Definitions

Bioretention: A Stormwater Control Measure designed to retain stormwater runoff using vegetated depressions and soils engineered to collect, store, treat, and infiltrate runoff. Bioretention designs do not include underdrains.

Impervious Surface/Area: A hard surface area which impedes the natural infiltration of storm water and/or causes water to run off the surface in greater quantities or at an increased rate of flow from flow present under predevelopment conditions. Common impervious surfaces include: roof tops, walk-ways, patios, driveways, parking lots or storage areas, concrete or asphalt paving.

Low Impact Development (LID): A stormwater and land use management strategy that strives to mimic pre-disturbance hydrologic processes of infiltration, filtration, storage, evaporation, and transpiration by emphasizing conservation, use of on -site natural features, site planning, and distributed stormwater management practices that are integrated into a project design.

New Development: Land disturbing activities that include the construction or installation of buildings, roads, driveways and other impervious surfaces. Development projects with pre-existing impervious surfaces are not considered new development.

Permeable or Pervious Surface: A surface that allows varying amounts of stormwater to infiltrate into the ground. Examples include pasture, native vegetation areas, landscape areas, and permeable pavements designed to infiltrate.

Project Site: The area defined by the legal boundaries of a parcel or parcels of land within which the new development or redevelopment takes place and is subject to these Post-Construction Stormwater Management Requirements.

Redevelopment: – On a site that has already been developed, construction or installation of a building or other structure subject to the Permittee's planning and building authority including: 1) the creation or addition of impervious surfaces; 2) the expansion of a building footprint or addition or replacement of a structure; or 3) structural development including construction, installation or expansion of a building or other structure.

Replaced Impervious Surface: The removal of existing impervious surfaces down to bare soil or base course, and replacement with new impervious surface. Replacement of impervious surfaces that are part of routine road maintenance activities are not considered replaced impervious surfaces.

Source Control Measures: Stormwater management measures integrated into project designs that emphasize protection of watershed processes through replication of pre-development runoff patterns (rate, volume, duration). Physical control measures include, but are not limited to, bioretention/rain gardens, permeable pavements, roof downspout controls, dispersion, soil quality and depth, minimal excavation foundations, vegetated roofs, and water use. Design control measures include, buatre are not limited to, conserving and ptorecting the function of existing natural areas, maintaining or creating riparian buffers, using onsite natural drainage features, directing runoff from impervious surfaces toward pervious areas, and distributing physical control measures to maximize infiltration, filtration, storage, evaporation, and transpiration of stormwater before it becomes runoff.

Stormater Control Plan: A plan, developed by the Regulated Project applicant, detailing how the project will achieve the applicable Post-Construction Stormwater Management Requirements.

Additional Resources

Environmental Protection Agency's (EPA) Low Impact Development (LID) web page
http://water.epa.gov/polwaste/green/
Regional Water Quality Control Board Post-Construction Stormwater Requirements
http://www.swrcb.ca.gov/rwqcb3/water_issues/programs/stormwater/docs/lid/lid_hydromod_charette_index.shtml
Regional Water Quality Control Board Low Impact Development web page
http://www.swrcb.ca.gov/centralcoast/water_issues/programs/stormwater/low_impact.shtml
California Stormwater Quality Association (CASQA) California LID Portal
https://www.casqa.org/resources/california-lid-portal
Central Coast Low Impact Development Initiative Technical Guidance web page
http://www.centralcoastlidi.org/Central_Coast_LIDI/Technical_Guidance.html
The Stormwater Technical Guide, Supporting Documents, and Tools can be found on the Monterey Regional Stormwater Management Program (MRSWMP) web site
http://www.montereySEA.org

Agencies Utilizing These Requirements:

Monterey Regional Post-Construction Stormwater Requirements Program










Why The Need?

Urban runoff is a leading cause of pollution throughout the Central Coast region. Development and urbanization increase pollutant loading and volume, velocity, frequency, and discharge duration of stormwater runoff. First, natural vegetated pervious ground cover is converted to impervious surfaces such as highways, streets, rooftops and parking lots. While natural vegetated soil can both absorb rainwater and remove pollutants, providing an effective natural purification process, impervious surfaces, in contrast, can neither absorb water nor remove pollutants, and thus the natural purification characteristics are lost. Second, urban development creates new pollution sources as the increased density of human population brings proportionately higher levels of vehicle emissions, vehicle maintenance wastes, pesticides, household hazardous wastes, pet wastes, trash, and other anthropogenic pollutants, which can either be washed or directly dumped into the municipal separate storm sewer system (MS4). As a result, the runoff leaving the developed urban area is significantly greater in pollutant load than the pre-development runoff from the same area.

What is Low Impact Development (LID)?

Low Impact Development or LID is an approach that considers the natural, physical, and hydrologic setting of a site with the proposed development design in order to minimize the development's impact on the natural system. To accomplish LID, post-project storm water runoff volume characteristics should be reduced to pre-project runoff volume conditions. Below is an example of one LID approach to development.

Source: Kevin Robert Perry

Rain gardens are shallow landscape areas that can collect, slow, filter, and absorb large volumes of water, delaying discharge into the watershed system.

Regulated Projects

New Development and Redevelopment projects that require a building permit, plan check, and/or design review and create and/or replace **2,500 square feet or more of impervious surface** collectively over the entire project site are regulated.

Regulated Projects include both private and public development projects. They also include, but are not limited to, the following road projects/ practices:

- Removing and replacing a paved surface resulting in alteration of the original line and grade, hydraulic capacity or overall footprint of the road;
- Extending the pavement edge, or paving graveled shoulders; and,
- Resurfacing by upgrading from dirt to asphalt, or concrete; upgrading from gravel to asphalt, or concrete; or upgrading from a bituminous surface treatment ("chip seal") to asphalt or concrete.

Excluded Projects

Regulated projects <u>excluded</u> from these requirements include:

- Road and Parking Lot maintenance;
- Sidewalk, bicycle path or bicycle lane projects, trails and pathways, where no other impervious surfaces are created or replaced, built to direct stormwater runoff to adjacent vegetated areas;
- Underground utility projects that replace the ground surface with in-kind material or materials with similar runoff characteristics;
- Curb and gutter improvement or replacement projects that do not create or replace additional impervious surface area;
- Second-story additions that do not increase the building footprint;
- Raised (not built directly on the ground) decks, stairs, or walkways with spaces for water drainage;
- Photovoltaic systems:
    - ♦ installed on/over existing roof or other impervious surfaces,
    - ♦ panels located over pervious surfaces with well-maintained grass or vegetated groundcover, and,
    - ♦ panel arrays with a buffer strip at the most down gradient row of panels

6-Step Approach To Project Design

Implementation of LID measures should be considered early in a project's concept phase. Please contact your local entity's Planning or Public Works Dept. for additional guidance and design criteria.

1. Identify the project's Watershed Management Zone (WMZ);
2. Identify the Design Standards and Thresholds for your project;
3. Develop a Concept LID Plan;
4. Complete a Stormwater Control Plan;
5. File a BMP Maintenance Agreement;
6. Regular Maintenance and Annual Self-Reporting.

Requirements at a Glance*

Type of Project	Performance Requirements
Tier 1 Projects, including single family homes that are not part of a larger plan of development (SFHs), that create or replace 2,500 square feet or more of impervious surface.	**Implement LID Measures:** • Limit disturbance of natural drainage features. • Limit clearing, grading, and soil compaction. • Minimize impervious surfaces. • Minimize runoff by dispersing runoff to landscape or using permeable pavements
Tier 2 Projects, other than SFHs, that create or replace 5,000 SF or more **net** impervious surface. SFHs that create or replace 15,000 SF or more **net** impervious surface.	**Tier 1 requirements, plus:** • Treat runoff with an approved and appropriately sized LID treatment system prior to discharge from the site.
Tier 3 Projects, other than SFHs, that create or replace 15,000 SF or more of impervious surface. SFHs that create or replace 15,000 SF or more **net** impervious surface.	**Tier 2 requirements, plus:** • Prevent offsite discharge from events up to the 95th percentile rainfall event using Stormwater Control Measures
Tier 4 Projects that create or replace 22,500 SF of impervious surface.	**Tier 3 requirements, plus:** • Control peak flows to not exceed pre-project flows for the 2-year through 10-year events

* These thresholds, along with a project's Watershed Management Zone (WMZ) designation, determine the specific requirements applicable for project determination.

Source: Kevin Robert Perry

Infiltration planters are an LID treatment system that collect and absorb stormwater to reduce the overall volume of runoff. They can be incorporated into retrofit conditions and in places where space is limited.