*Herrera Environmental Consultants, Inc.*

# Memorandum

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| *To* | Ed O'Brien, Washington Department of Ecology; Kate Snider, Floyd Snider |
| *cc* | Bill Moore and Harriet Beale, Washington Department of Ecology |
| *From* | Craig Doberstein, Herrera Environmental Consultants |
| *Date* | September 15, 2010 |
| *Subject* | Comments and Recommendations on the Department of Ecology's August 2010 Proposed Requirements and Timelines to Update Development Codes to Incorporate LID |

The following comments and recommendations are offered with respect to the Department of Ecology's August 2010 Proposed Requirements and Timelines to Update Development Codes to Incorporate LID. Please let me know if you have any additional questions or clarifications on this input.

1. **Effectiveness of the basin-scale approach**

   *Comment*: The proposed requirements imply that the high-value resources that need protection are those outside of UGAs. In addition, the proposed "water quality impact and mitigation analysis," requirements, Section B.1 and B.3 in particular, are not prescriptive enough to ensure effective basin plans are generated. Basin planning is a complex mix of many disciplines including engineering, biology, geomorphology, water quality, policy and regulations. For example, see item B.3.b alone of Ecology's proposed requirements. This is a large and complex task. Without clear guidelines and requirements, many basin plans may be ineffective, or potentially detrimental.

   *Recommendations*

   a. Standards should be specifically applied to the most vulnerable and highest priority resources. Ecology's triggers are interesting and easier to implement on a regional scale, but are not directed specifically at the goal of protecting valuable resources.
   b. Clear and prescriptive basin planning guidelines and requirements are needed (beyond requiring compliance with SEPA laws). These should be sufficient for a range of professionals to be able to use to produce similarly clear and technically sound basin plans.
   c. Ecology is already indirectly requiring basin planning through the Phase I permits (S9.E.12), project-based grant opportunities (which ideally are supported by basin plans and project prioritization schemes), and proposed 2012 permit retrofit requirements. This is a good idea, and Ecology should implement direct requirements for performing basin planning on a resource-based or jurisdictional basis (e.g., for Counties, or Phase I permittees). To further support this recommendation, note that

the PCHB conclusions for the Phase I permits state specifically that "city and county permittees should identify such areas where potential basin planning would assist in reducing the harmful impacts of stormwater discharges on aquatic resources."

2. **Timing of LID requirements**

   *Comment*: Ecology noted that jurisdictions represented in the LID Advisory process support performing stormwater code updates in conjunction with other municipal code updates for efficiency. I have not heard that message consistently from the advisory committee members, and believe the stronger preference may have been to separate those efforts. If the code updates are disconnected, Ecology's proposed timelines for stormwater code changes are too lenient.

   *Recommendations*

   a. Implement an outreach plan to facilitate communication of the advisory committee process and Ecology conclusions to permittees.
   b. Use PSP's plans to disseminate guidance for adoption of new LID standards as a mechanism to jump-start the adoption process, and supplement those plans as needed to help ensure the pending permit requirements are implementable.
   c. Require stormwater code updates for Phase I permittees within 1 year of the permit effective date, and for Phase II permittees within 2 years.
   d. Beyond the stormwater code updates, it seems that the effort to incorporate LID principles into other ordinances is going to be ongoing for all jurisdictions, as well as situation-specific. It may not be realistic to set one common deadline for making the broader code changes. However, a firm deadline should be set for review and assessment of other ordinances (complementary to the PCHB order and associated Phase I and II permit LID barrier reporting requirements). That review could also include a jurisdiction-specific assessment of timing to change those standards. An audit process should be considered to evaluate the progress on those proposals.

3. **Use of non-LID facilities to meet the proposed standard**

   *Comment*: Ecology's proposal appears to allow the use of non-LID facilities to meet the performance standard. Ecology has indicated that A) in poor draining soils it will be nearly impossible to meet the standard without using LID, and B) in well-draining soils centralized infiltration is hydrologically equivalent to dispersed LID. Ecology's proposal is not consistent with the goal of maximizing the use (and thus benefits) of LID where feasible.

   *Recommendations*

   a. If item (A) above is correct, LID should be required explicitly. There does not appear to be any reason not to require it.
   b. I do not agree with item (B), and believe there are primary and secondary water quality benefits to using LID relative to centralized infiltration. For example, dispersed LID facilities will help maintain subsurface hydrogeology and evapotranspiration at closer to natural conditions, and reduce groundwater mounding and short-circuiting of shallow subsurface flows. Likewise, there are secondary

environmental benefits of LID that are not provided by centralized infiltration, including improved habitat, air quality, aesthetics, and reduced temperatures. Although not all of these benefits are directly related to water quality and the NPDES permits, they can help a project achieve more benefit for the associated cost, and thus support the "reasonableness" element of assessing AKART and LID.

4. **Rain gardens and mosquitoes**

*Comment*: I question the recommendation to restrict rain garden use (as opposed to other similar BMPs) because of mosquito breeding concerns. Mosquito breeding is a concern for all stormwater BMPs that generate standing water. This issue is not limited to rain gardens and should not be a factor in limiting rain garden use relative to other similarly problematic facilities.

*Recommendations*

a. Do not exclude rain gardens as an option. Instead, change the rain garden design requirements (and all stormwater facility requirements) so that there is no standing water for more than 4 days.

5. **Rainwater harvesting**

*Comment*: Rainwater harvesting should not be excluded from consideration as an LID technique, particularly given that these proposed requirements will not be in place for several years.

*Recommendations*

a. Include rainwater harvesting as an option. If necessary, develop clearer prescriptive engineering feasibility guidelines to address Ecology's concerns before the requirements are n place.

6. **The proposed minimum requirements do not represent AKART and LID to the MEP**

*Comment*: The proposed requirements do not require LID to the maximum extent practicable/feasible. While the proposed requirements are based on a quantitative assessment of feasibility, as written they are too prescriptive and are not flexible enough to allow greater achievement of LID under various development scenarios. There are many scenarios where application of LID to a level below the proposed performance standard is still beneficial and practicable. Where Ecology proposes "relief" from the proposed performance standard, there is room to require a lesser standard that still achieves significant LID application and water quality improvement.

*Recommendations*

a. For New Development inside the UGA:
    i. At a minimum, require dispersion (with a reduced minimum flow path) and compost amendment of disturbed soils for sites below the 2,000 and 7,000 sqft thresholds. Similar to the TESC requirements, there is a need and opportunity

to do some level of inexpensive and basic stormwater improvement for all municipally permitted projects.

ii. For projects between 2,000 to 10,000 sqft of impervious, at a minimum, also include rain gardens as an option. Allow them to be sized to a reduced standard or without engineering if cost or site feasibility is a concern. Overall, MR#5 needs to be substantially rewritten to be clearer about what is specifically required and where, and to make it easier to comply without an engineer. The goal is to get whatever LID and stormwater benefit is feasible, even if that means easing some of the more quantitative (and easier to enforce) requirements. A checklist or lower standard would be one way to achieve this.

iii. For projects with over 10,000 sqft of impervious, get rid of the mandatory list option. Set the requirement at the performance standard, but allow for engineering and competing needs review if a project cannot meet the standard. This keeps all options available for all projects, and allows for creativity and innovation over time. Merge the mandatory list concept with the feasibility review concept to include one clear set of "off-ramps" if the performance standard cannot be achieved. Ecology should develop the framework and boundaries for the feasibility review, and a regional subgroup (similar to the SWG) should refine that list for Ecology to use and all municipalities to apply. This will be a living list that will be refined and updated as needed.

iv. Note that if the above recommendations are implemented, there would be no difference in requirements among the two categories of infiltration rates, and all requirements above 10,000 sqft are the same. This would create a simpler and clearer standard to design to and to enforce.

b. For Redevelopment outside the UGA:

i. Do not repeat the 50 percent thresholds (that currently exist in the current permits/manual). Including the 50 percent threshold is not MEF/MEP. Removing this would also further increase consistency among all the proposed requirements.

c. For Redevelopment inside the UGA:

i. Same comments as above for New Development.

7. **LID in flow control exempt areas**

*Comment*: Before exempting all non-pollution-generating surfaces from the LID requirement in flow control exempt areas, it would be helpful for Ecology to review and comment on the literature regarding pollutant loading from non-pollution-generating surfaces. There are indications that these surfaces can be sources of pollutants in stormwater runoff (e.g., from atmospheric deposition alone), and this could be an opportunity to further reduce diffuse pollutant loading to Puget Sound. While meeting the full LID performance standard or water quality treatment standard is likely excessive, some level of LID treatment would be beneficial.