

# LID Feasibility Worksheet

## Glossary

### **Bioinfiltration Area**

A type of low development treatment measure designed to have a surface ponding area that allows for evapotranspiration, and to filter water through 18 inches of engineered biotreatment soil. After the water filters through the engineered soil, it encounters a 12-inch layer of rock in which an underdrain is typically installed. If the underlying soils have a saturated hydraulic conductivity rate of 1.6" per hour or greater, then the C.3.d amount of runoff is treated by evapotranspiration and infiltration. If the soils have a lower hydraulic conductivity rate, then the bioinfiltration area treats stormwater with evapotranspiration, some infiltration, and the remaining amount of the C.3.d amount of runoff is filtered and released into the underdrain. The difference between a bioinfiltration area and a bioretention area is that the bioinfiltration area is never lined with an impermeable layer; whereas, a bioretention area may be lined or unlined.

### **Bioretention Area**

A type of low development treatment measure designed to have a surface ponding area that allows for evapotranspiration, and to filter water through 18 inches of engineered biotreatment soil. After the water filters through the engineered soil, it encounters a 12-inch layer of rock in which an underdrain is typically installed. If the underlying soils have a saturated hydraulic conductivity rate of 1.6" per hour or greater, then the C.3.d amount of runoff is treated by evapotranspiration and infiltration. If the soils have a lower hydraulic conductivity rate, or if infiltration is prohibited and the bioretention area is lined with an impermeable layer, then the bioretention area treats stormwater with evapotranspiration, some or no infiltration, and the remaining amount of the C.3.d amount of runoff is filtered and released into the underdrain. The difference between a bioinfiltration area and a bioretention area is that the bioinfiltration area is never lined with an impermeable layer; whereas, a bioretention area may be lined or unlined.

### **Biotreatment**

A type of low impact development treatment allowed under Provision C.3.c of the *MRP*, if infiltration, evapotranspiration and rainwater harvesting and use are infeasible. As required by Provision C.3.c.i(2)(vi), biotreatment systems shall be designed to have a surface area no smaller than what is required to accommodate a 5 inches/hour stormwater runoff surface loading rate and shall use biotreatment soil as specified in the biotreatment soil specifications approved by the Regional Water Board, or equivalent.

### **C.3 Regulated Projects:**

Development projects as defined by Provision C.3.b.ii of the *MRP*. This includes public and private projects that create and/or replace 10,000 square feet or more of impervious surface, and restaurants, retail gasoline outlets, auto service facilities, and uncovered parking lots (stand-alone or part of another use) that create and/or replace 5,000 square feet or more of impervious surface. Single family homes that are not part of a larger plan of development are specifically excluded.

### **C.3.d Amount of Runoff**

The amount of stormwater runoff from C.3 Regulated Projects that must receive stormwater treatment, as described by hydraulic sizing criteria in Provision C.3.d of the *MRP*.

### **Heritage Tree**

An individual tree of any size or species given the 'heritage tree' designation as defined by the municipality's tree ordinance or other section of the municipal code.

### **Infiltration Devices**

Infiltration facilities that are deeper than they are wide and designed to infiltrate stormwater runoff into the subsurface and, as designed, bypass the natural groundwater protection afforded by surface soil. These devices include dry wells, injection wells and infiltration trenches (includes French drains).

### **Infiltration Facilities**

A term that refers to both infiltration devices and measures.

### **Infiltration Measures**

Infiltration facilities that are wider than they are deep (e.g., bioinfiltration, infiltration basins and shallow wide infiltration trenches and dry wells).

### **Low Impact Development (LID) Treatment**

Removal of pollutants from stormwater runoff using the following types of stormwater treatment measures: rainwater harvesting and use, infiltration, evapotranspiration, or, where these are infeasible, biotreatment.

**Municipal Regional Stormwater Permit (MRP)**

The municipal stormwater NPDES permit under which discharges are permitted from municipal separate storm sewer systems throughout Alameda County and the other NPDES Phase I jurisdictions within the San Francisco Bay Region.

**Potential Rainwater Capture Area**

The impervious area from which rainwater may be potentially be captured, if rainwater harvesting and use were implemented for a project. If the entire site is evaluated for rainwater harvesting and use feasibility, this consists of the impervious area of the proposed project; for redevelopment projects that replace 50% or more of the existing impervious surface, it also includes the areas of existing impervious surface that are not modified by the project. If only a roof area is evaluated for rainwater harvesting and use feasibility, the potential rainwater capture area consists only of the applicable roof area.

**Screening Density**

A threshold of density (e.g., number of units or interior floor area) per acre of impervious surface, associated with a certain potential demand for non-potable water, for C.3 regulated projects. The screening density varies according to location (see Attachment 2.) If the screening density is met or exceeded, the Rainwater Harvesting and Use Feasibility Worksheet must be completed for the project.

**Self-Retaining Area**

A portion of a development site designed to retain the first one inch of rainfall {by pending and infiltration and/or evapotranspiration} without producing stormwater runoff. Self-retaining areas must have at least a 2:1 ratio of contributing area to a self-retaining area and a 3" pending depth. Self-retaining areas may include graded depressions with landscaping or pervious pavement. Areas that Contribute Runoff to Self-Retaining Areas are impervious or partially pervious areas that drain to self-retaining areas.

**Self-Treating Area**

A portion of a development site in which infiltration, evapotranspiration and other natural processes remove pollutants from stormwater. Self-treating areas may include conserved natural open areas, areas of landscaping, green roofs and pervious pavement. Self-treating areas treat only the rain falling on them and do not receive stormwater runoff from other areas.

**Special Projects**

Certain types of smart growth, high density and transit oriented development projects that are allowed, under Provision C.3.e.ii of the MRP, to receive LID treatment reductions. The specific development project types will be described in an amendment to the MRP, anticipated in Fall 2011.

**Total Project Cost**

Total project cost includes the construction {labor} and materials cost of the physical improvements proposed; however, it does not include land, transactions, financing, permitting, demolition, or off-site mitigation costs.