



# Standards Oversight Council (SOC)

Supporting Technical Standards for Urban and Rural Soil and Water Conservation

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## Permeable Pavement Team

### DRAFT AGENDA

Wednesday, January 9, 2012 || 9:30 am – 3:30pm

Conference Room A&B, Dane County LCD Office, 5201 Fen Oak Dr., Madison, WI 53718

Attendees: Laura Fenley, Bob Roehrig, John McCarty, Tom Price, Roger Bannerman, Kate Gleason, Pete Wood, David Liebel, Bob Givens, Chris Homburg, Tim Troester, Michelle Reynolds, On phone: Cherish, filling in for Jason, WI Concrete Association

### Review Draft Standard

- Reviewed Sections II, III, and IV A to determine if team had agreement on current language. Sections were discussed and concerns noted. Team will need to determine how to organize standard language when referring to permeable pavement as an infiltration device or as a storage reservoir. Permeable pavement systems could still be used where infiltration is not possible. Team currently supports these sections with the edits made during the meeting, and will have the opportunity to review and make changes again once the full standard is completed. Team meetings will not be used to review these sections again until a draft of the full standard is completed.
- **Section I:** There was interest in specifically including “water quantity” benefits in the definition. Pete will check with Mary Anne about including “quantity” in definition or if quantity is already inherent in water quality benefits. There was consensus on keeping the definition concise, and a suggestion to include a diagram of permeable pavement either in the standard or in another supporting document.
- **Section II:** Purpose. There is question about including temperature reduction in the purpose if we can connect to regulatory specifications. Some counties do have temperature reduction requirements. More clear research is needed, and we may be able to justify temperature reduction through volume reduction. Team will determine if this point will remain in the Purpose at a later date once more information is gathered.
- **Section III:** Purpose. Discussion occurred about meaning of ‘conventional’ payments and if standard users would be clear about “where infiltration is prohibited”. There was a suggestion to reference to NR151 Subchapter 4 – Transportation or Non-ag. Concern for allowing designer’s choice in designing systems ‘where run-on from adjacent pervious area is significant.’ If users

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are designing a system to not infiltrate, then require/encourage additional safeguards. Possibly reference stormwater prevention planning? Include an additional paragraph where infiltration is not happening. Pete/Chris to take comments and craft new section.

- **Section V. A.** Suggestions include spelling out ACI to American Concrete Institute, and to drop the specific number reference since it may change.

**Subgroup Check-In**

- Smaller groups (1) Surface Infiltration Properties, 2) Aggregate Storage Reservoir, and 3) Underdrains) worked together to review progress and prepare recommendation on draft standard language and/or next steps for their specific Criteria section of standard.

**Subgroup Presentation of Recommendations.**

Aggregate Storage Reservoir

- C. Include a lead-in sentence, like ‘Reservoir shall be designed to meet hydrological or storage goals.’ In subsection 1, delete ‘and residential driveways’ and add to subsection title ‘Thickness for vehicular traffic’ for structural reasons. Minimum thickness may change depending pavers, asphalt, or concrete. Minimum depth may be arbitrary, and may be in opening sentence. Subsection 3 was simplified. Team approves recommendations from the group.

Underdrains

- Team discussed questions such as the following: Why do we need an underdrain?, How much does an underdrain facilitate the movement of sediment out of an area?, etc
- Underdrains should not be required depending on the system used and permeability of soils. If system cannot drain within 72 hrs, an underdrain may be used for additional drainage.
- Team decided to include a lead-in sentence that states purpose of the underdrain and keeps flexibility and designer’s choice. Criteria would say when an underdrain or some measure would be used. Could include using an underdrain as a safety concern as a consideration. Suggestion to move the following to Considerations as well: limited construction, clean out and observation specifications.
- Suggestion to pull in Underdrain section of Bioretention standard as a starting place.
- Suggestion to change section title to Drainage not Underdrains. If drainage is needed, here’s guidance on options. Then have specifics in considerations.
- Options on location of underdrain/drain tile will be in considerations - 1) at bottom to prevent subdrain weakening, 2) near the top to handle a storm, or 3) to move it just a few inches above the bottom to allow for sediments to collect at bottom.
- Again different criteria for two different goals: one for infiltration and one for no infiltration.

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Infiltration Properties – This team presented review of literature/research, modeling results, and fact sheet. Team feels comfortable with the initial surface infiltration rate at 100 in/hr, which seems conservative given research. Surface infiltration rate decline over time and after cleaning is still in question. Group received feedback on model, will make changes, run models again, and will bring back results. Other suggestions or questions:

- Include an infiltration field test after installation in considerations.
- Bob/Cherish to let Roger know about void space for PC and PA
- Costs between \$400-\$500/half acre to clean permeable pavements
- How does source area affect the infiltration?
- Questions about modeling vs. not modeling results; or have a cleaning/maintenance schedule
- Suggestion to add clogging load to the draft language.

### Next Steps

Suggestions to draft language will be included and sent out for review. Surface Infiltration Properties subgroup will continue work defining surface infiltration rates over time and/or with a maintenance schedule. At the next meeting, team will review infiltration groups model results and recommendations again. Then team will begin to work on additional criteria and technical issues.

### Next Meeting

Send out Doodle for next meeting date in March.

- Pete to check with Mary Anne about adding quantity into definition.
- Pete/Chris to rework Section III, and will send this particular section to the group. Chris will be the lead in responding.
- Chris to send Pete Criteria C. language from subgroup. Reference another spec. 301.2 to included soundness and wear.
- Pete to work on Drainage section and subgroup will review before the next meeting.
- Bob Givens and Jason Kruger/Cherish will report back to group on typical void content for concrete and asphalt.
- Group to review Roger's fact sheet and offer any comments. Roger will make changes to WinSlamm and will bring new fact sheet back to the group at the next meeting.
- Gini to compile and distribute notes. Gini to schedule the next meeting.