# RESOLUTION NO. CC-0307-73

## A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF REDONDO BEACH, CALIFORNIA, ADOPTING STORMWATER POLLUTION MITIGATION GUIDELINES FOR DEVELOPMENT PROJECTS

WHEREAS, on April 8, 2003 the Coastal Commission certified the Local Implementation Plan (LIP) for Coastal Zone Area One (the portion of the Coastal Zone outside the "Heart of the City" area) if modified by the City as suggested by the Coastal Commission; and

WHEREAS, one portion of the certified LIP as modified by the Coastal Commission includes the City of Redondo Beach Stormwater Pollution Mitigation Guidelines for Development Projects; and

WHEREAS, the Stormwater Pollution Mitigation Guidelines for Development Projects are intended to provide guidance to the development community on how to comply with the City's Stormwater and Urban Runoff Pollution Control Regulations in Title 5, Chapter 7 of the Municipal Code; and

WHEREAS, the Stormwater Pollution Mitigation Guidelines for Development Projects incorporate the requirements of the Standard Urban Stormwater Mitigation Plan (SUSMP) approved by the Regional Water Quality Control Board and issued by the Executive Officer on March 8, 2000 and as modified or expanded by the NPDES Permit; and

WHEREAS, the California Coastal Commission adopted a finding that certification of the LIP, if modified as suggested, complies with the California Environmental Quality Act because either: 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the Implementation Program on the environment; or 2) there are no further feasible alternatives and mitigation measures that would substantially lessen any significant impacts on the environment; and

WHEREAS, the Planning Commission of the City of Redondo Beach held a public hearing on May 15, 2003, and the City Council held a public hearing on July 15, 2003, at which time all interested parties were given an opportunity to be heard and to present evidence; and

WHEREAS, notice of the time and place of the public hearings before both the Planning Commission and City Council was published according to law in the Easy Reader-Redondo Beach Hometown News, a newspaper of general circulation in the City; and

WHEREAS, the Planning Commission adopted Resolution No. 9088 on May 15, 2003, recommending that the City Council: 1) amend Ordinance No. 2883-02 (the Zoning Ordinance for the Coastal Zone) as approved and modified by the Coastal Commission; 2) amend Chapter 7 of Title 5 of the Municipal Code (Stormwater and Urban Runoff Pollution Control Regulations) as approved and modified by the Coastal Commission; and 3) adopt by resolution the City of Redondo Beach Stormwater Pollution Mitigation Guidelines for Development Projects as approved and modified by the Coastal Commission.

NOW, THEREFORE, the City Council of the City of Redondo Beach, California, does hereby find as follows:

1. The Stormwater Pollution Mitigation Guidelines for Development Projects incorporates the requirements of the Standard Urban Stormwater Mitigation Plan (SUSMP) approved by the Regional Water Quality Control Board and issued by the Executive Officer on March 8, 2000 and as modified or expanded by the NPDES Permit.

2. The Stormwater Pollution Mitigation Guidelines for Development Projects includes all the modifications suggested by the Coastal Commission as part of the certified LIP.

3. The certified LIP applies to Area 1 of the Coastal Zone and is consistent with the Coastal LUP and with the Comprehensive General Plan of the City.

4. The certified LIP is consistent with the policies of the Coastal Act and is intended to be carried out in a manner that is fully in conformity with the Coastal Act.

5. The LIP as modified complies with the California Environmental Quality Act based on the determination by the Coastal Commission and will have a de minimis impact on Fish and Game resources pursuant to Section 21089(b) of the Public Resources Code.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF REDONDO BEACH, CALIFORNIA, DOES HEREBY RESOLVE AS FOLLOWS:

SECTION 1. The City Council hereby adopts Stormwater Pollution Mitigation Guidelines for Development Projects to read as provided in Exhibit "A" (attached).

SECTION 2. The City Council hereby declares that the Stormwater Pollution Mitigation Guidelines for Development Projects is a component of the City's certified LIP applicable to Zone 1 of the Coastal Zone.

SECTION 3. The City Clerk shall certify to the passage and adoption of this resolution and shall enter the same in the Book of Original Resolutions.

PASSED, APPROVED AND ADOPTED this 15th day of July, 2003.

Gregory C. Hill, Mayor

ATTEST:

STATE OF CALIFORNIA )
COUNTY OF LOS ANGELES ) SS
CITY OF REDONDO BEACH )

I, Sandy Forrest, City Clerk of the City of Redondo Beach, California, do hereby certify that the foregoing Resolution No. CC-0307-73 was duly passed, approved and adopted by the City Council of the City of Redondo Beach, California, at a regular meeting of said City Council held on the 15th day of July, 2003, by the following roll call vote:

AYES: Bisignano, Cagle, Szerlip, Schmalz, Parsons

NOES: None

ABSENT: None

ABSTAIN: None

Sandy Forrest, City Clerk

APPROVED AS TO FORM:

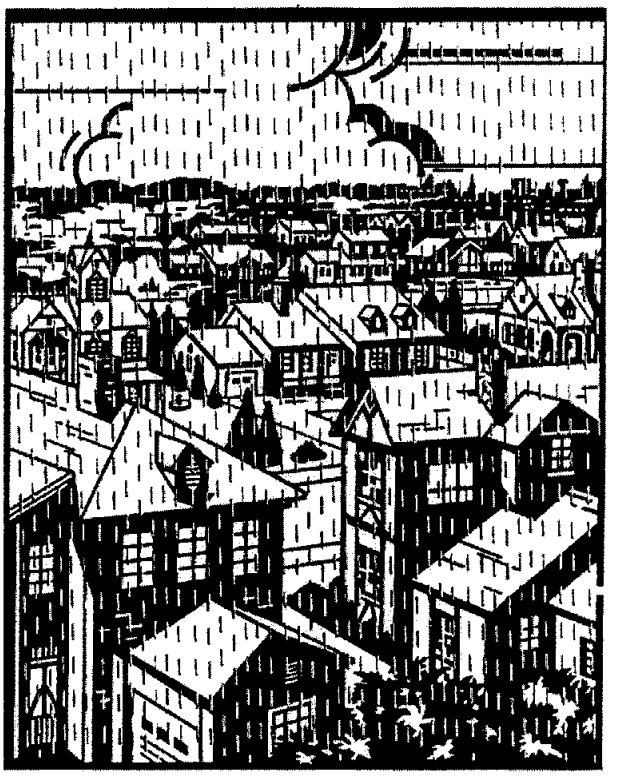
City Attorney

# EXHIBIT A
# Resolution No. CC-0307-73

# Stormwater Pollution Mitigation Guidelines for Development Projects

**CITY OF REDONDO BEACH**

# STORMWATER POLLUTION MITIGATION GUIDELINES FOR DEVELOPMENT PROJECTS



## A Manual for Urban Stormwater Mitigation Plans (Standard and Site Specific)

redondo BEACH

**CITY OF REDONDO BEACH**

**[Adopted by Resolution _____ _____, 2003]**

RESOLUTION NO. CC-0307-73
ADOPTION OF STORMWATER POLLUTION MITIGATION
GUIDELINES FOR DEVELOPMENT PROJECTS

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# SECTION 1 INTRODUCTION

## 1.1 Purpose and Intent

The purpose of this document is to provide guidance to the development community on how to comply with the requirement of the Development Planning Element of the City's Stormwater and Urban Runoff Pollution Control Regulations in Title 5 Chapter 7 of the Municipal Code.

The general purpose of the regulations is to protect and enhance coastal waters within the City of Redondo Beach in accordance with the policies of the City's Local Coastal Plan, Sections 30230, 30231, 30232 and 30240 of the California Public Resources Code (California Coastal Act), and the City's municipal NPDES permit requirements under the Regional Water Quality Control Board.

This document provides application submittal requirements, development standards, and other measures that will ensure that permitted development is sited and designed to protect coastal resources, prevent the introduction of pollutants into coastal waters, and protect the overall quality of coastal waters and resources.

The *intent* of this document is to address the following principles:

A. The City will promote pollution prevention and elimination methods that minimize the introduction of pollutants into coastal waters and the generation of dry weather and polluted runoff. Special attention shall be devoted to protecting pristine waters from impairment and rehabilitating impaired waters.

B. Development shall not result in the degradation of coastal waters caused by the introduction of pollutants or by biological, chemical or physical changes to the hydrologic landscape. Runoff shall not be discharged such that it adversely impacts coastal waters.

C. All development subject to the regulations (Title 5 Section 7 of the Redondo Beach Municipal Code) shall be evaluated for potential adverse impacts to water quality and applicants should consider Site Design, Source Control and Treatment Control Best Management Practices (BMPs) in order to prevent polluted runoff and water quality impacts resulting from the development.

D. BMPs should be incorporated into the project design in the following progression:

- Site Design BMPs
- Source Control BMPs
- Treatment Control BMPs

E. Site design and source control BMPs shall be included in all developments located in the Coastal Zone and not exempt from the requirement to obtain a Coastal Development Permit pursuant to Section 10-5.2208 (a) of the Redondo Beach Municipal Code. Where a threat to water quality by a development, due to its size, purpose or proximity to coastal waters (or proximity to a channel, stormdrain, creek, or other receiving water), is such that the combination of site design and source control BMPs

are not sufficient to protect water quality as required by Coastal Land Use Plan Policy D11, treatment control BMPs shall be implemented along with site design and source control measures.

F. Projects should be designed to control post-development peak runoff rates and average volumes to maintain or reduce pre-development downstream erosion rates. These objectives can be accomplished through the creation of a hydrologically functional project design that strives to mimic the natural hydrologic regime and by achieving the following goals:

- Minimize the creation of impervious surfaces
- Reduce the amount of directly connected impervious surface and total area of impervious surface
- Incorporate on-site retention and infiltration measures
- Direct rooftop runoff to permeable areas rather than driveways or impervious surfaces to reduce the amount of storm water leaving the site
- Incorporate permeable setback areas

Incorporating these goals and principles into the project design will help to prevent the introduction of pollutants to the site and decrease the amount of polluted runoff leaving the site, resulting in the overall objective of water quality protection.

G. This document incorporates the requirements of the Standard Urban Stormwater Mitigation Plan (SUSMP) approved by the Regional Water Quality Control Board and issued by the Executive Officer on March 8, 2000 and as modified or expanded by the NPDES Permit. If there are conflicts between this document and the SUSMP or NPDES Permit, such that it is not possible to satisfy the requirements of this document, the SUSMP and the NPDES Permit, the SUSMP and NPDES Permit shall control.

## 1.2 Definitions

Whenever in this document, the following terms are used, they shall have the meaning respectively ascribed to them in this document unless another meaning for the word is apparent from the context. Additional definitions of terms used in this document can be found in Section 5-7.103 of the City's Stormwater and Urban Runoff Pollution Control Regulations in Title 5 Chapter 7 of the Municipal Code. The definitions found herein are not intended to narrow the scope of the definitions set forth in Federal or State law, the City's Municipal Code or regulations and any term used in this document shall have the same meaning as that term is defined in the municipal NPDES permit, or if it is not specifically defined in the municipal NPDES permit, than as such term is defined in the Federal Clean Water Act, as amended, and/or the regulations promulgated there under. Words used in this chapter in the singular may include the plural and the plural may include the singular. Use of masculine shall also mean feminine and neuter.

"CONSERVATION COVER" means establishing and maintaining perennial vegetative cover to protect soil and water resources on land retired from agricultural production.

"DIVERSION" means a channel constructed across the slope with a supporting ridge on the lower side.

"FILTER STRIP" means a strip or area of vegetation for removing sediment, organic matter, and other pollutants from runoff and wastewater.

"GRASSED WATERWAY" means a natural or constructed channel that is shaped or graded to required dimensions and established in suitable vegetation for the stable conveyance of runoff.

"HYDROLOGIC LANDSCAPE" means the various physical, chemical, and biological conditions and processes (e.g., precipitation, topography, gravity, evapotranspiration, geology, permeability, flora, fauna, land use and pollution) that influence the occurrence, distribution, quality and movement of surface and subsurface waters.

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

"MATERIAL" means any substance including, but not limited to: garbage and debris; lawn clippings, leaves, and other vegetation; biological and fecal waste; sediment and sludge; oil and grease; gasoline; paints, solvents, cleaners, and any fluid or solid containing chemicals.

"SEDIMENT BASIN" means a basin constructed to collect and store debris or sediment.

## SECTION 2 PERMIT PROCESSING

### 2.1 General Procedures

Any project submitted to the City for land use, building and/or local coastal development permit(s) may be subject to the requirements of the Development Planning Element (DPE) of the City's Stormwater and Urban Runoff Pollution Control Regulations in Title 5 Chapter 7 of the Municipal Code. New development and redevelopment projects submitted will be screened to determine if the project is subject to the DPE regulations.

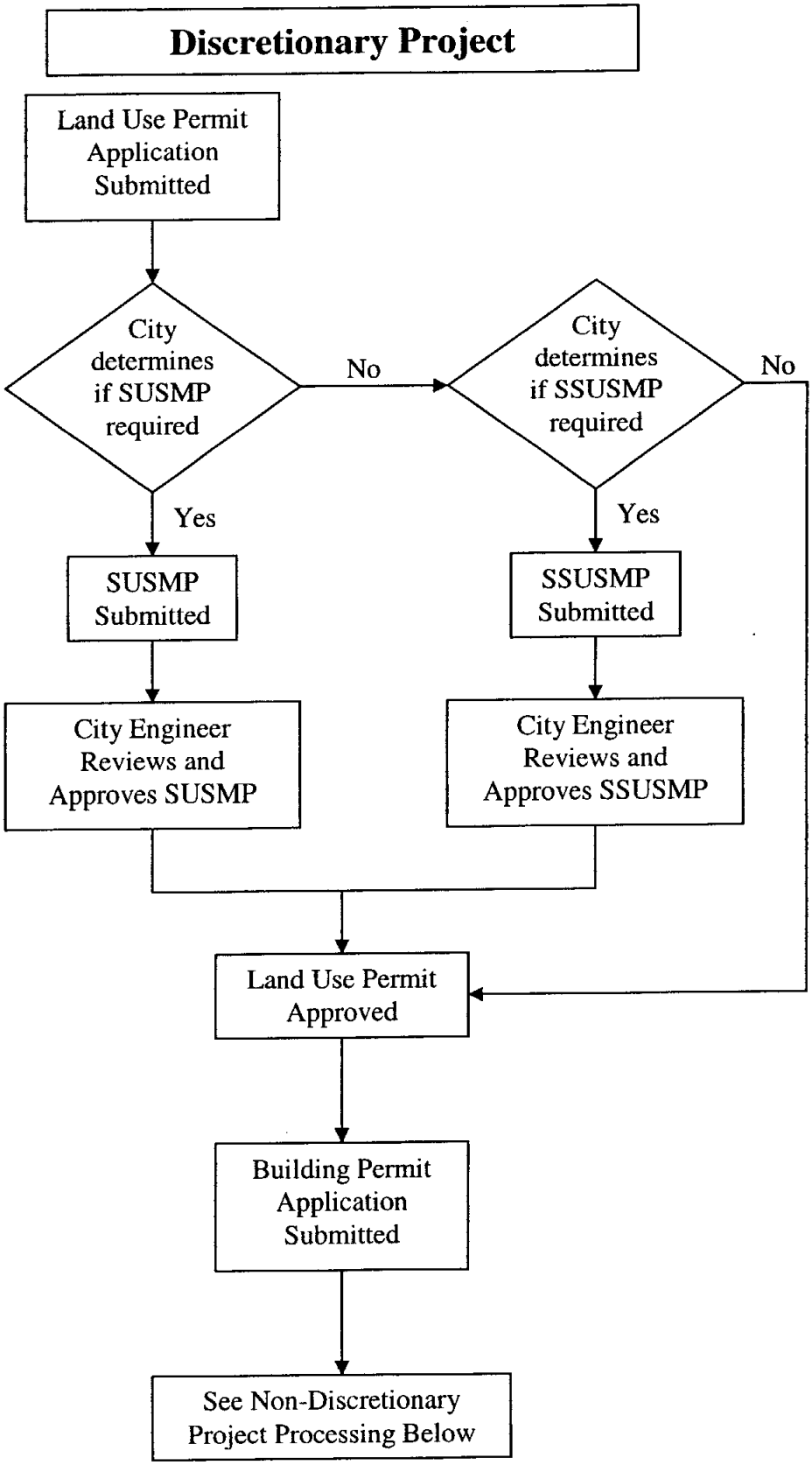
All development and redevelopment projects falling into either Part A or Part B of the following table will be required to submit, with the application of any permit, an Urban Stormwater Mitigation Plan (USMP). Projects having characteristics or activities listed in Part A must submit a Standard Urban Stormwater Mitigation Plan (SUSMP). Projects having characteristics or activities listed in Part B must submit a Site Specific Urban Stormwater Mitigation Plan (SSUSMP). Projects having characteristics or activities listed in both Part A and Part B must submit a Standard Urban Stormwater Mitigation Plan (SUSMP). BMPs included in the applicable USMP shall be incorporated in the construction plans.

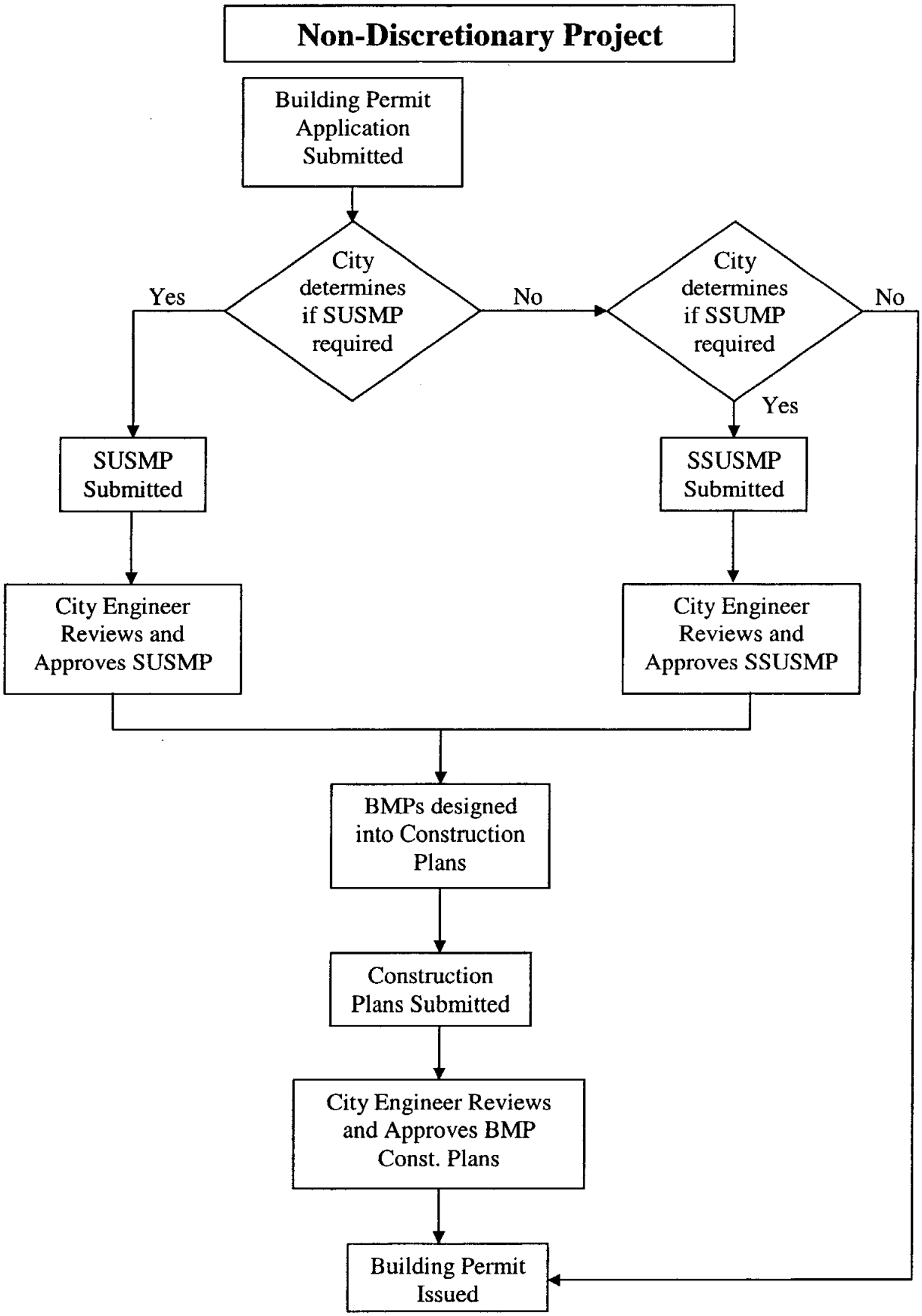
| Table 2-1<br>USMP Project Types, Characteristics, & Activities |
|---|
| Part A. Type of Project: |
| A 43,560 or more square feet of impervious surface area industrial/ commercial development |
| Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534, and 7536-7539) |
| Retail gasoline outlets |
| Restaurants (SIC 5812) |
| Ten or more unit homes (includes single family homes, multifamily homes, condominiums, and apartments); |
| Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces |
| Redevelopment projects in subject categories that meet Redevelopment thresholds |
| Single-family hillside home |
| Located in or directly adjacent to or discharging directly to an ESA where the development will: (1) Discharge storm water and urban runoff that is likely to impact a sensitive biological species or habitat; and (2) Create 2,500 square feet or more of impervious surface area |

| Table 2-1 (continued)<br>USMP Project Types, Characteristics, & Activities |
|---|
| Part B. Project Characteristics or Activities: |
| Vehicle or equipment fueling areas |
| Vehicle or equipment maintenance areas, including washing and repairs |
| Commercial and industrial waste handling or storage |
| Outdoor handling or storage of hazardous materials or waste |
| Outdoor manufacturing areas |
| Outdoor animal care confinement or slaughter |
| Outdoor food handling or processing |
| Outdoor horticulture activities |
| Located in the Coastal Zone and not exempt from the requirement to obtain a Coastal Development Permit pursuant to Section 10-5.2208 (a) of the Redondo Beach Municipal Code |

## 2.2 Permit Application Processing

The following flow charts show the sequence of the permit processing and the departments/division responsible for a specific activity. A land use, and/or coastal development permit will not be issued, for project subject to the DPE, until the applicable USMP has been approved by the City Engineer. No Building, Grading or other construction related permit shall be issued until the City Engineer has confirmed that the improvements specified in the USMP are included construction plans.


Discretionary Project
Land Use Permit Application Submitted
City determines if SUSMP required
No
City determines if SSUSMP required
No
Yes
Yes
SUSMP Submitted
SSUSMP Submitted
City Engineer Reviews and Approves SUSMP
City Engineer Reviews and Approves SSUSMP
Land Use Permit Approved
Building Permit Application Submitted
See Non-Discretionary Project Processing Below


Non-Discretionary Project
Building Permit Application Submitted
City determines if SUSMP required
Yes
No
City determines if SSUMP required
No
Yes
SUSMP Submitted
SSUSMP Submitted
City Engineer Reviews and Approves SUSMP
City Engineer Reviews and Approves SSUSMP
BMPs designed into Construction Plans
Construction Plans Submitted
City Engineer Reviews and Approves BMP Const. Plans
Building Permit Issued

## 2.3 Application Submittal Requirements

The following plans and documents shall be submitted for the project subject to DPE review:

- Applicable USMP
- Verification of Ongoing BMP Maintenance and Conditions of Transfer
- Parameters for design of Treatment BMPs, if applicable
- Operation and Maintenance Plan for Treatment BMPs, if applicable

## 2.4 Urban Stormwater Mitigation Plan (USMP) Review Criteria and Checklist

The following criteria and checklist will be used in reviewing USMPs for all development:

A. Review Criteria

- the following factors will be used to determine if the site design and source control BMPs proposed are adequate to mitigate stormwater impacts: area of impervious surface to be created, uses of the development that might generate polluted runoff and proximity of the development to coastal waters, drainage ways that lead to coastal waters or sensitive coastal resources, and other such factors as City Engineer deems necessary.
- The following factors will be used to determine whether a treatment control BMP will be required: type of land use, size and type of development, proximity to coastal waters, drainage ways that lead to coastal waters, sensitive resources, and other such factors as City Engineer deems necessary.

B. Review Checklist Questions:

- Could the proposed project result in an increase in pollutant discharges to receiving waters? Consider water quality parameters such as temperature, dissolved oxygen, turbidity and other typical storm water pollutants (e.g., heavy metals, pathogens, petroleum derivatives, synthetic organics, sediment, nutrients, oxygen-demanding substances, and trash).
- Could the proposed project result in significant alteration of receiving water quality during or following construction?
- Could the proposed project result in increased impervious surfaces and associated increased runoff?
- Could the proposed project create a significant adverse environmental impact to drainage patterns due to changes in runoff flow rates or volumes?
- Could the proposed project result in increased erosion downstream?
- Is the project tributary to an already impaired water body, as listed on the Clean Water Act Section 303(d) list. If so, can it result in an increase in any pollutant for which the water body is already impaired?
- Is the project tributary to other environmentally sensitive areas? If so, can it exacerbate already existing sensitive conditions?

- Could the proposed project have a potentially significant environmental impact on surface water quality or wetlands?
- Could the proposed project have a potentially significant adverse impact on ground water quality?
- Could the proposed project cause or contribute to an exceedance of applicable surface or groundwater receiving water quality objectives or degradation of beneficial uses?
- Could the project impact aquatic, wetland, or riparian habitat?

# SECTION 3 USMP DESIGN STANDARDS

## 3.1 Standard Urban Stormwater Mitigation Plan

**3.1.1 Plan Requirements.** The SUSMP shall be certified by a California Registered Civil Engineer or Licensed Architect. In addition, the following information shall be included in a SUSMP:

- Site plans showing locations of buildings and structures, placement and details of BMPs, drainage patterns, and descriptions of BMP maintenance or activity schedules or other requirements
- Site design, source control and treatment control BMPs that will be implemented to minimize or prevent post-construction polluted runoff
- Pre-development peak runoff rate and average volume
- Drainage improvements (e.g., locations of diversions/conveyances for upstream runoff)
- Potential flow paths where erosion may occur after construction
- Expected post-development peak runoff rate and average volume from the site with all proposed non-structural and structural BMPs
- Methods to accommodate onsite percolation, revegetation of disturbed portions of the site, address onsite and/or offsite impacts and construction of any necessary improvements
- Measures to treat, infiltrate, or filter runoff from impervious surfaces (e.g., roads, driveways, parking structures, building pads, roofs, patios, etc.) on the subject parcel(s) and to discharge the runoff in a manner that avoids erosion, gullying on or downslope of the subject parcel, ponding on building pads, discharge of pollutants (e.g., oil, heavy metals, toxics) to coastal waters, or other potentially adverse impacts. Such measures may include, but are not limited to, the use of structures (alone or in combination) such as on-site desilting basins, detention ponds, dry wells, biofilters, etc.
- A long-term plan and schedule for the monitoring and maintenance of all drainage-control devices. All structural BMPs shall be inspected, cleaned, and repaired when necessary prior to September 30th of each year. Owners of these devices will be responsible for insuring that they continue to function properly and additional inspections should occur after storms as needed throughout the rainy

season. Repairs, modifications, or installation of additional BMPs, as needed, should be carried out prior to the next rainy season.

**3.1.2 Design Standards for all projects:** The following delineates the component part of the SUSMP that must be addressed by all types of development requiring the preparation of a SUSMP. The plans must include BMPs that address each of the Items 1-9 below. However only the subset of projects listed in the following table (Table 3-1) are required to address Item 9 (Design Standards for Structural or Treatment Control BMPs).

| Table 3-1<br>Applicability of Numerical Design Criteria |
|---|
| Single-family hillside residential developments disturbing one acre or more of surface area |
| Housing developments (includes single family homes, multifamily homes, condominiums, and apartments) of ten units or more; |
| A 43,560 or more square feet of impervious surface area industrial/commercial development |
| Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534 and 7536-7539) [5,000 square feet or more of surface area]; |
| Retail gasoline outlets [5,000 square feet or more of impervious surface area and with projected Average Daily Traffic (ADT) of 100 or more vehicles]. Subsurface Treatment Control BMPs which may endanger public safety (i.e., create an explosive environment) are considered not appropriate |
| Restaurants (SIC 5812) [5,000 square feet or more of surface area] |
| Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces |
| Located in or directly adjacent to or discharging directly to an ESA where the development will: (1) Discharge storm water and urban runoff that is likely to impact a sensitive biological species or habitat; and (2) Create 2,500 square feet or more of impervious surface area |
| Redevelopment projects in subject categories that meet Redevelopment thresholds |

**1. Peak Stormwater Runoff Discharge Rates**

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

**2. Conserve Nature Areas**

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

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

### 3. Minimize Stormwater Pollution of Concern

Storm water runoff from a site has the potential to contribute oil and grease, suspended solids, metals, gasoline, pesticides, and pathogens to the storm water conveyance system. The development must be designed so as to minimize, to the maximum extent practicable, the introduction of pollutants of concern that may result in significant impacts, generated from site runoff of directly connected impervious areas (DCIA), to the storm water conveyance system as approved by the building official. Pollutants of concern, consist of any pollutants that exhibit one or more of the following characteristics: current loadings or historic deposits of the pollutant are impacting the beneficial uses of a receiving water, elevated levels of the pollutant are found in sediments of a receiving water and/or have the potential to bioaccumulate in organisms therein, or the detectable inputs of the pollutant are at a concentrations or loads considered potentially toxic to humans and/or flora and fauna.

In meeting this specific requirement, "minimization of the pollutants of concern" will require the incorporation of a BMP or combination of BMPs best suited to maximize the reduction of pollutant loadings in that runoff to the Maximum Extent Practicable. Those BMPs best suited for that purpose are those listed in the *California Storm Water Best Management Practices Handbooks*; *Caltrans Storm Water Quality Handbook: Planning and Design Staff Guide*; *Manual for Storm Water Management in Washington State*; *The Maryland Stormwater Design Manual*; *Florida Development Manual: A Guide to Sound Land and Water Management*; Denver *Urban Storm Drainage Criteria Manual, Volume 3 – Best Management Practices* and *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters* , USEPA Report No. EPA-840-B-92-002, as "likely to have significant impact" beneficial to water quality for targeted pollutants that are of concern at the site in question. However, it is possible that a combination of BMPs not so designated, may in a particular circumstance, be better suited to maximize the reduction of the pollutants.

Examples of BMPs that can be used for minimizing the introduction of pollutants of concern generated from site runoff are identified in Table 3 of Appendix B of this guidance. Any BMP not specifically approved by the Regional Board in Resolution No. 99-03, "Approving Best Management Practices for Municipal Storm Water and Urban Runoff Programs in Los Angeles County", for development planning may be used if they have been recommended in one of the above references.

### 4. Protect slopes and channels

Project plans must include BMPs consistent with local codes and ordinances and the SUSMP to decrease the potential of slopes and/or channels from eroding and impacting storm water runoff:

- Convey runoff safely from the tops of slopes and stabilize disturbed slopes.
- Utilize natural drainage systems to the maximum extent practicable
- Control or reduce or eliminate flow to natural drainage systems to the maximum extent practicable
- Stabilize permanent channel crossings.
- Vegetate slopes with native or drought tolerant vegetation.
- 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, with the approval of all agencies with jurisdiction, e.g., the U.S. Army Corps of Engineers and the California Department of Fish and Game

**5. Provide storm drain system stenciling and signage**

Storm drain stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets. The stencil contains a brief statement that prohibits the dumping of improper materials into the storm water conveyance system. Graphical icons, either illustrating anti-dumping symbols or images of receiving water fauna, are effective supplements to the anti-dumping message.

- All storm drain inlets and catch basins within the project area must be
- stenciled with prohibitive language (such as: "NO DUMPING – DRAINS TO OCEAN") and/or graphical icons to discourage illegal dumping.
- Signs and prohibitive language and/or graphical icons, which prohibit illegal dumping, must be posted at public access points along channels and creeks within the project area.
- Legibility of stencils and signs must be maintained.

**6. Properly design outdoor material storage areas**

Outdoor material storage areas refer to storage areas or storage facilities solely for the storage of materials. Improper storage of materials outdoors may provide an opportunity for toxic compounds, oil and grease, heavy metals, nutrients, suspended solids, and other pollutants to enter the storm water conveyance system. Where proposed project plans include outdoor areas for storage of materials that may contribute pollutants to the storm water conveyance system, the following Structural or Treatment BMPs are required:

Materials with the potential to contaminate storm water must be: (1) placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with runoff or spillage to the storm water conveyance system; or (2) protected by secondary containment structures such as berms, dikes, or curbs.

- The storage area must be paved and sufficiently impervious to contain leaks and spills.
- The storage area must have a roof or awning to minimize collection of storm water within the secondary containment area.

**7. Properly design trash storage areas**

A trash storage area refers to an area where a trash receptacle or receptacles are located for use as a repository for solid wastes.

Loose trash and debris can be easily transported by the forces of water or wind into nearby storm drain inlets, channels, and/or creeks. All trash container areas must meet the following Structural or Treatment Control BMP requirements (individual single family residences are exempt from these requirements):

- Trash container areas must have drainage from adjoining roofs and pavement diverted around the area(s).
- Trash container areas must be screened or walled to prevent off-site transport of trash.

**8. Pools and Spas *(this requirement is only applicable for projects located in the Coastal Zone)***

Chlorinated and brominated pool and spa drainage have the potential to negatively impact aquatic plant and animal species. To minimize impacts to water quality, and to ensure that drainage from the pool or spa will not adversely affect water quality or environmentally sensitive habitat area, the following are required:

- Prohibit discharge of pool water into a street, storm drain, creek, canyon, drainage channel, or other location where it could enter receiving waters.
- Connections to the sanitary sewer for drainage purposes shall be provided for all pools and spa development.
- The City will promote pool and spa sanitization methods that use no chlorine or low chlorine.

**9. Design standards for structural or treatment control BMPs**

All Projects requiring a SUSMP shall provide Treatment Control BMPs. Treatment control BMPs shall be designed to treat the volume or flow rates specified below unless specifically exempted. Examples of acceptable BMPs can be found in Appendix A.

Treatment Control BMPs shall be designed to the following specifications:

A. Volumetric Treatment Control BMP:

1. the 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, from the formula recommended in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, (1998)*, or

2. the volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook – Industrial/ Commercial,* (1993), or

3. the volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system, or

4. the volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event,

**AND**

B. Flow Based Treatment Control BMP:

1. the flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity or;

2. the flow of runoff produced from a rain event equal to at least two times the 85th percentile hourly rainfall intensity for Los Angeles County; or

3. the flow runoff produced from a rain event that will result in treatment of the same portion of runoff as treated using volumetric standards above.

**3.1.2 Design Standards for "type specific"project:** The following are additional requirements for several of the project types. If no "type specific" requirements are listed the project is only required to address the eight (8) Design Standards for all projects above.

**1. 43,560 Square foot commercial/industrial developments**

Commercial development shall be designed to control the runoff of pollutants from structures, parking and loading areas. The following measures shall be implemented to minimize the impacts of commercial development on water quality.

A. Properly design loading/unloading dock areas

Loading/unloading dock areas have the potential for material spills to be quickly transported to the storm water conveyance system. To minimize this potential, the following design criteria are required:

- Cover loading dock areas or design drainage to minimize run-on and runoff of storm water.
- Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.

B. Properly design repair/maintenance bays

Oil and grease, solvents, car battery acid, coolant and gasoline from the repair/maintenance bays can negatively impact storm water if allowed to come into contact with storm water runoff. Therefore, design plans for repair bays must include the following:

- Repair/maintenance bays must be indoors or designed in such a way that doesn't allow storm water runon or contact with storm water runoff.
- Design a repair/maintenance bay drainage system to capture all washwater, leaks and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.

C. Properly design vehicle/equipment wash areas

The activity of vehicle/equipment washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. Include in the project plans an area for washing/steam cleaning of vehicles and equipment. The area in the site design must be:

- Self-contained and/ or covered, equipped with a clarifier, or other pretreatment facility, and properly connected to a sanitary sewer.

## 2. Restaurants

Restaurants shall be designed to minimize runoff of oil and grease, solvents, phosphates, and suspended solids to the storm drain system. The following measures shall be implemented to minimize the impacts of restaurants on water quality

A. Properly design equipment/accessory wash areas

The activity of outdoor equipment/accessory washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. Include in the project plans an area for the washing/steam cleaning of equipment and accessories. This area must be:

- Self-contained, equipped with a grease trap, and properly connected to a sanitary sewer.
- If the wash area is to be located outdoors, it must be covered, paved, have secondary containment, and be connected to the sanitary sewer.

## 3. Retail gasoline outlets

Retail gasoline outlets shall be designed to minimize runoff of oil and grease, solvents, car battery acid, coolant and gasoline to stormwater system. The following measures shall be implemented to minimize the impacts of gasoline stations on water quality.

A. Properly design fueling areas

Fueling areas have the potential to contribute oil and grease, solvents, car battery acid, coolant and gasoline to the storm water conveyance system. The project plans must include the following BMPs:

- The fuel dispensing area must be covered with an overhanging roof structure or canopy. The canopy's minimum dimensions must be equal to or greater than the area within the grade break. The canopy must not drain onto the fuel dispensing area, and the canopy downspouts must be routed to prevent drainage across the fueling area.
- The fuel dispensing area must be paved with Portland cement concrete (or equivalent smooth impervious surface), and the use of asphalt concrete shall be prohibited.

- The fuel dispensing area must have a 2% to 4% slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents run-on of storm water to the extent practicable.
- At a minimum, the concrete fuel dispensing area must 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.

## 4. Automotive Repair Shops

Automotive repair shops shall be designed to minimize runoff of oil and grease, solvents, car battery acid, coolant and gasoline to stormwater system. The following measures shall be implemented to minimize the impacts of automotive repair facilities on water quality.

A. Properly design fueling areas

Fueling areas have the potential to contribute oil and grease, solvents, car battery acid, coolant and gasoline to the storm water conveyance system. Therefore, design plans, which include fueling areas, must contain the following:

- The fuel dispensing area should be covered with an overhanging roof structure or canopy. The cover's minimum dimensions must be equal to or greater than the area within the grade break. The cover must not drain onto the fuel dispensing area and the downspouts must be routed to prevent drainage across the fueling area.
- The fuel dispensing areas must be paved with Portland cement concrete (or equivalent smooth impervious surface), and the use of asphalt concrete shall be prohibited.
- The fuel dispensing area must have a 2% to 4% slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents run-on of storm water.
- At a minimum, the concrete fuel dispensing area must 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.

B. Properly design repair/maintenance bays

Oil and grease, solvents, car battery acid, coolant and gasoline from the repair/maintenance bays can negatively impact storm water if allowed to come into contact with storm water runoff. Therefore, design plans for repair bays must include the following:

- Repair/maintenance bays must be indoors or designed in such a way that doesn't allow storm water run-on or contact with storm water runoff.
- Design 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 storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.

C. Properly design vehicle/equipments wash areas

The activity of vehicle/equipment washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. Include in the project plans an area for washing/steam cleaning of vehicles and equipment. This area must be:

- Self-contained and/or covered, equipped with a clarifier, or other pretreatment facility, and properly connected to a sanitary sewer or to a permitted disposal facility.

D. Properly design loading/unloading dock areas

Loading/unloading dock areas have the potential for material spills to be quickly transported to the storm water conveyance system. To minimize this potential, the following design criteria are required:

- Cover loading dock areas or design drainage to minimize run-on and runoff of storm water.
- Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.

**5. Parking Lots**

Parking lots shall be designed to minimize runoff of oil, grease and other automotive fluids to stormwater system. The following measures shall be implemented to minimize the impacts of gasoline stations on water quality.

A. Properly design parking area

Parking lots contain pollutants such as heavy metals, oil and grease, and polycyclic aromatic hydrocarbons that are deposited on parking lot surfaces by motor-vehicles. These pollutants are directly transported to surface waters. To minimize the offsite transport of pollutants, the following design criteria are required:

- Reduce impervious land coverage of parking areas
- Infiltrate runoff before it reaches storm drain system.
- Treat runoff before it reaches storm drain system

B. Properly design to limit oil contamination and performance maintenance

Parking lots may accumulate oil, grease, and water insoluble hydrocarbons from vehicle drippings and engine system leaks.

- Treat to remove oil and petroleum hydrocarbons at parking lots that are heavily used (e.g. fast food outlets, lots with 25 or more parking spaces , sports event parking lots, shopping malls, grocery stores, discount warehouse stores)
- Ensure adequate operation and maintenance of treatment systems particularly sludge and oil removal, and system fouling and plugging prevention control

## 3.2 Site Specific Urban Stormwater Mitigation Plan

**3.2.1 Plan Requirements:** The SSUSMP shall be certified by a California Registered Civil Engineer or Licensed Architect. The following information shall be included in a SSUSMP:

- Site plans showing locations of buildings and structures, placement and details of BMPs, drainage patterns, and descriptions of BMP maintenance or activity schedules or other requirements
- Site design and source control BMPs that will be implemented to minimize or prevent post-construction polluted runoff

- Depiction of permeable setback areas or other means of minimizing impervious surfaces
- Drainage improvements (e.g., locations of diversions/conveyances for upstream runoff)
- Potential flow paths where erosion may occur after construction
- Methods to accommodate onsite percolation, revegetation of disturbed portions of the site, address onsite and/or offsite impacts and construction of any necessary improvements
- Schedule for BMP activities and/or BMP maintenance, as necessary (e.g. frequency of educational materials distribution or hosting of educational programs, or frequency of inspecting functionality of porous pavements)

If it is determined that Treatment Control BMPs are necessary the following additional information shall be included:

- Treatment control BMPs that will be implemented
- Pre-development peak runoff rate and average volume
- Measures to treat, infiltrate, or filter runoff from impervious surfaces (e.g., roads, driveways, parking structures, building pads, roofs, patios, etc.) on the subject parcel(s) and to discharge the runoff in a manner that avoids erosion, gullying on or downslope of the subject parcel, ponding on building pads, discharge of pollutants (e.g., oil, heavy metals, toxics) to coastal waters, or other potentially adverse impacts. Such measures may include, but are not limited to, the use of structures (alone or in combination) such as on-site desilting basins, detention ponds, dry wells, biofilters, etc.
- A long-term plan and schedule for the monitoring and maintenance of all drainage-control devices. All structural BMPs shall be inspected, cleaned, and repaired when necessary prior to September 30th of each year. Owners of these devices will be responsible for insuring that they continue to function properly and additional inspections should occur after storms as needed throughout the rainy season. Repairs, modifications, or installation of additional BMPs, as needed, should be carried out prior to the next rainy season.

**3.2.2 Design Standards for all projects:** The following delineated the component part of the SSUSMP that must be address by all types of development requiring the preparation of a SSUSMP.

Post construction plans detailing how stormwater and polluted runoff will be managed or mitigated will be required for all projects needing a SSUSMP. All developments shall implement Site Design and Source Control BMPs. The SSUSMP shall demonstrate how the project will use appropriate Site Design and Source Control BMPs to minimize or prevent adverse impacts to stormwater quality. If it cannot be demonstrated that Site Design and Source Control can prevent adverse impact Treatment Control BMPs must be added to Site Design and Source Control BMPs. Treatment Controls shall be design as specified in Section 3.1.2 - Item 9.

Appendix A provide examples of Site Design, Source Control and Treatment Control BMPs. Appendix B can be used to select BMPs for implementation is specific areas and to address pollutant of concern.

Selection of BMPs shall address the following goals in connection with long-term operation of the site:

a. Maximize, to the extent practicable, the percentage of permeable surfaces in order to allow more percolation of runoff into the ground,
b. Maximize, to the extent practicable, retention of dry-weather runoff onsite to allow percolation into the ground, or installation of other treatment measures thereby preventing pollutants from entering the storm drain system.

# SECTION 4 POST CONSTRUCTION

## 4.1 BMP Maintenance

### 4.1.1 Verification of Ongoing BMP Maintenance and Conditions of Transfer

All applicants shall provide verification of maintenance provisions for Structural and Treatment Control BMPs, including but not limited to legal agreements, covenants, CEQA mitigation requirements, and conditional use permits. Verification at a minimum shall include:

- The developer's signed statement accepting responsibility for maintenance until the responsibility is legally transferred; and either
- If the land has been legally transferred to a public entity, a signed statement from the public entity assuming responsibility for Structural and Treatment Control BMP maintenance and that it meets all local agency design standards; or
- Written conditions in the sales or lease agreement, which require the recipient to assume responsibility for maintenance and conduct a maintenance inspection at least once a year; or
- Written text in project conditions, covenants, and restrictions (CCRs) for residential properties assigning maintenance responsibilities to the Home Owners Association for maintenance of the Structural and Treatment Control BMPs; or
- Any other legally enforceable agreement that assigns responsibility for the maintenance of post-construction Structural and Treatment Control BMPs.

**Appendix A**

**STORM WATER BEST MANAGEMENT PRACTICES**

The following are a list of BMPs that may be used to minimize or prevent the introduction of pollutants of concern that may result in significant impacts to receiving waters. Other BMPs approved by the City as being equally or more effective in pollutant reduction than comparable BMPs identified below are acceptable. All BMPs must comply with local zoning and building codes and other applicable regulations.

## Site Design BMPs

Minimizing Impervious Areas

- Reduce sidewalk widths
- Incorporate landscaped buffer areas between sidewalks and streets.
- Design residential streets for the minimum required pavement widths
- Minimize the number of residential street cul-de-sacs and incorporate landscaped areas to reduce their impervious cover.
- Use open space development that incorporates smaller lot sizes
- Decreasing the building footprint (example add second story) to increase pervious area
- Reduce overall lot imperviousness by promoting alternative driveway surfaces and shared driveways that connect two or more homes together
- Reduce overall imperviousness associated with parking lots by providing compact car spaces, minimizing stall dimensions, incorporating efficient parking lanes, and using pervious materials in spillover parking areas
- Reduce overall imperviousness with all paved areas by using porous pavements or alternative pavers when possible

Increase Rainfall Infiltration

- Use permeable materials for private sidewalks, driveways, parking lots, and interior roadway surfaces (examples: hybrid lots, parking groves, permeable overflow parking, etc.)
- Direct rooftop runoff to pervious areas such as yards, open channels, or vegetated areas, and avoid routing rooftop runoff to the roadway or the urban runoff conveyance system
- Use Dry Wells
- Design grass areas with a concave surface to promote infiltration and retention

Maximize Rainfall Interception

- Maximizing canopy interception and water conservation by preserving existing native trees and shrubs, and planting additional native or drought tolerant trees and large shrubs
- Cisterns
- Foundation planting

Minimize Directly Connected Impervious Areas (DCIAs)

- Draining rooftops into adjacent landscaping prior to discharging to the storm drain
- Draining parking lots into landscape areas co-designed as biofiltration areas
- Draining roads, sidewalks, and impervious trails into adjacent landscaping

Slope and Channel Protection

- Use of natural drainage systems to the maximum extent feasible
- Stabilized permanent channel crossings
- Planting native or drought tolerant vegetation on slopes
- Energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels
- Riparian Buffers

## Source Control BMPs

- Storm drain system stenciling and signage
- Regular street and parking lot sweeping
- Outdoor material and trash storage area designed to reduce or control rainfall runoff
- Efficient irrigation system
- Integrated Pest Management
- Minimizing pesticide, herbicide, and fertilizer use
- Using covered trash receptacles and storage areas
- Education of employees of restaurants, landscapers, or other businesses in which source control practices are being implemented
- Use of non-toxic cleaners and solvents
- Pet waste clean-up promotion materials
- Use of native, drought tolerant, non-invasive vegetation
- Spill prevention and clean up procedures for certain land uses (e.g., retail gasoline outlets, automotive repair or wash facilities, restaurants, etc.)

## Treatment Control BMPs

Biofilters

- Grass swale
- Grass strip
- Wetland vegetation swale
- Bioretention

Detention Basins

- Extended/dry detention basin with grass lining
- Extended/dry detention basin with impervious lining

Infiltration Basins

- Infiltration basin
- Infiltration trench
- Porous asphalt
- Porous concrete
- Porous modular concrete block

Wet Ponds and Wetlands

- Wet pond (permanent pool)
- Constructed wetland

Drainage Inserts

- Oil/Water separator
- Catch basin insert
- Storm drain inserts
- Catch basin screens

Filtration Systems

- Media filtration
- Sand filtration

Hydrodynamic Separation Systems

- Swirl Concentrator
- Cyclone Separator

## Appendix B

## BMP IMPLEMENTATION TABLES

**Table 1.** Anticipated and Potential Pollutants Generated by Land Use Type

| | ***General Pollutant Categories*** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ***Priority Project 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 | P(2) | | X | P(1) | P(2) | P | X |
| Commercial Development >100,000 $ft^2$ | P(1) | P(1) | P(2) | P(2) | X | P(5) | X | P(3) | P(5) |
| Automotive service facilities | | | X | X(4)(5) | X | | X | | |
| Retail Gasoline Outlets | | | X | X(4)(5) | X | | X | | |
| estaurants | | | | | X | X | X | X | |
| llside velopment | X | X | | | X | X | X | | X |
| Parking Lots | P(1) | P(1) | X | | X | P(1) | X | | P(1) |
| 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

## **Table 2.** Site Design and Source Control BMP Selection Matrix

| | ***Specific Areas for Implementation of Site Design and Source Control BMPs*** | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Priority Project Categories*** | Private Roads | Residential Driveways & Guest Parking | Loading/Unloading Dock Areas | Repair/Maintenance Bays | Vehicle Wash Areas | Outdoor Processing Areas | Equipment Wash Areas | Parking Areas | Roadways | Fueling Areas | Hillside Landscaping | Outdoor Material Storage Areas | Trash Storage Areas | Pools and Spas |
| Detached Residential Development | R | R | | | | | | | | | R | | | R |
| Attached Residential Development | R | | | | | | | | | | | | R | R |
| Commercial Development >100,000 $ft^2$ | | | R | R | R | R | | | | | | R | R | |
| Automotive service facilities | | | R | R | R | | R | | | R | | R | R | |
| Retail Gasoline Outlets | | | R | R | R | | R | | | R | | R | R | |
| Restaurants | | | R | | | | R | | | | | R | R | |
| Hillside development | R | | | | | | | | | | R | | | |
| Parking Lots | | | | | | | | R | | | | | R | |
| Streets, Highways & Freeways | | | | | | | | | R | | | | | |
| R = Required – minimize pollutants of concern by selecting appropriate Site Design and Source Control BMPs | | | | | | | | | | | | | | |

**Table 3.** Treatment Control BMP Selection Matrix[1]

| ***Pollutant of Concern*** | ***Treatment Control BMP Categories*** | | | | | | |
|---|---|---|---|---|---|---|---|
| | Biofilters | Detention Basins | Infiltration Basins[2] | Wet Ponds or Wetlands | Drainage Inserts | Filtration | Hydrodynamic Separator Systems[3] |
| Sediment | M | H | H | H | L | H | M |
| Nutrients | L | M | M | M | L | M | L |
| Heavy Metals | M | M | M | H | L | H | L |
| Organic Compounds | U | U | U | U | L | M | L |
| Trash & Debris | L | H | U | U | M | H | M |
| Oxygen Demanding Substances | L | M | M | M | L | M | L |
| Bacteria | U | U | H | U | L | M | L |
| Oil & Grease | M | M | U | U | L | H | L |
| Pesticides | U | U | U | U | L | U | L |

(1) The City is encouraged to periodically assess the performance characteristics of many of these BMPs to update this table.
(2) Including trenches and porous pavement
(3) Also known as hydrodynamic devices and baffle boxes

L: Low removal efficiency
M: Medium removal efficiency
H: High removal efficiency
U: Unknown removal efficiency

Sources: *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters* (1993), *National Stormwater Best Management Practices Database* (2001), *and Guide for BMP Selection in Urban Developed Areas* (2001).