Director's Report and Recommendation
Low Impact Development Amendments
July 28, 2015

Background and Purpose

Low Impact Development (LID) is a stormwater and land use management strategy that strives to mimic how undeveloped land allows water to infiltrate, and filters and stores water. LID strategies include conservation measures, site planning, preservation and use of on-site natural features, and integration of distributed stormwater management practices into project design.

LID strategies emphasize treating stormwater close to its source through careful siting, reduced impervious surface, and infiltration. Many LID facilities, such as rain gardens, can serve as amenities for building occupants. An LID approach also often results in cost savings since it reduces the need for traditional stormwater infrastructure such as pipes and catch basins.

Washington State Department of Ecology National Pollution Discharge Elimination System (NPDES)

The Washington State Department of Ecology (Ecology) is the state's water pollution control agency and implements state environmental laws. It is also delegated by the U.S. Environmental Protection Agency (EPA) as the agency responsible for issuing permits to keep discharges in compliance with the Clean Water Act under EPA's National Pollution Discharge Elimination System (NPDES). NPDES permits are required for discharges from many municipal separate storm sewer systems, including the City of Seattle's.

In order to comply with Municipal Stormwater Permits from the Department of Ecology, jurisdictions must implement Stormwater Management Programs (SWMPs). To satisfy the requirements of this permit, the City's Stormwater Code includes regulations to protect people, property, and the environment from damage caused by stormwater runoff.

Purpose of review

The Phase I NPDES Municipal Stormwater Permit, as modified effective January 15, 2016, (MS4 Permit) governs the City and also requires that jurisdictions revise their regulations related to building and land use in order to encourage LID:

> *No later than July 1, 2015, or by an alternative date if established in accordance with S5.C.5.a.iii, Permittees shall review, revise, and make effective their local development-related codes, rules, standards, or other enforceable documents to incorporate and require Low Impact Development (LID) Principles and LID Best Management Practices (BMPs).*

> *The intent of the revisions shall be to make LID the preferred and commonly-used approach to site development. The revisions shall be designed to minimize impervious surfaces, native vegetation loss, and stormwater runoff in all types of development situations. Permittees shall conduct a similar review and revision process, and consider the range of issues, outlined in the following document:* Integrating LID into Local Codes: A Guidebook for Local Governments *(Puget Sound Partnership, 2012).*

DPD has conducted a review of all codes related to building and land use and proposes changes that would encourage and/or remove barriers to implementing LID strategies. The proposed changes would affect the Grading Code (SMC 22.170), several sections of the Land Use Code (SMC Title 23), and the Landscape Director's Rule (DR 10-2011).

As part of the City's compliance with the MS4 Permit requirements, DPD and Seattle Public Utilities (SPU) are also currently updating the Stormwater Code and Manual. The City's draft 2015 Stormwater Manual, Volumes 1 through 5, and appendices were made available to the public and Ecology in May 2014. The Stormwater Code addresses drainage permit submittal and review requirements, where stormwater from a site needs to go, erosion and flow control requirements, and enforcement, among other topics. The proposed Low Impact Development amendments would provide additional measures to encourage and remove barriers to LID strategies beyond what the Stormwater Code requires.

Analysis

The MS4 Permit specifies that revisions shall be designed to minimize impervious surfaces, native vegetation loss, and stormwater runoff. A summary of the changes is to be organized as follows:

1. Measures to minimize impervious surfaces;
2. Measures to minimize loss of native vegetation; and
3. Other measures to minimize stormwater runoff.

Some of the proposed changes in the code sections discussed below may fall into more than one category. For example, Section 23.44.034 of the Land Use Code includes regulations for Planned Residential Developments (PRDs). The proposed code changes add flexibility to development standards for PRDs in order to promote green stormwater infrastructure. The proposal also clarifies landscaping requirements to reduce impervious surfaces and adds green stormwater infrastructure to the list of public benefits that an applicant can provide.

1. Measures to minimize impervious surfaces

23.45.536 Multifamily residential - Parking location, access, and screening

In 23.45.536.C, the proposed amendments would reduce impervious surface in multi-family residential projects by stipulating that either driveways providing access from the street shall either be paved with permeable materials or be shared driveways providing access to multiple garages.

In 23.45.536.D, the proposed amendments allow landscaped areas, including level plantings, berms, or bioretention areas, for screening provided the vegetation is at least 3 feet tall. This is similar to existing provisions elsewhere in the Land Use Code (e.g., 23.47A.016) that allow landscaped berms for screening.

23.47A.016 Commercial landscaping and screening standards

In 23.47A.016.C, the proposed amendments would allow landscaped areas for parking screening, similar to the change described above in 23.45.536. The proposed amendments also specify that the required landscaping in surface parking areas can be met with bioretention facilities.

In 23.47A.016.D, the proposal includes a small change concerning how landscaped areas in surface parking areas are treated. Currently, the Code requires that each landscaped area be "enclosed by permanent curbs or structure barriers" in order to keep vehicles out. As a result, it is unlikely an applicant could direct stormwater from the parking surface into the landscaped area for infiltration. The proposed amendment modifies that language to require that landscaped areas be only "protected by" a curb or barrier, so that water can be channeled into the vegetated area and increase stormwater infiltration.

23.49.019 Parking quantity, location and access requirements, and screening and landscaping of surface parking areas

In 23.49.019.I.1, the proposed amendments modify the screening requirements of 23.49.019 so that landscaped areas, including bioretention facilities, can provide screening as long as the vegetation is 3 feet high. Like 23.47A.016.D, the amendments would also make the same small change to the requirement that landscaping in surface parking areas in the Downtown zones need only be protected, not enclosed, by a curb or barrier in order to increase stormwater infiltration.

23.50.034 Screening and landscaping

Currently, in industrial zones, screening may be a fence, wall, hedge, or landscaped berm. Similar to the changes proposed in 23.47A.016.C and 23.49.019.I.1, the amendments would add landscaped areas to this list, including but not limited to bioretention facilities, provided that vegetation in the landscaped area is 3 feet above the surrounding grade.

23.57.008 Development standards

This section specifies requirements for major communications utilities. In subsection 23.57.008.C, which includes requirements for setbacks and landscaping, the proposed amendments stipulates that bioretention facilities can fulfill the landscaping requirement if it screens and mitigates the visual impacts as required.

2. Measures to minimize loss of native vegetation

22.170.190 General Requirements

The proposed amendments modify and add language to minimize ground disturbance and preserve native topsoil as much as possible during the grading process.

In 22.170.190.G, more specific language clarifies that the areas prepared for grading are those areas that will receive fill. Currently, the phrase "the ground surface" does not provide specificity and can result in removal of vegetation over a greater portion of the site than necessary.

A new subsection 22.170.190.H would require applicants to retain native topsoil in an undisturbed state to the maximum extent feasible. Applicants are also required to store and subsequently reapply or reuse topsoil on site. Also, a new subsection 22.170.190.I requires areas that have been cleared, graded, or compacted but not covered with impervious surfaces to be amended with organic soil prior to final inspection.

23.44.024 Cluster housing planned developments

Currently, the Director may modify or increase yards and spacing of structures of a cluster housing planned developments (CHPD) for certain reasons. The proposed amendments expand the list of reasons to include promoting green stormwater infrastructure and other measures to reduce stormwater runoff.

The CHPD regulations also include landscaping requirements in subsection 23.44.024.F. The proposed amendments restructure this subsection. The new structure states that the Director may require retention of existing mature landscaping or require new landscaping in order to minimize the impacts of the CHPD on adjacent uses; reduce stormwater runoff, potential erosion, and area of impervious surfaces; and screen parking.

3. Other measures to minimize stormwater runoff

Currently, there are several sections of the Land Use Code that establish requirements for yards, setbacks, and separation areas. These requirements apply in various zones and generally prohibit any structure being constructed in yards, setbacks, or separation areas. However, there are

several exceptions for yard and setback requirements that allow porches, steps, and certain features of a structure. The exception also allows some flexibility for yard and setback requirements to preserve exceptional trees. Furthermore, there is already an existing exception to allow cisterns that collect and store rainwater in yards in single-family residential zones (Section 23.44.014).

The proposed amendments modify development standards in the following sections so that above-grade green stormwater infrastructure, such as cisterns and bioretention facilities, are allowed in yards, setbacks, and separation areas. Where an exception already exists to allow cisterns, the proposed amendments expands the flexibility to include above-grade green stormwater infrastructure.

Several provisions govern the size and location of above-grade green stormwater infrastructure; green stormwater infrastructure features are allowed in a yard or setback if less than 4.5 feet tall, less than 4 feet wide, and has a total storage capacity less than 600 gallons. Larger facilities are allowed if they are under 10 percent coverage of any one yard or setback area, no closer than 2.5 feet to a side lot line, and does not project more than 5 feet into a front or rear yard or setback.

This type of change applies in the following sections:

- **23.43.008 Development standards for one dwelling unit per lot**
- **23.43.010 Tandem housing**
- **23.43.012 Cottage Housing Developments (CHDs)**
- **23.44.014 Single family residential – Yards**
- **23.44.024 Cluster housing planned developments**
- **23.45.518 Multifamily – Setbacks and separations**
- **23.47A.009 Standards applicable to specific areas**
- **23.47A.014 Commercial – Setback requirements**
- **23.75.140 Master Planned Communities – Setbacks and projections**

23.41.018 Streamlined administrative design review (SDR) process

For projects that are required to go through the streamlined administrative design review (SDR) process, the current regulations allow the Director to modify certain development standards, such as setback and separation requirements, amenity areas, and landscaping and screening requirements, if the development meets certain criteria. One of those criteria is a development that provides a better response to environmental and/or site conditions.

Currently the Code lists topography, the location of trees, and adjacent uses and structures as examples of environmental and site conditions to which a development can be responsive. The proposed amendments add stormwater management to the list of environmental and site condition examples. As a result, development proposals that include low impact development

solutions to managing stormwater are eligible for flexibility on certain development standards as part of the SDR process.

23.44.034 Planned residential development (PRD)

The proposed amendments would include green stormwater infrastructure as one of the objectives a planned residential development (PRD) is intended to support. In 23.44.034.C, the current regulations specify the number of dwelling units permitted in a PRD; an increase of up to 20 percent may be permitted if the PRD provides public benefits such as low-income housing or child care. The proposed amendments add green stormwater infrastructure to the list of public benefits. A development needs to include green stormwater infrastructure beyond what is otherwise required by the City's Stormwater Code (Chapters 22.800 through 22.808).

In 23.44.034.E.7, the proposed amendments would expand the list of reasons that the Director may modify setback and spacing requirements to include green stormwater infrastructure and other measures to reduce stormwater runoff. This allows greater flexibility to accommodate low impact development strategies to manage stormwater.

The proposed amendments would also modify the landscaping requirements of 23.44.034.F. The change is similar to the aforementioned amendments to 23.44.024. The proposal would allow the Director to require retention of existing mature landscaping or require new landscaping in order to minimize the impacts of the PRD on adjacent uses; reduce stormwater runoff, potential erosion, and area of impervious surfaces; and screen parking.

23.49.036 Planned community developments

Similar to the requirements for PRDs, section 23.49.036 describes how a proposed planned community development (PCD) shall be evaluated. Subsection 23.49.036.F.1 lists several public benefits three of which a proposed PCD must include. The proposed amendments would add to the list to include green stormwater infrastructure beyond the requirements of the Stormwater Code.

23.49.041 Combined lot development

Combined lot development is permitted only when allowing more chargeable floor area than would otherwise be allowed on a lot results in significant public benefit. Subsection 23.049.041.D lists the public benefits that a combined lot development can provide to fulfill this requirement. Similar to the PRD and PCD changes, the proposed amendments add to this list green stormwater infrastructure beyond the requirements of the Stormwater Code.

23.45.516 Additional height and extra residential floor area in MR and HR zones

The proposed amendments include a small change in subsection 23.45.516.C.2.b.3. The Code currently requires that at least 25 percent of the lot area at grade is one or more landscaped areas.

The proposed amendments change the language to *landscaped open space*, which specifies that bioretention facilities may fulfill this requirement. (See the proposed change to 23.84A.028.)

23.45.522 Amenity area

While 23.45.516 includes requirements for projects in MR and HR zones, the proposed amendments to 23.45.522 outline amenity area requirements for LR zones. In subsection 23.45.522.D.5.b, the proposed amendments expand the list of permissible landscaping types to include bioretention facilities.

23.47A.024 Amenity area

While there is no requirement for amenity areas in commercial developments to include landscaping, a new subsection 23.47A.024.B.7 clarifies that bioretention facilities may be counted towards meeting the amenity area requirement for commercial development.

23.84A.014 "G"

There currently is no definition in the Land Use Code for "green stormwater infrastructure." The proposed amendments add references to green stormwater infrastructure (GSI) in multiple sections. Accordingly, the proposal adds the definition used for green stormwater infrastructure in the Stormwater Code into the definitions included in the Land Use Code.

23.84A.028 "O"

According to the current definition of "open space, landscaped," these areas are predominantly used for the planting of trees, shrubs, ground cover, and other natural vegetation. The proposed amendments add bioretention facilities to this list. As a result of this change, strategies like bioretention that support low impact development are considered landscaped open space.

23.44.022 Institutions

The proposal would amend landscaping provisions in subsection 23.44.022.I of the regulations for institutional uses in single-family zones. The proposed amendments stipulate that landscaping required in 23.44.022 must comply with rules established by the Director. The proposal also requires that institutions in single-family zones achieve a Green Factor score of 0.3 or greater. Green Factor[1] is a score-based code requirement for the quantity and quality of landscaping. This proposal requires that institutions include features such as green roofs, permeable paving, rain gardens, trees, and shrubs to meet the Green Factor score. Many Green Factor features are also low impact development strategies and help reduce stormwater runoff.

Modify the Landscape Director's Rule - DR 10-2011

Though not a part of the proposed code amendments, DPD also proposes to modify the Landscape Director's Rule. The changes update the soil standard reference and add guidance about trees in bioretention planters.

[1] See section 23.86.019.

Recommendations

In general, the proposed amendments fall into one of two categories:

1. Modify existing language to *remove* barriers to implementing low impact development (e.g., landscaped areas must be *protected* not *enclosed* by a curb or barrier).
2. Encourage low impact development by listing it as a public benefit item or broadening a term to include LID strategies (e.g., allowing bioretention to count towards amenity area requirements).

The proposed amendments increase flexibility for certain low impact development strategies in a broad ranges of zones and development types. Currently, where appropriate, property owners can install cisterns in yards and setbacks. The proposal also makes clear that applicants can install features like rain gardens and other green stormwater infrastructure features where landscaping is required, such as in surface parking lots and residential or commercial amenity areas. As these low impact development strategies become more common and familiar, it is important the City's land use regulations do not inadvertently prohibit this best practice.

None of the proposed changes necessarily requires an applicant to implement low impact development. The Stormwater Code is the regulatory document that outlines stormwater management requirements. Furthermore, the proposed amendments do not prohibit any action or development that is currently permitted under the Code. The City's MS4 Permit requires City departments to review all development-related codes and rules to encourage low impact development. DPD recommends adoption of the proposed amendments to comply with the MS4 Permit requirements and support City goals for managing stormwater with green stormwater infrastructure.