

MASTER PLAN REPORT BRISTOL WARREN REGIONAL SCHOOL DISTRICT

Pare Project No. 23099.01

**Mt. Hope High School
199 Chestnut Street
Bristol, Rhode Island**

Assessor's Plat 117 Lots 3, 4, 5, 6, and 7

Prepared for:

**Bristol Warren Regional School District
235 High Street
Bristol, RI 02809**

Prepared by:

**Pare Corporation
8 Blackstone Valley Place
Lincoln, RI 02865**

**AUGUST 5, 2024
REVISED SEPTEMBER 4, 2024**

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PROJECT DESCRIPTION

INTRODUCTION

Bristol Warren Regional School District (BWRSD) is proposing a new High School building for students of Bristol and Warren. The project includes a new building, athletic fields, parking areas, loading areas, site features, utilities and stormwater management systems. The existing high school is located at 199 Chestnut Street (Assessor's Maps as Plat 117 Lot 3, 4, 5, 6, and 7). Early site concepts were reviewed with the Town of Bristol's Director of Community Development during pre-application meetings on April 25, 2024 and June 28, 2024.

EXISTING CONDITION

Location

The property contains a total of 44.6 acres of land and is bounded by Chestnut Street and St. Mary's cemetery to the south, Noami Street and residential properties to the west, and residential properties to the north and east. There is a large wetland complex on the northeast corner of the site, which is within the East Branch of the Silver Creek Watershed. The wetland discharges to Silver Creek, which flows through the site.

Existing Facility

The existing property includes a high school building which is approximately 138,721 SF. The primary use of the site is the high school facility, however the site also has various athletic fields such as football, track and field, soccer, softball, and tennis. The property contains numerous parking lots for students and staff, maintenance/storage buildings, landscaped areas, athletic fields, a detention basin for stormwater management, wetlands, and a stream flowing through the central portion of the building. There is a pond and dam in the southern portion of the site. St. Mary's Cemetery, a cultural resource within the Town of Bristol, is located across Chestnut Street, south of the site. No disturbance will take place near or on the cemetery property.

Zoning

The property is located within the Public Institutional (PI) Zone. Per the Code of Ordinances section 28-112, the PI zone does not have dimensional requirements. The site is surrounded by R-15 zones to the north, south, east and west and OS zones to the north and east. Dimensional



requirements for these surrounding districts were considered during design, though there are no dimensional requirements in the PI Zone.

Per section 28-251, the parking spaces are required to be a minimum of 18 feet long by 10 feet wide with 24-foot wide drive aisles. Double lines separating parking spaces are required by the Town of Bristol and will be provided for this project. There are 281 parking spaces on the site. Parking lots are reportedly adequate during normal school hours. There are on-street parking spaces along Chestnut Street. Approximately 88 on-street spaces are used by students and staff during school hours.

Topography

The existing topography on-site generally slopes towards the wetlands or Silver Creek. Under existing conditions, stormwater flows overland directly to a wetland/stream or is captured in catch basins. Catch basins in the parking lots and drive aisles are piped and discharged directly to the wetland and Silver Creek. Catch basins in the athletic fields are piped to a detention basin that discharges into the wetland on the southwest corner of the site. Catch basins within the track capture runoff and discharge directly into the southwest wetland. The Existing Drainage Map depicts the approximate limits of the existing drainage patterns to the Silver Creek West Branch tributary and Silver Creek East Branch tributary, which combine to ultimately discharge to Silver Creek.

Soils

The Soil Survey of Rhode Island reports that the soils located on the site are a mix of primarily Udorthents-Urban land complex (UD), Urban Land (Ur), and Stissing silt loam (Se). There are less significant sections of Pittstown silt loam (PmA), Pittstown silt loam (PmB), and Newport silt loam (NeB). Udorthents-Urban land complex soil is generally well drained, with a hydraulic rating of A due to fill material. Whereas Stissing silt loam (Se), Pittstown silt loam (PmA), Urban land (Ur), Pittstown silt loam (PmB), and Newport silt loam (NeB) are generally poorly drained, with Hydraulic soil ratings of C and D. Test pits and soil documentation have been completed on site since 2015. The test pit information completed by Pare on July 23, 2015, October 9, 2020 and July 18, 2024 indicate poorly drained soils, high ground water table, and a limiting layer of dense compacted silty loam material. Evidence of this poorly drained soil is documented across the entire property, which has resulted in limited infiltration capabilities on site.



Wetlands/Flood Plain

Freshwater wetlands in the vicinity of the project site were delineated by LEC Environmental Consultants on February 12, 2024, and February 28, 2024, in support of the Mt. Hope High School project. The wetland delineations were completed in accordance with the Rhode Island Fresh Water Wetlands Act (R.I.G.L. 2-1-18 et. Seq.), and consistent with Appendix 2 of the Rhode Island Department of Environmental Management (RIDEM) Rules and Regulations Governing the Administration and Enforcement of the Rhode Island Freshwater Wetlands Act (the Regulations). In total the site contains two wetland complexes located to the northeast and southwest of the site. The wetland complex located to the northeast of the site contains a variety of wetland types, including a pond, stream (>10 feet wide), forested swamp, and wet meadow. The wetland complex located to the southwest of the site contained a forested swamp and wet meadow.

The site is located within the Silver Creek Watershed. According to the FEMA Flood Insurance Rate Map for Bristol County, Rhode Island (Community-Panel 44001C0014H, effective date July 7, 2014), a portion of the property is located within Zone AE and the rest is located within Zone X. The East Branch Silver Creek runs diagonally through the site from northeast to southwest. The property is also located within a Natural Heritage Area (NHA) per RIDEM's Environmental Resource map for the Leopard Frog. Appropriate habitat assessments will be completed by LEC Environmental Consultants prior to Fresh Water Wetlands (FWW) permitting with RIDEM.

Utilities

There are existing public water, sewer, gas and electrical utilities located within the property that service the existing school, athletic fields, and operation/maintenance buildings. All utilities are provided from utilities located in Chestnut Street. A utility building located along Chestnut Street currently contains a gas meter, an electric meter, fire pump assembly, and domestic water assembly. A sewer lift station is located in the courtyard on-site, with a sewer service that connects to Chestnut Street via gravity. An existing 15-inch PVC sewer main and sewer easement is located in the center of the property, owned by the Town of Bristol and maintained by the Bristol Water Pollution Control department. The 15-inch sewer main provides sewer service for the residential and commercial properties to the North. This sewer main will remain in service, be protected during construction and remain in the final condition.



PROPOSED DEVELOPMENT

The project includes the construction of a 98,550 SF high school building along with associated exterior site improvements including parking areas, loading zones, courtyards, plazas, sidewalks, a track and field, a softball field, practice fields, tennis courts, stormwater management systems, and utility connections.

The project's construction scope includes additional alternate items that will be incorporated into the project's base bid if elected by the Owner. Alternates for the project include the following items:

- Alt-001 Irrigation for softball and practice football field
- Alt-002 Prefab storage sheds.
- Alt-003 Baseball field with amenities and irrigation.
- Alt-004 Bleachers and Pressbox for Baseball and Softball.
- Alt-005 Grandstands and Pressbox for Track and Field, Pole Vault and High Jump.
- Alt-006 Tennis Court lighting.
- Alt-007 Courtyard site features
- Alt-008 Increase landscape planting and shrubs by 50%
- Alt-009 Provide vertical granite curb in lieu of concrete curbs.
- Alt-010 Geothermal well system.

The items listed above are not included within the base bid project scope. Where the baseball field is located at the southeast corner of the property, the existing high school building will be demolished, then loam and seeded to provide a grassed area that will match existing grades while providing positive drainage.

Phasing

Per the estimated schedule provided by the Bristol Warren Regional School District's (BWRSD) OPM, the project is anticipated to commence construction in the spring of 2025. The Owner plans to construct the new school building on the northwest portion of the site while the existing building remains fully operational. Once the new building is constructed, the existing building and site features will be demolished. Remaining site improvements will be constructed. The new building is



anticipated to be completed in August 2027 and the remaining site work will be completed in May 2028.

During the TRC Meeting, members expressed interest in the details of phasing utility connections to maintain connections to the existing school during construction. Pare will work with the Owner and Utility Companies to provide more detail on utility connections for the Preliminary Plan Submission.

Parking Summary

The parking areas calculated per Article VIII of the Code of Ordinance section 28-252 and include the following number of parking spaces:

Parking Summary			
	Required Spaces**	Existing	Proposed
Standard spaces (10'x18')	219	275	228
Accessible Spaces*	7	6	12
Total Spaces	226	281	240

* ADA requirement for parking lot: 201 to 300 total spaces = 7 ADA spaces

** Article VIII of the Code of Ordinance states: One parking space for every eight students and one parking space per every employee.

The required parking per the zoning ordinance breaks down as follows:

- School (832 students) – 104 Spaces
- School (122 staff) – 122 Spaces

Total Required Spaces = 226 Spaces

The existing high school has more parking spaces than required. The proposed design will reduce the number of spaces to accommodate the needs of the school more closely and reduce excess impervious surface. The school may continue to utilize the existing 88 on-street parking spaces along Chestnut Street to provide additional parking when needed for demand events. Due to the athletic field's use having primary hours outside of when the school's use is in operation, the proposed parking spaces are anticipated to provide adequate parking for athletic events.

Loading Summary

The Article VIII of the Code of Ordinance section 28-253 requires the following for loading:



-
- 1 loading space for uses between 5,000-40,000 GFA
 - 1 loading space for each 100,000 GFA over 40,000 GFA

Loading zones shall be 14 FT x 60 FT with a 15 FT clearance. The proposed high school building will have a total gross floor area of 166,000 S.F. Therefore, two new loading zones will be provided in accordance with the Zoning Ordinance. These loading spaces are provided within the proposed service area northeast of the school building. All trash pickup and deliveries are anticipated to occur within this service area. A loading dock is anticipated to facilitate operations. The trash and service area are located within the site's interior and sufficiently screened from view from abutting properties.

Impacts to Silver Creek

Silver Creek currently is routed through the existing high school via the two existing 48" dual culverts, with steep banks, bridges and stone headwalls. The proposed development will maintain all existing culverts, with no disturbance within the limits of the stream or below the water line. By removing the existing high school infrastructure from the floodplain limits, providing required compensatory storage and providing water quality treatment with stormwater BMPs this will minimize impacts to Silver Creek and provide benefits the existing stream. Based on the proposed building's location, minimal impacts will be made to the floodplain. The on-site floodplain analysis based on the proposed development shall compile to RIDEM regulations and will be reviewed during FWW permitting by RIDEM.

Utilities

New utilities will be routed to the proposed school. Based upon preliminary coordination with utility companies, utility services are available to support the new building.

Water mains for domestic use and fire protection will be routed from the existing utility building along Chestnut Street to the new school.

Wastewater will be conveyed to a proposed sewer lift station near the new school and pumped via sewer force main to the existing sewer main in Chestnut Street.



The 15-inch PVC sewer main and sewer easement will remain in service. The 15-inch sewer shall remain with no modifications or new connections to the existing service, as discussed with Bristol Water Pollution Control.

Electric and communications services are anticipated to connect to the infrastructure in Chestnut Street. The new school will not utilize natural gas.

Alternate 010, noted above, includes a geothermal well system for energy efficiency and sustainability. If the alternate is accepted, the geothermal wells shall be installed in the northern portion of the property under the practice football field and hammer-cage toss area.

Stormwater

The proposed building will require new stormwater management systems to treat and convey stormwater runoff. All new stormwater collection, storage, and treatment systems will be designed and constructed in accordance with the *State of Rhode Island Storm Water Design and Installation Standards Manual (RISDISM)* prepared by the Rhode Island Department of Environmental Management (RIDEM) dated December 2010 and amended March 2015. The project qualifies as a “New Development” per Section 3.2.6 of the RISDISM. The stormwater collection system will consist of catch basins and manholes connected with high-density polyethylene (HDPE) pipe. BMPs such as sediment forebays, sand filters and bioretention areas will be used to infiltrate and treat stormwater prior to discharging to Silver Creek. The project will utilize a combination of the existing detention basin located north of the track and new detention systems to maintain post-development peak flow rates below the pre-development condition, while detaining the 10-yr storm to the maximum extents practicable. The RISDISM 11 minimum stormwater management requirements will be met to the maximum extent practicable for the project, while providing LID methods such as pervious pavers, qualifying pervious surfaces and providing much needed water quality treatment for new impervious surface prior to entering Silver Creek.

Other Permits

The project will require the following state permits:

- Rhode Island Department of Environmental Management (RIDEM)



-
- There are various wetland resources throughout the property. A pre-application meeting was held with RIDEM on July 18, 2023 to discuss the scope of the project and anticipated permitting effort. Work is anticipated to remain mostly outside of the wetland resource areas, but some work will take place within the buffers, floodplain, and jurisdictional areas. An Application for a Fresh Water Wetlands Permit is required due to the proposed improvements within the jurisdictional area and proximity to the on-site wetland resource areas. The application submission will include a cover letter, completed application form, site location and resource maps, Wetland Delineation Report, Application for Stormwater Construction Permit and Water Quality Certification form, Stormwater Management Report, Appendix A Checklist, Stormwater Operation and Maintenance Plan, SESC Plan, design drawings, and narrative summarizing evaluation of wetland functions, values, and impacts proposed by the project.

Waivers Requested

The Owner/Applicant requests the following waivers from the Subdivision regulation 5.4 and Major Land Development checklist item E.7.

- Waiver for requirement to provide RIDEM FWW at time of Preliminary Plan Submission:
The Owner/Applicant requests a waiver to the requirement to submit a RIDEM FWW permit when making the Preliminary Plan Submission. Owner/Applicant requests the Planning Board review Preliminary Plan submission concurrent with RIDEM. Owner/Applicant understands Preliminary Plan will not be approved by the Planning Board until the RIDEM FWW permit is issued. This waiver is requested to support the project schedule.



**Bristol Warren Regional School District
MT. HOPE HIGH SCHOOL**

APPENDIX A

**Locus Map
Aerial Map
Zoning Map
FEMA Firmette Map
Soils Map
Existing Drainage Map
LID Checklist
Test Pit Logs**

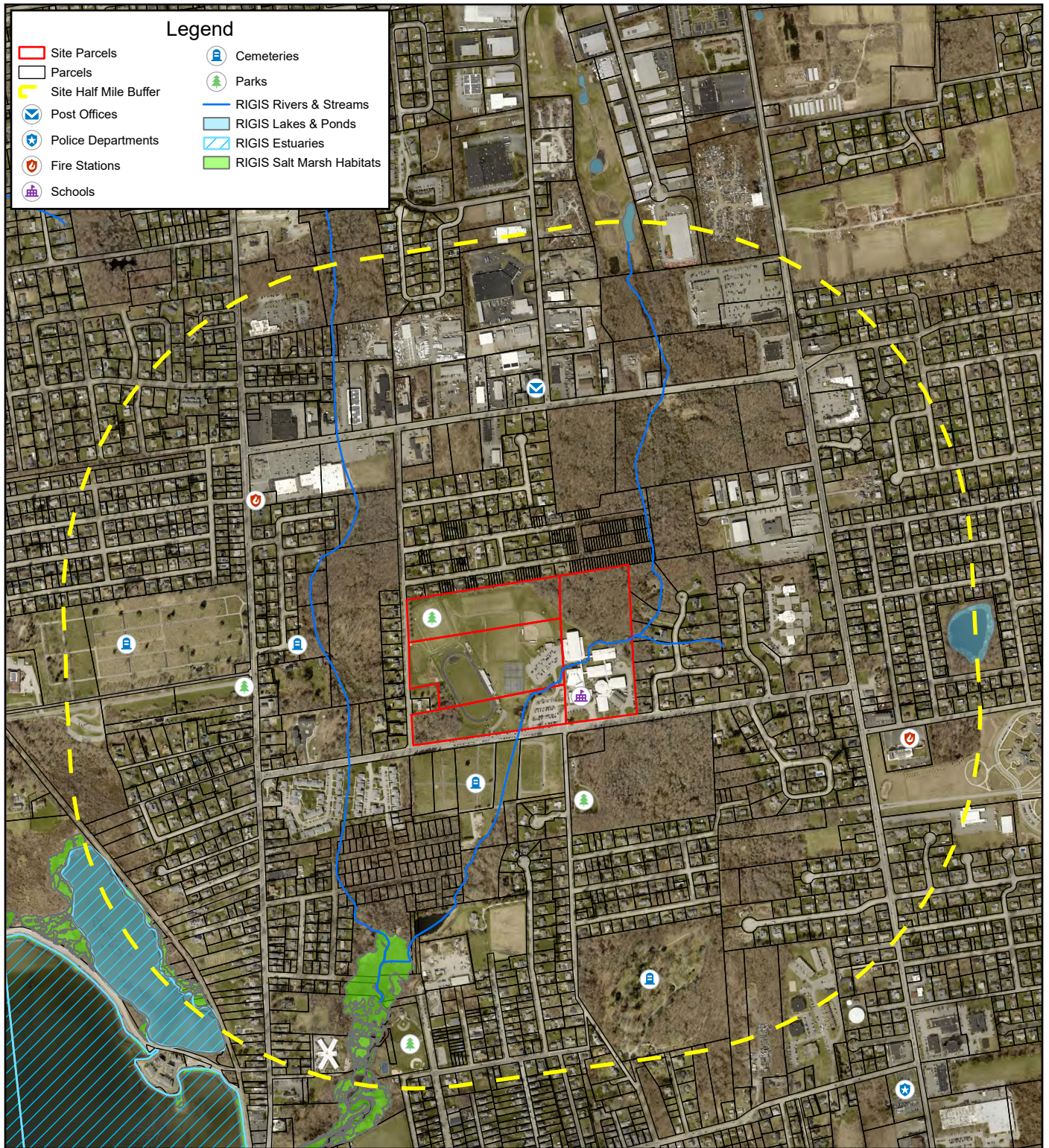


MOUNT HOPE HIGH SCHOOL
 199 CHESTNUT STREET
 BRISTOL, RHODE ISLAND

LOCUS PLAN

JULY 2024

FIGURE 1



ANNOTATED AERIAL PHOTOGRAPH

SCALE: 1" = 1,100'



8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
(401) 334-4100

10 LINCOLN ROAD, SUITE 210
FOXBORO, MA 02035
(508) 543-1755

PARE PROJECT No. 23099.01

JULY 2024

FIGURE 1.1

MT. HOPE HIGH SCHOOL
BRISTOL, RI

Legend

Site Half Mile Buffer

Site Parcels

Zoning

(A) Agricultural

(GB) General Business

(HPC) Historic Preservation and Conservation

(LB) Limited Business

(M) Manufacturing

(MMU) Metacom Mixed Use

(OS) Open Space

(PI) Public Institutional

(R-6) Residential 6,000 sq. ft. lot size

(R-10) Residential 10,000 sq. ft. lot size

(R-10SW) R-10 w/ sewer, water

(R-15) Residential 15,000 sq. ft. lot size

(R-20) Residential 20,000 sq. ft. lot size

(W) Waterfront

(WPUD) Waterfront PUD

ENGINEERS - SCIENTISTS - PLANNERS
8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
401-334-4100

1 INCH = 800 FEET

0"1"

BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE
HIGH SCHOOL
BRISTOL, RI

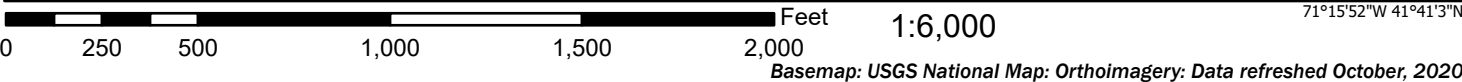
PROJECT NO.: 23099.01
DATE: JULY 2024
SCALE: AS NOTED

FIGURE 1.2:
ZONING MAP

National Flood Hazard Layer FIRMMette



71°16'29"W 41°41'30"N



Legend

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

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		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 Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
OTHER FEATURES		Levee, Dike, or Floodwall
		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



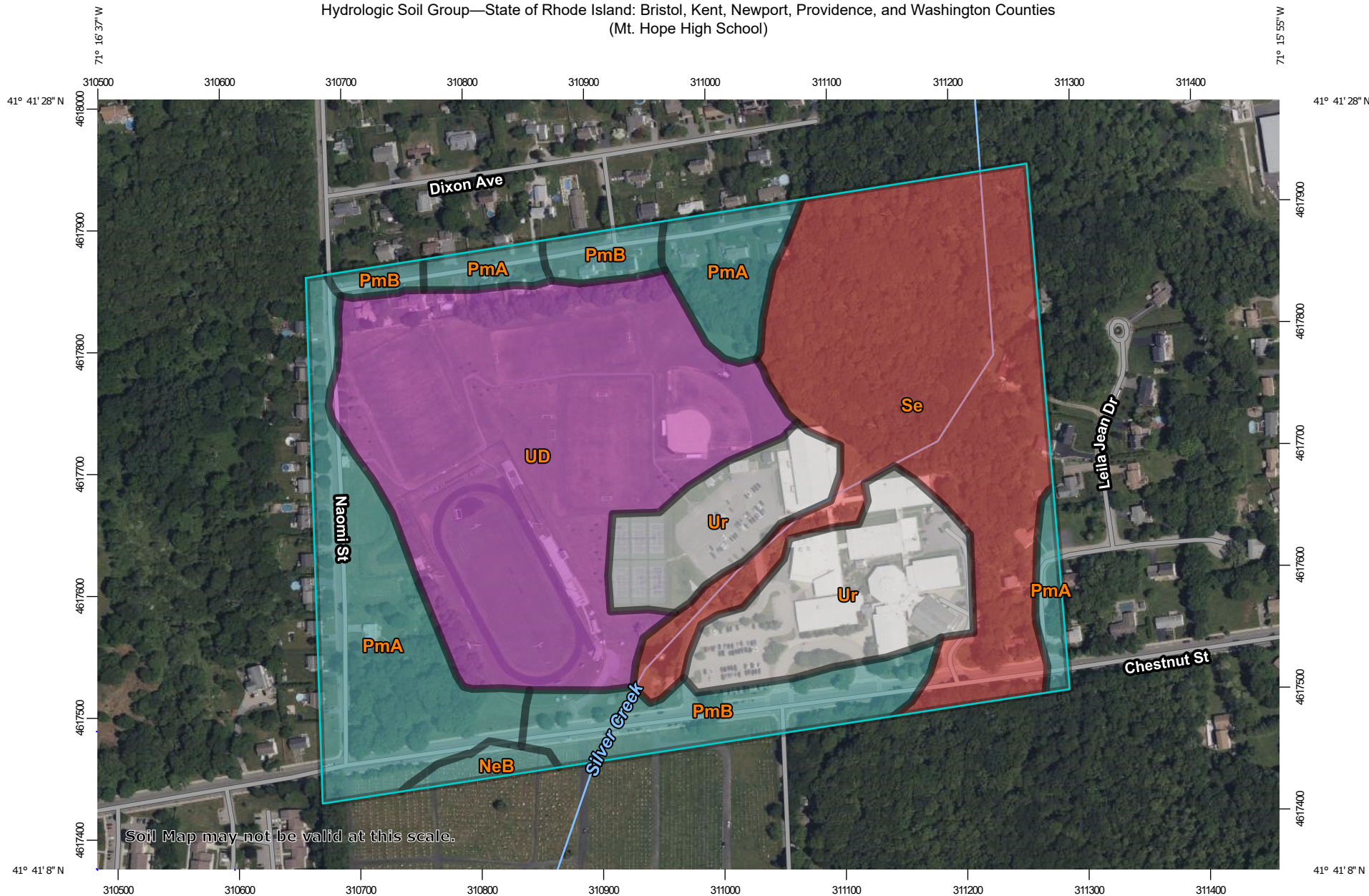
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

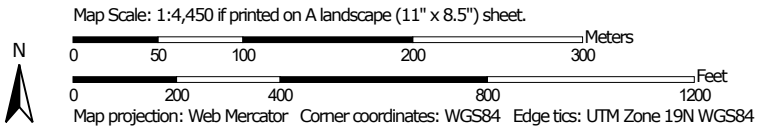
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/1/2023 at 8:54 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Hydrologic Soil Group—State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties (Mt. Hope High School)



Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points





 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available


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 22, Sep 12, 2022

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

Date(s) aerial images were photographed: Jun 14, 2022—Jul 1, 2022

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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
NeB	Newport silt loam, 3 to 8 percent slopes	C	0.6	0.9%
PmA	Pittstown silt loam, 0 to 3 percent slopes	C	11.5	17.6%
PmB	Pittstown silt loam, 3 to 8 percent slopes	C	5.4	8.3%
Se	Stissing silt loam	D	17.6	27.0%
UD	Udorthents-Urban land complex	A	20.4	31.3%
Ur	Urban land		9.7	14.9%
Totals for Area of Interest			65.3	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

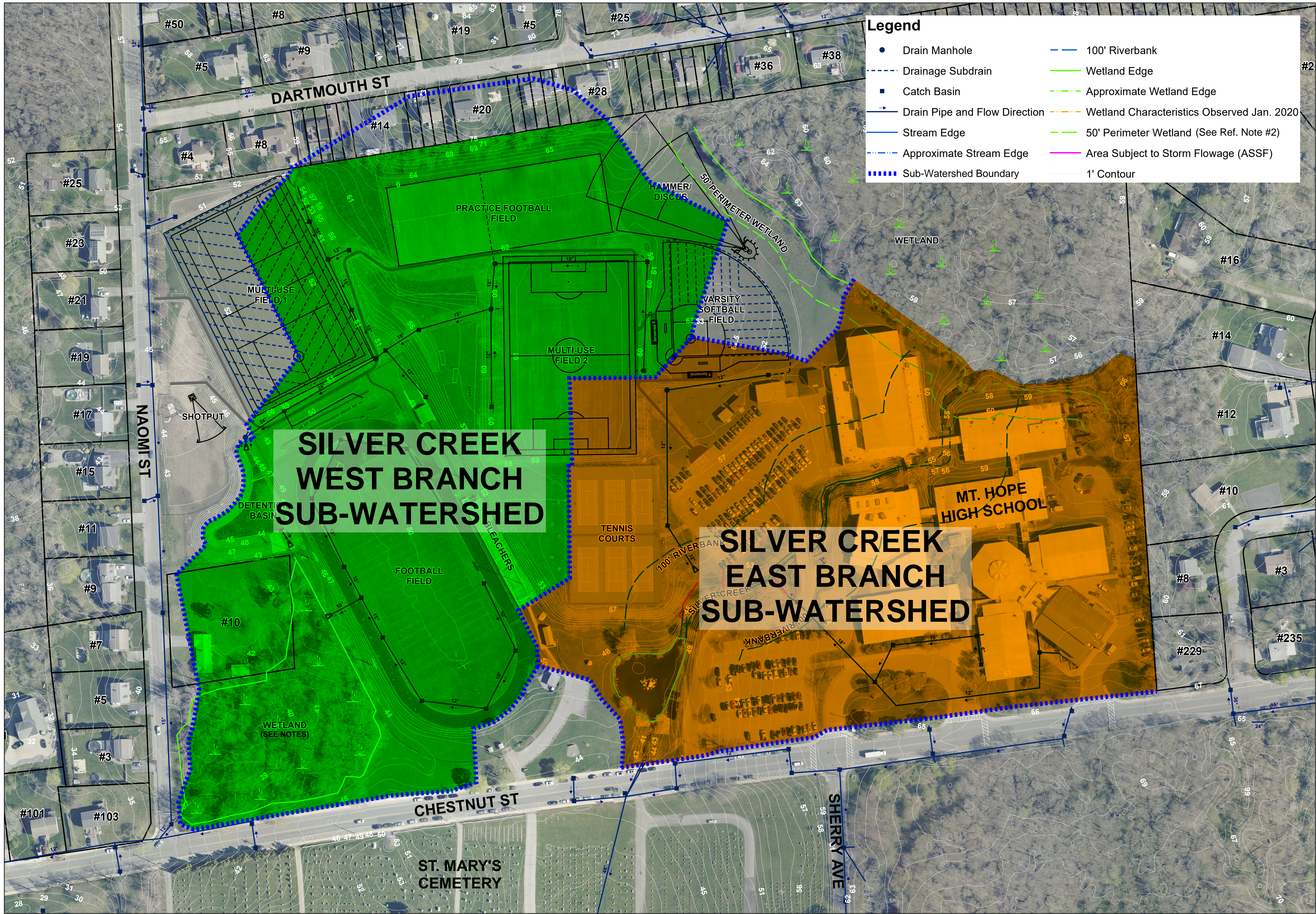
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



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8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
401-334-4100

1 INCH=80 FEET



BAR IS ONE INCH ON
ORIGINAL DRAWING

Stormwater Management Opportunities
for Silver Creek Watershed
at
Mt. Hope High School

PROJECT NO.: 19199.00
DATE: FEBRUARY 2020
SCALE: AS NOTED

PART 2. LOW IMPACT DEVELOPMENT ASSESSMENT – MINIMUM STANDARD 1
(NOT REQUIRED FOR REDEVELOPMENT OR RETROFITS) This section may be deleted if not required.

Note: A written description must be provided specifying why each method is not being used or is not applicable at the Site. Appropriate answers may include:

- Town requires ... (state the specific local requirement)
- Meets Town's dimensional requirement of ...
- Not practical for site because ...
- Applying for waiver/variance to achieve this (pending/approved/denied)

Applying for wavier/variance to seek relief from this (pending/approved/denied)

<p>A) PRESERVATION OF UNDISTURBED AREAS, BUFFERS, AND FLOODPLAINS</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Sensitive resource areas and site constraints are identified (required) <input checked="" type="checkbox"/> Local development regulations have been reviewed (required) <input checked="" type="checkbox"/> All vegetated buffers and coastal and freshwater wetlands will be protected during and after construction <input type="checkbox"/> Conservation Development or another site design technique has been incorporated to protect open space and pre-development hydrology. Note: If Conservation Development has been used, check box and skip to Subpart C <input checked="" type="checkbox"/> As much natural vegetation and pre-development hydrology as possible has been maintained 	<p>IF NOT IMPLEMENTED, EXPLAIN HERE</p>
<p>B) LOCATE DEVELOPMENT IN LESS SENSITIVE AREAS AND WORK WITH THE NATURAL LANDSCAPE CONDITIONS, HYDROLOGY, AND SOILS</p> <ul style="list-style-type: none"> <input type="checkbox"/> Development sites and building envelopes have been appropriately distanced from wetlands and waterbodies <input type="checkbox"/> Development and stormwater systems have been located in areas with greatest infiltration capacity (e.g., soil groups A and B) <input checked="" type="checkbox"/> Plans show measures to prevent soil compaction in areas designated as Qualified Pervious Areas (QPA's) <input checked="" type="checkbox"/> Development sites and building envelopes have been positioned outside of floodplains <input checked="" type="checkbox"/> Site design positions buildings, roadways and parking areas in a manner that avoids impacts to surface water features <input type="checkbox"/> Development sites and building envelopes have been located to minimize impacts to steep slopes ($\geq 15\%$) <input type="checkbox"/> Other (describe): 	
<p>C) MINIMIZE CLEARING AND GRADING</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Site clearing has been restricted to <u>minimum area needed</u> for building footprints, development activities, construction access, and safety. <input checked="" type="checkbox"/> Site has been designed to position buildings, roadways, and parking areas in a manner that minimizes grading (cut and fill quantities) <input type="checkbox"/> Protection for stands of trees and individual trees and their root zones to be preserved has been specified, and such protection extends at least to the tree canopy drip line(s) <input type="checkbox"/> Plan notes specify that public trees removed or damaged during construction shall be replaced with equivalent 	

<p>D) REDUCE IMPERVIOUS COVER</p> <ul style="list-style-type: none"> <input type="checkbox"/> Reduced roadway widths (≤ 22 feet for ADT ≤ 400; ≤ 26 feet for ADT 400 - 2,000) <input type="checkbox"/> Reduced driveway areas (length minimized via reduced ROW width (≤ 45 ft.) and/or reduced (or absolute minimum) front yard setback; width minimized to ≤ 9 ft. wide one lane; ≤ 18 ft. wide two lanes; shared driveways; pervious surface) <input type="checkbox"/> Reduced building footprint: Explain approach: <input checked="" type="checkbox"/> Reduced sidewalk area (≤ 4 ft. wide; one side of the street; unpaved path; pervious surface) <input type="checkbox"/> Reduced cul-de-sacs (radius < 45 ft; vegetated island; alternative turn-around) <input checked="" type="checkbox"/> Reduced parking lot area: Explain approach <input type="checkbox"/> Use of pervious surfaces for driveways, sidewalks, parking areas/overflow parking areas, etc. <input type="checkbox"/> Minimized impervious surfaces (project meets or is less than maximum specified by Zoning Ordinance) <input type="checkbox"/> Other (describe): 	
<p>E) DISCONNECT IMPERVIOUS AREA</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Impervious surfaces have been disconnected, and runoff has been diverted to QPAs to the maximum extent possible <input type="checkbox"/> Residential street edges allow side-of-the-road drainage into vegetated open swales <input type="checkbox"/> Parking lot landscaping breaks up impervious expanse AND accepts runoff <input type="checkbox"/> Other (describe): 	
<p>F) MITIGATE RUNOFF AT THE POINT OF GENERATION</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Small-scale BMPs have been designated to treat runoff as close as possible to the source 	
<p>G) PROVIDE LOW-MAINTENANCE NATIVE VEGETATION</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Low-maintenance landscaping has been proposed using native species and cultivars <input type="checkbox"/> Plantings of native trees and shrubs in areas previously cleared of native vegetation are shown on site plan <input type="checkbox"/> Lawn areas have been limited/minimized, and yards have been kept undisturbed to the maximum extent practicable on residential lots 	
<p>H) RESTORE STREAMS/WETLANDS</p> <ul style="list-style-type: none"> <input type="checkbox"/> Historic drainage patterns have been restored by removing closed drainage systems, daylighting buried streams, and/or restoring degraded stream channels and/or wetlands <input type="checkbox"/> Removal of invasive species <input checked="" type="checkbox"/> Other 	<p>Silver Creek bank restoration will be included within project scope.</p>

PARE CORPORATION										TEST HOLE NO.		TP-1	
8 BLACKSTONE VALLEY PLACE, LINCOLN, RHODE ISLAND													
ENGINEERS *** PLANNERS *** CONSULTANTS										SHEET 1 OF		10	
Property Owner: Town of Bristol													
Project: Mt. Hope HS Contractor: Bristol DPW													
Property Location: 199 Chestnut Street, Bristol, RI Excavator: Backhoe													
Date of Test Hole: July 18, 2024													
Soil Evaluator: Spencer Lynds SE#14275 State / SE Expiration: MA / 6/30/2025													
Weather: Sunny Shaded: Yes <input type="checkbox"/> No <input type="checkbox"/>													
SAMPLE DESCRIPTION													
Horizon	Depth	Horizon Boundaries		Soil Colors		Re-Dox Description			Texture	Structure	Consistence	Percent Gravel Cobbles Stone	
		Dist	Topo	Matrix	Re-Dox Features	Ab.	S.	Con.					
Fill	0 - 16												
C1	16 - 33				28"				FSL	Massive	Firm in Place	15%	
C2	33 - 70								SiL	Massive	Firm in Place	15%	
R													
Soil Class: CLASS A (RI) / CATEGORY 9 (OWTS) Total Depth of Test Hole: 70"													
Depth to Groundwater or Seepage: N/A Depth to Impervious or Limiting Layer: 70"													
Estimated Seasonal High Water Table: 28" Surface Elevation of Test Pit (approximate): -													
COMMENTS:													
Fill layer was a light brown grading fill encountered very commonly across the site No bedrock encountered, refusal considered to be highly restrictive natural soil layer													
RI Stormwater Manual Rawls Rate = 0.27 in./hr.										TEST HOLE NO.		TP-1	

PARE CORPORATION										TEST HOLE NO.		TP-2	
8 BLACKSTONE VALLEY PLACE, LINCOLN, RHODE ISLAND													
ENGINEERS				***		PLANNERS		***		CONSULTANTS		SHEET 2 OF 10	
Property Owner: Town of Bristol													
Project: Mt. Hope HS				Contractor: Bristol DPW									
Property Location: 199 Chestnut Street, Bristol, RI				Excavator: Backhoe									
Date of Test Hole: July 18, 2024													
Soil Evaluator: Spencer Lynds SE#14275				State / SE Expiration: MA / 6/30/2025									
Weather: Sunny				Shaded: Yes <input type="checkbox"/> No <input type="checkbox"/>									
SAMPLE DESCRIPTION													
Horizon	Depth	Horizon Boundaries		Soil Colors		Re-Dox Description			Texture	Structure	Consistence	Percent Gravel Cobbles Stone	
		Dist	Topo	Matrix	Re-Dox Features	Ab.	S.	Con.					
Fill A	0 - 16												
Fill B	16 - 48				32"								
Fill C	48 - 72												
C1	72 96								SiL	Massive	Firm in Place	15%	
R													
Soil Class: CLASS A (RI) / CATEGORY 9 (OWTS)				Total Depth of Test Hole:				70"					
Depth to Groundwater or Seepage: N/A				Depth to Impervious or Limiting Layer:				70"					
Estimated Seasonal High Water Table: 28"				Surface Elevation of Test Pit (approximate):				-					
COMMENTS:													
Fill A standard light brown grading fill, Fill B on-site common borrow from natural soil layers (mixed C1/C2 type soils), Fill C was smelly organic fill also seen in TP-9 No bedrock encountered, refusal considered to be highly restrictive natural soil layer Redox considered to have formed after placement of common borrow. Prior depletions in Fill B layer were noted but newly formed redox showed clear SHGW elev. RI Stormwater Manual Rawls Rate = 0.27 in./hr.													
										TEST HOLE NO.		TP-2	

<div>PARE CORPORATION</div> <div>8 BLACKSTONE VALLEY PLACE, LINCOLN, RHODE ISLAND ENGINEERS *** PLANNERS *** CONSULTANTS</div>								TEST HOLE NO.		TP-3																					
								SHEET		3 OF		10																			
Property Owner:														Town of Bristol																	
Project:														Mt. Hope HS						Contractor:				Bristol DPW							
Property Location:														199 Chestnut Street, Bristol, RI						Excavator:				Backhoe							
Date of Test Hole:														July 18, 2024																	
Soil Evaluator:														Spencer Lynds SE#14275						State / SE Expiration:				MA / 6/30/2025							
Weather:														Sunny						Shaded:				Yes		<input type="checkbox"/>		No		<input type="checkbox"/>	
SAMPLE DESCRIPTION																															
Horizon		Depth		Horizon Boundaries		Soil Colors		Re-Dox Description			Texture		Structure		Consistence		Percent Gravel Cobbles Stone														
				Dist	Topo	Matrix	Re-Dox Features	Ab.	S.	Con.																					
Fill A		0 - 10																													
Fill B		10 - 27					22"																								
C1		27 46									SiL	Massive	Firm in Place					15%													
R																															
Soil Class:														CLASS A (RI) / CATEGORY 9 (OWTS)						Total Depth of Test Hole:				46"							
Depth to Groundwater or Seepage:														N/A						Depth to Impervious or Limiting Layer:				46"							
Estimated Seasonal High Water Table:														22"						Surface Elevation of Test Pit (approximate):				-							
COMMENTS: <div>Fill A standard light brown grading fill, Fill B on-site common borrow from natural soil layers (mixed C1/C2 type soils) No bedrock encountered, refusal considered to be highly restrictive natural soil layer Redox considered to have formed after placement of common borrow. Prior depletions in Fill B layer were noted but newly formed redox showed clear SHGW elev. RI Stormwater Manual Rawls Rate = 0.27 in./hr.</div>																															
														TEST HOLE NO.						TP-3											

PARE CORPORATION 8 BLACKSTONE VALLEY PLACE, LINCOLN, RHODE ISLAND ENGINEERS *** PLANNERS *** CONSULTANTS				TEST HOLE NO. SHEET 4 OF 10	TP-4
Property Owner:	Town of Bristol				
Project:	Mt. Hope HS			Contractor:	Bristol DPW
Property Location:	199 Chestnut Street, Bristol, RI			Excavator:	Backhoe
Date of Test Hole:	July 18, 2024				
Soil Evaluator:	Spencer Lynds SE#14275		State / SE Expiration:	MA / 6/30/2025	
Weather:	Sunny		Shaded:	Yes <input type="checkbox"/>	No <input type="checkbox"/>

SAMPLE DESCRIPTION

[illegible]

Soil Class:	CLASS A (RI) / CATEGORY 9 (OWTS)	Total Depth of Test Hole:	66"
Depth to Groundwater or Seepage:	N/A	Depth to Impervious or Limiting Layer:	66"
Estimated Seasonal High Water Table:	24"	Surface Elevation of Test Pit (approximate):	-

COMMENTS:

Fill A standard light brown grading fill and topsoil layer
No bedrock encountered, refusal considered to be highly restrictive natural soil layer

RI Stormwater Manual Rawls Rate = 0.27 in./hr.

TEST HOLE NO. TP-4

PARE CORPORATION										TEST HOLE NO.		TP-6	
8 BLACKSTONE VALLEY PLACE, LINCOLN, RHODE ISLAND													
ENGINEERS				***		PLANNERS		***		CONSULTANTS		SHEET 6 OF 10	
Property Owner: Town of Bristol													
Project:				Mt. Hope HS				Contractor:		Bristol DPW			
Property Location:				199 Chestnut Street, Bristol, RI				Excavator:		Backhoe			
Date of Test Hole: July 18, 2024													
Soil Evaluator:				Spencer Lynds SE#14275				State / SE Expiration:		MA / 6/30/2025			
Weather:				Sunny				Shaded:		Yes <input type="checkbox"/>		No <input type="checkbox"/>	
SAMPLE DESCRIPTION													
Horizon	Depth	Horizon Boundaries		Soil Colors		Re-Dox Description			Texture	Structure	Consistence	Percent Gravel Cobbles Stone	
		Dist	Topo	Matrix	Re-Dox Features	Ab.	S.	Con.					
Fill A	0 - 18												
C1	18 - 42				38"				FSL	Massive	Firm in Place	15%	
C2	42 - 68								SiL	Massive	Firm in Place	15%	
R													
Soil Class: CLASS A (RI) / CATEGORY 9 (OWTS) Total Depth of Test Hole: 54"													
Depth to Groundwater				or Seepage: N/A				Depth to Impervious		or Limiting Layer:		54"	
Estimated Seasonal High Water				Table: 35"				Surface Elevation of Test Pit		(approximate):		-	
COMMENTS:													
Fill A standard light brown grading fill and topsoil layer													
No bedrock encountered, refusal considered to be highly restrictive natural soil layer													
RI Stormwater Manual Rawls Rate = 0.27 in./hr.										TEST HOLE NO.		TP-6	

PARE CORPORATION										TEST HOLE NO.		TP-7	
8 BLACKSTONE VALLEY PLACE, LINCOLN, RHODE ISLAND													
ENGINEERS				***		PLANNERS		***		CONSULTANTS		SHEET 7 OF 10	
Property Owner: Town of Bristol													
Project: Mt. Hope HS				Contractor: Bristol DPW									
Property Location: 199 Chestnut Street, Bristol, RI				Excavator: Backhoe									
Date of Test Hole: July 18, 2024													
Soil Evaluator: Spencer Lynds SE#14275				State / SE Expiration: MA / 6/30/2025									
Weather: Sunny				Shaded: Yes <input type="checkbox"/> No <input type="checkbox"/>									
SAMPLE DESCRIPTION													
Horizon	Depth	Horizon Boundaries		Soil Colors		Re-Dox Description			Texture	Structure	Consistence	Percent Gravel Cobbles Stone	
		Dist	Topo	Matrix	Re-Dox Features	Ab.	S.	Con.					
Fill A	0 - 12				10"								
C1	12 - 52								LS	Massive	Friable	0%	
C2	52 - 108								SiL	Massive	Firm in Place	15%	
Soil Class: CLASS A (RI) / CATEGORY 9 (OWTS) Total Depth of Test Hole: 108"													
Depth to Groundwater or Seepage: 104"				Depth to Impervious or Limiting Layer: -									
Estimated Seasonal High Water Table: 10"				Surface Elevation of Test Pit (approximate): -									
COMMENTS:													
Fill A standard light brown grading fill and topsoil layer, contained significant redox features, TP downgradient and adjacent to drainage ditch No bedrock encountered, no refusal													
RI Stormwater Manual Rawls Rate = 0.27 in./hr.										TEST HOLE NO.		TP-7	

PARE CORPORATION 8 BLACKSTONE VALLEY PLACE, LINCOLN, RHODE ISLAND ENGINEERS *** PLANNERS *** CONSULTANTS				TEST HOLE NO. SHEET 8 OF 10	TP-8
Property Owner:	Town of Bristol				
Project:	Mt. Hope HS			Contractor:	Bristol DPW
Property Location:	199 Chestnut Street, Bristol, RI			Excavator:	Backhoe
Date of Test Hole:	July 18, 2024				
Soil Evaluator:	Spencer Lynds SE#14275		State / SE Expiration:	MA / 6/30/2025	
Weather:	Sunny		Shaded:	Yes <input type="checkbox"/>	No <input type="checkbox"/>

SAMPLE DESCRIPTION

[illegible]

Soil Class:	CLASS A (RI) / CATEGORY 9 (OWTS)	Total Depth of Test Hole:	42"
Depth to Groundwater or Seepage:	N/A	Depth to Impervious or Limiting Layer:	42"
Estimated Seasonal High Water Table:	14"	Surface Elevation of Test Pit (approximate):	-

COMMENTS:

Fill A standard light brown grading fill and topsoil layer
No bedrock encountered, refusal considered to be highly restrictive natural soil layer

RI Stormwater Manual Rawls Rate = 0.27 in./hr.

TEST HOLE NO. TP-8

PARE CORPORATION										TEST HOLE NO.		TP-9	
8 BLACKSTONE VALLEY PLACE, LINCOLN, RHODE ISLAND													
ENGINEERS				***		PLANNERS		***		CONSULTANTS		SHEET 9 OF 10	
Property Owner: Town of Bristol													
Project:				Mt. Hope HS				Contractor:		Bristol DPW			
Property Location:				199 Chestnut Street, Bristol, RI				Excavator:		Backhoe			
Date of Test Hole: July 18, 2024													
Soil Evaluator:				Spencer Lynds SE#14275				State / SE Expiration:		MA / 6/30/2025			
Weather:				Sunny				Shaded:		Yes <input type="checkbox"/>		No <input type="checkbox"/>	
SAMPLE DESCRIPTION													
Horizon	Depth	Horizon Boundaries		Soil Colors		Re-Dox Description			Texture	Structure	Consistence	Percent Gravel Cobbles Stone	
		Dist	Topo	Matrix	Re-Dox Features	Ab.	S.	Con.					
Fill A	0 - 29												
Fill B	29 - 70				29"								
C1	70 - 90								FSL	Massive	Firm in Place	15%	
C2	90 - 96								SiL	Massive	Firm in Place	15%	
Soil Class: CLASS A (RI) / CATEGORY 9 (OWTS) Total Depth of Test Hole: 96"													
Depth to Groundwater				or Seepage: N/A				Depth to Impervious		or Limiting Layer:		-	
Estimated Seasonal High Water				Table: 29"				Surface Elevation of Test Pit		(approximate):		-	
COMMENTS:													
Fill A standard light brown grading fill, Fill B was smelly organic fill also seen in TP-2													
No bedrock encountered, refusal considered to be highly restrictive natural soil layer													
Redox considered to have formed after placement of Fill B; displays as clear band between Fill A/B horizon													
RI Stormwater Manual Rawls Rate = 0.27 in./hr.													
										TEST HOLE NO.		TP-9	

PARE CORPORATION										TEST HOLE NO. TP-10			
8 BLACKSTONE VALLEY PLACE, LINCOLN, RHODE ISLAND													
ENGINEERS *** PLANNERS *** CONSULTANTS										SHEET 10 OF 10			
Property Owner: Town of Bristol													
Project: Mt. Hope HS Contractor: Bristol DPW													
Property Location: 199 Chestnut Street, Bristol, RI Excavator: Backhoe													
Date of Test Hole: July 18, 2024													
Soil Evaluator: Spencer Lynds SE#14275 State / SE Expiration: MA / 6/30/2025													
Weather: Sunny Shaded: Yes <input type="checkbox"/> No <input type="checkbox"/>													
SAMPLE DESCRIPTION													
Horizon	Depth	Horizon Boundaries		Soil Colors		Re-Dox Description			Texture	Structure	Consistence	Percent Gravel Cobbles Stone	
		Dist	Topo	Matrix	Re-Dox Features	Ab.	S.	Con.					
Fill A	0 - 16												
Fill B	16 - 39				16"								
C1	39 - 64								LS	Massive	Friable	0%	
C2	64 - 108								SiL	Massive	Firm in Place	15%	
Soil Class: CLASS A (RI) / CATEGORY 9 (OWTS) Total Depth of Test Hole: 108"													
Depth to Groundwater or Seepage: N/A Depth to Impervious or Limiting Layer: -													
Estimated Seasonal High Water Table: 16" Surface Elevation of Test Pit (approximate): -													
COMMENTS:													
Fill A standard light brown grading fill, Fill B on-site common borrow from natural soil layers (mixed C1/C2 type soils)													
Redox considered to have formed after placement of common borrow. Prior depletions in Fill B layer were noted but newly formed redox showed clear SHGW elev.													
RI Stormwater Manual Rawls Rate = 0.27 in./hr.										TEST HOLE NO. TP-10			