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O'Hara
Engineering Services, LLC

February 28, 2022

Dracut Planning Board
Town Hall
62 Arlington Street
Dracut, MA 01826

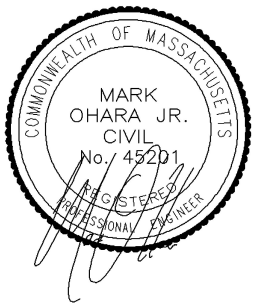
RE: 133 Phineas Street Stormwater design.

The stormwater system designed for the Chapter 40B residential development is designed to be in compliance with the Massachusetts Wetlands protection act, the Dracut Wetlands Bylaw and the Dracut Stormwater Management Program.

The stormwater system will consist of two separate stormwater treatment areas. One will be located near the site entrance. This system will consist of deep sump hooded catch basins located at the intersection of the proposed road and Phineas Street. Stormwater will be directed to a forebay that will discharge into a rain garden/retention basin. The rain garden design serves two primary purposes to reduce suspended solids (>90%) and reduce stormwater runoff below existing, pre-development conditions. A second stormwater treatment area will be centrally located on the site. Similar to the other treatment area, it too will also consist of deep sump hooded catch basins located along the proposed road and will discharge into a forebay before entering a rain garden/detention basin. Some of the stormwater will enter the rain garden as sheet flow as this portion of the site will utilize low impact techniques such as reduced pavement width and country style drainage and no roadway curbing.

Soil test pits performed onsite confirm soil designations from the Natural Resources Conservation Service (NRCS) soil report attached. The soils are very porous in nature, having a designation of Hydrologic Soils Group A. These design measures will reduce the potential for offsite flooding.

A full stormwater report will be provided when a Notice of Intent application is submitted to the Dracut Conservation Commission and the Massachusetts Department of Environmental Protection.



Mark O'Hara, PE

Soil Map—Middlesex County, Massachusetts
(Phineas Street)

Map Scale: 1:2,110 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

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

Soils
- 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 1:25,000.

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: Middlesex County, Massachusetts
Survey Area Data: Version 21, Sep 2, 2021

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

Date(s) aerial images were photographed: Aug 31, 2020—Oct 22, 2020

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
1	Water	1.2	5.5%
4A	Rippowam fine sandy loam, 0 to 3 percent slopes, frequently flooded	4.2	19.8%
32B	Wareham loamy fine sand, 0 to 5 percent slopes	5.3	25.1%
253B	Hinckley loamy sand, 3 to 8 percent slopes	9.6	45.6%
255B	Windsor loamy sand, 3 to 8 percent slopes	0.8	4.0%
Totals for Area of Interest		**21.1**	**100.0%**