The City of Hermosa Beach
1315 Valley Drive
Hermosa Beach, CA 90266

Developer Technical Information

for Projects

within the City of Hermosa Beach

Storm Water Low Impact Development Guide

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LIST OF ACRONYMS

BMPs: best management practices

CASQA: California Stormwater Quality Association

LID: low impact development

MS4: municipal separate storm sewer system

NPDES: National Pollutant Discharge Elimination System

SIC: Standard Industrial Category

SWQDv: storm water quality design volume

TMDL: total maximum daily load

INTRODUCTION

This document contains technical information and guidelines intended to assist the development community working within the City of Hermosa Beach with implementation of the New Development and Redevelopment project performance standards for storm water consistent with the Los Angeles County Municipal NPDES Permit (MS4 Permit)[1]. The New Development and Redevelopment Standards of the 2012 MS4 Permit, also known as Low Impact Development standards, have replaced the Standard Urban Stormwater Mitigation Plan (SUSMP) which had been in effect in the Los Angeles region for the past decade under the previous MS4 Permit. The New Development and Redevelopment design requirements specify the importance of effective site design as well as the selection, design, and implementation of appropriate best management practices (BMPs) to retain the MS4 Permit-specified storm water quality design volume (SWQDv) to lessen the water quality impacts associated with development.

The City of Hermosa Beach has revised Chapter 8.44 of its Municipal Code to include development standards which apply to certain new development and redevelopment projects consistent with the 2012 MS4 Permit requirements. Also, to simplify and streamline the Hermosa Beach municipal code with respect to storm water low impact development (LID) provisions for new development, the substantive elements of the previous storm water provisions of Chapter 15.48 Green Building Standards of the Hermosa Beach Municipal Code have been incorporated into Chapter 8.44 and the relevant portions of the Green Building Standards were simultaneously rescinded. This effectively places all the storm water LID provisions within Chapter 8.44 and simplifies the requirements for developers. Chapter 8.44 also simplifies the determination of the SWQDv for new development and redevelopment projects by adopting a single design storm depth applicable to all project sites within the city while still meeting the intent of the Permit. The City of Hermosa Beach has defined the SWQDv as the runoff from the 0.8 inch, 24-hour rain event for all new development and redevelopment projects subject to LID requirements. Chapter 8.44 as revised is provided as Attachment A.

This document has been created to help developers navigate the permitting process for storm water LID requirements within the City of Hermosa Beach. Though this document is not exhaustive and does not provide the complete details necessary to

[1] Order No. R4-2012-0175 NPDES Permit No. CAS004001 Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, except those Discharges Originating from the City of Long Beach.

appropriately plan and implement LID design in conformance with the MS4 Permit, it provides an overview to make the design process more efficient and then directs the user to design references for additional details. To that end, each section in this document has been prepared to help developers answer the following questions for their project:

- Section 1: Does my project trigger the New Development or Redevelopment LID requirements for storm water?
- Section 2: Are there steps I can take when initially designing my project to reduce the volume of runoff that must be retained on site? (Section 2)
- Section 3: If my project is subject to LID requirements, what amount of storm water am I required to retain on site?
- Section 4: If my project is a subject to LID requirements, what types of LID BMPs do I need to implement?
- Section 5: If my project is subject to LID requirements but I can't retain the required storm water volume on site, what am I required to do? How do I demonstrate that I can't retain the required storm water volume on site?
- Section 6: What information do I need to provide to the City as a result of these requirements?
- Section 7: What additional information is available to assist me in the proper design, construction, and maintenance of LID BMPs?

The flow chart presented in Figure 1 contains the general steps to follow in order to comply with the LID requirements. The flow chart will assist developers in determining which sections of this document are relevant to a specific project.

As stated previously, this Developer Technical Information document is neither exhaustive nor stand-alone, but directs the user to previously developed information and guidance where appropriate. In particular, this document relies on the LID Standards Manual developed by the County of Los Angeles (County of Los Angeles, 2014) to provide detailed design requirements for developers when implementing LID. Attachments have also been provided at the end of this document to provide supplemental information for LID implementation.

County of Los Angeles Low Impact Development Standards Manual

The County of Los Angeles LID Standards Manual (LA County LID Manual) along with the County's Stormwater BMP Design and Maintenance Manual should serve as

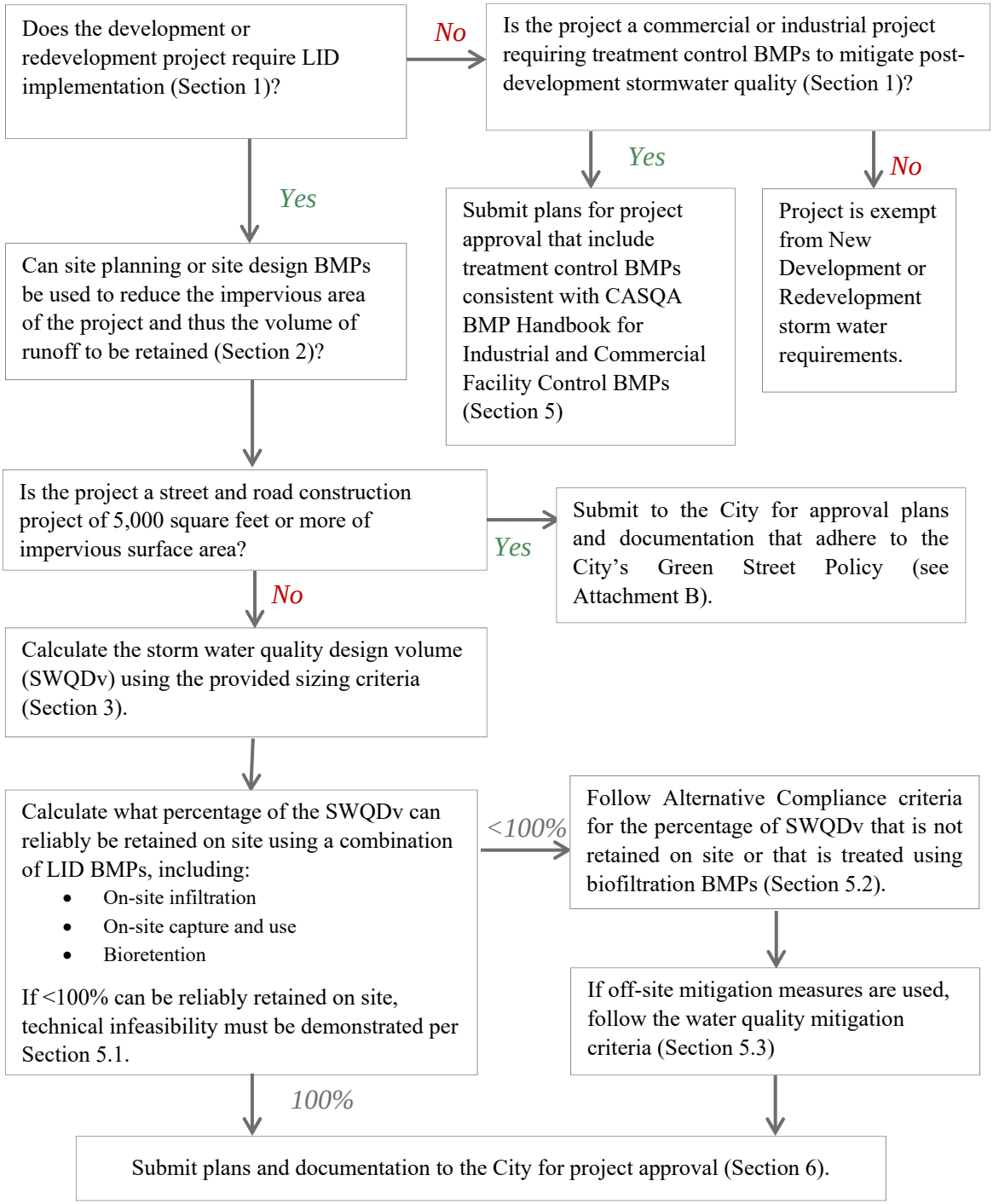
the primary design manuals for developers when designing, implementing, and maintaining LID BMPs for projects.

An updated LA County LID Manual was released in February 2014 to conform to the requirements of the 2012 MS4 Permit in providing guidance to the development community regarding the implementation of LID techniques and BMPs. In addition to providing design standards for a variety of LID BMPs, the LA County LID Manual provides detailed descriptions, examples, and fact sheets to illustrate how such BMPs function.[2]

Both County manuals are available for free and can be downloaded at the web addresses provided in Section 7.

[2] Section 1 (Introduction), Section 3 (Non-Designated Project Requirements), and Section 8 (Hydromodification Requirements) of the LA County LID Manual are not directly applicable to projects within the City of Hermosa Beach.

Figure 1: Developer Guidance Flow Chart for Project Planning



SECTION 1. NEW DEVELOPMENT AND REDEVELOPMENT PROJECTS SUBJECT TO LID REQUIREMENTS

As set forth in Chapter 8.44 of the City's Municipal Code, the following projects are required to comply with the New Development and Redevelopment Standards:

All new development projects are required to comply with the New Development and Redevelopment Project Performance Criteria set forth in the Municipal NPDES Permit. New Development as defined in Chapter 8.44 of the City's Municipal Code includes:

- land disturbing activities;
- structural development, including construction or installation of a building or structure,
- demolition of existing development and construction of a new building or structure,
- creation of impervious surfaces; and
- land subdivision.

The following types of redevelopment projects are required to comply with the New Development and Redevelopment Project Performance Criteria set forth in the Municipal NPDES Permit:

1. All redevelopment projects, including single or multi-family residential projects, adding or replacing more than 5,000 square feet of impervious surface area[3];
2. Industrial parks or sites with 5,000 square feet or more of surface area;
3. Commercial malls or sites with 5,000 square feet or more of surface area;

[3] For the purpose of calculating a project's total impervious area, any disturbed area that is covered by impenetrable, artificial surfaces is considered impermeable. Such surfaces include, but are not limited to, concrete, brick, pavement, and rooftops. Additionally, if permeable pavement or a similar artificial surface is used to reduce the total impervious area of a project, such a surface must be shown to be self-retaining with respect to the applicable design storm. This means that the full SWQDv calculated for the surface in question must be fully retained by the surface and its underlying material. See Section 3 below for details on calculating the SWQDv.

4. Automotive Service facilities (SIC 5013, 5014, 5511, 5541, 7532-7534 and 7536-7539) with 5,000 square feet or more of surface area;

5. Retail gasoline outlets with 5,000 square feet or more of surface area;

6. Restaurants (SIC 5812) with 5,000 square feet or more of surface area;

7. Parking lots with five thousand (5,000) square feet or more of impervious surface area or with twenty-five (25) or more parking spaces (cumulative on the project site);

8. Street and road construction of 5,000 square feet or more of impervious surface area shall consult the City of Hermosa Beach's Green Street Policy (Attachment B) and shall follow USEPA guidance regarding Managing Wet Weather with Green Infrastructure: Green Streets (December 2008 EPA-833-F-08-009) to the maximum extent practicable. Street and road construction applies to standalone streets, roads, highways, and freeway projects, and also applies to streets within larger projects;

Where redevelopment results in an alteration to more than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post-development storm water quality control requirements, the entire Project must be mitigated.

Where redevelopment results in an alteration to less than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post-development storm water quality control requirements, only the alteration must be mitigated, and not the entire development.

Where redevelopment results in an alteration to a previously existing development that was subject to post-development storm water quality control requirements, the portion of the project being altered must be mitigated in accordance with the New Development and Redevelopment Standards herein.

The following categories of projects which otherwise do not require compliance with the New Development and Redevelopment Project Performance Criteria shall be designed to include post-construction Treatment Control BMPs to mitigate the adverse impacts on post-development storm water quality to the maximum extent practicable and must implement a site-specific plan to mitigate post-development storm water:

1. Vehicle or equipment fueling areas;

2. Vehicle or equipment maintenance areas, including washing and repair;
3. Commercial or industrial waste handling or storage;
4. Outdoor handling or storage of hazardous materials;
5. Outdoor manufacturing areas;
6. Outdoor food handling or processing;
7. Outdoor animal care, confinement, or slaughter; or
8. Outdoor horticulture activities.

The following activities or projects do not constitute new development or redevelopment, and are exempt from the New Development and Redevelopment Standards:

1. Routine maintenance activities conducted to maintain original line and grade, hydraulic capacity, or original purpose of facility; road shoulder work, regrading of dirt or gravel roadways and shoulders, and performing ditch cleanouts; update of existing lines and facilities to comply with applicable codes, standards, and regulations regardless if such projects result in increased capacity. This includes replacing existing lines with new materials or pipes; repairing leaks; disturbances to land surfaces solely related to agricultural operations such as disking, harrowing, and soil preparation; or emergency redevelopment activity required to protect public health and safety.

2. Discretionary permit projects or phased project applications which have been deemed complete by June 26, 2015 and which have not received an extension of time.

3. Discretionary permit projects with a valid vesting tentative map.

SECTION 2. SITE PLANNING AND SITE DESIGN BMPS

When initially planning a project, the developer should consider how various Site Planning and Site Design BMPs (Chapter 4 of the LA County LID Manual) can be implemented. These BMPs include:

1. Conserving natural areas, soils and vegetation;
2. Minimizing disturbances to natural drainage patterns;
3. Minimizing and disconnecting impervious surfaces;

4. Minimizing soil compaction; and
5. Directing runoff from impervious areas to pervious areas.

By minimizing the amount of impervious area on the project via Site Planning and Site Design BMPs, it may be possible to reduce the volume of runoff that must be retained onsite per Section 3. If permeable pavement or a similar artificial surface is used to reduce the total impervious area of a project, such a surface must be shown to be self-retaining with respect to the applicable design storm. This means that the full SWQDv calculated for the surface in question must be fully retained by the surface and its underlying material. See Section 3 below for details on calculating the SWQDv

SECTION 3. SIZING CRITERIA

For New Development and Redevelopment projects that are identified in Section 1 as being subject to LID requirements, BMPs must be implemented to retain on site the SWQDv, defined as runoff from the 0.80 inch, 24-hour rain event.

To calculate the SWQDv, follow these steps[4]:

1. Select the design storm, P_{design} *[inch]*, as 0.80 inches.

2. Determine the effective catchment area required to be retained using the following equation:

   *Catchment Area [ft²] = (Impervious Area [ft²] * 0.9) + (Pervious Area [ft²] * 0.1)*

   For redevelopment projects which alter less than fifty percent of impervious surfaces of a previously existing development, or where the previous development was subject to post-development storm water quality control requirements, the catchment area should be calculated based on the alteration area only.

[4] Alternatively, one of the methods provided in Chapter 6 of the LA County LID Manual can be followed.

3. Calculate the SWQDv based on the following equation:

$$SWQDv\ [ft^3] = Catchment\ Area\ [ft^2] * P_{design}\ [inch] * 0.083\ [ft/in]$$

This calculated volume of water must be retained on site using BMPs from Section 4 unless it is demonstrated that this is technically infeasible and/or alternative compliance options are more appropriate (see Section 5 below).

SECTION 4. LID BEST MANAGEMENT PRACTICES

In order to control pollutants and storm water runoff from the project site, LID BMPs must be implemented to capture and retain on site the entire SWQDv (where technically feasible). To accomplish this, BMP types to be used shall include any combination of infiltration, rainfall harvest and use, and/or bioretention. Chapter 7 of the LA County LID Manual sets forth standards that should be followed when designing and implementing these BMPs.

Infiltration- Infiltration BMPs are constructed with a highly permeable base that is specifically designed to infiltrate runoff. Because it is not often feasible to infiltrate water at the same rate at which it is collected, a storage component is also a necessary part of these BMPs. Examples of infiltration BMPs include porous pavement, infiltration trenches and basins, and dry wells. In some development scenarios, such as sites with shallow groundwater, Brownfield development sites, sites susceptible to geotechnical hazards, or sites with poor infiltration rates (<0.3 in/hr), it may not be feasible to use infiltration BMPs.

Rainfall Harvest and Use- These BMPs capture storm water that is generated from impervious surfaces such as rooftops and hold it for later use in lawn and garden watering. Rainwater can be collected for use in a variety of vessels from small, pre-fabricated barrels (rain barrels) to large, custom-built cisterns. These systems can be constructed above ground, where access is simple and pumping is not required, or below ground, where pumping is necessary but developable space is saved.

Bioretention- Bioretention BMPs are vegetated, shallow depressions that provide storage, infiltration, and evapotranspiration of storm water. Pollutants are removed by filtering storm water through plants and engineered soils. Bioretention BMPs designed to retain water on site cannot contain an underdrain (BMPs with an underdrain are discussed in Section 5 below). Examples of bioretention BMPs include vegetated planter boxes and rain gardens.

If the entire SWQDv cannot be retained on site via one or a combination of the BMPs specified in this Section, alternative compliance options must be implemented (these

BMPs are described in Section 5: Alternative Compliance). If only a fraction of the SWQDv can be retained on site, that fraction must be retained on site using the BMPs described above and the remaining fraction of the SWQDv must be treated using the alternative compliance measures described in Section 5.2.

Additional Project BMPs:

For **Industrial/Commercial Facilities and projects identified as requiring treatment control BMPs**, developers must also refer to the California Stormwater Quality Association (CASQA) BMP Handbook for Industrial and Commercial Facility Control BMPs.[5] This includes BMPs for restaurants, retail gasoline outlets, automotive repair shops, and parking lots.

For **Single Family Hillside Homes**, the following measures must be implemented during the construction of a single-family hillside home in addition to applicable BMPs above:

a. Conserve natural areas;
b. Protect slopes and channels;
c. Provide storm drain system stenciling and signage;
d. Divert roof runoff to vegetated areas before discharge unless the diversion would result in slope instability; and
e. Direct surface flow to vegetated areas before discharge unless the diversion would result in slope instability.

SECTION 5. ALTERNATIVE COMPLIANCE

If technical infeasibility can been demonstrated such that the full SWQDv cannot reliably be retained on site, alternative compliance measures may be implemented to treat the portion of the SWQDv not retained on site.

5.1 Alternative Compliance Demonstration (Technical Infeasibility)

To demonstrate technical infeasibility, the project applicant must demonstrate that the project cannot reliably retain 100 percent of the SWQDv on site, even with the maximum application of rainfall harvest and use, and that compliance with the applicable BMP requirements would be technically infeasible. Technical infeasibility

[5] CASQA's California LID Portal: https://www.casqa.org/resources/california-lid-portal

must be demonstrated by submitting a site-specific hydrologic and/or design analysis to the City. This analysis must be conducted and endorsed by a registered professional engineer, geologist, architect, and/or landscape architect. Technical infeasibility may result from conditions including the following:

a. The infiltration rate of saturated in-situ soils is less than 0.3 in/hr and it is not technically feasible to amend the in-situ soils to attain an infiltration rate necessary to achieve reliable performance of infiltration or bioretention BMPs in retaining the SWQDv on site;

b. Project sites where seasonal high ground water is within 5 to 10 feet of the surface;

c. Sites within 100 feet of a ground water well used for drinking water;

d. Brownfield development sites where infiltration poses a risk of causing pollutant mobilization;

e. Other locations where pollutant mobilization is a documented concern. This includes projects that are located at or near properties that are contaminated or store hazardous substances underground (including onsite wastewater treatment systems);

f. Locations with potential geotechnical hazards; or

g. Smart growth and infill or redevelopment locations where the density and/or nature of the project would create significant difficulty for compliance with the onsite volume retention requirements.

If technical infeasibility is demonstrated for the entire project, alternative compliance measures as described below must be implemented. If technical infeasibility is demonstrated for part of the project, such that only a portion of the SWQDv can be retained on site, alternative compliance measures as described below must be implemented to address the remaining volume.

5.2 Alternative Compliance Measures

For projects which are allowed to use alternative compliance measures due to technical infeasibility, one of the following mitigation options must be implemented:

1. Onsite Biofiltration

   Biofiltration BMPs may be used on a project that has demonstrated technical infeasibility; however, biofiltration BMPs must biofiltrate 1.5 times the portion of the SWQDv that is not reliably retained on site. The biofiltration treatment volume must be calculated using Equation 1:

   [Equation 1] $Bv\ [ft^3] = 1.5 * (SWQDv\ [ft^3] - Rv\ [ft^3])$

   Where:

   Bv = biofiltration volume required to be treated

   SWQDv = runoff from the 0.8 inch, 24-hour storm event

   Rv = the volume of runoff reliably retained on site.

2. Retrofit of an Existing (Off-site) Development

   A retrofit plan for an existing development that has similar land uses or comparable/higher runoff event mean concentrations (EMCs) should be designed and constructed to:

   a. Intercept a volume of storm water runoff as calculated in Equation 1 for biofiltration BMPs or as calculated in Equation 2 for infiltration, bioretention, or rainfall harvest BMPs.

   b. Provide pollutant reduction (treatment) of the storm water runoff from the project site.

   The preferred off-site retrofit LID BMP includes green streets, parking lot retrofits, and rainfall harvest and use. Biofiltration BMPs may be considered when infiltration, bioretention, or rainfall harvest and use is technically infeasible.

All off-site projects must meet the following conditions:

a) Project applicant must demonstrate that equal benefits to groundwater recharge cannot be met on the project site.

b) Off-site projects must be approved by the City. The project must be performed as approved by the City and sufficient funding must be provided for public off-site projects to achieve the equivalent mitigation storm water volume.

5.3 Water Quality Mitigation Criteria

For projects using off-site mitigation measures, treatment of on-site project storm water runoff must be provided. Treatment may be provided by implementing post-construction storm water BMPs, including flow-through modular treatment systems such as sand filters or other proprietary BMP treatment systems. The following water quality mitigation criteria must be met by the project:

1. The pollutant-specific benchmarks provided in Table 1 must be met at the treatment system's outlet. In addition, the discharge cannot cause or contribute to an exceedance of water quality standards at the downstream MS4 outfall.

Table 1. Water Quality Benchmarks Applicable to New Development Treatment BMPs

Suspended Solids (mg/L)	14
Total Phosphorus (mg/L)	0.13
Total Nitrogen (mg/L)	1.28
Total Kjehldahl Nitrogen (mg/L)	1.09
Total Cadmium (µg/L)	0.3
Total Copper (µg/L)	6
Total Chromium (µg/L)	2.8
Total Lead (µg/L)	2.5
Total Zinc (µg/L)	23

2. Flow-through modular treatment systems that are being used must be at least as efficient as a sand filter and able to pass the rainfall intensity from a one-year, one-hour storm (based on the Los Angeles County isohyetal map; see Attachment C).

3. The project cannot cause or contribute to an exceedance of applicable water quality-based effluent limitations or receiving water limitations in accordance with Total Maximum Daily Loads (TMDLs). For example, this includes single sample limits for total coliform (10,000 MPN/100 ml), fecal coliform (400 MPN/100 ml), and enterococcus (104 MPN/100 ml) in the Santa Monica Bay Watershed.

4. For commercial, industrial, or multi-family residential projects, certified full capture systems for trash must be installed at all catch basins on the project site.

SECTION 6. SUBMITTAL OF PROJECT PLANS

Upon completion of initial project plans, developers must submit their design plans to the City for approval. These plans must include all BMP sizing calculations and details, as well as expected BMP pollutant removal efficiency[6]. In addition, if alternative compliance measures are used due to technical infeasibility, a qualifying report demonstrating technical infeasibility must be submitted to the City.

Along with project plans and BMP details, the *Owner Certification Form* (Attachment D) and *Planning Information to be Submitted for New Development/Redevelopment Projects* (Attachment E) must be completed and submitted to the City.

SECTION 7. RESOURCES

CASQA's California LID Portal:
https://www.casqa.org/resources/california-lid-portal

USEPA's guidance regarding Managing Wet Weather with Green Infrastructure: Green Streets (December 2008 EPA-833-F-08-009) is available for download here:
http://water.epa.gov/infrastructure/greeninfrastructure/upload/gi_munichandbook_green_streets.pdf

The County of Los Angeles Low Impact Development Standards Manual (2014) is available for download here:
http://dpw.lacounty.gov/ldd/lib/fp/Hydrology/Low%20Impact%20Development%20Standards%20Manual.pdf

The County of Los Angeles Stormwater Best Management Practice Design and Maintenance Manual is available for download here:
http://dpw.lacounty.gov/DES/design_manuals/StormwaterBMPDesignandMaintenance.pdf

[6] For BMPs detailed in the LA County LID Manual, the pollutant removal summaries provided in the manual are sufficient to meet this requirement. Other BMPs must be accompanied by similar BMP performance summaries.

The County of Los Angeles Hydrology Map, which contains the 85th percentile, 24-hour storm depths throughout the County as well as the 1-year, 1-hour rainfall intensity, can be found here:
http://www.ladpw.org/wrd/hydrologygis/

The 2012 MS4 Permit is available for download in its entirety here:
http://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/

USEPA's guidance regarding Managing Wet Weather with Green Infrastructure: Green Streets (December 2008 EPA-833-F-08-009) is available for download here:
http://water.epa.gov/infrastructure/greeninfrastructure/upload/gi_munichandbook_green_streets.pdf

Attachments

Attachment A:

City of Hermosa Beach

Municipal Code Chapter 8.44

Storm Water and Urban Runoff Pollution Control

Attachment B:

City of Hermosa Beach

Green Street Policy

RESOLUTION NO. 15-6953

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF HERMOSA BEACH, CALIFORNIA, ADOPTING A GREEN STREET POLICY FOR STREET AND ROADWAY PROJECTS

THE CITY COUNCIL OF THE CITY OF HERMOSA BEACH, CALIFORNIA, DOES HEREBY RESOLVE AND ORDER AS FOLLOWS:

SECTION 1. Purpose

It is the policy of the City of Hermosa Beach (City) to implement green street Best Management Practices (BMPs) as elements of street and roadway projects including Public Works capital improvement projects to the maximum extent practicable. This policy is implemented to demonstrate compliance with the Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, Order No. R4-2012-0175, NPDES Permit No. CAS004001 effective December 28, 2012, and any amendment thereto (Municipal Stormwater Permit).

Green streets are amenities that provide multiple benefits including water quality improvement, groundwater replenishment, attractive streetscapes, traffic calming, pedestrian and bicycle accessibility, reduction in the heat island effect, and creation of linear or pocket parks. Green streets can incorporate a wide variety of design elements and techniques including the minimization of impervious area through reduction in street width and the application of permeable pavements, landscaped medians, bioretention, vegetated swales, infiltration, and/or storage of stormwater. Application of green techniques encourages stormwater contact with soil and vegetation to facilitate natural pollutant removal processes as well as retention and/or infiltration of stormwater to reduce runoff.

SECTION 2. Policy

A. Application. The City will require the application of green street strategies consistent with United States Environmental Protection Agency guidance regarding Managing Wet Weather with Green Infrastructure—Green Streets (December 2008 EPA-833-F-08-009) to the maximum extent practicable for the following types of projects:

1. New public and private street and road construction or private development projects that include street and road construction of 10,000 square feet or more of impervious surface area; and

2. Redevelopment of streets and roads that results in the creation or addition or replacement of 5,000 square feet or more of impervious surface area on an already developed site.

The term "street and road construction projects" applies to projects that are stand-alone street, road, highway, alley or walk-street projects and also applies to such projects within larger projects.

Routine maintenance (as defined in the Municipal Stormwater Permit) and linear utility projects are excluded from these requirements. Routine maintenance includes slurry seals, repaving, and reconstruction of the road or street where the original line and grade are maintained. It also includes road shoulder work, regrading of dirt or gravel roadways and shoulders, and performing ditch cleanouts.

B. Benefits. The City will consider opportunities to improve stormwater quality, eliminate non-stormwater runoff, replenish groundwater, create attractive streetscapes, and provide pedestrian and bicycle accessibility and safety through new development and redevelopment of streets and roadway projects and related capital improvement projects.

C. Best Management Practice (BMP) Selection and Design. The City will require projects subject to this policy to incorporate green street BMPs to address stormwater runoff from the project area using the Green Street BMP Selection Guideline shown in Attachment A.

The most recent version of the County of Los Angeles Low Impact Development (LID) Standards Manual will serve as the design reference for selected Green Street BMPs. The City of Hermosa Beach Director of Public Works has final authority in decisions regarding project/site-specific technical feasibility for selected BMPs.

D. Retrofit Scope. The City will use the Beach Cities Enhanced Watershed Management Program to identify opportunities for green street BMP retrofits. Final decisions regarding implementation will be determined by the Director of Public Works based on the availability of adequate funding.

E. Training. The City of Hermosa Beach will incorporate aspects of green streets into internal annual staff trainings.

SECTION 3. The City Clerk shall certify to the passage and adoption of this Resolution; shall enter the same in the book of original Resolutions; and shall make a minute of the passage and adoption thereof in the records of the proceedings of the City Council meeting at which the same is passed and adopted. This Resolution will become effective immediately upon adoption and will remain effective unless repealed or superseded.

PASSED, APPROVED AND ADOPTED this 28th day of April, 2015.

PRESIDENT of the City Council and **MAYOR** of the City of Hermosa Beach, California

ATTEST:

City Clerk

APPROVED AS TO FORM:

City Attorney

ATTACHMENT A
City of Hermosa Beach Green Street BMP Selection Guideline

BMP Type	Green Street Project Location					
	Primary Arterials, State Highway	Secondary Arterials	Other City Streets, Residential Streets	Streets without curb and gutter	Alleys	Sidewalks
Alternative Street Designs +	X	X	X	X	X	X
VEG-2 : Stormwater Planter	X	X	X			X
VEG-3 : Tree-Well Filter	X	X	X			X
VEG-4: Vegetated Swales	X	X				
VEG-5: Filter Strips				X		◆
RET-1: Bioretention	X	X	X	X		
RET-3: Infiltration Trench	X	X	X	X		
RET-5: Permeable Pavement without Underdrain		X	X		X	X
T-6: Proprietary Treatment Control Measures	X	X	X	X	X	
Curb Filtration System ++	◆	◆	◆	◆	◆	

+ Not included in County of Los Angeles Low Impact Development (LID) Standards Manual, subject to review by the City of Hermosa Beach Director of Public Works/City Engineer

++ As per City of Hermosa Beach standard design or subject to review by the City of Hermosa Beach Director of Public Works/City Engineer

◆ minimum BMPs to be implemented for green street project type

X BMPs to be considered depending on greens street project types and specific location

STATE OF CALIFORNIA
COUNTY OF LOS ANGELES
CITY OF HERMOSA BEACH

I, Elaine Doerfling, City Clerk of the City of Hermosa Beach, California, do hereby certify that the foregoing Resolution No. 15-6953 was duly and regularly passed, approved and adopted by the City Council of the City of Hermosa Beach at a Regular Meeting of said Council at the regular place thereof on April 28, 2015.

The vote was as follows:

AYES:	Barragan, DiVirgilio, Fangary, Petty, Mayor Tucker
NOES:	None
ABSTAIN:	None
ABSENT:	None

Dated April 28, 2015

Elaine Doerfling, City Clerk

Attachment C:
County of Los Angeles
Rainfall Depth Isohyets

The County of Los Angeles Hydrology Map, which contains the 1-year, 1-hour rainfall intensity, can be found here: http://www.ladpw.org/wrd/hydrologygis/

The map can be used to obtain the design storm intensity for projects within the City of Hermosa Beach. Simply check the box for the desired "Layer" in the top left corner of the map, and then zoom into the project location. For projects lying between two isohyet lines, linear interpolation should be used to estimate the appropriate design storm.

Attachment D:
LID Project Certification Statement

City of Hermosa Beach
Developer Technical Guidance Information
Attachment D

New Development and Redevelopment Program
Owner's Certification Statement for LID BMPs

This form must be signed by the project owner as a certification of project responsibility. The signed form must be submitted to the City along with final project plans.

"Should the project plans and specifications provided to the City as part of the New Development/Redevelopment planning process be incorrect or result in deficiency in the performance of the LID BMPS, I understand and acknowledge that I am responsible for the cost of correcting any deficiency in the performance of the project BMPS as well as payment of applicable administrative and/or civil penalties or fines, and may be subject to any other remedy available under the law. I understand that the City will rely on the representations contained in this statement as having achieved our obligation for compliance with storm water requirements and sign this certification voluntarily, without purpose of evasion and of my own free will and with full knowledge of its significance."

_____

Owner's Name – Print

_____

Owner's Name – Signature

_____

Date

Attachment E:

Planning Information to be Submitted for New Development/ Redevelopment Projects

Planning Information for New Development/Redevelopment LID Projects
(In Accordance with Chapter 8.44 of City of Hermosa Beach Municipal Code)

General Project Information	
Project Address	
Parcel ID	
Zoning/Use Code	
Project Developer	
Project Owner	
Owner Phone	
Owner address	
Owner email	
Site acreage	
Project acreage/disturbed area (may be less than site acreage for redevelopment projects)	
Existing hydrologically connected[1] impervious area (ft^2)	
Planned impervious surface area for the project (ft^2) (includes building footprint as well as impervious driveways, patios, sport courts, etc.)	
Planned hydrologically connected[1] impervious surface area for the project (ft^2)	
Planned pervious surface area for the project (ft^2)	
State WDID No. (if subject to Construction General Permit)	
Runoff Calculations for Project Site	
85th percentile, 24-hour storm (inches)	
Project design storm (inches) (Greater of 85th percentile, 24-hour storm and 0.75)	
Storm Water Quality Design volume (ft^3)	
Percent of design storm to be retained on site	
Biofiltration BMPs being used ? (Yes/No)	
Biofiltration BMP Treatment Volume (1.5 times the SWQDv not reliably retained on site)	
If offsite mitigation measures will be used, the following information must be provided	
Design volume for water quality mitigation treatment BMPs (ft^3)	
If flow-through water quality treatment BMPs are approved, provide the 1-year, 1-hour storm intensity (inches per hour)	
Percent of design storm volume to be infiltrated at off-site mitigation site	
Percent of design storm to be treated with biofiltration at off-site retrofit	
Name/address of off-site mitigation or retrofit sites	
GIS coordinates for off-site mitigation project	

BMP Specifications		
Permanent Structural BMP ID [provide additional columns for BMPs as necessary]	**BMP A**	**BMP B (if necessary)**
Structural BMP Type and Description		
BMP Location on Site (Coordinates)		
BMP Location Description (or attach map)		
BMP Design Capture Volume (ft^3)		

*Attach BMP design plans/specs

[1] To be hydrologically connected, an impervious surface area must be connected offsite via a hardened conveyance (e.g., pipe, drain, other impervious surface, etc.). As an example, if a roof downspout discharges to the street (whether directly or indirectly via an impervious driveway, for example), the roof area draining to the downspout is considered a hydrologically connected impervious area. On the other hand, if the same downspout discharges to a pervious area (e.g., a lawn or garden), the roof area draining to the downspout is not be considered a hydrologically connected impervious area.

Attachment F:

Sample Covenant and Agreement Regarding Maintenance of Low Impact Development BMPs

RECORDING REQUESTED BY:

City of Hermosa Beach

WHEN RECORDED MAIL TO:

City of Hermosa Beach
1315 Valley Drive
Hermosa Beach, California 90254
Attention: Community Development Director

Space Above Line For Recorder's Use
[Exempt from payment of recording fees pursuant to Government Code § 6103]

COVENANT AND AGREEMENT REGARDING THE MAINTENANCE OF LOW IMPACT DEVELOPMENT (LID) BEST MANAGEMENT PRACTICES (BMPS)

THIS AGREEMENT REGARDING THE MAINTENANCE OF LOW IMPACT DEVELOPMEMT (LID) BEST MANAGEMENT PRACTICES (BMPs) is entered into this ____ day of _____, 20__, by and between the CITY OF HERMOSA BEACH (hereinafter "City") and [INSERT OWNER NAME] (hereinafter "Owner").

The undersigned owner hereby certifies that it owns the real property described as follows ("Subject Property"), located in the County of Los Angeles, State of California:

Legal Description:

Assessors ID# Tract No. Lot No.

Address:

RECITALS

A. Owner is aware of the Low Impact Development Requirements for New Development and Redevelopment Projects of the City of Hermosa Beach Municipal Code, Chapter 8.44.095 implemented subject to the requirements of the Municipal NPDES Permit, Order No. R4-2012-0175

for Municipal Separate Storm Sewer System Discharges within the Coastal Watersheds of Los Angeles County issued by the Los Angeles Regional Water Quality Control Board (copy available for review in the Hermosa Beach Public Works Department 1315 Valley Drive Hermosa Beach, CA 90254).

B. The following LID BMP features have been installed on the Subject Property.

- ☐ Porous pavement
- ☐ Cistern/rain barrel
- ☐ Infiltration system
- ☐ Bioretention or biofiltration system
- ☐ Rain garden/planter box
- ☐ Green Roof
- ☐ Rain garden/planter box
- ☐ Landscaping
- ☐ Other_____

_____

C. The location, including GPS x-y coordinates and type of each LID BMP feature installed on the Subject Property is identified on the site diagram attached hereto as Exhibit 1.

D. The City of Hermosa Beach is willing to grant _____ permits for the Subject Property, provided that the construction and use of the property shall comply with the Conditions, Covenants and Restrictions set forth herein.

E. Owner intends by this Agreement that the Subject Property is held and shall be held, conveyed, hypothecated, encumbered, leased, rented, used, occupied and improved subject to the following covenants, conditions and restrictions. All such covenants, conditions and restrictions shall run with the Subject Property and be binding upon all parties having or acquiring any right, title or interest therein or any part thereof, and shall inure to the benefit of the City, the public and neighboring land owners and be binding upon each successor in interest of the owners thereof.

NOW, THEREFORE, in consideration of the foregoing and the terms, conditions and covenants contained herein, the parties agree as follows:

CONDITIONS, COVENANTS AND RESTRICTIONS.

A. Owner covenants, promises and guarantees that:

1. Owner hereby covenants and agrees to maintain the above-described LID BMP features in good and operable condition at all times and in accordance with the Operation and Maintenance Plan (O&M Plan) attached hereto as Exhibit 2.

2. Owner further covenants and agrees to maintain a copy of the O&M Plan on the property at all times and to maintain written documentation of the regular and proper maintenance and operation consistent with the O&M Plan.

3. Owner further covenants and agrees that the above-described LID BMP features shall not be removed from the Subject Property unless and until they have been replaced with other LID BMP features in accordance with Chapter 8.44.095 of the Hermosa Beach Municipal Code, subject to written approval by the Director of Public Works for the City of Hermosa Beach.

4. Owner further covenants and agrees that if Owner hereafter sells the Subject Property, Owner shall provide a printed copy of the O&M Plan to the buyer regarding the LID BMPs that are located on the Subject Property including the type(s) and locations(s) of all such features.

5. Owner makes this Covenant and Agreement on behalf of itself and its successors and assigns. This Covenant and Agreement shall run with the Subject Property and shall be binding upon owner, future owners, and their heirs, successors and assignees, and shall continue in effect until the release of this Covenant and Agreement by the City of Hermosa Beach in its sole discretion.

B. Owner consents and agrees that the Hermosa Beach Public Works Director or his/her representative may enter the Subject Property at any reasonable time for the purpose of ensuring Owner's compliance with this Agreement and only for such purpose. In addition to any other remedy provided for by the City's Municipal Code, Owner agrees that the City may seek specific performance, including interim relief (such as a temporary restraining order or stay) to enforce the provisions of this Agreement, and that damages alone are an inadequate remedy to satisfy the City's Zoning ordinance requirements. Any transaction

that results in a breach of the terms of this Agreement shall be void and of no effect. In any action brought by the City to enforce this Agreement, the City shall be entitled to recover its reasonable attorney's fees, expert fees and costs of suit. In addition to any other remedy provided by law, failure to comply with this agreement may result in revocation of the approvals referenced in Recital D above.

C. As between the City and the Owner, the Owner assumes responsibility and liability for, and shall indemnify, defend and hold harmless the City and its City Council, boards and commissions, officers, agents, servants, and employees from and against any and all claims, loss, damage, liability, charge or expense, whether direct or indirect, to which the City or its City Council, boards and commissions, officers, agents, servants, or employees may be put or subjected, by reason of any damage, loss or injury of any kind or nature whatever to persons or property caused by any action, or any neglect, omission or failure to act when under a duty to act, on the part of the Owner or any of Owners' officers, agents, employees or subcontractors in their performance hereunder, except for liability arising out of the sole negligence or wrongful conduct of the City.

D. The covenants and conditions herein contained shall apply to and bind the heirs, successors and assigns of all the parties hereto and shall run with and burden the Subject Property for the benefit of the City, the public, and surrounding landowners. Owner shall expressly make the conditions and covenants contained in this Agreement a part of any deed or other instrument conveying any interest in the property.

   This covenant and agreement shall continue in effect unless released by the Hermosa Beach City Manager, acting in its sole discretion and upon submittal of request, applicable fees and evidence that this Covenant and agreement is no longer required by law.

E. All questions pertaining to the validity and interpretation of this Agreement shall be determined in accordance with the laws of California applicable to contracts made in and to be performed within the state. Venue for any lawsuit brought to enforce the terms of this Agreement shall lie in the Superior Court of the County of Los Angeles.

F. City shall cause this Agreement to be recorded against the title to the Subject Property in the Official Records of the County of Los Angeles, the burdens and benefits of which shall run with the land for the benefit

of City in the performance of its duties under its Municipal Code and be binding on all successors in interest, assigns and heirs.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the day and year first above written.

ATTEST:

CITY OF HERMOSA BEACH,
a municipal corporation

_____
BY:

City Clerk

_____
BY:

City Manager

APPROVED AS TO FORM:

_____
City Attorney

Owner(s):

By: _____

By: _____

ACKNOWLEDGMENT

State of California
County of _____)

On _____ before me,

_____
(insert name and title of the officer)

personally appeared
_____,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ **(Seal)**