**TOWN OF BERLIN**
Public Works/Engineering Department
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**MEMORANDUM**

**To:** Maureen Giusti, Acting Town Planner

**From:** Michael S. Ahern, P.E., Public Works Director/Town Engineer MSA

**Date:** June 17, 2021

**Re:** 239 Christian Lane

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We have reviewed the technical information and revised drawings supplied by the Applicant on June 14, 2021, in response to our previous comments. Several comments have been addressed, but on our subsequent review we offer the comments below for the Planning and Zoning Commission's (P & Z) consideration. Note that these can be addressed as approval conditions, at the P & Z's discretion, and our department can coordinate with the Applicant's engineer on relevant adjustments before final permitting.

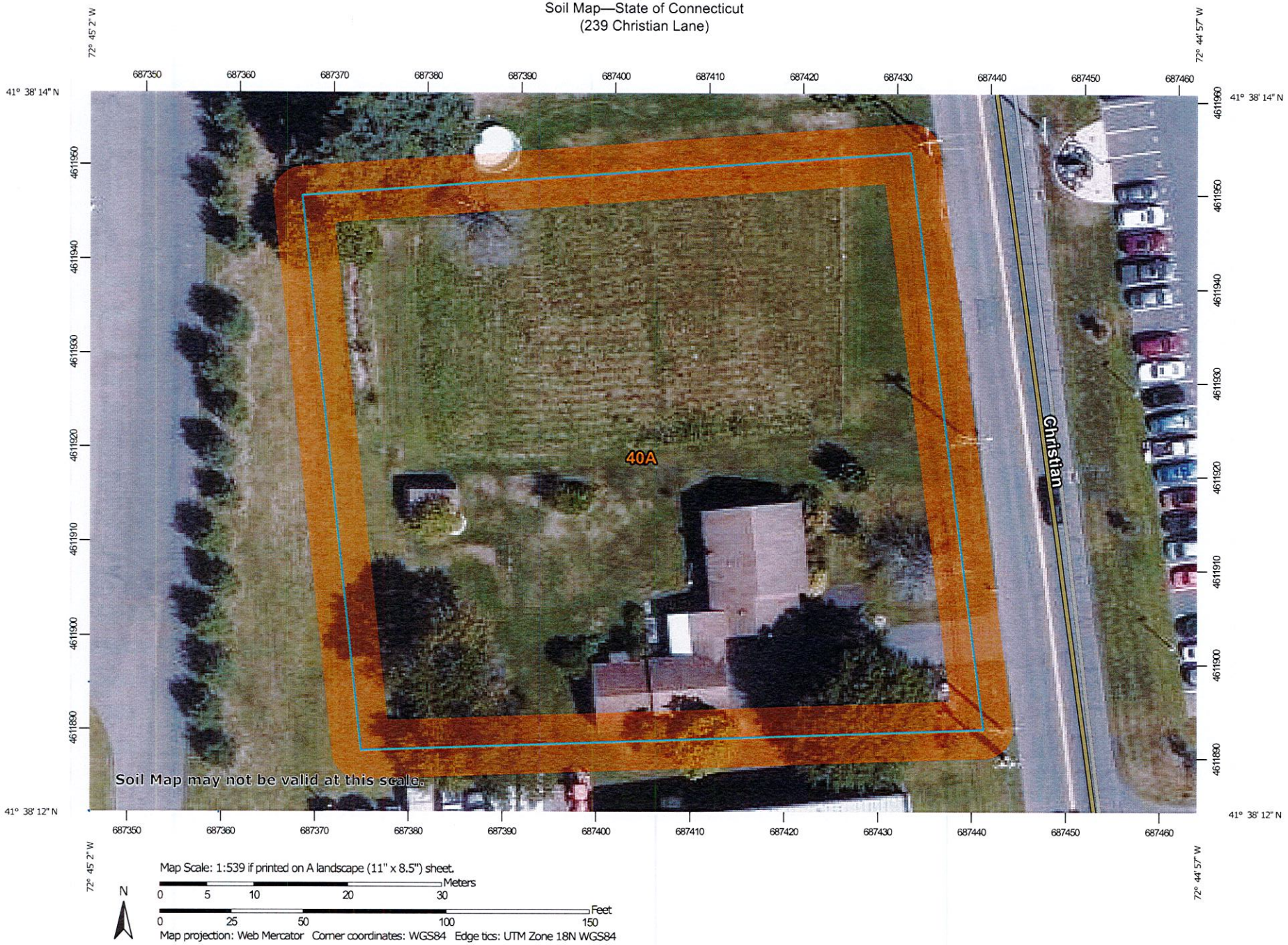
1. A previous comment requesting details on how the overflow from the two (2) underground stormwater infiltration/detention systems has not been addressed. In particular, the topographic contours on the post-development plan on Sheet 4 appear to indicate that the top of the catchbasin (at elevation 65.5) is located within a depressed area within the rear parking area. If so, this system would back up into the rear parking area during more intense storm events, creating standing water that could present an icing condition in the winter. It is difficult to determine from either Sheets 1 or 4 what grading is "proposed" versus "existing", so additional contours and spot elevations are needed.
2. The referenced stormwater detention systems are designed by using a soil infiltration rate of 1.25 inches per hour for what is noted as the Udorthents soil type located at a depth of six (6) feet below grade. Per the attached USDA soil map, the soil type in this area appears to be Ludlow Silt Loam, which has an indicated water depth of 18 – 30 inches, and a depth to a restrictive denser material at 20 to 40 inches below grade. The Applicant's post-development stormwater analysis assumes that the 1.25 inches per hour is present at all depths, and continues as a steady state outflow even during the more intense storms. The detention systems are to be installed to a depth of 4.5 feet below grade, so using a more conservative infiltration rate (in the loam range of 0.2 – 0.4 inches per hour) is recommended unless site specific infiltration testing is conducted. Note that this will increase the size of the proposed systems, but room is available.
3. Additional calculations should be provided to confirm that the proposed 6-inch diameter PVC piping from the catchbasins to the stormwater detention systems can pass all design storms. We suspect that this pipe size will need to be increased.
4. The six (6) proposed Red Oak trees in the front island should be eliminated, as there is an 8-inch diameter sanitary sewer directly below the tree planting area, possibly an 8-inch diameter gas main in the vicinity, a 15-inch diameter reinforced concrete drain pipe several feet to the east, and overhead utility lines five to six feet to the east. This location is problematic for any type of tree planting due to these utilities.

Please let me know if you have any questions.

Enclosures

cc: James Horbal, Deputy Director of Public Works

Soil Map—State of Connecticut
(239 Christian Lane)




Map Scale: 1:539 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 5 10 20 30

Feet
0 25 50 100 150

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

## MAP LEGEND

**Area of Interest (AOI)**
- Area of Interest (AOI)

**Soils**
- Soil Survey Areas
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

**Special Point Features**
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

**Water Features**
- Streams and Canals

**Transportation**
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

**Background**
- Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut
Survey Area Data: Version 20, Jun 9, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 30, 2019—Oct 15, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

# Map Unit Legend

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|---|---|---|---|
| 40A | Ludlow silt loam, 0 to 3 percent slopes | 1.0 | 100.0% |
| **Totals for Area of Interest** | | **1.0** | **100.0%** |