

CASE STUDY

Stormwater System Maximizes Parking at SunRail Stations

Orlando, FL

OWNER

Central Florida Commuter Rail Commission,
Sanford, FL

ENGINEER

Vanasse Hangen Brustlin, Inc. (VHB), Orlando, FL

CONTRACTOR

Archer Western, Atlanta, GA

INSTALLATION DATE

2014-2017

PRODUCTS

5,166 StormTech® SC-310 chambers
1,305 StormTech SC-740 chambers
N-12® pipe
Geotextiles

DESCRIPTION

The SunRail commuter rail system in Central Florida runs north and south of Orlando with 17 stations serving over 5,000 people daily.

Two of the stations, Sand Lake and Altamonte Springs, had smaller footprints and needed stormwater storage without losing parking. Vanasses Hangen Brustlin, Inc. (VHB), the project's engineer, designed the stormwater management system with StormTech stormwater chambers in the plans as the company is familiar with the chambers, which were buried under the stations' parking lots.

The Sand Lake station required 5,166 SC-310 chambers, which will hold a capacity of 161,000 cubic feet (4,559 cubic meters) of water. A weir detains stormwater and allows it to infiltrate into



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the ground. If the water reaches the weir, the stormwater will flow into the stormwater drainage system. The SC-310 chambers allow for parking spaces for 429 at Sand Lake.

Altamonte Springs was able to make room for 326 parking spots after 1,305 SC-740 chambers provided for nearly 100,000 cubic feet (2,831 cubic meters) of storage.

Each system has an Isolator® Row to capture total suspended solids (TSS) and sediment in the initial first flush of stormwater. The Isolator Row allows TSS and sediment to settle and to be cleaned easily from the parking lots' surface through inspection ports. Geotextile fabrics are used with the Isolator Row. The fabric between the stone and chamber provides a durable surface for maintenance. The fabric over the chambers provides a filter for flows passing through the chamber's sidewall.

StormTech chambers are designed to meet the most stringent industry performance standards for superior structural integrity. StormTech chambers come in a variety of sizes to meet each site's needs. The elliptical arch design transfers loads to the surrounding backfill, and considers long-term and short-term safety factors defined by AASHTO. The chambers are injection molded for uniform wall thickness.

Manifolds built from ADS N-12 dual-wall HDPE pipe connected the StormTech chamber system. N-12 dual wall pipe has a corrugated exterior and smooth interior wall that provide exceptional strength and hydraulics. The inert HDPE material is resistant to the effects of chemicals, abrasions and hot soils. N-12 is available in 4"-60" (100-1500 mm) diameters and in 20' (6 m) lengths. The inline bell design allows for pipe ends to be pushed together for easy installation. The joint requires only a lubricant during installation which leads to faster installation.



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