WWA Stormwater Manual Modification Comments

Volume	Section	Page	Comment
V	7	19	The decision to no longer consider a bioretention area with an underdrain as LID is puzzling. The paragraph states, "If the underdrain is elevated within a base course of gravel, the bioretention facility will also provide some modest flow reduction benefit...". You do allow permeable pavements with an elevated underdrain above a gravel base course as a LID option. This should be no different. To check this application out I set up scenarios within MGS Flood with a 15:1 ratio (impervious surface:bioretention area). I tested this proposed condition against two existing conditions, till forest and outwash forest. I assumed that the infiltration rate of the native soil was 0.3 inches per hour which is the minimum feasible infiltration rate. Because MGSFlood is not set up to model an underdrain above the floor of the bioretention area, I put in an extra deep layer of bioretention soil to mimic the gravel storage area. I assumed an 8" deep gravel bed with 40% porosity which gave me 3.2" of water storage. I placed a 12" circular overflow outlet above the bottom of the bioretention area but in the bioretention soil mix to mimic the underdrain set above an 8" gravel bed. I ran the scenario with several Western Washington precipitation rates and each of them passed the LID flow duration standard. (I will note here that I did have to lower the contributing area ratio as the precipitation amounts increased (down to 13.5:1 for the outwash forest existing condition), but the model showed that the bioretention area passed the LID standard. Because there was no standing water allowed in the bioretention area none of the scenarios passed the flow duration standard. Please reconsider this decision since it takes away a LID option.