



## CLEAR CREEK SOLUTIONS, INC.

6200 Capitol Blvd Suite F  
Tumwater, WA 98501  
360-943-0304  
[www.clearcreeksolutions.com](http://www.clearcreeksolutions.com)

# Hydrologic and Hydraulic Modeling of Urban Stormwater Systems

## WWHM3 Modeling Approach Options

There are four WWHM3 modeling approach options that can be used by a city or county to model urban stormwater systems depending on the level of complexity.

### 1. Import GIS land use data into WWHM3 and create routing within WWHM3.

This approach requires that each culvert be setup using the WWHM3 PRO culvert element and HY8 option within the WWHM3. Land use data will be imported to WWHM3 using the WWHM3 PRO GIS Import feature. There will be no SWMM routing.

Cost: Purchase WWHM3 PRO GIS at \$2,500 per desktop or 6 copies for \$10,000.

### 2. Import GIS conveyance data into PCSWMM TRANSPORT routing block and link with GIS land use data imported into WWHM3.

This approach assumes that the GIS culvert data is complete enough to import into SWMM. Both PCSWMM and the WWHM3 SWMM will be required. CCS assist in data preparation and initial model setup. The level of involvement for CCS will be dependent on the needs of the client. Rates below are for only advisory assistance with model setup.

Cost: Purchase PCSWMM - \$1,000; CCS model assistance setup fee \$10,000 and includes 4 free copies of WWHM3 SWMM.

### 3. Import GIS conveyance data into PCSWMM TRANSPORT routing block and link with GIS land use data imported into WWHM3 with synthetic storm events added.

Same as Approach 2 above plus CCS will also adjust the precipitation time series to include at least one synthetic storm event (for example, 25-year storm).

Cost: Purchase PCSWMM - \$1,000; CCS model assistance setup fee \$12,000 and includes 4 free copies of WWHM3 SWMM.

### 4. Import GIS conveyance data into PCSWMM TRANSPORT routing block and link with GIS land use data imported into WWHM3 with synthetic storm events added plus project assistance.

Same as Approach 3 above plus CCS will also provide additional assistance throughout the project to ensure that model setup and model execution are correct.

Cost: Purchase PCSWMM - \$1,000; CCS model assistance setup fee \$12,000; CCS project assistance fee – \$10,000; includes 4 free copies of WWHM3 SWMM.