



2022 Drainage Design and Erosion Control Manual

Record of September 27, 2022 Public Hearing Comment and City of Olympia Response

Public Comment	City Of Olympia Response
<p>General</p> <p>September 18, 2022 Comments on City of Olympia Stormwater Manual I have concerns specifically over the comment on how WWHM models do not incorporate rain on snow. Page 26 of City of Olympia's 2022 Stormwater Drainage and Design Manual (2022) notes that the WWHM model does not include snowfall and melt. Ecology encourages local governments to use more detailed local precipitation data when available. Here is a clip. See last sentence below from the stormwater manual.</p> <p>Precipitation Data</p> <ul style="list-style-type: none">• Length of record: WWHM uses long-term (50 - 70 years) precipitation data to simulate the potential impacts of land use development in western Washington. A minimum period of 20 years is sufficient to simulate enough peak flow events to produce accurate flow frequency results. A 40 to 50-year record is preferred. The actual length of record of each precipitation station varies, but all the ones used in WWHM exceed 50 years.• Computational time step: The computational time step used in earlier versions of WWHM was one hour. The one-hour time step was selected to better represent the temporal variability of actual precipitation than daily data. WWHM now incorporates 15-minute time steps.• The 15-minute time step was selected to better represent the temporal variability of actual precipitation. These data are used in WWHM computations to generate runoff hydrographs. The computations include generating the water quality design flow rates and volumes for sizing Runoff Treatment BMPs.• Rainfall distribution: WWHM uses over 17 precipitation stations, representing the different rainfall regimes found in western Washington. These stations represent rainfall at elevations below 1500 feet. WWHM does not include snowfall and melt. Ecology encourages local governments to use more detailed local precipitation data when available. <p>DRAFT City of Olympia Drainage Design and Erosion Control Manual Volume III – Choosing, Modeling and Documenting Your BMPs</p> <p>July 2022 26/79</p> <p>Rain on snow events happen alot. Here's t 3 examples Tumwater farmer response: Tumwater, a developer designed a stormwater management basin. In January 2022, excessive flooding occurred downstream in Hopkins Ditch (according to hydrologist). The flooding occurred after a rain on snow event, not noted by the Clear Creek hydrologist but obvious to everyone around. My question is should the developers' hydrologist have considered potential effects of rain on snow, which we often have. See attached pdf and the ditch district website (https://hopkinsdrainageditch.us/meetings-page). Because of the persistent flooding the ditch district is attempting to find or secure funds to not flood. This is difficult. See the attached pdf and very drastic measures proposed by the ditch district folks who feel there is no other way to maintain their ditch (https://www.thejoltnews.com/stories/endangered-frogs-no-match-for-planned-dynamite-blast-next-wednesday,7052). I love frogs. Lets improve our stormwater designs! City of Aberdeen WA Cost to taxpayers >> 100 million dollars for a 6+ mile long levee City of Olympia response to rain on snow: https://mailchi.mp/olympiawa.gov/crews-prepare-for-possible-flooding-in-olympia-areas-near-capitol-lake</p> <p><u>Ask City of Olympia to consult with hydrologists on how to factor in snow and snow melt and where to install more real gauges.</u></p>	<p>Thank you for the comment. The City of Olympia uses the stormwater design guidelines provided by the Washington State Department of Ecology (Ecology). Ecology's Stormwater Manual for Western Washington (SWMMWW), as indicated in your comments, acknowledges the Western Washington Hydrology Model, the model used to design stormwater facilities, does not include snowfall and snowmelt. However, the SWMMWW also indicates that rain-on-snow events are typically common in western Washington between 1,500 and 3,000 elevations. The highest elevation within the City of Olympia is approximately 380 feet. For these reasons, no change in design requirements as a component of the 2022 Drainage Design and Erosion Control Manual are proposed to address your comments.</p>