STORMWATER ORDINANCE UPDATE
TECHNICAL ADVISORY COMMITTEE (TAC)
Meeting #13: Wednesday, February 6, 2008
Washington Department of Fish & Wildlife
2108 Grand Blvd.
1:30 – 3:30 p.m.

N O T E S

Agenda / Introduction

Members Attending
Patrick Harbison, Ryan Billen for Jennifer McClure, Chad McMurry, Fereidoon Safdari, John Milne, Ali Safayi, Mike Misiak, Scott Wilson, Gordon Euler

Members Absent
Mike Soliwoda

Staff
Tim Kraft, Robin Krause, Trista Kobluskie, Sue Stepan

Audience
Sean Darcy, Andrew Stoeckinger

The notes from the January 30, 2008 meeting were approved as submitted.

BOCC Work Session

Mr. Krause reviewed the January 31, 2008 work session with the Board of County Commissioners (BOCC). Attendees included Greg Jellison from the Development Engineering Advisory Board (DEAB), Eric Golemo from DEAB and the Stakeholders Advisory Committee (SAC), Steve Madsen from SAC, and Art Stubbs from the Clean Water Commission and SAC.

The BOCC was not comfortable with the draft ordinance. Two primary concerns were too little involvement of BOCC and too little outreach to rural landowners. The BOCC directed staff as follows:

- Provide a fiscal analysis of cost to implement new code
- Apply the same standard for flow control in the urban and rural areas (remove forested condition from the rural area)
- Adjust the flow control standard to account for sites that have reforested since 1955
- Compare the cost to redevelop a particular site on Highway 99 under current and proposed codes (Steakburger)
- Develop a comprehensive outreach to engage the rural community

Staff is consulting with the BOCC for direction on what the county will submit to Ecology on February 15, 2008, the deadline for submitting a revised proposed code for review. The options are to submit existing code, submit the draft code with the 1955 flow control standard provision, or submit a letter stating that we will be late.

Mr. Milne suggested using existing fiscal analyses and adapting them to Clark County. Mr. Krause clarified that the BOCC wants an analysis of what it will cost the county to retrain staff, review new BMPs, and maintain infrastructure.

Several members wondered if other Phase I entities are struggling to meet the code revision deadline. Mr. Krause replied that most other Phase I entities have been updating development code for the past several years. Snohomish County is closest to our situation. However, the only final versions that have been submitted are King County and WSDOT. Ecology currently is determining equivalency of those proposed codes to the 2005 Western Washington Manual. Mr. Misiak stated that WSDOT has proposed another program (a retrofit strategy) in lieu of defaulting to the pre-developed forested condition. Ecology's concern is how Highway Runoff Manual is written because WSDOT is not the only agency that uses it. Certain provisions apply *only* to DOT.

Mr. Krause said that staff will continue to consult with the BOCC on balancing stream protection and the economic impacts of the code.

Continuation of TAC

Mr. Krause asked TAC if the group should continue. This is the final scheduled meeting. The current phase of the code update process is focused primarily on public outreach and creation of a manual. Mr. Safayi and Mr. Euler agreed that TAC would be helpful in creating a manual. Mr. Krause will contact the group when there are more technical matters to review, probably in March.

LID Manual Review

Rain Barrel
Mr. Safayi questioned the effectiveness of rain barrels in our climate. A 50-gallon tank will take rainfall for a couple of hours and then will overflow. Mr. Kraft: that BMP was specifically requested. Mr. Safayi: the manual will become too thick if filled with ineffectual BMPs. Mr. McMurry asked how credits would work for rain barrels. Mr. Kraft: credits are enumerated by Ecology in the 2005 West Washington Manual. Mr. Krause: we did not want to exclude them. It is an incremental BMP that can be used without costing a lot of money.

Green Roof
Mr. Safayi expressed concern about maintenance of green roofs on residences. He suggested disallowing green roofs on residences or disallowing the credit. He contended that most homeowners will not maintain them, so their proposed function will not continue. Mr. Krause replied that rain gardens have the same risk. We propose to address those concerns by requiring a document to be recorded with the title that states that the facility requires maintenance and allowing the county to do the maintenance if the homeowner has not. Ms. Stepan doubted that tactic would work for green roofs; it would require an easement on a residential roof giving right of entry.

Mr. Golemo noted that the county currently does not inspect roof downspout systems. Mr. Krause wondered what recourse the county would have if somebody tore out a green roof.

Pervious Concrete & Asphalt
Mr. Wilson: recently, our tests showed that each truckload varied in consistency. He asked what standard the county could use to accept or reject the pervious surface into public maintenance. Mr. Krause: the sub-grade could be sealed due to poor construction practices, but that defect would not be visible. Mr. Wilson and Mr. Krause discussed tactics for testing perviousness in other jurisdictions, including power washing the entire surface and opening a fire hydrant. Mr. Golemo suggested locating the low spot along the perimeter and seeing if water drains to it in a storm; if so, the pavement may

not be functioning as designed. Mr. Harbison relayed the Port of Vancouver's technique of opening up a 2" hose and looking for pools greater than 4" wide; those areas are considered failed. Mr. Krause asked what is the correlation between the hose size & rate with the pool size. Mr. Harbison did not know.

Mr. Darcy: Olympia City Council has adopted porous pavement for sidewalks and bike lanes.

The group discussed if neighborhood collector streets are appropriate for porous surfaces. They bear school buses, garbage & recycling trucks. Mr. Krause: the BOCC will have to make the policy decision. Mr. Harbison: ODOT uses it for top course.

Mr. Billen asked for clarification of allowing porous pavement on industrial sites (p. 17). The wording is not consistent with intent.

Mr. Billen asked for clarification of drainage conveyance specifications (p. 18). The intent is unclear. Mr. Kraft will attempt to describe the goal better. Mr. McMurry suggested using a couple of examples. Mr. Safayi, Mr. Harbison and Mr. Krause debated whether the intent is to require water to filter under the road or to prevent it from filtering under the road. Mr. McMurry thought that the intent is to provide a path for removal of excess water on roads where the base course does not daylight.

Mr. McMurry wondered if the specifications for the driveway base material (p. 18) are consistent with intent. It reads as though the fines can only be 5% of the material that passes through the #4 sieve rather than 5% of the total. Mr. Wilson said that standards are changing and require some very clean material. Mr. McMurry contended that other sizes of rock will meet the need and intent of infiltration through pervious pavement. Mr. Krause suggested referring to specific WSDOT gradation specifications. Mr. McMurry and Mr. Wilson thought it would be more reasonable and easier to implement.

Mr. Misiak asked what oil control requirements are in place for porous pavement in high-use areas. Mr. Krause: we limited the use of pervious pavements to where oil / water separators are not otherwise required. Mr. Misiak thought that any parking lot should provide oil control. Mr. McMurry stated that the pavement itself provides a certain amount of treatment through oxidation. Mr. Misiak stated that porous pavement has not been identified as an oil control device. Mr. McMurry agreed. Mr. Krause believed that studies have shown that porous pavement removes pollutants, including oil. Mr. Safayi stated that 25 parking stalls requires an oil / water separator. Mr. Misiak: so that would severely limit the applications where porous pavement would be allowed. Mr. Krause: we will look more into correlating the manual with requirements for high-use intersections and high-volume parking lots. Mr. Billen noted the fundamental difference between a large parking lot constructed of traditional pavement vs. one of porous surface – the porous surface will not concentrate stormwater, so each square foot gets the same amount of treatment, regardless of size of the lot.

Order of Preference for LID BMP Selection
Mr. McMurry asked if the intent is to allow dispersion *only* after a rain garden. And does it preclude a credit for using dispersion? He expressed the desire to use dispersion through lawns prior to bioretention in smaller lot single-family residences. Mr. Kraft: you'll get more credit for a rain garden because it will hold more water. Mr. McMurry: in the types of developments we're doing, native vegetation is unlikely to be retained regardless of credits available.

Mr. Krause reminded the group of the difference between partial dispersion and full dispersion. Items 3 & 4 refer to partial. Item 2 should specify full dispersion, which is possible in rural areas. Full dispersion is the first option after infiltration. In an urban area, full dispersion likely will be impossible.

Mr. McMurry clarified that his question is whether dispersion must only be used after a rain garden. Mr. Kraft: the language is overly harsh. Mr. Safayi believed that item 3 refers to using dispersion as an overflow technique for a rain garden. Mr. Krause replied that dispersing roof runoff over 20 feet of lawn and then routing to a rain garden and/or conveying to a traditional facility should result in a credit. Mr. McMurry: partial dispersion should help reduce pond size.

Ms. Stepan argued against prioritizing BMPs; she preferred leaving the choices up to applicants and their engineers. Mr. Krause: the point is to favor BMPs that are not as costly for county or owners to maintain. Mr. Kraft: that procedure is in the Ecology manual: dispersion, then LID, then flow control.

Mr. Harbison asked if the code will require applicants to consider LID BMPs before utilizing traditional techniques. Mr. Krause: LID is an option; the BOCC would need to form a policy of requiring it. Mr. Harbison noted that item 6 allows traditional techniques, like a pond, only after considering items 1 – 5. Mr. Krause clarified that the intent is to recognize that even LID projects may still need a detention pond at the end of the line.

Mr. Safayi and Mr. Darcy discussed whether infiltration or bioretention are more effective for water quality treatment and flow control.

Mr. Milne suggested stating why the preference is there instead of making people guess.

Mr. McMurry asked if the preference list controls both public and private projects. Ms. Stepan stated that they could be different. Mr. Krause disagreed. Infiltration is a proven technique with lots of supporting data. There is a lot less info about how well privately-maintained porous pavements will function for the next 20 years.

Mr. Harbison noted that jurisdictions have to consider what liabilities they might have even for private BMPs. Under new permit, the jurisdiction is ultimately responsible even for private systems, creeks, and streams. Ms. Stepan: creativity and professional judgment should not be stifled.

Mr. Harbison noted that commercial sites might warrant different treatment than residential.

General Comments
Mr. Harbison requested general formatting changes for ease of use.

Rain Garden
Mr. McMurry requested flexibility to use vertical walls in rain gardens when used as detention. In order to sell them as landscape amenities, people would rather look at rockery than at a 3:1 slope. Theoretically a vertical wall would reduce the available infiltration area. He asked if there is documented evidence that it won't work. Mr. Krause and Mr. Safayi thought that a wall might shade out plants. Mr. McMurry suggested that perhaps a wall makes the rain garden into a stormwater planter box. Mr. Krause will look into it.

Mr. Harbison asked if walls will be allowed in detention ponds. Mr. Misiak: they'll be allowed up to a certain percentage. Mr. Safayi reiterated that the difference is protecting plant growth.

Amended Soils
Mr. Darcy pointed out that the compost quality parameters on page 32 include manure, biosolids, forest products, and food residuals. He contended that nutrients, chemicals, and bacteria levels from those products are unsuitable for infiltration techniques with underdrains that discharge to drywells. Mr. McMurry thought the concern might be valid in an overflow situation, where the facility fills up, potentially dissolves bacteria and chemicals from the compost, then overflows to a drywell or other direct conduit to groundwater.

Mr. Krause said that for most facilities, the compost is for providing soil to support plant growth. A sterile soil will not support plant growth. Mr. Billen said that the Ecology manual requires a treatment liner in certain situations; one option is a sterilized manure layer, which would take care of the bacteria concern. Mr. Krause contended that a proper composting process will kill bacteria. Mr. Darcy said that the county has a huge composting facility, so there is no reason to allow biosolids, manure, and forest byproducts in the compost mix of water quality treatment facilities.

The group debated the definition of forest byproducts and yard waste. Mr. Kraft: once compost material has gone through its biodegradation processes, those issues disappear. How can the county certify the compost?

Water Rights
Mr. Golemo asked if infiltration systems and rainwater harvesting systems like rain barrels could violate water rights. The group discussed if rainwater is a water of the state. Mr. Kraft stated that Ecology gives credit for rainwater harvesting. Mr. Krause will look into the matter further.

Soils Reports
Mr. McMurry asked about the soils report required for a rain garden (page 10). How detailed, at what locations, how often, and at what frequency? Mr. Krause agreed the language need additional detail.

General
Mr. Safdari stated that an EPA report gives 17 case studies that demonstrate cost savings from LID. Mr. Krause wondered if backup systems were built in EPA's example cases. Clark County intends to require backup systems, which might eliminate cost savings. Mr. Safdari: the majority used bioretention. Mr. McMurry pointed out also that most examples were in large-lot subdivisions of 10,000 sq. ft. or more, which are rare in urban Clark County these days.

Mr. Safdari suggested inserting a sentence saying that LIDs might help Total Maximum Daily Load (TMDL) goals. He will work with Rod Swanson to draft something.

Mr. Golemo noted that the manual frequently refers to a horticulturalist. He suggested defining the term and allowing landscape architects, too.

Mr. Krause asked for additional comments by end of week.

Draft Ordinance

Mr. Safayi asked if easement widths for public conveyance pipes had changed from existing code. Mr. Krause: it will be 20' for public, and for small private pipes it is 10' or the setback, whichever is less. Mr. Wilson stated that for private systems, the easement is given to the county for access and inspection. The county will not maintain the pipes, so it just needs to be able to inspect the pipe for illicit discharges. County personnel usually obtain access by knocking on homeowner doors, so no special gates are required.

Mr. Wilson said that some homeowners are installing really fancy retaining walls and terracing over pipes within public easements. It could get expensive for an owner and could get political. Mr. Krause stated that staff would look into whether there is general language dealing with public easements in code. This could turn into a policy decision.

Mr. Safayi suggested removing some of the extremely technical details from code and putting it in a manual. Mr. Krause: we plan to prepare a manual at some point.

Next Steps
- TAC will reconvene to review the stormwater manual when it is complete

Respectfully Submitted,
Trista Kobluskie