APPENDIX

A GLOSSARY

A.1 Glossary

Alluvium:	Unconsolidated clay, silt, sand, or gravel deposited by running water in the bed of a stream or on its flood plain.
AASHTO H-20:	The load representing a truck used in design of highways and bridges. The basic design truck is a single unit weighing 40 kips. A kip (often called a kilopound) represents 1,000 pound-force. The subsequent HS-20 designation represents higher loads typical of tractor-semi-trailer combinations.
Bedload:	Sediment particles that are transported as a result of shear stress created by flowing water, and which move along, and are in frequent contact with, the streambed.
Bioretention cells:	Shallow depressions with a designed planting soil mix and a variety of plant material, including trees, shrubs, grasses, and/or other herbaceous plants. Bioretention cells may or may not have an under-drain and control structure and are not designed as a conveyance system. Side slopes are typically gentle; however, side slopes may be steep or vertical in urban areas with space limitations. Ponding depths are typically 6 to 12 inches.
Bioretention swales:	Incorporate the same design features as bioretention cells; however, bioretention swales are designed as part of a conveyance system and have relatively gentle side slopes and flow depths that are generally less than 12 inches.
Biotic integrity:	The condition where the biologic or living community of an aquatic or terrestrial system is unimpaired and the compliment of species diversity and richness expected for that system is present.
Bole:	The trunk of a tree.
California bearing ratio:	A test using a plunger of a specific area to penetrate a soil sample to determine the load bearing strength of a road subgrade.
Crown projection:	The perimeter of a tree's crown (outer most extent of the branches and foliage) projected vertically to the ground.
Cation exchange capacity:	The amount of exchangeable cations that a soil can adsorb at pH 7.0 expressed in terms of milliequivalents per 100 grams of soil (me/100 g).

Complete Streets Policies:	Complete streets are designed and operated to enable safe access for multi-modal users, including pedestrians, bicyclists, and motorists and transit riders of all ages and abilities.
Compost maturity:	A term used to define the effect that compost has on plant growth. Mature compost will enhance plant growth; immature compost can inhibit plant growth.
Compost stability:	The level of microbial activity in compost that is measured by the amount of carbon dioxide produced by a sample in a sealed container over a given period of time.
Concurrency:	The timely provision of public facilities and services at the time when development occurs or within a specified period of time. The Growth Management Act (GMA) requires that public facilities be provided concurrent with new development.
Critical shear stress:	Lift and drag forces that move sediment particles. The forces are created as faster moving water flows past slower water.
Denitrification:	The reduction of nitrate (commonly by bacteria) to di-nitrogen gas.
Diurnal oxygen fluctuations:	The fluctuation in dissolved oxygen in water as photosynthetic activity increases during the day and decreases during the night.
Exfiltration:	The movement of soil water from an infiltration IMP to the surrounding soil.
Endocrine disruptors:	Substances that stop the production or block the transmission of hormones in the body.
Effective impervious area (EIA):	The subset of total impervious area that is hydrologically connected via sheet flow or discrete conveyance to a drainage system or receiving body of water. The Washington State Department of Ecology considers impervious areas in residential development to be ineffective if the runoff is dispersed through at least 100 feet of native vegetation using approved dispersion techniques.
Evapotranspiration:	The collective term for the processes of water returning to the atmosphere via interception and evaporation from plant surfaces and transpiration through plant leaves.
Flow-through planters:	Designed soil mix and a variety of plant material, including trees, shrubs, grasses, and/or other herbaceous plants within a vertical walled container usually constructed from formed concrete, but could include other materials. A flow-through planter is completely impervious and includes a bottom and, accordingly, includes an under-drain and perhaps a control structure. These designs are often used in urban settings. To be considered an LID practice the flow-through planter should have a volume reduction, flow control, or treatment component to the design.
Friable:	The soil property of consistence describing the resistance of material to deformation or rupture. Consistence refers to the degree of cohesion or adhesion of the soil mass and is strongly affected by the moisture content of the soil. A friable soil is easily broken apart.
Hydrologically functional landscape:	A term used to describe a design approach for the built environment that attempts to more closely mimic the overland and subsurface flow, infiltration, storage, evapotranspiration, and time of concentration characteristic of the native landscape of the area.
Hydroperiod:	The seasonal occurrence of flooding and/or soil saturation that encompasses the depth, frequency, duration, and seasonal pattern of inundation.
In-line bioretention facility:	A bioretention area that has a separate inlet and outlet.

Infiltration planter:	Designed soil mix and a variety of plant material, including trees, shrubs, grasses, and/or other herbaceous plants within a vertical walled container usually constructed from formed concrete, but could include other materials. Infiltration planters have an open bottom that allows infiltration to the subgrade. These designs are often used in urban settings.
Invert:	The lowest point on the inside of a sewer or other conduit.
lbf:	A pound-force is a non-SI (non-System International) measurement unit of force. The pound-force is equal to a mass of one avoirdupois pound multiplied by the standard acceleration due to gravity on earth, which is defined as exactly 9.80665 meter per second. Then one (1) pound-force is equal to 0.45359237 kg × 9.80665 meter per second = 32.17405 pound × foot per second).
Los Angeles (LA) Abrasion:	The standard L.A. abrasion test subjects a coarse aggregate sample (retained on the No. 12 or 1.70 mm sieve) to abrasion, impact, and grinding in a rotating steel drum containin a specified number of steel spheres. After being subjected to the rotating drum, the weight of aggregate that is retained on a No. 12 (1.70 mm) sieve is subtracted from the original weight to obtain a percentage of the total aggregate weight that has broken down and passed through the No. 12 (1.70 mm) sieve. Therefore, an L.A. abrasion loss value of 40 indicates that 40 percent of the original sample passed through the No. 12 (1.70 mm) sieve. The standard Los Angeles abrasion test is: AASHTO T 96 or ASTM C 131: Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
Liquefaction:	The temporary transformation of a soil mass of soil or sediment into a fluid mass. Liquefaction occurs when the cohesion of particles in the soil or sediment is lost.
Mycorrhizal:	The symbiotic association of the mycelium of a fungus with the roots of a seed plant.
Native soil and vegetation protection areas:	Areas covered by vegetation that will not be subject to land disturbing activity or compaction (clearing, grading, storage, stockpiling, vehicles, etc.) that are fenced and continuously protected from impacts throughout the construction process and protected post-construction through zoning or other legal agreement.
Nitrification:	The process in which ammonium is converted to nitrite and then nitrate by specialized bacteria.
Off-line bioretention facility:	A bioretention area where water enters and exits through the same location.
Phytoremediation:	The utilization of vascular plants, algae and fungi to control, breakdown, or remove wastes, or to encourage degradation of contaminants in the rhizosphere (the region surrounding the root of the plant).
Potholing:	Excavating a hole in the ground to observe buried utilities or facilities. Potholes are typically excavated using a backhoe or by hand, depending on the environment.
Rain garden:	A non-engineered, shallow landscape depression with native soil or a soil mix and plants that is designed to capture stormwater from small, adjacent contributing areas.
Saturated hydraulic conductivity:	The ability of a fluid to flow through a porous medium under saturated conditions and is determined by the size and shape of the pore spaces in the medium and their degree of interconnection and also by the viscosity of the fluid. Hydraulic conductivity can be expressed as the volume of fluid that will move in unit time under a unit hydraulic gradient through a unit area measured at right angles to the direction of flow.
Seral stage:	Any stage of development or series of changes occurring in the ecological succession of an ecosystem or plant community from a disturbed, un-vegetated state to a climax plant community.

Soil stratigraphy:	The sequence, spacing, composition, and spatial distribution of sedimentary deposits and soil strata (layers).
Soil bulk density:	The ratio of the mass of a given soil sample to the bulk volume of the sample.
Stage excursions:	A post-development departure, either higher or lower, from the water depth existing under a given set of conditions in the pre-development state.
Stage-Storage-Discharge Table:	Relationship between the stage, or water surface elevation inside a stormwater BMP, to available storage volume and discharge rates from the BMP. Available storage may include subsurface storage (e.g., storage within the voids of bioretention soil mix or aggregate reservoir layers), as well as surface ponding storage (e.g., surface ponding in a bioretention swale). Discharge may include infiltration to native soils, flow through under-drains, and/or flow through overflow control structures, based on designs. The stage-storage-discharge table is developed by the design engineer for use in level-pool routing modeling to size LID BMPs.
Time of concentration:	The time that surface runoff takes to reach the outlet of a sub-basin or drainage area from the most hydraulically distant point in that drainage area.
Threshold discharge area:	An onsite area draining to a single natural discharge location or multiple natural discharge locations that combine within one-quarter mile downstream (as determined by the shortest flow path).
Total impervious area (TIA):	The total area of surfaces on a developed site that inhibit infiltration of stormwater. The surfaces include, but are not limited to, conventional asphalt or concrete roads, driveways, parking lots, sidewalks or alleys, and rooftops.
Transmissivity:	A term that relates to movement of water through an aquifer. Transmissivity is equal to the product of the aquifer's permeability and thickness (m^2/sec).
Tree crown dripline:	The outer most perimeter of a tree crown defined on the ground by the dripping of water vertically from the leaves of tree canopy perimeter.

A.2 Acronyms

AASHTO:	American Association of State Highway and Transportation Officials
ASTM:	American Society for Testing and Materials
BMP:	Best Management Practice
BSM:	Bioretention Soil Media
CEC:	Cation Exchange Capacity
CRZ:	Critical Root Zone
K_{sat}:	Saturated Hydraulic Conductivity
lbf:	Pound-force
OGFC:	Open Graded Friction Courses
PIT:	Pilot infiltration test
SAG:	Eastern Washington Stakeholder's Advisory Group
SBSS:	Sand-based Structural Soils
SWMMEW:	Stormwater Management Manual for Eastern Washington
TMECC:	Test Methods for Examination of Composting and Compost
TRC:	Eastern Washington LID Manual Technical Advisory Committee