



City of Kirkland:



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Scope of Assistance:

Prior to the policy review meeting, the Kirkland staff, PSAT staff and AHBL agreed on a scope of services for the regulations to be reviewed. The following are the areas of emphasis that the City staff directed the consultant team to pursue:

- ◆ Review Chapter 95 – Tree Management and Required Landscaping
- ◆ Review Chapter 105 – Parking and Parking Areas
- ◆ Review Chapter 110 – Required Public Improvements
- ◆ Review Chapter 125 – Planned Unit Developments
- ◆ Review Title 22 – Subdivisions
- ◆ Review the package of pre-approved plans (street sections)
- ◆ Prepare memo outlining current status and potential code challenges
- ◆ Prepare guidelines for establishing native vegetation thresholds

This direction resulted in review of the following Kirkland codes and standards by the consultant team:

- ◆ Chapter 95 – Tree Management and Required Landscaping
- ◆ Chapter 105 – Parking and Parking Areas
- ◆ Chapter 110 – Required Public Improvements
- ◆ Chapter 125 – Planned Unit Developments

The policy review meeting with the City of Kirkland staff occurred on June 27, 2006. At the meeting, City staff directed the consultant team on the content of the desired technical assistance. This direction resulted in the preparation of several work products to be reviewed by the City at the regulatory amendments meeting on November 8, 2006. An outline of these work products is presented below in a topical manner with the full text of the updates attached separately.

Work Products:

1. Public Works Standards – City staff requested new standards drawings reflecting LID objectives and thresholds. The consultant team provided eight new standard drawings that include the following:
 - a. LID Detail 60' Right-of-Way CK-LID1
 - b. LID Detail Neighborhood Access CK-LID2
 - c. LID Detail Curb Inlet CK-LID3
 - d. LID Detail Bulb Out Parking CK-LID4
 - e. LID Detail Recessed Tree Box CK-LID5
 - f. LID Detail Bulbed Tree Box CK-LID6
 - g. LID Detail Parking Standards CK-LID7
 - h. LID Planter Bed Section CK-LID8
 - i. LID Tree Box Section Detail CK-LID9
 - j. LID Bioretention Driveway Crossing CK-LID 10



2. Low Impact Development Standards – During the policy review meeting the City expressed interest in the possible addition of a Low Impact Development (LID) Chapter to the Kirkland Municipal Code. The consultant team prepared a LID Chapter for the November 8th meeting that established objective design requirements for projects applying for LID status. The included standards contain minimum requirements for native vegetation preservation and replanting, impervious surface reduction, and native soil preservation/amendment. As requested by City staff, the final document prepared by the consultants does not include the structure or defining features of a formal ordinance.
3. Additional Work Products
 - a. LID incentives – The package includes a table displaying various LID incentives. Many jurisdictions are choosing to offer one or more of these options for projects meeting the PLID standards.
 - b. PSAT Impervious Surface Comparison – a spreadsheet prepared by AHBL that compares the established impervious surface maximum limits across all eight 2006 participating local governments.
4. Supplementary Information – The nature of development in Kirkland is such that opportunities for developers to provide for LID stormwater management techniques such as vegetation preservation sometimes conflict with individual objectives to maximize development opportunities. In particular, two LID Best Management Practices (Green Roofs and Pervious Pavement), are effective LID techniques in dense urban areas. The consultant team included additional information on each of these topics.

Green Roof Research:

- ♦ “Ecoroof: Questions & Answers” (2000, City of Portland Environmental Services)
Portland’s Ecoroof Program Questions and Answers package is designed for interested parties in either the building field or the general public. While this document does not contain detailed sample information it does provide a general overview of green roof information.
- ♦ “Stormwater Monitoring Two Ecoroofs in Portland, Oregon, USA” (2003, Hutchinson, et. al.)
The second packet is an evaluation of two green roofs in Portland, Oregon. The study confirmed that ecoroofs can be an effective tool in efficient urban stormwater management.
- ♦ “Vegetated Roof Cover” (2000, Environmental Protection Agency)
The third packet is a brief summary from the EPA addressing a vegetated roof in Philadelphia, Pennsylvania. This document gives a brief summary of the green roof as well as some general conclusions.

Pervious Surface Projects:

The consultant team provided the City with a list of projects throughout the Puget Sound that utilize pervious pavement on elements of their sites. The list was intended to provide Kirkland staff with built examples of pervious surface materials and technologies that can be viewed and examined in person.

Findings:

The City of Kirkland primarily expressed interest in LID practices that could be achieved through new infill and retrofitting existing development. Initial topics addressed by the consultant team per Kirkland’s request were adapting LID techniques to infill, redevelopment within specific locations throughout the city, and adapting existing standard road drawings to include LID features, and addressing the concerns of LID opponents regarding possible negative impacts of residential LID projects.

Kirkland’s initial request was for the consultant team to review the general layout of subdivisions, streets, and parking areas; find ways to adapt existing street sections to create new LID road sections; and review Chapters 18 and 22 from the Kirkland Municipal Code and Chapters 105 and 110 from the Kirkland Zoning Code.