

CASE STUDY

Cutting Costs for Everyone: Costco Uses StormTech® & HP Storm Guilderland, NY

OWNER

Costco Wholesale Corp., Issaquah, WA

ENGINEER

Colliers Engineering & Design, Exton, PA

CONTRACTOR

Carver Construction, Albany, NY

INSTALLATION DATE

Summer 2025

PRODUCTS

618 MC-7200 StormTech Chambers
4,540' (128 m) of 10"-48" (250-1200 mm) N-12®
1,780' (372 m) of 24"-48" (600-1200 mm) HP Storm
One 10' (3 m) First Defense® Optimum HDS
One 8' (2.5 m) First Defense Optimum HDS

CHALLENGE

With a state highway, a private road and an existing mall surrounding the site, stormwater management was a key aspect in building a new Costco in Guilderland to serve the Albany metropolitan area.

It was determined that stormwater should be stored on site so Guilderland's storm sewer system would not be inundated. Originally, a precast concrete vault was specified for the storage. That structure would require six months to produce and a herculean effort to transport it.

SOLUTION

ADS personnel put together a StormTech system to meet required volume and the grade of the parking lot using the StormTech Design Tool. The plan was submitted to the engineer. ADS showed the StormTech layout could be oriented in a way to allow for light pole spacing and other obstructions in the parking lot, which the concrete vault could not accomplish.

The contractor was more than willing to work with ADS because of previous StormTech systems they had installed. The plans were flipped to StormTech based on ADS' design and because the chambers would be much easier to ship and stage.



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In order to meet the required volume, 618 MC-7200 chambers were installed under the parking lot. The total installed volume is 216,950 cubic feet (6,143 m³), including the stone surrounding the chambers.

Two StormTech Isolator® Row Plus were installed near the east and west inlets to remove Total Suspended Solids (TSS) and Total Phosphorus (TP). The captured stormwater will infiltrate as the soil has a high capacity for infiltration. The StormTech system meets the 100-year storm requirements, so there is only one outlet as a “safety measure” in case of a large storm.

N-12 and HP Storm conveys the stormwater to the chamber system and, if needed, to the existing sewer system. 1,780' (372 m) of 24"-48" (600-1200 mm) HP Storm was chosen for deep cover situations to connect to the existing sewer system. HP Storm was chosen over RCP as it will cost less to install, has superior joint performance, is easier to stage and can be delivered efficiently. N-12 pipe was used to convey stormwater after it was captured to the chamber system.

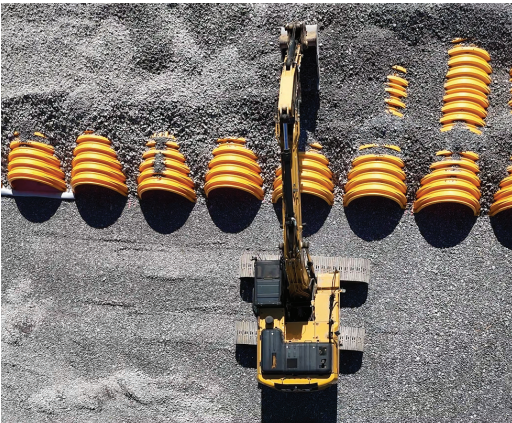
Two First Defense Optimum HDS units were installed to capture stormwater sediment, trash and floatables. The units save site space and reduce project costs in the smallest possible footprint.

PRODUCT DESCRIPTIONS

StormTech chambers are designed to save valuable land, reduce flooding risks and protect water resources. The chambers provide a durable structural system and are designed in accordance with AASHTO LRFD Bridge Design specification for HS-20 live loads. StormTech chambers are available in a variety of sizes to meet any project need and are injection molded for uniform wall thickness. The StormTech Isolator Row utilizes a layer of ADS Plus fabric in a designated inlet row to provide enhanced suspended solids and pollutant removal. Isolator Row is NJCAT-tested and NJDEP-approved practice for stormwater pre-treatment in New York State.

N-12 dual wall pipe has a corrugated exterior and smooth interior wall that provide exceptional hydraulics, strength and corrosion resistance. N-12 is available in 4"-60" (100-1500 mm) diameters and in 20' (6 m) lengths to provide faster installation and lower installation costs. The integrated inline bell design allows for easy installation and eliminates chipping and cracking that is common to concrete bells.

HP Storm polypropylene pipe provides superior pipe stiffness, longer bells and spigots and a premium joint performance for a longer service life. The smooth interior wall offers additional strength and high flow capacity. HP Storm pipe meets or exceeds the standards specified in ASTM F2881 and AASHTO M330 and the extended bell and spigot meets ASTM D3212.



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