

August 26, 2021

Stormwater Analysis

GAI PN: 7332-00

South Kingstown Nursing and Rehabilitation Center Basement Addition

2115 South County Trail

South Kingstown, Rhode Island 02892

A.P. 9, lots 59 & 82

Project Background

Health Concepts, LLC is proposing to construct an approximately 1,000 ft² basement addition to their existing facility located at 2115 South County Trail, South Kingstown, RI (AP 9, Lots 59&82). The addition is proposed to provide additional mechanical space necessary for upgraded fire protection improvements.

The property is located east of Barber Pond between Barbers Pond Road and South County Trail (Route 2), approximately 400 feet south of the intersection of Pleasant View Drive and South County Trail. The site is fully developed and doing business as the South Kingstown Nursing and Rehabilitation Facility. The proposed addition to this facility will not include upper floor (finished spaces) but will include various minor associated site improvements including concrete sidewalks, stairs, and ramps. The site design will also include stormwater management and erosion and sediment controls to address construction activities and changes in impervious area.

Soils

Based upon a review of the *Soil Survey of Rhode Island* prepared by the US Department of Agriculture Natural Resources Conservation Service (NRCS) the soils underlying the site comprise of Bridgehampton silt loam (BhA) and Narragansett very stony silt loam (NbB). Both soils are well draining and are suitable for infiltration practices. The survey indicates that both categories have an average depth to the water table greater than 80 inches and have a Hydrological Soil Group classification of B. A review of site-specific soil evaluations performed in conjunction with the Onsite Wastewater Treatment System (OWTS) design in 2002 confirmed the generalized soil conditions. A copy of the NRCS soil report and the soil evaluations can be found in Appendix A of this report.

Stormwater Management Design

Article II, Section 20-67.4.a&b of the South Kingstown Code of Ordinances requires that the increase in stormwater runoff from development projects, up to and including the 10-year storm event, shall be retained on site. In order to comply with this requirement, a stormwater infiltration chamber system has been designed to capture and infiltrate the increase in stormwater runoff for the 10-year storm event. This best management practice (BMP) is recommended by the *Rhode Island Stormwater Design and Installation Standards Manual* (RISDISM) and the system has been designed to comply with the parameters of that manual.



In order to determine the required storage volume for the project, the existing and proposed conditions we analyzed using the TR-20 method via the HydroCAD stormwater modeling software. The proposed increase in impervious area (1,200 ft²) was modeled as grass in good condition (CN=61) for the pre-development analysis and as impervious area (CN=98) in the post-development analysis. All other disturbed areas associated with the project will be restored to their existing state and will not result in any additional increase in stormwater runoff. The table below summarizes the pre-development and post-development runoff volumes along with the total volume provided in the infiltration chambers. The complete calculations can be found in Appendix A of this report.

	Volume (cf)
Pre-Development (10-Year Storm)	131
Post-Development (10-Year Storm)	466
Δ Volume	335
Volume Provided Within Chambers	385

Conclusion

Based upon the above-described analysis, the proposed design has been found to comply the stormwater management requirements of the Town of South Kingstown. Specifically, the increased runoff associated with project will be mitigated for storm events up to and including the 10-year storm. Further, the selected best management practice (BMP) is recommended by the *Rhode Island Stormwater Design and Installation Standards Manual* and the project has been designed to meet the parameters of that manual. Finally, to address and mitigate potential pollutant discharge during construction, temporary BMPs will be employed to control discharges associated with construction in accordance with the standards outlined in the *Rhode Island Soil and Erosion Control Handbook*.





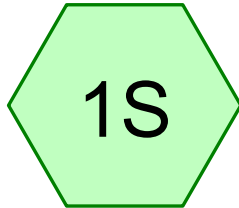
Garofalo & Associates, Inc.

Consulting Engineers

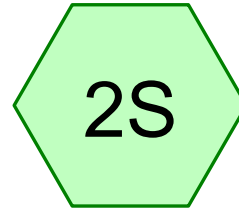
Surveyors ♦ Land Planners

Appendix A
HydroCAD Stormwater Analysis
NRCS Soil Data
Soil Evaluations
FEMA FIRMette

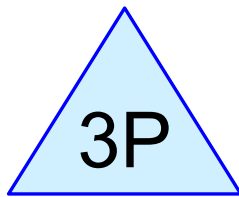




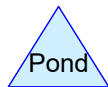
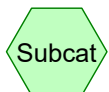
Exsting



Proposed



SC740 Chambers



7332-00 South Kingstown Nursing Center

Prepared by {enter your company name here}

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Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
1,200	98	(2S)
1,200	61	>75% Grass cover, Good, HSG B (1S)
2,400	80	TOTAL AREA

7332-00 South Kingstown Nursing Center

Type III 24-hr 10-Year Rainfall=4.90"

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Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Exsting

Runoff Area=1,200 sf 0.00% Impervious Runoff Depth=1.31"
Tc=6.0 min CN=61 Runoff=0.04 cfs 131 cf

Subcatchment 2S: Proposed

Runoff Area=1,200 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.13 cfs 466 cf

Pond 3P: SC740 Chambers

Peak Elev=0.00' Storage=0 cf

Total Runoff Area = 2,400 sf Runoff Volume = 597 cf Average Runoff Depth = 2.99"
50.00% Pervious = 1,200 sf 50.00% Impervious = 1,200 sf

Summary for Subcatchment 1S: Exsting

Runoff = 0.04 cfs @ 12.10 hrs, Volume= 131 cf, Depth= 1.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,200	61	>75% Grass cover, Good, HSG B
1,200	61	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 2S: Proposed

Runoff = 0.13 cfs @ 12.08 hrs, Volume= 466 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
* 1,200	98	
1,200	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Pond 3P: SC740 Chambers

[43] Hint: Has no inflow (Outflow=Zero)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	201 cf	11.00'W x 17.86'L x 3.50'H Field A 687 cf Overall - 184 cf Embedded = 504 cf x 40.0% Voids
#2A	0.50'	184 cf	ADS_StormTech SC-740 +Cap x 4 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 4 Chambers in 2 Rows
		385 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Custom Soil Resource Report for State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

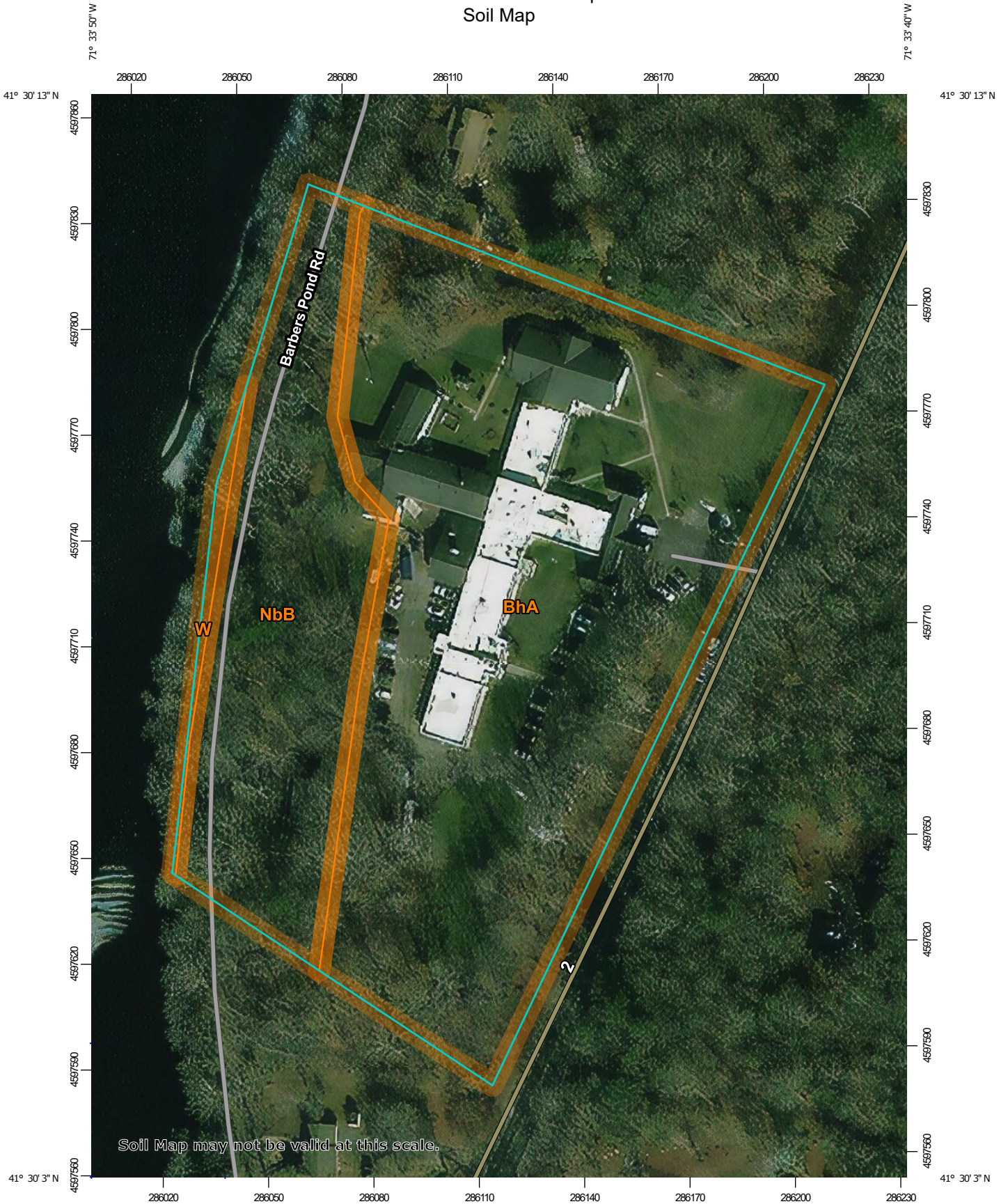
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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

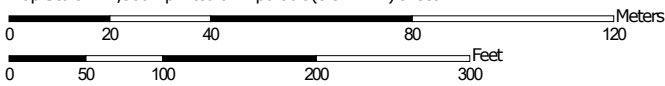
Custom Soil Resource Report Soil Map



Soil Map may not be valid at this scale.




Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.



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 1:12,000.

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 Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties
 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: Dec 31, 2009—Apr 1, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

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
BhA	Bridgehampton silt loam, 0 to 3 percent slopes	5.1	72.0%
NbB	Narragansett very stony silt loam, 0 to 8 percent slopes	1.9	27.0%
W	Water	0.1	0.9%
Totals for Area of Interest		7.0	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

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delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties

BhA—Bridgehampton silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 9ltj
Elevation: 0 to 810 feet
Mean annual precipitation: 44 to 50 inches
Mean annual air temperature: 48 to 50 degrees F
Frost-free period: 120 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Bridgehampton and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bridgehampton

Setting

Landform: Outwash plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty loess over sandy and gravelly glaciofluvial deposits derived from granite and gneiss

Typical profile

Ap - 0 to 8 inches: silt loam
B - 8 to 41 inches: silt loam
2C - 41 to 60 inches: gravelly sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 11.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Ecological site: F144AY024NY - Well Drained Eolian Outwash
Hydric soil rating: No

Minor Components

Agawam

Percent of map unit: 3 percent
Landform: Outwash plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Enfield

Percent of map unit: 3 percent
Landform: Terraces, outwash plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Tisbury

Percent of map unit: 2 percent
Landform: Terraces, outwash plains
Down-slope shape: Linear
Across-slope shape: Linear, concave
Hydric soil rating: No

Scio

Percent of map unit: 2 percent
Landform: Lakebeds, terraces
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

NbB—Narragansett very stony silt loam, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9lw0
Elevation: 0 to 810 feet
Mean annual precipitation: 44 to 50 inches
Mean annual air temperature: 48 to 50 degrees F
Frost-free period: 115 to 190 days
Farmland classification: Not prime farmland

Map Unit Composition

Narragansett and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Narragansett

Setting

Landform: Hills, till plains
Down-slope shape: Linear

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Across-slope shape: Convex

Parent material: Coarse-loamy eolian deposits over sandy and gravelly melt-out till derived from gneiss and/or schist and/or granite

Typical profile

Ap - 0 to 6 inches: silt loam

Bw1 - 6 to 15 inches: silt loam

Bw2 - 15 to 24 inches: silt loam

Bw3 - 24 to 28 inches: gravelly silt loam

2C - 28 to 60 inches: very gravelly loamy coarse sand

Properties and qualities

Slope: 0 to 8 percent

Surface area covered with cobbles, stones or boulders: 1.6 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: B

Ecological site: F144AY034CT - Well Drained Till Uplands

Hydric soil rating: No

Minor Components

Bridgehampton

Percent of map unit: 4 percent

Landform: Outwash plains

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Canton

Percent of map unit: 2 percent

Landform: Hills

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Charlton

Percent of map unit: 1 percent

Landform: Hills

Down-slope shape: Linear

Across-slope shape: Convex

Hydric soil rating: No

Wapping

Percent of map unit: 1 percent

Landform: Hills, till plains

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Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Woodbridge

Percent of map unit: 1 percent
Landform: Drumlins
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Scio

Percent of map unit: 1 percent
Landform: Terraces, lakebeds
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

W—Water

Map Unit Setting

National map unit symbol: 9lxl
Mean annual precipitation: 44 to 50 inches
Mean annual air temperature: 48 to 50 degrees F
Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

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STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
 Department of Environmental Management
 Office of Water Resources



Site Evaluation Form

Part A - Soil Profile Description

Application Number 0232-1896

Property Owner: SOUTH KINGSTOWN NURSING HOME

NOV 12 2002

Property Location: S. COUNTY TRAIL SKINGSTOWN

Date of Test Hole: 9-26-02

Soil Evaluator: MARC N NYBERG

License Number: D4043

Weather: RAIN 60°

Shaded: Yes No Time: 2:00

TH Horizon	Depth	Horizon Boundaries		Soil Colors		Re-Ox Description			Texture	Structure	Consistence	Soil Category
		Dist	Topo	Matrix	Re-Ox Features	Ab.	S.	Con.				
A	0-12	AB	SM	10YR 3/3					SIL	GRAN	FRI	
Bw	12-20	AB	SM	10YR 4/6					BD, ST, GB SL	SBK	FRI	
BC	20-28	AB	SM	2.5Y 6/4					SL	SBK	FRI	
C	28-54	AB	SM	2.5Y 7/2					VFSL	O-M	FRI	7
2C	54-96	AB	SM	2.5Y 5/6					CB, G COS	O-SG	LOOSE	2
3C	96-134								CB, G LS	O-M	FRI	8
TH #2 Horizon	Depth	Horizon Boundaries		Soil Colors		Re-Ox Description			Texture	Structure	Consistence	Soil Category
		Dist	Topo	Matrix	Re-Ox Features	Ab.	S.	Con.				
DEC 3 2002 A	0-12	AB	SM	10YR 3/3					SIL	GRAN	FRI	
Bw	12-22	AB	SM	10YR 4/6					SL	SBK	FRI	
BC	22-30	AB	SM	2.5Y 6/4					SL	SBK	FRI	
C	30-56	AB	SM	2.5Y 7/2					VFSL	O-M	FRI	7
2C	56-142			2.5Y 5/6					COS	O-S, G	LOOSE	2

Soil Class: ICE CONTACT / BASALT TILL
 Depth to Groundwater Seepage: NONE
 Estimated Seasonal High Water Table: 93"
REDOX PREVALENT FROM 24" ↓

Total Depth of each Test Hole: #1-134 #2-142

Depth to Impervious or Limiting Layer: NONE

Comments:

National Flood Hazard Layer FIRMMette



71°34'4"W 41°30'24"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>

OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard <i>Zone D</i>
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall

OTHER FEATURES		Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature

MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped
		The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.



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