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18 November 2025

Ms. Kristine Sullivan
Inland Wetlands
11 Meetinghouse Lane
Woodbridge, CT

RE: 27 Beecher Road
Storm Drainage Discharge Volumes

Ms. Sullivan:

This memo provides an overview of the proposed stormwater management system and its relationship to the upland review area, with a focus on expected discharge volumes and flow paths toward the wetlands.

1. Stormwater Collection and Conveyance

Stormwater from the site will be collected through the following components:

- **Roof leaders** that capture runoff from the building roof;
- **Catch basins** located in the front parking area; and
- **A catch basin and trench drain** along the southern access drive leading to the building garage.

All collected runoff is directed into **two separate subsurface infiltration systems**—one located beneath the main parking lot and the other near the southern edge of the property.

2. Water Quality Protection

Before entering the infiltration systems, stormwater receives pretreatment through:

- **Catch basin sumps**, which remove sediment and heavier particles; and
- **Coarse particle separators**, installed at the pipe inlets to the subsurface chambers to further reduce solids and debris.

These measures provide the primary water-quality treatment for stormwater entering the subsurface systems.

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3. Infiltration and Overflow Management

Under normal storm events, collected stormwater will infiltrate into the ground through the subsurface systems. The proposed design results in an **overall reduction in runoff volume** compared to existing site conditions.

When the subsurface systems reach capacity during larger storm events, overflow water will be discharged to a system of **approximately 300 linear feet of level spreaders** installed along the southern portion of the property. These level spreaders distribute overflow evenly across the ground surface, reducing flow velocity and minimizing the potential for erosion.

As shown on **Sheet C-3.1**, the level spreader system is designed to be installed **primarily outside the upland review area**, and the final surface grades in this area are expected to remain essentially unchanged.

4. Flow Toward the Wetland

During a **100-year storm event** (approximately 2.8 inches of rainfall per hour), the system is expected to generate a **peak overflow rate of 7.13 cubic feet per second (cfs)** once the subsurface chambers are full.

After being dispersed by the level spreaders, this water will travel as shallow, non-channelized overland flow for approximately **100 feet to the east** before entering the existing wetland. The dispersion provided by the level spreaders is intended to maintain treated sheet flow conditions and minimize concentrated discharge toward the wetland.

5. Summary

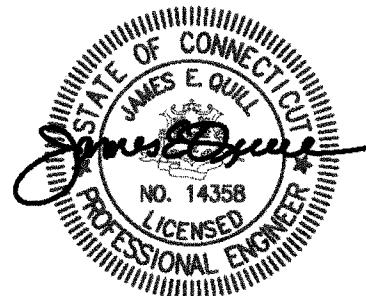
- Stormwater is collected from roofs, paved areas, and the access drive and routed to two subsurface infiltration systems.
- Pretreatment through sumps and particle separators provides water-quality protection.
- Overflow from major storm events is dispersed through 300 linear feet of level spreaders located mostly outside the upland review area.
- Overflow reaches the wetland only after being spread out and slowed, traveling roughly 100 feet as shallow overland flow.
- The design results in **reduced post-construction runoff volumes** compared to existing conditions.

Thank you.

James E. Quill

James E. Quill, P.E.

CT PE # 14358



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