is available at <http://www.ci.escondido.ca.us/depts/ut/manual/index.html>.



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2. LEGAL FRAMEWORK

The municipal stormwater National Pollutant Discharge Elimination System (NPDES) permit (Order R9-2007-0001, NPDES No. CAS0108758, hereinafter referred to as “Municipal Permit”) issued to San Diego County, the Port of San Diego, San Diego County Regional Airport Authority and 18 cities (Copermittees) by the San Diego Regional Water Quality Control Board (Regional Board) on January 24, 2007, requires the development and implementation of a program addressing urban runoff pollution issues in development planning for public and private projects.

The requirement to implement stormwater BMP requirements for development projects is based on Section 402 (p) of the Clean Water Act. The Federal Clean Water Act amendments of 1987 established a framework for regulating stormwater discharges from municipal, industrial, and construction activities under the NPDES program. Under the Federal Clean Water Act, municipalities throughout the nation are issued a municipal NPDES stormwater permit. The primary goal of the permit is to minimize or eliminate polluted discharges from entering the stormwater conveyance system and local receiving and coastal waters.

In California, the State Water Resources Control Board (SWRCB), through the nine Regional Water Quality Control Boards, administers the NPDES stormwater municipal permitting program. Based on the Municipal Permit issued by the Regional Board, the City is required to develop and implement construction and permanent stormwater BMPs addressing pollution from new private and public development projects. The Municipal Permit requires the implementation of the City’s Jurisdictional Urban Runoff Management Program (JURMP). The primary objectives of the JURMP requirements are to:

- Ensure that discharges from municipal urban runoff conveyance systems do not cause or contribute to a violation of water quality standards;

- Effectively prohibit non-stormwater discharges in urban runoff; and

- Reduce the discharge of pollutants from urban runoff conveyance systems to the Maximum Extent Practicable (MEP statutory standard).

3. APPLICABILITY AND AUTHORITY

The City of Escondido Zoning Code Article 55 (Grading and Erosion Control Ordinance) requires that all new development and redevelopment activities comply with the Stormwater Management Requirements. All projects that meet the SUSMP applicability are required to meet the SUSMP requirements as part of the development plan approval process for discretionary projects, and prior to issuing permits for ministerial projects. To allow flexibility in meeting SUSMP design standards, structural treatment control BMPs may be located on- or off-site, used singly or in combination, or shared by multiple developments, provided certain conditions are met.

All new development and significant redevelopment projects that fall into one of the following “priority project” categories are subject to these SUSMP requirements, subject to the lawful



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prior approval provisions of the Municipal Permit. In the instance where a project feature, such as a parking lot, falls into a priority project category, the entire project footprint is subject to these SUSMP requirements. These categories are:

Residential development of 10 units or more

Commercial development greater than 1 acre

Heavy industry

Industrial development greater than 1 acre

Automotive repair shops

Restaurants

Hillside development greater than 5,000 square feet

Projects located within or directly adjacent to or directly discharging to receiving waters within Environmentally Sensitive Areas that create 2,500 square feet or more of impervious surface or increase the area of imperviousness to 10 percent or more of its naturally occurring condition

Projects greater than 2,500 square feet of impervious surface that discharge to receiving waters within or adjacent to Environmentally Sensitive Areas

Parking Lots 5,000 square feet or more impervious surface or with > 15 parking spaces and potentially exposed to urban runoff

Streets, roads, highways, and freeways which would create a new paved surface that is 5,000 square feet or greater of impervious surface

-Retail gasoline outlets 5,000 square feet or more or with a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.

Limited Exclusion: Trenching and resurfacing work associated with utility projects are not considered priority projects; resurfacing and reconfiguring surface parking lots and existing roadways; new sidewalk construction, pedestrian ramps, or bike lane on existing roads; and routine replacement of damage pavement, such as pothole repair. Parking lots, buildings, and other structures associated with utility projects are subject to SUSMP requirements if one or more of the criteria for the above categories are met.



II. PROJECT REVIEW & PERMITTING PROCESS

The City of Escondido's Grading and Erosion Control Ordinance requires that all new development and redevelopment activities comply with the City's **Stormwater Management Requirements**. These stormwater pollution prevention requirements, which are described in detail in Sections III, "Permanent Stormwater Best Management Practices Selection Procedure," and Section IV, "Construction Stormwater Best Management Practices Performance Standards," are site specific and vary based on the project's potential impact on receiving water quality.

The City's Engineering Department oversees the implementation of the SUSMP, which involves tracking SUSMP projects, conducting site inspections, and evaluating compliance with this SUSMP.

The steps below describe the elements of the plan review and permitting processes for stormwater best management practice (BMP) requirements.

Public projects are also subject to the requirements of the Stormwater Management Requirements, and although this manual is designed to address the development review process for private projects, City project managers use this document to identify stormwater requirements that must be incorporated into capital improvement projects.

1. DETERMINE STORMWATER BMP REQUIREMENTS

Prior to submittal, applicants must complete the "SUSMP Applicability Form" in Attachment A and "Stormwater Urban Runoff Management Program Requirements Checklist" in Attachment B, to determine the extent of permanent and construction stormwater BMP requirements. (Note: these forms must be completed for all permit applications.) This checklist must be completed, signed by the Project Engineer, and submitted with all project applications. For SUSMP-applicable private projects, the applicant's project engineer shall prepare and submit a **Water Quality Technical Report** prior to deeming the application package complete. The Water Quality Technical Report must include all required permanent BMPs in the project design. For public projects, the City Project Engineer shall prepare or review (when the Water Quality Technical Report is prepared by the applicant's consulting engineer) and approve the Water Quality Technical Report prior to bidding for construction contracts.

A. Permanent Stormwater BMP Requirements

Projects that are subject to SUSMP requirements must incorporate all applicable requirements in Section III.2, "Establish Permanent Stormwater Best Management Practices," into the project design. This includes the site design and source control BMPs, BMPs applicable to individual priority project categories, and treatment control BMP requirements. If a project meets more than one priority project category definition, as shown in Table 1, the project is subject to all BMPs applicable to individual priority project categories that apply.



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For example, if a project is proposing to build 50 attached residential units and a 6,000 square foot restaurant with a 70-space surface parking lot, the project would be subject to the individual priority project category BMP requirements for “Attached Residential Development,” “Restaurants,” and “Parking Lots,” as shown in Table 1 below. Refer to Step 2: “Prepare & Submit Appropriate Plans,” for guidance in the permanent BMP design process.

Table 1. Site Design and Source Control Stormwater BMP Selection Matrix

Priority Project Category	Site Design BMPs ⁽¹⁾	Source Control BMPs ⁽²⁾	Requirements Applicable to Individual Priority Project Categories ⁽³⁾												
			a. Private Roads	b. Residential Driveways & Guest Parking	c. Dock Areas	d. Maintenance Bays	e. Vehicle Wash Areas	f. Outdoor Processing Areas	g. Equipment Wash Areas	h. Parking Areas	i. Roadways	j. Fueling Areas	k. Hillside Landscaping		
Detached Residential Development	R	R	R	R											R
Attached Residential Development	R	R	R												
Commercial Development >100,000 ft ²	R	R			R	R	R	R							
Automotive Repair Shop	R	R			R	R	R		R				R		
Restaurants	R	R			R				R						
Hillside Development >5,000 ft ²	R	R	R												R
Parking Lots	R	R									R ⁽⁴⁾				
Streets, Highways & Freeways	R	R										R			

R = Required; select BMPs as required from the applicable steps in Section III.2.A & B.
⁽¹⁾ Refer to Section III.2.A.
⁽²⁾ Refer to Section III.2.B.
⁽³⁾ Priority project categories must apply specific stormwater BMP requirements, where applicable. Projects are subject to the requirements of all priority project categories that apply.
⁽⁴⁾ Applies if the paved area totals >5,000 square feet or with >15 parking spaces and is potentially exposed to urban runoff.



B. Construction Stormwater BMP Requirements

All new development and redevelopment projects are subject to the construction stormwater best management practices requirements included in Section IV, “Construction Stormwater BMP Performance Standards,” as appropriate depending on the site conditions, season, and project design, and construction methods. Each SUSMP-applicable project must be given a priority ranking (high, medium or low) for the construction phase relative to the presence of potential pollutants at the project site, site conditions, and the BMPs employed (see Attachment B). The prioritization will determine the inspection frequency by the project engineer but will not change the construction BMP requirements. Refer to Step 2: “Prepare & Submit Appropriate Plans,” for guidance in navigating through this manual to ensure construction BMP performance standards are met.

2. PREPARE & SUBMIT APPROPRIATE PLANS

After determining the general categories of stormwater requirements that apply to the project in Step 1, refer to the instructions below to determine what analysis and/or specific BMP requirements in Sections III and IV of the Stormwater Management Requirements must be provided and/or incorporated into the project¹.

A. Permanent Stormwater BMPs

Section III, “Permanent Best Management Practices Selection Procedure,” contains a process for reviewing the project site’s location and preliminary project design before progressively identifying and incorporating low-impact development (LID) and site design BMPs, source control BMPs, requirements for individual priority project types, and treatment control BMPs into the project design. The procedure is organized so that the level of analysis required is commensurate with the potential pollutant type and quantity, the location of the project relative to sensitive receiving waters, and with the type of stormwater requirements that apply to a particular project.

Groundwater Resource Review — Escondido’s local codes and ordinances guide the design and construction of new development and redevelopment projects, and were modified in 2008 as part of the JURMP update process to incorporate a variety of LID stormwater management practices mandated by RWQCB Order R9-2007-0001. These practices include the use of on-site retention-infiltration systems for reducing and treating stormwater runoff. However, because portions of Escondido are associated with high groundwater tables (i.e., shallow depth to groundwater), **there are areas within the jurisdiction that may not be compatible with LID practices**. Therefore, the appropriateness of incorporating LID designs in new development and redevelopment projects must first be reviewed by the City’s Engineering Department for potential impacts to shallow groundwater resources. In areas of shallow ground water, new and redevelopment project design shall include alternative

¹ Projects are required to provide applicable BMPs. For example, an attached residential development project subject to the priority requirements would not have to meet the “private road” requirements in this manual if no private roads were proposed. In addition, the City Engineer may approve proposed alternatives to the BMP requirements in this manual if they are determined to be applicable and equally effective.



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strategies that would achieve similar pollutant removal treatment goals (e.g., French drains or similar subdrain systems beneath planted vegetation for improved drainage and diversion of percolated water). This review process should be employed as part of the project applicant's early preparation in satisfying the City's SUSMP requirements.

Project Requirements. Projects (requiring either discretionary actions or construction permits), subject to the priority project permanent BMP requirements must complete all of the analyses required in Section III.1, "Identify Pollutants and Conditions of Concern," and incorporate all of the applicable BMP requirements in Section III.2, "Establish Stormwater BMP Requirements" (requirements III.2.A through III.2.D). Applicants must incorporate all necessary permanent BMPs into the project plans prior to submittal, regardless of project type. In addition, projects must prepare and submit a **Water Quality Technical Report** in accordance with Attachment C. Analysis of the project's anticipated pollutants of concern, anticipated pollutants of concern in downstream receiving waters, and conditions of concern, must also be included in the Water Quality Technical Report as part of the project submittal.

B. Construction Stormwater BMPs

Section IV, "Construction Stormwater BMP Performance Standards," describes the construction site management requirements that contractors must comply with. In addition, Section IV lists the performance standards that construction sites must meet, and provides a list of erosion control, sediment control, and materials management BMPs for reference. Additionally, each project must be given a priority of high, medium or low relative to the presence of potential pollutants at the project site, site conditions, and the BMPs employed (see Attachment B). (Note: Prioritization of construction projects will determine the inspection frequency by City staff and project engineer and may be changed during the construction process based on the potential for pollutants to be discharged from the site.)

1. *Construction Projects Over 1 Acre.* Those projects that have been determined to require construction BMPs in Step 1 must identify the construction BMPs to be implemented in accordance with the performance standards in Section IV, "Construction Stormwater BMP Performance Standards." If a project disturbs 1 acre or more, the applicant must provide a Stormwater Pollution Prevention Plan (SWPPP), which identifies all construction BMP requirements required by Section IV, in accordance with Order No. 99-08-DWQ of the *State General Permit for Stormwater Discharges Associated with Construction Activity* (State General Construction Permit). Consistent with the State General Construction Permit, the City will require that both erosion and sediment control BMPs be installed and maintained for all applicable projects in addition to good housekeeping and site and materials management. Attachment D provides general guidelines for preparation of a SWPPP as well as a more detailed checklist to meet the requirements.
2. *Construction Projects Under 1 Acre.* All projects under 1 acre require a *Erosion Control Plan prepared by the applicant or the applicant's project engineer, which are reviewed and must be approved by the City Engineer. Those projects that have been determined to require construction BMPs in Step 1 must identify the construction BMPs to be*



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implemented in accordance with the performance standards in Section IV, “Construction Stormwater BMP Performance Standards.” For projects that disturb less than 1 acre, but are located within an Environmentally Sensitive Area or that discharges directly to a §303(d) impaired waterbody and determined to have a potential to impact water quality during construction, the applicant must provide a Storm Water Pollution Prevention Plan (SWPPP), which identifies all construction BMP requirements required by Section IV, with the project submittal. The SWPPP shall satisfy the requirements for an Erosion Control Plan submittal. The Erosion Control Plan or SWPPP shall depict the BMPs to be implemented during construction to reduce/eliminate discharges of pollutants to the storm drain conveyance system or nearby surface waters. The Erosion Control Plans or SWPPP shall include but not be limited to erosion and sediment control BMPs, good housekeeping measures and site and materials management.

After preparing plans and supporting documents according to the requirements in this manual, submit plans to the Planning and/or Engineering Divisions for review (See Step 3).

3. DETERMINE ADEQUACY OF PROPOSED PLANS

The City Engineer will review submitted plans for compliance with the applicable stormwater requirements contained in this manual. The City Engineer may approve proposed alternatives to the BMP requirements in this manual if they are determined to be applicable and equally effective. Additional analysis or information may be required to enable staff to determine the adequacy of proposed BMPs, and will be requested of the applicant once City staff have completed project design review. After stormwater requirements have been approved by the City Engineer, proceed to Step 4 to assure implementation and maintenance of the approved BMPs through permit conditions, plan notes, and if necessary, maintenance agreements.

4. ASSURE IMPLEMENTATION & MAINTENANCE OF REQUIREMENTS

Applicants must ensure that permanent stormwater BMPs will be constructed and permanently maintained throughout the use of a developed site, and that construction BMPs will be implemented and maintained until construction is complete. The summaries below describe how construction and permanent BMP requirements must be assured during both discretionary actions and construction permit review processes. After the City Engineer has approved all construction and/or permanent BMPs, refer to Section V, “Implementation & Maintenance of Requirements” to determine how construction and permanent BMP implementation and maintenance will be assured.

A. Discretionary Action

For any discretionary action, permanent stormwater requirements shall be incorporated into the project design and be shown on the plans. If the project will be required to provide construction BMPs, the permit/approval shall include the "Standard Construction BMP



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Implementation and Maintenance Condition" identified in Section V. In addition, permanent BMP maintenance requirements shall be noted on the plans and CC&Rs for the project.

B. Construction Permits

For projects requiring construction permits, construction and permanent BMP requirements shall be incorporated into the project design and shown on the plans prior to the issuance of any permits. Stormwater Management Plan shall be completed by the applicant and construction and permanent BMP maintenance requirements shall also be noted on the plans. Permanent maintenance program approved by the City Engineer shall be provided for all permanent BMPs.

C. Public Projects

For public projects, permanent as well as construction BMP requirements must be incorporated into the project design and shown on the plans prior to bidding for construction contracts, or equivalent. Public project contracts must also add the requirement for the project to implement and maintain construction BMP requirements in accordance with this manual. Construction and permanent BMP maintenance requirements shall be noted on the plans. A signature by the project engineer will be required on all final plans that signifies compliance with stormwater requirements.



III. PERMANENT BEST MANAGEMENT PRACTICES SELECTION PROCEDURE

Where referred to this section by Step 2 of Section II, complete the analysis required for your project in the subsections of Section III.1 below.

1. IDENTIFY POLLUTANTS & CONDITIONS OF CONCERN

A. Identify Pollutants from the Project Area

Using Table 2, identify the project's anticipated pollutants. Pollutants associated with any hazardous material sites that have been remediated or are not threatened by the proposed project are not considered a pollutant of concern. Projects meeting the definition of more than one project category shall identify all general pollutant categories that apply.

B. Identify Pollutants of Concern

Pollutants generated by the proposed priority project that exhibit one or more of the following characteristics are considered primary pollutants of concern:

Current loadings or historical deposits of the pollutant are impairing the beneficial uses of a receiving water;

Elevated levels of the pollutant are found in water or sediments of a receiving water and/or have the potential to be toxic to or bioaccumulate in organisms therein; and

Inputs of the pollutant are at a level high enough to be considered potentially toxic.

C. Identify Pollutants of Concern in Receiving Waters

The following analysis shall be conducted and reported in the **project's Water Quality Technical Report**:

1. For each of the proposed projects discharge points, identify the receiving water(s) that each discharge point proposes to discharge to, including hydrologic unit basin number(s), as identified in the most recent version of the *Water Quality Control Plan for the San Diego Basin*², prepared by the San Diego Regional Water Quality Control Board.
2. Determine whether the developed area would discharge to any receiving waters listed on the most recent list of Clean Water Act Section 303(d) impaired water bodies³. List these waterbodies and identify the pollutants for which they are impaired.

2. Go to: http://www.swrcb.ca.gov/~rwqcb9/Programs/Basin_PLanning/Basin_PLan/basin_plan.html

3. Go to: http://www.swrcb.ca.gov/tmdl/303d_lists.html. San Diego is in Region 9 (a link is provided).



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Table 2. Anticipated and Potential Pollutants Generated by Land Use Type.

Project Categories	General Pollutant Categories								
	Sediments	Nutrients	Heavy Metals	Organic Compounds	Trash & Debris	Oxygen Demanding Substances	Oil & Grease	Bacteria & Viruses	Pesticides
Detached Residential Development	X	X			X	X	X	X	X
Attached Residential Development	X	X			X	P ⁽¹⁾	P ⁽²⁾	P ⁽¹⁾	X
Commercial Development >100,000 ft ²	P ⁽¹⁾	P ⁽¹⁾		P ⁽²⁾	X	P ⁽⁵⁾	X	P ⁽³⁾	P ⁽⁵⁾
Heavy industry /industrial development	X		X	X	X	X	X		
Automotive Repair Shops			X	X ⁽⁴⁾⁽⁵⁾	X		X		
Restaurants					X	X	X	X	
Hillside Development >5,000 ft ²	X	X			X	X	X		X
Parking Lots	P ⁽¹⁾	P ⁽¹⁾	X		X	P ⁽¹⁾	X		P ⁽¹⁾
Retail Gasoline Outlets			X	X	X	X	X		
Streets, Highways & Freeways	X	P ⁽¹⁾	X	X ⁽⁴⁾	X	P ⁽⁵⁾	X		

X = anticipated
P = potential
(1) A potential pollutant if landscaping exists on-site.
(2) A potential pollutant if the project includes uncovered parking areas.
(3) A potential pollutant if land use involves food or animal waste products.
(4) Including petroleum hydrocarbons.
(5) Including solvents.

Per the 2006 Clean Water Act Section 303(d) list, the following waterbodies within the City of Escondido are listed as being impaired for the constituents shown:

- Escondido Creek DDT, manganese, phosphate, selenium, sulfate, total dissolved solids (TDS)
- Felicita Creek aluminum, TDS
- Lake Hodges color, manganese, nitrogen, pH, phosphorous, turbidity
- Kit Carson Creek pentachlorophenol, TDS



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- San Marcos Creek DDE, phosphorous, sediment toxicity
- Reidy Canyon Creek phosphorous

Exhibit A illustrates environmentally sensitive areas (which include 303(d)-listed waters) within Escondido.

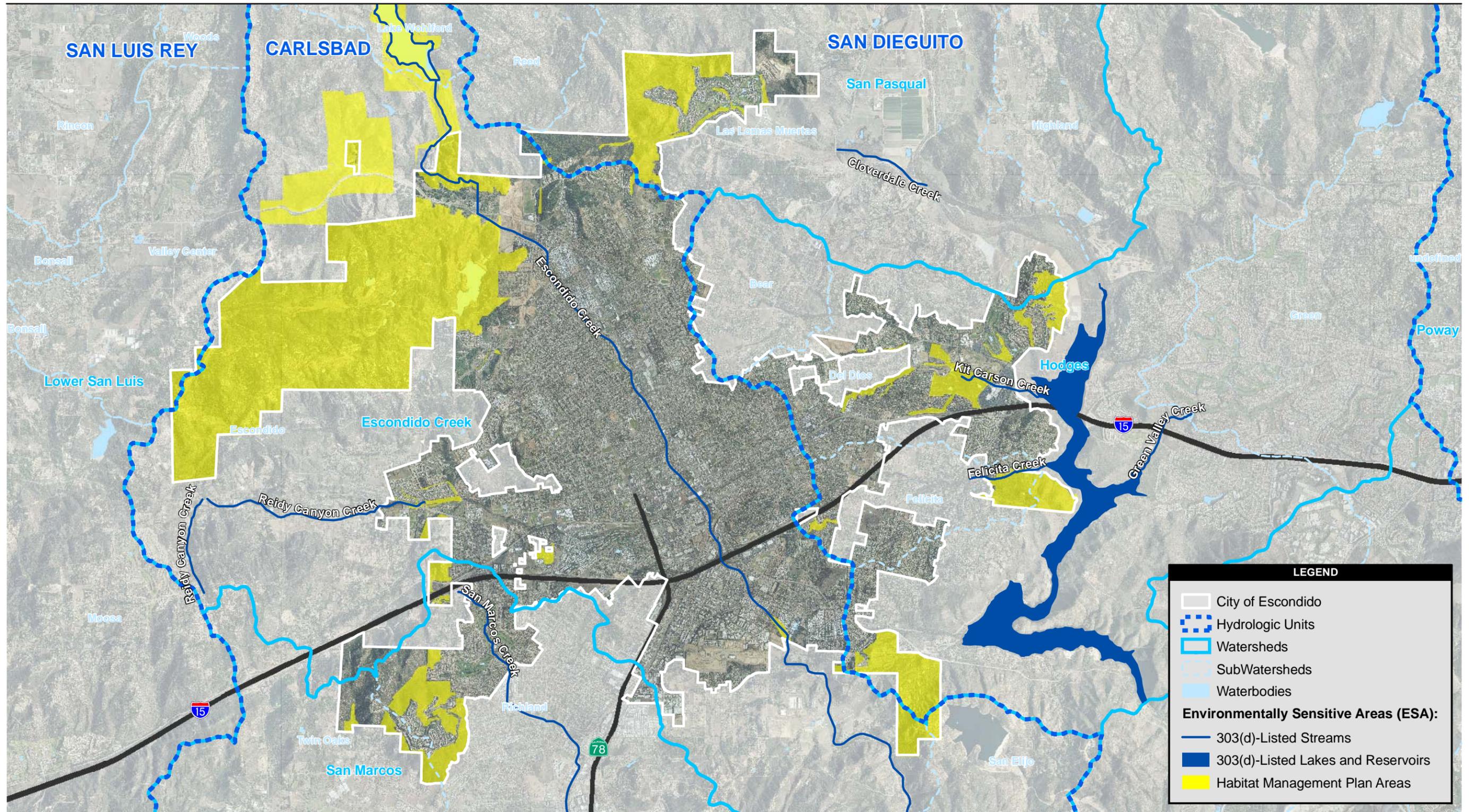
3. Compare the list of pollutants for which these receiving waters are impaired with the pollutants anticipated to be generated by the project (as identified in Table 2). Any pollutants identified by Table 2 which are also causing impairment of receiving waters shall be considered primary pollutants of concern. For projects where no primary pollutants of concern exist, those pollutants identified through the use of Table 2 shall be considered secondary pollutants of concern.

D. Identify Conditions of Concern

Common impacts to the hydrologic regime resulting from development typically include increased runoff volume and velocity; reduced infiltration; increased flow frequency, duration, and peaks; faster time to reach peak flow; and water quality degradation. These changes have the potential to permanently impact downstream channels and habitat integrity. A change to a priority project site's hydrologic regime would be considered a condition of concern if the change would impact downstream channels and habitat integrity.

The following analysis shall be conducted and reported in the project's **Water Quality Technical Report**:

1. Evaluate the project's conditions of concern in a drainage study report prepared by a registered civil engineer in the State of California, with experience in fluvial geomorphology and water resources management. The report shall consider the project area's location (from the larger watershed perspective), topography, soil and vegetation conditions, percent impervious area, natural and infrastructure drainage features, wet season groundwater depth, and any other relevant hydrologic and environmental factors to be protected specific to the project area's watershed.
2. As part of the drainage study, a qualified, licensed professional shall provide a report on proposed infiltration techniques (trenches, basins, dry wells, permeable pavements with underground reservoir for infiltration) regarding any potential adverse geotechnical concerns. Geotechnical conditions such as: slope stability, expansive soils, compressible soils, seepage, groundwater depth, and loss of foundation or pavement subgrade strength should be addressed, and mitigation measures provided.



LEGEND

- City of Escondido
- Hydrologic Units
- Watersheds
- SubWatersheds
- Waterbodies
- Environmentally Sensitive Areas (ESA):**
 - 303(d)-Listed Streams
 - 303(d)-Listed Lakes and Reservoirs
 - Habitat Management Plan Areas

Source: AirPhotoUSA 2006; City of Escondido 2007

6,000 3,000 0 6,000 Feet

Scale: 1:72,000; 1 inch = 6,000 feet

Exhibit A
Environmentally Sensitive Areas
and Impaired Water Bodies



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3. As part of the drainage study, the civil engineer shall conduct a field reconnaissance to observe and report on downstream conditions, including undercutting erosion, slope stability, vegetative stress (due to flooding, erosion, water quality degradation, or loss of water supplies) and the area's susceptibility to erosion or habitat alteration as a result of an altered flow regime.
4. The drainage study shall compute rainfall runoff characteristics from the project area including, at a minimum, peak flow rate, flow velocity, runoff volume, time of concentration, and retention volume. These characteristics shall be developed for the 2-year and 10-year frequency, Type I storm, of 6-hour or 24-hour duration (whichever is the closer approximation of the site's time of concentration), during critical hydrologic conditions for soil and vegetative cover⁴. The drainage study shall also report the project's conditions of concern based on the hydrologic and downstream conditions discussed above. Where downstream conditions of concern have been identified, the drainage study shall establish that pre-project hydrologic conditions affecting downstream conditions of concern would be either maintained or improved by the proposed project, satisfactory to the City Engineer, by incorporating the permanent BMP requirements identified in Section III.2, below. The project may be exempt from detention requirement if the project engineer provides certification in the **Water Quality Technical Report** that no downstream erosion will be resulted from lack of detention.

For Priority Development Projects that disturb 50 acres or more:

5. PDP post-project runoff flow rates and durations shall not exceed pre-project runoff flow rates and durations (Interim Hydromodification Criteria), where the increased discharge flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in flow rates and durations.
6. PDPs disturbing 50 acres or more shall implement hydrologic controls to manage post-project runoff flow rates and durations as required by the Interim Hydromodification Criteria.

2. ESTABLISHING PERMANENT STORMWATER BMPS

The following design principles offer an innovative approach to urban stormwater management, one that does not rely on the conventional end-of-pipe or in-the-pipe structural methods but instead uniformly or strategically integrates stormwater controls throughout the urban landscape. Effective source controls offer another strategy to reduce a project's need for treatment. Therefore, projects shall incorporate, where applicable, stormwater BMPs into the project design, in the following progression:

- LID and Site Design BMPs
- Source Control BMPs
- Treatment Control BMPs

4. Design storms can be found at <http://www.wrcc.dri.edu/pcpnfreq.html>.



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Priority projects must implement LID site design BMPs and source control BMPs, and must also implement treatment control BMPs unless a waiver is granted based on the infeasibility of all treatment control BMPs. These BMP categories must meet the minimum requirements specified in respective sections III.D.2.A, III.D.2.B, and III.D.2.C below.

It is important to note that LID concepts and various design or treatment BMPs rely on infiltration of site runoff for volume control and pollutant removal. Using infiltration approaches to control site drainage can have negative consequences on groundwater quality when shallow groundwater tables are present. Parts of Valley Center, Rainbow, Ramona, and a few areas east of Escondido have historic records of high groundwater (County of San Diego 2007). In such areas, a minimum of 10 feet is required between the ground surface and the groundwater table to protect against potential contamination by runoff constituents.

Even though case studies of groundwater recharge basins (Schroeder 1995) have shown that a wide variety of urban runoff pollutants are removed by absorption within the top 1.5 inches of soil, with no pollutants measured deeper than 6 inches, the 10-foot separation between infiltration BMPs and the top of the groundwater table is required to allow for sufficient biological activity, adequate filtration, and appropriate protection of groundwater resources. Therefore, the appropriateness of incorporating LID designs in new development and redevelopment projects must first be reviewed by the City's Engineering Department for potential impacts to shallow groundwater resources. This review process should be employed as part of the project applicant's early preparation in satisfying the City's SUSMP requirements. Project proponents should review geotechnical soils reports or similar site-specific information before prescribing BMPs for stormwater runoff control.

A. Low-Impact Development and Site Design BMPs

Priority projects designs must minimize directly connected impervious surfaces and promote infiltration using LID techniques to reduce the discharge of site pollutants to the stormwater conveyance system. Because LID techniques involve several approaches to infiltrating water into site soils and through other pervious surfaces, consideration must be paid to groundwater protection in areas where this resource is close to the earth's surface.

Priority Projects must also control post-development peak stormwater runoff discharge rates and velocities to maintain or reduce pre-development downstream erosion and to protect stream habitat. Priority projects can address these objectives through the creation of a hydrologically functional project design that analyzes the following components individually and collectively:

- Topography
- Soils
- Hydrology
- Vegetation and Habitat
- Surrounding Land Use



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- Zoning
- Access
- Utility Availability

Incorporating these elements into integrated design features attempts to mimic the natural hydrologic regime, which can be pursued by:

Reducing imperviousness through conservation of natural resources and areas, maintaining and using natural drainage courses in the stormwater conveyance system, and minimizing clearing and grading.

Providing runoff storage measures dispersed throughout a site's landscape with the use of bioretention facilities and detention, retention, and infiltration practices.

These design principles offer innovative approaches to urban runoff management that can be uniformly and strategically integrated as effective and natural stormwater controls throughout the urban landscape. Examples of LID concepts include:

- Preserving native soils and vegetation
- Site soil amendment
- Downspout dispersion
- Roof runoff harvesting systems
- Permeable surfaces (asphalt, concrete, gravel pave systems, pavers, etc.)
- Vegetated filter strips
- Media filtration
- Sloped bioretention
- Bioretention swales or cells
- Minimal excavation foundations
- Tree box filters

Refer to the County of San Diego's LID Handbook and the planning/development BMP fact sheets provided in the BMP Manual provided as Appendix A of the City's Jurisdictional Urban Runoff Management Plan (March 2008) for low-impact design considerations and stormwater management resources.

Maintain Pre-Development Rainfall Runoff Characteristics

Control post-development peak stormwater runoff discharge rates and velocities to maintain or reduce pre-development downstream erosion by applying the following concepts to the maximum extent practicable:

1. Minimize impervious footprint.
 - a. Increase building density (number of stories above or below ground);



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- b. Construct walkways, trails, patios, overflow parking lots and alleys and other low-traffic areas with permeable surfaces, such as pervious concrete, porous asphalt; and
 - c. Minimize the use of impervious surfaces, such as decorative concrete, in the landscape design.
 - d. Construct streets, sidewalks and parking lot aisles to the minimum widths, provided that public safety and a walkable environment for pedestrians are not compromised.
 - e. Minimize soil compaction
2. Conserve natural areas by:
- a. Concentrating development on the least environmentally sensitive portions of a site while leaving the remaining land in a natural, undisturbed condition; and
 - b. Using natural drainage systems to the maximum extent practicable.

The following list provides a guideline for determining the least sensitive portions of a site, in order of increasing sensitivity.

- Areas devoid of vegetation, including previously graded areas and agricultural fields.
- Areas of non-native vegetation, disturbed habitats and eucalyptus woodlands.
- Areas of chamise or mixed chaparral, and non-native grasslands.
- Areas containing coastal scrub communities.
- All other upland communities.
- Occupied habitat of sensitive species and all wetlands.
- All areas necessary to maintain the viability of wildlife corridors.

Within each of the previous categories, areas containing hillsides (as defined in this SUSMP) should be considered more sensitive than the same category without hillsides.

3. Minimize Directly Connected Impervious Areas.
- a. Where landscaping is proposed, drain rooftops into adjacent landscaping prior to discharging to the stormwater conveyance system; and
 - b. Where landscaping is proposed, drain impervious parking lots, sidewalks, walkways, trails, and patios into adjacent landscaping.
4. Maximize canopy interception and water conservation.
- a. Preserve existing native trees and shrubs; and
 - b. Plant additional native or drought tolerant trees and large shrubs in place of non-drought tolerant exotics.



Protect Slopes and Channels

5. Minimize disturbances to natural drainages
6. Convey runoff safely from the tops of slopes.
7. Vegetate slopes with native or drought-tolerant vegetation.
8. Control and treat flows in landscaping and/or other controls prior to reaching existing natural drainage systems.
9. Stabilize permanent channel crossings.
10. Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion. Energy dissipaters shall be installed in such a way as to minimize impacts to receiving waters.

B. Source Control BMPs

Design Outdoor Material Storage Areas to Reduce Pollution Introduction

1. Hazardous materials with the potential to contaminate urban runoff shall be:
 - a. Placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with rain, runoff or spillage to the stormwater conveyance system; and
 - b. Protected by secondary containment structures such as berms, dikes, or curbs.

The storage area shall be paved and sufficiently impervious to contain leaks and spills, and have a roof or awning to minimize direct precipitation within the secondary containment area.

Design Trash Storage Areas to Reduce Pollution Introduction

2. Trash storage areas shall be:
 - a. Paved with an impervious surface, designed not to allow run-on from adjoining areas, and screened or walled to prevent off-site transport of trash;
 - b. Contain attached lids on all trash containers that exclude rain;
 - c. Contain a roof or awning to minimize direct precipitation.

Limited exclusion: detached residential homes.

Use Efficient Irrigation Systems & Landscape Design

3. Employ rain shutoff devices to prevent irrigation during and after precipitation; or use flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines.



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4. Design irrigation systems to each landscape area's specific water requirements.
5. Other methods that are comparable and equally effective.

Limited exclusion: detached residential homes.

Provide Stormwater conveyance System Stenciling and Signage

6. Provide concrete stamping, or equivalent, of all stormwater conveyance system inlets and catch basins within the project area with prohibitive language (e.g., "No Dumping – I Live Downstream"), satisfactory to the City Engineer. Stamping may also be required in Spanish.
7. Post signs and prohibitive language and/or graphical icons, which prohibit illegal dumping at public access points along channels and creeks within the project area, trailheads, parks and building entrances.
8. Maintain legibility of stencils and signs.

C. BMPs Applicable to Individual Priority Project Categories

Where identified in Table 1, the following requirements shall be incorporated into applicable projects. Projects shall adhere to each of the individual priority project category requirements that apply to the project (e.g., a restaurant with more than 15 parking spaces would be required to incorporate the requirements for "Equipment Wash Areas" and "Parking Areas" into the project design).

Private Roads

1. The design of private roadway drainage shall use at least one of the following (for further guidance, see Start at the Source [1999]):
 - a. Rural swale system—street sheet flows to vegetated swale or gravel shoulder, curbs at street corners, culverts under driveways and street crossings;
 - b. Urban curb/swale system—street slopes to curb where inlets periodically direct flow to vegetated swale/biofilter; or
 - c. Dual drainage system—first flush captured in street catch basins and discharged to adjacent vegetated swale or gravel shoulder, high flows connect directly to stormwater conveyance system.

Residential Driveways & Guest Parking

2. Driveways shall be designed to drain into landscaping prior to discharging to the stormwater conveyance system or other methods that are comparable and equally effective.
3. Uncovered temporary or guest parking on private residential lots shall be:
 - a. Paved with a permeable surface; or



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- b. Designed to drain into landscaping prior to discharging to the stormwater conveyance system.

Dock Areas

- 4. Loading/unloading dock areas shall include the following:
 - a. Cover loading dock areas, or design drainage to preclude urban run-on and runoff; and
 - b. Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.

Maintenance Bays

- 5. Maintenance bays shall include the following:
 - a. Repair/maintenance bays shall be indoors.
 - b. A repair/maintenance bay drainage system to capture all wash water, leaks and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the stormwater conveyance system is prohibited.

Vehicle & Equipment Wash Areas

- 6. Areas for washing/steam cleaning of vehicles and areas for outdoor equipment/accessory washing and steam cleaning shall be:
 - a. Self-contained or covered with a roof or overhang,
 - b. Equipped with a clarifier or other pretreatment facility;
 - c. Properly connected to a sanitary sewer; or,
 - d. Other features that are comparable and equally effective.

Outdoor Processing Areas

- 7. Outdoor processing areas shall:
 - a. Cover or enclose areas that would be the most significant source of pollutants; or,
 - b. Slope the area toward a dead-end sump; or,
 - c. Discharge to the sanitary sewer system.
- 8. Grade or berm processing area to prevent run-on from surrounding areas.
- 9. Installation of storm drains in areas of equipment repair is prohibited.



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Surface Parking Areas

10. Where landscaping is proposed in surface parking areas (both covered and uncovered), incorporate landscape areas into the drainage design.
11. Overflow parking (parking in excess of the project's minimum parking requirements) should be constructed with permeable paving.

Roadways

12. Priority roadway projects shall select treatment control BMPs following the treatment control selection procedure identified in Section III.2, "Establishing Permanent Stormwater BMPs."

Non-Retail Fueling Areas

Non-Retail fueling areas shall be designed with the following:

13. Fuel dispensing area that is:
 - a. Paved with Portland cement concrete or equivalent smooth impervious surface (asphalt concrete is prohibited);
 - b. Designed to extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less;
 - c. Sloped to prevent ponding;
 - d. Separated from the rest of the site by a grade break that prevents run-on of urban runoff; and
 - e. Designed to drain to the project's treatment control BMP(s) prior to discharging to the stormwater conveyance system.
14. Overhanging roof structure or canopy that is:
 - a. Equal to or greater than the area within the fuel dispensing area's grade break; and
 - b. Designed not to drain onto or across the fuel dispensing area.

Hillside Landscaping

15. Hillside areas disturbed by project development shall be landscaped with deep-rooted, drought tolerant plant species selected for erosion control with temporary or permanent irrigation system.

D. Treatment Control BMPs

1. Where identified in Table 1, and after site design and source control BMPs have been incorporated into the project, applicants shall identify a single or combination of



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treatment control BMPs designed to infiltrate, filter, and/or treat runoff from the project footprint to one of the “Numeric Sizing Treatment Standards” listed in Table 3, below. Applicants must use the Structural Treatment BMP Selection Procedure outlined below to select appropriate treatment control BMPs.

Table 3. Numeric Sizing Treatment Standards

<p>Volume</p> <p>1. Volume-based BMPs shall be designed to mitigate (infiltrate, filter, or treat) either:</p> <ul style="list-style-type: none">i. The volume of runoff produced from a 24-hour 85th percentile storm event, as determined from isopluvial maps contained in the County of San Diego Hydrology Manual (http://www.sdcounty.ca.gov/dpw/watersheds/pubs/susmp_85precip.pdf) [Note: Applicants may calculate the 85th percentile storm event using local rain data, when available.]; orii. The volume of runoff produced by the 85th percentile 24-hour runoff event, determined as the maximized capture urban runoff volume for the area, from the formula recommended in <i>Urban Runoff Quality Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, (1998)</i>; oriii. The volume of annual runoff based on unit basin storage volume, to achieve 90 percent or more volume treatment by the method recommended in the latest edition of the <i>California Stormwater Best Management Practices Handbook – Industrial/ Commercial, (1993)</i>, oriv. The volume of runoff, as determined from the local historical rainfall record, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile 24-hour runoff event [Note: Under this volume criterion, hourly rainfall data may be used to calculate the 85th percentile storm event, where each storm event is identified by its separation from other storm events by at least six hours of no rain. If hourly rainfall data is selected, applicants shall describe the method using hourly rainfall data, satisfactory to the City Engineer.]; <p><u>OR</u></p> <p>Flow</p> <p>2. Flow-based BMPs shall be designed to mitigate (infiltrate, filter, or treat) either:</p> <ul style="list-style-type: none">i. The maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour for each hour of a storm event; orii. The maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity, as determined from the local historical rainfall record, multiplied by a factor of two for each hour of a storm event; oriii. The maximum flow rate of runoff, as determined from the local historical rainfall record, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile hourly rainfall intensity multiplied by a factor of two for each hour of a storm event.
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Applicants are encouraged to design projects so that runoff is treated by site design BMPs, such as rooftop runoff treated in landscaping, so that it may be applied towards the numeric sizing treatment standards, satisfactory to the City Engineer. In addition, applicants are encouraged to apply a “drainage basin approach” in meeting the treatment requirements.

In all instances, structural treatment BMP(s) may be located on- or off-site, used singly or in combination, or shared by multiple new developments, pursuant to the following criteria:



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- (a) All structural treatment control BMPs shall infiltrate, filter, and/or treat the required runoff volume or flow prior to discharging to any receiving water body supporting beneficial uses;
- (b) Multiple post-construction structural treatment control BMPs for a project shall collectively be designed to comply with the numeric sizing treatment standards;
- (c) Shared BMPs shall be operational prior to the use of any dependent development or phase of development. The shared BMPs shall only be required to treat the dependent developments or phases of development that are in use;
- (d) Interim stormwater BMPs that provide equivalent or greater treatment than is required may be implemented by a dependent development until each shared BMP is operational. If interim BMPs are selected, the BMPs shall remain in use until permanent BMPs are operational.

i. Structural Treatment BMP Selection Procedure

To select a structural treatment BMP using the Treatment Control BMP Selection Matrix, each priority project shall compare the list of pollutants for which the downstream receiving waters are impaired (if any), with the pollutants anticipated to be generated by the project (as identified in Table 2). Any pollutants identified by Table 2 which are also causing a Clean Water Act section 303(d) impairment of the receiving waters of the project shall be considered primary pollutants of concern. See Section III.C.2 for impaired waters in Escondido.

Priority projects that are anticipated to generate a primary pollutant of concern shall meet all applicable requirements in Section III.2, and shall select a single or combination of stormwater BMPs from Table 4 which maximizes pollutant removal for the particular primary pollutant(s) of concern.

Alternatively, a project proponent may elect to implement a combination of LID BMPs that either disperse and infiltrate, or direct to bioretention facilities, the flows from all impervious areas on-site. These BMPs are presumed to provide maximum extent practicable treatment for all pollutants of concern; therefore no further documentation of the treatment BMP selection process is required.

Priority projects that are not anticipated to generate a pollutant for which the receiving water is Clean Water Act Section 303(d) impaired shall meet applicable standard requirements in Section III.2, and shall select a single or combination of stormwater BMPs from Table 4 which are effective for pollutant removal of the identified secondary pollutants of concern, consistent with the "maximum extent practicable" standard defined in Attachment C of the Municipal Permit.

Where a site generates both primary and secondary pollutants of concern, primary pollutants of concern receive priority for BMP selection. For such sites, selected BMPs must only maximize pollutant removal for the primary pollutants of concern. Where a site generates only secondary pollutants of concern, selected BMPs shall target the secondary pollutant of concern determined to be most significant for the project.



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Selected BMPs must be effective for the widest range of pollutants of concern anticipated to be generated by a priority project (as identified in Table 2), consistent with the maximum extent practicable standard defined in Attachment C of the Municipal Permit.

Treatment control BMPs with a high or medium pollutant removal efficiency for the project’s most significant pollutant of concern shall be selected. Treatment control BMPs with a low removal efficiency ranking shall only be approved by the City Engineer when a feasibility analysis has been conducted which exhibits that implementation of treatment control BMPs with a high or medium removal efficiency ranking are infeasible.

Treatment control BMPs shall not be constructed within a receiving water.

Alternative stormwater BMPs not identified in Table 4 may be approved at the discretion of the City Engineer, provided the alternative BMP is as effective in removal of pollutants of concern as other feasible BMPs listed in Table 4.

Table 4. Treatment Control BMP Selection Matrix¹

Pollutants of Concern ²	Bioretention Facilities (LID)	Settling Basins (Dry Ponds)	Wet Ponds and Wetlands	Infiltration Facilities or Practices (LID)*	Media Filters	High-rate biofilters	High-rate media filters	Trash Racks & Hydro-dynamic Devices
Coarse Sediment and Trash	High	High	High	High	High	High	High	High
Pollutants that tend to associate with fine particles during treatment	High	High	High	High	High	Medium	Medium	Low
Pollutants that tend to be dissolved following treatment	Medium	Low	Medium	High	Low	Low	Low	Low

* Due to high groundwater and certain subsurface soil conditions in Escondido, infiltration BMPs are allowed only in specific areas approved by the City Engineer.

¹ Notes on Treatment Control BMP Categories

All rankings are relative. Ranking of all facilities assumes proper sizing, design, and periodic maintenance. Following are general descriptions of each category.

- Bioretention Facilities** (infiltration planters, flow-through planters, bioretention areas, and bioretention swales). Facilities are designed to capture runoff and infiltrate slowly through soil media which also supports vegetation. Bioretention facilities, except for flow-through planters, effectively promote infiltration into native soils. In clay soils, facilities may capture excess treated runoff in an underdrain piped to the municipal storm drain system. Typical criteria: an infiltration surface area at least 4% of tributary impervious area, 6-inch average depth of top reservoir, 18-inch soil layer, 12-inch to 18-inch gravel subsurface storage layer.
- Settling Basins and Wetlands** (extended detention basins, “wet” basins, decorative or recreational lakes or water features also used for stormwater treatment, constructed wetlands). Facilities are designed to capture a minimum water quality volume of 80% of total runoff and detain for a minimum of 48 hours. Some wetland designs have proven effective in removing nutrients, but performance varies.
- Infiltration Facilities or Practices** (infiltration basins, infiltration trenches, dry wells, dispersal of runoff to landscape, pervious pavements). These facilities and landscape designs capture, retain, and infiltrate a minimum of 80% of runoff into the ground. Infiltration facilities are generally only feasible in permeable (Hydrologic Soil Group A or B) soils. Volume and area of infiltration facilities depends on soil permeability and safety factor used. Typical criteria: Infiltration facilities should have pretreatment to remove silt to prolong life of the facility. A 10-foot vertical separation from average seasonal groundwater depth is required. Dispersal to landscape may be accomplished in any soil type and generally requires a maximum 2:1 ratio impervious:pervious and concave topography to ensure the first 1 inch of rainfall is retained.



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- **Media Filters** (sand filters). Filters designed to treat runoff produced by a rainfall of 0.2 inches per hour (or $2 \times 85^{\text{th}}$ percentile hourly rainfall intensity) by slow infiltration through sand or other media. Typical criteria: Surface loading rate not to exceed 5 inches/hour. Entire surface of the sand must be accessible for maintenance.
- **High Rate Biofilters** (tree wells, typically proprietary). Biofilters with specially designed media to rapidly filter runoff while removing some pollutants. Filtterra® (proprietary version) recommends surface loading rates of up to 100 inches/hour.
- **High-rate Media Filters** (typically proprietary). Vaults with replaceable cartridge filters filled with inorganic media.

² **Notes on Pollutants of Concern:**

In Table 4, Pollutants of Concern are grouped as gross pollutants, pollutants that tend to associate with fine particles, and pollutants that remain dissolved.

Pollutant	Coarse Sediment and Trash	Pollutants that tend to associate with fine particles during treatment	Pollutants that tend to be dissolved following treatment
Sediment	✓	✓	
Nutrients		✓	✓
Heavy Metals		✓	
Organic Compounds		✓	
Trash & Debris	✓		
Oxygen Demanding		✓	
Bacteria		✓	
Oil & Grease		✓	
Pesticides		✓	

ii. *Restrictions on the Use of Infiltration Treatment BMPs*

- a. Three factors significantly influence the potential for urban runoff to contaminate ground water. They are
 - i. Pollutant mobility,
 - ii. Pollutant abundance in urban runoff, and
 - iii. Soluble fraction of pollutant.

The risk of contamination of groundwater may be reduced by pretreatment of urban runoff. A discussion of limitations and guidance for infiltration practices is contained in, *Potential Groundwater Contamination from Intentional and Non-Intentional Stormwater Infiltration* (EPA/600/R-94/051; USEPA 1994).

- b. Treatment control BMPs that are designed to primarily function as infiltration devices shall meet the following conditions (these conditions do not apply to treatment BMPs which allow incidental infiltration and are not designed to primarily function as infiltration devices, such as grassy swales, detention basins, vegetated buffer strips, constructed wetlands, etc.):
 - i. Urban runoff from commercial developments shall undergo pretreatment to remove both physical and chemical contaminants, such as sedimentation or filtration, prior to infiltration;



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- ii. All dry weather flows shall be diverted from infiltration devices except for those non-stormwater discharges authorized pursuant to 40 CFR 122.26(d)(2)(iv)(B)(1): diverted stream flows, rising ground waters, uncontaminated ground water infiltration [as defined at 40 CFR 35.2005(20)] to stormwater conveyance systems, uncontaminated pumped ground water, foundation drains, springs, water from crawl space pumps, footing drains, air conditioning condensation, flow from riparian habitats and wetlands, water line flushing, landscape irrigation, discharges from potable water sources other than water main breaks, irrigation water, individual residential car washing, and dechlorinated swimming pool discharges;
 - iii. Pollution prevention and source control BMPs shall be implemented at a level appropriate to protect groundwater quality at sites where infiltration structural treatment BMPs are to be used;
 - iv. The vertical distance from the base of any infiltration structural treatment BMP to the seasonal high groundwater mark shall be at least 10 feet. Where groundwater does not support beneficial uses, this vertical distance criterion may be reduced, provided groundwater quality is maintained;
 - v. The soil through which infiltration is to occur shall have physical and chemical characteristics that are adequate for proper infiltration durations and treatment of urban runoff for the protection of groundwater beneficial uses;
 - vi. The horizontal distance between the base of any infiltration structural BMP and any water supply wells shall be 100 feet or as determined appropriate by the City Engineer.
- c. Notification to neighboring jurisdictions may be required where staff determines the infiltration BMP(s) may impact the groundwater in a neighboring jurisdiction.

Structural Treatment Limited Exclusions

- (a.) Proposed restaurants, where the land area for development or redevelopment is less than 5,000 square feet, are excluded from the numerical sizing criteria requirements listed in Table 3.
- (b.) Proposed projects that provide engineer certification that indicates no downstream erosion will result from lack of detention in the project.



IV. CONSTRUCTION STORMWATER BMP PERFORMANCE STANDARDS

Those projects that have been determined to require construction BMPs in Steps 1 and 2 of Section II must identify the construction BMPs to be implemented in accordance with the performance standards in this section. The construction BMPs must be identified in a Stormwater Pollution Prevention Plan or Water Pollution Control Plan for projects disturbing more than or less than 1 acre, respectively. These plans must be prepared in accordance with the guidelines in Attachment D. Erosion control plan is required for all projects.

It is the responsibility of the property owner and/or contractor to install and maintain appropriate BMPs. A list of construction BMPs is provided for reference in Appendix A of the City's JURMP (BMP Manual). BMPs must be installed in accordance with an industry recommended standard or in accordance with the requirements of the State General Construction Permit and those specified in JURMP Appendix A.

BMP requirements differ between the wet season (October 1 – April 30) and the dry season (May 1 – September 30), the type of the project and topography of the site, as described below.

1. SITE MANAGEMENT REQUIREMENTS

Construction is a dynamic operation where changes are expected. Stormwater BMPs for construction sites are usually temporary measures that require frequent maintenance to maintain their effectiveness and may require relocation, revision, and re-installation, particularly as project grading progresses. Therefore, frequent construction site inspections are required.

An Engineer's inspection check list, noting date, time, conditions, and inspection date, must be kept on-site and made available for inspection, if requested. Self-inspections must be performed by owner/contractor according to the following schedule:



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Construction Best Management Practices Inspection Schedule

Project	Person Responsible For The Preparation Of The Inspection Report During Construction	Inspection During Non Rainy Season (May 1 to Sep. 30)	Inspection During Rainy Season (Oct.1 To Apr. 30)
Residential Single Family Dwelling No Grading Permit	Owner / Contractor	At the beginning of construction and within 24 hours after every rainfall	Minimum once per month and within 24 hours after every rainfall
Residential Single Family Dwelling Grading Permit	Project Engineer	At the beginning of construction and within 24 hours after every rainfall	Minimum once per month and within 24 hours after every rainfall
Commercial/ Industrial	Project Engineer	Minimum once per month and within 24 hours after every rainfall	Weekly and within 24 hours after every rainfall
Parcel Map	Project Engineer	Minimum once per month and within 24 hours after every rainfall	Weekly and within 24 hours after every rainfall
Tract	Project Engineer	Minimum once per month and within 24 hours after every rainfall	Weekly and within 24 hours after every rainfall

2. PERFORMANCE STANDARDS

The City of Escondido will evaluate the adequacy of the owner's/contractor's site management for stormwater pollution prevention, inclusive of BMP implementation, on construction sites based on performance standards for stormwater BMPs. Performance standards shall include:

- A. No measurable increase of pollution (including sediment) in runoff from the site.
- B. No slope erosion.
- C. Water velocity moving offsite must not be greater than pre-construction levels.

A site will be considered inactive if construction activities have ceased for a period of 7 or more consecutive calendar days during the rainy season and 14 or more consecutive calendar days during the dry season. At any time of year, an inactive site must be fully protected from erosion and discharges of sediment. It is also the owner's/contractor's responsibility at both active and inactive sites to implement a plan to address all potential non-stormwater discharges.

Regardless of any inspections conducted by the City or project engineer, property owners or contractors are required to prevent any construction-related materials, wastes, spills, or residues from entering a stormwater conveyance system.



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3. SEASONAL REQUIREMENTS

Grading and clearing should be phased to reduce the amount and the duration of sediment exposure. If possible, schedule grading during the dry season (May through October), particularly avoiding December through February. Always be aware of forecasted weather conditions prior to any scheduled grading or clearing activities. Other biological consideration (such as avoiding breeding seasons for nesting bird species) may further limit the available window for grading and clearing activities.

For weather forecasts, contact the National Weather Service at (619) 289-1212 or visit their web page <http://www.wrh.noaa.gov/Sandiego/index2.shtml>

A. Dry Season Requirements (May 1 through September 30):

1. Perimeter protection BMPs must be installed and maintained to comply with performance standards (above).
2. Sediment control BMPs must be installed and maintained to comply with performance standards (above).
3. BMPs to control sediment tracking must be installed and maintained at entrances/exits to comply with performance standards (above).
4. Material needed to install standby BMPs necessary to completely protect the exposed portions of the site from erosion, and to prevent sediment discharges, must be stored on site. Areas that have already been protected from erosion using physical stabilization or established vegetation stabilization BMPs as described below are not considered to be “exposed” for purposes of this requirement.
5. The owner/contractor must have an approved “weather triggered” action plan and have the ability to deploy standby BMPs as needed to completely protect the exposed portions of the site within 24 hours of prediction of a storm event (a predicted storm event is defined as a forecasted, 40 percent chance of rain). On request, the owner/contractor must provide proof of this capability that is acceptable to the City of Escondido.
6. Deployment of physical or vegetation erosion control BMPs must commence as soon as grading and/or excavation is completed for any portion of the site. The project proponent may not continue to rely on the ability to deploy standby BMP materials to prevent erosion of graded areas that have been completed.
7. The area that can be cleared or graded and left exposed at one time is limited to the amount of acreage that the owner/contractor can adequately protect prior to a predicted rainstorm.
8. For larger sites, this requirement will require grading to be phased. For example, it may be necessary to deploy erosion and sediment control BMPs in areas that are not completed but are not actively being worked before additional grading is done.



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B. Rainy Season Requirements (October 1 through April 30):

1. Perimeter protection BMPs must be installed and maintained to comply with performance standards (above).
2. Sediment control BMPs must be installed and maintained to comply with performance standards (above).
3. BMPs to control sediment tracking must be installed and maintained at site entrances/exits to comply with performance standards (above).
4. Material needed to install standby BMPs necessary to completely protect the exposed portions of the site from erosion, and to prevent sediment discharges, must be stored on site. Areas that have already been protected from erosion using physical stabilization or established vegetation stabilization BMPs as described below are not considered to be “exposed” for purposes of this requirement.
5. The owner/contractor must have an approved “weather triggered” action plan and have the ability to deploy standby BMPs as needed to completely protect the exposed portions of the site within 24 hours of prediction of a storm event (a predicted storm event is defined as a forecasted, 40 percent chance of rain). On request, the owner/contractor must provide proof of this capability that is acceptable to the City of Escondido.
6. Deployment of physical or vegetation erosion control BMPs must commence as soon as grading and/or excavation is completed for any portion of the site. The owner/contractor may not continue to rely on the ability to deploy standby BMP materials to prevent erosion of graded areas that have been completed.
7. The area that can be cleared or graded and left exposed at one time is limited to the amount of acreage that the owner/contractor can adequately protect prior to a predicted rainstorm.
8. Erosion control BMPs must be upgraded if necessary to provide sufficient protection for storms likely to occur during the rainy season.
9. Perimeter protection and sediment control BMPs must be upgraded if necessary to provide sufficient protection for storms likely to occur during the rainy season.
10. Adequate physical or vegetation erosion control BMPs must be installed and established for all graded areas prior to the start of the rainy season. These BMPs must be maintained throughout the rainy season. If a selected BMP fails, it must be repaired and improved, or replaced with an acceptable alternate as soon as it is safe to do so. The failure of a BMP shows that the BMP, as installed, was not adequate for the circumstances in which it was used and shall be corrected or modified as necessary. Repairs or replacements must therefore put a more effective BMP in place.
11. All vegetation erosion control must be established prior to the rainy season to be considered as a BMP.



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12. The amount of exposed soil allowed at one time shall not exceed that which can be adequately protected by deploying standby erosion control and sediment control BMPs prior to a predicted rainstorm.
13. A disturbed area that is not completed but that is not being actively graded must be fully protected from erosion if left for 7 or more consecutive calendar days during the rainy season and 14 or more consecutive calendar days during the dry season. The ability to deploy standby BMP materials is not sufficient for these areas. BMPs must actually be deployed.



V. IMPLEMENTATION & MAINTENANCE OF REQUIREMENTS

After all project BMPs have been approved by the City Engineer, applicants and City project managers must ensure implementation and maintenance of the BMPs according to the processes outlined in the applicable sections for projects requesting discretionary actions, construction permits, or for public projects. In addition, any project that will require a "General NPDES Permit for Stormwater Discharges Associated with Industrial Activities," shall include the following note on the plans and condition in the permit/approval:

Industrial NPDES Permit Requirement

"The Permittee or designee (or contractor for public projects) shall provide evidence of coverage under the General Industrial National Pollutant Discharge Elimination System Permit, in the form of a Notice of Intent (NOI) filed with the State Water Resources Control Board, prior to the issuance of any construction permits."

1. DISCRETIONARY ACTIONS

A. Permanent BMP Requirements

Applicants proposing projects that include permanent BMPs must prepare a maintenance agreement, satisfactory to the City, following the program outlined in the "Permanent Stormwater BMP Maintenance Agreement Requirements" below, prior to the issuance of any permits or approvals. The permanent BMPs shall be graphically shown on the plans, where possible, and made a condition of the project's permit/approval. The permanent BMP's operation and maintenance requirements (O & M plan discussed below) shall also be noted on the plans and made a condition of the project's permit/approval.

B. Construction BMP Requirements

Projects seeking discretionary approvals are not required to graphically demonstrate any construction BMP requirements on the project plans. Instead, the discretionary action shall include the following "Standard Construction BMP Implementation and Maintenance Condition:"

"The project shall incorporate any construction best management practices (BMPs) necessary to comply with Article 55 (Grading and Erosion Control) of the City's Zoning Ordinance, into the construction plans and/or specifications, satisfactory to the City Engineer, prior to the issuance and any construction permits."



2. CONSTRUCTION PERMITS

A. Construction Permits for Projects Under 1 Acre

Projects proposing to disturb less than 1 acre during construction shall include construction requirements in the Erosion Control Plan. Any remaining construction BMPs that cannot be shown graphically on the plans shall be either noted on, or stapled to, the Erosion Control Plan or the Water Quality Technical Report and made a condition of the permit. Relative to the presence of potential pollutants at the project site, site conditions, and the BMPs employed, the project's construction priority ranking (see Attachment B) must also be noted on the construction plans. If this ranking results in a high priority and the project is adjacent to, or directly drains to, an Environmentally Sensitive Area (including a §303(d) impaired water), a SWPPP may be required as determined by the City Engineer.

Applicants proposing projects that include permanent BMPs must prepare (if not already prepared as part of a previous permit or approval), and execute a maintenance agreement, prepared satisfactory to the City, following the program outlined below prior to the issuance of any construction permits. The permanent BMPs shall be graphically shown on the plans, where possible, and made a condition of the project's permit/approval. The permanent BMP's operation and maintenance requirements (O & M plan discussed below) shall also be noted on the plans and made a condition of the project's permit/approval.

B. Construction Permits for Projects Over 1 Acre

Projects proposing to disturb more than 1 acre during construction shall include all construction BMPs in a Stormwater Pollution Prevention Plan, prepared in accordance with Attachment D, "Stormwater Pollution Prevention Plan Guidelines." The construction BMPs shall also be shown on the plans, where possible. Any remaining construction BMPs that cannot be shown graphically on the plans shall be either noted or stapled to the plans and made a condition of the permit. Relative to the presence of potential pollutants at the project site, site conditions, and the BMPs employed, the project's construction priority ranking (see Attachment B) must also be noted on the construction plans.

Applicants proposing projects that include permanent BMPs must prepare (if not already prepared as part of a previous permit or approval), and execute a maintenance agreement, prepared satisfactory to the City, following the program outlined below prior to the issuance of any construction permits. The permanent BMPs shall be graphically shown on the plans, where possible, and made a condition of the project's permit/approval. The permanent BMP's operation and maintenance requirements shall also be noted on the plans and made a condition of the project's permit/approval.

3. PUBLIC PROJECTS

Construction and Permanent stormwater requirements must be incorporated into the project design and described in the contract documents (plans and specifications) prior to bidding for construction contracts, or equivalent. In addition, the permanent BMP's maintenance requirements shall also be noted on the plans and/or specifications and made a condition of the project's permit/approval.



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For projects disturbing over 1 acre, City project managers must include the requirement for the preparation of a Stormwater Pollution Prevention Plan in the contract documents to be sent out to bid. The contract documents must also include the requirement for the contractor to periodically update the Stormwater Pollution Prevention Plan throughout the construction phase of the project.

For projects disturbing less than 1 acre, City projects shall have a specific Stormwater Pollution Prevention Plan developed to identify construction BMP requirements prior to sending the public project contracts out to bid. The contract documents shall include a requirement for the contractor to update the Stormwater Pollution Prevention Plan throughout the construction phase of the project.

4. PERMANENT BMP MAINTENANCE MECHANISMS AND AGREEMENT REQUIREMENTS

Applicants shall propose a maintenance agreement assuring all permanent BMPs will be maintained throughout the “use” of a project site, satisfactory to the City Engineer.

A. Potential Permanent Treatment BMP Maintenance Mechanisms

1. Project proponent agreement to maintain stormwater BMPs: The City may enter into a contract with the project proponent obliging the project proponent to maintain, repair and replace the stormwater BMP as necessary into perpetuity. Security may be required.
2. Landscape Maintenance Districts: The City may approve a Landscape Maintenance District or other funding mechanism created by the project proponent to provide funds for stormwater BMP maintenance, repair, and replacement on an ongoing basis.

The City may accept alternative maintenance mechanisms if such mechanisms are as protective as those listed above.



VI. RESOURCES & REFERENCES

County of San Diego. 2007. Low Impact Development Appendices. San Diego Considerations and LID Fact Sheets. December 31.

Start at the Source [1999]

Schroeder, Roy A. 1995. Potential for Chemical Transport Beneath a Stormrunoff Recharge (Retention) Basin for an Industrial Catchment in Fresno. U.S. Geological Survey Water Resources Investigations Report 93-4140, prepared in cooperation with the Fresno Metropolitan Flood Control District. Sacramento.

USEPA (U.S. Environmental Protection Agency). 1994. Potential Groundwater Contamination from Intentional and Non-Intentional Stormwater Infiltration (EPA/600/R-94/051).



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ATTACHMENT A

SUSMP Applicability Form

Project Type	Yes	No
Residential development of 10 or more units		
Commercial development greater than 100,000 square feet		
Heavy industry/industrial development		
Automotive repair shops		
Restaurants		
Hillside development greater than 5,000 square feet		
Projects discharging to receiving waters within Environmentally Sensitive Areas (including CWA §303(d) impaired waters)		
Parking Lots > 5,000 square feet or with > 15 parking spaces and potentially exposed to urban runoff		
Retail gasoline outlets		
Streets, roads, highways, and freeways which would create a new paved surface that is 5,000 square feet or greater.		

If the answer to any of the above questions is YES, the project is subject to SUSMP requirements



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ATTACHMENT B

Stormwater Urban Runoff Management Program Requirement Checklist

General Information	
Project Name	
Project Location	
Project ID	
Developer	
Developer's Representative	
Contractor	
Inspector's Name	
Inspector's Title	
Date of Inspection	
Signature	
Report Distribution	
Season (Check Applicable)	<input type="checkbox"/> Rainy <input type="checkbox"/> Non-Rainy
General Construction Permit Applies?	<input type="checkbox"/> Yes <input type="checkbox"/> Not Applicable

Project Area Summary and Disturbed Soil Area (DSA) Size	
Total Project Area	_____ Acres
Field Estimate of Active DSA	_____ Acres



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Project Plan Review BMP Checklist	Yes	No	NA
Preservation of Existing Vegetation			
Is temporary fencing proposed to preserve vegetation in areas where no construction activity is planned?			
Erosion Control			
Does the proposed temporary erosion control provide 100% coverage for the affected areas?			
Are any non-vegetated, proposed disturbed areas protected by temporary erosion control?			
Temporary Linear Sediment Barriers (Silt Fence, Fiber Rolls, Sandbag Barriers, etc.)			
Are temporary linear sediment barriers properly proposed?			
Are proposed cross barriers properly spaced?			
Storm Drain Inlet Protection			
Are onsite storm drain inlets and those immediately downstream of the project shown to be properly protected?			
Are storm drain inlet protection devices proposed and adequate?			
Sediment Basins			
Are proposed basins designed in accordance with the requirements of the General Construction Permit?			
Are proposed basin controls (inlets, outlets, diversions, weirs, spillways, and racks) appropriate?			
Stockpiles			
Are proposed locations of temporary stockpiles, including soil, hazardous waste, and construction materials in approved areas?			
Are proposed stockpile areas shown with proper protection from run-on, run-off from adjacent areas and from winds?			
Are proposed stockpile areas located at least 15 meters (~50 feet) away from potential concentrated flows, downstream drainage courses, and storm drain inlets?			



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Project Plan Review BMP Checklist	Yes	No	NA
Are required covers and/or perimeter controls proposed?			
Tracking Control			
Is the proposed construction entrance stabilized to prevent tracking?			
Are stabilized entrance inspection frequencies specified appropriate?			
Are points of ingress/egress to public/private roads proposed for inspection and sweeping, if needed?			
Wind Erosion Control			
Is proper dust control proposed, if needed?			
Dewatering Operations			
Are dewatering operations covered by the General Permit proposed, and if so, are they properly permitted and prescribed with adequate BMPs?			
Is proposed groundwater dewatering handled in conformance with the dewatering permit issued by the RWQCB?			
Is required treatment provided for dewatering effluent?			
Vehicle & Equipment Fueling, Cleaning, and Maintenance			
Are proper BMPs shown or described for proposed vehicle and equipment fueling, cleaning, and maintenance areas?			
Are proposed fueling, cleaning, and maintenance areas located at least 15 meters (~50 feet) away from downstream drainage facilities and watercourses and protected from run-on and runoff?			
Will any proposed washwater or other waste products be disposed of properly?			
Are vehicle and equipment leak inspections proposed and associated repairs described?			
Waste Management & Materials Pollution Control			
Are proposed material storage areas and washout areas protected from run-on and runoff, and located at least 15 meters (~50 feet) from concentrated flows and downstream drainage facilities?			
Are appropriate spill response measures and clean-up supplies proposed for material handling and storage areas?			



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Project Plan Review BMP Checklist	Yes	No	NA
Will proposed liquid materials, hazardous materials, and hazardous wastes be stored properly?			
Will proposed bagged and boxed materials stored on pallets?			
Are proper storage, clean-up, and spill-reporting procedures for hazardous materials and wastes proposed to be posted in open, conspicuous and accessible locations adjacent to storage areas?			
Are proposed temporary concrete washout facilities properly designed (e.g., sufficient volume and freeboard for planned concrete operations)?			
Are proper trash receptacles proposed (number and type) appropriately for project activities?			
Temporary Water Body Crossing or Encroachment			
Are proposed temporary water body crossings and encroachments adequate?			
Does the proposed project conform to the requirements of the ACOE §404 permit and/or CDFG §1601 agreement?			
Discharge Points			
Are proposed or existing discharge points associated with project drainage adequately protected?			
Advance Treatment Controls			
Does the project pose an exceptional threat to water quality based on slope steepness, soil erodability, project size and type, proximity and sensitivity of receiving waters, or other relevant factors? If so, to any of these conditions, advanced treatment controls are necessary. Select BMPs or treatment train BMPs to provide additional treatment capabilities that are specific to the pollutant of concern.			
Are onsite BMPs sufficient to protect water quality for any downstream waterbodies that are impaired? (per the 2006 303(d) list).			
SWPPP (if applicable)			
Do the SWPPP and Project Schedule adequately reflect the proposed site conditions and contractor operations?			
Are all BMPs shown on the erosion control or water pollution control drawings adequate?			



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Project Plan Review BMP Checklist	Yes	No	NA
Are proposed BMPs sufficient to protect water quality for any downstream waterbodies?			
Corrective Actions Required			
*Enforcement Action Taken			

* Note: If a Stop Work Order or other high-level enforcement is issued, the Regional Water Quality Control Board must be notified.



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Pollutant Testing Guidance Table

Category	At Site	Construction Site Material	Visually Observable?	Pollutant Indicators ¹	Suggested Analyses	
					Field ²	Laboratory
Asphalt Products	<input type="checkbox"/>	Hot Asphalt	Yes - Rainbow Surface Sheen or Brown Suspension	Visually Observable - No Testing Required		
	<input type="checkbox"/>	Asphalt Emulsion				
	<input type="checkbox"/>	Liquid Asphalt (tack coat)				
	<input type="checkbox"/>	Cold Mix				
	<input type="checkbox"/>	Crumb Rubber	No	Benzothiazole Aluminum Mercury	None	EPA 625 (SVOC-tic) EPA 200.8 (Metal) EPA 1631 (Mercury)
	<input type="checkbox"/>	Shingles Steel Slag Foundry Sand Municipal Solid Waste Incinerator Bottom Ash	No	Aluminum Vanadium Zinc	None	EPA 200.8 (Metal) EPA 415.1 (TOC)
	<input type="checkbox"/>	Asphalt Concrete (Any Type)	Yes - Rainbow Surface Sheen or Brown Suspension	Visually Observable - No Testing Required		
Cleaning Products	<input type="checkbox"/>	Acids	No	pH Acidity Anions (acetic acid, phosphoric acid, sulfuric acid, nitric acid, hydrogen chloride)	HACH SW-1 Test Kit or Rental Meter (pH)	EPA 150.1 (pH) SM 2310B (Acidity) EPA 300.0 (Anion)
	<input type="checkbox"/>	Bleaches	No	Residual Chlorine	HACH SW-1 Test Kit (Chlorine)	SM 4500-CL G (Res. Chlorine)
	<input type="checkbox"/>	Detergents	Yes - Foam	Visually Observable - No Testing Required		
	<input type="checkbox"/>	TSP	No	Phosphate	HACH PO-24 Test Kit (Phosphate)	EPA 365.3 (Phosphate)
	<input type="checkbox"/>	Solvents	No	Phenol VOC SVOC	HACH SW-1 Test Kit (Phenol)	EPA 420.1 (Phenol) EPA 601/602 (VOC) EPA 625 (SVOC)
Portland Concrete Cement & Masonry Products	<input type="checkbox"/>	Acid Wash	No	pH	HACH SW-1 Test Kit or Rental Meter (pH)	EPA 150.1 (pH)
	<input type="checkbox"/>	Portland Cement (PCC)	Yes - Milky Liquid	Visually Observable - No Testing Required		
	<input type="checkbox"/>	Masonry products	No	pH Alkalinity	HACH SW-1 Test Kit or Rental Meter (pH)	EPA 150.1 (pH) SM 2320 (Alkalinity)
	<input type="checkbox"/>	Methyl Methacrylate (MMA)	No	N, 4-Dimethylbenzenamine Copper Zinc	None	EPA 625 (SVOC-tic) EPA 200.8 (Metal)
	<input type="checkbox"/>	Solids and Mortar	No	Calcium Alkalinity pH	HACH SW-1 Test Kit or Rental Meter (pH)	EPA 200.8 (Metal) SM 2320 (Alkalinity) EPA 150.1 (pH)
	<input type="checkbox"/>	Concrete Rinse Water	Yes - Milky Liquid	Visually Observable - No Testing Required		
	<input type="checkbox"/>	Non-Pigmented Curing Compounds	No	Acidity Alkalinity pH VOC	HACH SW-1 Test Kit or Rental Meter (pH)	SM 2310B (Acidity) SM 2320 (Alkalinity) EPA 150.1 (pH) EPA 601/602 (VOC)
Landscaping Products	<input type="checkbox"/>	Aluminum Sulfate	No	TDS Alkalinity pH	Rental Meter (TDS) HACH SW-1 Test Kit or Rental Meter (pH)	EPA 160.1 (TDS) SM 2320 (Alkalinity) EPA 150.1 (pH)
	<input type="checkbox"/>	Sulfur-Elemental	No	Sulfate	None	EPA 300.0 (Sulfate)
	<input type="checkbox"/>	Fertilizers-Inorganic	No	Ammonia Phosphate Organic Nitrogen Potassium	HACH PO-24 Test Kit (Phosphate) HACH NI-8 Test Kit (Ammonia)	EPA 350.2 (Ammonia) EPA 365.3 (Phosphate) EPA 351.3 (TKN) EPA 200.8 (Metal)
	<input type="checkbox"/>	Fertilizers-Organic	No	TOC COD	None	EPA 415.1 (TOC) EPA 410.4 (COD)
	<input type="checkbox"/>	Natural Earth (Sand, Gravel, and Topsoil)	Yes - Cloudiness and turbidity	Visually Observable - No Testing Required		
	<input type="checkbox"/>	Herbicide	No	Herbicide	None	Check lab for specific herbicide
	<input type="checkbox"/>	Pesticide	No	Pesticide	None	Check lab for specific pesticide
	<input type="checkbox"/>	Lime and Gypsum	No	pH Alkalinity Aluminum Barium Manganese Vanadium	HACH SW-1 Test Kit or Rental Meter (pH)	EPA 150.1 (pH) SM 2320 (Alkalinity) EPA 200.8 (Metal)



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Pollutant Testing Guidance Table (continued)

Line Flushing Products	<input type="checkbox"/>	Chlorinated Water	No	Total chlorine	HACH SW-1 Test Kit (Chlorine)	SM 4500-CL G (Res. Chlorine)
Painting Products	<input type="checkbox"/>	Adhesives	No	COD Phenols SVOC	HACH SW-1 Test Kit (Phenol)	EPA 410.4 (COD) EPA 420.1 (Phenol) EPA 625 (SVOC)
	<input type="checkbox"/>	Paint Stippers	No	VOC	None	EPA 601/602 (VOC)
	<input type="checkbox"/>	Resins	No	COD SVOC	None	EPA 410.4 (COD) EPA 625 (SVOC)
	<input type="checkbox"/>	Sealants	No	COD	None	EPA 410.4 (COD)
	<input type="checkbox"/>	Solvents	No	COD VOC SVOC	HACH SW-1 Test Kit (Phenol)	EPA 410.4 (COD) EPA 601/602 (VOC) EPA 625 (SVOC)
	<input type="checkbox"/>	Thinners	No	Phenols VOC COD	HACH SW-1 Test Kit (Phenol)	EPA 420.1 (Phenol) EPA 601/602 (VOC) EPA 410.4 (COD)
	Portable Toilet Waste Products	<input type="checkbox"/>	Portable Toilet Waste	No ³	Fecal Coliform	None
Soil Amendment/Stabilization Products	<input type="checkbox"/>	Copolymer	No	BOD COD DOC Nitrate Sulfate Nickel	HACH NI-24 Test Kit (Nitrate)	EPA 405.1 (BOD) EPA 410.4 (COD) EPA 415.1 (DOC) EPA 300.0 (Nitrate) EPA 300.0 (Sulfate) EPA 200.8 (Metal)
	<input type="checkbox"/>	Straw/Mulch	Yes - Solids	Visually Observable - No Testing Required		
	<input type="checkbox"/>	Lignin Sulfonate	No	Alkalinity TDS	Rental Meter (TDS)	SM 2320 (Alkalinity) EPA 160.1 (TDS)
	<input type="checkbox"/>	Psyllium	No	Water Quality Data is Low - No Testing Required		
	<input type="checkbox"/>	Guar	No	COD Nickel	None	EPA 410.4 (COD) EPA 200.8 (Metal)
	<input type="checkbox"/>	Petroleum Resin	No	COD TOC Iron Manganese Nickel	None	EPA 410.4 (COD) EPA 415.1 (TOC) EPA 200.8 (Metal)
	<input type="checkbox"/>	Gypsum	No	Aluminum Barium Manganese Vanadium	None	EPA 200.8 (Metal)
	<input type="checkbox"/>	Plant Gums	No	BOD	None	EPA 405.1 (BOD)
Dust Palliative Products	<input type="checkbox"/>	Salts (Magnesium Chloride, Calcium Chloride, and Natural Brines)	No	Acidity Alkalinity pH TDS Cations (Sodium, Magnesium, calcium)	Rental Meter (TDS) HACH SW-1 Test Kit or Rental Meter (pH)	SM 2310B (Acidity) SM 2320 (Alkalinity) EPA 150.1 (pH) EPA 160.1 (TDS) EPA 200.7 (Cations)
Treated Wood Products	<input type="checkbox"/>	Ammoniacal-Copper-Zinc-Arsenate (ACZA) Copper-Chromium-Arsenic (CCA)	No	Arsenic Chromium⁺⁶ Copper Zinc	None	EPA 200.8 (Metal) EPA 7196 (Chrom. ⁺⁶)
Vehicle	<input type="checkbox"/>	Antifreeze and Other Vehicle Fluids	Yes - Colored Liquid	Visually Observable - No Testing Required		
	<input type="checkbox"/>	Batteries	No	Sulfuric Acid Lead pH	HACH SW-1 Test Kit or Rental Meter (pH)	EPA 300.0 (Sulfate) EPA 200.8 (Metal) EPA 150.1 (pH)
	<input type="checkbox"/>	Fuels, Oils, Lubricants	Yes - Rainbow Surface Sheen and Odor	Visually Observable - No Testing Required		

Notes:

¹ For each construction material, test for one of the pollutant indicators. **Bolded** pollutant indicates lowest analysis cost.

² See www.hach.com for some of the test kits

³ No testing if visible (i.e.colored liquid, paper product)

HACH - Worldwide company that provides advanced analytical systems and technical support for water quality testing.
tic - tentatively identified compound



Stormwater Urban Runoff Management Program Requirement Checklist

Part Two: Prioritization Requirements*

*Using the previous Plan Review BMP Checklist and Pollutant Testing Guide, answer the following questions using the Prioritization Guidance that follows.

1. Project Size (Disturbed Area) Priority: (circle appropriate)

Low Medium High

2. Project Type: (circle appropriate)

Low Medium High

3. Soil Erosion Potential: (circle appropriate)

Low Medium High

4. Site slope: (circle appropriate)

Low Medium High

5. Proximity to Water Bodies: (circle appropriate)

Low Medium High

6. Sensitivity to Water Bodies: (circle appropriate)

Low Medium High

7. Non-Stormwater Discharges: (circle appropriate)

Low Medium High



Stormwater Urban Runoff Management Program Requirement Checklist

Part Two (continued): Prioritization Guidance

Prioritization of sites should consider all factors relevant to potential water quality impacts, but, at a minimum, Order R9-2007-0001 requires that the following be considered.

1. **Soil Erosion Potential**

Evaluate the soil erosion potential of the construction site. Soils in San Diego County are generally highly erosive and therefore the threat caused by the erosion potential is ubiquitous for all sites. However, it is recommended that the relationship of site slope and soil erosion potential be addressed.

2. **Site Slope**

Site slope is directly related to the potential for a construction site to discharge pollutants into conveyances or receiving waters. As the average slope of the site increases, the greater the potential for water leaving the site at a high velocity. When evaluating the relationship of site slope to prioritization, it is recommended that the average slope area of the finished slopes be used.

3. **Project Size**

The total of the disturbed area of a site is important in determining project priority. All projects that are 50 acres or more that will involve grading during the wet season (Oct.-April) must be considered a high priority. Sites greater than 1 acre and that are tributary to a CWA §303(d) water body impaired for sediment or is within or directly adjacent to or discharging directly to a coastal lagoon or other receiving water within an ESA also be considered high priority.

Projects with disturbed surfaces between 1 and 50 acres may be considered a medium priority depending upon relevant site factors. Projects that are considered medium priority will have to meet the minimum BMP and inspection requirements designated by the City Engineer. For projects that are relatively small (1 acre or less) and pose a minimal threat to water quality, a low priority may be considered, but such a ranking is at the discretion of the City Engineer. Low priority sites will be required to meet the minimum BMP requirements designated by the City Engineer.

4. **Project Type**

Evaluate the type of project, the type of construction proposed, the increase in impervious surface, and its potential to degrade water quality. Use the "percent impervious surface" when determining the priority in relation to the project type.



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Water quality degradation increases with percent imperviousness. The increased volume and velocity of runoff from developed urban areas greatly accelerates the erosion of downstream natural channels. Numerous studies have demonstrated a direct correlation between the degree of imperviousness of an area and the degradation of its receiving water quality. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as a 10 percent conversion from natural to impervious surfaces. (Developments of medium density single-family homes range between 25 to 60 percent imperviousness).

5. **Non-Stormwater Discharges**

In evaluating the priority that a site should have during construction activities, consider the types of non-storm water pollutants that have the potential to be discharged during construction activities. Examples of activities or materials that generate non-storm water pollutants that are commonly found on construction sites are:

- Soil amendments
- Fertilizers
- Concrete waste
- Wastewater as a result of dewatering activities
- Construction materials and compounds
- Types of machinery on site
- Equipment maintenance (ex. fueling, lubing etc.) on site
- Pipelines and irrigation system flushing.

6. **Proximity to Water Bodies**

At a minimum, high priority sites are those that are:

- 1 acre or more and
- Tributary to a Clean Water Act section 303(d) water body impaired for sediment or
- Is within 200 feet of or discharging directly to a coastal lagoon or other receiving water within an environmentally sensitive area (see Attachment G).

When determining the “proximity of water bodies” criteria, determine whether the conveyance’s tributary to a water body are lined or unlined. A lined conveyance has the potential to carry water containing construction related pollutants longer distances than an unlined conveyance.



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It is recommended that medium priority sites are those that are not located within an area designated as an environmentally sensitive area or adjacent or discharging directly to impaired receiving waters.

Low priority sites are those that pose a minimal risk of discharge to receiving waters and are not directly adjacent or discharging directly to receiving waters or an environmentally sensitive area.

7. **Sensitivity of Water bodies**

In determining the priority of a construction site, determine if the site is within an area with environmentally sensitive water bodies and that the site has the potential to discharge construction related pollutants into the receiving waters.

As discussed previously, environmentally sensitive waterbodies may include but are not limited to all CWA §303(d) impaired waterbodies; areas designated as Areas of Special Biological Significance by the State Water Resources Control Board (*Water Quality Control Plan for the San Diego Basin (1994)* and amendments); water bodies designated with the RARE beneficial use by the State Water Resources Control Board (*Water Quality Control Plan for the San Diego Basin (1994)* and amendments); areas designated as preserves or their equivalent under the Multi Species Conservation Program within the Cities and County of San Diego; and any other equivalent environmentally sensitive areas which have been identified by the City.



ATTACHMENT C

Water Quality Technical Report Guidelines

Purpose

To describe the permanent stormwater Best Management Practices (BMPs) that will be incorporated in the project to mitigate the impacts of urban runoff due to the development.

Minimum Requirements

- ❑ Prepared by Registered Civil Engineer

Organization & Content

Table of Contents

Vicinity Map

Project Description

- ❑ Narrative of project activities

Site Map

- ❑ Entire property included on one map (use key map if multi-sheets)
- ❑ Drainage areas and direction of flow
- ❑ Private storm drain system(s)
- ❑ Nearby water bodies and municipal storm drain inlets
- ❑ Location of stormwater conveyance systems (ditches, inlets, storm drains, etc.)
- ❑ Location of existing and proposed stormwater controls
- ❑ Location of “impervious” areas- paved areas, buildings, covered areas
- ❑ Locations where materials would be directly exposed to stormwater
- ❑ Location of building and activity areas (e.g. fueling islands, garages, waste container area, wash racks, hazardous material storage areas, etc.)
- ❑ Areas of potential soil erosion (including areas downstream of project)

Pollutants and Conditions of Concern

- ❑ Identify watershed where project is located
- ❑ Identify impaired water bodies downstream of the project and impairment
- ❑ Identify potential erosion to downstream creeks and channels.
- ❑ List pollutants generated based upon land use



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Types of BMPs:

Low-Impact Development and Site Design BMPs

- ❑ Route drainage to pervious areas
- ❑ Incorporate landscaped areas for infiltration
- ❑ Integrate pervious materials and surfaces
- ❑ Conserve natural areas
- ❑ Minimize soil compaction
- ❑ Minimize disturbances to natural drainages
- ❑ Minimize directly connected areas
- ❑ Minimize street, sidewalk, parking lot aisle widths (within safety standards)
- ❑ Protect slopes and channels

Source Control BMPs

- ❑ Minimize stormwater pollutants of concern
- ❑ Inlet stenciling and signage
- ❑ Maximize weather protection for materials storage areas
- ❑ Cover trash storage areas
- ❑ Integrate efficient irrigation systems (rainfall sensors, auto shutoff, etc.)
- ❑ Other controls (as applicable)

Structural Treatment BMPs

- ❑ Provide basis for selection (include targeted pollutants, justification, and alternative analysis)
- ❑ Present design criteria (include calculations)
- ❑ Provide pollutant removal information (other than vendor specifications)
- ❑ Include literature references

Maintenance (i.e., identify the responsible parties who will implement the BMPs)

- ❑ Provide BMP maintenance schedule
- ❑ Estimate BMP maintenance costs
- ❑ Provide qualifications of maintenance personnel

Drainage Study



ATTACHMENT D

Stormwater Pollution Prevention Plan Guidelines

At a minimum, the Stormwater Pollution Prevention Plan (SWPPP) must cover the areas listed below. The SWPPP must be kept on site and made available upon request of a representative of the City of Escondido. Projects that are also required to obtain a general construction National Pollutant Discharge Elimination System (NPDES) Permit are encouraged to visit the State Water Resource Control Board's website for permit application instructions, NOI and NOT forms and guidance in preparing a Stormwater Pollution Prevention Plan (go to: www.swrcb.ca.gov/stormwtr/docs/constpermit).

Planning and Organization

Identify the pollution prevention team members who will maintain and implement the SWPPP.

If applicable, incorporate or reference the appropriate elements of other regulatory requirements.

Site Map

Features displayed on the map must include:

An outline of the entire property

Drainage areas on the property and direction of flow

Areas of soil erosion

Nearby water bodies and municipal storm drain inlets

Location of stormwater conveyance systems (ditches, inlets, storm drains, etc.)

Location of existing stormwater controls (oil/ water separators, sumps, etc.)

Location of "impervious" areas- paved areas, buildings, covered areas

Locations where materials are directly exposed to stormwater

Locations where toxic or hazardous materials have spilled in the past

Location of building and activity areas (e.g. fueling islands, garages, waste container area, wash racks, hazardous material storage areas, etc.)

List of Significant Materials

List materials stored and handled at the site. Include the location and typical quantities.

Description of Potential Pollutant Sources

Provide a narrative description of the site's activities and list the potential pollutant sources and the potential pollutants that could be discharged in stormwater discharges from each activity.



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List non-stormwater discharges including the source, quantity, frequency, and characteristics of the discharges and drainage area.

Assessment of Potential Sources

Describe which activities are likely to be sources of pollution in stormwater and which pollutants are likely to be present in stormwater discharges.

Best Management Practices

Describe the BMPs that will be implemented at the site for each potential pollutant and its source.



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ATTACHMENT E

Inspection Reports

In completing this Inspection Report, the following checklist should be completely filled out and the 2-page grading report summary prepared. Both are to be submitted to the City Engineer once completed.

The following form shall be used for inspecting construction BMPs and determining their compliance with local City ordinances (grading, storm water, etc.), permits (construction, grading, etc.) and the Municipal Storm Water Permit (Order R9 2007-0001).

All inspections shall be documented on this form and archived in City departmental files.

This inspection form shall be completed and signed by the City's Designated Construction Site Storm Water Pollution Prevention Inspector and shall include the following:

- Observations and suitability of all BMPs listed.
- Adequacy evaluations of all BMPs and whether they are properly implemented and whether additional BMPs are required.
- Verification that non-storm water discharge BMPs are implemented and are effective.
- Description of any inadequate BMPs.
- Appropriate corrective actions required for inadequate BMPs and a timeline for implementation.

If you answer "No" to any of the questions, corrective action(s) must be described along with timelines for completion. If more space is needed to describe corrective actions, identify the response numerically and use additional sheets as necessary.

Construction sites must be inspected to the following minimum frequencies:



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<u>Project</u>	Person Responsible	Inspection During Non Rainy Season (May 1 to Sept. 30)	Inspection During Rainy Season (Oct.1 To April 30)
<u>Residential Single Family Dwelling</u> <u>No Grading Permit</u>	Owner / Contractor	At the beginning of construction and within 24 hours after every rainfall	Minimum once per month and within 24 hours after every rainfall
<u>Residential Single Family Dwelling</u> <u>Grading Permit</u>	Project Engineer	At the beginning of construction and within 24 hours after every rainfall	Minimum once per month and within 24 hours after every rainfall
<u>Commercial/ Industrial</u>	Project Engineer	Minimum once per month and within 24 hours after every rainfall	Weekly and within 24 hours after every rainfall
<u>Parcel Map</u>	Project Engineer	Minimum once per month and within 24 hours after every rainfall	Weekly and within 24 hours after every rainfall
<u>Tract</u>	Project Engineer	Minimum once per month and within 24 hours after every rainfall	Weekly and within 24 hours after every rainfall

It is recommended that digital photographs be taken for each inspection conducted and archived along with this inspection form.

General Information	
Project Name	
Project Location	
Project ID	
Developer	
Developer's Representative	
Contractor	
Inspector's Name	
Inspector's Title	
Date of Inspection	
Signature	
Report Distribution	
Season (Check Applicable)	<input type="checkbox"/> Rainy <input type="checkbox"/> Non-Rainy
General Construction Permit Applies?	<input type="checkbox"/> Yes <input type="checkbox"/> Not Applicable



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Project Area Summary and Disturbed Soil Area (DSA) Size	
Total Project Area	_____ Acres
Field Estimate of Active DSA	_____ Acres

Construction Site BMP Inspection Checklist	Yes	No	NA
Preservation of Existing Vegetation			
Is temporary fencing provided to preserve vegetation in areas where no construction activity is planned?			
Erosion Control			
Does the applied temporary erosion control provide 100% coverage for the affected areas?			
Are any non-vegetated, disturbed areas protected by temporary erosion control?			
Are the areas where erosion controls are required free from visible erosion?			
Temporary Linear Sediment Barriers (Silt Fence, Fiber Rolls, Sandbag Barriers, etc.)			
Are temporary linear sediment barriers properly installed, functional and maintained?			
Are temporary linear sediment barriers free of accumulated litter?			
Is the built-up sediment less than 1/3 the height of the barrier?			
Are cross barriers installed where necessary and properly spaced?			
Storm Drain Inlet Protection			
Are onsite storm drain inlets and those immediately downstream of the project properly protected?			
Are storm drain inlet protection devices in working order and being properly maintained?			
Sediment Basins			



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Construction Site BMP Inspection Checklist	Yes	No	NA
Are basins designed in accordance with the requirements of the General Construction Permit?			
Are basins maintained to provide the required retention/detention?			
Are basin controls (inlets, outlets, diversions, weirs, spillways, and racks) in working order?			
Stockpiles			
Are all locations of temporary stockpiles, including soil, hazardous waste, and construction materials in approved areas?			
Are stockpiles protected from run-on, run-off from adjacent areas and from winds?			
Are stockpiles located at least 15 meters (~50 feet) away from concentrated flows, downstream drainage courses, and storm drain inlets?			
Are required covers and/or perimeter controls in place?			
Concentrated Flows			
Are concentrated flow paths free of visible erosion?			
Tracking Control			
Is the construction entrance stabilized to prevent tracking?			
Is the stabilized entrance inspected daily to ensure that it is working properly?			
Are points of ingress/egress to public/private roads inspected and swept and vacuumed as needed?			
Are all paved areas free of visible sediment tracking or other particulate matter?			
Wind Erosion Control			
If dust control is needed, is it implemented?			
Dewatering Operations			
Are all one-time dewatering operations covered by the General Permit inspected before and as they occur, and are BMPs implemented as necessary during discharge?			
Is groundwater dewatering handled in conformance with the dewatering permit issued by the RWQCB?			



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Construction Site BMP Inspection Checklist	Yes	No	NA
Is required treatment provided for dewatering effluent?			
Vehicle & Equipment Fueling, Cleaning, and Maintenance			
Are vehicle and equipment fueling, cleaning, and maintenance areas reasonably clean and free of spills, leaks, or any other deleterious material?			
Are vehicle and equipment fueling, cleaning, and maintenance activities performed on an impermeable surface in dedicated areas?			
If no, are drip pans used?			
Are dedicated fueling, cleaning, and maintenance areas located at least 15 meters (~50 feet) away from downstream drainage facilities and watercourses and protected from run-on and runoff?			
Is washwater contained for infiltration/ evaporation and disposed of appropriately?			
Is on-site cleaning limited to washing with water (no soap, soaps substitutes, solvents, or steam)?			
On each day of use, are vehicles and equipment inspected for leaks and if necessary, repaired?			
Waste Management & Materials Pollution Control			
Are material storage areas and washout areas protected from run-on and runoff, and located at least 15 meters (~50 feet) from concentrated flows and downstream drainage facilities?			
Are all material handling and storage areas clean; organized; free of spills, leaks, or any other deleterious material; and stocked with appropriate clean-up supplies?			
Are liquid materials, hazardous materials, and hazardous wastes stored in temporary containment facilities?			
Are bagged and boxed materials stored on pallets?			
Are hazardous materials and wastes stored in appropriate, labeled containers?			
Are proper storage, clean-up, and spill-reporting procedures for hazardous materials and wastes posted in open, conspicuous and accessible locations adjacent to storage areas?			
Are temporary containment facilities free of spills and rainwater?			
Are temporary containment facilities and bagged/boxed materials covered?			



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Construction Site BMP Inspection Checklist	Yes	No	NA
Are temporary concrete washout facilities designated and being used?			
Are temporary concrete washout facilities functional for receiving and containing concrete waste and are concrete residues prevented from entering the drainage system?			
Do temporary concrete washout facilities provide sufficient volume and freeboard for planned concrete operations?			
Are concrete wastes, including residues from cutting and grinding, contained and disposed of off-site or in concrete washout facilities?			
Are spills from mobile equipment fueling and maintenance properly contained and cleaned up?			
Is the site free of litter?			
Are trash receptacles provided in the yard, field trailer areas, and at locations where workers congregate for lunch and break periods?			
Is litter from work areas collected and placed in watertight dumpsters?			
Are waste management receptacles free of leaks?			
Are the contents of waste management receptacles properly protected from contact with storm water or from being dislodged by winds?			
Do waste management receptacles have sufficient capacity and not overfilled?			
Temporary Water Body Crossing or Encroachment			
Are temporary water body crossings and encroachments constructed appropriately?			
Does the project conform to the requirements of the ACOE §404 permit and/or CDFG §1601 agreement?			
Illicit Connection/ Discharge			
Is this site free of any evidence of illicit discharges or illegal dumping?			
If no, has the Owner/Operator been notified?			
Discharge Points			
Are discharge points and discharge flows free from visible pollutants?			
Are discharge points free of any significant sediment transport?			



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Construction Site BMP Inspection Checklist	Yes	No	NA
SWPPP Update			
Do the SWPPP and Project Schedule adequately reflect the current site conditions and contractor operations?			
Are all BMPs shown on the water pollution control drawings installed in the proper location(s) and according to the details in the SWPPP?			
Storm Water Monitoring			
Are onsite BMPs sufficient to protect water quality for any downstream waterbodies that are impaired for sediment/sedimentation or turbidity? (per the 2006 CWA §303(d) list, there are none in Escondido)			
If no, were samples for sediment/sedimentation or turbidity collected pursuant to the sampling and analysis plan in the SWPPP?			
Do sampling results (if applicable) indicate that site discharges are not causing or contributing to further impairment?			
If no, were the erosion/sediment control BMPs improved or maintained to reduce the discharge of sediment to the waterbody?			
Is BMP maintenance adequate to protect against breaches, malfunctions, leakages, or spills that could result in the discharge of pollutants not visible to the human eye?			
If no, were samples for non-visually detectable pollutants (see attached list) collected pursuant to the sampling and analysis plan during rain events?			
If sampling indicated pollution of the storm water, were the leaks, breaches, spills, etc. cleaned up and the contaminated soil properly disposed of?			
Were the BMPs maintained or replaced?			
If soil amendments (e.g., gypsum, lime) were used on the project, were samples for non-visually detectable pollutants collected pursuant to the sampling and analysis plan in the SWPPP?			
If sampling indicated pollution of the stormwater by the use of the soil amendments, is there a contingency plan for retention onsite of the polluted stormwater?			
Were materials or wastes stored on site protected from stormwater contact or exposure to site runoff? (Materials not in watertight containers, etc.)			
If no, were samples for non-visually detectable pollutants collected pursuant to the sampling and analysis plan in the SWPPP?			



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Construction Site BMP Inspection Checklist	Yes	No	NA
Corrective Actions Required			
*Enforcement Action Taken			

* Note: If a Stop Work Order or other high-level enforcement is issued, the Regional Water Quality Control Board must be notified.



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**SUPERVISING ENGINEER'S INSPECTION REPORT
PROJECTS WITH GRADING PERMIT**

The project owner shall be responsible to maintain a logbook of this report on the job site to provide to the City inspector during all phases of construction

Period Covered by this report: From _____ To _____

Date: _____ Grading Plan Number: _____

Project Name: _____

Project Location: _____

Supervising Engineer: _____

State Registration Number: _____

Company Name: _____

Address: _____

Phone Number: _____ Date of your last site visit _____

Was the work in compliance with approved plans and all permit requirements?

Yes or No

If no, please explain any and all nonconformities and proposals for corrective measures:

Are appropriate BMPs in place? (including any slope not worked within the last 15 days)

Yes or No

Did you observe any discharges of silt, sediment, or other pollutants in stormwater leaving the site?

Yes or No

If yes, please explain circumstances and corrective measures:

Is the site's Erosion Control Plan current?

Yes or No

If no, please explain deficiencies:

Have you received any complaints about the site?

Yes or No

If yes, please explain:

Has there been any un-permitted grading on the site?

Yes or No

If yes, please explain: _____



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**PROJECT OWNER'S INSPECTION REPORT
FOR
SINGLE FAMILY RESIDENTIAL DWELLINGS – PROJECTS WITHOUT GRADING
PERMIT**

The project owner shall be responsible to maintain a logbook of this report on the job site to provide to the City inspector during all phases of construction.

Period Covered by this report: From _____ To _____

Date: _____

Owner's Name: _____

Project Address: _____

Emergency Phone Number: _____ Date of your last site visit

Are appropriate BMPs in place?

Yes or No

Did you observe any discharges of silt or sediment in stormwater leaving the site?

Yes or No

If yes, please explain circumstances and corrective measures:

Is the site's Erosion Control current?

Yes or No

If no, please explain deficiencies:



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ATTACHMENT F

Definitions

"Attached Residential Development" means any development that provides 10 or more residential units that share an interior/ exterior wall. This category includes, but is not limited to: dormitories, condominiums and apartments.

"Automotive Repair Shop" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.

"Best Management Practices" see: "stormwater best management practices".

"Clean Water Act Section 303(d) Impaired Waterbodies" are those that the U.S. Environmental Protection Agency (EPA), in concert with the State Water Resources Control Board, identifies as not meeting water quality objectives and not supporting their beneficial uses. Each state must submit an updated list, called the 303(d) list, to the EPA every 2 years. In addition to identifying the waterbodies that are not supporting beneficial uses, the list also identifies the pollutant or stressor causing impairment, and establishes a priority for developing a control plan to address the impairment. The list also identifies waterbodies where 1) a TMDL has been approved by EPA and an implementation is available, but water quality standards are not yet met, and 2) waterbodies where the water quality problem is being addressed by an action other than a TMDL and water quality standards are not yet met.

"Commercial Development" means any development on private land that is not exclusively heavy industrial or residential uses. The category includes, but is not limited to: mini-malls and other business complexes, shopping malls, hotels, office buildings, public warehouses, hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, plant nurseries, car wash facilities, and other light industrial complexes.

"Commercial Development greater than 1 acre" means any commercial development that result in the disturbance of one acre or more of land.

"Construction Permits" means any building, electrical, plumbing/mechanical, demolition/removal, grading, public right-of-way, and sign permits.

"Detached Residential Development" means any development that provides 10 or more freestanding residential units separated by a minimum of 10 feet. This category includes, but is not limited to: detached homes, such as single-family homes and detached condominiums.

"Directly Connected Impervious Area (DCIA)" means the area covered by a building, impermeable pavement, and/ or other impervious surfaces, which drains directly into the stormwater conveyance system without first flowing across permeable vegetated land area (e.g., lawns).



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“Discretionary Actions” means any adoption or amendment of a land use plan, zoning or rezoning action, development agreement, subdivision of land in accordance with the Subdivision Map Act, or development permits reviewed by Planning Division staff.

"Environmentally Sensitive Areas" means areas that include, but are not limited to, all Clean Water Act 303(d) impaired water bodies ("303[d] water bodies"); areas designated as an "Area of Special Biological Significance" (ASBS) by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments); water bodies designated as having a RARE beneficial use by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments), or areas designated as preserves or their equivalent under the Multiple Habitat Conservation Program (MHCP) within the Cities and County of San Diego. The limits of Areas of Special Biological Significance are those defined in the Water Quality Control Plan for the San Diego Basin (1994 and amendments). Environmentally sensitive area is defined for the purposes of implementing SUSMP requirements, and does not replace or supplement other environmental resource-based terms, such as "Environmentally Sensitive Lands," "Sensitive Biological Habitat or Species," employed by the City in their land development review processes.

"Hillside" means lands that have a natural gradient of 15 percent or greater.

"Hillside development greater than 5,000 square feet" means any development that would create more than 5,000 square feet of impervious surfaces in hillsides with known erosive soil conditions.

“Hydromodification” means the change in the natural hydrologic processes and runoff characteristics (i.e. interception, infiltration, overland flow, interflow and groundwater flow) caused by urbanization or other land use changes that result in increased stream flows and changes in sediment transport. In addition, alternation of stream and river channels, installation of dams and water impoundments, and excessive streambank and shoreline erosion are also considered hydromodification, due to their disruption of natural watershed hydrologic processes....

"Infiltration" means the downward entry of water into the surface of the soil.

“Low Impact Development (LID)” means a stormwater management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect pre-development hydrologic functions.

"Maximum Extent Practicable (MEP)" means the technology-based standard established by Congress in the Clean Water Act 402(p)(3)(B)(iii) that municipal dischargers of urban runoff must meet. MEP generally emphasizes pollution prevention and source control BMPs primarily (as the first line of defense) in combination with treatment methods serving as a backup (additional lines of defense).

“Natural Drainage” means a natural swale or topographic depression which gathers and/or



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conveys runoff to a permanent or intermittent watercourse or waterbody.

"New Development" means land disturbing activities; structural development, including construction or installation of a building or structure, the creation of impervious surfaces; and land subdivision.

"Parking Lot" means land area or facility for the temporary parking or storage of motor vehicles used personally, or for business or commerce.

"Projects Discharging to Receiving Waters within Environmentally Sensitive Areas" means all development and significant redevelopment that would create 2,500 square feet of impervious surfaces or increase the area of imperviousness of a project site to 10% or more of its naturally occurring condition, and either discharge urban runoff to a receiving water within or directly adjacent (where any portion of the project footprint is located within 200 feet of the environmentally sensitive area) to an environmentally sensitive area, or discharge to a receiving water within an environmentally sensitive area without mixing with flows from adjacent lands (where the project footprint is located more than 200 feet from the environmentally sensitive area).

"Project Footprint" means the limits of all grading and ground disturbance, including landscaping, associated with a project.

"Project Footprint" means the limits of all grading and ground disturbance, including landscaping, associated with a project.

"Receiving Waters" means surface bodies of water, which directly or indirectly receive discharges from urban runoff conveyance systems, including naturally occurring wetlands, creeks, rivers, reservoirs, lakes, lagoons, estuaries, harbors, bays and the Pacific Ocean. The City shall determine the definition for wetlands and the limits thereof for the purposes of this definition. Constructed wetlands are not considered wetlands under this definition.

Construction of treatment control BMPs is prohibited in "Receiving Waters" may not be used to satisfy SUSMP requirements

"Residential Development" means any development on private land that provides living accommodations for one or more persons. This category includes, but is not limited to: single-family homes, multi-family homes, condominiums, and apartments.

"Restaurant" means a stand-alone facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the land area for development is greater than 5,000 square feet. Restaurants where land development is less than 5,000 square feet shall meet all SUSMP requirements except for structural treatment BMP and numeric sizing criteria requirement and hydromodification requirement.

"Sediment" means soils or other surficial materials eroded and then transported or deposited by the action of wind, water, ice, or gravity. Sediments can increase turbidity, clog fish gills,



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reduce spawning habitat, lower young aquatic organisms survival rates, smother bottom dwelling organisms, and suppress aquatic vegetation growth.

“Significant Redevelopment” means development that would create, add, or replace at least 5,000 square feet of impervious surfaces on an already developed site that falls under a priority development project categories. Where redevelopment results in an increase of less than 50% of the impervious surfaces of a previously existing development, and the existing development was not subject to SUSMP requirements, the numeric sizing criteria identified in Section 2, Step 8 apply only to the addition, and not to the entire development. When redevelopment results in an increase of more than 50% of the impervious surfaces of a previously existing development, the numeric sizing criteria applies to the entire development. Significant redevelopment includes, but is not limited to: the expansion of a building footprint; addition to or replacement of a structure; replacement of an impervious surface that is not part of a routine maintenance activity; and land disturbing activities related with structural or impervious surfaces. Replacement of impervious surfaces includes any activity that is not part of a routine maintenance activity where impervious material(s) are removed, exposing underlying soil during construction. Significant redevelopment does not include trenching and resurfacing associated with utility work; resurfacing and reconfiguring surface parking lots; new sidewalk construction, pedestrian ramps, or bike lane on existing roads; and replacement of damaged pavement.

“Site Design BMP” also known as a significant part of Low Impact Development (LID), means any project design feature that reduces the amount of impervious surfaces, disconnects impervious surfaces, reduces creation or severity of potential pollutant sources, and/or reduces the alteration of the project site’s natural flow regime. Redevelopment projects that are undertaken to remove pollutant sources (such as existing surface parking lots and other impervious surfaces) or to reduce the need for new roads and other impervious surfaces (as compared to conventional or low-density new development) by incorporating higher densities and/or mixed land uses into the project design, are also considered site design BMPs.

"Source Control BMP (both structural and non-structural)" means land use or site planning practices, or structures that aim to prevent urban runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between pollutants and urban runoff. Examples include roof structures over trash or material storage areas, and berms around fuel dispensing areas.

"Stormwater Best Management Practice (BMP)" means any schedules of activities, prohibitions of practices, general good house keeping practices, pollution prevention and educational practices, maintenance procedures, structural treatment BMPs, and other management practices to prevent or reduce to the maximum extent practicable the discharge of pollutants directly or indirectly to receiving waters. Stormwater BMPs also include treatment requirements, operating procedures and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. This manual groups development-related stormwater BMPs into two categories: (1) *construction BMPs*, which are practices, procedures, devices or materials used to prevent the transport and introduction of pollutants both on and from a project site during construction; and (2) *permanent BMPs*, which are the site design features, source control features, and treatment control BMPs that



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become a permanent part of a project's design and remain functioning throughout the "use" phase of a project site. (See the definitions for site design, source control and treatment control BMPs in this appendix)

"Stormwater Conveyance System" means private and public drainage facilities by which stormwater may be conveyed to Receiving Waters, such as: natural drainages, roads, streets, constructed channels, aqueducts, storm drains, pipes, street gutters, or catch basins.

"Streets, Roads, Highways, and Freeways" means any project that is not part of a routine maintenance activity, and would create a new paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles and other vehicles. For the purposes of SUSMP requirements, Streets, Roads, Highways and Freeways do not include trenching and resurfacing associated with utility work; applying asphalt overlay to existing pavement; new sidewalk, pedestrian ramps, or bikelane construction on existing roads; and replacement of damaged pavement.

"Treatment Control (Structural) BMP" means any engineered system designed and constructed to remove pollutants from urban runoff. Pollutant removal is achieved by simple gravity settling of particulate pollutants, filtration, biological uptake, media adsorption or any other physical, biological, or chemical process.

"Water Quality Technical Report" is a water quality evaluation conducted relative to proposed project characteristics, designs, and plans. This report is prepared in accordance with the requirements contained within this SUSMP.