HydroCAD® Stormwater Modeling - Since 1986

HydroCAD Supports StormTrap® Stormwater Chambers

HydroCAD-10 provides direct support for the StormTrap system of precast concrete stormwater chambers. This allows StormTrap chambers to be easily used within any HydroCAD model for stormwater storage, detention, or infiltration.

StormTrap ST2 can be modeled with HydroCAD-10 build 10 or later. Support for the earlier StormTrap ST1 was added in build 19. If you have an earlier HydroCAD-10 build, you can get the latest build at no charge by using your previous HydroCAD-10 download details. If you have an earlier version of HydroCAD, you must obtain a program update in order to model StormTrap chambers.

How chambers are modeled

In a HydroCAD model, stormwater chambers typically appear as part of the storage definition for a "pond". In the simplest case, HydroCAD calculates the available storage for use with other calculations. But more often, it is used to generate a complete inflow or runoff hydrograph and route it through the pond. The resulting analysis indicates the water levels attained throughout the rainfall event, as well as any discharge that may occur through outlet devices or infiltration into the surrounding ground.

Flexible storage options

Each pond may include an unlimited number of storage definitions as required to describe its overall storage characteristics. This makes it easy to model complex storage arrangements, such as a combination of multiple chambers, pipe storage, catch basins, or other contributing volumes, including above-ground areas (parking lots) that may provide overflow storage for large events. HydroCAD can also calculate the storage contribution from sand or gravel that surrounds the chambers. Or the storage can be limited to the chamber itself.

Modeling StormTrap chambers

Modeling StormTrap systems is easy with the HydroCAD chamber wizard: Just pick the desired chamber height from the drop-down list and set the number of center chambers. HydroCAD automatically adds the special border chambers that are required on the sides and ends of any StormTrap system.

Note: Although the HydroCAD chamber library includes chambers at 6 inch height increments, StormTrap systems can be manufactured with any desired height.

For chambers on a stone bed, set the stone height and the void storage is automatically added to the chamber volume. For retention systems, add an exfiltration outlet and you're ready to route your inflow hydrograph!

Detailed chamber information

StormTrap installations are custom designed based on individual customer requirements, and may exhibit small storage variations depending on the system design and components used. For typical installations, the HydroCAD volume calculations have an accuracy of approximately 0.1% when compared to specific system designs. (Volumes will run slightly high for small systems, and low for larger systems.)

Before finalizing the design of your stormwater management system, StormTrap volume calculations should be confirmed by a StormTrap representative. For detailed chamber specifications and design information, please visit the StormTrap web site.

Please see the following pages for further HydroCAD information:

    Pond storage calculations
    Storage chamber modeling (includes step-by-step instructions)
    Exfiltration calculations
    General support page
    HydroCAD features and capabilities
    Free evaluation program
    Pricing and ordering

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