

**Nancy Lenzi**

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**From:** JacobsOly@aol.com  
**Sent:** Wednesday, February 03, 2016 4:45 PM  
**To:** LID Code  
**Cc:** tomholz@comcast.net; Todd Stamm; Andy Haub  
**Subject:** Additional Testimony, Stormwater LID Regulations

**Planning Commission Members:**

When I testified on the Stormwater LID issue Monday, I mentioned in passing that flooding in low-lying areas is one problem associated with the kind of SLID techniques which have been recommended by staff. You will have noticed that a recurrent theme in several of the options is infiltration of precipitation. In this way this approach is much like the current infiltration pond approach -- infiltrating all precipitation into the ground, which is twice the amount infiltrated in a natural state.

This would not be a problem if Olympia had deep, well-drained soils with deep groundwater tables, but we that is not the case. We have mostly glacial till soils. Till soils are deep gravelly soils that have been heavily compressed by the weight of glacial ice. They are just this side of concrete in porosity, i.e. not porous at all.

Over the deep till layer, there is a relatively thin layer of looser material. Thus, when water is infiltrated it stays in this thin surface layer and moves laterally.

It is easy to see that this can cause ponding when there is excess water, and when infiltration occurs on high ground, flooding of adjacent lower ground is possible.

This is not just theory. I remember that when the Kempton Downs area off 18th Avenue was developed with stormwater infiltration ponds, surface flooding occurred next to Allen Road, which is downhill from Kempton Downs.

As I said Monday, what we need is an approach that really mimics the natural system. That means evaporating half of the precipitation and infiltrating only the other half. The only known way to accomplish this is to retain a significant amount of coniferous forest cover. This approach is called 65-Zero because research indicates retention of 65% coniferous forest cover and no surface runoff (i.e. no stormwater). This approach would accomplish the objective of these laws, which is protection of Puget Sound. The approach suggested by staff will not.

I am at 352-1346 and would welcome calls to discuss this issue.

I also refer you to Tom Holz, email address above, for more detailed technical information.

Bob Jacobs

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### Comments on Olympia's LID Code-Related Review and Revisions

The Municipal Stormwater NPDES Permit (Permit) that covers City of Olympia requires that the City

review, revise and make effective their local development-related codes, rules, standards, or other enforceable documents to incorporate and require LID [Low Impact Development] principles and LID BMPs... The intent of the revisions shall be to make LID **the preferred and commonly-used approach to site development.** [emphasis added]

I believe the City has done an admirable job in reviewing municipal code and drainage manual and, for the most part, updating code to make use of LID. However, the City's work is incomplete; it fails to reflect the importance of implementing LID and the gravity of failure to do so. A quote from the Puget Sound Partnership's LID code update guidebook (used by Olympia in the code update) says it better than I can:

Science and monitoring shows the Sound is in decline and stormwater runoff from developed lands plays a big role in that decline. Salmon are threatened with extinction. The majority of many toxic compounds reach the Sound via surface runoff. Bottom-dwelling species like English sole bear a toxic burden due to chemicals carried by stormwater. Harvest at more and more shellfish growing areas is restricted due to polluted stormwater runoff. Many swimming beaches are closed due to stormwater runoff. Urban bay sediments are contaminated due to stormwater and other sources. The overall health of many freshwater ecosystems, as measured by insects in streams, is declining due to our inability to completely mitigate the range of harms caused by watershed development. Clearly, our past stormwater management and land development practices are not working.

If this is not reason enough to prioritize and emphasize LID (and it should be), consider that failure to meet this Permit requirement can result in a citizen suit under the federal Clean Water Act Section 505, where a citizen may bring suit in Federal Court against a Permit holder for failure to comply with Permit requirements. Penalties in those lawsuits are the same as if the federal E.P.A brought the enforcement action: \$37,500 per violation per day. Clark County recently settled just such a suit for violations of their Municipal Stormwater Permit for \$3.6 million, and the same parties that brought that suit have made clear they are watching how municipalities are meeting this LID code update Permit requirement.

Olympia has nothing to lose and everything to gain by doing thorough review and revision of their code to make LID the preferred and commonly-use approach to site development.

#### General Comments

Too often the revised code relies on discretionary, rather than mandatory, language when discussing LID. The Permit says "[t]he intent of the revisions shall be to make LID **the preferred and commonly-used approach to site development,**" (emphasis added), and this cannot be met by merely *allowing* development to use LID BMPs and principles, it must have

*requirements.* (E.g. Attachment 3 Figure 38-5 Parking Surfaces which says “pervious surfaces and other approved dust free surfaces *may* be used,” OMC 18.04.080 which says clustered housing “*may* be required,” pre-construction consultations to advise on LID, etc.) Olympia staff must review their changes and reconsider how to actually make LID “preferred and commonly-used.”

### Permeable Pavement

Comments from the public and staff at the public hearings and the documents posted as part of this process indicate an erroneous belief that permeable pavement is risky and prone to failure. From the LID technique paper on permeable pavement: “permeable paving is a new technology with uncertain durability and longevity and increased maintenance costs and requirements, it is not recommended that permeable paving be used for roadway surfacing at this time.” This is wrong. The Pollution Controls Hearings Board heard this issue during the 10-day hearing for the appeal of the Municipal Stormwater Permit, and they found that permeable pavement meets the reliability and cost considerations to meet the State-required AKART<sup>1</sup> standard for pollution controls. The City is well aware of this decision. The City must reconsider this position.

This dovetails with the Utility Advisory Committee’s recommendation to require permeable pavement for all new parking areas, not just extra areas.

### OMC 16.48.050

The exceptions listed here include clearing on a parcel of less than 7,000 square feet. How does this fit when the Minimum Requirement #2 of the Stormwater Management Manual for Western Washington requires a construction SWPPP for all projects 2,000 square feet or greater?

### OMC 18.06.100

How will this “bonus” for vegetated roofs work with the Permit Appendix 1, which defines vegetated roofs as “hard surfaces.” How will redevelopment requirements play out with these “impervious surface coverage limits?”

### Olympia Drainage Manual

#### Volume I, 2.8 Exceptions

This section impermissibly weakens the Permit’s Exemption/Variance in Appendix 1 Section 6, which states, “To determine whether the application imposes a severe and unexpected economic hardship on the project applicant, the Permittee must consider and document with written findings of fact the following.” Olympia’s manual omits the “severe and unexpected economic

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<sup>1</sup> WAC 173-218-030. AKART is an acronym that means all known, available and reasonable methods of prevention, control and treatment. AKART shall represent the most current methodology that can be reasonably required for preventing, controlling, or abating the pollutants associated with a discharge. The concept of AKART applies to both point and nonpoint sources of pollution. The term "best management practices" typically applies to nonpoint source pollution controls, and is considered a subset of the AKART requirement. The storm water management manuals (see definition in this section) may be used as a guideline, to the extent appropriate, for developing best management practices to apply AKART for storm water discharges.

hardship,” wording. Those exact words must be added back, as required by the Permit Special Condition S5.C.4.a.i. Also, make sure this exemption/variance language is incorporated, reflected or referenced by the City’s code.

Redevelopment and cost thresholds

Volume I page 2-7 discusses “excluding engineering, contingency, and stormwater treatment costs exceed \$500,000.” I’m not clear what this section aims to do. Explain how this meets the Permit Appendix 1 redevelopment requirements, which contain no such price threshold.

**Nancy Lenzi**

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**From:** Chris Montague-Breakwell <chrisjmb@gmail.com>  
**Sent:** Friday, February 05, 2016 4:54 PM  
**To:** LID Code  
**Subject:** LID code update comments  
**Attachments:** Comments on Olympia LID Code Update.docx

Please find attached my LID code update comments. Further, please note these are my comments as a private citizen and not those of Department of Ecology.

Best,

Chris Montague-Breakwell

**Nancy Lenzi**

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**From:** Thomas Holz <tomholz@comcast.net>  
**Sent:** Saturday, February 06, 2016 11:45 AM  
**To:** JacobsOly@aol.com; LID Code  
**Cc:** Todd Stamm; Andy Haub  
**Subject:** RE: Additional Testimony, Stormwater LID Regulations

## Planning Commission

The science of watersheds related to urban development is well known now for nearly two decades. It can be summarized as follows: "If, on till soils, more than about one-third of a watershed is cleared of vegetation, return flows become so high as to destabilize stream beds. If just a few percent of impervious area is made to drain to the stream, the most sensitive aquatic species begin to perish."

Thus the 65/0 standard, if implemented perfectly with no accidental or intended exceptions, would reduce stream quality to a perilous point. Thus it is recommended that the standard be selected, but in the adopting ordinance it would be specified that critical areas buffers would not be counted toward the 65% forest protection or restoration.

For six of the seven major streams in Olympia, aquatic life in the streams has already been destroyed. Thus long term restoration is the only alternative to writing them off forever.

Green Cove Creek might still be saved.

I urge the Commission to recommend that the NPDES permit Low Impact Development standard be adopted with the following condition: that the 65/0 standard be selected for all new "green fields" projects. Furthermore:

1. Buffers for critical areas will not be counted toward the 65% forest cover on a project site.
2. The standard shall apply to the entire site, rather than to just hard surfaces.
3. The county would be asked to enforce this standard in within the urban growth boundary.

For re-development projects a threshold should be established for when the 65/0 standard would apply.

Sincerely,  
Tom Holz



**Nancy Lenzi**

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**From:** JacobsOly@aol.com  
**Sent:** Saturday, February 06, 2016 1:51 PM  
**To:** tomholz@comcast.net; LID Code  
**Cc:** Todd Stamm; Andy Haub  
**Subject:** Re: Additional Testimony, Stormwater LID Regulations

Tom -- Very clear and succinct. Thank you.

I would suggest changing "critical area buffers" to "critical areas and their buffers". I think this is your intent.

A further detail would be to consider the various types of critical areas and how each of them should be treated. For instance, steep slopes may not need to be excluded for the 65-0 calculations. But that, like many other items, is a detail that would be addressed in the development of regulations.

BobJ

In a message dated 2/6/2016 11:45:21 A.M. Pacific Standard Time, [tomholz@comcast.net](mailto:tomholz@comcast.net) writes:

## Planning Commission

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Sincerely,

Tom Holz

## COUNTY COMMISSIONERS

Cathy Wolfe  
District One  
Sandra Romero  
District Two  
Bud Blake  
District Three

**RESOURCE STEWARDSHIP DEPARTMENT***Creating Solutions for Our Future*

Cynthia Wilson  
Director

**TO:** City of Olympia  
Todd Stamm, Principal Planner  
Laura Keehan, Senior Planner

**FROM:** Thurston County  
Allison Osterberg, Associate Planner

**DATE:** February 11, 2016

**SUBJECT:** Draft Low Impact Development (LID) Code Revisions

Thurston County staff appreciate the opportunity to comment on the Draft OMC Amendments for the City of Olympia's Stormwater Low Impact Development (LID) Update. Like Olympia, Thurston County is undergoing a review of its development codes, as required under its National Pollutant Discharge Elimination System (NPDES) Phase II Municipal Stormwater Permit. We congratulate the city on its thoughtful and comprehensive review, and on the proposed amendments which will aid in making low impact development the "preferred approach to site development" in our region.

Joint Planning in the Urban Growth Area (UGA) of Olympia is governed by the County Wide Planning Policies (1993) and two Memoranda of Understanding (1995 and 1998). The County-Wide Planning Policies state that: "Development occurring within unincorporated urban growth areas shall conform to the development standards of the associated city or town" (CWPP 2.2(d)). The 1995 MOU clarifies this relationship. Thurston County:

- adopts each city's zoning standards (Section 1)
- adopts each city's street standards (Section 5)
- adopts each city's design standards for commercial and multifamily projects greater than fourplexes (Section 6)
- retains its authority to approve administrative variances and expansion of non-conforming uses (Section 1)
- maintains its own Critical Areas Ordinance for the UGAs, but incorporates each city's method of calculating development densities (Section 2)
- adopts a single Forest Practices Ordinance for the UGAs (Section 3)
- maintains its Subdivision Ordinance, but amends it to reflect the open space requirements of the three cities (Section 4)

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When it comes to amending these joint plans, the County Wide Planning Policies state that: “Each city and town will assume lead responsibility for preparing the joint plan for its growth area in consultation with the county and adjoining jurisdictions” (CWPP 3.1). In keeping with these joint planning agreements, Thurston County will plan to incorporate the results of Olympia’s LID code update into the regulations for the Olympia UGA, as a recommendation for review by the Thurston County Planning Commission and adoption by the Board of County Commissioners.

In keeping with these agreements, a work group of Thurston County staff reviewed the draft code changes. In addition, Olympia planning staff presented the draft code changes to the Thurston County Planning Commission on February 3, 2016. The following comments are focused on proposed changes to OMC Title 18 that could affect regulations in the UGA.

1. Page 31, Definitions: Coverage, impervious. Will hard surface area be included in the calculation of impervious surface limits? This seems to be the intent later in the code, but may need to be clarified in this coverage definition.
2. Page 33, Definitions: Native vegetation. Vegetation well-adapted to this region seems to open the door to including many undesirable plant species, including noxious weeds and invasive species. Scotch broom is well-adapted to this region. For consistency, we suggest using Ecology’s definition:  
*“Vegetation comprised of plant species, other than noxious weeds, that are indigenous to the coastal region of the Pacific Northwest and which reasonably could have been expected to naturally occur on the site.”*  
 We understand the intent behind this change to allow for suitable, but non-native plants within stormwater and landscaping areas. However, it seems confusing to broaden the definition of native vegetation to include non-native vegetation. The same goal could be accomplished by either adding this qualification within the code, where appropriate, or by adding a second definition that identifies other suitable and appropriate vegetation that can be used, and using this term in the code. Later in the code, on Page 52, you use the phrase “native, well-adapted and/or drought-tolerant plants” – this seems like a more intuitive approach, although “well-adapted” might not be the appropriate choice of words. If there are available lists of allowed and prohibited plant species, such as within the DDECM, these could be referenced.
3. Page 34, P. Manufactured and Mobile Home Parks. 18.04.060 (P)(4) indicates that 50% of the lot for each individual manufactured home must remain in open space. How does this tie in with the open space requirements in (8), including the new requirement that 50% meet soil and vegetation standards? We suggest including some provision for the open space requirement to attach to the entire mobile home park, rather than each individual lot, to allow for better connectivity of open space and enable larger areas of vegetation to be preserved on site.
4. Pages 39-41, Impervious and Hard Surface Limits, Table 4.04. The hard and impervious surface limits as presented create abrupt and arbitrary thresholds for lots of different acreage. For example, a 1-acre lot zoned R 1/5 can have 10,890 square feet of impervious surfaces, while a neighboring 1.5-acre lot is allowed only 3,920 square feet of impervious. We have found this to be problematic in applying our existing impervious limits and are proposing limits that graduate

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more evenly. Within the Green Cove Basin, Thurston County is proposing the following hard surface standard, and we recommend this for use in the R 1/5 zone and R 6-12 hard surface limit:

*i. Lots less than four acres—Forty-five percent or 10,000 square feet, whichever is less.*

*ii. Lots four acres or more—Six percent*

5. Page 42, Optional Clustering. We support allowing this density bonus for voluntary clustering that preserves 65% native vegetation. The 10% impervious limit associated with these clusters might be difficult to achieve given the higher density of urban zones. To encourage other types of clustering, we suggest allowing for reductions in lot sizes greater than 20%.
6. Page 44-45, Private and Common Open Space. 18.04.080 (J)(1) allows for a 5% increase in impervious over the entire lot to accommodate recreational facilities in open space areas. A preferable approach might be to limit impervious surfaces to 10% within open space tracts, rather than allowing the increase over the entire site. Section (J)(4) relates to Manufactured and Mobile Home Parks, and the comment above – we suggest clarifying whether open space is required on each lot or whether it can be combined.
7. Page 47, Commercial Districts, Impervious Surface Coverage. It appears from the proposed language that a vegetated roof only provides a credit against the impervious coverage limit, and not the hard surface limit. Under the current definition, a vegetated roof would not be calculated as a part of the total impervious amount, and with this credit would count against it. The proposed 1:1 ratio allows a green roof to be treated as the equivalent of a landscaped or native vegetation area. We suggest using a lesser ratio, such as 1:2, to recognize that green roofs are not the equivalent of vegetated areas; i.e., for every 2 square feet of green roof, the applicant would get 1 square foot of additional impervious surface.
  - The phrase “substantial stormwater management benefit” is vague and hard to judge. We suggest using more specific wording, such as “substantial stormwater treatment benefits” and/or include a reference to the performance standards in your Drainage Manual. There are different types of green roofs that provide different benefits – there should be some standard for receiving this credit.
  - The term “30 years” seems insufficient. If the green roof is used to comply with a drainage manual requirement, it needs to function as designed for the life of the structure. The stormwater permit requires provisions to verify adequate long-term operation and maintenance of SW treatment and flow control facilities. Also, what will be done if the green roof fails in the future and has to be removed? The impervious credit will already be in place, so what mitigation would be required?
8. Page 48, Existing Trees, Soils, and Vegetation. A(2)(b) We suggest broadening the qualifications for who can develop a soil and vegetation plan beyond a professional forester, such as to include landscape architects or other qualified professions.
9. Page 48, Existing Trees, Soils, and Vegetation. A(3) “may be designated and noted on the final plat” and “may require mitigation” should be changes to “shall be designated...” and “shall require mitigation.”

The mitigation requirement is unclear – when will the approval authority know that mitigation is required? We suggest the following alternative language to establish a common standard: “These areas shall have a minimum 90% aerial coverage with native forested or prairie vegetation (whichever was the pre-European settlement condition).”

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In addition, either here elsewhere, would it be possible to offer incentives for restoring vegetation on sites? This could include referring to the Drainage Manual, which could include a section on how restoring soils and vegetation affects stormwater modeling for a site, with language such as: “Restoring areas to native vegetation may reduce the size of the stormwater facilities. See Volume III (?) of the DDECM.”

10. Page 49, Groundcover/Turf. (2) It is unclear from language here whether a grassy swale would be permitted. Suggest mirroring the language used in later section, page 61:  
*Grass lawn is prohibited unless as needed and approved for stormwater conveyance or stormwater management facility*
11. Page 50, Prohibited Plants. We hope this list will be provided to the County. It may also help to have a list of Allowed Plants as well.
12. Page 50, Mulch/Soil. We suggest referring to post-construction soils restoration requirements of the Drainage Manual for soil restoration. A 24-inch depth restoration seems excessive and is not consistent with the Drainage Manual.
13. Page 52, Stormwater pond and swales. The phrase “properly located and designed” should be clarified. When installing bioretention, how would someone know if it is properly located and designed to get landscape credit?
14. Page 57, Landscape Plan Requirements (l). This seems duplicative, since you already require existing soil types above. We suggest deleting “soils and.”
15. Page 57, Landscape Plan Requirements (m). Can coverage limits be suggested for invasive plants? It can be almost impossible to completely remove all invasive plants on a permanent basis, so a coverage limit would be helpful to know at what point invasive plants need to be controlled. For example, if 15% or more of a site becomes covered with Scotch Broom or another invasive species (after clearing), then invasive species controls must be implemented (could be a standard SEPA condition / policy or included in code). We have used this SEPA condition where there is a potential for a site to be cleared and left for several years to be invaded with undesirable plant species.
16. Page 63, Landscape Island, Materials (a). We suggest adding the following language:  
*If landscape island is to be used as a stormwater facility, such as bioretention, tree planting requirement can be waived for that area if trees are not compatible with the stormwater facility.*
17. Page 63, Landscape Island, Materials (b). We suggest adding “or stormwater management facility” to the end of the second sentence.

Again, thank you for the opportunity to provide comment on the proposed OMC changes for LID, and we hope our feedback will be helpful in your review. We appreciate city staff’s willingness to collaborate with the county on this issue and look forward to continuing to work together in the coming months. If you have questions or would like to discuss any of these comments, please contact Associate Planner Allison Osterberg at (360) 754-3355 or [osterba@co.thurston.wa.us](mailto:osterba@co.thurston.wa.us).

Thurston County Comment Letter, February 11, 2016  
LID Code Update

Sincerely,

A handwritten signature in black ink, appearing to read "Brad Murphy". The signature is fluid and cursive, with a prominent loop at the end of the last name.

Brad Murphy  
Planning Manager, Resource Stewardship

**Nancy Lenzi**

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**From:** Allison Osterberg <osterba@co.thurston.wa.us>  
**Sent:** Thursday, February 11, 2016 6:48 PM  
**To:** LID Code  
**Subject:** Comments on Draft LID Code Revisions  
**Attachments:** CommentLetter\_02112016.pdf

Dear Laura,

Please find attached combined comments from Thurston County staff on the Draft revisions to the Olympia Municipal Code for LID. Please let me know if you have any questions or need clarification. Thank you for the opportunity to comment.

Best regards,  
Allison

Allison Osterberg  
Environmental Planner  
Thurston County Resource Stewardship  
(360) 754-3355 x7011  
[osterba@co.thurston.wa.us](mailto:osterba@co.thurston.wa.us)