Puget Sound Low Impact Development Pilot Project Monitoring

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• Approximately 8 acres
• 35 homes
• Approximately 10 d/u per acre net density

Project Goals

Design an integrated low impact development system that more closely mimics native hydrologic function to protect adjacent stream values, enhance groundwater recharge, as well as construct an affordable and livable neighborhood.

Monitoring Goals

• Determine if project meets flow control standards.
  Flow control standard: match flow durations for pre-development forested condition from 50% of the 2-year peak flow up to the full 50-year peak flow.

• Determine water budgets for individual LID techniques.

• Assess stormwater runoff quality treatment performance of project as a whole at point-of-compliance.
Can a basic set of LID practices meet restrictive flow control standards given inadequate specifications and lack of guidance for the developer and builder during construction?

**Additional Monitoring Goal**

- Initial surface and subsurface flow characterization
- Detailed soil analysis
- Full scale PIT infiltration tests

**Pre-construction Monitoring**

- Results from PIT infiltration tests:
  - Pit 1: 0.3 in/hr
  - Pit 2: 0.0 in/hr
  - Pit 3: 2.5 in/hr

- Weather Station: precipitation and ET
- Flume/PT and auto sampler: continuous surface flow and flow weighted water quality samples at point of compliance
11 monitoring wells track groundwater in and adjacent to LID practices.
**Permeable Concrete Infiltration**

Road shoulder
- Newly installed (3/29/06): 1096 cm/hr
- Post-construction (2/1/07): 3.32 cm/hr

**Precipitation Flow Response (11-2 thru 11-5 2006)**

Approximately 100mm of rainfall before any flows leave site for 06-07 winter

**Contributors**
- The Russell Family Foundation
- Washington State Department of Ecology
- Pierce County Advanced Planning
- Water Environment Research Foundation

**Annual Results**

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