



MEMO

Date: May 21, 2018
To: Peter Belmonte, Belmonte Builders
Project: Spencer Subdivision
From: Brian Osterhout
RE: Proposed Stormwater Infrastructure

As requested, the Environmental Design Partnership, LLP (EDP) is providing this memorandum summarizing the proposed stormwater infrastructure and comparing the proposed stormwater infrastructure with drywells.

The soil conditions that exist throughout the Spencer subdivision consists of mostly coarse sands with infiltration rates exceeding 8 inches per hour. Given the ability of these soils to infiltrate stormwater, subsurface infiltration stormwater management practices were selected for the design in this subdivision.

Specifically, EDP selected Stormtech MC-4500 chambers to provide underground stormwater attenuation and infiltration within the proposed street right-of-way within the subdivision. Each StormTech treatment system consists of an Isolator Row (pre-treatment) that is conveyed to a storm chamber.

The StormTech system is similar to other manufactured stormwater devices that infiltrate stormwater into the subsurface. These manufactured stormwater devices have become popular in the past ten years and are commonly used as the stormwater regulations have evolved. These manufactured stormwater devices are provided for in the New York State Stormwater Management Design Manual.

In comparison to drywells, the StormTech system provides a pre-treatment component that drywells do not and the StormTech Unit's design provides a more efficient storage component thereby reducing the frequency and magnitude of maintenance. For this application, on average, each of the five (5) StormTech chamber locations provides greater than six (6) times the amount of storage than an eight (8) foot drywell. In other words, upwards of thirty (30) drywells would be required to provide the same function as the five (5) StormTech chamber locations.

Maintenance for the StormTech MC-4500 involves using a mushroom head jet (back jet) within the Isolator Row to pull accumulated sediment back to the manhole structure where it is vacuumed out. Maintenance for a drywell involves pressure washing the sides of the drywell and vacuuming up the accumulated sediment within the drywell structure. As such, StormTech units have similar maintenance requirements and require less frequent maintenance than a traditional drywell.

StormTech units and other manufactured stormwater devices have been in use in the Northeast for over a

decade. The use of these systems is expanding and being commonplace. They are routinely used in road right-of-ways such as the proposed Spencer Subdivision as well as under parking lots. The New York State Department of Transportation (NYSDOT) Region I (local region) has these units installed within the right-of-way of Route 9 in Loudonville and within right-of-way of the Route 7 and Route 149 Roundabout in Schenectady County.

In EDP's experience, the StormTech chambers as proposed herein are functionally similar to the use of drywells that the City of Saratoga Springs (City) is familiar with, albeit with a much higher storage capacity for accumulated sediment. As such, the City's regular maintenance schedule for the removal of accumulated sediment from their drywells would only be reduced through the use of StormTech units.