CASE STUDY

Mall's Stormwater is Detained by StormTech® System

Mont Belvieu, TX

ENGINEER
Carnes Engineering, Baytown, TX

CONTRACTOR
Double J Services, Dayton, TX

INSTALLATION DATE
November 2019

PRODUCTS
442 SC-310 StormTech Chambers
120' (37 m) of 6" (150 mm) N-12 Perf Dual Wall Pipe
285' (87 m) of 24" (600 mm) N-12 Dual Wall Pipe

CHALLENGE

The site of a new strip mall in Mont Belvieu faced challenges due to a high water table, yet still required a stormwater management system capable of detaining runoff before slowly releasing it into the city's stormwater network.

SOLUTION

Carnes Engineering collaborated with Advanced Drainage Systems to develop a stormwater solution capable of providing the required detention despite the site's high water table. The team determined that 442 StormTech SC-310 chambers were the most practical choice. With a height of just 16" (400 mm), the SC-310 chambers could be installed within the shallow available depth while still achieving the necessary storage volume of 15,230 ft^3 (431 m^3). To meet this capacity, the StormTech system was placed beneath the entire parking lot.

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ADS

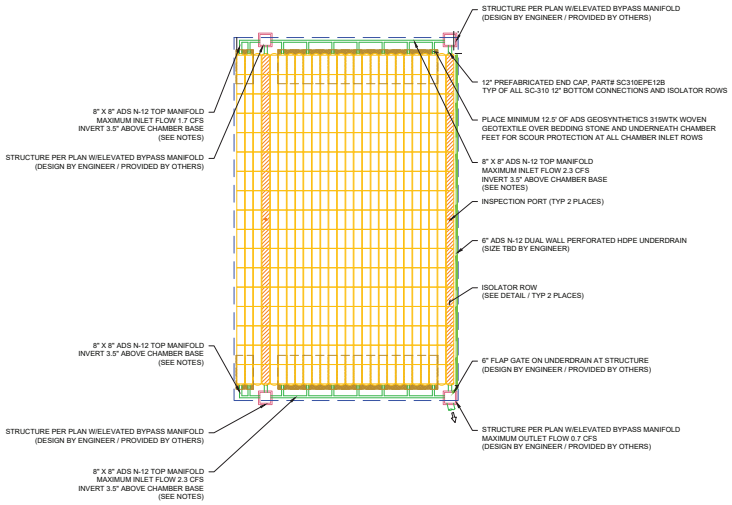
As part of the system design, 120’ (37 m) of 6” (150 mm) perforated N-12 dual-wall pipe was installed as the underdrain. In addition, 285’ (87 m) of 24” (600 mm) N-12 pipe, manufactured from high-density polyethylene, conveyed stormwater from the StormTech system to the municipal stormwater network.

At each inlet structure StormTech Isolator Row Plus were used to capture the stormwater’s “First Flush”. Isolator Row Plus enhances removal of suspended solids and pollutant removal, while allowing for easier inspection and maintenance.

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 specifications 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.

N-12 is a high-density polyethylene pipe for gravity-flow storm drainage applications. N-12, which is available in diameters from 4”-60” (100-1500 mm), offers exceptional hydraulics and strength. N-12 provides superior corrosion and abrasion resistance in a lightweight, corrugated design. A polyethylene bell minimizes joint distortion and eliminates chipping and cracking that is common to concrete bells. Available in 20’ (6 m) lengths, N-12 provides lower installation costs and faster installation than traditional materials. N-12 can be utilized for storm drains, culverts, cross drains, ditch enclosures and retention/detention.



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