

**OFFICE OF HIGHWAY DEVELOPMENT  
HIGHWAY HYDRAULICS DIVISION**

**Highway Drainage Manual Design Guidelines  
Software**

**I. Limits**

The software listed herein have been approved for use as specified. The use of alternative versions or programs is subject to approval by the Highway Hydraulics Division Chief. Please notify the Highway Hydraulics Division at [hhd@mdot.maryland.gov](mailto:hhd@mdot.maryland.gov) if newer versions of the software listed below are available.

**II. Hydrology**

- WinTR-20 - version 3.20 (USDA NRCS, 2017)
- WinTR-55 - version 1.00.10 (USDA NRCS, 2013)
- Use NOAA Atlas 14 Rainfall Data in **all** cases

**III. Culverts**

- HY-8 Culvert Hydraulic Analysis Program - version 7.70 (FHWA, 2021)
- HDS 5 Chart Calculator (FHWA, 2001)

**IV. Storm Drains/Inlets**

- TVHG (MDOT SHA, 1994)
- Hydraulic Toolbox - version 5.1.4 (FHWA, 2021)

**V. Stormwater Management**

- SHARISER (MDOT SHA, 2009)

**VI. Streams**

- HEC-RAS - version 6.1 (USACE, 2021)