

179.01 - Purpose

Some of the existing natural site features typically protected through the use of LID techniques are: wetlands, floodplains, forested areas, hillsides, riparian corridors and existing soils.

There are a variety of LID design alternatives that allow professionals in the land development field the flexibility to implement LID stormwater design elements. The various LID practices can be used alone or in series to maximize benefits to the site. In most cases, some type of structural drainage systems will also be required to be implemented in conjunction with LID element.

(A) *Objectives.* The objectives of this ordinance are:

- (1) To establish criteria by which a LID strategy can be measured and implemented through use of the criteria in the LID chapter of the *Drainage Criteria Manual*.
- (2) To strive to maintain and restore natural rainwater absorption and infiltration processes;
- (3) To strive to maintain pre-development hydrologic conditions;
- (4) To filter pollutants from stormwater runoff thereby improving water quality and positively impacting the region's lakes, streams and groundwater;
- (5) To reduce stormwater runoff intensity and velocity;
- (6) To preserve riparian banks and beds, and reduce sedimentation that impairs water quality;
- (7) To promote the widespread use of LID practices integrated with conventional stormwater engineering;
- (8) To protect the safety and welfare of citizens, property owners, and businesses by minimizing the negative impacts of stormwater discharge from land development.

(B) *LID Principles.*

- (1) Define and locate critical resource areas during the project planning stage, such as; wetlands, riparian zones and soils with infiltration capacities.
- (2) Minimize impervious surfaces such as streets, driveways and parking areas.
- (3) Minimize direct connection of impervious areas which convey runoff directly to wetlands or water courses.
- (4) Attenuate stormwater flow through a diverse system of collection and infiltration.

(Ord. No. 5316, 4-20-10; Ord. No. 5702, Repealed & Replaced Chp. 179, 8-5-14)

179.02 - Applicability

(A) *Development Approval.* The standards and guidelines contained in Chapter 5 of the *Drainage Criteria Manual* shall apply in all cases where a land developer chooses to utilize LID to obtain Administrative, Planning Commission or City Council approval for their project.

(B) *Engineering Approval.* The City Engineer, or their designee, will administer this chapter and shall be responsible for final approval of all LID systems and structures. With the approval of the City Engineer, LID systems and structures may be implemented.

(C) *Drainage Criteria Manual.* The *Drainage Criteria Manual* integrates LID design principles throughout the manual. Submittal requirements for LID projects are found within the submittal requirements for a drainage report. Criteria for the design of specific LID elements, criteria for receiving credit for those elements through reductions in traditional stormwater infrastructure, and maintenance requirements are detailed in Chapter 5 of the DCM.

(Ord. No. 5316, 4-20-10; Ord. No. 5702, Repealed & Replaced Chp. 179, 8-5-14)

179.03 - LID Site Design Strategies

- (A) *Definition.* For the purposes of this chapter *Low Impact Development (LID)* is a stormwater management strategy concerned with maintaining, restoring or replicating the natural hydrologic functions of a site, where possible, by employing a variety and combination of natural and built features that reduce the volume and velocity of stormwater runoff, filter out its pollutants, and facilitate the infiltration of water into the ground.
- (B) *Site Design Strategies.* Generally, site design strategies will address the arrangement of buildings, roads, parking areas, and other features, and the conveyance of stormwater runoff across the site. LID site design strategies are intended to complement the natural and built environment while minimizing the generation of runoff. Site design strategies should address some or all of the following considerations:
- (1) Necessary grading and land disturbance should be designed to encourage sheet flow and lengthen stormwater flow paths.
  - (2) Natural drainage divides should be maintained to keep flow paths dispersed.
  - (3) Areas of impervious surfaces should be separated and stormwater should be conveyed across vegetated areas. This assists runoff filtration and encourages infiltration.
  - (4) Distribute small-scale LID strategies across the development site in order to maximize benefits.
  - (5) To the maximum extent possible, treat pollutant loads where they are generated.
  - (6) Preserve naturally vegetated areas and soil types that slow runoff, filter pollutants and facilitate infiltration.
  - (7) LID systems and structures should be integrated into the natural and built landscape with attention to flow paths, infiltration areas and the use of appropriate native plant materials.
- (C) *Site Design Elements.* In addition to water quality impacts, LID site design elements when successfully implemented, perform three (3) necessary functions; filtration and infiltration, capture and re-use and reductions in impervious surfaces.

(Ord. No. 5316, 4-20-10; Ord. No. 5702, Repealed & Replaced Chp. 179, 8-5-14)

#### 179.04 - Maintenance Of LID Systems And Structures

- (A) *Removal and Modification of LID Systems and Structures.* LID systems and structures may only be modified or removed with the approval of the City Engineer, who shall determine the LID system or structure does not function as a part of the stormwater management system. The applicant may be required to provide supporting data and calculations that justify the removal of the LID systems or structures.
- (B) *Exemptions from Maintenance Agreements and Inspections.* LID systems and structures that are not designed as part of a development and are instead utilized on a site by site basis (i.e., use of a rain barrel at a single family home, or individual rain gardens or filter strips on a site) shall not be required to submit a formal maintenance and inspection agreement, unless the function of the LID system or structure is found to be essential to accommodating the stormwater needs of the property or surrounding properties by the City Engineer.

(Ord. No. 5316, 4-20-10 Ord. No. 5702, Repealed & Replaced Chp. 179, 8-5-14)

#### 179.05—179.99 - Reserved

(Ord. No. 5702, Repealed & Replaced Chp. 179, 8-5-14)