

**Department of Ecology – Water Quality Program
Development of Low Impact Development (LID) Standards for the
Municipal Stormwater General Permits**

**Implementation Advisory Committee Meeting #2
January 5, 2010, 10:00am–3:00pm at Department of Ecology Headquarters
MEETING SUMMARY**

Goal of the Meeting: The goal of this meeting was to follow up on Ecology’s proposed permit framework, and discuss key questions regarding the options and approach to implementation of LID permitting requirements.

AGENDA

Introductions and Agenda Review

Roles for Ecology and Municipalities in Setting LID Requirements

Implementation Schedule for Hydrologic Performance Standards

Different Performance Standards for Different Conditions or
One Stringent Performance Standard with an “Exceptions” Process?

Implementation Barriers

Next Steps and Prep for Next Meeting

Public input was received both in the morning and afternoon

ATTENDEES

A list of attendees is provided at the end of this meeting summary.

TRANSCRIPTION OF FLIP-CHART NOTES

The meeting summary provided here is a transcription of the flip-chart notes taken by Kate Snider during the meeting. This does not provide a full documentation of the dialogue, but provides a record of the primary input received from the attendees.

Roles for Ecology and Municipalities in Setting LID Requirements

Two options have been discussed in meetings for the approach Ecology would take to implement LID requirements with respect to Ecology’s role and the role of the specific municipalities. Option A provides for Ecology to set hydrologic performance standards in the permit and leaves it to the municipalities to determine what to require of developers to meet the standard. Option B provides for Ecology to define specific requirements for use of LID with a

checklist/prescriptive approach. The initial discussion was focused on receiving input from the municipalities, then opened up for general IAC discussion, followed by input from the public.

Municipalities Input

- When setting performance standards, Ecology also should define acceptable modeling methodologies.
- A benefit to Option A is that it allows flexibility in the use of LID techniques.
- Flexibility is the key to making it work. Option A is the approach successfully used in Bremerton. The City is not micromanaging development decisions.
 - Finding that economics is playing a big part in acceptance of LID. The developers are beginning to understand that money can be saved by implementing LID techniques.
 - Using the carrot approach and creativity of the designers to figure out the best methods under the site constraints.
 - Municipality defines the flow control standard using the Stormwater Management Manual. The developers show they meet the flow control standard through the use of WWHM3.
- Redmond also prefers Option A.
 - Developers need flexibility. As long as they meet the requirement legally and thoroughly.
 - Don't want to dictate how to design but want to make sure staff is up to speed. Staff and permit reviewers need to be well trained on the options. Need to be able to provide assistance/suggestions and not dismiss unfamiliar ideas or options.
- Clark County prefers Option A, but with the ability for the municipality to define prescriptive methods to achieve the standard.
- Ecology asks: If we use the Seattle directive as an example with more prescriptive checklist for smaller projects and a hydrologic performance standard for larger projects, should this be done at the state level? Is there a value to doing this just once rather than require the jurisdiction to do it?
- We have an example of such an approach in the work Herrera did for a regional spreadsheet. It's a tool that can be adopted easily but it's not part of the rule. That method of using acceptable guidance to augment a rule is valid to consider.
- Pierce Co agrees with the idea of adopting a tool that is not necessarily part of the codes.

Developer Input

- Agree with a prescriptive approach for small projects. After that, we want more flexibility.
- Use a combination of LID or traditional techniques to meet the hydrologic performance standard.
- Public works and transportation projects should be included, no distinction between public and private development.
- Recognize concerns regarding feasibility.
- Concur with local government/streamlined modeling approach.
- Should have a modeling tool with pre-defined/pre-sized LID techniques. The streamlined modeling might save some consulting money and time.
- Very interested in “small sites” and how they are defined. The definition should be consistent with other development thresholds that distinguish small sites.
- Recognition that Option A will require a new hydrologic standard, another layer. Think about actual process of plan review, etc. Particular concern for Phase 2 permits and the 1 acre threshold.
- This issue should move to the TAC.
- Multiple flow control standards would make it complicated.

Input from Other Perspectives

- Environmental stewardship is the most important. Should design the site to retain natural vegetation and reduce effective impervious surface.
- Need an objective, accountable, measurable, and reproducible standard.
- Most effective approach will be some kind of hybrid of the two options.
 - 1) Hydrologic performance standard.
 - 2) Prioritized process with:
 - First – Use site design and planning principles to maintain native vegetation and minimize impervious surfaces.
 - Then use LID engineering techniques.
- The prioritized system would confirm using LID to maximum extent practicable.
- Would like a standard and prioritized direction regarding use of principles and techniques.
 - Can we distribute some permit examples?
 - Some techniques are more effective. The permitting requirements need to encourage exploring the more effective techniques first.

- Really comes down to the actual standard (hard to discuss in abstract).
- Concern with efficacy and protectiveness of the resource.
- “Ease of implementation” – focus should be on most cost-effective and consistent implementation.
- Need to bring the protectiveness of the standard back to the IAC.
- Leaning towards Option A and then think about whether there are other LID issues so important that they should be mandated by the State.
- With the right hydrologic performance standard, LID should ‘sell itself’. But there are concerns that a developer could clear and grade and then build really big pond.
- Clarify that LID is more than a set of techniques. It’s site planning that includes:
 - Retention of native vegetation.
 - Minimizing effective impervious surface.
- The prioritized list like a SEPA checklist is a good idea.
- Site planning for LID is a paradigm shift.
- Would Option A allow traditional flow control facilities? Need to figure out how to encourage LID.
- The essence of LID includes retention or restoration of native vegetation, redevelopment improvements, and dispersed infiltration facilities.
- Hydrologic performance standard should also include a broad list of techniques and BMPs that can be used.
- Need to make sure the requirements do not include vaults and ponds.
- Must link back to the PCHB decision. The hydrologic performance standard must meet CWA requirements.
- Confirm that the permit and implementation structure will be as effective as possible to make a difference in water quality.
- Must comply with the PCHB ruling and ‘Do LID where feasible’. LID is well defined by the existing manual.
- The best approach is to identify the necessary technical training and get the requirement out to permittees early. Would increase the engineer comfort level and bring the cost down. The key is to make LID cost effective.
- Suggest a hybrid that has prescriptive tools that are easy to adopt and provides consistency among the jurisdictions.

Public Input

- Seattle is concerned that urban redevelopment be considered separately. Any hydrologic performance standard needs a large range for these locations or a low

standard to address these locations, in order to both be realistic for urban redevelopment and encourage redevelopment over greenfield new development.

- The Seattle checklist is not really a prescriptive checklist it's more of a feasibility checklist. It pushes redevelopers to look at options and analyze each target. The target is 100% of 1 year storm.
- The Seattle approach provides a pre-sized table. From that table, a developer implements as many principles/techniques as possible. There are three types of feasibility constraints, a.k.a., off-ramps, to using the LID techniques in the table: engineering constraints, site constraints, and cost constraints. Off-ramps must have very clear requirements for documentation. Information on off-ramps should be collected so that we can develop better standards in a few years.
- Focus should be on LID specific techniques.
- Seattle would appreciate any feedback from the committee on the draft director's rule re: LID.
- DNR encourages a bold, meaningful change. LID is a crucial element in the source control effort.
- Need different standards and different expectations for redevelopment in urban core than new development. May warrant different standards in urban growth areas. We do not want to facilitate sprawl.
- There are also different settings and challenges for public works and transportation projects, that are not traditional "developments". So a standard has to be context-sensitive.
- Still need to set high bar in smaller cities (e.g. Vancouver). This urban core can have higher bar than downtown Seattle.
- Thurston Co: Advocates flow control and requirement to match infiltration rates and mandate some prescriptive LID techniques (Hybrid approach combining Options A and B).
- Allow continued mixing of traditional stormwater management and LID techniques especially for high flow situations.
- If a checklist approach is used, don't miss focus on approved functions for site conditions.
- From a Phase 2 city's perspective: It's rare to have a 1 acre site. Retention of native vegetation is very difficult for cities, especially older cities, compared to counties. We often don't have native vegetation and soils anymore. And on small sites, it is difficult to meet a native vegetation retention standard.

Implementation Schedule for Hydrologic Performance Standards

In the Permit Framework document, Ecology proposed the idea of setting near-term and longer-term hydrologic performance standards. This was based on the concept that in the near-term, with changes to stormwater codes that are rapid to implement, LID “engineering techniques” could be utilized; while longer-term performance would be based on utilization of LID “development principles”, requiring broader development code changes that take longer to implement.

- Some jurisdictions have a stormwater manual that can be updated administratively, but development codes must go through the City council, etc.
- Many municipalities, such as Redmond, only allow changes to Comprehensive Plan to be made once annually.
 - It requires time to gear up and get it on the annual docket.
 - The implementation should be done in parallel with Stormwater Management updates.
 - Native vegetation and redevelopment impervious surfaces are part of the development codes, which would require revision.
 - Longer term implementation could be at least 1 year.
- Timing varies by municipality/jurisdiction. In the City of Bremerton experience, it took a number of different processes to implement.
 - Revision to the Comprehensive Plan was not needed, as LID policies were in place.
 - 2 to 3 years to accept within departments and training.
 - Objectives and targets were phased in. The first year the policy was introduced and began training. The second year brought in more training.
 - Need to bring education along with the code change.
 - Bremerton has done the full process in 2 to 3 years with Comp Plan policies already in place.
- The intent with the Phase 1 and Phase 2 process was to bring larger jurisdictions up to speed, then the smaller jurisdictions could benefit from lessons learned or products produced in the process.
- Very small jurisdictions need assistance and education. These are ‘unfunded mandates’. Where does the money come from?
- EPA prefers the use of one hydrologic performance standard in the next permit in 2012 with a requirement to do enabling work in advance. Jurisdictions are now required to identify the barriers. There is enough information out there to allow the jurisdictions to

know that it is coming and plan in advance to address development regulations in 1-2 years.

- Skeptical of 2 phase process. We don't want to encourage "paste on" LID techniques to conventional development. LID would get bad name. The key is site planning. We should do it once and get it right.
- Similar process for LID implementation to the previous work. Identify milestones over time, such as... adopt a manual, revise code, etc. Previous process used for Phase 2 permit implementation is workable precedent.
- Should have either milestones or a compliance schedule. The municipalities need to analyze what changes are required.
- Process could take 18 to 24 months. Recent reductions in workforce due to the economy, makes the process difficult. Engineering design standards are easier because they can be done by City Engineer. Codes require a much longer, more difficult process with the council schedule. Local government staffing re development codes is funded by development fees. Because development is way down, staffs are way down.
- Development codes could be enforced immediately through a Planned Development District (PDD) process, but that is not seen to be a viable option. A more reasonable comprehensive process would be more than three years.
- If we make LID required through all zones, it would require a lot of code changes. Some require more changes than others. In AHBL and PSP experience, similar language changes occur throughout many codes.
- PSP provided recommendations to 36 different communities to "permit" and "allow and encourage" LID. Now they are "requiring where feasible". May be in the jurisdiction of Public Works Director to decide "where feasible".
- Should communicate starting in June 2010 what will be required in 2012 so preparation can begin. Need to get on calendars, provide training, etc.
- Can the costs of code changes be passed on to new private developers? Jurisdictions should raise rates to pay for Phase 1 and Phase 2 LID requirements.
- Concept is to stagger timing of Phase 1 and Phase 2 LID requirements, but with good advance notice and examples from the State, could be similar implementation schedules.
- Phase 1 jurisdictions are not inherently wealthier. Why stagger? If required under CWA, it should be required for all jurisdictions at the same time.
- Should stagger the timing if the Phase 2 is willing to take advantage of the work by the Phase 1. Need a system to allow the shared process and Ecology needs to provide guidance and resources.
- Should consider 1 municipal permit for western Washington (eliminate Phase 1 and 2 distinctions)? With different thresholds for specific requirements by jurisdiction size?
- Should stagger the implementation. Many Phase 2s have no resources.

- Models are out there to review, where the primary permittee is the county and cities are secondary permittees.
- Ecology: PCHB defined different implementation schedules for Phase 1 and Phase 2 permits.
- The PCHB was requiring the Phase 1 permit revisions now in this permit. If Ecology is looking at a Phase I permit modification and new requirements in the second round of the Phase II permits -- that would be acceptable. But if we are looking at the 2nd Phase I permit for the revisions, no reason to further stagger Phase II requirements. .
- Ecology: To revise the Phase I during this permit cycle, the LID process finishes in June 2010. To modify Phase 1 this permit cycle, the public comment period would begin in August 2010. The final modification would be issued October or November 2010 at the earliest. Then we must reissue the expiring permits, which means issuing draft permits for public comment in spring 2011, responding to comments in Fall 2011 and final issuance by January 2012.
- Can you consider re-issuing permits early and skip the modification process?
- Ecology: We need +/- 9 months including a 3-month minimum public comment period prior to issuance.
- Maybe reissued municipal permits in 2012? With advance notice.

Different Performance Standards for Different Conditions or One Single Performance standard with an “Exceptions” Process?

Two options for performance standards have been discussed in the meetings to date:

- In the Permit Framework document, Ecology proposed the idea of setting different hydrologic performance standards for differing soil types, development densities and types of development (eg residential, commercial, redevelopment) – based on what combination of LID measures are judged to be feasible for those conditions.*
 - Input has been received that alternatively Ecology could set a single hydrologic performance standard, acknowledging that site and project feasibility constraints will limit the ability for all sites to fully meet it. In this process, the Municipality would have a developer use a checklist and feasibility exceptions to show that they have achieved the best performance possible given site constraints and development density.*
- As an engineer, would prefer to see one high bar set, with an exceptions process. This allows real engineering to solve the problem.
 - A single standard is easier to educate and train people for, but still concerned about the variance process. The variance process would need to be clear, well educated. Would prefer consistent standard not differences in multiple locations.

- Strongly in favor of highest standard with carefully selected off-ramps for technological reasons. Geology etc can't be an off-ramp just because you want wide driveways and a big footprint.
- Agree but feasibility should include a type of project (e.g. commercial).
- Key issue is whether the performance standard drives the design or vice versa.
- Need an identifiable process that a developer can go through efficiently. Needs to be objective enough that there is some consistency across jurisdictions.
- Concern is that setting standards for different settings relies on crude distinctions between settings and would result in missed opportunities.
- Ecology proposed multiple hydrologic standards so the jurisdiction can set clear requirements for different settings and real world applications.
- Leaning to single standard because there are so many different scenarios. An exceptions process would be needed anyway. So deal with that.
 - Hybrid – different hydrologic standard for different land use basic scenarios and then an exemptions process.
- Build a template for the feasibility decision process. To implement Option B with one high bar.
- A single hydrologic standard, but need to look at opportunities of the site as well. Like a "SEPA Checklist" priorities analogy. Bring in site design.
- Should have a different 'high bar' for urban redevelopment in order to facilitate growth in urban areas.
- Don't want exceptions to be the rule.
- Think about how to define a standard. For example, standard based on comparison to predevelopment runoff takes into account the soil type.
- Getting an exception to meeting the standard because of on-site feasibility issues should just qualify you for a mitigation requirement, i.e., you have to do something somewhere else.
- High standard is based on protection and can get slack if mitigation is provided somewhere else in the watershed.
- Concern about the exceptions process. There is a potential to be a political process or tied to politics and can be counter-productive.
- Concern about the previous suggestion re a requirement for offsite "mitigation" if on-site is not feasible. The PCHB ruling states "implement LID where feasible".
- Mitigation is an issue of economic feasibility.
- "Communalize" mitigation. Don't put all the costs on the developer. For example, in Clark Co. can tie it to the watershed level.

Implementation Barriers

This discussion outlined the range of implementation barriers members have experienced and others that can be anticipated.

- Should there be different standards for commercial vs residential? Why? Commercial developers have many opportunities to meet the standards. No need to differentiate.
- A stringent flow control standard – may be different combination of conventional vs LID to meet it, but it can be met.
- Many opportunities for creative design – need to light the fire.
- Set design standard and have developers solve the problem. May use a variety of techniques to meet.
- Receptiveness of market and financial institution; concern about additional liability and lack of trained engineers to do the work.
- Siting of the project is important, should emphasize smart site location.
- Goal is to get LID implemented. Economic feasibility plays a role. There are economic constraints.
- Can get into trouble if we force specific techniques. Should make them meet performance standard with a menu of options.
- There is a flow control standard that is not optional. Good current information indicates that LID will meet flow control standard and be cost effective, even save money. Must document the project with and without LID and show why LID is not economically feasible. Need to provide some education on saving money with LID.
- Larry can provide case studies with LID saving money over conventional flow control techniques.
- But also need to provide affordable housing – important to set the standard; not dictate the techniques.
- Often the initial capital cost is lower, but concerned about long term O+M cost.
- A big barrier is lack of knowledge and cost of O+M. These costs shift to the public for O+M. How do we make sure that it will still be working 20 years from now?
- PSP research suggests LID is cost effective.
- There is a difference between cost and loss of potential profit because of regulations.
- A lack of resources for development community is a barrier.
- Need to have a streamlined process for small projects.

- Economic feasibility can be largely resolved by developing a small site development toolbox that applies to single family developments and projects that disturb less than x acres with a clear menu of choices. The menu of choices is cheaper and easier. It gives people a straightforward path.
- Big projects will hire the needed engineering resources for custom design.
- Cost of maintenance is an issue:
 - Retooling conventional systems to LID.
 - Training.
- There will be maintenance issues with rain gardens on private property.
- Avoid techniques that require maintenance – another reason to avoid harm in the first place – retention of native vegetation is not a maintenance burden.
- Interest and technical training for the engineering community.
 - Then there will be a transition period.
 - Need to train engineers on both sides of counter.
- Road standards and safety concerns:
 - Fire safety width.
 - Need them to change perspective.
 - Is this consistent with the residential goals?
- #1 complaint is that the roads are too big. So, the public is not a barrier to smaller roads
- There are State laws requiring fire access that may need to change.
- PSP experience with 36 governments:
 - A key criterion for fire safety access is a 10-foot travel lane. So we have a 20-foot road, limited parking – this was successful with fire departments.
 - PSP has documentation about this process that may be useful to others.
- Design speed is another State law that may need to be changed.
- Kitsap changes to design speed made a huge difference in design for low flow roads. With lower travel speed limit, we were able to reduce the required radii for curves.
- There is a manual of practice for “pedestrian friendly communities’ published by the Institute of Highway Engineers.
- Community needs a better understanding of the performance of different LID techniques and related calibration of models and monitoring data.
- Need a better understanding of the physics within LID zone soils, evapotranspiration, etc. Using science regarding infiltration and update for better modeling.

- Another barrier is the State Vesting Law. Concern regarding the surge of applications just before permit a deadline. Encourages the construction of conventional project when it can be better.

Public Input

- The lack of modeling and sizing tools and limited geotechnical information is a barrier.
- Agree the concept of multiple high bars to fit with off ramps. The exception process could be a barrier. It should not be necessary to invoke an “exception” or “variance” process if you can show that your site qualifies for an off-ramp that is acknowledged in the code.
- Don’t use the terms “variance”, “exempt” or “exception” rather just demonstrate that it is infeasible. If they can’t demonstrate it, then they have to do it.
- “Performance Standard” sounds like “Development standard”. Suggest calling it a “perf target” to again avoid a “variance process”.
- We’re more interested in a process to determine feasibility rather than a performance standard – especially in urban redevelopment context. It is premature to establish a performance standard now. Clear consistent process to demonstrate feasibility.
- Regarding cost – remember that we are considering requiring LID in ultra-urban areas that don’t have a flow control requirement; therefore it is an added cost.
- Not just cost but also time to permit and execute the project. Needs to be some certainty regarding what is required upfront. What hurts a development proposal more than anything is uncertainty. Developers try to avoid things requiring variance or special permission. Allows too much uncertainty.
- There is a hidden danger in establishing a high performance bar with off-ramps. If the legality of the off-ramps is challenged and they are thrown-out, then the only avenue for not meeting the standard is through a variance process. That will make development review difficult and untimely.
- Maintenance is a concern if distributing and moving facility.
- If cost effective, why have some recommended ‘shrinking the model’ regarding taking into account evapotranspiration?

Input on Agenda Items for Next IAC Meeting

- Prep in a similar manner with an updated permit framework to take to stakeholders.
- Is helpful to have Ecology input.

- Drill down on performance standard.
- Evolve the performance standard as much as possible.
- Based on SVR modeling: one vs multiple performance standards?
- Evolve the Permit Framework re: options discussed today – hybrid approach.
- If consider hybrid where performance standard(s) is augmented by a prioritized menu of principals and techniques, should have a discussion about that prioritized menu.
- More discussion of Feasibility.