



OPENING VIDEO WEB ADDRESS:

Puget Sound Partnership http://www.psp.wa.gov/flash/shiftBase_PugetSound_web.swf

OTHERS:

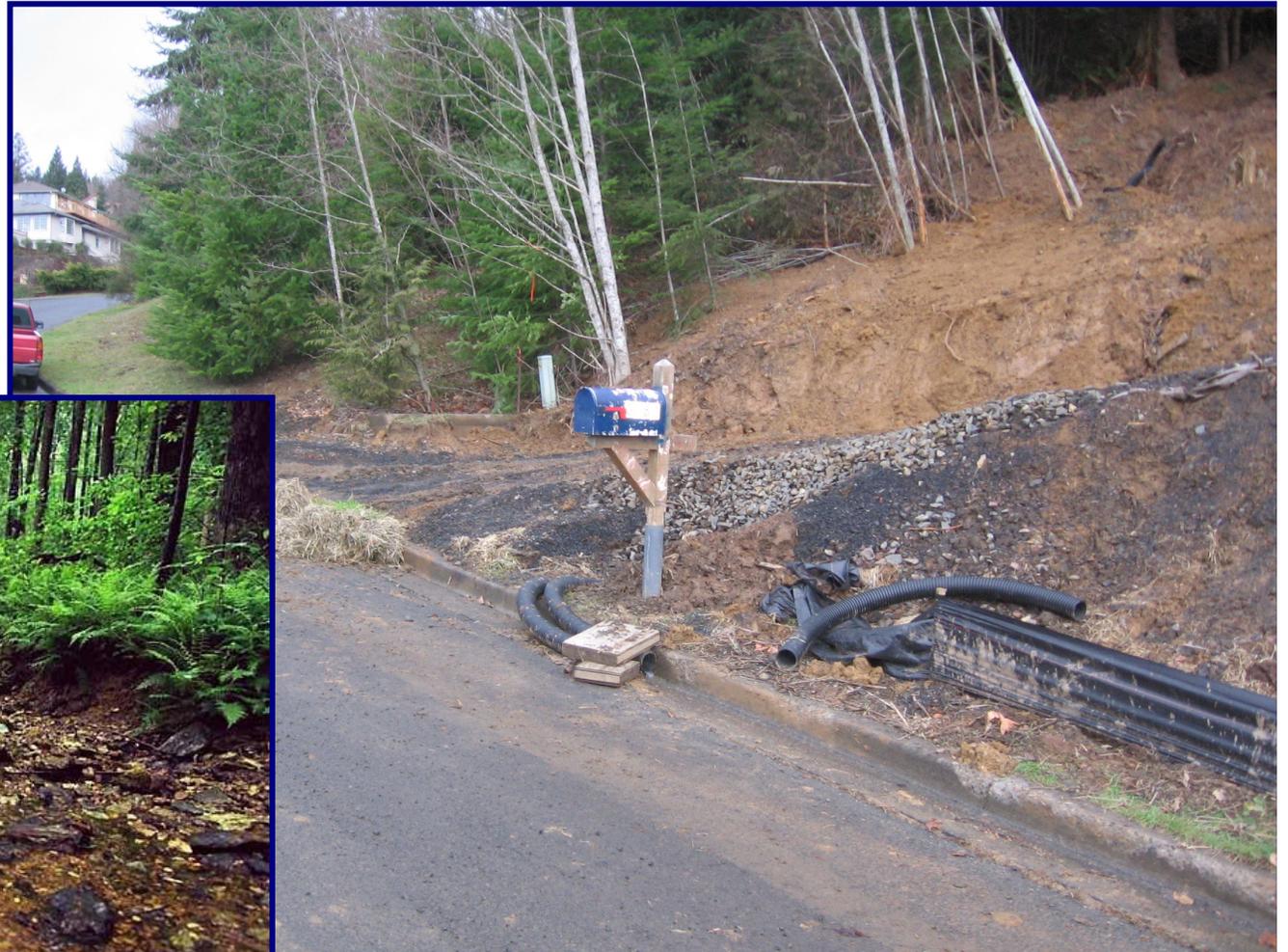
Longview's Website www.cleanstormwater.org

PBS *Frontline* documentary Earth Day 2009, "Poisoned Waters" put a national spotlight on Puget Sound's <http://www.pbs.org/wgbh/pages/frontline/poisonedwaters/>

Lots of detail on impairment status in WA and nationwide www.epa.gov/waters/ir/

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2009 Longview/Kelso Urbanized Area Stormwater Code and Manual Update



Outline of Topics

- Importance of Stormwater Runoff
- History of Stormwater Regulation
 - Outcome of the Appeal
- Local Groups and Objectives
- Requirements of the Phase II Permit
- Local Upgrades (not required by the Permit)
- Outreach
- Next Steps
- Discussion (anytime)

Importance of Stormwater Management

Quality.

- The EPA reports almost **half of US waters surveyed are unfit for basic uses** such as fishing, drinking, or swimming. They identify stormwater (agricultural, urban, etc.) as a main cause of water pollution.
- Ecology listed the Longview Ditches as impaired for dissolved oxygen, turbidity, and bacteria; therefore...



Importance of Stormwater Management

Quality (TMDL)

- By 2013, Ecology will complete a Total Maximum Daily Load study (TMDL) and a Clean-up Plan for the area.
- A TMDL will find little or no capacity in the ditches for anthropogenic loading (human-caused pollution). So, the Clean-up Plan may impose expensive monitoring requirements, limit for new and existing industrial discharges, specify various municipal responses, and perhaps require extra treatment for new development.
- A community may avoid a TMDL by writing its own Clean-up plan or it could minimize TMDL impacts by proactively implementing common best practices.
- The proposed ordinance and manual, plus other permit actions are important steps toward this end.

Importance of Stormwater Management

Quantity. Longview is a diked community. Localized flooding occurs due to inadequate drainage systems. Growth of impervious surfaces and loss of trees exacerbates drainage challenges.



Federal Stormwater Regulation Milestones

1972. US Clean Water Act – prohibited discharge of pollutants to US waters without a National Pollutant Discharge Elimination System (NPDES) permit.
- 1972-1987. EPA focused on point sources (industry, wastewater plants), but water quality continued to deteriorate.
1987. US Clean Water Act was amended, establishing Phase I and Phase II stormwater regulations for “non-point” sources of pollution.
1990. EPA promulgates the Phase I rule requiring permits for:
- ❖ Municipal storm sewers (MS4’s) serving $\geq 100,000$ people
 - ❖ Certain industrial activities
 - ❖ Construction sites disturbing ≥ 5 -acres.
1999. EPA promulgates the Phase II rule, requiring permits for:
- ❖ Small MS4’s
 - ❖ Small construction sites (disturbing ≥ 1 -acre).

Municipal Phase II Stormwater Permit

Applicability: Publicly owned/operated storm systems serving between 10,000 and 100,000 people.

Requirements:

- ❖ Public education and outreach
 - ❖ Public involvement (public meetings & LSAC, who can be credited for guiding the development of these products)
 - ❖ Illicit discharges (hotline, response, survey, eliminate)
 - ❖ Development and long-term maintenance
 - ❖ Municipal operations (sweeping, vactoring, setting example with maintenance, cleaning, landscaping, etc.)
- plus Reporting, Recordkeeping, and Inspections...

State Municipal Stormwater Permit Milestones

Circa 1995. Ecology issues Stormwater Manual for Western WA (SWMWW)

February 2007. Ecology issues one of the nation's last and most protective Phase II Municipal Stormwater NPDES Permits.

February '07 – February '09. Permit appealed.

March 2009. Ecology publishes permit modifications. Longview's comments proposed cost/scope reductions.

August 2009. The 98 cities and 12 counties affected by the Phase II permit must update their stormwater codes by 8/15/9.

- In SW WA: Cowlitz County, Centralia, Aberdeen, Kelso, Longview, Battle Ground, Vancouver, Camas, and Washougal. CDID1 is a secondary permittee, and Clark County is a Phase I permittee.

Phase II Permit Appeal

Appellants

- A. Longview joined statewide coalition of 33 cities and counties to appeal the Permit to the Pollution Control Hearings Board (PCHB). (The City's final share was \$30,000).
- B. Environmental interests also appealed, challenging the permits as insufficiently protective.

Outcome

The PCHB required Ecology to:

- A. Clarify the permit's liability shield (specifically, adaptive management: the permittee's response if a storm sewer outfall is found to violate surface WQ standards), and
- B. Require Low Impact Development (First in the nation. LID is now in the Phase I permit, and will be in the 2012 Phase II permit).
- C. Not impose sampling this permit cycle, not require retrofits of existing development, and not eliminate applicability thresholds for development standards.

Local Stormwater Code Milestones

Fall 1999. Longview/Kelso Stormwater ordinance adopted.

Nov 2007. Local Phase II group forms: LV, County, Kelso, CDID1

Spring '08. The Longview, Kelso, and County Stormwater Advisory Committees kick-off (LSAC, KSAC, and SAC).

Thank-you, LSAC Members:

Jim Fisher, Citizen (Chair)

Ray Caldwell, NPDES Permittee / LCCA

Margaret Green, Citizen

Steve Webb, Developer (*Larry Wood also*)

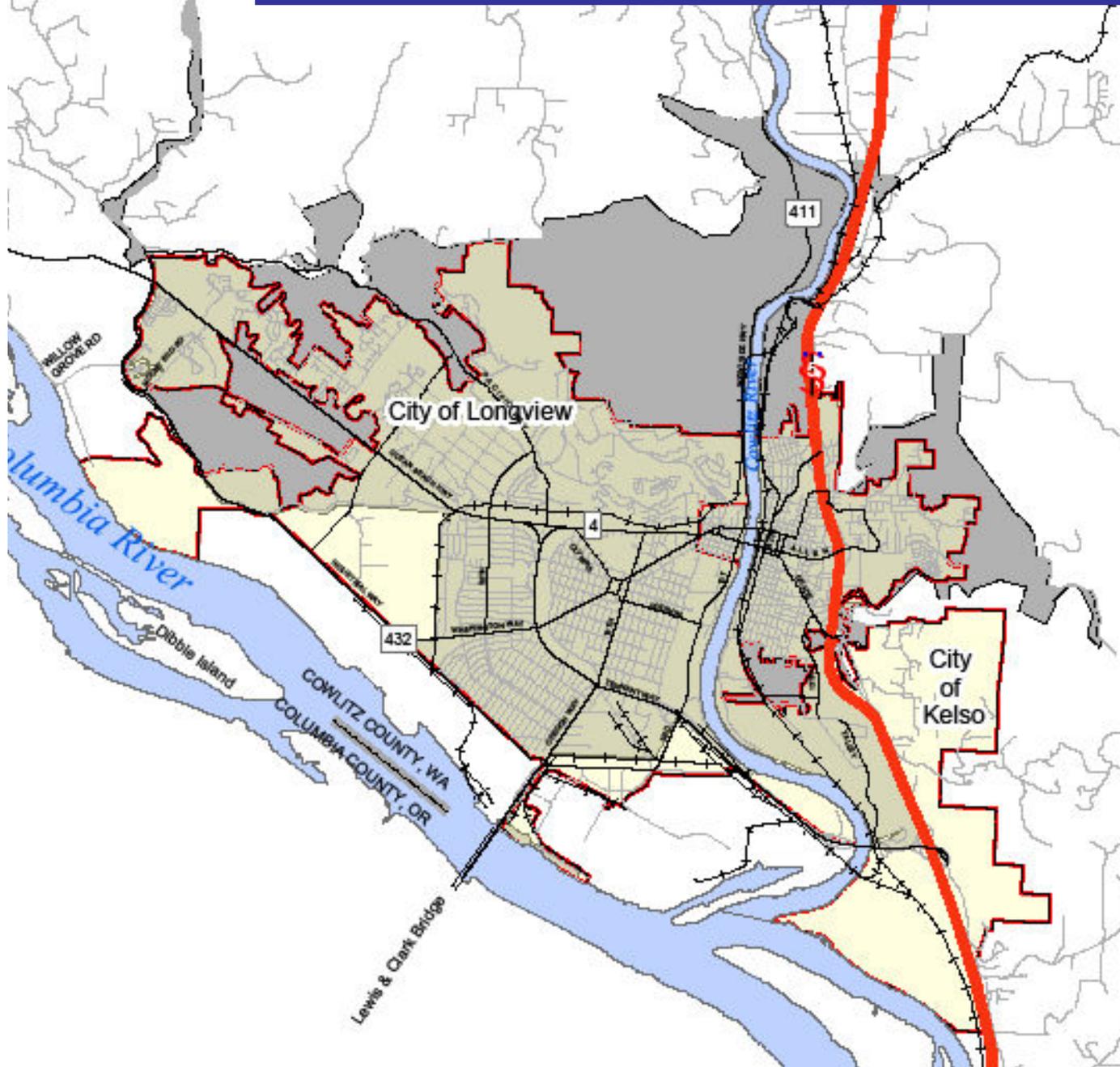
Steve Scheet, Citizen

Kris Kleger, Development-related interest

July 2008. Kelso modified some of the local stormwater requirements in its new Engineering Design Manual (KEDM).

Spring '09. LSAC and KSAC complete reviews and endorse the draft ordinance and manual first draft. The County forms a utility and its SAC endorses the IDDE ordinance.

Phase II Areas in Cowlitz County



Goals of Local Phase II Group

LONGVIEW, KELSO, COUNTY, CDID1

- ❖ Share resources and collaborate.
- ❖ Prepare and adopt a common standard for development, facility management, and illicit discharges in order to:
 - Protect the public from increased flood risk and improve local water quality;
 - Minimize permit impacts and better position the area for future growth.

Program Performance Considerations

Updates to the stormwater program should consider:

- ❖ Compliance with permit requirements
- ❖ Local conveyance and water quality challenges
- ❖ S4 (A) – (F): Duty to comply (with other enviro laws):
 - Not authorized to violate water quality standards
 - Obligation to reduce discharge of pollutants to the MEP (Maximum Extent Practicable) using AKART (All Known, Available, and Reasonable methods of prevention, control, and Treatment).

Wildcards

- ❖ Impact of TMDL
- ❖ Impact of sampling next permit cycle

Objectives for Ordinance and Guidance

- ❖ Comply with the Permit.
- ❖ Clean-up, unify, and update the code.
- ❖ . . . but exempt diked areas from state flow control.
 - Local detention requirements must remain (per the permit) and are needed anyway to address local drainage issues.
- ❖ Encourage LID (It will be required in the next permit cycle).
- ❖ Prepare an easy-to-use Manual for developers

Phase II Requirements for Code

❖ Illicit discharges

- Prohibit non-stormwater, illicit discharges, and dumping; and
- Provide escalating enforcement (to include termination of illicit connections within 180-days).

❖ Development

- Adopt the SWMWW for sites disturbing ≥ 1 acre, or less if part of a larger plan of development;
- Retain local laws for smaller sites;
- Allow Low Impact Development (LID);
- Grant legal authority for inspection; and
- Provide for escalating enforcement.

❖ Long-term stormwater facility maintenance

- Require maintenance standards as protective as the SWMWW;
- Clearly identify the party responsible for the maintenance; and
- Provide for escalating enforcement.

Code Update: Allowable Discharges

Allowable discharges to storm sewers: **Stormwater** and . . . NPDES permitted discharges, Emergency fire-fighting water, Air conditioner condensate, Clean groundwater, and Agriculture irrigation.

Conditionally allowed . . .

- Potable water *if dechlorinated to ≤ 0.1 -ppm Cl_2 and releases are controlled as necessary to prevent re-suspension of silt [e.g. hydrant flushing, pipeline disinfection and pressure testing].*
- Lawn and landscape irrigation. *Minimize through water conservation and public education.*
- Swimming pool discharges *if dechlorinated, pH-adjusted, re-oxygenated, and controlled release. Pool cleaning wastewater and filter backflush is prohibited.*
- Street & sidewalk wash water, dust-control water, and building wash *if detergent-free. Reduce discharges through public education and best management practices (BMPs) such as sweeping before washing and minimizing water used.*
- Construction site dewatering *if handled per an approved plan.*

If everything else is prohibited, then . . .

What about car washing?



Car Washing

Ecology will allow Longview to address residential and charity car washing through programs encouraging water conservation and BMPs such as using a commercial carwash, diverting wash water to grass or gravel, & using phosphate-free soap.

- ❖ Longview purchased a charity carwash kit, is developing a carwash coupon book, and runs multi-media outreach for water pollution/conservation.

Ecology guidance allows vehicle washing to drain to grass/soils (dispersion) for construction sites, farms, auto dealerships, and “small dischargers”

- ❖ Small Dischargers. Washing isn't a primary business activity, and is limited to 1-2 pieces of equipment/vehicles per day, <8/week, and they discharge <100 gallons/day of washwater.
- ❖ Auto lots. Allowed to rinse to storm drains, if their catch basins have grit/spill control.

Car Washing – So What?

Wash waters have surfactants, detergents (phosphate), oil/grease, grime, and metals.

Stormwater is *not* treated. It is pumped from the ditches to the Cowlitz and Columbia Rivers.

The cumulative impact is significant:

- A decade ago, 60% of WA residents washed their cars monthly, with 70-90% reporting that their suds drained to the street.
- **1-lb of phosphate can grow 700-lbs of algae.**
- In Longview, this adds up to about **50-tons** of algae/mo.
- When the algae bloom dies, the microscopic animal life that decomposes it will stink and deplete the water's oxygen, killing aquatic life.

Phase II Requirements for Code

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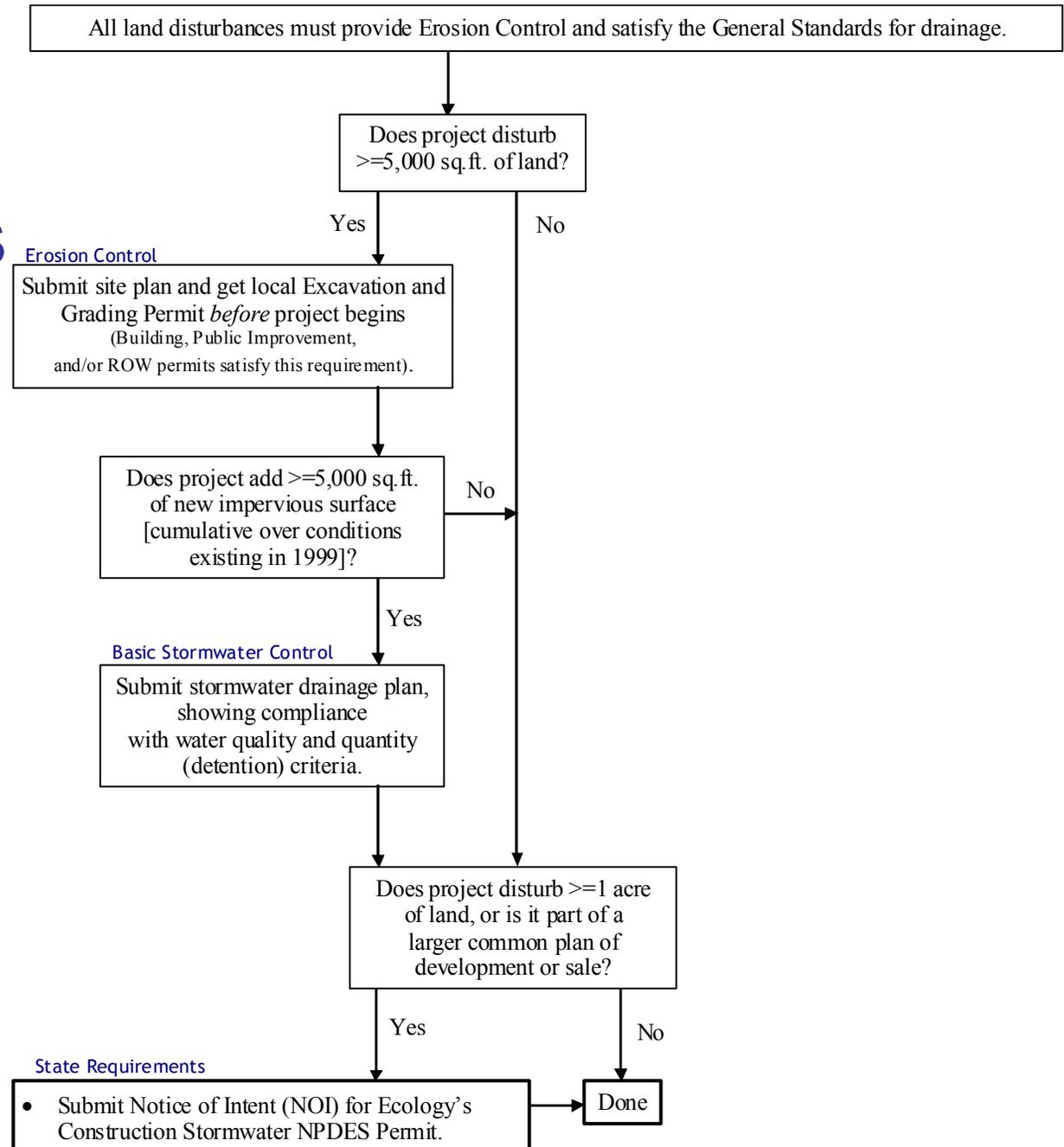
❖ Development

- Adopt the SWMWW for sites disturbing ≥ 1 acre, or less if part of a larger plan of development;
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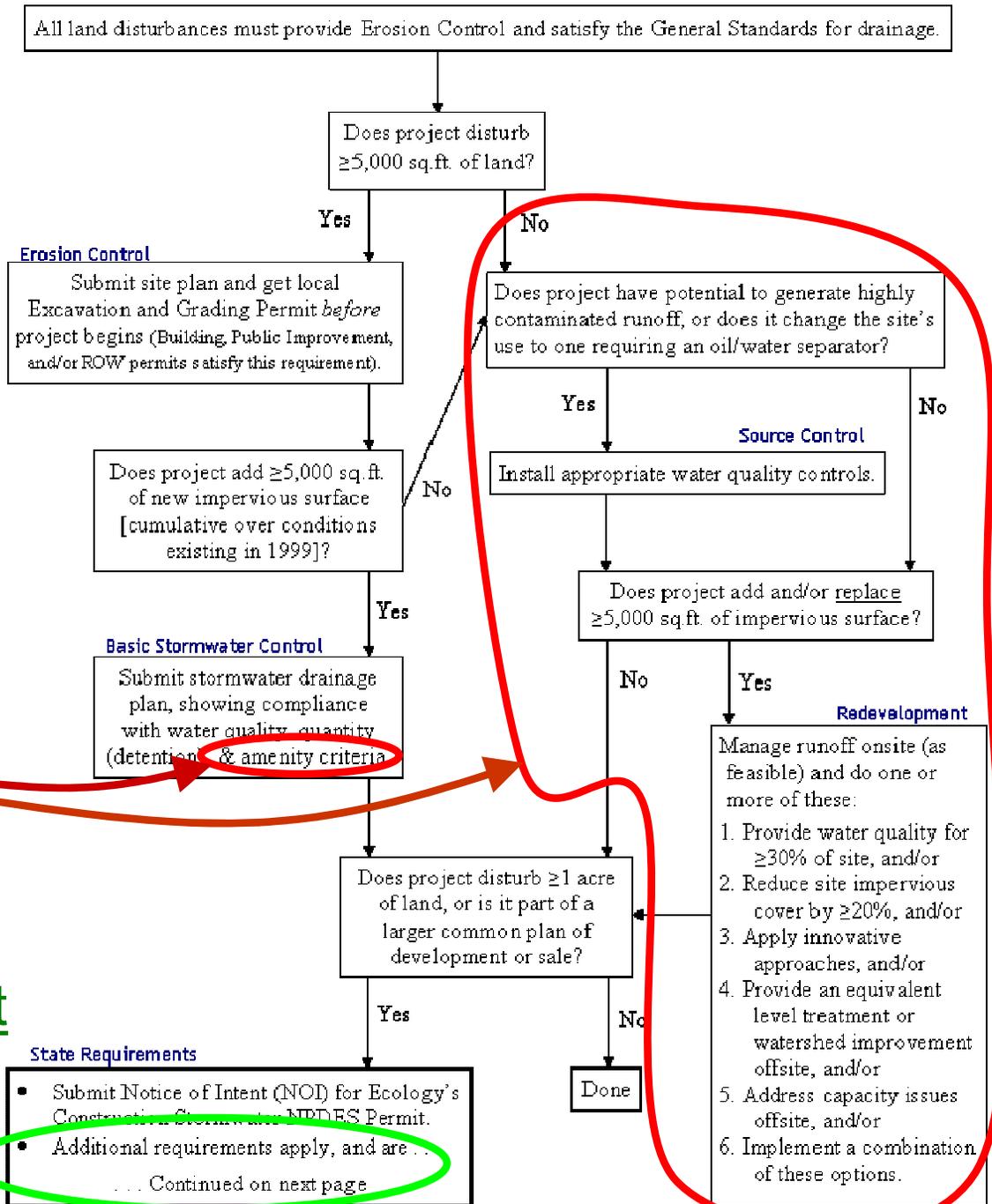
Local Development Requirements (existing)



Local Development Requirements (proposed)

- Not required by the permit:
- Redevelopment
 - Source control
 - Aesthetics

Required by the permit



Local Development Requirements (proposed)

Redevelopment – Projects replacing $\geq 5,000$ sq.ft. of impervious surface must provide limited mitigation through any of several on- or off-site options. This is a standard requirement and is a necessary strategy to improve surface water quality.

Source control – Projects must install appropriate controls if they have a potential to generate highly contaminated runoff, or if they change the site's use to one requiring an oil/water separator. It is better to address these during plan review than later through enforcement.

Amenity – Aesthetics are encouraged (may be required for significant projects), fencing is discouraged. **Goal: improve perceptions & long-term maintenance.**

Amenity – Facility Requirements

Aesthetics

- ❖ Facilities appear as naturally occurring features or otherwise compliment site aesthetics; or screen with landscaping.
- ❖ No fences required; unless needed for safety (rare) or requested by owner or neighbors.

Labeling and Signage

- ❖ All inlets stamped or labeled “drains to fish,” or equivalent.
- ❖ Permanent signs for significant above-ground facilities (ID facility, purpose, contacts, and any advisory message).

Sustainable Maintenance

- ❖ No trees/orientation that would retard bioswale grass.
- ❖ Use the right species mix for the design (wetpool, pond, etc).
- ❖ No designs with complex/expensive long-term maintenance.

Amenity – Goals

Exempted Areas: Manufacturing, Commercial Warehouse, and Redevelopment Project Districts

Exempted Projects: ≤ 20 parking spaces, < 60 ADT, or a comparably low level of public exposure to the site; and a total valuation of $< \$100,000$.

Stormwater designs must meet any of three goals:

1. Use LID to the full extent practicable, or
2. Enhance property value, or
3. Create opportunity to learn about or interact with stormwater.

Amenity: Maintenance & Stormwater Awareness



Champ Place

Attractive bioswale.

Mr. Griffith maintains it like his own garden. It probably performs well.



Rosewood

Ugly pond. **Jane Doe** has no involvement with it, and is not particularly fond of it. Out of sight, out of mind. It performs less well.

Ugly Ponds



Left: Lexington gateway at Sparks Dr. and I-5

Below: West Kelso gateway at Allen Street Bridge.

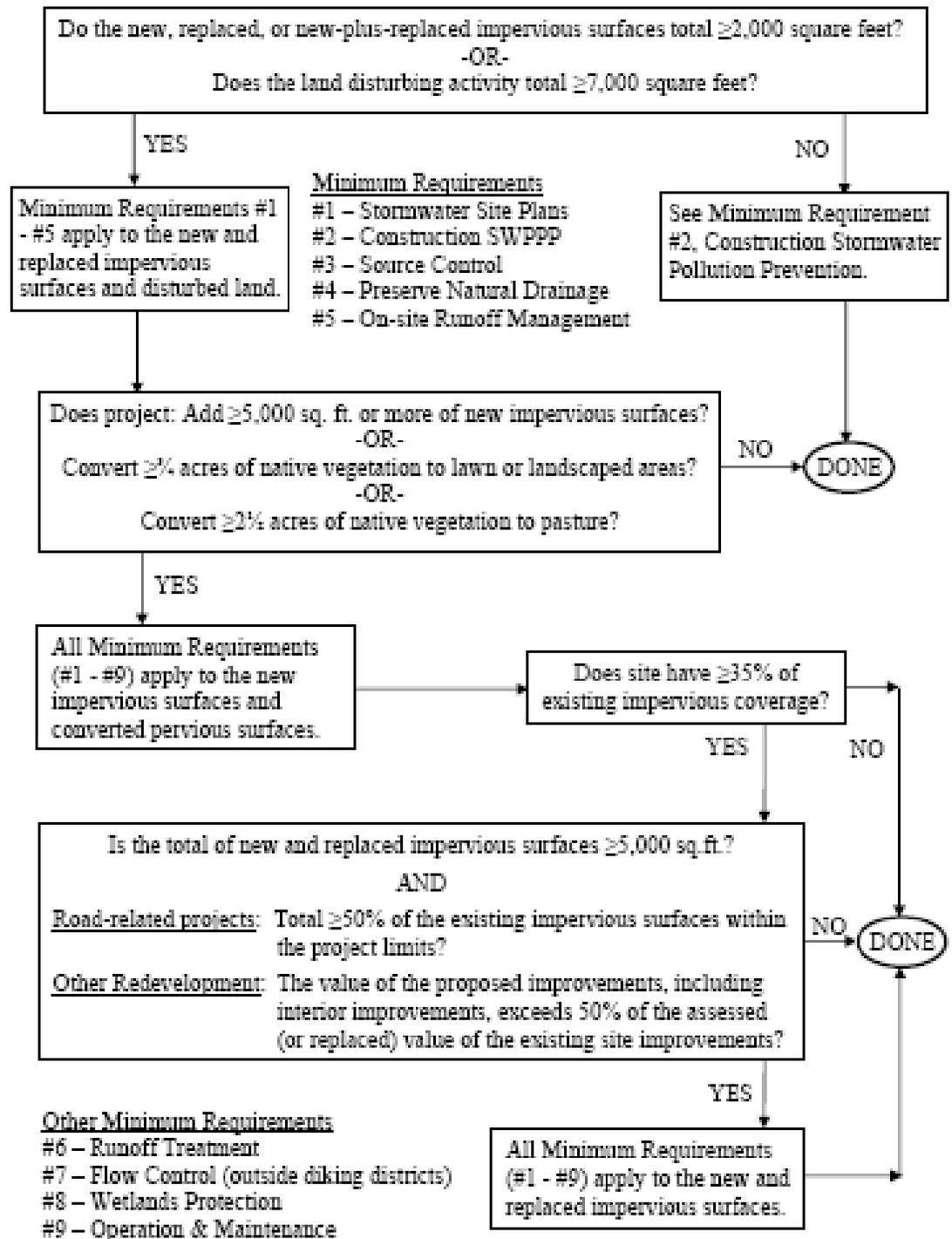


Other Local Upgrades: Not Required by Permit

- A. Enhanced flood & erosion protection
 - New roads must be designed to the 25-yr storm and have a path ≤ 4 " deep for emergency vehicles in the 100-yr storm
- B. Regional detention *and treatment* are conditionally allowed
- C. Longview's 24-hour water quality design-storm for projects disturbing < 1 acre is corrected from 0.84" to 1.69"
 - » Engineers assume this was a typo.
 - » The other local design storms are unchanged.
 - » Projects disturbing ≥ 1 -acre must use Ecology's model to design water quality facilities (it is stricter & more accurate).

State Development Requirements (SWMWW)

**APPLY ONLY TO
DEVELOPMENTS
DISTURBING ≥1-ACRE,
OR LESS IF PART OF
A LARGER PLAN OF
DEVELOPMENT.
STATE FLOW CONTROL
(MR#7) ONLY APPLIES
OUTSIDE THE DIKES.**



Phase II Requirements for Development

PROJECTS DISTURBING ≥1-ACRE, OR LESS IF PART OF A LARGER PLAN OF DEVELOPMENT OR SALE

1. Stormwater Site Plans
2. Construction SWPPP Same “12 Elements” required by Ecology’s NPDES Construction permit minus monitoring and reporting. **Seasonal**
3. Source Control
4. Preserve Natural Drainage
5. On-site Stormwater Management Downspouts, soil quality...
6. Treatment
7. Flow Control **ONLY LOCAL FLOW CONTROL IS REQUIRED INSIDE THE DIKES**
8. Wetlands Protection
9. Operation and Maintenance Long-term provisions

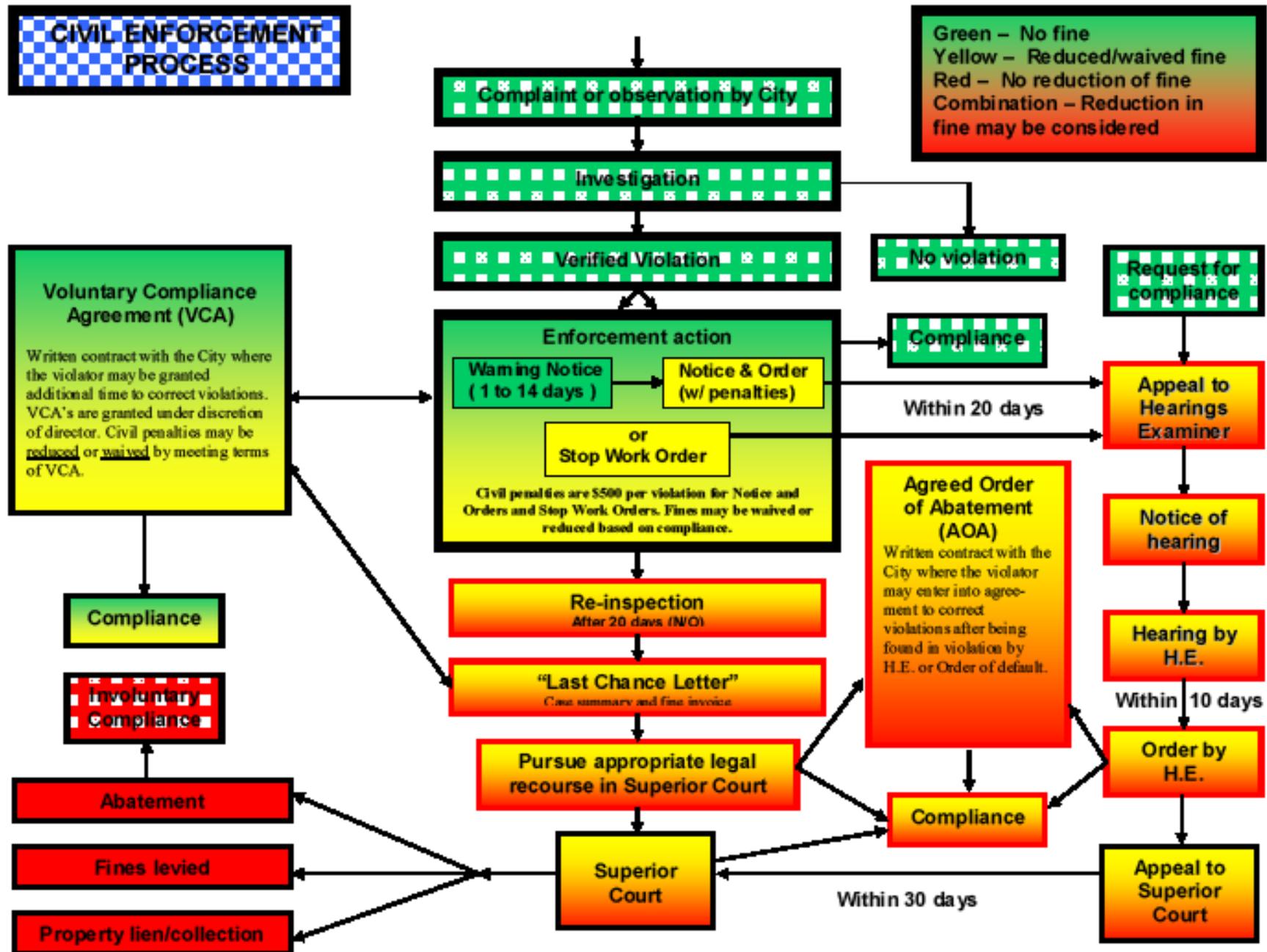
Phase II Requirements for Code

- ❖ Illicit discharges
 - Prohibit non-stormwater, illicit discharges, and dumping; and
 - Provide escalating enforcement (to include termination of illicit connections within 180-days).
- ❖ Development
 - Adopt the SWMWW for sites disturbing ≥ 1 acre, or less if part of a larger plan of development;
 - Retain local laws for smaller sites;
 - Allow Low Impact Development (LID);
 - Grant legal authority for inspection; and
 - Provide for escalating enforcement.
- ❖ Long-term stormwater facility maintenance
 - Require maintenance standards as protective as the SWMWW;
 - Clearly identify the party responsible for the maintenance; and
 - Provide for escalating enforcement.

Code Update: Long-term Facility O&M

- A. Stormwater facilities must be maintained (not new).
- B. The owner is responsible, unless designated otherwise (not new).
- C. The owner of a stormwater facility shall (new):
 1. Execute and record a Maintenance Agreement and Plan that runs with the land. (Required by permit).
 2. At the City's discretion, provide a bond or other financial instrument for the stormwater facility construction, and/or to ensure initial O&M for ≤ 2 -years after completion.
A consideration big projects only. (Not required)

Enforcement: LMC 1.33



Low Impact Development (LID)

LID is stormwater management and land development strategy that is applied at the parcel and subdivision scale.

LID emphasizes conservation and use of on-site natural features integrated with engineered, small-scale hydrologic controls.

LID more closely mimics pre-development hydrologic functions .

Low Impact Development (LID)

- A.** Generally, *LID can provide superior mitigation, often at a lower cost* (less infrastructure and land). Unlike the Puget Sound and Clark County though, these benefits are less pronounced here because of higher groundwater and less desirable soils.
- B.** LID shall be used preferentially as practicable, and will be required by Ecology (probably in 2012).
- C.** Therefore, state and local credits are provided to encourage its use...

Low Impact Development (LID)

Ecology requires on-site Stormwater Management BMPs to infiltrate, disperse, and retain runoff on-site to be used as practicable without causing flooding or erosion impacts for projects disturbing ≥ 1 -acre.



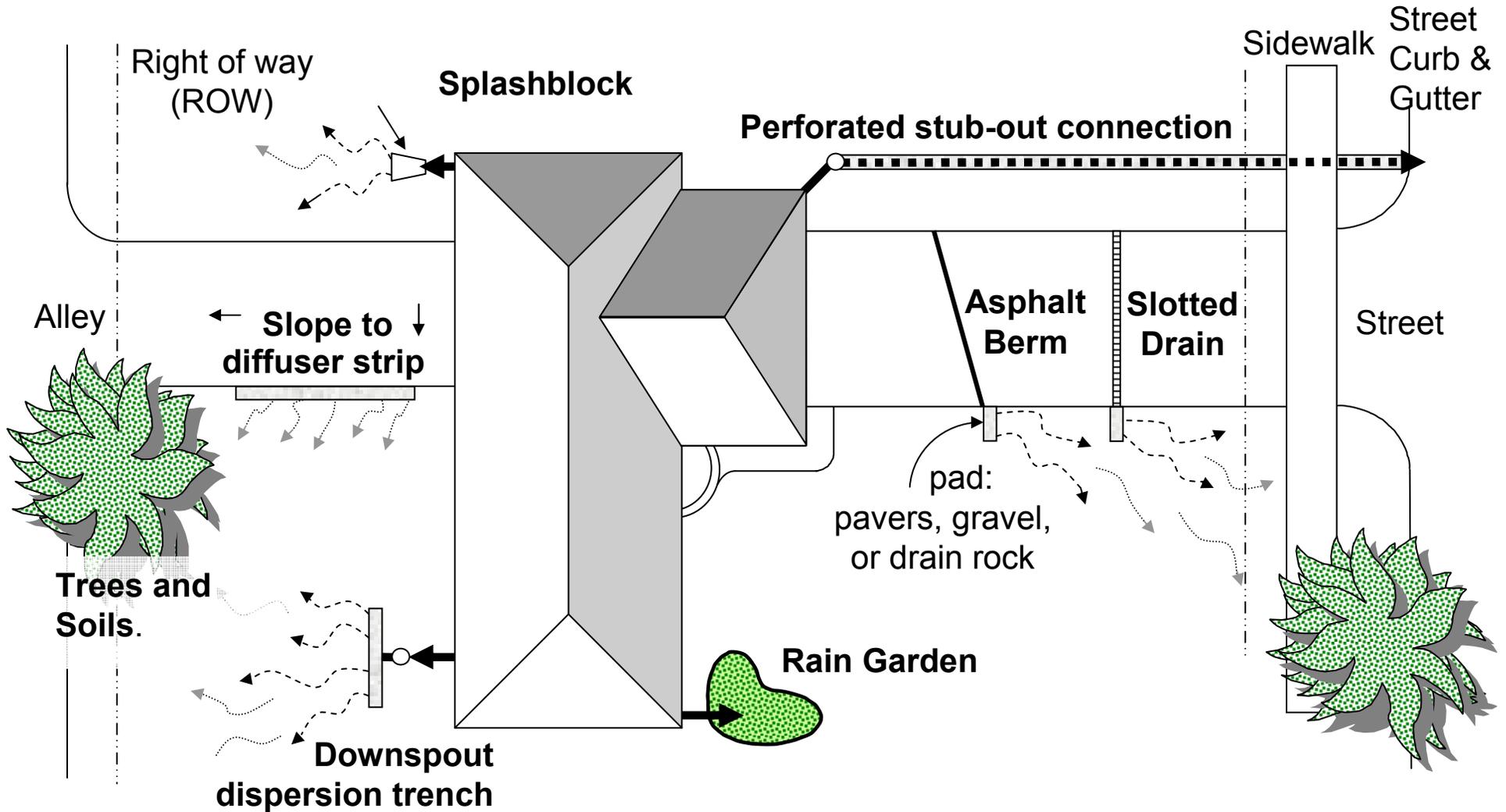
▪ Downspouts

▪ Driveways

▪ Soil Quality

Low Impact Development (LID)

COMMON ONSITE RUNOFF MANAGEMENT BMPs



Low Impact Development (LID) - Credits

Credits eliminate or reduce stormwater mitigation requirements. They usually let impervious surfaces be modeled as landscaping.

LID credits can be applied at the threshold level (locally), exempting a project from stormwater planning requirements.

Landscaping (lawn, garden, etc.) requires **no** treatment and detention if the site was lawn before... (locally).

Low Impact Development (LID) - Credits

A. All state LID credits are accepted:

- On-site BMPs: Downspout, Driveway, Soil Quality/Depth
Local Enhancements: Credit may still apply if the vegetated flow path is less than the state minimum. Lots of *any* size (not just those $\geq 22,000$ sqft) are eligible (as setbacks allow) for the downspout credit.
- Bypass allowance to maintain creek/wetland base flow
- Full infiltration & dispersion (incl. preserve vegetation) exemptions
- Others: Roads, Sidewalks, ...

B. Local credits are also available (at the threshold level) for:

- Permeable pavements, Trees, Rain gardens/Planters, Soils
- Any design managing stormwater at its source (i.e. without traditional facilities) has a reduced flow control standard...

This credit alone could halve the size of a facility. Justification is partly because flow restrictions for small facilities are difficult to engineer.

Summary of Updates Required by Permit

- A.** Adopted SWMWW, as required, for projects ≥ 1 -acre.
- B.** Pollution, development, long-term maintenance can be inspected and enforced like any code violation.
- C.** Maintenance agreement for new stormwater facilities.
- D.** Local requirements remain as protective as they were when Permit was issued.



Proposed Updates Not Required by Permit

- A. Shared ordinance and manual for LV-Kelso area.
- B. Most common questions explained in plain English.
- C. Pictures, tables, and charts used where possible.
- D. References (instead of repeating) much of the technical detail, providing guidance where needed.
- E. Condensed, easy-to-use guidance:
 - 1. Kept legal and permit language in the ordinance, along with enforcement, and most definitions.
 - 2. Consolidated requirements from the three local jurisdictions, including improvements from the '08 KEDM.
 - 3. Corrected errors, gaps, and confusing elements.
 - 4. Used Clark County's 2009 Stormwater Manual (SW WA's only alternate stormwater manual) for ideas.

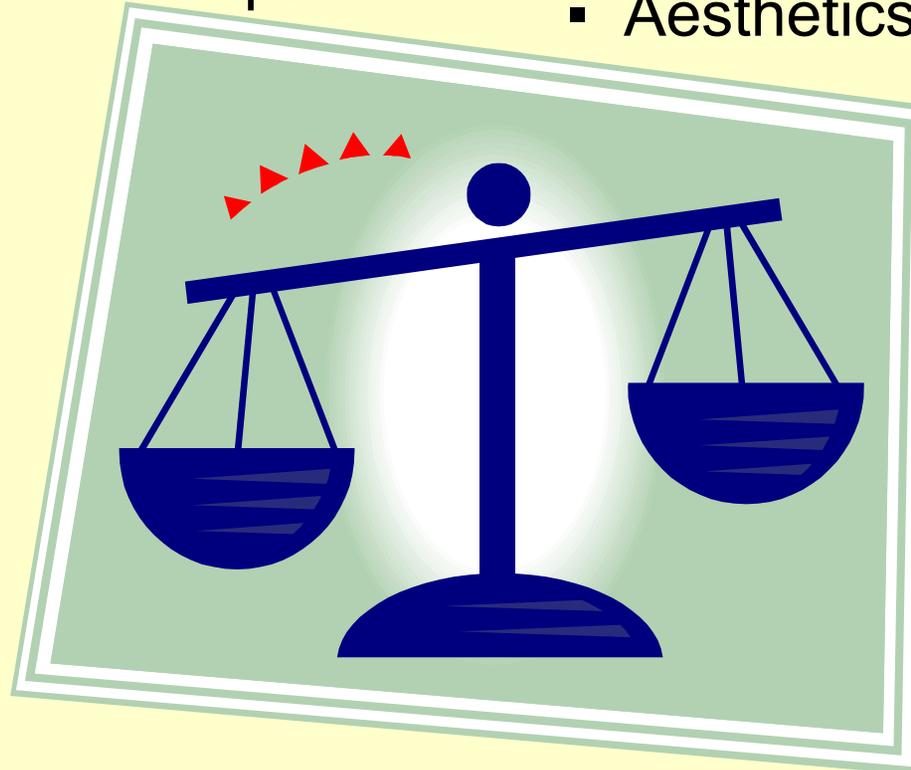
Proposed Updates Not Required by Permit

Less Restrictive

- Exemption from state flow control (inside the dikes)
- Regional treatment allowed
- LID Credits & Exemptions

More Restrictive

- Water quality design-storm corrected (increased)
- Source Control
- Redevelopment
- Aesthetics



Outreach

<i>Kelso – Public Meetings</i>	<i>Longview – Public Meetings</i>
5/4/9 7PM Council Chambers	5/6/9 3-5PM City Hall (Training Room)
6/1/9 7PM Council Chambers	5/19/9 10-12PM City Hall (Training Room)
7/6/9 7PM Council Chambers	5/28/9 6:30-7:30PM City Hall (Training Rm)
	6/16/9 3-5PM & 6:30-7:30PM (same location)
<i>Kelso – Council</i>	<i>Longview – Council</i>
6/2/9 6PM Council Workshop	6/4/9 7PM Council Workshop
7/21/9 7PM Regular Council Meeting	7/9/9 7PM Regular Council Meeting
8/4/9 7PM Regular Council Meeting	
Contact: Van McKay at (360) 423-6590 vmckay@kelso.gov	Contact: Josh Johnson at (360) 442-5210 josh.johnson@ci.longview.wa.us

Also . . .

- TDN legals, regular ads (including 4” color, and full page *In Business* ad), plus Radio and KLTV PSAs
- TDN article (anytime now)
- Cowlitz Today and City websites, incl. www.cleanstormwater.org
- LCCA Newsletter & Meeting
- Chamber of Commerce Newsletter
- Letter to businesses located in Longview (May 29, 2009)

Phase II Permit Violations

- Ecology: ≤\$37,500 per day per violation,
Grants & road funding may be denied.
- EPA: ≤ \$27,500 per day per violation, and its enforcement continuum includes criminal prosecution of management & elected officials (Kurt/Bob? 😊).
- Third-party lawsuits:
 - Both Clark County and Vancouver were recently served notices of intent to sue for not fully complying and for missing a key deadline, respectively.
 - Vancouver has spent ~\$500,000 in legal fees
 - Columbia River Keeper is currently hounding our area's Industrial stormwater permit holders.

Next Steps

- More outreach
- Glossy LID and Credits brochure
- References/Appendices
- Submittal standards
- Non-project SEPA
- Council Meeting 7/9/9
- Effective by 8/15/9



QUESTIONS?

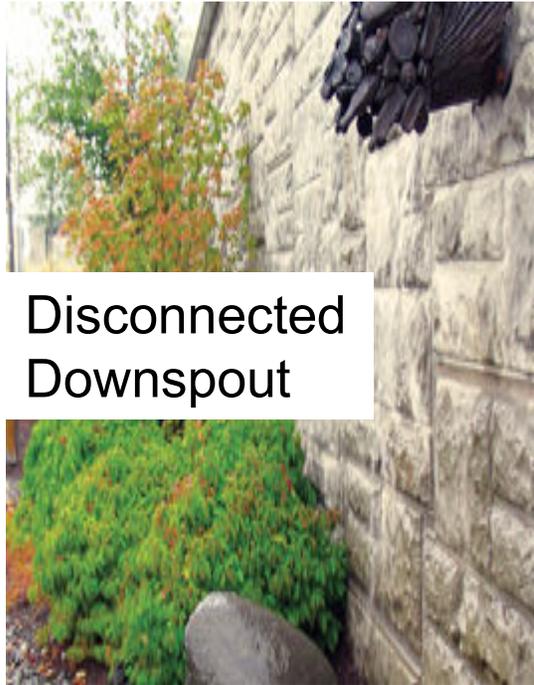
Drain 12 on 11/7/6



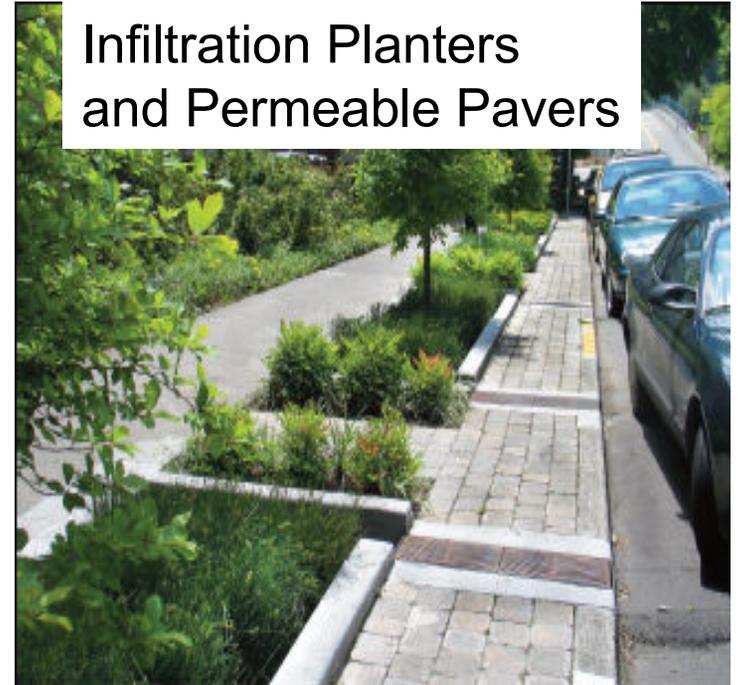
Curb Extension
(Bulb-out)



Disconnected
Downspout



Infiltration Planters
and Permeable Pavers



Rain Garden



Stormwater
Runnel



Vegetated
Swale

Five-Minute Presentation

- Questions?
- Ready for the 5-minute version?



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Five-Minute Presentation

- **Ecology** requires that by 8/15/9, we adopt the state's:
 - Definition and strategy for illicit discharges
 - Development and long-term maintenance stormwater standards for projects disturbing ≥ 1 -acre
- **Ecology** emphasizes assistance over penalties this permit cycle. Compliance provides CWA third-party liability shield. **Clark County and Vancouver are being sued for failure to fully comply.**
- **Ecology** requires that the local stormwater rules not be weakened. Longview's code is 10-years old and needs updating. New requirements for re-development, source control, and amenity are "balanced" with a very generous credits package for LID.

Five-Minute Presentation

- Updating local portions of the code is optional; however:
 - Even with these updates, Longview's code is the least protective in SW WA. Updates may help minimize impacts of a TMDL for Longview's ditches and will help reduce flood risk.
 - LID will be required next cycle, and the credits package will help prepare the development community.
 - The revisions promote growth & are coordinated with others.
- Based on our outreach, opposition from stakeholders is minimal so far. Concerns in other communities were:
 - Residential and charity car washing. Longview's ordinance states that enforcement shall be through outreach.
 - State flow control. Longview received a coveted exemption for the state flow control requirements inside CDID1.