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SWMMWW Draft Comments

Volume	Section	Page	Concern	Suggestion
I	2.5.5	2-36	<i>Mandatory List #1</i> Should permeable pavement be ahead of rain gardens or bioretention for hard surfaces? What about cost and maintenance considerations?	Equally weight these BMPs to allow the most appropriate to be used in each situation.
I	2.5.5 Also Chapter 7 Vol. 5	2-37	It is proposed that Bioretention areas need to have an area of at least 5% of area draining to it. This is arbitrary and doesn't correlate to the design criteria. It should be sized to meet the required drawdown times and rates. By working backwards solving through iterations for the flow rate through the bioretention media, assuming typical rainfalls in Clark county, a 5% area yields about 1 iph. According to most research and guidance including the WA State University research, acceptable flow rates through the bioretention soil should be between 1-12 iph. The arbitrary 5% requirement can be very limiting and is not based on firm science. It may also have the unintended consequence of discouraging the use of bioretention facilities in favor of other BMP's. While it may be reasonable for the mandatory lists of non-engineered facilities, the 5% should be eliminated from the engineering performance standard list.	The 5% should be eliminated from the engineering performance standard list.
I	Appendix I-F (I.B.)	F-1	<i>Feasibility Criteria:</i> The existence of fill material typically compacted to 95% should also be considered in the feasibility of using permeable pavement?	The existence of fill material should also be considered in the feasibility of using permeable pavement?
III	3.3 and 3.4		<i>General Comments about Infiltration testing:</i> While the new proposed methods may be reasonable and appropriate in many situations, they may not be appropriate in all situations or areas. Other methods may be equally effective and more cost effective. AKART should not be limited to one or two tools. The ASCE white paper on infiltration prepared by the	The ASCE white paper on infiltration prepared by the SW Washington Branch has some good guidance and should be incorporated into the Manual.

			<p>SW Washington Branch has some good guidance. There was quite a bit of research done and input from numerous professional in the civil engineering and geotechnical community.</p> <p>Here are a few things to consider:</p> <ul style="list-style-type: none"> - In variable soils more tests can give better info. PIT may be appropriate where soils are fairly consistent across the site. But, it can be too disruptive and can be cost prohibitive. Availability of water is also an concern. -We have had poor results with grain distribution tests in our alluvial soil deposits. You can get great lab results but the in situ soils do not perform as well. - The procedures in the ASCE whitepaper have produced consistent and functional data. There is a history of proven success! Why fix something that is not broken! We had problems with previous methods used to calculate infiltration rates. This was done to standardize procedures, and obtain more consistent results. They have been used with success. 	
III	3.3.8	3-102	<p><i>Groundwater Mounding Analysis:</i> Every project over 1 acre requires mounding analysis? This could be cost prohibitive and not always necessary. This should only be required in situations where higher groundwater potentially exists.</p>	<p>Groundwater Mounding Analysis should only be required in situations where higher groundwater potentially exists.</p>