

## CASE STUDY

# StormTech® Provides Required Structural Integrity at Warehouse

## Barrie, ON

### OWNER

D.W. Tuck Construction, Barrie, ON

### ENGINEER

WMI & Associates Ltd., Barrie, ON

### CONTRACTOR

D.W. Tuck Construction, Barrie, ON

### INSTALLATION DATE

July 2023

### PRODUCTS

219 StormTech MC-7200 Chambers

N-12® Manifolds

Nyloplast® 12" x 6" (300 x 150 mm) Inspection Port

6" (150 mm) Inserta Tee® for StormTech

115.6 m (380') of 6" (150 mm) N-12® Perf Pipe

### CHALLENGE

D.W. Tuck Construction constructed a new industrial warehouse designed to accommodate frequent heavy truck traffic. Because of the high volume of large vehicles expected on-site, the project required a stormwater detention system capable of supporting significant surface loads.

To ensure trucks could safely park and maneuver above the system, the detention chambers were installed with a deep cover. The increased burial depth required additional stone backfill above the chambers to provide the necessary structural support and load distribution.

### SOLUTION

For the detention system, StormTech MC-7200 chambers were selected to provide the required storage volume and structural integrity needed for the deep burial. The chambers detained the stormwater before discharging it into the City of Barrie's municipal system at a controlled rate.



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To enhance water quality treatment, a StormTech Isolator Row Plus was incorporated into the design. The Isolator Row Plus captures the system's "First Flush," which provides enhanced suspended solids and pollutant removal. ADS Plus 125 fabric was used within the Isolator Row Plus to facilitate easier inspection, cleaning and long-term maintenance.

For inspection and access, a 300 x 150 mm (12" x 6") Nyloplast Inspection Port was connected to the StormTech system using a 150 mm (6") Inserta Tee for StormTech.

The system also incorporated more than 115 m (380') of 150 mm (6") N-12 perforated pipe for the underdrain, while solid N-12 pipe manifolds connected the StormTech chamber rows.

## 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.

Isolator Row Plus enhances Total Suspended Solids (TSS) and Total Phosphorus (TP) removal with easy access for inspection and maintenance. The Isolator Row Plus is a row of StormTech chambers that has a continuous layer of ADS Plus fabric between the foundation stone and chambers and is connected to a closely located manhole for easy access.

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 100-1500 mm (4"-60") diameters and in 6 m (20') lengths. The inline bell design allows for pipe ends to be pushed together for easy installation.

Inserta Tee is a high-performance, easy-to-install lateral service connection, which consists of a PVC hub, rubber sleeve and stainless steel band. Inserta Tee's watertight seal provides superior performance and is used to connect ADS N-12 and PVC laterals to all known corrugated, solid wall, profile wall and concrete pipe, regardless of manufacturer.



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