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

Joint Advisory Committee Meeting
May 12, 2010, 10:00 am–4:00pm at
General Administration Building
MEETING SUMMARY

Goal of the Meeting: The goal of this meeting was to obtain more specific recommendations regarding the feasibility review process using the Seattle approach as a model; to solicit suggestions on how to enforce LID maintenance on private property; and discuss how to implement the requirement for code changes.

Agenda

Presentation by City of Seattle to outline the Seattle LID approach and feasibility review framework

Discussion of feasibility review process

LID Implementation on private property

NPDES Permit Requirement for LID Related Code Changes

ATTENDEES

A list of attendees is attached.

MEETING SUMMARY

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

Seattle Presentation (A copy of the powerpoint presentation is posted on the Ecology webpage)

- Different parts of the city have different standards. The goal of green stormwater infrastructure (GSI) in some areas includes preventing flooding.
- All single family residence projects require GSI, as do other projects with more than 2000 sq ft of created or replaced impervious surface. Larger projects have a performance standard.
- Regarding mandatory versus encouraging LID - currently Seattle does not mandate that the site design accommodate LID.
- Developed sizing factors for the hydrologic performance standard.

- GSI targets the smaller storms, is impervious surface-based (not "effective" which Seattle found difficult to define), and is pre-sized using a calculator.
- How we are grappling with cost for municipal projects: if the GSI results in stormwater costs that are less than 10% more than conventional, then the project is approved. If costs exceed 10%, it is less likely. This is based on a small group discussion regarding what is reasonable for the first few years. Later they will use the information to develop a rule of thumb.
- The approach assumes that a project will create or replace >5000 sq ft of impervious surface before there's a need for an engineer to design the drainage system.
- Do not expect added review time unless application includes a significant feasibility "out" that is site specific.
- The approach requires the project to build what is possible on site and try to get to 100%, but getting to 100% is not required. This demonstrates maximum extent feasible.
- Regarding competing needs (example – bike lane) it acknowledges that there are times when GSI is less important than other goals.
- Goal is to get more GSI versus meeting a performance standard, then to track how it works and improve over time.

DISCUSSION TOPICS AND QUESTIONS

Question #1: How would you adapt the City of Seattle feasibility review approach to apply to a full range of land use types and densities for both new development and redevelopment?

Discussion:

- Question: Why are there no PIN foundations in the suite of BMPs?
    - Answer: There could be, but in some areas this BMP did not work well.
- Water quality is poor because the approach is to design first and then address stormwater. The new paradigm with LID is that it has to be the driver for site design for new development and redevelopment. Need to design projects to reduce footprint and retain vegetation.
- The LID performance standard should be mandatory except where there is technical infeasibility.
- The permit needs to define what is technically infeasible.
- Concern regarding how municipalities like Kelso would meet standards where most areas are technically infeasible for infiltration because it is in a floodplain.
- Oppose the suggestion that LID should drive site design. We still have to market homes. The costs rise if we have to re-design repeatedly to meet mandatory standards. The resulting development may not be able to sell to the public. Prefer the flexibility of the

Seattle approach. Have to consider the public reception for LID rather than force it on buyers.

- In counties we have more options than SPU. Could there be more flexibility, such as some lots in the single family development that infiltrate all flows and others not? We might have different standards based on the situation.
- Could apply same Seattle model process to greenfield areas, but with different results. More LID would be feasible.
- In a rural county, could mitigate all the impervious surface at the single family residence, including the last 1500 sq ft.
- If use this approach in developing areas the jurisdiction could add requirements or a checklist that looked at elements of site design.
- For larger sites the LID requirements for site design should be more stringent. For example, it could require retaining more native vegetation.
- The Seattle approach (a checklist) works well for sites below the threshold for flow control standard. Adding more for site design would move away from the checklist, as it isn't always an easy yes and no.
- Prefer the way Seattle included a basin assessment and boundaries to require different approaches in different basins. This is better than a focus on inside and outside of the UGA. Some areas (streams) within the UGA can still be high quality. The Seattle checklist hybrid is OK, but in green fields, we can apply a lot more. Concerning marketing, we can build stuff that is very marketable.
- In the example of a mini mall or subdivision outside the UGA, we can require the site to meet the hydrologic performance standard.
- Seattle is a good foundation for each jurisdiction to modify.
- Framework is sound. It provides reasonableness, and it is documentable. It is similar to the work in Bremerton where it could apply. It's a good basis for each jurisdiction to add individualized application questions at the site level.
- Seattle approach is a good basis. The standards Tracey said are coming in the future for cost will be very important so developer is not expected to do multiple iterations for review.
- This is a hybrid, with both a performance standard and a checklist. It is a good process weighted toward feasibility review. It is good for a highly urban area. When move out of urban areas we should strengthen the performance standard to be a much more rigorous driver of site design.
- There is not a big difference between a checklist and a performance standard with checklist. There is still a need for a performance standard to size the BMP and assess the environmental benefit. See it as a continuum with the two ends as:

Highly urbanized
- GSI BMPS
- Feasibility checklist
- More off-ramps

Greenfields
- GSI BMPS and strong performance standard
- Feasibility checklist
- Fewer off-ramps

- Perhaps the performance standard is the same, but the percent of sites meeting the standards will vary.
- The checklist doesn't let people off the hook. In a county the list would add retention of native vegetation. When you add some of those features in less urban areas there are more options for meeting the performance standard. Can give the applicant the option of meeting the performance standard.
- The problem isn't the design, it's the process. This is what adds cost for the developer. If you give the applicant the option to switch to performance standard and use the model, they have flexibility. "Hybrid" system of a performance standard with feasibility checklist is a workable process for reducing the cost of process for developers.
- Seattle approach is a good starting point. A clear process very important. Site design needs to be a deliberate, thoughtful process. It can't be a standard off-the-shelf design.
- What the performance standard is set at is key to how this works. Cost consideration is a concern. If providing some relief for cost, be careful how it is provided. If we open the door at all, it should be very limited. Site design is the most critical part of LID. Basins with sensitive resources need a performance standard and site design requirements.
- Tech feasibility should be the primary consideration for an off-ramp, not cost.
- In basins with sensitive resources good site design most important. LID tech memo good input. The LID technical manual is a supporting document for this aspect. It has to be upfront in a checklist.
- Cost decision needs to be consistent across the state. Otherwise, some will have advantages over others. Jurisdictions can decide, but Ecology could set up a committee of local governments to review them and address consistency.
- Add to the checklist specifics regarding lot size, clustering, native vegetation and revegetation. Techniques should also include LID foundations.
- Watershed and land use mapping can help focus where specific site design requirements are needed and/or feasible. This would reduce rigid site designs.
- Should not do restrictive site design requirement at the outset. Small contractors would have a problem. Local government staff at the permit counter need a lot of training to be able to help them through this transition. Contractors' heads are spinning on the Seattle checklist. This should not be mandatory. Review it at 5 years before making more restrictive.

Question #2: Unless there are identified engineering limits, bioretention, permeable pavements, and partial dispersion techniques do not seem to be cost constrained. Should cost feasibility apply only to green roofs, rainwater harvesting, and alternative foundations?

Discussion:

- Building lots in the UGA of Kitsap are 8,000 sq. ft. Adding an additional layer of set asides will reduce it. Even partial dispersion could be cost constrained due to multiple competing needs.
- Alternative foundations should not be cost constrained, There is not a larger cost. Our current credit is quite a lot. It probably offsets the cost.
- The cost question should not be asked. There is no cost feasibility option applied to meeting the existing flow control standard. People use expensive vaults if necessary. Tell them to meet a standard and give the developer options to meet it.
- Over time BMPs costs will go down. If we set a cost limit, we'd have to keep adjusting it. Don't tie it to specific BMPs.
- On some sites green roofs and rainwater harvesting may be only possible (can't infiltrate) so those BMPs should not have a break on cost.
- We don't have enough experience with green roofs or rainwater harvesting. There are still a lot of unknowns.
- Would like for a larger body to come up with the cost framework, at the state level.
- It's not the cost of the BMP, it's the cost of the space and competing needs issues, like when you have to add a floor to the building to reduce the footprint. It's the cost of getting the same function on the lot in a reduced space.
- Add retaining trees to the list.
- Set a performance standard and let the developers meet it.
- Rainwater harvesting is extremely expensive.
- Don't limit what BMPs qualify for cost consideration. It is very site specific.
- In an industrial/commercial area like ports, bioretention may be cheap but the land is very expensive. Don't require specific techniques in these settings.
- It is a matter of scale. Large LID developments can work better. Think about the overall performance versus mandating a specific approach. There may be other consequences.
- There are a lot of current land use construction and environmental laws that affect site design such as setbacks and drainfields. Developers still have to do these. There should not be double standard for LID.
- Also think of cost savings and the cost of shipping water offsite. How do we build in the cost savings to the jurisdiction with reduced amount of overall stormwater management? This is a slippery slope and not easily addressed at a broad scale.
- Question whether it is an added cost. LID is actually cheaper in many cases.

<u>Question #3:</u> Are there situations in which you think it would be more appropriate to use a mandatory list of LID requirements with feasibility review (rather than a performance standard based approach)? Examples include:

- In non-flow control watersheds.
- On very small projects.
- For specific development types that do not usually engage an engineer.

Discussion:

- Question: What does mandatory mean in this context?
  - Answer: For example, in non-flow control watersheds, unless there is a technical constraint, the project must use bioretention and permeable pavement. It does not have a performance standard, but you must do it if you can.
- Question: But how would you size the LID technique? The developer would need some minimum guidance.
  - Answer: Need some site specific criteria to size a BMP, such as the rain garden must be as large as 5% of the site.
- There would need to be some technical work to size them to avoid causing problems like ponding and mosquito breeding.
- It could require an extension of min requirement #5, where you do the maximum you can on the site. That type of case would make sense.
- Seattle applies their performance standard supported framework to the smallest of sites. Why do we need this? We could apply the performance standard to all that require flow control and this would be for those below the threshold.
- In non-flow control areas, would it apply to all impervious surfaces or only pollution generating impervious surfaces (PGIS)? Size it for the appropriate footprint and then apply water quality treatment BMPs for PGIS. For non-PGIS Seattle is now looking at GSI, but only trees, dispersion, and bioretention, and cisterns. We look at lower cost BMPs, as a combination of climate adaptation as well as flow control.
- For pollution generating surface look at water quality focused BMPs.
- For non-pollution generating impervious surface - still green infrastructure - trees/dispersion/bioretention - lower cost suite (ones that are clearly reasonable to require) - driven much by climate adaptation goals.
- Water quality has not been on the table. In non flow control watersheds LID significantly benefits water quality. Certain practices should be required.
- If pollution generating impervious surface, then require techniques that address water quality.
- Depends on where set the performance standard. There are situations where LID should be required without a performance standard. This is more about how. Where there is PGIS apply water quality BMPs. The small projects of <2000 square feet -- yes, but the 2000-10,000 is a gray area. Where to set a reasonable performance standard and size.

- Need to encourage LID where hydrologic performance standard doesn't apply. It should refer to the treatment standard of 91%.
- Concern regarding problems of long-term maintenance. When will you need to employ an engineer? Does the homeowner maintain the facility? Keep small projects out of this process during the first round of permit requirements and then evaluate. In the next permit you can bring it to this scale.
- Currently we define small at 2000-5000 square ft new and replaced impervious surface. There isn't a difference between a checklist and performance standard with checklist – it's just a continuum. New development small sites with higher impervious surface could require mitigation.
- For very small sites, the Seattle approach is ok.
- For a non-flow control areas, there is no easy answer. If adjacent to saltwater then water quality protection is involved. This is complex and although the answer is no, it requires further evaluation.

Public Input

- Some LID practices, especially permeable pavement, may be banned under proposed revision to the International Green Construction Code. This would ban 50% of hard surfaces from all but those that reflect light. Permeable pavements don't (urban heat island). It's out for public comment. Encourage input and comment.
- Performance standard is not based on a lot of science. This prescriptive approach is subject to changing science. Set performance standards and allow municipalities to establish alternatives.
- PCHB ruled "LID where feasible" and said it should harmonize with GMA. Outside the UGAs there may not be competing interests, but in urban areas there are lots of competing needs. So really will never achieve performance standard in highly urban areas. There is a difference between a rigorous checklist and a performance standard with feasibility review. You aren't going to be able to achieve a performance standard all the time with redevelopment projects because of competing needs and site limitations. We need to be able to accept density. We can give more in competing needs. In some areas they are more important than others. Seattle does not implement a performance standard with feasibility review. It is "do everything feasible towards performance based target".
- Build requirements that you know will work and know how they will work, for example, with the sizing tool. Also, don't over-regulate and include things that don't work or take away from competing needs.
- SPU addresses the urban environment. The development review people in Bellevue couldn't follow this. Any approach requires training for local government staff and developers. It could be adapted with sizing factors as Kitsap County is doing for a regional approach. It needs to be simplified, but it's a good start.

- Regarding cost, if some municipalities are more lenient there will be a competitiveness factor in where development occurs. A state committee should look at the cost of conventional versus LID over 50 years of lifespan costs to include maintenance also.
- Not enough environmental data/experience yet to see if highly urban can meet 100% in calculator.
- Don't tie the cost evaluation to specific BMPs. Don't eliminate some BMPs in cost evaluation. Cost should be a consideration for all. And remember the cost benefits of LID as well.
- Cost of ability to implement is much more about the site and project factors rather than specific BMPs.
- Some urban lots with Right of Way accepting some water (like SEA Streets) can approach meeting the forested condition.
- SEA Streets project is a retrofit, and can't be compared with developments on private property. We can do a lot in the Right of Way when we do the whole ROW, but a single family residence using a single lot frontage is less flexible.
- Seattle is building block but we need to enlarge the discussion. Achieving standards is difficult site by site so we need some flexibility. Voluntary is one way. The other is a strong variance approach, and these could be combined like in a continuum.
- Use and benefits in the ROW depends on the nature of the development. In a subdivision you can achieve some benefits, but a single lot on a small lot – why bother? Recognize the difference between small infill and larger redevelopment.
- LID is not a cost savings but an add-on. We still need a regional drainage system for existing development. The permit has to provide requirements that can work.
- Municipalities need a knowledge base. LID must be implemented in way that jurisdictions can implement. We will need training.
- When we rolled out the conventional techniques, that that was complicated. LID is just new, it's not that complicated.
- Encourage that we apply LID to sites lower than 0.25 in/hr. There are lots of areas that will be less than that, but we can still design a lot of LID and get a lot of benefit. Infiltration rates should not be a limiting factor. Even when using these "simplified approaches," you still need to do testing on soils, not assume a minimum rate and assume it will work. A cookie cutter approach will not work because it is extremely variable.
- Regarding setbacks – on small lots bioretention at the lot line is hard. We need to review setbacks from buildings for infiltration facilities.
- Be very careful about variance approach, as these are hard to do. Laws need to be implementable without assumption of the need for a variance.

Questions 4 and 5:

4. *Several concerns have been raised regarding implementation and long-term reliability of LID features. Regarding construction and implementation on private property, the article* ***Implementing LID for New Development*** *by Gordon S. England raises a number of issues, including those listed below. Please respond to one or more of these questions, or comment on a similar question. What are ways that these implementation issues can be addressed and reduced as obstacles to LID implementation?*

5. *Concerns have also been raised regarding long-term maintenance, inspection, and enforcement of LID measures on private property, that relate to the long-term reliability of LID on private property. Reference the City of Bellevue's recently adopted "natural drainage practices standards" for a description of the type of maintenance and inspection needed. See pages 29 through 60 at:*
   http://www.bellevuewa.gov/pdf/Utilities/Utilities_Storm_Maintenance_Standards_Feb_2010.pdf
   What are ways that these maintenance, inspection, and enforcement issues can be addressed and reduced as obstacles to LID implementation?

Discussion:

- Building inspections focus on the building and the surrounding 2 ft, while public works inspects beyond that. We need education of the staff for multiple-purpose inspections.
- Because of budget cuts we have public works and commercial development inspectors housed together. We could retrain them to combine inspections for dual purpose. In a small city there is more opportunity for interaction and consolidation.
- The problems for LID are very analogous to on-site septic systems. How is that done? We can put together good suggestions and distribute this information.
- In Seattle site inspection works with building inspection. Seattle outlines clear responsibilities about how it gets done. See on our website Client Assist memos 32-35. http://www.seattle.gov/util/Services/Drainage_&_Sewer/Stormwater_Related_Inspections/Maintenance_Inspections/index.asp
- We have septics on site and homeowners maintain them. Thurston County has a plat certification for a design engineer to certify that all systems are in place and functioning. This certifies that facilities are constructed according to the plan. So, make design engineer responsible to make sure that LID is installed properly.
- What are the mechanisms for circulating papers - this is not published? Maryland and Minnesota good input regarding solutions. Need to learn from experience already being addressed.
- Agree that many of these things are being addressed with existing processes. One is the plat recording. If we think the developer is under-designing, we make a note on the plat. If there are some lots that drain elsewhere, whoever buys it has to take care of it. It's clearly on the plat. For inspections, each jurisdiction will coordinate differently.

- The LID access is no different than current drainage easements on private property.
- This article is counterproductive. It's so far on the negative side and not appropriate for our area.
- Mechanisms are in place for warranty of developer completion. It is a barrier but we can deal with it.
- For lot grading, this could be true. We know how to do it.
- Technology is proven for underdrains. They don't fail. If they do, they are using the wrong ones.
- There are not hundreds of LID ponds on a development.
- We worked with the fire department to reduce and narrow the streets. This can be done.
- If ponds are draining to the rear, they can tightline them to a swale.
- The article was brought to Ecology's attention and distributed for discussion purposes. It does not represent Ecology's opinion or have Ecology support. Used it to get issues on the table.
- King County combined inspections into one department, where one inspector would do multiple kinds of inspection. It was problematic. Different people have different skills – maybe the building code but not site conditions. It's hard to understand multiple codes. Be careful not to lose quality and knowledge with integration.
- A lot of those arguments will be put forward. Changing the paradigm is going to be difficult. We face challenges like any other new venture. But we still have to get it done. We need to ramp-up education.
- There has been education and outreach but many have not been reached. Ecology should require LID training for O&M and inspection. Hopefully, Ecology and the Puget Sound Partnership can build training programs.
- Puget Sound Partnership help pull together and distribute info regarding removing barriers to O&M and inspection?
- Also need private contractor training.
- The article summarizes reality. The plat developer sells the lots. The bond is a problem. The home builder buys lots to develop and sell to home owner, but then the developer has to go back on the lot. One solution is to cluster the rain gardens to serve the road and x houses. It's hard to maintain them in yards. Homebuyers won't maintain things well. More flexible designs can centralize the systems.
- Education. We need to duplicate Curtis's technical training for engineers, developers and staff at the permit counter.
- Need tools that help train sequencing of construction and maintenance. If they are already in hand to address, we need to spread the word to solve real problems during construction.

- These are legitimate concerns regarding maintenance, but they exist for conventional, not just LID.
- Only a few developers are doing LID. They will want more information regarding sequencing and transfer of responsibilities.
- Another issue is the timeline for inspections. Too many layers could slow it down. Ecology should include a timeline for inspections to occur to prevent excessive delay.
- Keep some flexibility in the roles of developers and builders in terms of transferring liability. They need freedom to contract and transfer liability for the bond. Individual lot builders will oppose having to bond.
- Bonding and release of bonding is difficult and becoming harder. This is a problem for developers that is difficult to solve.
- It's better to give the responsibility to homeowners associations than individual homeowners.
- Great state of the art training through WSU. Last year 1100 attended the workshops. Response by the public sector is good, but the private sector is harder to reach.
- Look at how we handle maintenance now, then enlarge it to address LID.
- Keep bioretention in the ROW or along it for easier access.
- Puget Sound Partnership did a survey regarding the jurisdictions they assisted in writing regulations. The survey looks at LID implementation and is available on PSP homepage. It asks about barriers to LID and ways to solve them. The consultant also makes recommendations.
- This article shows what can happen if you don't provide direction. The state should provide clear direction re implementing LID and how to run programs and assist with guidance. We have regulatory systems that work and ways to manage implementation. So let's collect and share.
- Septics are a good model – with time of sale transfer inspections, and maintenance by utility districts. SW utilities have rate authority. So, we have a mechanism to charge rates that can pay for inspections.
- Septics use private inspectors under a homeowner contract. Some locals require a 2-year post construction inspection by a qualified private consultant and submission of a report.
- Need clear upfront guidelines on the developer-homebuilder relationship. Home builders seem to be fine with finishing the grading and planting of rain gardens at the end of their project. But they need to know it upfront so that they budget for it.
- Also, need clear guidelines on where the stormwater facility is located in project plans and specifications. Sometimes it's in landscaping and in others in drainage.
- The septic system model for training inspectors could work. WSU can easily transfer this type of training directly to LID. We can train landscape professionals to take care of LID systems.

- Ecology or someone should fund training for 3rd party professional site inspectors – for installation and the plant establishment period for commercial systems. They would file a report with the local government. The local government could provide a list of trained professionals.
- Landscaper certification for bioretention is a green job opportunity.
- Seattle will be working with Ecology to limit the number of inspections on small distributed systems. Does every tree and bioretention system have to be inspected every year?
- The local government can put notes on the title to lots regarding requirements so the homebuilder knows he has to do a raingarden.
- Require private inspection and certification at points of transfer of title.
- Municipality ability to require homeowner maintenance or pay municipality for maintenance. Many municipalities do this now by telling homeowners they have to fix the cracked sidewalk.
- Maintenance education is a weak link. In a large development the homeowners association hires the low bid landscaping company that doesn't always know function from beautiful. Need to certify them or declare that they received training in LID maintenance .
- Bellevue materials are very helpful
- List of certified individuals- look at Dr. Bill Hunt NC State runs training program for landscapers.
- Distribute materials regarding good precedents for maintenance, inspection, enforcement. Send information to Ed O'Brien.

Public Input

- It sounds like municipalities prefer a 3rd party to perform maintenance. Regarding O&M on private property, It's good to have a list of certified technicians and a training program for landscapers. Without it, the O&M is overwhelming and well-designed systems will be altered for plantings.
- Would like inspector training for private property and 3rd party certification at the time of sale that LID in place and functional. This would happen on average every 5 years.
- Need to broaden the reach of the WSU training to engineers contractors and private inspectors. They are generally not attending the workshops. There are not enough qualified engineers and inspectors to make this work. Because of recent economy downturn, Public Works budgets are down and won't increase in the near term. They probably won't raise stormwater utility fees either. So, we need the private sector to pick-up the role of inspections.
- Lots of experience at High Point. Need a really good O&M manual for the development. Need ongoing education to transfer knowledge to crews that have staff turnover.

- Seattle and Bellevue have checklists for inspectors of pervious pavement and bioretention for construction and maintenance.
- Very adverse to bonds. Look at other options like escrow accounts accessible for the maintenance. We need more flexibility for the new approach.
- Know what needs to be done We inspect and maintain over 1000 facilities in Clark County. There's a ramp up and that is the problem. Need to focus on time frame for how to effectively train and deploy.
- Use GPS to track inspections quickly.
- Scale so that it's applicable to both small and large cities. Small cities don't have funds for GPS equipment. Mapping is done by paper.
- Do you draw in private groups for training by requiring certification? If so, the demand will equal the market.
- Trainings to date are an even split between private engineers and municipalities, but not many developer/builders.
- A good idea to have training for maintenance certification.

<u>Question # 6:</u> How specific should the Municipal Stormwater NPDES permit requirement be that requires each Municipality to update all relevant development codes, rules, and site development standards for the purpose of incorporating LID principles?

a. *Should it specifically name the topic areas that must be reviewed? (e.g., road widths, conveyance system designs, setbacks, parking requirements, minimum vegetation retention)*
b. *Should it set maximum/minimum targets in some cases? (e.g., residential road widths, total impervious areas for different development types/residential densities)*
c. *Should it mandate a process that includes participation by all potentially affected parties? (e.g., fire departments, public works dept, water and power utilities)*

Discussion:

- Yes on Option A. No on Option B – give a performance standard and we'll work it into the code.
- Strongly support setting a standard. Give guidance documents to jurisdictions to assist them in updating codes but do not require specific code changes. Opposed to the detail because every jurisdiction would be subject to noncompliance if we didn't, for example, change the parking standard.
- Define the end result and municipalities will make changes to accomplish it.
- Ecology should not get too specific because there is a lot of municipal variability and differences in organization. For example, there are too many different types of roads for

that detail. Some cities have Fire Districts outside the city, so it isn't the same organization.

- Would like it to say – here's what to evaluate and then provide guidance.
- Puget Sound Partnership has good code update information as assistance.
- Needs to include certain things that have to be done like preserving vegetation and site planning. Otherwise some Phase II's won't do it. Some version of LID could be done without changing zoning codes, but that's not LID. There should be some element of this in the permit, telling them to look at them. But not how much to change them or who needs to be involved.
- Permit should require going through code change process. Identify the areas to look at and provide guidance and examples of issues to address, but not specific targets.
- Give types of things to change, like how to handle road maintenance requirements. Say they have to do it and give some examples.
- Don't mandate numbers/targets or who has to be involved.
- Could mandate elimination of obstacles or mandate jurisdiction to review codes.
- Provide a comprehensive list and a list of questions to help them understand what to look at.
- The participation is part of the public process. In Kitsap County this would be 10 or 11 ordinances with lots of stakeholders.
- Local governments want flexibility to come up with good solution but also want to be told what to do. We want more detail in the permit with clear expectations, but not to the level of road widths. We need to update the manual and expand it. For flexibility they could submit LID programs to Ecology to review. Is this a resource concern?
- Spell out program elements.
- More detail the better.
- Agree don't mandate to local government specifics like road widths.
- Include detail. Option A -- Ought to ID what areas need to be reviewed. Option B – Yes, adopt 65-0-10 standard and mandate it to protect watersheds. Option C -- No.
- Necessary to review codes to eliminate barriers to proper implementation of LID (e.g., that prohibit distributed facilities or require wide roads). This is already in the permit and should be underway.
- Should there be requirements in code in addition to the performance standard? The performance standard is one leg of the stool. LID is by our definition part of land use and the performance standard is a component. Need code requirements to preserve native vegetation and limit impervious surface area.
- No to Option C. To get to a performance standard need a lot of options for site assessment and layout. Using LID requires a sophisticated design. Need guidance for some jurisdictions to do mixed use zoning.

- Mixed use is different. Call out the categories and issues (yes to Option A) to address in code changes, consider additional criteria to limit effective impervious area in permit. Look at the big picture: TIA, EIA, native vegetation protection. But don't tell them the way to do it (No to Option C).
- Establish a clear performance standard. Communities should have to do code review.
- A) Codes must change to ensure they do not require a variance or exceptions to implement LID to achieve the performance standard. The intent isn't to achieve any specific change except to the degree that applicants won't have to get deviations and variances to implement LID designs. So – "no" to Option B.
- Ongoing process for code changes to remove barriers. But maybe a checklist that requires them to look for certain impediments.
- For Phase II jurisdictions the PCHB said to identify barriers, not eliminate barriers. That's enough for this permit cycle.
- Oppose Option B and Option C due to exposure to lawsuits. Concerned this is land use planning process outside land use planning process.
- Phase II's will not proceed with ordinance changes unless there is a driver. There are a lot of things in codes that are barriers. They will need a time frame within which to make changes.
- Tell them to look at the road standards, not the width of the roads.

Public Input

- The only motivation for change is to set a standard for native growth retention and limits on impervious area. Telling them to look at it isn't enough to make them change it.
- Agree Minimum native vegetation and maximum total impervious are important. These may be appropriate for Ecology to mandate and require review of other codes.
- Minimum requirement 6 and 7 incentivize native vegetation retention and impervious area reduction.
- In NPDES permit if there are requirements for clustering, land use planning, basin planning, road standards, this is a lot for a stormwater permit. Is this the only vehicle? Isn't this better for GMA? Want reasoned approach and don't want LID to fail. If 30% of these facilities fail it will overwhelm the MS4. Are we trying to take too big a bite in the 2012 permit? SPU is collecting data to evaluate and they are way ahead of the Phase 2's.
- How do we do source control on residential properties to prevent contamination of groundwater?
- Don't' take on road widths and AASHTO standards. Model on successful programs like the Road Maintenance Standards approach.
- Native vegetation and limits on impervious surfaces are land use requirements. Need to happen but in different venue like GMA.

- Concerned it never will be dealt with under GMA. Been waiting 20 years. GMA already includes clean water goals. GMA requires habitat protection but it doesn't happen and won't happen unless this permit requires it. Land use issues are part of LID.
- The obligation is on the jurisdiction - may need different organization. This is a land use issue.
- Concerns have been raised about taking too big a bite with this permit, but actually concerned with taking too small of a bite. Failures occur when we only do partial LID. Need to include evapotranspiration or water will pop out of the ground where you don't want it.
- PS Partnership had fire and safety at table during code change work. We compromised with them and came up with a standard.
- PS Partnership survey is very good input. The feedback is that the changes haven't been implemented because they were not required.
- No, to Option A, B, and C.

Please Note: The June 23rd Meeting has been postponed until August 12th.

- Ecology will come up with a blueprint or outline of our thinking for the permit and will share it before July 30 (revised date).
- At the meeting each committee member will highlight the top 4 issues they have for discussion.
- Ecology is thinking of issuing preliminary draft permit language for review in the fall or early winter for informal comment. In Spring 2011 the draft permits will be issued for formal public review.

LID May 12, 2010

Name	Organization
Lisa Rotmyr	Port of Tacoma
Rod Swanson	CLARK CO
Ron Wierenga	Clark Co
Tom Holz	TWH-LLC
Claire Miccio	WSDOT + UW
WAYNE CARLSON	AHBL
Jaclyn Ford	House of Reps
RAY EDRALIN	GHD
LARRY MOTEL	City of Brenton
Allison Butcher	MBAKS
JENNIFER JOLABEK	MBAKS
PAUL FENDT	CDM
ANNETTE GRIFFY	CITY OF VANCOUVER
MARK HAZURA	CITY OF VANCOUVER
Liv Haselbach	WSU
Shauna Hansen	City of Tacoma

LID May 12, 2010

Name	Organization
Sean Darcy	CONTECH
MARILYN GUTHRIE	PBS
ART CASTLE	HBA of Kitsap
JAN HASSELMAN	Earthjustice
DAVID TUCKER	KITSAP CO.
PAT ALLEN	THURSTON CO.
Doug Navetski	King County
Dawn Anderson	Pierce County
BRUCE WISHART	PEOPLE FOR PUGET SOUND
Claudia Coles	City of Mount Vernon
Nancy Winters	HDR
Theresa Wagner	City of Seattle
Nancy Farrell	Ecology
Larry Schaffner	WSDOT
Karen Epps	WA State Senate
Debby Hyde	Pierce County
Hans Hunger	✓
Dawn Anderson	✓
ROSS DUNNING	Kennedy / Jenks

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Hans Hunger	✓
Dawn Anderson	✓
ROSS DUNNING	Kennedy / Jenks

SIGN IN SHEET
LID Joint Advisory Committee Meeting

GA Building Auditorium **May 12, 2010**

Name	Organization
Harriet Peale	Ecology
Doug Hourie	"
Kate Snider	Floyd / Snider
Tina Gary	"
Rick Watson	City of Bellevue
AL SCHRAMER	Mackay & Sposito, Inc.
Jeremiah Lehman	Stevens Water Monitoring
DeAnn Kirkpatrick	NMFS
Tracy Tackett	Seattle
Cindy Dobrenstein	Herrera
Kathy Gwilym	SvR
Cathy Beam	City of Redmond
PATRICK HAMBOW	CITY OF ICGLSD
Doug Peters	COMMERCE GMS
Bruce Wulkan	PS Partnership
Jane Zimmerman	City of Everett