STORMWATER ORDINNCE UPDATE
TECHNICAL ADVISORY COMMITTEE (TAC)
Meeting #5: Wednesday, October 3, 2007
Washington Department of Fish and Wildlife
2108 Grand Blvd.
1:30 – 3:30 p.m.

N O T E S

Agenda / Introduction

Members Attending
Tom Grange, Tim Kraft, Robin Krause, Jennifer McClure, Chad McMurry, Mike Misiak, Fereidoon Safdari, Mike Soliwoda, Scott Wilson

Members Absent
Patrick Harbison, Ali Safayi

Staff
Trista Kobluskie, Sue Stepan

Audience
Scott Ferre, Sig Fransen, Eric Golemo, Andrew Stoeckinger

Announcements
Mr. Krause invited members to an open house on the Stormwater Management Plan update and the ordinance update hosted by the Clean Water Commission on November 15, 2007 from 6:30 – 8:00 p.m. at Public Works Operations Conference Room B-1, 4700 NE 78th St., Vancouver.

The October 17 TAC meeting is rescheduled to October 24, 2007 from 1:30 – 3:30 p.m. at Washington Department of Fish & Wildlife, 2108 Grand Blvd., Vancouver.

The Stakeholders Advisory Committee (SAC) will hold its fourth meeting on October 16, 2007 from 6:00 – 8:00 p.m. at the Public Service Center, 6th Floor Training Room, 1300 Franklin St., Vancouver. SAC will discuss removal of both the agricultural and the single-family rural home exemptions, LID, and other important topics.

Ecology's meeting on local soil & rainfall data is scheduled for October 19 at New Tradition Homes Conference Center from 1:30 – 5 p.m.

Approvals
The September 19, 2007 notes were approved as submitted.

Action Items

Mr. Kraft referenced the September 19 meeting notes for action items.

Redevelopment
Most examples found by Mr. Safayi of redevelopment under current code have not used the exact code language, but the redevelopment requirements have been negotiated.

Rural Single-Family Home Exemption
The rural single-family home exemption is a big issue for SAC. Therefore, the Technical Memorandum on this topic will be more detailed than originally planned, and will cover

- requirements when various levels of impervious surface are created
- list available BMPs
- estimate the financial burden of meeting the requirements

Mr. Soliwoda asked if SAC understands that the exemption violates the county's current NPDES permit. Mr. Krause: SAC wants to understand the implications before recommending to remove the exemption. Mr. Kraft replied that SAC members made points on both sides – including implications of not treating stormwater. Mr. Soliwoda: Clark County's exemption is unique in the state. Mr. Krause: SAC member Doug Stienbarger is helping us put together some information. Our goal is to get these questions answered before going before the BOCC.

Seven Industrial Items
Those particular seven land uses trigger water quality control with only 1,000 sq. ft. of impervious surface, rather than 2,000. There is nothing similar in the *2005 Manual*. Staff needs a recommendation on continuing the 1,000 sq. ft. rule or leaving it out. Mr. McMurry clarified that removing this list of special land uses would not affect the need to apply source control.

Concept Code for .040(B) Runoff Treatment

The runoff treatment BMPs allowed in county code does not completely match the 1992 stormwater management manual in use at the time. Otak has created a table comparing BMPs in county code, BMPs in the 1992 manual, and BMPs in the *2005 Manual*. TAC will need to explore BMPs in the *2005 Manual* to see if there are reasons to disallow some of them.

Underground Filter Systems
Mr. Safdari stated underground filter systems frequently are under-maintained and are expensive to maintain. Mr. Wilson: the cost per cartridge is $90, not including county labor. Vaults and manhole-type filters require confined-space training to service. The maintenance activity is different enough to require essentially a whole new maintenance program.

Mr. Grange argued that the technology is too useful to throw out, however the county might limit how and when they are used, in order to ensure reasonable maintenance.

Mr. Misiak suggested using a process of elimination before allowing filter systems.

Mr. McMurry suggested allowing more latitude for private facilities, since costs can be a tradeoff for the developer. Mr. Safdari agreed: perhaps disallow filter vaults for public projects, but allow for private.

The group discussed maintenance of private filter systems, including compliance rate, and verification. Maintenance agreements for private facilities are in CC&Rs. Contech can provide a maintenance log for a facility. Mr. Wilson: the county gets pretty good compliance, even though private owners frequently are shocked at the cost of maintaining their filter systems.

Mr. Safdari recommended reviewing Ron Wierenga's study on StormFilters, which showed that many were accepted by the county even though they were malfunctioning. Mr. Krause replied

that many issues identified by Mr. Wierenga were failures of the process of acceptance, inspections, corrections, etc. rather than of the technology.

Mr. Grange: a small number of cartridges may be cheaper to maintain than a swale.

For public facilities, Mr. Misiak recommended reviewing WSDOT's Highway Runoff Manual for its economic and environmental feasibility checklist.

Mr. McMurry argued for allowing filter vaults even on public projects. Sometimes density targets cannot be met if putting in a pond because land dedicated for a facility cannot be subtracted from density calculations.

Mr. Soliwoda asked if single catch basin filter units scattered throughout the county would be economically feasible to maintain. Mr. Krause: for example, a new subdivision with 50 single-unit cartridges? Mr. Wilson doubted that a developer would choose 50 catch basin units instead of a larger vault. Mr. McMurry agreed: 6-7 cartridge manholes frequently are more economical than single units. However, dispersed infiltration BMPs may require dispersed treatment, too, which might change things.

Mr. Krause wondered how rain gardens, which are also dispersed throughout a subdivision, will be maintained. Compare the maintenance burdens of the various options. Mr. Misiak: LID BMPs will require a great deal of public education.

Mr. Krause and Mr. Grange would like an economic or other justification for cutting off filter vault systems at a certain number of cartridges or for saying no. The group discussed a flexible code, but wondered if all parties could be counted on to be reasonable or if it would result in arguments between developers and review staff.

Mr. Safdari asked if it is reasonable to require developers proposing a public 50-cartridge filter vault to look for other solutions. Mr. Krause: we have more control if it is going to be publicly maintained. Mr. Kraft: but it would have to be in the code that way.

Mr. McMurry argued that a discussion of limiting or disallowing filter systems must be predicated on what other options will be available - road width, curbs, LID, etc.

Mr. McMurry asked about maintenance cost of rain gardens in Portland. Mr. Krause: adjacent homeowners maintain them, similar to how you're responsible for maintaining the sidewalk in front of your house.

Mr. Wilson stated that the county currently is maintaining filter vaults on as as-needed basis; while swales and ponds are maintained on a circuit basis.

<u>Sand Filters</u>
Mr. Wilson said that sand filters have three primary issues: total replacement of media every five years, decent infiltration, and accessibility. Sand is less expensive than proprietary filter media, however. Mr. McMurry asserted that they may be a good choice for pre-treatment, and should not be disallowed without cause. Mr. Kraft agreed. Mr. Wilson recommended requiring a thorough soil analysis to ensure adequate infiltration in order to allow them.

<u>Highway Runoff Manual BMPs</u>
Mr. Misiak advocated allowing county projects to use BMPs from the *Highway Runoff Manual* (*HRM*), some of which are missing from the matrix. For instance, compost-amended filter strips can be designed to meet flow control requirements, too. Mr. Kraft replied that likely any BMP allowed by Ecology will be allowed in county code.

Mr. Krause asked Mr. Grange to highlight the key differences between the *2005 Manual* and the *HRM*. Mr. Grange argued that the *HRM* is more suited than current code to long linear projects, like road projects. Allowing the *HRM* will not compromise code. Currently, development review staff must evaluate road projects using essentially the wrong set of standards.

Infiltration

Mr. Grange addressed a contradiction in using infiltration for treatment vs. disposal. To get treatment, the infiltration rate must be less than 2.54"/hour. For disposal, the county requires at least 8"/hour. To get rid of water when rates are low enough to provide treatment requires caution – perhaps in combination with detention.

Mr. Krause reminded the group of its discussion last meeting of implementing better testing procedures and better supervision of construction practices, which could eliminate the need for the 8"/hour minimum. Mr. Grange argued that infiltration for disposal in tight soils is tricky for a variety of reasons, including building practices and homeowner ignorance (e.g. bark & topsoil entering the facility). Mr. McMurry argued that a combination of pre-treatment, over-sizing, and improving methods to estimate capacity will help make it work.

Ms. McClure asked if the *2005 Manual* addresses pervious pavement as treatment. Research shows that the treatment occurs in the pavement itself. Mr. McMurry recommended inviting vendors to discuss the water quality issue. Mr. Krause tabled the topic until the discussion of LID. Mr. Misiak recommended asking Ed O'Brian at Ecology.

County Stipulations

Mr. Kraft asked if TAC recommends 1) keeping all BMPs allowed by the *2005 Manual*, 2) disallowing some, or 3) putting stipulations on some. Mr. Grange recommended allowing all, but reviewing each thoroughly for potential stipulations.

Please send comments on the BMPs, and potential stipulations, to Mr. Krause by October 15.

Mr. Grange wondered if some of the less familiar BMPs could be implemented slowly, to give the county time to figure out how to maintain them.

Concept Code 040(D)-(N) – Stormwater Control

This is the first review of this concept code. Please review and bring comments to the next meeting.

Mr. Kraft: the manual allows the jurisdiction more flexibility in this section than in others, such as location of stormwater facilities, and fencing, etc.

(D) Location of Stormwater Facilities

(D)(7)

Current code specifies that treatment and control facilities must be located on separate tract. The group discussed the feasibility of locating infiltration trenches, underground filters and the like under driveways, in ROW or in easements. That may affect other utilities or result in additional liability to the county. On the other hand, locating facilities on a separate tract sometimes is not feasible.

Mr. Grange said he thought the rule was put in place to avoid swales in back yards and side yards. They must be accessible and maintainable. If property owners are unaware of the facilities, then the county has to be the bad guy to get them maintained. He urged the county to be careful about allowing swales and ponds on private property.

Ms. McClure asserted that LID techniques are not compatible with the tract rule. Mr. Krause agreed. Recording legal documents with the lots is one way to ensure home owners are aware of the BMPs.

Mr. Misiak used the analogy of a septic systems. It is on your property, you're required to maintain it, you can't build over the top of it, and the Health Department knows where it is.

Monitoring the facilities will be an issue. Mr. Wilson recommended putting the facility on the deed, like they're doing for LID in other jurisdictions.

(D)(2)
Mr. Krause stated that this particular code update process will not modify 40.450, which regulates location of stormwater facilities in relation to wetlands. Mr. McMurry asked for examples of facilities in or near wetlands. Mr. Krause agreed, and said that some wetlands may be drier than they should be and could use additional releases of water.

(D)(4)
The group discussed issues on setbacks for infiltration facilities, including differentiating requirements for roof downspouts vs. infiltration systems, how building code treats the topic, allowances for high-density developments, and the 20' down slope and 100' up slope requirement. Some of the current setbacks are not possible on some lots. If the county allows smaller setbacks, is it creating additional liability?

Mr. Kraft cautioned that code must contain language about setbacks because both the *2005 Manual* and the Underground Injection Control regulations provide only guidance, not rules.

Mr. McMurry proposed allowing flexibility on setbacks if a geotechnical engineer investigates and stamps it.

<u>(E) Protection of Infiltration Systems from Erosion</u>
Mr. McMurry recommend allowing use of permanent infiltration site as temporary construction sediment ponds, with certain conditions, including:

- Not excavating the temporary pond as far down as the permanent system
- Excavating and removing fines for construction of the final facility
- Confirming original test rate with a new test that comes within 2/3 of the original rate.

Mr. Krause recommended clarifying rules for infiltration basins vs. perforated pipe & drywell systems. Mr. Soliwoda preferred retaining the requirement for a separate site for the permanent infiltration facility because poor construction & erosion control practices could easily compromise the permanent facility. Even contractors dump things down the infiltration systems. He also preferred flows to be dispersed to smaller sedimentation ponds on individual lots during road construction and grading. Mr. McMurry argued that during development and construction, the likely place for the construction pond is the same as the likely place for the permanent infiltration system. Ms. McClure replied that it is challenging to build on a lot after locating a sacrificial system on it.

Mr. Krause asked if Mr. McMurry's recommendation addresses the building phase. Mr. McMurry: the recommendation is to open the permanent infiltration system *after* building construction. Ms. McClure: but then it would be undersized. Mr. McMurry: if the temporary infiltration facility is sized based on the full build-out, then it is acceptably sized for the two-year storm until about ¾ of build-out, assuming that proper erosion control measures were used. Ms. McClure: but the developer can't get final acceptance until the permanent pond is done; how will responsibility for the site then flip to a builder? Mr. McMurry replied that it could be

handled case-by-case. Mr. Misiak: isn't the system designed just for the road improvements, not for the buildings? Mr. McMurry: not always. Many are centralized and take the whole thing – driveways, downspout systems, etc.

Next Steps

Mr. Kraft described the work up to now as building a framework, determining what is pertinent and not pertinent. Once that has been completed for the next section, then the next phase will be to have focused discussions on various sections of the ordinance. Mr. Krause noted that some topics that are not addressed by Ecology but that are in the county's stormwater code, such as conveyance, will be discussed after December. Please give feedback on topics that need focused discussion.

Send comments to Mr. Krause on (D)-(N) and LID by Oct. 15.

A geotechnical engineer may be invited to the October 31 meeting to discuss infiltration systems.

Mr. Wilson discussed maintenance of LID BMPs. There is a lot to learn, and little credible information out there.

Mr. Krause noted that more meetings seem inevitable.

Public Comment

Mr. Fransen is from Contech, Inc. He advocated StormFilters as a proven, effective product with more than 10 years of use. He asked the committee to compare effectiveness and maintenance of other BMPs with Contech's products. He stated that Contech has addressed many of the concerns shared at the meeting. He asked for an opportunity to present the company's products and respond to concerns.

Adjourn

The meeting adjourned at 3:30 p.m.

Respectfully Submitted,

Trista Kobluskie