SME
SEVEE & MAHER
ENGINEERS

4 Blanchard Road, P.O. Box 85A
Cumberland, ME 04021
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January 10, 2022

Ryan Keith, Code Enforcement Officer
Town of North Yarmouth
10 Village Square Road
North Yarmouth, Maine 04097

Subject: Learning Loft Preschool
Site Plan Review Application

Dear Mr. Keith:

On behalf of Miles Hunt and the Learning Loft Preschool, Sevee & Maher Engineers, Inc. (SME) is pleased to submit the attached Site Plan Review Application for single family residence and accessory structure off Walnut Hill Road in North Yarmouth. Please consider this project for placement on the Planning Board meeting agenda for Tuesday, February 8, 2022. In accordance with submission requirements, we have attached five (5) copies of this narrative, associated plans, and figures for staff and Planning Board review.

The Learning Loft Preschool is being developed by Miles Hunt. The project will be located off Walnut Hill Road in the Village Residential Zoning District and will include a four-bedroom residence, attached three car garage, and a 24-by-36-square-foot accessory structure for use as a preschool. This project will include approximately 1,600 linear feet of access drive, a combination of overhead and underground utilities. The two buildings will be served by a single private well and combined septic system.

We appreciate your consideration of our application and look forward to reviewing the project in more detail with the Planning Board. Please feel free to contact me at 207.829.5016 or jtr@smemaine.comif you have any questions or need additional information.

Very truly yours,

SEVEE & MAHER ENGINEERS, INC.

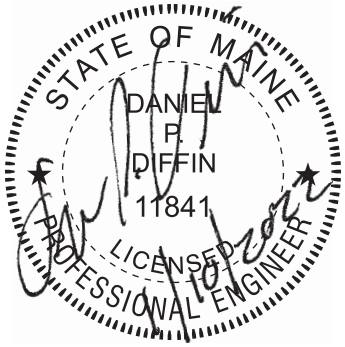
Jeffrey T. Read, P.E.

Attachments

TOWN OF NORTH YARMOUTH PLANNING BOARD
SITE PLAN REVIEW APPLICATION
LEARNING LOFT PRESCHOOL

Prepared for

LEARNING LOFT PRESCHOOL
78 Walnut Hill Road
North Yarmouth, Maine



January 2022

4 Blanchard Road
P.O. Box 85A
Cumberland, Maine 04021
Phone: 207.829.5016 smemaine.com

ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

SME
SEVEE & MAHER
ENGINEERS

TOWN OF NORTH YARMOUTH
PLANNING BOARD
SITE PLAN REVIEW AND CONDITIONAL USE APPLICATION
(See Section 4 pages 23 through 36 of the North Yarmouth Land Use Ordinance)

NAME OF APPLICANT: Learning Loft Preschool c/o Miles Hunt PHONE #: 207-772-4100 x. 410
EMAIL: Miles@willsandtrusts.com ALT. PHONE#:
FULL ADDRESS: 159 Longwoods Road Cumberland, Maine 04021
PROPERTY ADDRESS: 78 Walnut Hill Road
MAP: 1 LOT: 62

AGENT/REPRESENTATIVE (if other): Jeffrey Read, SME INC. PHONE #: 207-829-5016
EMAIL: jtr@smemaine.com
FULL ADDRESS: 4 Blanchard Road, Cumberland, ME 04021

1. Names and Addresses of ALL property owners within 500' of any and all property boundaries **(use a separate sheet). Please contact the code office for an updated list)**

2. Plan preparer information if other than property owner:
   Name: Jeffrey Read, SME INC.
   Address: 4 Blanchard Road, Cumberland, ME 04021
   Phone Number: 207-829-5016 Professional Lic. #9119
   Email: jtr@smemaine.com

3. Zoning Classification of the Property

   _____Village Center
   x Village Residential
   _____Farm and Forest
   _____Shoreland Residential
   _____Resource Protection
   _____Royal River Overlay
   _____Groundwater Protection Overlay

4. Provide a General Description of the proposed use or activity, including but not limited to the type of use, square footage involved, hours of operation, types and amount of traffic to be generated **(use separate sheet)**.

5. Historic Structures: Are there any historic structures or areas of historical importance on the property? _____YES X NO

6. Complete List of all chemicals, pesticides, fuels, nutrients and other potentially toxic or hazardous materials to be used or stored on the premises, and the quantities of these materials **(use a separate sheet).**

7. List of Equipment to be used, parked or stored **(use a separate sheet).**

8. To the best of my knowledge, all the above-stated information, and all prepared submissions in this application are correct.

Signature of Applicant/Owner 1/6/22 Date

TOWN OF NORTH YARMOUTH
PLANNING BOARD
REQUEST FOR HEARING

NAME OF APPLICANT: Learning Loft Preschool c/o Miles Hunt PHONE #: 207-772-4100 x. 410
EMAIL: Miles@willsandtrusts.com ALT. PHONE#:
FULL ADDRESS: 159 Longwoods Road Cumberland, Maine 04021
PROPERTY ADDRESS: 78 Walnut Hill Road
MAP: 1 LOT: 62 ZONE: Village Residential

AGENT/REPRESENTATIVE (if other): Jeff Read, P.E., Sevee& Maher PHONE #: 207-829-5016
EMAIL: jtr@smemaine.com
FULL ADDRESS: 4 Blanchard Road, Cumberland, ME 04021

The undersigned requests the North Yarmouth Planning Board consider the following application for:

_____ Pre-application Sketch Plan Review
_____ Minor Subdivision
_____ Contract Zoning
_____ Other (Specify): _____
_____ Major Subdivision
X Site Plan Review

NOTE TO APPLICANT:

1. This form and appropriate materials must be filed at the Code Enforcement Office no later than (fourteen) 14 days prior to the regular meeting of the Board (2nd Tuesday monthly). Applications shall be accompanied by all applications fee and materials required by the applicable ordinance(s), checklists and fee schedule.
2. All applications shall include all materials and copies as specified on the submittal requirements form.
3. All materials in color shall be copied in color.

Application Authorization

I hereby make application to the Town of North Yarmouth for the above-referenced property(ies) and the development as described. To the best of my knowledge, the information provided herein is accurate and is in accordance with the Zoning and Subdivision Ordinances of the Town, except where waivers are requested. The Town of North Yarmouth Planning Board and/or town employees are authorized to enter the property(ies) for purposes of reviewing this proposal and for inspecting improvements as a result of an approval of this proposal. I understand that I am responsible for appearing, or having someone appear on my behalf, at all meetings before the Planning Board.

Signature: _____ Date: 10/12/2021
Printed Name: Miles C. Hunt, Esq.

Please identify yourself (check one): Agent*: ☐ Property Owner: ☐

TOWN OF NORTH YARMOUTH

PLANNING BOARD

SITE PLAN REVIEW AND CONDITIONAL USE CHECKLIST

NAME OF APPLICANT: Learning Lot Preschool c/o Miles Hunt _____ DATE:_____

This checklist has been prepared to assist applicants in developing their applications. It should be used as a guide in assembling the information necessary for a complete application. However, the checklist does not substitute for the statutory criteria or the requirements of Section IV. Site Plan Review & Conditional Use Procedures or Section X. Performance and Design Standards for Site Plan Review & Subdivision Review of the Land Use Ordinance. The Planning Board will use the checklist to make sure that your application is complete. The application need not contain separate plans as implied below. The perimeter survey, subdivision plan and engineering plans may be contained on the same drawing. However, detailed engineering drawings such as road profiles, drainage swales and erosion/sedimentation plans may best be presented on a separate sheet or sheets.

SITE PLAN PERFORMANCE & DESIGN STANDARDS		Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
GENERAL REQUIREMENTS					
1. Request for Hearing Form		X			
2. Fee Calculation Sheet		X			
3. Waiver or N/A Request Form, if required		X			
4. Abutter List & Notification Statement		X			
5. DEP Approval, if required (Section 3 - 3.9B)					
6. Subdivision Approval, if required (Section V)					
7. Board of Zoning Appeal Approval, if required Section VI - 6.2)					
8. MDOT Approval, if required (Section VIII – 8.4.J.2)		X			
10-1 APPLICABILITY		X			
10-2 GENERAL LAYOUT OF DEVELOPMENT					
A. Utilization of the Site		X			
B. Lots					
B.1	Dimensional Requirements	X			
B.2	Right of Way not included in Lot Area	X			
B.3	Side Lot Lines perpendicular to Street	X			
B.4	Lots Divided by Streams				
B.5	Future Lot Planning (Subdivisions only)				

	SITE PLAN PERFORMANCE & DESIGN STANDARDS	Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
B.6	Interconnected Development				
C. Blocks - Utility/Pedestrian Easement					x
D. Utilities - Underground		X			
E. Monuments					
E.1	Stone Monuments Locations	X			
E.2	Stone Monuments or Capped Iron Pipe at boundaries	X			
E.3	Stone Monuments Requirements	X			
E.4	All Others Marked by Suitable Monumentation	X			
10-3 BROOK, POND, VERNAL POOL AND WETLAND BUFFERS					
A. <u>Purpose and Applicability</u>					
A.1	Protect Areas not covered in Section 9-1	X			
A.2	Distinguish between High and Low Value Wetlands	X			
A.3	Residential Shoreland & Resource Protection Apply				
B. <u>Protected Resources</u>					
B.1	Stream				
B.2	Pond				
B.3	Vernal Pool				
B.4	High Value Wetlands				
B.4.a	Contain Pond or Vernal Pool				
B.4.b	Within Floodplain of Stream or Pond				
B.4.c	Wetland Plant Species				
B.5	Low Value Wetland	X			
C. <u>Standards</u>					
C.1	Vegetative Buffers				

	SITE PLAN PERFORMANCE & DESIGN STANDARDS	Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
C.2	Location, Species, Height, Canopy				
C.3	Buffer Width Related to Slope (SEE TABLE)				
C.4	Natural State to Greatest Extent Practical				
C.5	Buffer Strips Maintained in Natural State				
C.5.a	Clearing of Dead and Diseased Trees				
C.5.b	Underlying Vegetation (must not be removed)				
C.6	Building and Structure Setback				
C.7	Permanent Markers (must be installed)				
D.	**Plan Submittals**				
D.1	Site plan, Topo, Wetlands, Buffers	X			
D.2	Existing Vegetation Described	X			
D.3	Buffer (Any new buffers described)				
D.4	Maintenance and Restrictions of Buffers				
D.5	Deed restrictions and covenants				
D.6	Plat				
E.	**Exemptions**				
E.1	Buffer and setbacks are not required adjacent to the following area:				
E.1.a	Swales and ditches				
E.1.b	Artificial impoundments				
E.1.c	Low value wetlands	X			
E.2	Buffers and setbacks do not apply to				
E.2.a	Storm water management facilities				
E.2.b	Road crossings, bridges, culverts, utilities	X			
E.2.c	Docks, boat ramps, direct access				

TOWN OF NORTH YARMOUTH

PLANNING BOARD

SITE PLAN REVIEW AND CONDITIONAL USE CHECKLIST

SITE PLAN PERFORMANCE & DESIGN STANDARDS		Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
10-4 BUILDING DESIGN STANDARDS					
A. Purpose					
B. Applicability					
CONTENTS					
A. General Building Standards					
B. Primary Building Types					
C. Accessory Building Types					
D. Components					
E. Roof Types					
F. Special Definitions					
10-5 COMMUNITY FACILITIES IMPACT ANALYSIS AND MITIGATION		X			
10-6 DRIVE THROUGH FACILITIES					
10-7 EROSION AND SEDIMENTATION CONTROL					
A. Topography and Natural Surroundings		X			
B. Best Management Practices					
B.1	Stripping, Removal, Re-Grading	X			
B.2	Exposure to a Minimum	X			
B.3	Temporary Measures	X			
B.4	Permanent Measures	X			
B.5	Sediment Basins or Silt Traps	X			
B.6 XZ=	Adjoining property and slope	X			
B.7	Dust control	X			
B.8	No grading or filling near water body	X			
B.9	Measures monitored periodically	X			

TOWN OF NORTH YARMOUTH

PLANNING BOARD

SITE PLAN REVIEW AND CONDITIONAL USE CHECKLIST

SITE PLAN PERFORMANCE & DESIGN STANDARDS		Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
10-8 EMISSIONS		X			
10-9 EXTERIOR LIGHTING					
A.	**Adequate for nighttime hours**	X			
B.	**Street lighting**				X
C.	**Lighting does not produce deleterious effects**				X
D.	**Fixtures shielded or hooded**				X
E.	**Blinking lights prohibited**				X
F.	**Maximum height**				
G.	**Spotlights prohibited**				X
10-10 FINANCIAL AND TECHNICAL CAPACITY					
A.	**Adequate financial resources**	X			
B.	**Qualified contractors and consultants**	X			
10-11 FLOODPLAIN MANAGEMENT					
A. Consistent with Floodplain Ordinance		X			
B. Development/Subdivision Requirement		X			
C. Building Prohibited on Floodplains					
C.1	Building prohibited in floodplain	X			
C.2	Statement and restriction	X			
C.3	Woodlands, grassland, pastureland, recreation	X			
C.4	Piers, docks, wharves, bridges and boat ramps				
10-12 HAZARDOUS, SPECIAL AND RADIOACTIVE MATERIALS					
A.	**Handling, storage and use per standards**	X			
B. Z	**Reporting Requirement**	X			
10-13 HISTORIC AND ARCHAEOLOGICAL SITES					
A.	**Protect resources**	X			

SITE PLAN PERFORMANCE & DESIGN STANDARDS		Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
B.	**Maine Historic Preservation Commission review**	X			
10-14 LANDSCAPING, BUFFERS AND SCREENING					
A.	**Purpose**	X			
B.	**Standards**				
B.1	Landscaping	X			
B.1.a	Natural State Preserved	X			
B.1.b	Public roads, areas, recreation sites, buildings	X			
B.1.c	Newly Planted Deciduous Tree Requirements	X			
B.1.d	Plan should include Landscapes	X			
B.2	Buffers and Screening	X			
B.2.a	Adjacent uses and screening	X			
B.2.b	Year-round visual screen				X
B.2.c	Parking lots and areas				X
B.2.d	Garbage collection areas buffered				X
B.2.e	Sufficient buffering				X
B.2.f	Width of buffer				X
10-15 NATURAL BEAUTY AND AESTHETICS IN THE FARM AND FOREST DISTRICT, RESIDENTIAL SHORELAND DISTRICT AND RESOURCE PROTECTION DISTRICT					x
10-16 NOISE					
A.	**Control Levels for Neighboring Properties**	X			
B.	**Sound Pressure Level Limits (SEE TABLE)**	X			
C.	**Measured by a Meter**				
10-17 SEWAGE DISPOSAL					
A.	**Subsurface Sewage Disposal**				

	SITE PLAN PERFORMANCE & DESIGN STANDARDS	Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
A.1	Follow State of Maine Rules	X			
A.2	Hydrogeologic Assessment				X
A.2.a	Suitable soils	X			
A.2.b	Water supplies	X			
A.2.c	Groundwater quality	X			
A.2.d	Monitoring wells				X
A.2.e	Operation and maintenance manual	X			
B.	**Public Sewer System Disposal**				
B.1	Not allowed in Farm and Forest District, Residential Shoreland District or Resource Protection District	X			
B.2	Sewer District statement of capacity				
10-18 SIGNS					
A.	**General Requirements**	X			
B.	**Village Center District**				X
C.	**Identify or Advertise Must be on Premises**				X
D.	**Sign Area**				X
E.	**Installation and Height**				X
F.	**Height and Location by Roads**				X
G.	**Attached to Structure**				X
H.	**Maintenance and Removal**				X
I.	**Illumination**				X
J.	**Nonconforming Signs**				X
K.	**Special Event Signs**				X
L.	**Home Occupation Signs**				X

SITE PLAN PERFORMANCE & DESIGN STANDARDS		Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
M.	**Signs in the Resource Protection District and the Residential Shoreland District**				X
N.	**Municipal and Public Safety Signs**	X			
10-19 SOIL SUITABILITY		X			
10-20 SOLID WASTE DISPOSAL					
A.	**Disposal at Licensed Facility**	X			
B.	**Alternative Arrangements**	X			
10-21 STORAGE OF MATERIALS					
A.	**Sufficient Setbacks and Screening**				X
B.	**Dumpsters**				X
C.	**Physical Screening**				X
D.	**Buffers and Screening**				X
10-22 STORM WATER CONTROL					
A. Designed to Minimize Runoff		X			
B. Requirements					
B.1	Design by Maine engineer	X			
B.2	Easement width	X			
B.3	Oil and grease traps				
B.4	Designing engineer statement	X			
B.5	Designed to Town Roadway Criteria	X			
B.6	Maintenance Plan				
10-23 RECREATION AND OPEN SPACE LAND IN DEVELOPMENTS					
A. Applicability and Purpose		x			
B. Retention of Useable Open Space/Recreation Land					
B.1	Planning Board may Require Reservation of Land				X
B.2	Percentage of Useable Open Space (SEE TABLE)				X

SITE PLAN PERFORMANCE & DESIGN STANDARDS		Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
C. Waivers of Minor Subdivisions of Mandatory Open Space					X
D. Ownership and Maintenance of Common Open Space and/or Recreation Land					
D.1	Facilities & Property Ownership				X
D.1.a	Lot Owners' Association				X
D.1.b	Association Principal Purpose				X
D.1.c	The Town				X
D.2	Subdivision of the Common Open Space Prohibited				X
D.3	Monitoring Fee (Planning Board May Require)				X
E. Homeowners Association Requirements					X
10-24 WATER SUPPLY					
A. <u>Public Water Supply</u>					
A.1	Written statement from Yarmouth Water District				X
A.2	System approved by Yarmouth Water District and North Yarmouth Fire Chief				X
B. <u>Required Connection to Public Water Supply</u>					
C. <u>Individual Wells Regulations</u>		X			
D. <u>Fire Protection</u>					
D.1	Hydrant locations				
D.2	Storage capacity				
D.3	Hydrant specifications				
D.4	Easement				
10-25 WATER QUALITY					
A. <u>Water Quality</u>					
A.1	No discharge in surface or groundwater	X			
A.2	Maine DEP and Fire Marshal's Office standards				X
A.3	License from Maine DEP				X

SITE PLAN PERFORMANCE & DESIGN STANDARDS		Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
A.4	Discharge treated				X
B. Groundwater		X			
C. Wellhead Protection		X			
D. Requirements for Hydrogeologic Assessments					
D.1	Class A (high intensity) Soil Survey				
D.2	Water table				
D.3	Drainage conditions				
D.4	Existing groundwater quality				
D.5	Analysis and evaluation				
D.6	Map of wastewater systems and wells	X			
E. Projections of Groundwater Quality					X
F. Drinking Water Standards					X
G. Demonstrate Treatment					X
H. Contaminants					X
I. Construction Standards					X
J. System and Well Zones					X
10-26 PROTECTION OF SIGNIFICANT WILDLIFE HABITAT					
A. Designed to Protect		X			
B. Identify and Map Wildlife Habitats		X			
C. Consult and Obtain Written Report		X			
D. Deer Wintering Areas					X
E. Deed Restrictions					X
10-27 PUBLIC ACCESS TO THE SHORELINE					X
10-28 BACK LOTS AND ACCESS					
A. Right-of-Way					

	SITE PLAN PERFORMANCE & DESIGN STANDARDS	Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
A.1	Width and frontage	X			
A.2	Emergency vehicles	X			
A.3	Existing lot and right-of-way	X			
A.4	Backlots prohibited in subdivisions	X			
A.5	Private Roads Serving Three or More Residential Units and/or Non-residential Uses	X			
A.6	In the Farm and Forest District, Residential Shoreland District and Resource Protection District – lot size and width				X
A.7	In the Village Center District and Village Residential District – dimensional requirements	X			
10-29 ACCESS MANAGEMENT STANDARDS					
A. Applicability		X			
B. Adequacy of the Public Road System		X			
C. Safe Sight Distances					
C.1.	Designed	X			
C.2	Measurements	X			
C.2.a	Sight Distance Speed	X			
C.2.b	Height	X			
C.2.c	Truck traffic	X			
C.2.d	Recreational vehicle traffic	X			
C.3	Placement	X			
C.4	Site triangle	X			
D. Access Management and Safety Standards					
D.1	Hazardous conflicts	X			
D.2	Residential Lots	X			

	SITE PLAN PERFORMANCE & DESIGN STANDARDS	Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
D.2.a	Farm and Forest District, Residential Shoreland District and Resource Protection District				X
D.2.b	Village Center District and Village Residential District	X			
D.3	Commercial and Other Non-Residential Lots	X			
D.3.a	Farm and Forest District, Residential Shoreland District and Resource Protection District				X
D.3.b	Village Center District and Village Residential District	X			
D.4	Shared Driveways				X
D.5	Road, Pedestrian and Bicycle Connections Between Developments				X
D.6	Subdivisions				X
D.7	Corner Lot Access				X
D.8	Access Ways to Non-Residential Developments or to Multiplex Developments	X			
D.9	Driveway Turn-Around Area	X			
D.10	Driveway Grades	X			
D.11	Access Way Location and Spacing	X			
D.11.a	Location from intersection	X			
D.11.b	Existing private roads	X			
D.11.c	Demonstration of No Alternative	X			
10.30 SUBDIVISION STREET CONNECTIVITY REQUIRED IN THE VILLAGE CENTER AND VILLAGE RESIDENTAL DISTICTS					
A.	**Purpose**				X
B.	**Applicability**				X
C.	**Requirements**				
C.1	Proposed Subdivision Streets				X

SITE PLAN PERFORMANCE & DESIGN STANDARDS		Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
C.2	Proposed Street System				X
C.3	Proposed Transportation System				X
C.4	Redevelopment and Road Improvements				X
C.5	Future Street Extension				X
C.6	Reserved Streets for Future Street Connections				X
C.7	Waivers				X
C.7.a	Dead End Streets				X
C.7.b	Hammerhead Turn-around				X
C.7.c	Turn-Around				X
C.7.d	Emergency Access				X
10.31 SUBDIVISION STREET LENGTH AND CONNECTION REQUIREMENTS IN THE FARM AND FOREST DEISTRICT AND RESIDENTIAL SHORELAND DISTRICT					
A. Purpose					X
B. Standards					X
B.1	12 Residential Units or Lots				X
B.2	Dead-End Street				X
B.3	Connectivity Requirements				X
10.32 PEDESTRIAN WAYS AND BICYCLE ACCESS, CIRCULATION AND FACILITIES					
A. Applicability and Purpose					X
B. Standards					X
B.1	Village Center District and Village Residential District Sidewalk Requirements				X
B.2	Farm and Forest District and Residential Shoreland District, Resource Protection District Sidewalk Requirements				X
B.3	Sidewalk Design				X
B.4	Connect to existing				X

SITE PLAN PERFORMANCE & DESIGN STANDARDS		Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
B.5	Site Plan				X
B.6	Parking Plans				X
B.6.a	Bicycle parking				X
B.6.b	Pedestrian Way Locations				X
B.6.c	Village Center District and Village Residential District sidewalks on frontage with 10 or more parking spaces				x
10-33 INTERNAL VEHICULAR CIRCULATION					
A. Safe Movement					
A.1	Clear route and Turning Area	X			
A.2	Emergency Vehicles, Routes and Signage	X			
A.3	Layout and Design of Parking Area	X			
A.4	Designed to harmonize with site	X			
10-34 OFF STREET PARKING					
A. Applicability		X			
B. General Requirements		X			
C. Parking Layout and Design					
C.1	On lot or adjacent lot	X			
C.2	Arranged so not necessary to back out on road	X			
C.3	Location of Parking	X			
C.4	Landscaping Plan Providing Screening	X			
C.5	Joint use of Parking Area Approval				
C.6	Durable surface	X			
C.7	Parking space size	X			
C.8	Diagonal parking	X			

	SITE PLAN PERFORMANCE & DESIGN STANDARDS	Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
D. Parking Space Requirements					
D.1	Sufficient to accommodate	X			
D.2	Size of structure	X			
D.3	Reduce structure for sufficient parking	X			
D.4	On-street parking				X
D.5	Availability of parking				X
D.6	Pedestrian and bicycle safety				X
D.7	Other standards				X
E. Waivers					X
10-35 OFF STREET LOADING REQUIREMENTS					
A. Specific Uses					
A.1	Maximum number of trucks				X
A.2	Type of business				X
A.3	Location of loading facility				X
A.4	Screening				X
A.5	Desirability of service roads or alleys				X
A.6	Other characteristics				X
A.7	Traditional layout and historical character				X
A.8	Minimize noise impacts				X

TOWN OF NORTH YARMOUTH

PLANNING BOARD

WAIVER OR NOT APPLICABLE REQUEST

NAME OF APPLICANT: Learning Loft Preschool c/o Miles Hunt PHONE #: 207-772-4100 x 410

AGENT/REPRESENTATIVE (if other): Jeffrey Read, P.E., SME INC PHONE #: 207-829-5016

PROPERTY ADDRESS: 79 Walnut Hill Road

MAP: 1 LOT: 62 ZONE: Village Residental

(CIRLE ONE) WAIVER (NOT APPLICABLE)

WAIVER OR N/A TYPE: SUBMITTAL ITEM (STANDARD)

(CIRCLE ONE)

ORDINANCE SECTION#: Section 10-4 Building Design Standards

ORDINANCE LANGUAGE:

1 . This section applies to the construction of all new buildings, building renovations, and building additions in the Village Center District.
2. This section applies to single-family detached dwelling units in a Pocket Neighborhood.
3. This section does not apply to a single-family detached dwelling but may be used as advisory guidelines.

SUPPORTING EVIDENCE FOR WAIVER CONSIDERATION: (use separate sheet is necessary)

This project is not in Village Center District.

(CIRLE ONE) WAIVER (NOT APPLICABLE)

WAIVER OR N/A TYPE: (CIRCLE ONE) SUBMITTAL ITEM (STANDARD)

ORDINANCE SECTION#: Section 10-6 Drive Through Facilities

ORDINANCE LANGUAGE:

Any use that provides drive-through service must be located and designed to minimize the impact on neighboring properties and traffic circulation. No drive- through facility shall be located in the area of the site adjacent to a residential use. Communication systems must not be audible on adjacent properties in residential use. Vehicular access to the drive-through shall be through a separate lane that prevents vehicle queuing within the normal parking area. Adequate queuing space must be provided to prevent any vehicles from having to wait on a public street, within the entry from the street. The drive-through must not interfere with any sidewalk or bicycle path

SUPPORTING EVIDENCE FOR WAIVER CONSIDERATION: (use separate sheet is necessary)

This project does not have a drive-through

TOWN OF NORTH YARMOUTH

PLANNING BOARD

WAIVER OR NOT APPLICABLE REQUEST

(CIRLE ONE) WAIVER (NOT APPLICABLE)

WAIVER OR N/A TYPE: (CIRCLE ONE) SUBMITTAL ITEM (STANDARD)

ORDINANCE SECTION#: Section 10-15 Natural Beauty and Aesthetics in Farm and Forest District, Residential Shoreland District and Resource Protection District

ORDINANCE LANGUAGE:

In the Farm and Forest District, Residential Shoreland District and Resource Protection District, development in which the land cover type at the time of application is forested shall maintain a wooded buffer strip no less than 50 feet in width along all existing public roads. The buffer may be broken only for driveways and streets. To the extent practical, building locations shall be at the periphery of open fields, and shall be located within forested portions of the development. When the development contains no forest or insufficient forested portions to include all buildings, the development shall be designed to minimize the appearance of buildings when viewed from existing public streets.

SUPPORTING EVIDENCE FOR WAIVER CONSIDERATION: (use separate sheet is necessary)

The site is not in Farm and Forest District, Residential Shoreland District, or Resource Protection District, so this section is not applicable for this site.

(CIRLE ONE) WAIVER (NOT APPLICABLE)

WAIVER OR N/A TYPE: (CIRCLE ONE) SUBMITTAL ITEM (STANDARD)

ORDINANCE SECTION#: Section 10-21 Storage of Materials

ORDINANCE LANGUAGE:

Exposed non-residential storage areas, exposed machinery, and areas used for the storage or collection of discarded automobiles, auto parts, metals or other articles of salvage or refuse must have sufficient setbacks and screening (such as a stockade fence or a dense evergreen hedge) to provide a visual buffer sufficient to minimize their impact on abutting residential uses and users of public roads.

SUPPORTING EVIDENCE FOR WAIVER CONSIDERATION: (use separate sheet is necessary)

This is a residential use.

TOWN OF NORTH YARMOUTH

PLANNING BOARD

WAIVER OR NOT APPLICABLE REQUEST

(CIRLE ONE) WAIVER (NOT APPLICABLE)

WAIVER OR N/A TYPE: (CIRCLE ONE) SUBMITTAL ITEM (STANDARD)

ORDINANCE SECTION#: Section 10-23 Recreation and Open Space Land in Development

ORDINANCE LANGUAGE:

This section is applicable to developments proposed for the Village Center District and the Village Residential District. The purpose of these provisions is to provide for the development of useable open space and recreation land within residential neighborhoods, to include, but not limited to: playgrounds, ball fields, picnic areas, passive open space, and networks of inter-connected trails, walkways and bicycle paths. Landscaping of these areas should be designed to enhance their use for recreation while providing privacy for individual homeowners.

SUPPORTING EVIDENCE FOR WAIVER CONSIDERATION: (use separate sheet is necessary)

The project is located within the Village Residential District. However, the project is not a subdivision.

(CIRLE ONE) WAIVER (NOT APPLICABLE)

WAIVER OR N/A TYPE: (CIRCLE ONE) SUBMITTAL ITEM (STANDARD)

ORDINANCE SECTION#: Section 10-27 Public Access to the Shoreline

ORDINANCE LANGUAGE:

Any existing public rights of access to the shoreline of a water body shall be maintained by means of easements or rights-of-way, or should be included in the open space with provisions made for continued public access. For the purposes of this section “water body” shall include the Royal River, Chandler Brook, the East Branch, Knight’s Pond, the Deer Brook wetland, and those sections of Toddy Brook, Deer Brook, Pratt’s Brook and an unnamed tributary to Chandler Brook that are zoned as Resource Protection District..

SUPPORTING EVIDENCE FOR WAIVER CONSIDERATION: (use separate sheet is necessary)

There is no water body on site.

TOWN OF NORTH YARMOUTH

PLANNING BOARD

WAIVER OR NOT APPLICABLE REQUEST

(CIRLE ONE) WAIVER NOT APPLICABLE

WAIVER OR N/A TYPE: (CIRCLE ONE) SUBMITTAL ITEM STANDARD

ORDINANCE SECTION#: Section 10-30 Subdivision Street Connectivity Required in Village Center and Village Residential District

ORDINANCE LANGUAGE:

The purpose of this section is to support the creation of a connected transportation network within the Village Residential District and the Village Center District to provide choices for drivers, bicyclists and pedestrians; to promote walking and bicycling; to connect neighborhoods to each other and to local destinations such as schools, parks and commercial areas; to reduce vehicles miles of travel and travel times; to reduce emergency response times; to increase the effectiveness of town service delivery; and to free up state road capacity to better serve regional long distance travel needs.

SUPPORTING EVIDENCE FOR WAIVER CONSIDERATION: (use separate sheet is necessary)

The project is located within the Village Residential District. However, the project is not a subdivision.

(CIRLE ONE) WAIVER NOT APPLICABLE

WAIVER OR N/A TYPE: (CIRCLE ONE) SUBMITTAL ITEM STANDARD

ORDINANCE SECTION#: Section 10-31 Subdivision Street Length and Connectivity Required in the Farm and Forest District and Residential Shoreland District

ORDINANCE LANGUAGE:

The purpose of these requirements is to assure adequate emergency access to residences within rural subdivisions, and to promote connectivity of the town's street system.

SUPPORTING EVIDENCE FOR WAIVER CONSIDERATION: (use separate sheet is necessary)

The project is not located within in the Farm and Forest District and Residential Shoreland District and is not a subdivision.

TOWN OF NORTH YARMOUTH

PLANNING BOARD

WAIVER OR NOT APPLICABLE REQUEST

(CIRLE ONE) WAIVER NOT APPLICABLE

WAIVER OR N/A TYPE: (CIRCLE ONE) SUBMITTAL ITEM STANDARD

ORDINANCE SECTION#: Section 10-35 Off Street Loading Requirements

ORDINANCE LANGUAGE:

Loading requirements vary with the specific uses proposed. Loading requirements shall be applied to ensure that trucks load and unload cargo in a manner that does not interfere with pedestrian and automobile movements on public roads. Requirements for the number and location of loading facilities shall be established case-by-case based upon the following:

SUPPORTING EVIDENCE FOR WAIVER CONSIDERATION: (use separate sheet is necessary)

There is not a need for a loading dock for this project

(CIRLE ONE) WAIVER NOT APPLICABLE

WAIVER OR N/A TYPE: (CIRCLE ONE) SUBMITTAL ITEM STANDARD

ORDINANCE SECTION#:

ORDINANCE LANGUAGE:

SUPPORTING EVIDENCE FOR WAIVER CONSIDERATION: (use separate sheet is necessary)

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF FIGURES (END OF DOCUMENT)

TOWN OF NORTH YARMOUTH
PLANNING BOARD SITE PLAN APPLICATION
LEARNING LOFT PRESCHOOL
NORTH YARMOUTH, MAINE

1.0 PROJECT DESCRIPTION

On behalf of Miles Hunt (Applicant) and the Learning Loft Preschool, Sevee & Maher Engineers (SME) is pleased to submit the enclosed Planning Board Site Plan Application to develop the existing property at 78 Walnut Hill Road with a four-bedroom residence, three car garage, and a 24-by-36-square-foot accessory structure for use as a preschool. The project location is outlined in Figure 1 - Site Location Map.

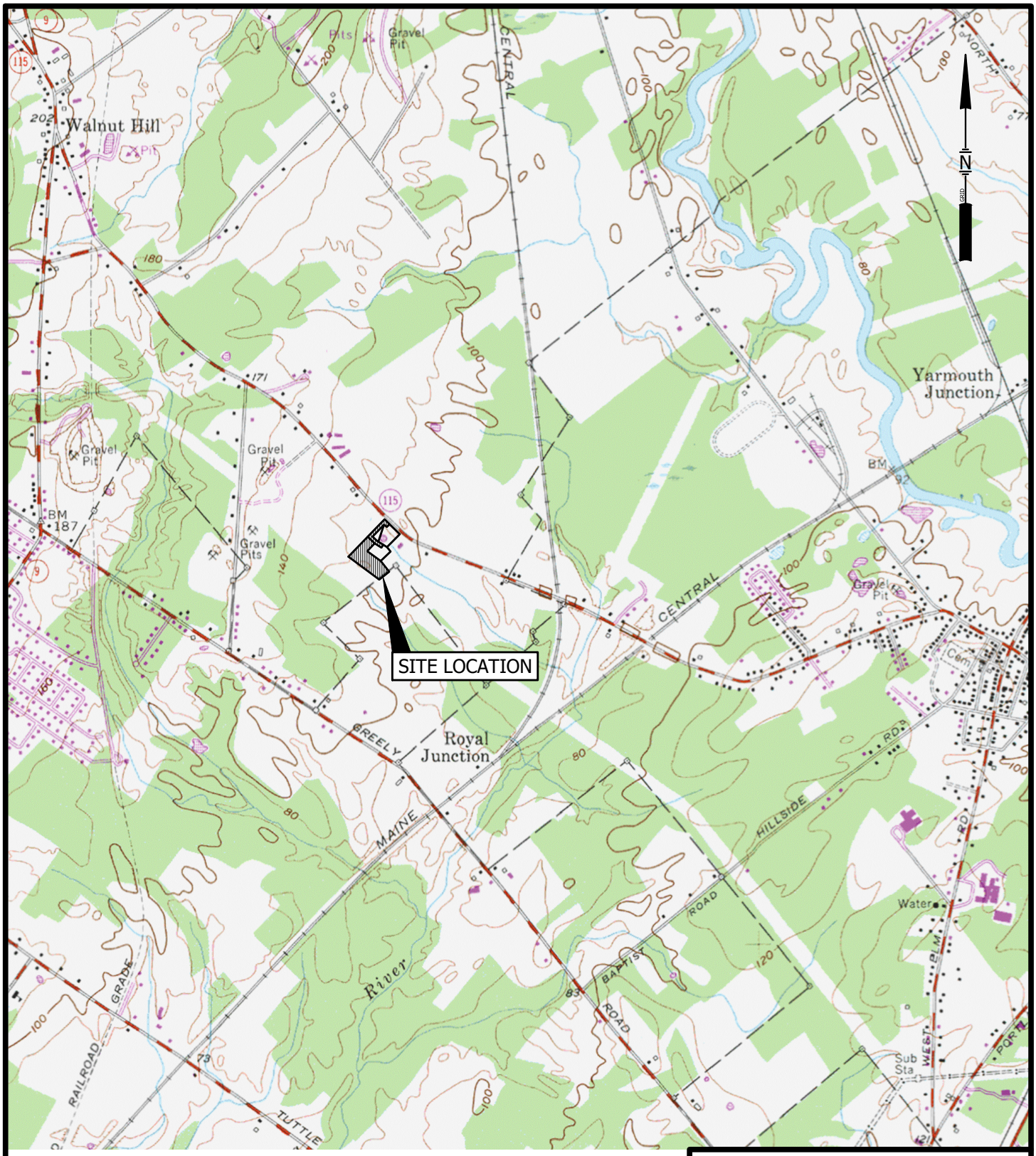
The Hunt's currently operate the Learning Loft Preschool in Cumberland and are seeking to relocate the facility to their new residence off Walnut Hill Road in North Yarmouth. The preschool will be permitted for up to 16 students and offer half-day programs for pre-kindergarten aged children. Anticipated student drop-off will be from 8:30 AM to 9:00 AM. Pick-up will be from 11:30 AM to noon. Two teachers are planned to support the preschool program.

The 4.25-acre parcel is identified as Lot 62 on Town of North Yarmouth Tax Map 1 and is in the Village Residential zoning district. The parcel fronts to Walnut Hill Road (ME 115) on the east, and existing developed residential properties exist to the north and south. A Central Maine Power utility corridor borders the site to the west. The Applicant's interest in the property is demonstrated through the deed in Appendix A.

At present, the portions of the site have been cleared and the parcel is partially developed with a temporary gravel access drive. Construction of the single-family residence is in progress and anticipated to be compete this spring. Remaining portions of the property are forested.

The property is currently served by an existing site entrance permitted through MaineDOT by the previous owner. The location of the existing entrance and lot geometry do not allow the proposed access drive to be constructed to current Town geometric design standards and restrict emergency vehicle access to the proposed residence and preschool. An alternate entrance location is proposed for this project.

The proposed location for the new access drive will allow a more direct entry to the property constructed to Town private road standards. The access road will be 20-feet wide and feature a cul-de-sac turnaround to facilitate internal traffic circulation and accommodate emergency vehicle access. Sight distance from the proposed entrance is 425 feet looking southeast and over 500 feet looking northwest on ME Route 115.



BASEMAP ADAPTED FROM 7.5 MIN USGS TOPO QUADS
NORTH YARMOUTH, ME - 1975

1000 0 2000 FEET

DWG: SITELOC LMN: NONE CTB: SME-STD REV: 10/12/2021

FIGURE 1
SITE LOCATION MAP
MILES HUNT
LEARNING LOFT PRESCHOOL
NORTH YARMOUTH, MAINE

SME
SEVEE & MAHER
ENGINEERS

\\Nserver\cfs\Miles Hunt\North Yarmouth Pre-school\Acad\Figures\SITELOC.dwg, 10/12/2021 1:32:53 PM, sjm

The right-of way will also serve an existing undeveloped lot owned by Schyler and Jennifer Gagnon. A land swap between the property owners to accommodate right-of-way and access drive construction. The updated lot configurations are designed to conform to current space and dimensional requirements for the Village Residential zoning district. The final lot layout is outlined in the project plan set. Draft copies of the modified property deeds are included in Appendix A.

Additional site development will include establishing the 50-foot right-of way for site access, improvement of the existing access drive to current Town private road standards, and installation of a private well, septic system, and a combination of overhead and underground electric and communications services. The existing access drive will be widened to 20 feet and feature a cul-de-sac turnaround at the proposed preschool to facilitate internal traffic circulation and accommodate emergency vehicle access.

Construction of the project is expected to result in approximately 72,600 square feet of developed area and approximately 28,000 square feet of new impervious surface. Based on preliminary review of Maine Department of Environmental Protection (MEDEP) Chapter 500 requirements, this project will require a MEDEP Stormwater Management Permit-by-Rule (PBR) prior to the start of construction. Stormwater quality treatment will not be required. The Stormwater PBR application has been submitted to MEDEP. A copy has been provided to the Town in accordance with MEDEP submission requirements.

This project will require a Driveway Entrance Permit from the Maine Department of Transportation (MEDOT) at the intersection of the access drive and Walnut Hill Road. The has been submitted to the Region 1 office. A copy is included in Appendix G.

The following sections describe how the project complies with the applicable Chapters of the Town of North Yarmouth Land Use Ordinance.

ARTICLE 10: PERFORMANCE AND DESIGN STANDARDS FOR SITE PLAN REVIEW AND SUBDIVISION REVIEW

Section 10-2 General Layout of Development

The layout of the site has been optimized to accommodate the buildings, access drive, and utility infrastructure to serve a four-bedroom residence and an 864 square-foot preschool facility.

A. Utilization of the Site

The existing parcel is developed with an access drive and construction of the single-family residence is in progress. The proposed building and road layout were designed to minimize site clearing. The structures will be centrally located on the parcel and remaining portions along the perimeter of the property are planned to remain forested.

The property is not within a 100-year floodplain as shown in the FEMA Firmette map in Appendix B. The on-site drainage will be maintained post-construction and erosion and sedimentation will be provided in accordance with the details on the submitted drawing set and the latest edition of the Maine Department of Environmental Protection (MEDEP) Erosion Control BMP Manual.

A wetland evaluation completed by Albert Frick Associates INC in September 2021 is included in the attached plan set. A copy of the report is included in Appendix H. In addition, SME has requested project review by the Maine Department of Inland Fisheries & Wildlife (MIF&W) and the Maine Historic Preservation Commission (MHPC). Copies of the review letters will be provided as soon as they are received from the respective agencies. Copies of our request letters are included in Appendix C.

B. Lots – Not applicable.

C. Blocks – Not applicable.

D. Utilities

As previously outlined, proposed utilities will include a private well, septic system, and a combination of overhead and underground electric and communications services. Electric service will be connected to the existing utility pole directly east of the proposed Walnut Hill Road entrance. Final design of the electrical service will be coordinated with Central Maine Power.

E. Monuments

Proposed stone monument and iron pin locations are shown on Drawing C-102, Site Layout and Utilities Plan.

Section 10-3 Brook, Pond, Vernal Pool and Wetland Buffers

Wetland areas identified by Albert Frick Associates (AFA) are shown on Drawing C-102 Site Layout and Utilities Plan. There are no brooks, ponds, or vernal pools identified on the property.

Section 10-4 Building Design Standards

This section is not applicable. The lot is not in Village Center District.

Section 10-5 Community Facilities Impact Analysis and Mitigation

The proposed residence and preschool facility will have minimal impact on community services. The development will not be served by public water or municipal sewer, and construction and maintenance of the of the access drive will be completed by the owner. Very minor impacts to the Town include costs associated with police, fire protection, and recreation facilities. We do not anticipate the proposed

development will impose an unreasonable burden on the school district, the County Sheriff's office, or any other Town services.

The roadway will be constructed to municipal residential access road standards and maintained as a private drive. The cost for long-term maintenance items will be addressed by the property owner, including road maintenance, snow removal, solid waste disposal, and maintenance of runoff drainageways and/or stormwater management devices.

Section 10-6 Drive Through Facilities

This section is not applicable.

Section 10-7 Erosion and Sedimentation Control

The project has been designed to comply with erosion and sedimentation control standards outlined in the current MEDEP Erosion Control BMP Manual. The location and details for the proposed erosion control measures are include in the submitted plan set.

Section 10-8 Emissions

The project has no emissions that will harm human or animal health, vegetation, or property.

Section 10-9 Exterior Lighting

There is no exterior lighting proposed for this project. Each building will be lit with private lighting mounted on the building to meet the security, safety, and operational needs of the proposed residence and preschool facility.

Section 10-10 Financial and Technical Capacity

The Applicant has provided a letter in Appendix D to demonstrate financial capacity to complete the project.

The Applicant has qualified professionals to design and construct the proposed residence and Learning Loft Preschool. Consultants and Subconsultants include SME for engineering design of the site, utilities, access drive, septic design, and stormwater; Riverside Survey, LLC for boundary survey; and AFA for natural resource identification and mapping. Contractors include MB Contracting, LLC and Envy Construction for site work and building construction, respectively.

Section 10-11 Floodplain Management

The property is not within a 100-year floodplain as shown in the FEMA Firmette map in Appendix B.

Section 10-12 Hazardous, Special, and Radioactive Materials

There is no storage of hazardous, special, or radioactive material proposed as part of this project.

Section 10-13 Historic and Archaeological Sites

As previously outlined, SME has requested project review by the Maine Historic Preservation Commission (MHPC). There are no historic or archaeological sites anticipated on or adjacent to this property. A copy of the review letter will be provided as soon as it is received from MHPC. A copy of our review request letter is included in Appendix C.

Section 10-14 Landscaping, Buffers and Screening,

The proposed building and road layout were designed to minimize site clearing and visual impact to the surrounding area to the greatest extent possible. The structures will be centrally located on the parcel and remaining portions along the perimeter of the property will remain forested. Additional landscaping, buffers, and screening are not planned for this project.

Section 10-15 Natural Beauty and Aesthetics in Farm and Forest District, Residential Shoreland District and Resource Protection District

The site is not in the Farm and Forest District, Residential Shoreland District, or Resource Protection District. This section is not applicable for this site.

Section 10.16 Noise

The proposed site improvements will not generate noise that will be objectionable to surrounding land uses. The proposed residential development is consistent with adjacent properties; therefore, noise levels will not differ noticeably from existing noise levels.

Section 10-17 Sewage Disposal

The sewage disposal will be provided with combined septic system for the two buildings. The disposal systems will be designed for less than 2,000-gallon-per-day capacity.

Andrew Gobeil from SME has completed the septic design for the project. Test pit logs and an HHE-200 septic design are included in Appendix E.

Section 10-18 Signs

There is no proposed advertising signage for this development. Any street signs or additional signage required for traffic control will be coordinated with the Town. If future signage is proposed, the Applicant will submit a signage plan for Planning Board review.

Section 10-19 Soil Suitability

The soils in the site area are generally suitable for the proposed development. A USDA Soil Survey for the property is included in Appendix F.

Section 10-20 Solid Waste Disposal

Solid waste disposal will be the responsibility of the owner. Construction debris from house construction will be collected in dumpsters and disposed of by the property owner or their contractor at a commercial solid waste facility.

After construction is completed, household waste will be collected curbside by Pine Tree Waste, the commercial waste company contracted by the Town of North Yarmouth for municipal trash collection. Special or hazardous waste is not anticipated for the proposed development.

Section 10-21 Storage of Materials – Not applicable for this type of development.

Section 10-22 Stormwater Control

The stormwater management design is detailed in the Stormwater Management Report included as Appendix F.

Section 10-23 Recreation and Open Space Land in Development

A. Applicability and Purpose

The project is located within the Village Residential District. However, the project is not a subdivision. Therefore, this section is not applicable.

B. Retention and Useable Space and Recreation Land in Residential Developments - Not applicable.

C. Waiver for Minor Subdivision – Not applicable.

D. Ownership and Maintenance of Open Space - Not applicable.

E. Homeowners Association Requirements – Not applicable.

Section 10-24 Water Supply

A. Induvial Wells

The two buildings will be served by a single well. The anticipated septic system location and well exclusion zone is shown on Drawing C-102 in the submitted drawing set.

B. Fire Protection

The development is not a subdivision and will not be served by public water. The Owner will coordinate with the State Fire Marshal to ensure appropriate fire protection is installed for the proposed preschool facility.

Section 10-25 Water Quality

A. Water Quality

This project will not include storage of any hazardous materials; therefore, there are not anticipated impacts to the quality of water.

B. Groundwater

On-site sewage disposal system for the two buildings will not exceed a capacity of 2,000 gallons per day. The proposed preschool and four-bedroom residence are not anticipated to adversely affect the quality or quantity of groundwater.

C. Wellhead Protection

Proposed development will comply with the requirements of setbacks from underground fuel storage tanks, septic tank, and public water supply.

D. Requirements for Hydrogeologic Assessments

Hydrogeologic assessment is not required because the septic system is designed for are less than 2,000 gal/day.

Section 10-26 Protection of Significant Wildlife Habitat

A wetlands evaluation was completed by Albert Frick Associates Inc. in September 2021, the results of which are included in the attached plan set. A project review letter has also been forwarded to the Maine Department of Inland Fisheries & Wildlife as included in Appendix C.

Section 10-27 Public Access to the Shoreline - Not applicable

Section 10-28 Back Lots and Access

The site is a back lot. The access to the back lot has a private 50 feet wide right of way with a 20 feet wide access drive which meets the requirement.

Section 10-29 Access Management Standards

The anticipated number of daily vehicle trips generated are estimated from the Trip Generation Manual published by the Institute of Transportation Engineers. At full build out, the total anticipated weekday trips from the 16 students will be less than 91 trips per day. The project will generate approximately 17

trips per peak hour and is much less than 100 passenger car equivalent (PCE) trips during the peak hour of traffic generation and will not require review by the MEDOT for a Traffic Movement Permit.

The Walnut Hill Road (Route 115) entrance is greater than 2,110 feet from Fairy Tale Lane/Route 115 intersection to the south and more than 2460 feet to the Route 115/Prince Well Road intersection to the north. At the Walnut Hill Road (Route 115) entrance, sight distance will exceed 425 feet in both directions as required for a 45-mph zone.

Section 10-30 Subdivision Street Connectivity Required in Village Center and Village Residential District

The project is located within the Village Residential District. However, the project is not a subdivision. Therefore, this section is not applicable.

Section 10-31 Subdivision Street Length and Connectivity Required in the Farm and Forest District and Residential Shoreland District – Not applicable.

Section 10-32 Pedestrian Ways and Bicycle Access, Circulation and Facilities

The project is located within the Village Residential District. However, the project is not a subdivision. Therefore, this section is not applicable.

Section 10-33 Internal Vehicular Circulation

The roadway and turnaround have been designed to accommodate for safe passage of passenger, service, and emergency vehicles to the site.

Section 10-34 Off Street Parking

Gravel off-street parking will be provided for two preschool faculty members in accordance with the Day Care and Nursery School parking guidelines provided in this section of the ordinance. The spaces will be located off the cul-de-sac adjacent to the preschool facility. The cul-de-sac will serve as a safe area for vehicle pick-up and drop-off of students/children.

Section 10-35 Off Street Loading Requirements – Not applicable.

APPENDIX A

TITLE, RIGHT OR INTEREST

SME
SEVEE & MAHER
ENGINEERS

Warranty Joint Tenancy Deed
DLN: 1002140147862

That: **David S. Gagnon and Judith T. Gagnon** of P. O. Box 530, Cumberland Center, County of Cumberland and State of Maine 04021,

Grant Unto:

Miles C. Hunt and Danielle H. Hunt of 159 Longwoods Road, Cumberland, County of Cumberland and State of Maine 04021,

With Warranty Covenants, as Joint Tenants, the land in North Yarmouth, County of Cumberland and State of Maine, as follows:

A certain lot or parcel of land situated on the southwest side of State Route 115, or Walnut Hill Road, so called, in the Town of North Yarmouth, County of Cumberland and State of Maine, bounded and described as follows,:

BEGINNING at a concrete monument situated on the southwest sideline of Route 115 aforesaid and at the east corner of land now or formerly of John J. Napolitano and Linda Elizabeth Napolitano, as recorded in the Cumberland County Registry of Deeds Book 4705 Page 186, said monument marking the north corner of the parcel hereby described and conveyed:

THENCE from said point of beginning South 44 Degrees 04 Minutes 42 Seconds West by said land of Napolitano, by land now or formerly of John J. Napolitano, II and Tamari Napolitano, as recorded in the Cumberland County Registry of Deeds Book 37101 Page 262 and by land of Michael J. Cano and Karen J. Cano, as recorded in the Cumberland County Registry of Deeds Book 8961 Page 290, 761.55 feet to the northeast sideline of Section 102 of the Central Maine Power Company's electrical transmission line corridor;

THENCE South 53 Degrees 17 Minutes 38 Seconds East along the said Central Maine Power Company's corridor, 563.06 feet to a certain survey marker and land of Judith Solman, as recorded in the Cumberland County Registry of Deeds Book 28677 Page 284;

Warranty Joint Tenancy Deed
David S. Gagnon and Judith T. Gagnon to
Miles C. Hunt and Danielle H. Hunt

THENCE North 51 Degrees 35 Minutes 52 Seconds East by said land of Solman, 186.19 feet to a certain survey marker and land of Richard W. Brobst and Priscilla A. Brobst, as recorded in the Cumberland County Registry of Deeds Book 3644 Page 109;

THENCE North 38 Degrees 27 Minutes 50 Seconds West by said land of Brobst, 200.00 feet to a certain survey marker;

THENCE North 53 Degrees 52 Minutes 35 Seconds West by remaining land of David S. Gagnon and Judith T. Gagnon, 244.21 feet to a 5/8" iron rod with cap P.L.S. #2495 set in the ground;

THENCE North 43 Degrees 29 Minutes 42 Seconds East by remaining land of David S. Gagnon and Judith T. Gagnon, 157.62 feet to a 5/8" iron rod with cap P.L.S. #2495 set in the ground in the southwesterly sideline of a 50 foot right of way;

THENCE South 57 Degrees 54 Minutes 24 Seconds East by remaining land of David S. Gagnon and Judith T. Gagnon and by said right of way, 117.62 feet to a 5/8" iron rod with cap P.L.S. #2495 set in the ground in the southeasterly end of said right of way;

THENCE North 32 Degrees 09 Minutes 24 Seconds East by remaining land of David S. Gagnon and Judith T. Gagnon and by the end of said right of way, 50.00 feet to a 5/8" iron rod with cap P.L.S. #2495 set in the ground;

THENCE North 57 Degrees 54 Minutes 24 Seconds West by remaining land of David S. Gagnon and Judith T. Gagnon and by said right of way, 85.21 feet to a 5/8" iron rod with cap P.L.S. #1154;

THENCE North 18 Degrees 31 Minutes 31" Seconds East by remaining land of David S. Gagnon and Judith T. Gagnon, 260.51 feet to a 5/8" iron rod with cap P.L.S. #1154 in the sideline of the above mentioned right of way;

THENCE South 53 Degrees 57 Minutes 18 Seconds East by remaining land of David S. Gagnon and Judith T. Gagnon and by said right of way, 52.44 feet to a 5/8" iron rod with cap P.L.S. #1154;

Warranty Joint Tenancy Deed
David S. Gagnon and Judith T. Gagnon to
Miles C. Hunt and Danielle H. Hunt

THENCE North 44 Degrees 04 Minutes 42 Seconds East by remaining land of David S. Gagnon and Judith T. Gagnon and by said right of way, 56.25 feet to a 5/8" iron rod with cap P.L.S. #1154 situated in the apparent southwest sideline of Route 115 aforesaid;

THENCE North 45 Degrees 32 Minutes 25 Seconds West along the southwest sideline of Route 115, 101.93 feet to the point of beginning. Containing 4.50 acres

Excepting and reserving for the benefit of remaining land of David S. Gagnon and Judith T. Gagnon an appurtenant fifty foot wide access easement for all purposes including pedestrian and vehicular travel and above and/or below ground utilities and communications services, to be used in common with these Grantees and others who have or may be granted a similar right.

The fifty foot wide access easement is described as follows:

BEGINNING at a concrete monument situated on the southwest sideline of Route 115 aforesaid and at the east corner of land now or formerly of John J. Napolitano and Linda Elizabeth Napolitano, as recorded in the Cumberland County Registry of Deeds Book 4705 Page 186, said monument marking the north corner of the parcel hereby described and conveyed:

THENCE from said point of beginning South 44 Degrees 04 Minutes 42 Seconds West by said land of Napolitano and by land now or formerly of John J. Napolitano, II and Tamari Napolitano, as recorded in the Cumberland County Registry of Deeds Book 37101 Page 262, 354.94 feet to a point;

THENCE South 45 Degrees 55 Minutes 18 Seconds East, 141.00 feet to a 5/8" iron rod with cap P.L.S. #2495 set in the ground and remaining land of David S. Gagnon and Judith T. Gagnon;

THENCE South 57 Degrees 54 Minute 24 Seconds East by remaining land of David S. Gagnon and Judith T. Gagnon, 117.62 feet to a 5/8" iron rod with cap P.L.S. #2495 set in the ground;

THENCE North 32 Degrees 09 Minute 24 Seconds East by remaining land of David S. Gagnon and Judith T. Gagnon, 50.00 feet to a 5/8" iron rod with cap P.L.S. #2495 set in the ground;

Warranty Joint Tenancy Deed
David S. Gagnon and Judith T. Gagnon to
Miles C. Hunt and Danielle H. Hunt

THENCE North 57 Degrees 54 Minute 24 Seconds West by remaining land of David S. Gagnon and Judith T. Gagnon, 85.21 feet to a 5/8" iron rod with cap P.L.S. #1154;

THENCE continuing the same course North 57 Degrees 54 Minute 24 Seconds West, 27.21 feet to a point;

THENCE North 45 Degrees 55 Minute18 Seconds West, 85.75 feet to a point;

THENCE North 44 Degrees 04 Minute 42 Seconds East, 240.68 feet to a 5/8" iron rod with cap P.L.S. #1154;

THENCE South 53 Degrees 57 Minute 18 Seconds East by remaining land of David S. Gagnon and Judith T. Gagnon, 52.44 feet to a 5/8" iron rod with cap P.L.S. #1154;

THENCE North 44 Degrees 04 Minute 42 Seconds East by remaining land of David S. Gagnon and Judith T. Gagnon, 56.25 feet to a 5/8" iron rod with cap P.L.S. #1154 situated in the apparent southwest sideline of Route 115 aforesaid;

THENCE North 45 Degrees 32 Minutes 25 Seconds West along the southwest sideline of Route 115, 101.93 feet to the point of beginning.

The above described parcel of land is a portion of the premises conveyed to David S. Gagnon and Judith T. Gagnon by Debora A. Low as Personal Representative of the Estate of Albert E. Allen, as recorded in the Cumberland County Registry of Deeds Book 31894 Page 62 and being a part of Parcel B as depicted on a certain survey plan entitled, "Boundary Survey on Walnut Hill Road, Route 115, North Yarmouth, Maine", made for Debora A. Lowe dated April 19, 2016 by Owen Haskell, Inc.

Further reference is made to a Plan prepared by Riverside Survey, LLC dated May 14th, 2021 attached hereto as Exhibit A.

Warranty Joint Tenancy Deed
David S. Gagnon and Judith T. Gagnon to
Miles C. Hunt and Danielle H. Hunt

This is a gift to our son-in-law and daughter, and is intended to be an exempt conveyance as defined by the municipal subdivision law. The real estate conveyed hereby may not be transferred within five (5) years to another person not related to David S. Gagnon and Judith T. Gagnon.

Witness our hands and seals this 7 **day of June, 2021**

Michele A. Spear
Witness

David Gagnon
David S. Gagnon

Carrie Ryder
Witness

Judith T. Gagnon
Judith T. Gagnon

Received
Recorded Register of Deeds
Jun 11,2021 11:03:12A
Cumberland County
Nancy A. Lane

State of Maine
County of ~~Oxford~~ Cumberland **June** 7 **2021**

Then personally appeared the above named **David S. Gagnon and Judith T. Gagnon** and acknowledged the foregoing instrument to be their free act and deed,

SEAL **Before me** _____
Notary Public – ~~Attorney at Law~~

Type or print name: Carisa C Cobb

My commission expires: January 12, 2022

CARISA C. COBB
Notary Public - Maine
My Commission Expires
January 12, 2022

Gagnon, david & Judith to miles & Danielle hunt-4.50 ac-off walnut hill rd-No.yarmouth-word-jun.2021

282

5pp

Epstein & Donovan LLP

Warranty Joint Tenancy Deed
DLN: 1002140147854

That: **David S. Gagnon and Judith T. Gagnon** of P. O. Box 530, Cumberland Center, County of Cumberland and State of Maine 04021,

Grant Unto:

Miles C. Hunt and Danielle H. Hunt of 159 Longwoods Road, Cumberland, County of Cumberland and State of Maine 04021,

With Warranty Covenants, as Joint Tenants, the land in North Yarmouth, County of Cumberland and State of Maine, as follows:

A certain lot or parcel of land situated southwesterly of but not adjacent to State Route 115, or Walnut Hill Road, so called, in the Town of North Yarmouth, County of Cumberland and State of Maine, bounded and described as follows,:

BEGINNING at an iron pipe at the west corner of land of Jill H. Surette and Gregory Michael Surette, as recorded in the Cumberland County Registry of Deeds Book 35283 Page 310, said point of beginning more particularly located South 44 Degrees 46 Minutes 19 Seconds West, 266.16 feet from an iron pipe at the northerly corner of said land of Surette and on the southwest sideline of Route 115:

THENCE from said point of beginning South 38 Degrees 36 Minutes 53 Seconds East by said land of Surette, 83.90 feet to a certain survey marker and land of Richard W. Brobst and Priscilla A. Brobst, as recorded in the Cumberland County Registry of Deeds Book 3644 page 109;

THENCE South 46 Degrees 12 Minutes 16 Seconds West by said land of Brobst, 200.00 feet to a certain survey marker;

THENCE North 53 Degrees 52 Minutes 35 Seconds West by remaining land of David S. Gagnon and Judith T. Gagnon, 244.21 feet to a 5/8" iron rod with cap P.L.S. #2495 set in the ground;

Warranty Joint Tenancy Deed
David S. Gagnon and Judith T. Gagnon to
Miles C. Hunt and Danielle H. Hunt

THENCE North 43 Degrees 29 Minutes 42 Seconds East by remaining land of David S. Gagnon and Judith T. Gagnon, 157.62 feet to a 5/8" iron rod with cap P.L.S. #2495 set in the ground in the southwesterly sideline of a 50 foot right of way;

THENCE South 57 Degrees 54 Minutes 24 Seconds East by remaining land of David S. Gagnon and Judith T. Gagnon and by said right of way, 117.62 feet to a 5/8" iron rod with cap P.L.S. #2495 set in the ground in the southeasterly end of said right of way;

THENCE North 32 Degrees 09 Minutes 24 Seconds East by remaining land of David S. Gagnon and Judith T. Gagnon and by the end of said right of way, 50.00 feet to a 5/8" iron rod with cap P.L.S. #2495 set in the ground;

THENCE South 57 Degrees 54 Minutes 24 Seconds East by remaining land of David S. Gagnon and Judith T. Gagnon, 64.38 feet to the point of beginning. Containing 1.08 acres

Also conveying an appurtenant fifty foot wide access easement for all purposes including pedestrian and vehicular travel and above and/or below ground utilities and communications services, to be used in common with others who have or may be granted a similar right.

The fifty foot wide access easement is described as follows:

BEGINNING at a concrete monument situated on the southwest sideline of Route 115 aforesaid and at the east corner of land now or formerly of John J. Napolitano and Linda Elizabeth Napolitano, as recorded in the Cumberland County Registry of Deeds Book 4705 Page 186, said monument marking the north corner of land of David S. Gagnon and Judith T. Gagnon;

THENCE from said point of beginning South 44 Degrees 04 Minutes 42 Seconds West by said land of Napolitano and by land now or formerly of John J. Napolitano, II and Tamari Napolitano, as recorded in the Cumberland County Registry of Deeds Book 37101 Page 262, 354.94 feet to a point;

THENCE South 45 Degrees 55 Minutes 18 Seconds East, 141.00 feet to a 5/8" iron rod with cap P.L.S. #2495 set in the ground and the above described parcel of land;

Warranty Joint Tenancy Deed
David S. Gagnon and Judith T. Gagnon to
Miles C. Hunt and Danielle H. Hunt

THENCE South 57 Degrees 54 Minute 24 Seconds East by the above described parcel of land, 117.62 feet to a 5/8" iron rod with cap P.L.S. #2495 set in the ground;

THENCE North 32 Degrees 09 Minute 24 Seconds East by the above described parcel of land, 50.00 feet to a 5/8" iron rod with cap P.L.S. #2495 set in the ground;

THENCE North 57 Degrees 54 Minute 24 Seconds West by the above described parcel of land, 85.21 feet to a 5/8" iron rod with cap P.L.S. #1154;

THENCE continuing the same course North 57 Degrees 54 Minute 24 Seconds West, 27.21 feet to a point;

THENCE North 45 Degrees 55 Minute18 Seconds West, 85.75 feet to a point;

THENCE North 44 Degrees 04 Minute 42 Seconds East, 240.68 feet to a 5/8" iron rod with cap P.L.S. #1154;

THENCE South 53 Degrees 57 Minute 18 Seconds East, 52.44 feet to a 5/8" iron rod with cap P.L.S. #1154;

THENCE North 44 Degrees 04 Minute 42 Seconds East, 56.25 feet to a 5/8" iron rod with cap P.L.S. #1154 situated in the apparent southwest sideline of Route 115 aforesaid;

THENCE North 45 Degrees 32 Minutes 25 Seconds West along the southwest sideline of Route 115, 101.93 feet to the point of beginning.

The above described parcel of land is a portion of the premises conveyed to David S. Gagnon and Judith T. Gagnon by Debora A. Low as Personal Representative of the Estate of Albert E. Allen, as recorded in the Cumberland County Registry of Deeds Book 31894 Page 62 and being a part of Parcel B as depicted on a certain survey plan entitled, "Boundary Survey on Walnut Hill Road, Route 115, North Yarmouth, Maine", made for Debora A. Lowe dated April 19, 2016 by Owen Haskell, Inc.

Further reference is made to a Plan prepared by Riverside Survey, LLC dated May 14th, 2021 attached hereto as Exhibit A.

Doc#: 41437 Bk:38302 Pg: 104

Warranty Joint Tenancy Deed
David S. Gagnon and Judith T. Gagnon to
Miles C. Hunt and Danielle H. Hunt

This is a gift to our son-in-law and daughter, but is not intended to be an exempt conveyance as defined by the municipal subdivision law. There is no restriction on the future transfer of this real estate.

Witness our hands and seals this 7 **day of June, 2021**

Michele A. Spears
Witness

David Gagnon
David S. Gagnon

Carisa Ryder
Witness

Judith T. Gagnon
Judith T. Gagnon

State of Maine
County of ~~Oxford~~ Cumberland

June 7 **2021**

Then personally appeared the above named **David S. Gagnon and Judith T. Gagnon** and acknowledged the foregoing instrument to be their free act and deed,

SEAL

Before me _____
Notary Public – ~~Attorney at Law~~

Type or print name: Carisa C Cobb

My commission expires: January 12, 2022

CARISA C. COBB
NOTARY PUBLIC
STATE OF MAINE

CARISA C. COBB
Notary Public - Maine
My Commission Expires
January 12, 2022

Gagnon, david & Judith to miles & Danielle hunt-1.08 ac-off walnut hill rd-No.yarmouth-word-jun.2021

Received
Recorded Register of Deeds
Jun 11,2021 11:00:22A
Cumberland County
Nancy A. Lane

CARISA C. COBB
Notary Public - Maine
My Commission Expires
January 12, 2022

1987

4/88

Epstein & O'Donovan LLP

Filed

MAINE REAL ESTATE TAX-Paid

WARRANTY DEED

DLN: 1002140155234___

KNOW ALL BY THESE PRESENTS THAT WE, MILES C. HUNT and DANIELLE H. HUNT, both of Cumberland, Maine, grant to SCHYLER GAGNON and JENNIFER GAGNON, both of Sabattus, Maine, as joint tenants, the land in North Yarmouth, County of Cumberland and State of Maine, as follows:

A certain lot or parcel of land situated southwesterly of but not adjacent to State Route 115, or Walnut Hill Road, so called, in the Town of North Yarmouth, County of Cumberland and State of Maine, bounded and described as follows:

BEGINNING at an iron pipe at the west corner of land of Jill H. Surette and Gregory Michael Surette, as recorded in the Cumberland County Registry of Deeds Book 35283 Page 310, said point of beginning more particularly located South 44 Degrees 46 Minutes 19 Seconds West, 266.16 feet from an iron pipe at the northerly corner of said land of Surette and on the southwest sideline of Route 115:

THENCE from said point of beginning South 38 Degrees 36 Minutes 53 Seconds East by said land of Surette, 83.90 feet to a certain survey marker and land of Richard W. Brobst and Priscilla A. Brobst, as recorded in the Cumberland County Registry of Deeds Book 3644 page 109;

THENCE South 46 Degrees 12 Minutes 16 Seconds West by said land of Brobst, 200.00 feet to a certain survey marker;

THENCE North 53 Degrees 52 Minutes 35 Seconds West by remaining land of David S. Gagnon and Judith T. Gagnon, 244.21 feet to a ⅝" iron rod with cap P.L.S. #2495 set in the ground;

THENCE North 43 Degrees 29 Minutes 42 Seconds East by remaining land of David S. Gagnon and Judith T. Gagnon, 157.62 feet to a ⅝" iron rod with cap P.L.S. #2495 set in the ground in the southwesterly sideline of a 50 foot right of way;

THENCE South 57 Degrees 54 Minutes 24 Seconds East by remaining land of David S. Gagnon and Judith T. Gagnon and by said right of way, 117.62 feet to a ⅝" iron rod with cap P.L.S. #2495 set in the ground in the southeasterly end of said right of way;

THENCE North 32 Degrees 09 Minutes 24 Seconds East by remaining land of David S. Gagnon and Judith T. Gagnon and by the end of said right of way, 50.00 feet to a ⅝" iron rod with cap P.L.S. #2495 set in the ground;

THENCE South 57 Degrees 54 Minutes 24 Seconds East by remaining land of David S. Gagnon and Judith T. Gagnon, 64.38 feet to the point of beginning. Containing 1.08 acres

Also conveying an appurtenant fifty foot wide access easement for all purposes including pedestrian and vehicular travel and above and/or below ground utilities and communications services, to be used in common with others who have or may be granted a similar right.

The fifty foot wide access easement is described as follows:

BEGINNING at a concrete monument situated on the southwest sideline of Route 115 aforesaid and at the east corner of land now or formerly of John J. Napolitano and Linda Elizabeth Napolitano, as recorded in the Cumberland County Registry of Deeds Book 4705 Page 186, said monument marking the north corner of land of David S. Gagnon and Judith T. Gagnon;

THENCE from said point of beginning South 44 Degrees 04 Minutes 42 Seconds W est by said land of Napolitano and by land now or formerly of John J. Napolitano, II and Tamari Napolitano, as recorded in the Cumberland County Registry of Deeds Book 37101 Page 262, 354.94 feet to a point;

THENCE South 45 Degrees 55 Minutes 18 Seconds East, 141.00 feet to a ⅝" iron rod with cap P.L.S. #2495 set in the ground and the above described parcel of land;

THENCE South 57 Degrees 54 Minute 24 Seconds East by the above described parcel of land, 117.62 feet to a ⅝" iron rod with cap P.L.S. #2495 set in the ground;

THENCE North 32 Degrees 09 Minute 24 Seconds East by the above described parcel of land, 50.00 feet to a ⅝" iron rod with cap P.L.S. #2495 set in the ground;

THENCE North 57 Degrees 54 Minute 24 Seconds West by the above described parcel of land, 85.21 feet to a ⅝" iron rod with cap P.L.S. #1154;

THENCE continuing the same course North 57 Degrees 54 Minute 24 Seconds West, 27.21 feet to a point;

THENCE North 45 Degrees 55 Minute18 Seconds West, 85.75 feet to a point;

THENCE North 44 Degrees 04 Minute 42 Seconds East, 240.68 feet to a ⅝" iron rod with cap P.L.S. #1154;

THENCE South 53 Degrees 57 Minute 18 Seconds East, 52.44 feet to a ⅝" iron rod with cap P.L.S. #1154;

THENCE North 44 Degrees 04 Minute 42 Seconds East, 56.25 feet to a ⅝" iron rod with cap P.L.S. #1154 situated in the apparent southwest sideline of Route 115 aforesaid;

THENCE North 45 Degrees 32 Minutes 25 Seconds West along the southwest sideline of Route 115, 101.93 feet to the point of beginning.

The above described parcel of land is a portion of the premises conveyed to David S. Gagnon and Judith T. Gagnon by Debora A. Low as Personal Representative of the Estate of Albert E. Allen, as recorded in the Cumberland County Registry of Deeds Book 31894 Page 62 and being a part of Parcel B as depicted on a certain survey plan entitled, "Boundary Survey on Walnut Hill Road, Route 115, North Yarmouth, Maine", made for Debora A. Lowe dated April 19, 2016 by Owen Haskell, Inc.

Being the same premises conveyed by Warranty Joint Tenancy Deed of David G. Gagnon and Judith T. Gagnon to Miles C. Hunt and Danielle H. Hunt, as joint tenants, dated June 7, 2021, and recorded in the Cumberland County Registry of Deeds in Book 38302 Page 101. Further reference is made to a Plan prepared by Riverside Survey, LLC dated May 14th, 2021 attached to said deed as Exhibit A.

WITNESS our hands and seals as of this 22 day of July, 2021.

SIGNED, SEALED AND DELIVERED
in the presence of:

Witness

Witness

Miles C. Hunt

Danielle H. Hunt

STATE OF MAINE
COUNTY OF CUMBERLAND, ss.:

On this 22 day of July, 2021, before me personally appeared the above-named MILES C. HUNT and acknowledged the foregoing instrument to be his free act and deed, in his said capacity.

STEVEN W. ROSS
★ NOTARY PUBLIC - MAINE ★
My Commission Expires November 2, 2025

Notary Public

DOC :54325 BK:38480 PG:25
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
07/28/2021, 02:21:45P
Register of Deeds Jessica M. Spaulding E-RECORDED

STATE OF MAINE
COUNTY OF CUMBERLAND, ss.:

On this 27 day of July, 2021, before me personally appeared the above-named DANIELLE H. HUNT and acknowledged the foregoing instrument to be her free act and deed, in her said capacity.

STEVEN W. ROSS
★ NOTARY PUBLIC - MAINE ★
My Commission Expires November 2, 2025

Notary Public

Warranty Joint Tenancy Deed
DLN:_____

That: **Schyler Gagnon and Jennifer Gagnon** of 134 Webster Corner Road, Sabattus, County of Androscoggin and State of Maine 04280,

For Consideration Paid, Grant Unto:

Miles C. Hunt and Danielle H. Hunt of P. O. Box 215, Cumberland, County of Cumberland and State of Maine 04021,

With Warranty Covenants, as Joint Tenants, the land in North Yarmouth, County of Cumberland and State of Maine, as follows:

A certain lot or parcel of land situated southwesterly of but not adjacent to State Route 115, or Walnut Hill Road, so called, in the Town of North Yarmouth, County of Cumberland and State of Maine, bounded and described as follows:

BEGINNING at a point at the westerly corner of land of Richard W. Brobst and Priscilla A. Brobst, as recorded in the Cumberland County Registry of Deeds Book 3644 Page 109 and in the northeasterly line of other land of Danielle H. Hunt and Miles C. Hunt, as recorded in the Cumberland County Registry of Deeds Book 38302 Page 105;

THENCE from said point of beginning North 53 Degrees 52 Minutes 35 Seconds West by said land of Hunt, 244.21 feet to a point;

THENCE North 43 Degrees 29 Minutes 42 Seconds East by said land of Hunt, 85.25 feet to a point;

THENCE by remaining land of Gagnon and along a curve to the left having a radius of 420 feet, and a length of 74.50 feet to a ⅝" iron rod with cap P.L.S. #2495 set in the ground (the last two described points are connected by a tie line that bears South 06 Degrees 30 Minutes 12 Seconds West, 74.41 feet);

THENCE South 48 Degrees 06 Minutes 16 Seconds East by remaining land of Gagnon, 197.49 feet to the point of beginning.

Containing 0.09 acres.

Warranty Joint Tenancy Deed
Schyler Gagnon and Jennifer Gagnon to
Miles C. Hunt and Danielle H. Hunt

Schyler Gagnon and Jennifer Gagnon also release the previous location of the right of way they received in Book 38302 Page 105 and agree to the new location of said right of way as follows:

An appurtenant fifty foot wide access easement for all purposes including pedestrian and vehicular travel and above and/or below ground utilities and communications services, to be used in common with others who have or may be granted a similar right.

The fifty foot wide access easement is described as follows:

BEGINNING at a concrete monument situated on the southwest sideline of Route 115 aforesaid and at the east corner of land now or formerly of John J. Napolitano and Linda Elizabeth Napolitano, as recorded in the Cumberland County Registry of Deeds Book 4705 Page 186, said monument marking the north corner of land of Danielle H. Hunt and Miles C. Hunt, as recorded in the Cumberland County Registry of Deeds Book 38302 Page 105:

THENCE from said point of beginning South 44 Degrees 04 Minutes 42 Seconds West by said land of Napolitano, 175.79 feet to a point;

THENCE along a tangential curve to the left having a radius of 325 feet, and a length of 138.46 feet to a point;

THENCE South 19 Degrees 40 Minutes 08 Seconds West, 34.22 feet to a point;

THENCE North 70 Degrees 19 Minute 52 Seconds West, 30.00 feet to a point;

THENCE South 19 Degrees 40 Minutes 08 Seconds West, 30.00 feet to a point;

THENCE South 70 Degrees 19 Minute 52 Seconds East, 30.00 feet to a point;

THENCE South 19 Degrees 40 Minutes 08 Seconds West, 30.00 feet to a point;

Warranty Joint Tenancy Deed
Schyler Gagnon and Jennifer Gagnon to
Miles C. Hunt and Danielle H. Hunt

THENCE South 70 Degrees 19 Minute 52 Seconds East, 50.00 feet to a point at land to be conveyed by Danielle H. Hunt and Miles C. Hunt to Schyler Gagnon and Jennifer Gagnon;

THENCE North 19 Degrees 40 Minutes 08 Seconds East by said land to be conveyed to Gagnon, 94.22 feet to a point;

THENCE by said land to be conveyed to Gagnon and along a tangential curve to the right having a radius of 275.00 feet, and a length of 10.78 feet to a ⅝" iron rod with cap P.L.S. #2495 set in the ground;

THENCE continuing along said curve to the right having a radius of 275.00 feet, and a length of 106.37 feet to a point;

THENCE North 44 Degrees 04 Minute 42 Seconds East, 111.53 feet to a ⅝" iron rod with cap P.L.S. #1154;

THENCE South 53 Degrees 57 Minute 18 Seconds East, 52.44 feet to a ⅝" iron rod with cap P.L.S. #1154;

THENCE North 44 Degrees 04 Minute 42 Seconds East, 56.25 feet to a ⅝" iron rod with cap P.L.S. #1154 situated in the apparent southwest sideline of Route 115 aforesaid;

THENCE North 45 Degrees 32 Minutes 25 Seconds West along the southwest sideline of Route 115, 101.93 feet to the point of beginning.

The above described parcel of land is a portion of the premises conveyed to Schyler Gagnon and Jennifer Gagnon by Judith T. Gagnon and David S. Gagnon, as recorded in the Cumberland County Registry of Deeds Book 38480 Page 22.

Warranty Joint Tenancy Deed
Schyler Gagnon and Jennifer Gagnon to
Miles C. Hunt and Danielle H. Hunt

Witness our hands and seals this _____day of January, 2022

_____	_____
Witness	**Schyler Gagnon**
_____	_____
Witness	**Jennifer Gagnon**

State of Maine
County of _____ **January____, 2022**

Then personally appeared the above named **Schyler Gagnon and Jennifer Gagnon** and acknowledged the foregoing instrument to be their free act and deed,

Before me_____
Notary Public

Type or print name:_____

My commission expires:_____

Warranty Joint Tenancy Deed
DLN:_____

That: **Miles C. Hunt and Danielle H. Hunt** of P. O. Box 215, Cumberland, County of Cumberland and State of Maine 04021,

For Consideration Paid, Grant Unto:

Schyler Gagnon and Jennifer Gagnon of 134 Webster Corner Road, Sabattus, County of Androscoggin and State of Maine 04280,

With Warranty Covenants, as Joint Tenants, the land in North Yarmouth, County of Cumberland and State of Maine, as follows:

A certain lot or parcel of land situated southwesterly of but not adjacent to State Route 115, or Walnut Hill Road, so called, in the Town of North Yarmouth, County of Cumberland and State of Maine, bounded and described as follows,:

BEGINNING at a ⅝" iron rod with cap P.L.S. #1154 at the westerly corner of land of Judith T. Gagnon and David S. Gagnon, as recorded in the Cumberland County Registry of Deeds Book 33241 page 62 and being the westerly corner of Parcel A as depicted on a certain survey plan entitled, "Boundary Survey on Walnut Hill Road, Route 115, North Yarmouth, Maine", made for Debora A. Lowe dated April 19, 2016 by Owen Haskell, Inc.;

THENCE from said point of beginning South 57 Degrees 54 Minutes 24 Seconds East by said land of Gagnon, 85.21 feet to a point at land of Schyler Gagnon and Jennifer Gagnon, as recorded in the Cumberland County Registry of Deeds Book 38480 Page 22;

THENCE South 32 Degrees 09 Minutes 24 Seconds West by said land of Gagnon, 50.00 feet to a point;

THENCE North 57 Degrees 54 Minutes 07 Seconds West by said land of Gagnon, 117.62 feet to a point;

THENCE South 42 Degrees 29 Minutes 42 Seconds West by said land of Gagnon, 72.38 feet to a point;

THENCE by remaining land of Hunt and along a curve to the right having a radius of 420 feet, and a length of 59.28 feet to a point in the end of a 50' right of way (the last two described points are connected by a tie line that bears North 15 Degrees 37 Minutes 21 Seconds East, 59.23 feet);

THENCE North 19 Degrees 40 Minutes 08 Seconds East by said remaining land of Hunt and by said right of way, 94.22 feet to a point;

THENCE by said remaining land of Hunt and by said right of way and along a tangential curve to the right having a radius of 275.00 feet, and a length of 10.78 feet to a ⅝" iron rod with cap P.L.S. #2495 set in the ground;

THENCE South 24 Degrees 42 Minutes 12 Seconds East by said remaining land of Hunt, 70.20 feet to a ⅝" iron rod with cap P.L.S. #2495 set in the ground;

THENCE South 57 Degrees 54 Minutes 24 Seconds East by said remaining land of Hunt, 27.21 feet to the point of beginning.

Containing 0.23 acres.

Also conveying a fifty foot wide right of way to replace the previous location of the right of way granted in Book 38302 Page 105. The new location of said right of way is as follows:

An appurtenant fifty foot wide access easement for all purposes including pedestrian and vehicular travel and above and/or below ground utilities and communications services, to be used in common with others who have or may be granted a similar right.

The fifty foot wide access easement is described as follows:

BEGINNING at a concrete monument situated on the southwest sideline of Route 115 aforesaid and at the east corner of land now or formerly of John J. Napolitano and Linda Elizabeth Napolitano, as recorded in the Cumberland County Registry of Deeds Book 4705 Page 186, said monument marking the north corner of land of Hunt:

THENCE from said point of beginning South 44 Degrees 04 Minutes 42 Seconds West by said land of Napolitano, 175.79 feet to a point;

Warranty Joint Tenancy Deed
Miles C. Hunt and Danielle H. Hunt to
Schyler Gagnon and Jennifer Gagnon

THENCE along a tangential curve to the left having a radius of 325 feet, and a length of 138.46 feet to a point;

THENCE South 19 Degrees 40 Minutes 08 Seconds West, 34.22 feet to a point;

THENCE North 70 Degrees 19 Minute 52 Seconds West, 30.00 feet to a point;

THENCE South 19 Degrees 40 Minutes 08 Seconds West, 30.00 feet to a point;

THENCE South 70 Degrees 19 Minute 52 Seconds East, 30.00 feet to a point;

THENCE South 19 Degrees 40 Minutes 08 Seconds West, 30.00 feet to a point;

THENCE South 70 Degrees 19 Minute 52 Seconds East, 50.00 feet to a point at the within conveyed parcel of land;

THENCE North 19 Degrees 40 Minutes 08 Seconds East by the within conveyed parcel of land, 94.22 feet to a point;

THENCE by the within conveyed parcel of land and along a tangential curve to the right having a radius of 275.00 feet, and a length of 10.78 feet to a ⅝" iron rod with cap P.L.S. #2495 set in the ground;

THENCE continuing along said curve to the right having a radius of 275.00 feet, and a length of 106.37 feet to a point;

THENCE North 44 Degrees 04 Minute 42 Seconds East, 111.53 feet to a ⅝" iron rod with cap P.L.S. #1154;

THENCE South 53 Degrees 57 Minute 18 Seconds East, 52.44 feet to a ⅝"

iron rod with cap P.L.S. #1154;

Warranty Joint Tenancy Deed
Miles C. Hunt and Danielle H. Hunt to
Schyler Gagnon and Jennifer Gagnon

THENCE North 44 Degrees 04 Minute 42 Seconds East, 56.25 feet to a ⅝" iron rod with cap P.L.S. #1154 situated in the apparent southwest sideline of Route 115 aforesaid;

THENCE North 45 Degrees 32 Minutes 25 Seconds West along the southwest sideline of Route 115, 101.93 feet to the point of beginning.

The above described parcel of land is a portion of the premises conveyed to Miles C. Hunt and Danielle H. Hunt by Judith T. Gagnon and David S. Gagnon, as recorded in the Cumberland County Registry of Deeds Book 38302 Page 105.

Witness our hands and seals this _____day of January, 2022

_____ _____
Witness **Miles C. Hunt**

_____ _____
Witness **Danielle H. Hunt**

State of Maine
County of _____ **January____, 2022**

Then personally appeared the above named **Miles C. Hunt and Danielle H. Hunt** and acknowledged the foregoing instrument to be their free act and deed,

Before me_____
Notary Public

Type or print name:_____

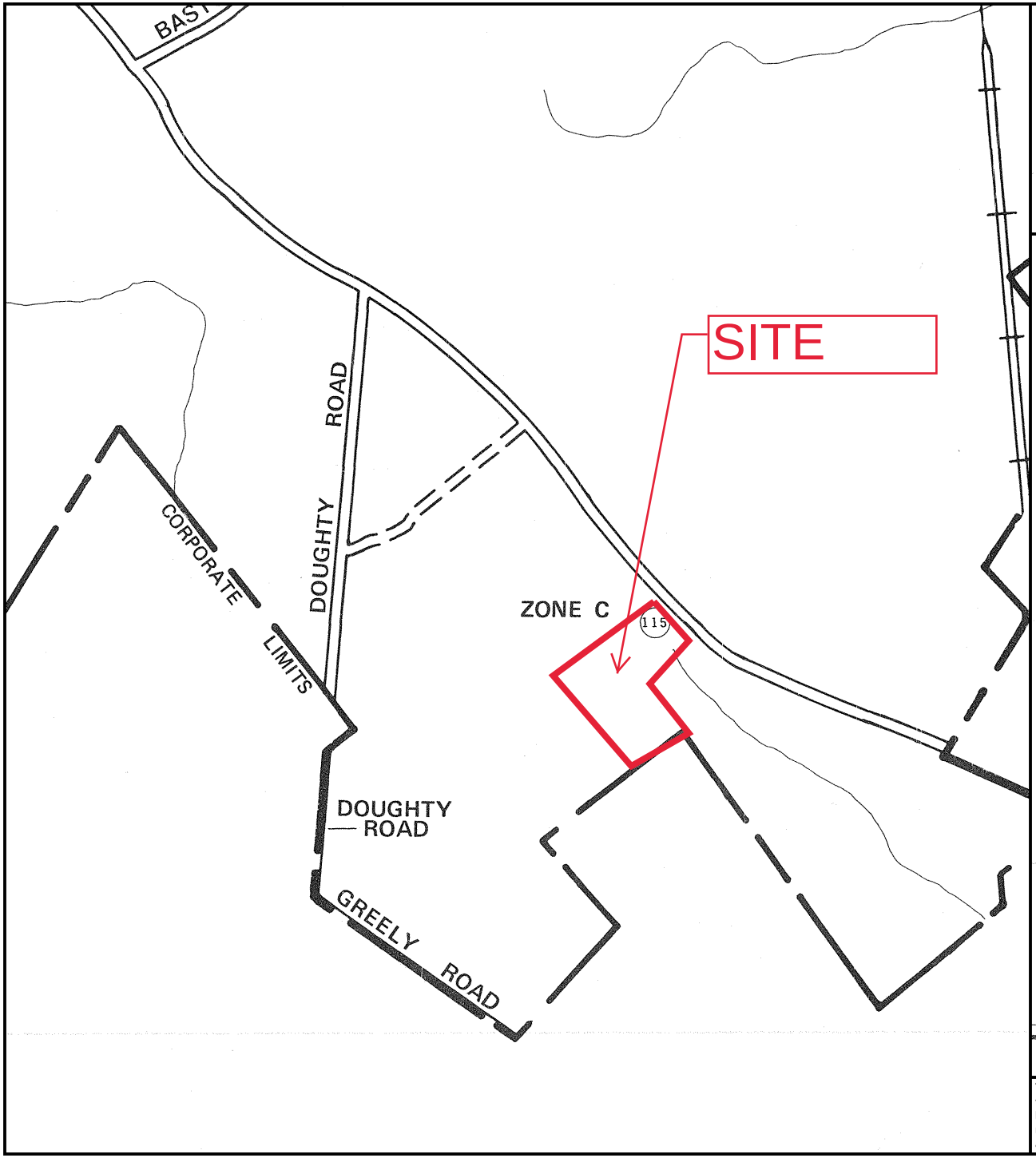
My commission expires:_____

Hunt, miles & Danielle to schyler & Jennifer Gagnon-
0.23 ac-walnut hill rd-north yarmouth-word-jan.2022

APPENDIX B

FEMA FLOODPLAIN MAP

SME
SEVEE & MAHER
ENGINEERS



contact your insurance agent, or call the National Flood Insura
Program at (800) 638-6620, or (800) 424-8872.

APPROXIMATE SCALE

1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

230202

TOWN OF
NORTH YARMOUTH,
MAINE
CUMBERLAND COUNTY

PANEL 10 OF 10
(SEE MAP INDEX FOR PANELS NOT PRINTED)

P10

COMMUNITY-PANEL NUMBER
230202 0010 B

EFFECTIVE DATE:
JULY 16, 1981

N90

federal emergency management agency
federal insurance administration

APPENDIX C

AGENCY REVIEW LETTERS

SME
SEVEE & MAHER
ENGINEERS

SME
SEVEE & MAHER
ENGINEERS

4 Blanchard Road, P.O. Box 85A
Cumberland, ME 04021
Tel: 207.829.5016 • Fax: 207.829.5692
info@smemaine.com
smemaine.com

January 6, 2022

Mr. John Perry
Maine Department of Inland Fisheries and Wildlife
284 State Street, 41 SHS
Augusta, Maine 04333-0041

Subject: Site Plan Application
Learning Loft Preschool
North Yarmouth, Maine

Dear John:

Miles Hunt and the Learning Loft Preschool are seeking approval for construction of a single-family residence and 24' by 36' accessory structure to serve as a preschool under a Town of North Yarmouth Planning Board Site Plan application. The property is located off Walnut Hill Road (ME 115) in North Yarmouth and outlined in the attached Figure 1 - Site Location Map.

We would appreciate receiving any information relative to rare, threatened, or endangered species or the presence of important wildlife or fisheries habitat at or in the immediate vicinity of our project.

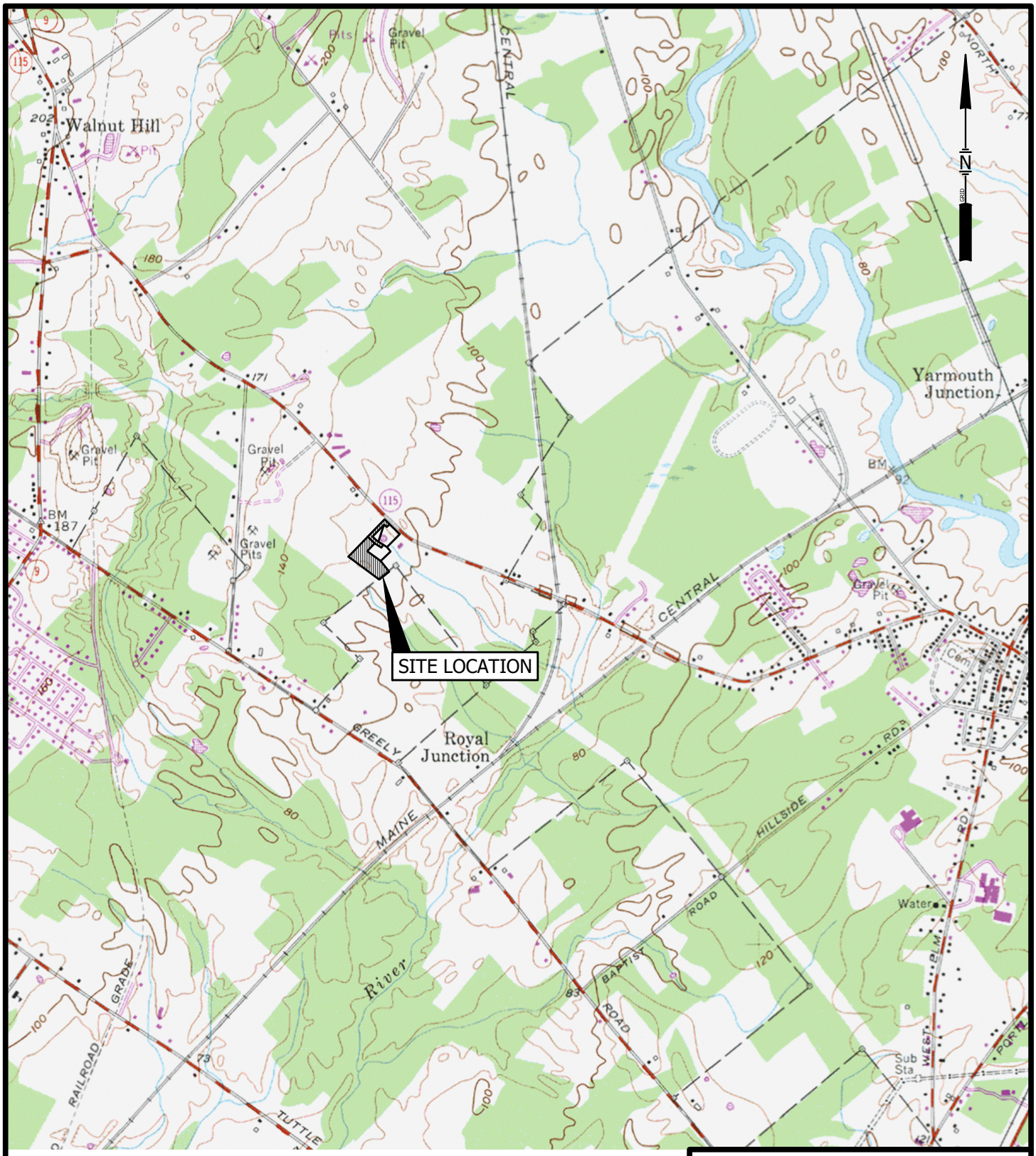
Please contact me if you have any questions or require additional information. Thank you in advance for your consideration.

Sincerely,

SEVEE & MAHER ENGINEERS, INC.

Jeffrey T. Read, P.E.
Project Manager

Attachments: Figure 1- Site Location Map



BASEMAP ADAPTED FROM 7.5 MIN USGS TOPO QUADS
NORTH YARMOUTH, ME - 1975

1000 0 2000 FEET

DWG: SITELOC LMN: NONE CTB: SME-STD REV: 10/12/2021

FIGURE 1
SITE LOCATION MAP
MILES HUNT
LEARNING LOFT PRESCHOOL
NORTH YARMOUTH, MAINE

SME
SEVEE & MAHER
ENGINEERS

\\Nserver\cfs\Miles Hunt\North Yarmouth Pre-school\Acad\Figures\SITELOC.dwg, 10/12/2021 1:32:53 PM, sjm

SME
SEVEE & MAHER
ENGINEERS

4 Blanchard Road, P.O. Box 85A
Cumberland, ME 04021
Tel: 207.829.5016 • Fax: 207.829.5692
info@smemaine.com
smemaine.com

January 6, 2022

Mr. Kirk F. Mohney, Director
Maine Historic Preservation Commission
55 Capitol Street
65 State House Station
Augusta, Maine 04333-0065

Subject: Site Plan
Learning Loft Preschool
North Yarmouth, Maine

Dear Mr. Mohney:

Miles Hunt and the Learning Loft Preschool are seeking approval for construction of a single-family residence and 24' by 36' accessory structure to serve as a preschool under a Town of North Yarmouth Planning Board Site Plan application. The property is located off Walnut Hill Road (ME 115) in North Yarmouth and outlined in the attached Figure 1 - Site Location Map. We are requesting a review by the Maine Historic Preservation Commission to support the Town of North Yarmouth Site Plan application.

PROJECT DESCRIPTION

The 4.25-acre parcel is identified as Lot 62 on Town of North Yarmouth Tax Map 1 and is located in the Village Residential zoning district. The parcel fronts to Walnut Hill Road (ME 115) on the east, and existing developed residential properties exist to the north and south. A Central Maine Power utility corridor borders the site to the west.

As outlined above, proposed development will include a new single-family residence, a 24' by 36' accessory structure to serve as a preschool, and a new access drive constructed to Town private road standards. The access road will be 20-feet wide and feature a cul-de-sac turnaround to facilitate internal traffic circulation and accommodate emergency vehicle access.

HISTORICAL FINDINGS

A search of the National Register of Historic Places online maps showed no known historic properties or districts near the property. In addition to searching the National Register of Historic Places, records of the neighboring properties were searched for any buildings over fifty (50) years old. All properties with such buildings are listed below with photos attached and their location keyed to Figure 1.

- 143 Walnut Hill Rd (1740)

Please feel free to contact me at 207.829.5016 or jtr@smemaine.com if you have any questions or need additional information.

Very truly yours,

SEVEE & MAHER ENGINEERS, INC.

Jeffrey T. Read, P.E.
Project Manager

Attachments

cc: Miles Hunt

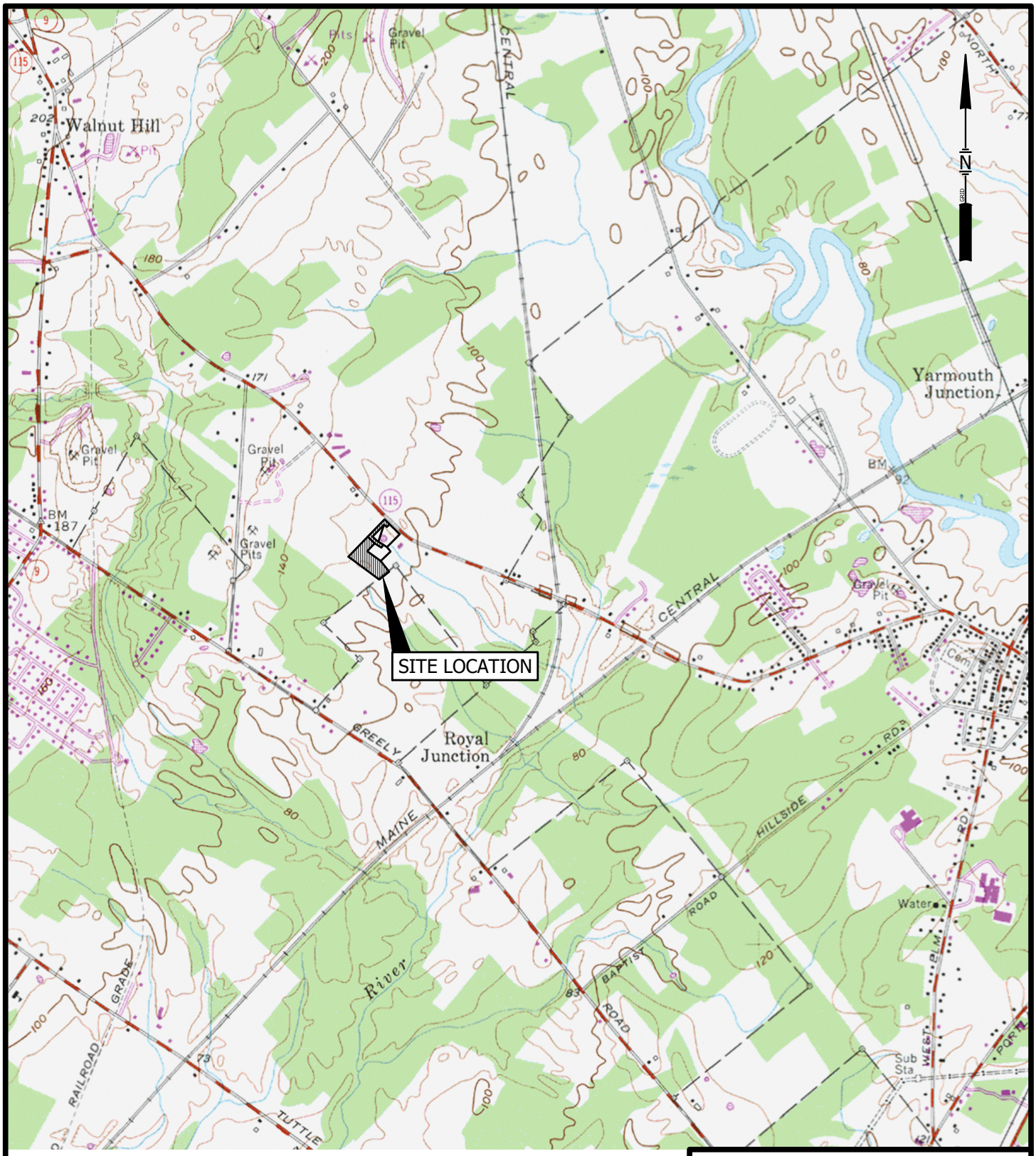


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FIGURE 1
SITE LOCATION MAP
MILES HUNT
LEARNING LOFT PRESCHOOL
NORTH YARMOUTH, MAINE

SME
SEVEE & MAHER
ENGINEERS

\\Nserver\cfs\Miles Hunt\North Yarmouth Pre-school\Acad\Figures\SITELOC.dwg, 10/12/2021 1:32:53 PM, sjm

SURVEY MAP NO. _____

SURVEY MAP NAME _____

MHPC USE ONLY

INVENTORY NO.

MAINE HISTORIC PRESERVATION COMMISSION
Historic Building/Structure Survey Form

1. PROPERTY NAME (HISTORIC): 143 Walnut Hill Road

2. PROPERTY NAME (OTHER): _____

3. STREET ADDRESS: 143 Walnut Hill Road

4. TOWN: North Yarmouth

5. COUNTY: Cumberland

6. DATE RECORDED: 1740

7. SURVEYOR: _____

8. OWNER NAME: ALWIN H. GROVER

ADDRESS: _____

9. PRIMARY USE (PRESENT):

☑ SINGLE FAMILY	___ AGRICULTURE	___ COMMERCIAL/TRADE	___ FUNERARY
___ MULTI-FAMILY	___ GOVERNMENTAL	___ EDUCATION	___ HEALTH CARE
___ INDUSTRY	___ RELIGIOUS	___ HOTEL	___ LANDSCAPE
___ TRANSPORTATION	___ DEFENSE	___ SUMMER COTTAGE/CAMP	___ SOCIAL
___ RECREATION/CULTURE	___ UNKNOWN		
___ OTHER _____			

10. CONDITION: ☑ GOOD ___ FAIR ___ POOR ___ DESTROYED, DATE __/__/__

ARCHITECTURAL DATA

11. PRIMARY STYLISTIC CATEGORY:

___ COLONIAL	___ STICK STYLE	___ NEO-CLASSICAL REV.	___ FOUR SQUARE
___ FEDERAL	___ QUEEN ANNE	___ RENAISSANCE REV.	___ ART DECO
___ GREEK REVIVAL	___ SHINGLE STYLE	___ 19*TH*/20*TH* C. REVIVAL	___ INTERNATIONAL
___ GOTHIC REVIVAL	___ R. ROMANESQUE	___ ARTS & CRAFTS	___ RANCH
___ ITALIANATE	___ ROMANESQUE	___ BUNGALOW	___ VERNACULAR
___ SECOND EMPIRE	___ HIGH VIC. GOTHIC	OTHER _____	

12. OTHER STYLISTIC CATEGORY:

___ COLONIAL	___ STICK STYLE	___ NEO-CLASSICAL REV.	___ FOUR SQUARE
___ FEDERAL	___ QUEEN ANNE	___ RENAISSANCE REV.	___ ART DECO
___ GREEK REVIVAL	___ SHINGLE STYLE	___ 19*TH*/20*TH* C. REVIVAL	___ INTERNATIONAL
___ GOTHIC REVIVAL	___ R. ROMANESQUE	___ ARTS & CRAFTS	___ RANCH
___ ITALIANATE	___ ROMANESQUE	___ BUNGALOW	___ VERNACULAR
___ SECOND EMPIRE	___ HIGH VIC. GOTHIC	OTHER _____	

13. HEIGHT:

___ 1 STORY ___ 1½ STORY ___ 2 STORY ___ 2½ STORY ___ 3 STORY ___ 4 STORY
___ 5 STORY ___ OVER 5 (____)

14. PRIMARY FACADE WIDTH (MAIN BLOCK; USE GROUND FLOOR):

___ 1 BAY ___ 2 BAY ___ 3 BAY ___ 4 BAY ___ 5 BAY ___ MORE THAN 5 (___)

15. APPENDAGES:

___ SIDE ELL	___ REAR ELL	___ FRONT	___ ADDED STORIES	___ SHED
___ DORMERS	___ PORCH	___ TOWER	___ CUPOLA	___ BAY WINDOW

PHOTOGRAPH:


TOOTSY

Property Card: **143 WALNUT HILL RD**

Town of North Yarmouth, ME

Parcel Information

Parcel ID:	001-073	**Map:**	001
Vision ID:	267	**Lot:**	-073
Owner:	GROVER, ALWIN H.	**Use Description:**	SINGLE FAMILY
Co-Owner:		**Zone:**	
Mailing Address:	137 WALNUT HILL RD NORTH YARMOUTH, ME 04097	**Land Area in Acres:**	159

Sale History		Assessed Value	
Book/Page:	7628/196	**Land:**	$317,700.00
Sale Date:	12:00:00 AM	**Buildings:**	$211,500.00
Sale Price:		**Out Buildings**	$26,500.00
		Extras:	$15,400.00
		Total:	$571,100.00

Building Details: Building # 1

NO PHOTO AVAILABLE

Model:	Residential	**Int Wall Desc 1:**	Plastered
Living Area:	2703	**Int Wall Desc 2:**	Drywall/Sheet
Appr. Year Built:	1740	**Ext Wall Desc 1:**	Clapboard
Style:	2 story	**Ext Wall Desc 2:**	
Stories:	2	**Roof Cover:**	Asph/F Gls/Cmp
Occupancy:	1	**Roof Structure:**	Gable/Hip
No. Total Rooms:	7	**Heat Type:**	Hot Water
No. Bedrooms:	02	**Heat Fuel:**	Oil
No. Baths:	2	**A/C Type:**	None
No. Half Baths:	1		

APPENDIX D

FINANCIAL AND TECHNICAL CAPACITY

SME
SEVEE & MAHER
ENGINEERS

Norway Savings Bank

January 6, 2022

Miles Hunt

PO Box 215

Cumberland, Me 04021

To whom it may concern:

Please be advise that Miles and Danielle Hunt have closed on a construction loan with Norway Savings Bank with funding of $960,000 availability.

If you have further questions, please give me a call at 207-393-3612.

Thank you, Tina Croteau

Tina M Croteau

VP, Mortgage Loan Officer

NMLSR #525129

261 Main Street, PO Box 347

Norway, Me 04268

(O) 207.393.3612

1.888.725.2207.Ext.1092

APPENDIX E

HHE-200 FORM

SME
SEVEE & MAHER
ENGINEERS

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Dept.Health & Human Services
Div of Environmental Health , 11 SHS
(207) 287-2070 Fax: (207) 287-4172

PROPERTY LOCATION

City, Town, or Plantation	North Yarmouth
Street or Road	Walnut Hill Road
Subdivision, Lot #	Parcel B off from 78 Walnut Hill Rd

OWNER/APPLICANT INFORMATION

Name (last, first, MI): Hunt, Miles ☑ Owner ☐ Applicant

Mailing Address of Owner/Applicant	
Daytime Tel. #	

OWNER OR APPLICANT STATEMENT

I state and acknowledge that the information submitted is correct to the best of my knowledge and understand that any falsification is reason for the Department and/or Local Plumbing Inspector to deny a Permit.

_____ _____
Signature of Owner or Applicant Date

>> CAUTION: LPI APPROVAL REQUIRED <<

Town/City _____ Permit # _____

Date Permit Issued ___/___/___ Fee: $_____ Double Fee Charged [ ]

_____ L.P.I. # _____
Local Plumbing Inspector Signature

☐ Owner ☐ Town ☐ State

The Subsurface Wastewater Disposal System shall not be installed until a Permit is issued by the Local Plumbing Inspector. The Permit shall authorize the owner or installer to install the disposal system in accordance with this application and the Maine Subsurface Wastewater Disposal Rules.

Municipal Tax Map # _____ Lot # _____

CAUTION: INSPECTION REQUIRED

I have inspected the installation authoirzed above and found it to be in compliance with the Subsurface Wastewater Disposal Rules Application. _____ (1st) date approved

_____ _____
Local Plumbing Inspector Signature (2nd) date approved

PERMIT INFORMATION

TYPE OF APPLICATION

☑ 1. First Time System
☐ 2. Replacement System
Type replaced: _____
Year installed: _____
☐ 3. Expanded System
☐ a. <25% Expansion
☐ b. ≥25% Expansion
☐ 4. Experimental System
☐ 5. Seasonal Conversion

THIS APPLICATION REQUIRES

☑ 1. No Rule Variance
☐ 2. First Time System Variance
☐ a. Local Plumbing Inspector Approval
☐ b. State & Local Plumbing Inspector Approval
☐ 3. Replacement System Variance
☐ a. Local Plumbing Inspector Approval
☐ b. State & Local Plumbing Inspector Approval
☐ 4. Minimum Lot Size Variance
☐ 5. Seasonal Conversion Permit

DISPOSAL SYSTEM COMPONENTS

☑ 1. Complete Non-engineered System
☐ 2. Primitive System (graywater & alt. toilet)
☐ 3. Alternative Toilet, specify:_____
☐ 4. Non-engineered Treatment Tank (only)
☐ 5. Holding Tank, _____ gallons
☐ 6. Non-engineered Disposal Field (only)
☐ 7. Separated Laundry System
☐ 8. Complete Engineered System (2000 gpd or more)
☐ 9. Engineered Treatment Tank (only)
☐ 10. Engineered Disposal Field (only)
☐ 11. Pre-treatment, specify: _____
☐ 12. Miscellaneous Components

SIZE OF PROPERTY

4.5 +/- ☐ SQ. FT. ☑ ACRES

SHORELAND ZONING

☐ Yes ☑ No

DISPOSAL SYSTEM TO SERVE

☐ 1. Single Family Dwelling Unit, No. of Bedrooms: ____
☐ 2. Multiple Family Dwelling, No. of Units: _____
☑ 3. Other: 5-bedroom home and day care (specify)
Current Use ☐ Seasonal ☐ Year Round ☑ Undeveloped

TYPE OF WATER SUPPLY

☑ 1. Drilled Well proposed ☐ 2. Dug Well ☐ 3. Private
☐ 4. Public ☐ 5. Other

DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)

TREATMENT TANK

☑ 1. Concrete
☑ a. Regular
☐ b. Low Profile
☐ 2. Plastic
☐ 3. Other: _____
CAPACITY: 2,500 GAL.
1,000 & 1,500 gal tanks

DISPOSAL FIELD TYPE & SIZE

☐ 1. Stone Bed ☐ 2. Stone Trench
☑ 3. Proprietary Device
☐ a. cluster array ☐ c. Linear
☑ b. regular load ☐ d. H-20 load
☐ 4. Other: _____
SIZE: 3,584 ☑ sq. ft. ☐ lin. ft.

GARBAGE DISPOSAL UNIT

☑ 1. No ☐ 2. Yes ☐ 3. Maybe
If Yes or Maybe, specify one below:
☐ a. multi-compartment tank
☐ b. ___ tanks in series
☐ c. increase in tank capacity
☐ d. Filter on Tank Outlet

DESIGN FLOW

646 gallons per day
BASED ON:
☐ 1. Table 4A (dwelling unit(s))
☑ 2. Table 4C(other facilities)
SHOW CALCULATIONS for other facilites
450 gpd for 5-bedroom home
Day care:3 teachers at 12 gpm each
Day care:16 kids at 10 gpm each
☐ 3. Section 4G (meter readings)
ATTACH WATER METER DATA

SOIL DATA & DESIGN CLASS

PROFILE CONDITION
9 / D
at Observation Hole # TP-1
Depth 10 "
of Most Limiting Soil Factor

DISPOSAL FIELD SIZING

☐ 1. Medium---2.6 sq. ft. / gpd
☐ 2. Medium---Large 3.3 sq. f.t / gpd
☐ 3. Large---4.1 sq. ft. / gpd
☑ 4. Extra Large---5.0 sq. ft. / gpd

EFFLUENT/EJECTOR PUMP

☐ Not Required
☑ May Be Required depends on level of plumbing in proposed buildings
☐ Required
Specify only for engineered systems:
DOSE: _____ gallons

LATITUDE AND LONGITUDE

at center of disposal area
Lat. N 43 d 48 m 25.6 s
Lon. W 70 d 13 m 47.3 s
if g.p.s, state margin of error: _____

SITE EVALUATOR STATEMENT

I certify that on 7/23/2021 (date) I completed a site evaluation on this property and state that the data reported are accurate and that the proposed system is in compliance with the State of Maine Subsurface Wastewater Disposal Rules (10-144A CMR 241).

Site Evaluator Signature	SE #	Date
Andrew Gobeil	#370	7/29/2021

Site Evaluator Name Printed	Telephone Number	E-mail Address
Andrew Gobeil	(207) 829-5016	apg@smemaine.com

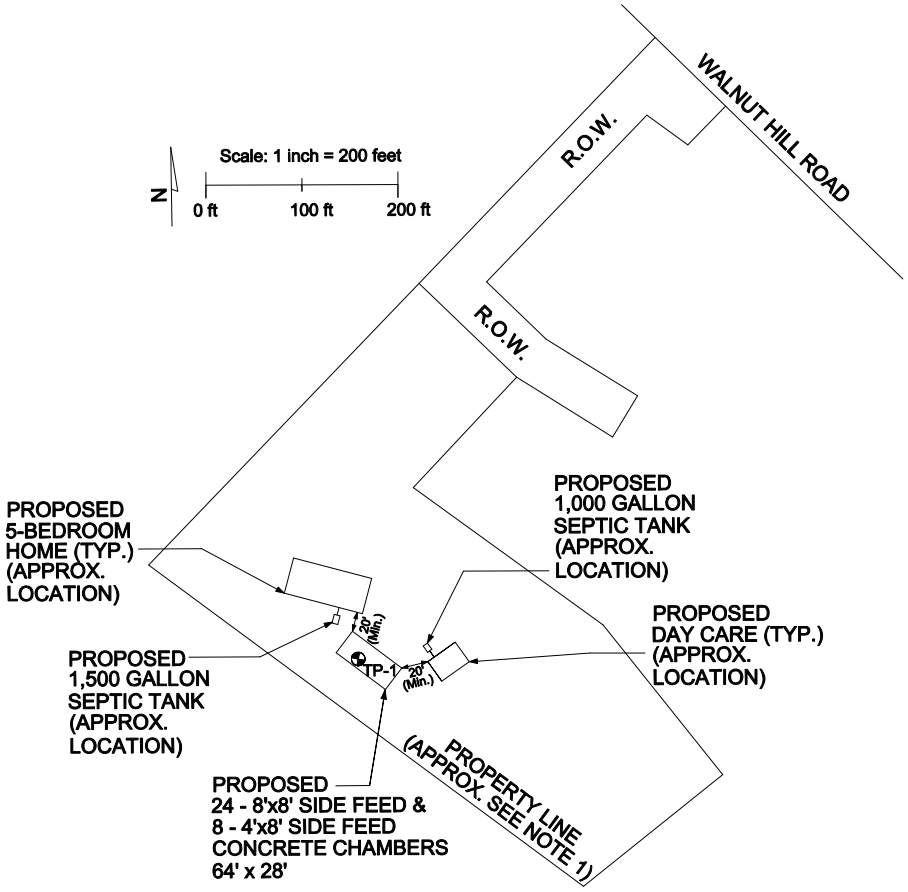
Note : Changes to or deviations from the design should be confirmed with the Site Evaluator.

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

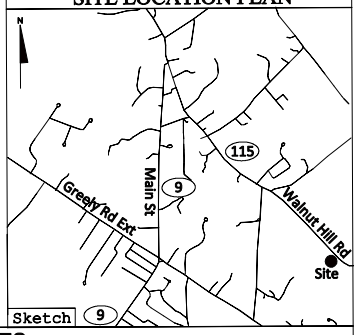
Maine Department of Human Services
Division of Health Engineering, Station 10
(207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation	Street, Road, Subdivision	Owner or Applicant Name
North Yarmouth	Walnut Hill Rd (Parcel B of split from 78 Walnut Hill Rd)	Miles Hunt

SITE PLAN Scale 1" = 200 ft.



SITE LOCATION PLAN



NOTES:
1. Property lines shown are based on information provided by applicant and are approximate. Proposed disposal field is located more than 10 feet from property boundaries, as reported by applicant.
2. It is the responsibility of the contractor/excavator to confirm that there are no underground utilities (e.g., electric, gas, water) in areas required to be excavated.
3. Proposed disposal field is located more than 100 feet from neighbors' wells.
4. Proposed septic tank must be located at least 8 feet from proposed home foundation(s).
5. Proposed septic tank must be located at least 50 feet from owner's and neighbors' wells.
6. Proposed disposal field must be located more than 100 feet from owner's well.
7. Proposed disposal field must be located a minimum of 20 feet from proposed building foundations.

SOIL PROFILE DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole # TP-1 [X] Test Pit [ ] Boring

1 " Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0–6	Silt Loam	Friable	7.5YR 7/6	
12–18	Clay	Firm	7.5YR 8/1	Common/ Distinct

Soil Profile	Classification Condition	Slope Percent	Limiting Factor Depth	
9	D	2 to 5	10"	[X] Groundwater [ ] Restrictive Layer [ ] Bedrock

Observation Hole # _____ [ ] Test Pit [ ] Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0–48				

Soil Profile	Classification Condition	Slope Percent	Limiting Factor Depth	
				[ ] Groundwater [ ] Restrictive Layer [ ] Bedrock

Andrew Dubeil
Site Evaluator Signature

#370
SE #

7/29/2021
Date

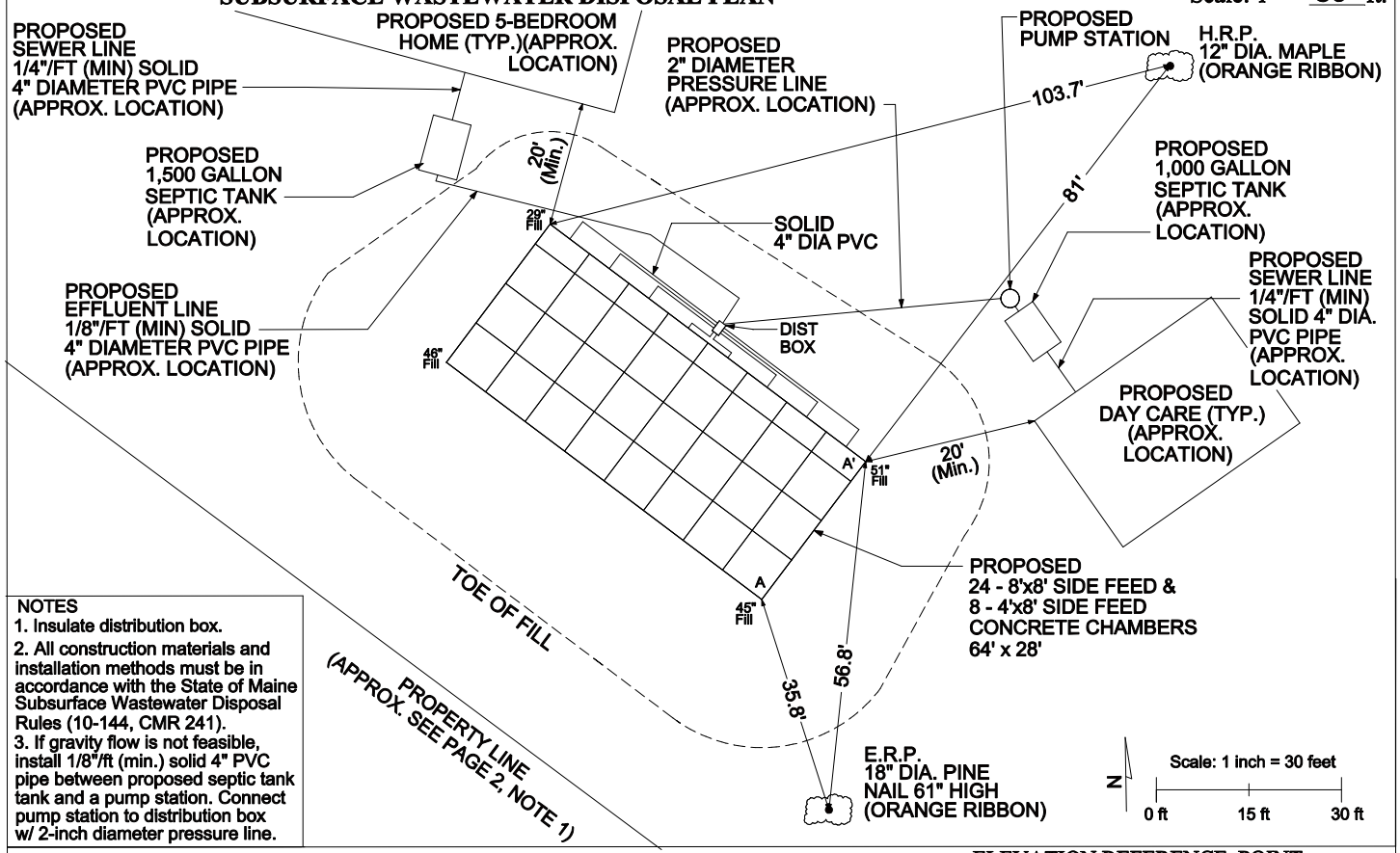
SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Department of Human Services
Division of Health Engineering, Station 10
(207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation	Street, Road, Subdivision	Owner or Applicant Name
North Yarmouth	Walnut Hill Rd (Parcel B of split from 78 Walnut Hill Rd)	Miles Hunt

SUBSURFACE WASTEWATER DISPOSAL PLAN

Scale: 1" = 30 ft.



NOTES
1. Insulate distribution box.
2. All construction materials and installation methods must be in accordance with the State of Maine Subsurface Wastewater Disposal Rules (10-144, CMR 241).
3. If gravity flow is not feasible, install 1/8"/ft (min.) solid 4" PVC pipe between proposed septic tank tank and a pump station. Connect pump station to distribution box w/ 2-inch diameter pressure line.

BACKFILL REQUIREMENTS		CONSTRUCTION ELEVATIONS	
Depth of Backfill (upslope)	45"	Finished Grade Elevation (at Row 1)	-9"
Depth of Backfill (downslope)	51"	Top of Proprietary Device (at Row 1)	-19"
DEPTHS AT CROSS-SECTION (shown below)		Bottom of Disposal Field (at Row 1)	-30"

ELEVATION REFERENCE POINT
Location & Description: Nail 61" above ground in 18" diameter pine. (SEE ABOVE)
Reference Elevation is: 0.0" or: _____

DISPOSAL FIELD CROSS SECTION

Scales:
Vertical: 1" = NA ft.
Horizontal: 1" = NA ft.

SEE ATTACHED FOR DISPOSAL FIELD CROSS SECTION

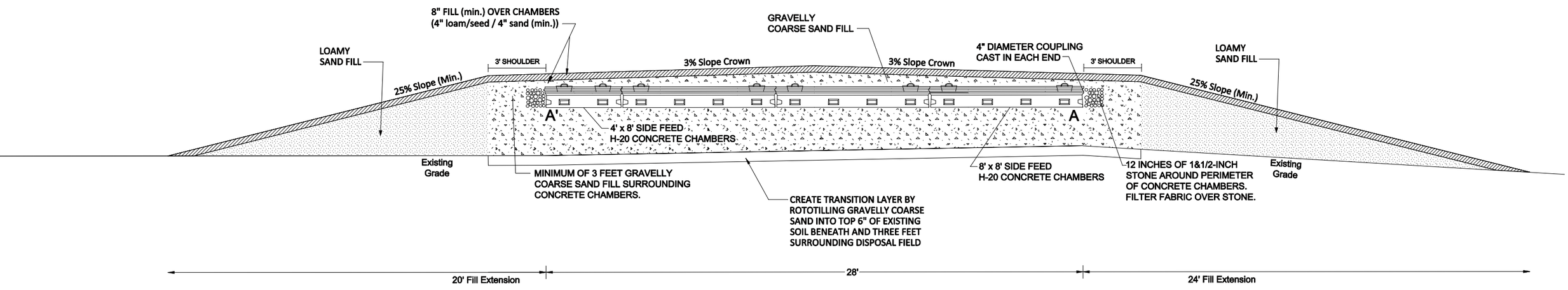
Andrew Dobeil	#370	7/29/2021	Page 3 of 3
Site Evaluator Signature	SE #	Date	HHE-200 Rev. 10/02

NOTE:
1. SCARIFY ALL GROUND TO BE FILLED. USE GRAVELLY COARSE SAND WITHIN 3' OF CHAMBERS. REMAINING FILL: LOAMY SAND (no clay)

DISPOSAL FIELD CROSS SECTION

Row	Bottom	Top of PVC
All Chambers	-30"	-19"

Scales:
Vertical: 1" = 5 ft.
Horizontal: 1" = 5 ft.



Andrew Dobeil — Site Evaluator Signature

#370 — SE #

7/29/2021 — Date

APPENDIX F

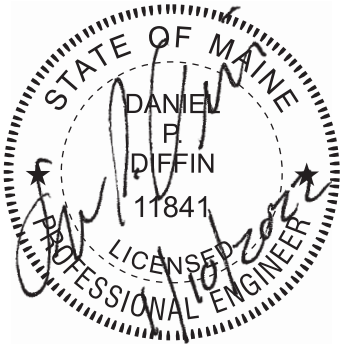
STORMWATER MANAGEMENT REPORT

SME
SEVEE & MAHER
ENGINEERS

TOWN OF NORTH YARMOUTH PLANNING BOARD
STORMWATER MANAGEMENT REPORT
LEARNING LOFT PRESCHOOL

Prepared for

LEARNING LOFT PRESCHOOL
78 Walnut Hill Road
North Yarmouth, Maine



January 2022

4 Blanchard Road
P.O. Box 85A
Cumberland, Maine 04021
Phone: 207.829.5016 smemaine.com

ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

SME
SEVEE & MAHER
ENGINEERS

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF FIGURES (END OF DOCUMENT)

LIST OF TABLES

STORMWATER MANAGEMENT REPORT
MILES HUNT LEARNING LOFT PRESCHOOL
NORTH YARMOUTH, MAINE

1.0 INTRODUCTION

The following outlines the Stormwater Management Design for the Miles Hunt Learning Loft Preschool project at 78 Walnut Hill Road in North Yarmouth, Maine. The stormwater design prepared by Sevee & Maher Engineers, Inc. (SME) is based on the water quality and quantity objectives identified by the Town of North Yarmouth (Town) Land Use Ordinance and Maine Department of Environmental Protection (MEDEP) Chapter 500 Standards.

2.0 PROJECT DESCRIPTION

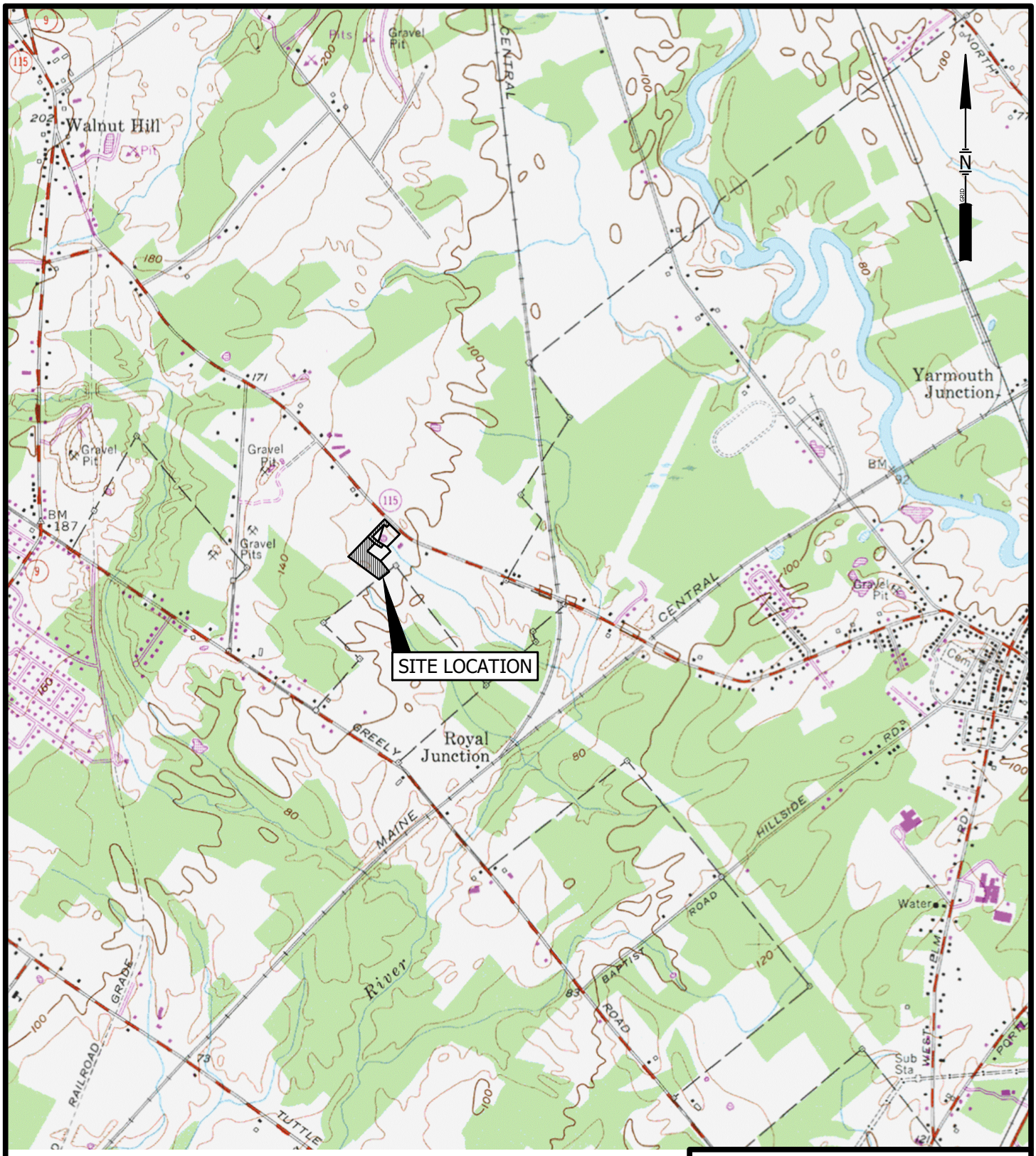
Miles Hunt and the Learning Loft Preschool propose to develop the existing property at 78 Walnut Hill Road with a four-bedroom residence, three car garage, and a 24-by-36-square-foot accessory structure for use as a preschool. The project location is outlined in Figure 1 - Site Location Map.

The 4.25-acre parcel is identified as Lot 62 on Town of North Yarmouth Tax Map 1 and is in the Village Residential zoning district. The parcel fronts to Walnut Hill Road (ME 115) on the east, and existing developed residential properties exist to the north and south. A Central Maine Power utility corridor borders the site to the west.

At present, the portions of the site have been cleared and the parcel is partially developed with a temporary gravel access drive. Construction of the single-family residence is in progress and anticipated to be compete this spring. Remaining portions of the property are forested.

Additional site development will include establishing the 50-foot right-of way for site access, improvement of the existing access drive to current Town private road standards, and installation of a private well, septic system, and a combination of overhead and underground electric and communications services. The existing access drive will be widened to 20 feet and feature a cul-de-sac turnaround at the proposed preschool to facilitate internal traffic circulation and accommodate emergency vehicle access.

Construction of the project is expected to result in approximately 72,600 square feet of developed area and approximately 28,000 square feet of new impervious surface. Based on preliminary review of Maine Department of Environmental Protection (MEDEP) Chapter 500 requirements, this project will require a MEDEP Stormwater Management Permit-by-Rule (PBR) prior to the start of construction. Stormwater quality treatment will not be required. The Stormwater PBR application has been submitted to MEDEP.



BASEMAP ADAPTED FROM 7.5 MIN USGS TOPO QUADS
NORTH YARMOUTH, ME - 1975

1000 0 2000 FEET

DWG: SITELOC LMN: NONE CTB: SME-STD REV: 10/12/2021

FIGURE 1
SITE LOCATION MAP
MILES HUNT
LEARNING LOFT PRESCHOOL
NORTH YARMOUTH, MAINE

SME
SEVEE & MAHER
ENGINEERS

\\Nserver\cfs\Miles Hunt\North Yarmouth Pre-school\Acad\Figures\SITELOC.dwg, 10/12/2021 1:32:53 PM, sjm

3.0 SITE WATERSHED

On-site soils were identified using the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil information for Cumberland County and part of Oxford County, Maine. A copy of the custom Soil Resource Report is included in Appendix A. The soil in the area of work consists of Melrose fine sandy loam (MeC), which is classified as a "Well drained" hydrologic soil group (HSG) C type soil, Scantic silt loam (Sn), which is classified as a "Poorly drained" hydrologic soil group (HSG) D type soil, Suffield silt loam (SuE2), which is classified as a "Moderately well drained" hydrologic soil group (HSG) C type soil, and Lamoine silt loam (BuB), which is classified as a "Somewhat poorly drained" hydrologic soil group (HSG) C/D type soil.

The site is currently an undeveloped, mostly wooded area totaling approximately 4.10 acres. The ground surface on the property generally slopes from northwest to southeast, with the exception of the northern corner that slopes to the northwest. The central portion of the site features an approximate 0.16 acre wetland with adjacent pond.

Under existing conditions, stormwater runoff travels northwest to southeast throughout the majority of the site, and southeast to northwest in the north corner. This north corner drains to a roadside ditch along Route 115 that flows off-site to the northwest. The location where this ditch exits the property boundary will be used as the first Analysis Point (AP-1) for this report.

The central portion of the site drains through a combination of wooded, grassed, and wetland areas, and exits the property boundary at a point along the eastern edge. This point will be used as the second Analysis Point (AP-2) for this report.

The southeastern portion of the site drains through an undeveloped wooded area to a point at the southeast corner of the property boundary. This point will be used as the third Analysis Point (AP-3) for this report.

Runoff from the southwestern portion of the site drains through a cleared, grassed pasture area to a point south of the southern edge of the property boundary. This point will be used as the fourth Analysis Point (AP-4) for this report.

Under developed conditions, site drainage will be similar to existing conditions. Runoff from impervious areas in the northern corner of the site will be directed through roadside ditches to a culvert installed in the Route 115 roadside ditch at the entrance of the proposed access road. Stormwater exiting the culvert will flow through the roadside ditch to the northwest.

Runoff through the central portion of the site will be directed to culverts installed beneath the proposed access road; two side-by-side that will convey stormwater through the wetland and ultimately discharge

to AP-2, and one just north of the cul-de-sac that will convey stormwater through the wooded area and ultimately discharge to AP-2. Roadside ditches will be installed along the proposed access road to direct runoff from impervious areas to these culverts.

Runoff contacting the impervious proposed access road surface at the southeastern end of the site will be directed to a roadside ditch that runs along the eastern edge of the cul-de-sac and eventually into an infiltration basin. Discharge from the infiltration basin then drains to the southeast to AP-3. Runoff contacting areas south of the detention pond at the southeastern end of the site will drain to the southeast to AP-3 as well.

Developed conditions in the southwestern portion of the site remain consistent with existing conditions.

Stormwater management plans identify the on-site drainage patterns before and after development (see Drawings D-100 and D-101). These drawings are included in the project plan set for reference. Appendix B provides pre- and post-development stormwater calculations using TR-20 methodologies prepared with the HydroCAD Version 10.0 computer stormwater modeling system by Applied Microcomputer Systems of Chocorua, New Hampshire.

4.0 STORMWATER QUALITY ANALYSIS

As previously outlined, stormwater treatment will not be required for this project based on Town stormwater requirements and Maine Department of Environmental Protection (MEDEP) Chapter 500 standards. The project will result in approximately 27,957 sf of impervious surface within the 1.67 acres of developed land in the project area. In accordance with the pollutant rankings and ranked impact change in Chapter 500, Mr. Hunt is not required to treat the proposed impervious and developed areas for the project.

This project is designed to meet Basic Standards outlined in Maine Department of Environmental Protection (MEDEP) Chapter 500; construction will adhere to MEDEP Best Management Practices (BMPs) for erosion and sedimentation control as shown on drawings. Based on the size of the project and the scope of proposed development, we do not anticipate development of the parcel will adversely impact the quality of stormwater runoff from the property. New construction will include clearing the site, installation of two buildings and associated driveway, parking, and walkway, installation of site utilities including electrical lines, private well and septic system, and construction of a new site access road.

5.0 STORMWATER QUANTITY ANALYSIS

Stormwater quantity is managed to the maximum extent practicable through minimizing the amount of impervious area on the site.

Stormwater peak flow rates were modeled for the 2-, 10-, and 25-year/24-hour storm events with Type III Soil Conservation Service rainfall distribution, using the HydroCAD computer modeling system by Applied Microcomputer Systems of Chocorua, New Hampshire. The peak flow rates at each Analysis Point are summarized in Table 1. Copies of the calculations for the pre-development and post-development models are provided in Appendix B.

TABLE 1

STORMWATER QUANTITY SUMMARY

AP	2-yr Storm		10-yr Storm		25-yr Storm	
	Pre- (cfs)	Post- (cfs)	Pre- (cfs)	Post- (cfs)	Pre- (cfs)	Post- (cfs)
1	0.19	0.36	0.45	0.74	0.69	1.06
2	7.01	6.90	16.94	12.23	26.05	15.28
3	0.81	0.61	1.84	1.42	2.76	3.49
4	2.85	2.58	7.35	6.65	11.52	10.43

Site drainage from the proposed development will generally follow the pre-development conditions. As outlined in Table 1, our model indicates slightly increased peak flow rates at AP-1 for the post-development conditions, which represents a slight increase in surface runoff to the Route 115 roadside ditch as compared to the existing conditions. This slight increase is due to installation of impervious area at the entrance to the proposed access road that covers a large percentage of the area of draining to AP-1. However, the area contributing to AP-1 represents a small percentage of the overall project area (~1%), and thus, in our opinion, a negligible impact to stormwater peak flows.

Our model indicates decreased peak flow rates for post-development conditions at AP-2 and AP-4 for all modeled storm events, and at AP-3 for the 2-year and 10-year, 24-hour storm events. The 25-year, 24-hour storm event at AP-3 shows a slight increase in peak flow rate for post-development conditions. Similar to AP-1, the area contributing to AP-3 represents a small percentage of the overall project area (<5%). Combined with the fact that this slight increase only occurs during one of the three modeled storm events, it is our opinion that the increase in peak flow rate for post development conditions in this area is negligible.

6.0 MAINTENANCE PLAN, INSPECTIONS, AND REQUIREMENTS

During construction, MB Contracting, LLC, the site work contractor, will be responsible for all site maintenance. Following construction, maintenance of stormwater management devices will be

completed by the Owner. There are no new drainage easements, deed restrictions, or 'third-party' maintenance contracts proposed for this project.

7.0 SUMMARY

The stormwater management for this project was designed in accordance with the water quality and quantity objectives identified by the Town of North Yarmouth (Town) Land Use Ordinance and MEDEP Chapter 500 requirements for development projects.

As previously discussed, our model indicates an increase in peak stormwater flows for post-development conditions at AP-1 (all modeled storm events) and AP-3 (25-year, 24-hour event only). Due to the small area contributing to AP-1 and the large percentage of this area that must be covered in impervious material, it is our opinion that the increase in peak stormwater flows for the post-development condition is negligible and there will be no adverse impact to adjacent properties or downstream structures as a result of development within this area of the site.

Similar to AP-1, the area contributing stormwater flow to AP-3 represents a small percentage of the total area contributing stormwater flows to the site. Additionally, a slight increase in peak stormwater flow for post development conditions in this area is only see during the 25-year, 24-hour storm event. Due to the combination of these factors, it is our opinion that this increase is negligible and there will be no adverse impact to adjacent properties or downstream structures as a result of development within this area of the site.

APPENDIX A

NRCS SOIL REPORT

SME
SEVEE & MAHER
ENGINEERS

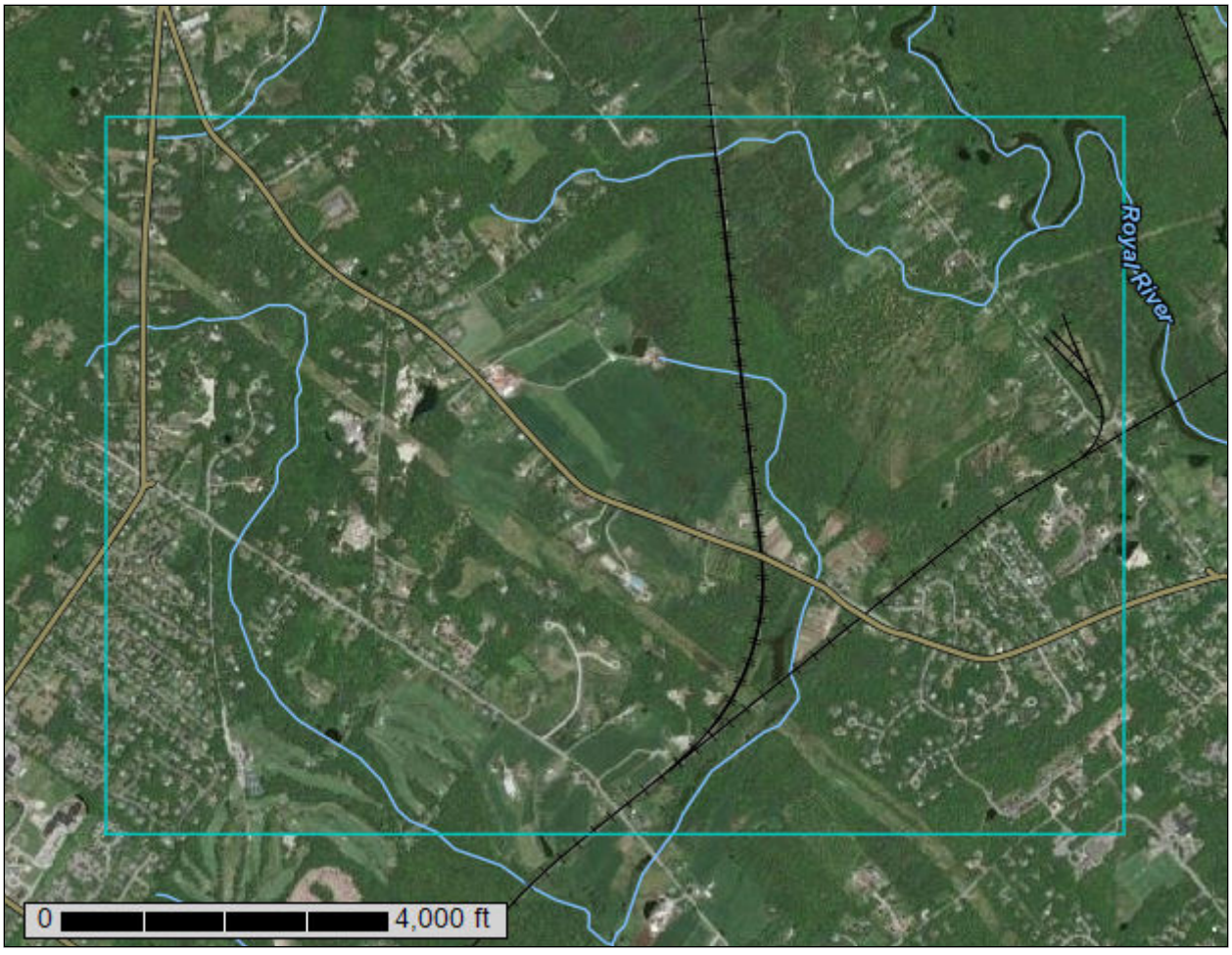
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Cumberland County and Part of Oxford County, Maine



October 21, 2021

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.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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Contents

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

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

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

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 1:24,000.

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: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 18, Aug 31, 2021

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

Date(s) aerial images were photographed: Jun 7, 2019—Jul 2, 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
Au	Au Gres loamy sand	19.9	0.8%
BgB	Nicholville very fine sandy loam, 0 to 8 percent slopes	131.3	5.2%
BuB	Lamoine silt loam, 3 to 8 percent slopes	348.8	13.9%
BuC2	Buxton silt loam, 8 to 15 percent slopes	12.9	0.5%
Cu	Cut and fill land	11.8	0.5%
DeA	Deerfield loamy fine sand, 0 to 3 percent slopes	54.5	2.2%
DeB	Deerfield loamy fine sand, 3 to 8 percent slopes	154.2	6.1%
EmB	Elmwood fine sandy loam, 0 to 8 percent slopes	306.5	12.2%
Gp	Gravel pits	55.0	2.2%
HfB	Hartland very fine sandy loam, 3 to 8 percent slopes	5.5	0.2%
HfC2	Hartland very fine sandy loam, 8 to 15 percent slopes, eroded	3.6	0.1%
HfD2	Hartland very fine sandy loam, 15 to 25 percent slopes, eroded	15.4	0.6%
HlB	Hinckley loamy sand, 3 to 8 percent slopes	147.4	5.9%
HnD	Hinckley-Suffield complex, 15 to 25 percent slopes	4.8	0.2%
HrB	Lyman-Tunbridge complex, 0 to 8 percent slopes, rocky	3.5	0.1%
Ls	Limerick-Saco silt loams	43.3	1.7%
MeC	Melrose fine sandy loam, 8 to 15 percent slopes	24.6	1.0%
On	Ondawa fine sandy loam, 0 to 3 percent slopes, occasionally flooded	35.4	1.4%
PbB	Paxton fine sandy loam, 3 to 8 percent slopes	9.8	0.4%
PbC	Paxton fine sandy loam, 8 to 15 percent slopes	3.6	0.1%
PfB	Paxton very stony fine sandy loam, 3 to 8 percent slopes	2.8	0.1%
Py	Podunk fine sandy loam, 0 to 3 percent slopes, occasionally flooded	11.1	0.4%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
RbA	Ridgebury fine sandy loam, 0 to 3 percent slopes	0.1	0.0%
Sd	Saugatuck loamy sand	2.9	0.1%
Sn	Scantic silt loam, 0 to 3 percent slopes	476.6	19.0%
So	Scarboro sandy loam	9.2	0.4%
SuC2	Suffield silt loam, 8 to 15 percent slopes, eroded	82.5	3.3%
SuD2	Suffield silt loam, 15 to 25 percent slopes, eroded	22.2	0.9%
SuE2	Suffield silt loam, 25 to 45 percent slopes, eroded	168.6	6.7%
Sz	Swanton fine sandy loam	126.5	5.0%
W	Water	12.3	0.5%
Wa	Walpole fine sandy loam	8.7	0.3%
WmB	Windsor loamy sand, 0 to 8 percent slopes	167.8	6.7%
WmC	Windsor loamy sand, 8 to 15 percent slopes	3.7	0.1%
WmD	Windsor loamy sand, 15 to 35 percent slopes	23.7	0.9%
Totals for Area of Interest		**2,511.1**	**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 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.

Cumberland County and Part of Oxford County, Maine

Au—Au Gres loamy sand

Map Unit Setting

National map unit symbol: blgr
Elevation: 200 to 1,800 feet
Mean annual precipitation: 34 to 50 inches
Mean annual air temperature: 41 to 45 degrees F
Frost-free period: 90 to 130 days
Farmland classification: Not prime farmland

Map Unit Composition

Au gres and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Au Gres

Setting

Landform: Outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy glaciofluvial deposits derived from granite and gneiss

Typical profile

H1 - 0 to 10 inches: loamy sand
H2 - 10 to 32 inches: loamy sand
H3 - 32 to 65 inches: sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

BgB—Nicholville very fine sandy loam, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2yjg5
Elevation: 20 to 2,300 feet
Mean annual precipitation: 34 to 50 inches
Mean annual air temperature: 37 to 45 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Nicholville and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nicholville

Setting

Landform: Lakebeds (relict)
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty glaciomarine deposits

Typical profile

Ap - 0 to 7 inches: very fine sandy loam
Bs - 7 to 19 inches: very fine sandy loam
BC - 19 to 30 inches: very fine sandy loam
C - 30 to 65 inches: loamy very fine sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods)
Hydric soil rating: No

BuB—Lamoine silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2t0kc
Elevation: 10 to 490 feet
Mean annual precipitation: 33 to 60 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Lamoine and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lamoine

Setting

Landform: Marine terraces, river valleys
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine glaciomarine deposits

Typical profile

Ap - 0 to 7 inches: silt loam
Bw - 7 to 13 inches: silt loam
Bg - 13 to 24 inches: silty clay loam
Cg - 24 to 65 inches: silty clay

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 6 to 17 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: F144BY401ME - Clay Flat
Hydric soil rating: No

BuC2—Buxton silt loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2x1by
Elevation: 10 to 490 feet
Mean annual precipitation: 33 to 60 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Buxton and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Buxton

Setting

Landform: Marine terraces, river valleys
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Fine glaciomarine deposits

Typical profile

Ap - 0 to 7 inches: silt loam
Bw1 - 7 to 18 inches: silt loam
Bw2 - 18 to 23 inches: silty clay loam
BC - 23 to 35 inches: silty clay loam
C - 35 to 65 inches: silty clay

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 17 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C/D
Hydric soil rating: No

Cu—Cut and fill land

Map Unit Composition

Cut and fill land: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cut And Fill Land

Typical profile

H1 - 0 to 65 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 35 percent
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 20.00 in/hr)
Depth to water table: About 24 to 42 inches
Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

DeA—Deerfield loamy fine sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2xfg8
Elevation: 0 to 1,100 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Deerfield and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Deerfield

Setting

Landform: Kame terraces, outwash plains, outwash deltas, outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy outwash derived from granite, gneiss, and/or quartzite

Typical profile

Ap - 0 to 9 inches: loamy fine sand
Bw - 9 to 25 inches: loamy fine sand
BC - 25 to 33 inches: fine sand
Cg - 33 to 60 inches: sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: About 15 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Sodium adsorption ratio, maximum: 11.0
Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: A
Ecological site: F144AY027MA - Moist Sandy Outwash
Hydric soil rating: No

DeB—Deerfield loamy fine sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2xfg9
Elevation: 0 to 1,190 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Deerfield and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Deerfield

Setting

Landform: Kame terraces, outwash plains, outwash terraces, outwash deltas
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy outwash derived from granite, gneiss, and/or quartzite

Typical profile

Ap - 0 to 9 inches: loamy fine sand
Bw - 9 to 25 inches: loamy fine sand
BC - 25 to 33 inches: fine sand
Cg - 33 to 60 inches: sand

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: About 15 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Sodium adsorption ratio, maximum: 11.0
Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: A
Ecological site: F144AY027MA - Moist Sandy Outwash
Hydric soil rating: No

EmB—Elmwood fine sandy loam, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: blh8
Elevation: 10 to 900 feet
Mean annual precipitation: 38 to 55 inches
Mean annual air temperature: 43 to 46 degrees F
Frost-free period: 130 to 195 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Elmwood and similar soils: 88 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elmwood

Setting

Landform: Stream terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy glaciolacustrine deposits

Typical profile

H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 25 inches: sandy loam
H3 - 25 to 65 inches: silty clay loam

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B
Ecological site: F144BY402ME - Clay Hills
Hydric soil rating: No

Gp—Gravel pits

Map Unit Composition

Gravel pits: 92 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gravel Pits

Typical profile

H1 - 0 to 6 inches: extremely gravelly sand
H2 - 6 to 60 inches: extremely gravelly sand

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

HfB—Hartland very fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: blhb
Elevation: 20 to 340 feet
Mean annual precipitation: 48 to 49 inches
Mean annual air temperature: 45 to 46 degrees F
Frost-free period: 150 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hartland and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hartland

Setting

Landform: Lakebeds

Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty glaciolacustrine deposits

Typical profile

H1 - 0 to 9 inches: very fine sandy loam
H2 - 9 to 29 inches: silt loam
H3 - 29 to 65 inches: silt loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
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 supply, 0 to 60 inches: High (about 11.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: F144BY508ME - Silty Slope
Hydric soil rating: No

HfC2—Hartland very fine sandy loam, 8 to 15 percent slopes, eroded

Map Unit Setting

National map unit symbol: blhc
Elevation: 0 to 310 feet
Mean annual precipitation: 48 to 49 inches
Mean annual air temperature: 45 to 46 degrees F
Frost-free period: 150 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Hartland and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hartland

Setting

Landform: Lakebeds
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty glaciolacustrine deposits

Typical profile

H1 - 0 to 9 inches: very fine sandy loam
H2 - 9 to 29 inches: silt loam
H3 - 29 to 65 inches: silt loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
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 supply, 0 to 60 inches: High (about 11.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: F144BY508ME - Silty Slope
Hydric soil rating: No

HfD2—Hartland very fine sandy loam, 15 to 25 percent slopes, eroded

Map Unit Setting

National map unit symbol: blhd
Elevation: 0 to 330 feet
Mean annual precipitation: 48 to 49 inches
Mean annual air temperature: 45 to 46 degrees F
Frost-free period: 150 to 165 days
Farmland classification: Not prime farmland

Map Unit Composition

Hartland and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hartland

Setting

Landform: Lakebeds
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty glaciolacustrine deposits

Typical profile

H1 - 0 to 9 inches: very fine sandy loam
H2 - 9 to 29 inches: silt loam
H3 - 29 to 65 inches: silt loam

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
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 supply, 0 to 60 inches: High (about 11.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: F144BY508ME - Silty Slope
Hydric soil rating: No

HIB—Hinckley loamy sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2svm8
Elevation: 0 to 1,430 feet
Mean annual precipitation: 36 to 53 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hinckley and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Outwash plains, eskers, moraines, kame terraces, kames, outwash terraces, outwash deltas
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Nose slope, side slope, base slope, crest, riser, tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand

C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

HnD—Hinckley-Suffield complex, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2svly
Elevation: 10 to 480 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Hinckley and similar soils: 60 percent
Suffield and similar soils: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Kame terraces, outwash plains, kames, eskers, moraines, outwash terraces, outwash deltas
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope, nose slope, side slope, crest, riser
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Hydric soil rating: No

Description of Suffield

Setting

Landform: Marine terraces
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Silty glaciolacustrine deposits over clayey glaciolacustrine deposits

Typical profile

Ap - 0 to 6 inches: silt loam
Bw - 6 to 18 inches: silt loam
2C - 18 to 65 inches: silty clay loam

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: 18 to 39 inches to strongly contrasting textural stratification
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C

Hydric soil rating: No

HrB—Lyman-Tunbridge complex, 0 to 8 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2x1cx
Elevation: 0 to 520 feet
Mean annual precipitation: 36 to 65 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Lyman and similar soils: 50 percent
Tunbridge and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loam
E - 3 to 5 inches: fine sandy loam
Bhs - 5 to 7 inches: loam
Bs1 - 7 to 11 inches: loam
Bs2 - 11 to 18 inches: channery loam
R - 18 to 79 inches: bedrock

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Tunbridge

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material
Oa - 3 to 5 inches: highly decomposed plant material
E - 5 to 8 inches: fine sandy loam
Bhs - 8 to 11 inches: fine sandy loam
Bs - 11 to 26 inches: fine sandy loam
BC - 26 to 28 inches: fine sandy loam
R - 28 to 79 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 21 to 41 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Hydric soil rating: No

Ls—Limerick-Saco silt loams

Map Unit Setting

National map unit symbol: blj2
Elevation: 10 to 1,750 feet

Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 80 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Limerick and similar soils: 55 percent
Saco and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Limerick

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty alluvium derived from slate

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 16 inches: silt loam
H3 - 16 to 65 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
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: About 0 to 12 inches
Frequency of flooding: NoneFrequent
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very high (about 18.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: B/D
Ecological site: F144BY110ME - Broad Floodplain Riparian Complex
Hydric soil rating: Yes

Description of Saco

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-silty alluvium

Typical profile

H1 - 0 to 12 inches: silt loam
H2 - 12 to 24 inches: silt loam
H3 - 24 to 65 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
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: About 0 to 6 inches
Frequency of flooding: NoneFrequent
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very high (about 15.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: B/D
Ecological site: F144BY110ME - Broad Floodplain Riparian Complex
Hydric soil rating: Yes

MeC—Melrose fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: blj9
Elevation: 10 to 900 feet
Mean annual precipitation: 40 to 48 inches
Mean annual air temperature: 43 to 46 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Melrose and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Melrose

Setting

Landform: Stream terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy glaciolacustrine deposits

Typical profile

H1 - 0 to 7 inches: fine sandy loam
H2 - 7 to 23 inches: fine sandy loam
H3 - 23 to 65 inches: silty clay

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches

Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: F144BY402ME - Clay Hills
Hydric soil rating: No

On—Ondawa fine sandy loam, 0 to 3 percent slopes, occasionally flooded

Map Unit Setting
National map unit symbol: 2qgvy
Elevation: 0 to 1,660 feet
Mean annual precipitation: 31 to 95 inches
Mean annual air temperature: 27 to 54 degrees F
Frost-free period: 80 to 160 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Ondawa and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ondawa

Setting
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy alluvium derived from schist and/or coarse-loamy alluvium derived from quartzite and/or coarse-loamy alluvium derived from granite and gneiss

Typical profile
Ap - 0 to 9 inches: fine sandy loam
Bw - 9 to 30 inches: fine sandy loam
C - 30 to 65 inches: loamy fine sand

Properties and qualities
Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)

Depth to water table: More than 80 inches
Frequency of flooding: NoneOccasional
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Hydric soil rating: No

PbB—Paxton fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: bljf
Elevation: 0 to 930 feet
Mean annual precipitation: 48 to 50 inches
Mean annual air temperature: 45 to 46 degrees F
Frost-free period: 145 to 155 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Paxton and similar soils: 87 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Drumlinoid ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from mica schist

Typical profile

H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 20 inches: fine sandy loam
H3 - 20 to 65 inches: fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 18 to 40 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 30 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods)
Hydric soil rating: No

PbC—Paxton fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: bljg
Elevation: 0 to 1,020 feet
Mean annual precipitation: 48 to 50 inches
Mean annual air temperature: 45 to 46 degrees F
Frost-free period: 145 to 155 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Paxton and similar soils: 86 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Drumlinoid ridges
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from mica schist

Typical profile

H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 20 inches: fine sandy loam
H3 - 20 to 65 inches: fine sandy loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 18 to 40 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 30 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods)
Hydric soil rating: No

PfB—Paxton very stony fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: bljj
Elevation: 20 to 770 feet
Mean annual precipitation: 49 to 50 inches
Mean annual air temperature: 45 degrees F
Frost-free period: 145 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Paxton and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Drumlinoid ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from mica schist

Typical profile

Oa - 0 to 2 inches: highly decomposed plant material
H1 - 2 to 8 inches: fine sandy loam
H2 - 8 to 20 inches: fine sandy loam
H3 - 20 to 65 inches: fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 18 to 40 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 30 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods)
Hydric soil rating: No

Py—Podunk fine sandy loam, 0 to 3 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2qgvw
Elevation: 0 to 2,330 feet
Mean annual precipitation: 31 to 95 inches
Mean annual air temperature: 27 to 54 degrees F
Frost-free period: 80 to 160 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Podunk and similar soils: 83 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Podunk

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy alluvium derived from schist and/or coarse-loamy alluvium derived from quartzite and/or coarse-loamy alluvium derived from granite and gneiss

Typical profile

Ap - 0 to 10 inches: fine sandy loam
Bw1 - 10 to 18 inches: fine sandy loam
Bw2 - 18 to 30 inches: fine sandy loam
C - 30 to 65 inches: loamy fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: NoneOccasional
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Ecological site: F144BY110ME - Broad Floodplain Riparian Complex
Hydric soil rating: No

RbA—Ridgebury fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: bljs
Elevation: 10 to 2,500 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Ridgebury and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ridgebury

Setting

Landform: Till plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from mica schist

Typical profile

H1 - 0 to 6 inches: fine sandy loam
H2 - 6 to 18 inches: fine sandy loam
H3 - 18 to 65 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 10 to 20 inches to densic material
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: F144BY305ME - Wet Loamy Flat
Hydric soil rating: Yes

Sd—Saugatuck loamy sand

Map Unit Setting

National map unit symbol: bljx
Elevation: 600 to 1,000 feet
Mean annual precipitation: 29 to 40 inches
Mean annual air temperature: 41 to 43 degrees F
Frost-free period: 100 to 150 days
Farmland classification: Not prime farmland

Map Unit Composition

Saugatuck and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Saugatuck

Setting

Landform: Outwash terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy glaciofluvial deposits derived from granite and gneiss

Typical profile

Oa - 0 to 4 inches: highly decomposed plant material
H1 - 4 to 10 inches: loamy sand
H2 - 10 to 34 inches: sand
H3 - 34 to 65 inches: sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Sn—Scantic silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2slv3
Elevation: 10 to 900 feet
Mean annual precipitation: 33 to 60 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Scantic and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scantic

Setting

Landform: Marine terraces, river valleys
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Glaciomarine deposits

Typical profile

Ap - 0 to 9 inches: silt loam
Bg1 - 9 to 16 inches: silty clay loam
Bg2 - 16 to 29 inches: silty clay
Cg - 29 to 65 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D
Ecological site: F144BY304ME - Wet Clay Flat
Hydric soil rating: Yes

So—Scarboro sandy loam

Map Unit Setting

National map unit symbol: bljz
Elevation: 10 to 2,800 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 80 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Scarboro and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scarboro

Setting

Landform: Outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy glaciofluvial deposits derived from granite and gneiss

Typical profile

Oa - 0 to 8 inches: mucky peat
H2 - 8 to 24 inches: mucky sand
H3 - 24 to 65 inches: coarse sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 14.17 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A/D
Ecological site: F144BY303ME - Acidic Swamp
Hydric soil rating: Yes

SuC2—Suffield silt loam, 8 to 15 percent slopes, eroded

Map Unit Setting

National map unit symbol: blk1
Elevation: 10 to 900 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 43 to 46 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Suffield and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Suffield

Setting

Landform: Coastal plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine glaciolacustrine deposits

Typical profile

H1 - 0 to 6 inches: silt loam
H2 - 6 to 23 inches: silt loam
H3 - 23 to 33 inches: silty clay
H4 - 33 to 65 inches: silty clay

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: F144BY402ME - Clay Hills
Hydric soil rating: No

SuD2—Suffield silt loam, 15 to 25 percent slopes, eroded

Map Unit Setting

National map unit symbol: blk2
Elevation: 10 to 900 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 43 to 46 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Suffield and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Suffield

Setting

Landform: Coastal plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine glaciolacustrine deposits

Typical profile

H1 - 0 to 6 inches: silt loam
H2 - 6 to 23 inches: silt loam
H3 - 23 to 33 inches: silty clay
H4 - 33 to 65 inches: silty clay

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Ecological site: F144BY402ME - Clay Hills
Hydric soil rating: No

SuE2—Suffield silt loam, 25 to 45 percent slopes, eroded

Map Unit Setting

National map unit symbol: blk3
Elevation: 10 to 900 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 43 to 46 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Suffield and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Suffield

Setting

Landform: Coastal plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine glaciolacustrine deposits

Typical profile

H1 - 0 to 6 inches: silt loam
H2 - 6 to 23 inches: silt loam
H3 - 23 to 33 inches: silty clay
H4 - 33 to 65 inches: silty clay

Properties and qualities

Slope: 25 to 45 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: F144BY402ME - Clay Hills
Hydric soil rating: No

Sz—Swanton fine sandy loam

Map Unit Setting

National map unit symbol: blk4
Elevation: 10 to 900 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 39 to 46 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Swanton and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Swanton

Setting

Landform: Outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy glaciolacustrine deposits

Typical profile

H1 - 0 to 9 inches: fine sandy loam
H2 - 9 to 32 inches: fine sandy loam
H3 - 32 to 65 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

W—Water

Map Unit Composition

Water: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Setting

Landform: Lakes

Wa—Walpole fine sandy loam

Map Unit Setting

National map unit symbol: blk7

Elevation: 0 to 540 feet

Mean annual precipitation: 48 to 49 inches

Mean annual air temperature: 45 to 46 degrees F

Frost-free period: 145 to 165 days

Farmland classification: Not prime farmland

Map Unit Composition

Walpole and similar soils: 85 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Walpole

Setting

Landform: Outwash plains

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Talf

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Sandy glaciofluvial deposits

Typical profile

H1 - 0 to 8 inches: fine sandy loam

H2 - 8 to 20 inches: fine sandy loam

H3 - 20 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)

Depth to water table: About 0 to 18 inches

Frequency of flooding: None

Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: F144BY303ME - Acidic Swamp
Hydric soil rating: Yes

WmB—Windsor loamy sand, 0 to 8 percent slopes

Map Unit Setting
National map unit symbol: 2w2x2
Elevation: 0 to 1,410 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Windsor and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Windsor

Setting
Landform: Outwash terraces, deltas, outwash plains, dunes
Landform position (three-dimensional): Tread, riser
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Parent material: Loose sandy glaciofluvial deposits derived from granite and/or loose sandy glaciofluvial deposits derived from schist and/or loose sandy glaciofluvial deposits derived from gneiss

Typical profile
Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loamy sand
Bw - 3 to 25 inches: loamy sand
C - 25 to 65 inches: sand

Properties and qualities
Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Ecological site: F144BY601ME - Dry Sand
Hydric soil rating: No

WmC—Windsor loamy sand, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2svkq
Elevation: 0 to 1,260 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Windsor and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Windsor

Setting

Landform: — error in exists on —
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, riser
Down-slope shape: Convex
Across-slope shape: Linear, convex
Parent material: Loose sandy glaciofluvial deposits derived from granite and/or loose sandy glaciofluvial deposits derived from schist and/or loose sandy glaciofluvial deposits derived from gneiss

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
Ap - 1 to 11 inches: loamy sand
Bw - 11 to 31 inches: loamy sand
C - 31 to 65 inches: sand

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

WmD—Windsor loamy sand, 15 to 35 percent slopes

Map Unit Setting

National map unit symbol: 2svl4
Elevation: 0 to 680 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Windsor and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Windsor

Setting

Landform: Outwash plains, outwash terraces, deltas, dunes
Landform position (three-dimensional): Tread, riser
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Parent material: Loose sandy glaciofluvial deposits derived from granite and/or loose sandy glaciofluvial deposits derived from schist and/or loose sandy glaciofluvial deposits derived from gneiss

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loamy sand
Bw - 3 to 25 inches: loamy sand
C - 25 to 65 inches: sand

Properties and qualities

Slope: 15 to 35 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Soil Information for All Uses

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Soil Physical Properties

This folder contains a collection of tabular reports that present soil physical properties. The reports (tables) include all selected map units and components for each map unit. Soil physical properties are measured or inferred from direct observations in the field or laboratory. Examples of soil physical properties include percent clay, organic matter, saturated hydraulic conductivity, available water capacity, and bulk density.

Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Hydrologic soil group is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated hydraulic conductivity after prolonged wetting, and depth to a layer with a very slow water transmission

rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change. The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs:

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.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group

index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Percentage of rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

References:

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Absence of an entry indicates that the data were not estimated. The asterisk '*' denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
Au—Au Gres loamy sand														
Au gres	85	A/D	0-10	Loamy sand	SP-SM, SW-SM, SM	A-2, A-3, A-4	0- 0- 0	0- 0- 0	95-98-100	90-95-100	50-68-85	5-25- 45	0-7 -14	NP
			10-32	Loamy fine sand, loamy sand, sand	SP-SM, SW-SM, SM	A-1, A-2, A-3	0- 0- 0	0- 0- 0	95-98-100	90-95-100	45-65-85	5-20- 35	0-7 -14	NP
			32-65	Coarse sand, sand, loamy fine sand	SP-SM, SW-SM, SM	A-1, A-2, A-3	0- 0- 0	0- 0- 0	95-98-100	90-95-100	45-63-80	5-20- 35	0-7 -14	NP
BgB—Nicholville very fine sandy loam, 0 to 8 percent slopes														
Nicholville	85	C	0-7	Very fine sandy loam, silt loam	ML	A-4, A-6	0- 0- 0	0- 0- 0	95-100-100	90-100-100	86-98-100	61-71-81	21-28 -41	2-5 -11
			7-19	Silt loam, very fine sandy loam	CL-ML	A-4, A-6	0- 0- 0	0- 0- 0	95-100-100	90-100-100	87-98-100	62-71-82	19-25 -37	2-5 -12
			19-30	Very fine sandy loam, silt loam	CL-ML, ML	A-4, A-6	0- 0- 0	0- 0- 0	96-100-100	92-100-100	89-98-100	62-69-80	19-21 -32	2-4 -12
			30-65	Very fine sandy loam, silt loam, very fine sand, loamy very fine sand	ML	A-4	0- 0- 0	0- 0- 0	92-100-100	84-100-100	81-97-100	45-55-65	0-0 -26	NP-0 -8

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
BuB—Lamoine silt loam, 3 to 8 percent slopes														
Lamoine	85	C/D	0-7	Silt loam	MH, ML	A-6, A-7, A-7-5	0- 0- 0	0- 0- 0	96-100-100	91-100-100	85-98-100	77-90-94	37-46-54	12-15-18
			7-13	Silty clay loam, silt loam	CL, MH, ML	A-6, A-7	0- 0- 0	0- 0- 0	96-100-100	92-100-100	87-98-100	80-91-100	34-40-51	15-19-25
			13-24	Silty clay loam	CL	A-6, A-7, A-7-6	0- 0- 0	0- 0- 0	96-100-100	93-100-100	88-100-100	82-93-99	37-43-50	19-23-28
			24-65	Clay, silty clay, silty clay loam	CH, CL	A-7, A-7-6	0- 0- 0	0- 0- 0	97-100-100	93-100-100	88-100-100	83-95-100	45-52-67	27-32-43
BuC2—Buxton silt loam, 8 to 15 percent slopes														
Buxton	85	C/D	0-7	Silt loam	MH, ML	A-6, A-7, A-7-5	0- 0- 0	0- 0- 0	96-100-100	91-100-100	85-98-100	77-90-94	35-45-54	12-15-18
			7-18	Silt loam, silty clay loam	CL	A-6	0- 0- 0	0- 0- 0	96-100-100	91-100-100	85-98-100	78-90-100	30-36-56	12-16-28
			18-23	Silty clay loam, silt loam, silty clay	CL	A-7-6	0- 0- 0	0- 0- 0	96-100-100	92-100-100	84-98-100	78-91-100	34-43-57	17-23-32
			23-35	Silty clay loam, silty clay	CL	A-7-6	0- 0- 0	0- 0- 0	96-100-100	93-100-100	85-100-100	79-93-100	39-48-61	21-27-36
			35-65	Silty clay loam, silty clay	CH	A-7-6	0- 0- 0	0- 0- 0	97-100-100	93-100-100	85-100-100	80-95-100	43-52-63	24-31-40
Cu—Cut and fill land														
Cut and fill land	90		0-65	Very gravelly sandy loam	GM, GP, ML, SM	A-1, A-2, A-3, A-4	—	0-15- 30	25-63-100	20-60-100	10-50-90	2-41- 80	15-25-35	NP-5-10

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
DeA—Deerfield loamy fine sand, 0 to 3 percent slopes														
Deerfield	85	A	0-9	Loamy fine sand, sandy loam, sand, fine sand, loamy sand, fine sandy loam	SC-SM, SM	A-2-4, A-4	0- 0- 0	0- 0- 0	86-100-100	72-100-100	62-88-95	21-32-39	0-0 -38	NP-0 -5
			9-25	Loamy sand, fine sand, sand, coarse sand, loamy fine sand	SC-SM, SM	A-2-4, A-4	0- 0- 0	0- 0- 0	86-100-100	72-100-100	62-88-95	22-32-39	0-0 -24	NP-0 -5
			25-33	Loamy sand, loamy fine sand, fine sand, coarse sand, sand	SC-SM, SM	A-2-4	0- 0- 0	0- 0- 0	87-100-100	74-100-100	67-92-100	13-19-27	0-0 -20	NP-0 -5
			33-60	Loamy sand, fine sand, loamy fine sand, gravelly sand, coarse sand, stratified gravelly sand to sand, sand	SC-SM, SP-SC, SP-SM, SW-SC, SW-SM, SM, SP, SW	A-1-b, A-2-4, A-3	0- 0- 0	0- 0- 0	78-100-100	56-85-100	43-67-86	4- 9- 17	0-0 -20	NP-0 -5

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
DeB—Deerfield loamy fine sand, 3 to 8 percent slopes														
Deerfield	85	A	0-9	Sandy loam, sand, fine sand, loamy sand, loamy fine sand, fine sandy loam	SC-SM, SM	A-2-4, A-4	0- 0- 0	0- 0- 0	86-100-100	72-100-100	62-88-95	21-32-39	0-0 -38	NP-0 -5
			9-25	Fine sand, sand, coarse sand, loamy fine sand, loamy sand	SC-SM, SM	A-2-4, A-4	0- 0- 0	0- 0- 0	86-100-100	72-100-100	62-88-95	22-32-39	0-0 -24	NP-0 -5
			25-33	Coarse sand, fine sand, sand, loamy fine sand, loamy sand	SC-SM, SM	A-2-4	0- 0- 0	0- 0- 0	87-100-100	74-100-100	67-92-100	13-19-27	0-0 -20	NP-0 -5
			33-60	Loamy fine sand, loamy sand, gravelly sand, stratified gravelly sand to sand, coarse sand, fine sand, sand	SC-SM, SP-SC, SP-SM, SW-SC, SW-SM, SM, SP, SW	A-1-b, A-2-4, A-3	0- 0- 0	0- 0- 0	78-100-100	56-85-100	43-67-86	4- 9- 17	0-0 -20	NP-0 -5
EmB—Elmwood fine sandy loam, 0 to 8 percent slopes														
Elmwood	88	B	0-8	Fine sandy loam	ML, SM	A-2, A-4	0- 0- 0	0- 0- 0	100-100-100	95-98-100	55-70-85	30-43-55	15-23-30	NP-4 -7
			8-25	Sandy loam, fine sandy loam, silt loam	CL, ML, SC, SM	A-2, A-4	0- 0- 0	0- 0- 0	100-100-100	95-98-100	55-75-95	30-53-75	15-23-30	NP-5 -9
			25-65	Silty clay loam, clay loam, clay	CH, CL	A-6, A-7	0- 0- 0	0- 0- 0	100-100-100	100-100-100	95-98-100	90-95-100	35-45-55	11-21-30

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
Gp—Gravel pits														
Gravel pits	92		0-6	Extremely gravelly sand	GP, GW	A-1	—	0-13- 25	10-18-25	5-15- 25	0- 8- 15	0- 3- 5	0-7 -14	NP
			6-60	Extremely gravelly sand, extremely gravelly coarse sand, very gravelly coarse sand	GP, GW, SP, SW	A-1	—	0-13- 25	10-33-55	5-28- 50	0- 8- 15	0- 3- 5	0-7 -14	NP
HfB—Hartland very fine sandy loam, 3 to 8 percent slopes														
Hartland	85	B	0-9	Very fine sandy loam	CL-ML, ML	A-4, A-6	0- 0- 0	0- 0- 0	100-100-100	85-93-100	80-90-100	70-83-95	20-30 -40	2-7 -12
			9-29	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0- 0- 0	0- 0- 0	100-100-100	85-93-100	80-90-100	70-83-95	15-20 -25	NP-3 -5
			29-65	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0- 0- 0	0- 0- 0	100-100-100	85-93-100	80-90-100	70-83-95	15-20 -25	NP-3 -5
HfC2—Hartland very fine sandy loam, 8 to 15 percent slopes, eroded														
Hartland	85	B	0-9	Very fine sandy loam	CL-ML, ML	A-4, A-6	0- 0- 0	0- 0- 0	100-100-100	85-93-100	80-90-100	70-83-95	20-30 -40	2-7 -12
			9-29	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0- 0- 0	0- 0- 0	100-100-100	85-93-100	80-90-100	70-83-95	15-20 -25	NP-3 -5
			29-65	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0- 0- 0	0- 0- 0	100-100-100	85-93-100	80-90-100	70-83-95	15-20 -25	NP-3 -5

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
HfD2—Hartland very fine sandy loam, 15 to 25 percent slopes, eroded														
Hartland	85	B	0-9	Very fine sandy loam	CL-ML, ML	A-4, A-6	0- 0- 0	0- 0- 0	100-100 -100	85-93-100	80-90-100	70-83-95	20-30 -40	2-7 -12
			9-29	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0- 0- 0	0- 0- 0	100-100 -100	85-93-100	80-90-100	70-83-95	15-20 -25	NP-3 -5
			29-65	Silt loam, very fine sandy loam	CL-ML, ML	A-4	0- 0- 0	0- 0- 0	100-100 -100	85-93-100	80-90-100	70-83-95	15-20 -25	NP-3 -5

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
HlB—Hinckley loamy sand, 3 to 8 percent slopes														
Hinckley	85	A	0-1	Highly decomposed plant material, slightly decomposed plant material, moderately decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			1-8	Very gravelly sandy loam, loamy fine sand, very fine sandy loam, sandy loam, coarse sandy loam, loamy sand, loamy coarse sand, fine sandy loam, gravelly loamy sand	GP-GM, SP-SM, SW-SM, GW-GM, GM, SM	A-1-a, A-1-b, A-2-4, A-3	0- 0- 3	0- 0- 37	50-86-100	37-78-92	25-61-78	7-20- 32	0-0 -59	NP-0 -2
			8-11	Cobbly loamy coarse sand, loamy sand, gravelly loamy sand, sand, very gravelly sandy loam, coarse sandy loam, loamy coarse sand, loamy fine sand, sandy loam, fine sandy loam	GP-GM, SP-SM, SW-SM, GW-GM, GM, SM	A-1-a, A-1-b, A-2-4, A-3	0- 0- 3	0- 0- 37	51-78-100	38-71-92	25-55-78	7-18- 32	0-0 -21	NP-0 -2

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
			11-16	Cobbly loamy coarse sand, loamy fine sand, extremely gravelly coarse sand, loamy sand, sand, gravelly loamy sand, loamy coarse sand	GP-GM, SP-SM, SW-SM, GW-GM, GM, SM	A-1-a, A-1-b, A-2-4, A-3	0- 0- 3	0- 0- 34	45-73-100	31-66-92	20-51-77	5-17- 31	0-0 -18	NP-0 -2
			16-19	Cobbly loamy coarse sand, loamy fine sand, extremely gravelly coarse sand, loamy sand, sand, loamy coarse sand, extremely cobbly loamy coarse sand, very gravelly sand, very gravelly loamy sand	GP-GM, SP-SM, SW-SM, GW-GM, GM, GP, GW, SM, SP, SW	A-1-a, A-1-b, A-2-4, A-3	0- 0- 3	0- 0- 34	45-62-100	31-49-92	18-36-75	4- 9- 24	0-0 -14	NP
			19-65	Extremely gravelly coarse sand, extremely cobbly loamy coarse sand, very gravelly loamy coarse sand, extremely gravelly sand, very gravelly sand, stratified gravel to very gravelly sand	GP-GM, SP-SM, SW-SM, GW-GM, GP, GW, SP	A-1-a, A-1-b	0- 0- 5	7-12- 33	39-52-70	25-38-59	13-25-44	1- 3- 11	0-0 -14	NP

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
HnD—Hinckley-Suffield complex, 15 to 25 percent slopes														
Hinckley	60	A	0-1	Highly decomposed plant material, slightly decomposed plant material, moderately decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			1-8	Coarse sandy loam, very fine sandy loam, gravelly loamy sand, sandy loam, loamy sand, very gravelly sandy loam, loamy fine sand, fine sandy loam, loamy coarse sand	GP-GM, SP-SM, GM, SM	A-1-a, A-1-b, A-2-4, A-3	0- 0- 3	0- 0- 37	50-86-100	37-78-92	25-61-78	7-20- 32	0-0 -58	NP-0 -2
			8-11	Sandy loam, coarse sandy loam, very gravelly sandy loam, loamy coarse sand, cobbly loamy coarse sand, loamy sand, sand, loamy fine sand, gravelly loamy sand, fine sandy loam	GP-GM, SP-SM, GM, SM	A-1-a, A-1-b, A-2-4, A-3	0- 0- 3	0- 0- 37	51-78-100	38-71-92	25-55-78	7-18- 32	0-0 -20	NP-0 -2

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
			11-16	Extremely gravelly coarse sand, gravelly loamy sand, sand, loamy fine sand, loamy sand, cobbly loamy coarse sand, loamy coarse sand	GP-GM, SP-SM, GM, SM	A-1-a, A-1-b, A-2-4, A-3	0- 0- 3	0- 0- 34	45-73-100	31-66-92	20-51-77	5-17- 31	0-0 -18	NP-0 -2
			16-19	Very gravelly sand, extremely gravelly coarse sand, loamy coarse sand, loamy fine sand, sand, extremely cobbly loamy coarse sand, very gravelly loamy sand, loamy sand, cobbly loamy coarse sand	GP-GM, SP-SM, GM, SM, SP	A-1-a, A-1-b, A-2-4, A-3	0- 0- 3	0- 0- 34	45-62-100	31-49-92	18-36-75	4- 9- 24	0-0 -14	NP

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
			19-65	Very gravelly loamy coarse sand, extremely gravelly sand, stratified gravel to very gravelly sand, extremely cobbly loamy coarse sand, very gravelly sand, extremely gravelly coarse sand	GP-GM, SP-SM, GP, SP	A-1-a, A-1-b	0- 0- 5	7-12- 33	39-52-70	25-38-59	13-25-44	1- 3- 11	0-0 -14	NP
Suffield	25	C	0-6	Silt loam	MH, ML	A-4, A-7, A-7-5	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	85-93-100	32-44-56	9-14-20
			6-18	Silty clay, silt loam, silty clay loam	CL, MH, ML	A-6	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	85-93-100	31-38-61	13-17-32
			18-65	Silty clay loam, silty clay, clay	CL	A-7-6	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	90-95-100	44-47-65	25-27-40

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
HrB—Lyman-Tunbridge complex, 0 to 8 percent slopes, rocky														
Lyman	50	D	0-1	Slightly decomposed plant material, highly decomposed plant material, moderately decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			1-3	Loam, fine sandy loam, very fine sandy loam, gravelly sandy loam	ML	A-4	0- 0- 28	0- 0- 18	55-100-100	53-100-100	38-82-90	22-55-62	0-35 -65	NP-3 -5
			3-5	Fine sandy loam, very fine sandy loam, loam, gravelly sandy loam	SC-SM	A-4	0- 0- 22	0- 0- 14	64-84-98	63-84-98	46-69-89	23-41-57	0-23 -34	NP-4 -6
			5-7	Fine sandy loam, very fine sandy loam, loam, gravelly sandy loam	SM	A-4	0- 0- 28	0- 0- 18	77-89-99	53-77-97	38-64-88	22-42-60	0-40 -76	NP-3 -5
			7-11	Loam, fine sandy loam, very fine sandy loam, gravelly sandy loam	SM	A-4	0- 0- 27	0- 0- 18	77-89-99	53-77-97	38-64-88	22-42-60	0-34 -61	NP-3 -5
			11-18	Channery loam, fine sandy loam, sandy loam, very fine sandy loam	SM	A-4	0- 0- 25	0-14- 30	52-84-99	50-83-99	36-69-89	21-46-61	0-26 -36	NP-4 -6

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
			18-79	Bedrock	—	—	—	—	—	—	—	—	—	—
Tunbridge	30	C	0-3	Moderately decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			3-5	Highly decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			5-8	Fine sandy loam, very fine sandy loam, loam, gravelly sandy loam	SC-SM	A-4	0- 0- 0	0- 8- 24	53-91-96	51-91-96	37-75-87	19-45-55	0-23 -34	NP-4 -6
			8-11	Loam, very fine sandy loam, fine sandy loam, gravelly sandy loam	SM	A-4	0- 0- 0	0- 4- 30	43-78-90	41-77-90	30-64-81	15-38-52	0-40 -76	NP-3 -5
			11-26	Very fine sandy loam, fine sandy loam, loam, gravelly sandy loam	SM	A-4	0- 0- 0	0- 6- 30	43-78-91	41-77-90	30-64-82	15-38-52	0-31 -60	NP-3 -5
			26-28	Fine sandy loam, very fine sandy loam, loam, gravelly sandy loam	SC-SM	A-4	0- 0- 0	0- 0- 25	52-91-91	50-91-91	36-75-83	19-45-53	0-21 -30	NP-4 -6
			28-79	Bedrock	—	—	—	—	—	—	—	—	—	—

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
Ls—Limerick-Saco silt loams														
Limerick	55	B/D	0-8	Silt loam	CL-ML, CL, ML	A-4, A-6	0- 0- 0	0- 0- 0	100-100 -100	100-100 -100	95-98-100	80-88-95	15-28 -40	NP-8 -15
			8-16	Silt loam, very fine sandy loam	CL-ML, CL, ML	A-4, A-6	0- 0- 0	0- 0- 0	95-98-100	95-98-100	90-95-100	80-88-95	15-28 -40	NP-8 -15
			16-65	Silt loam, very fine sandy loam, loamy very fine sand	CL-ML, CL, ML	A-4, A-6	0- 0- 0	0- 0- 0	100-100 -100	100-100 -100	95-98-100	60-78-95	15-28 -40	NP-8 -15
Saco	30	B/D	0-12	Silt loam	CL-ML, CL, ML	A-4, A-6	0- 0- 0	0- 0- 0	95-98-100	90-95-100	85-93-100	80-88-95	15-28 -40	NP-8 -15
			12-24	Silt loam, very fine sandy loam, loamy very fine sand	CL, ML	A-4	0- 0- 0	0- 0- 0	95-98-100	90-95-100	85-93-100	60-78-95	15-28 -40	NP-5 -10
			24-65	Silt loam, very fine sandy loam, loamy very fine sand	CL-ML, SC-SM, ML, SM	A-4	0- 0- 0	0- 0- 0	95-98-100	90-95-100	80-90-100	35-65-95	15-20 -25	NP-3 -5
MeC—Melrose fine sandy loam, 8 to 15 percent slopes														
Melrose	85	C	0-7	Fine sandy loam	CL, ML, SC, SM	A-2, A-4	0- 0- 0	0- 0- 0	100-100 -100	95-98-100	55-70-85	30-43-55	15-23 -30	NP-5 -9
			7-23	Fine sandy loam, sandy loam, coarse sandy loam	SC-SM, SC, SM	A-2, A-4	0- 0- 0	0- 0- 0	100-100 -100	95-98-100	55-70-85	25-38-50	15-23 -30	NP-5 -9
			23-65	Silty clay, clay loam, clay	CH, CL	A-6, A-7	0- 0- 0	0- 0- 0	100-100 -100	100-100 -100	95-98-100	90-95-100	30-43 -55	11-21-30

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
On—Ondawa fine sandy loam, 0 to 3 percent slopes, occasionally flooded														
Ondawa	85	B	0-9	Fine sandy loam, sandy loam, loam, very fine sandy loam	SM	A-4	0- 0- 0	0- 0- 0	73-100-100	72-100-100	62-98-100	24-47-63	0-0 -38	NP-0 -13
			9-30	Fine sandy loam, sandy loam, loam, very fine sandy loam	SM	A-4	0- 0- 0	0- 0- 0	75-100-100	74-100-100	64-98-100	24-47-63	0-0 -34	NP-0 -13
			30-65	Loamy fine sand, coarse sand, gravelly sand, loamy sand	SM	A-4	0- 0- 0	0- 0- 0	44-100-100	41-100-100	37-99-100	11-38-49	0-0 -30	NP-0 -9
PbB—Paxton fine sandy loam, 3 to 8 percent slopes														
Paxton	87	C	0-8	Fine sandy loam, gravelly fine sandy loam	CL-ML, ML, SC, SM	A-2, A-4	0- 1- 1	0- 5- 10	90-95-100	75-85-90	50-70-90	30-55-80	15-23 -30	NP-5 -10
			8-20	Fine sandy loam, loam, gravelly sandy loam	CL-ML, SC-SM, ML, SM	A-1-b, A-2, A-4	0- 1- 1	0- 8- 15	75-85-95	60-80-90	40-63-85	20-43-65	15-23 -30	NP-5 -10
			20-65	Gravelly sandy loam, loam, fine sandy loam	CL-ML, SC-SM, ML, SM	A-1-b, A-2, A-4	0- 1- 1	0- 5- 15	70-80-90	60-80-85	35-58-80	20-40-60	15-23 -30	NP-5 -10

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
PbC—Paxton fine sandy loam, 8 to 15 percent slopes														
Paxton	86	C	0-8	Fine sandy loam, gravelly fine sandy loam	CL-ML, ML, SC, SM	A-2, A-4	0- 1- 1	0- 5- 10	90-95-100	75-85-90	50-70-90	30-55-80	15-23-30	NP-5-10
			8-20	Fine sandy loam, loam, gravelly sandy loam	CL-ML, SC-SM, ML, SM	A-1-b, A-2, A-4	0- 1- 1	0- 8- 15	75-85-95	60-80-90	40-63-85	20-43-65	15-23-30	NP-5-10
			20-65	Fine sandy loam, loam, gravelly sandy loam	CL-ML, SC-SM, ML, SM	A-1-b, A-2, A-4	0- 1- 1	0- 5- 15	70-80-90	60-80-85	35-58-80	20-40-60	15-23-30	NP-5-10
PfB—Paxton very stony fine sandy loam, 3 to 8 percent slopes														
Paxton	85	C	0-2	Highly decomposed plant material	PT	A-8	7-20- 34	0- 7- 14	99-100-100	99-99-100	60-94-100	53-77-89	—	—
			2-8	Fine sandy loam, gravelly fine sandy loam	CL-ML, ML, SC, SM	A-2, A-4	1- 3- 5	5- 5- 15	90-95-100	75-85-90	50-70-90	30-55-80	15-23-30	NP-5-10
			8-20	Gravelly sandy loam, loam, fine sandy loam	CL-ML, SC-SM, ML, SM	A-1-b, A-2, A-4	0- 1- 1	0- 8- 15	75-85-95	60-85-90	40-63-85	20-43-65	15-23-30	NP-5-10
			20-65	Fine sandy loam, loam, gravelly sandy loam	CL-ML, SC-SM, ML, SM	A-1-b, A-2, A-4	0- 1- 1	0- 5- 15	70-83-95	55-80-95	35-58-80	20-40-60	15-23-30	NP-5-10

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
Py—Podunk fine sandy loam, 0 to 3 percent slopes, occasionally flooded														
Podunk	83	B/D	0-10	Fine sandy loam, very fine sandy loam	SM	A-2, A-4	0- 0- 0	0- 0- 0	81-100-100	80-100-100	63-91-100	24-44-59	0-24 -34	NP-3 -9
			10-18	Very fine sandy loam, fine sandy loam	SM	A-2, A-4	0- 0- 0	0- 0- 0	82-100-100	82-100-100	62-88-100	23-41-57	0-19 -30	NP-1 -9
			18-30	Fine sandy loam, coarse sandy loam, very fine sandy loam, loamy fine sand	SM	A-2, A-4	0- 0- 0	0- 0- 0	82-100-100	82-100-100	62-88-100	23-41-57	0-17 -30	NP-1 -9
			30-65	Gravelly coarse sand, loamy fine sand, fine sandy loam, loamy sand	SP-SM, SM	A-2, A-4	0- 0- 0	0- 0- 0	44-100-100	41-100-100	34-92-100	11-36-45	0-0 -25	NP-0 -6
RbA—Ridgebury fine sandy loam, 0 to 3 percent slopes														
Ridgebury	85	C/D	0-6	Fine sandy loam	CL-ML, SC-SM, ML, SM	A-2, A-4	0- 1- 1	0- 3- 5	85-93-100	80-88-95	50-68-85	25-40-55	15-23 -30	NP-5 -10
			6-18	Silt loam, gravelly sandy loam, fine sandy loam	CL-ML, SC-SM, ML, SM	A-1, A-2, A-4	0- 3- 10	0- 5- 10	65-80-95	55-78-90	35-63-90	20-50-80	15-23 -30	NP-5 -10
			18-65	Fine sandy loam, gravelly sandy loam, loam	SC-SM, GM, ML, SM	A-1, A-2, A-4	0- 3- 10	0- 5- 10	65-80-95	55-78-90	35-60-85	20-45-70	15-23 -30	NP-5 -10

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
Sd—Saugatuck loamy sand														
Saugatuck	85	A/D	0-4	Highly decomposed plant material	PT	—	0- 0- 0	0- 0- 0	100-100 -100	100-100 -100	60-94-100	53-77-89	—	—
			4-10	Loamy sand	SM	A-2-4	0- 0- 0	0- 0- 0	100-100 -100	100-100 -100	50-63-75	15-23-30	—	NP
			10-34	Sand	SP-SM, SM	A-2-4, A-3	0- 0- 0	0- 0- 0	100-100 -100	100-100 -100	50-60-70	5-10- 15	—	NP
			34-65	Sand	SP-SM, SM	A-2-4, A-3	0- 0- 0	0- 0- 0	100-100 -100	100-100 -100	50-60-70	5-10- 15	—	NP
Sn—Scantic silt loam, 0 to 3 percent slopes														
Scantic	85	D	0-9	Silt loam	ML	A-7-5	0- 0- 0	0- 0- 0	100-100 -100	93-96-100	84-90-99	75-84-93	31-46 -53	9-15-16
			9-16	Silt loam, silty clay loam	CL	A-7-6	0- 0- 0	0- 0- 0	100-100 -100	95-96-100	85-92-99	77-85-94	32-43 -51	13-20-24
			16-29	Silty clay loam, silty clay	CH	A-7-6	0- 0- 0	0- 0- 0	100-100 -100	95-97-100	89-96-100	81-91-100	43-52 -72	24-29-43
			29-65	Silty clay, clay	CH	A-7-6	0- 0- 0	0- 0- 0	100-100 -100	95-97-100	90-96-100	85-95-100	47-55 -72	28-34-47
So—Scarboro sandy loam														
Scarboro	85	A/D	0-8	Mucky peat	PT	A-8	0- 0- 0	0- 0- 0	100-100 -100	100-100 -100	60-94-100	53-77-89	—	—
			8-24	Loamy fine sand, fine sandy loam, mucky sand	SP-SM, OL, SM	A-1, A-2, A-3, A-4	0- 0- 0	0- 0- 0	85-93-100	75-88-100	40-63-85	5-30- 55	15-18 -20	NP
			24-65	Loamy fine sand, coarse sand, loamy sand	SP-SM, SM, SP	A-1, A-2, A-3, A-4	0- 0- 0	0- 0- 0	80-90-100	75-88-100	25-53-80	2-24- 45	0-7 -14	NP

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
SuC2—Suffield silt loam, 8 to 15 percent slopes, eroded														
Suffield	85	C	0-6	Silt loam	MH, ML	A-4, A-5, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	85-93-100	36-46-55	5-10-15
			6-23	Silt loam, silty clay loam, silty clay	CL, MH, ML	A-4, A-6, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	85-93-100	28-42-55	8-17-25
			23-33	Silt loam, silty clay loam, silty clay	CL, MH, ML	A-4, A-6, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	85-93-100	28-42-55	8-17-25
			33-65	Clay, silty clay loam, silty clay	CL, MH	A-6, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	90-95-100	30-45-60	10-18-25
SuD2—Suffield silt loam, 15 to 25 percent slopes, eroded														
Suffield	85	C	0-6	Silt loam	MH, ML	A-4, A-5, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	85-93-100	36-46-55	5-10-15
			6-23	Silt loam, silty clay loam, silty clay	CL, MH, ML	A-4, A-6, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	85-93-100	28-42-55	8-17-25
			23-33	Silt loam, silty clay loam, silty clay	CL, MH, ML	A-4, A-6, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	85-93-100	28-42-55	8-17-25
			33-65	Silty clay, silty clay loam, clay	CL, MH	A-6, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	90-95-100	30-45-60	10-18-25

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					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
SuE2—Suffield silt loam, 25 to 45 percent slopes, eroded														
Suffield	85	C	0-6	Silt loam	MH, ML	A-4, A-5, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	85-93-100	36-46-55	5-10-15
			6-23	Silt loam, silty clay loam, silty clay	CL, MH, ML	A-4, A-6, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	85-93-100	28-42-55	8-17-25
			23-33	Silt loam, silty clay loam, silty clay	CL, MH, ML	A-4, A-6, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	85-93-100	28-42-55	8-17-25
			33-65	Silty clay, silty clay loam, clay	CL, MH	A-6, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	90-95-100	30-45-60	10-18-25
Sz—Swanton fine sandy loam														
Swanton	85	C/D	0-9	Fine sandy loam	CL, ML, SC, SM	A-2, A-4	0- 0- 0	0- 0- 0	100-100-100	95-98-100	60-78-95	30-48-65	15-23-30	NP-5 -9
			9-32	Fine sandy loam, sandy loam	CL, ML, SC, SM	A-2, A-4	0- 0- 0	0- 0- 0	100-100-100	95-98-100	60-78-95	30-48-65	15-23-30	NP-5 -9
			32-65	Clay, silty clay, silty clay loam	CH, CL	A-6, A-7	0- 0- 0	0- 0- 0	100-100-100	100-100-100	95-98-100	90-95-100	25-40-55	11-21-30
Wa—Walpole fine sandy loam														
Walpole	85	A/D	0-8	Fine sandy loam	SM	A-2, A-4	0- 1- 1	0- 3- 5	90-95-100	75-88-100	70-85-100	30-40-50	15-20-25	NP-2 -3
			8-20	Loamy sand, fine sandy loam, gravelly sandy loam	SM	A-2, A-4	0- 1- 1	0- 3- 5	85-93-100	75-85-95	40-68-95	25-38-50	0-7 -14	NP
			20-65	Gravelly loamy sand, sand, gravelly sand	GP-GM, SP-SM, SM, SP	A-1, A-2, A-3	0- 1- 1	0- 8- 15	55-78-100	50-73-95	25-58-90	0-13- 25	0-7 -14	NP

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
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					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
WmB—Windsor loamy sand, 0 to 8 percent slopes														
Windsor	85	A	0-1	Slightly decomposed plant material, moderately decomposed plant material, highly decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			1-3	Loamy sand, loamy fine sand, fine sand, sand	SP-SM, SW-SM, SM	A-1-b, A-2-4, A-4	0- 0- 0	0- 0- 0	85-100-100	70-100-100	50-83-100	12-25-37	0-0 -30	NP-0 -2
			3-25	Loamy coarse sand, loamy sand, loamy fine sand, fine sand, sand, coarse sand	SP-SM, SW-SM, SM	A-2-4, A-3	0- 0- 0	0- 0- 0	86-100-100	72-100-100	45-75-98	10-22-36	0-0 -23	NP-0 -4
			25-65	Gravelly coarse sand, loamy sand, loamy fine sand, fine sand, sand, coarse sand	SP-SM, SW-SM, SM, SP, SW	A-1-b, A-2-4, A-3	0- 0- 0	0- 0- 0	81-100-100	63-100-100	40-78-100	4-12- 33	0-0 -20	NP-0 -4

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
WmC—Windsor loamy sand, 8 to 15 percent slopes														
Windsor	85	A	0-1	Moderately decomposed plant material, highly decomposed plant material, slightly decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			1-11	Loamy sand, loamy fine sand, fine sand, sand	SP-SM, SW-SM, SM	A-1, A-2, A-2-4, A-4	0- 0- 0	0- 0- 0	85-100-100	70-100-100	50-83-100	12-25-37	0-0 -30	NP-0 -2
			11-31	Sand, fine sand, loamy coarse sand, coarse sand, loamy fine sand, loamy sand	SC-SM, SP-SM, SW-SM, SM	A-1, A-2, A-2-4, A-3, A-4	0- 0- 0	0- 0- 0	86-100-100	72-100-100	45-75-98	10-22-36	0-0 -23	NP-0 -4
			31-65	Coarse sand, gravelly coarse sand, loamy fine sand, loamy sand, fine sand, sand	SC-SM, SP-SM, SW-SM, SM, SP, SW	A-1, A-2, A-2-4, A-3	0- 0- 0	0- 0- 0	81-100-100	63-100-100	40-78-100	4-12- 33	0-0 -20	NP-0 -4

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
WmD—Windsor loamy sand, 15 to 35 percent slopes														
Windsor	90	A	0-1	Moderately decomposed plant material, highly decomposed plant material, slightly decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			1-3	Loamy sand, loamy fine sand, fine sand, sand	SP-SM, SW-SM, SM	A-2-4	0- 0- 0	0- 0- 0	85-100-100	70-100-100	50-83-100	12-25-37	0-0 -30	NP-0 -2
			3-25	Loamy sand, loamy fine sand, fine sand, sand, coarse sand, loamy coarse sand	SP-SM, SW-SM, SM	A-2-4, A-3	0- 0- 0	0- 0- 0	86-100-100	72-100-100	45-75-98	10-22-36	0-0 -23	NP-0 -4
			25-65	Gravelly coarse sand, coarse sand, sand, fine sand, loamy sand, loamy fine sand	SP-SM, SW-SM, SM, SP, SW	A-1-b, A-2-4, A-3	0- 0- 0	0- 0- 0	81-100-100	63-100-100	40-78-100	4-12- 36	0-0 -20	NP-0 -4

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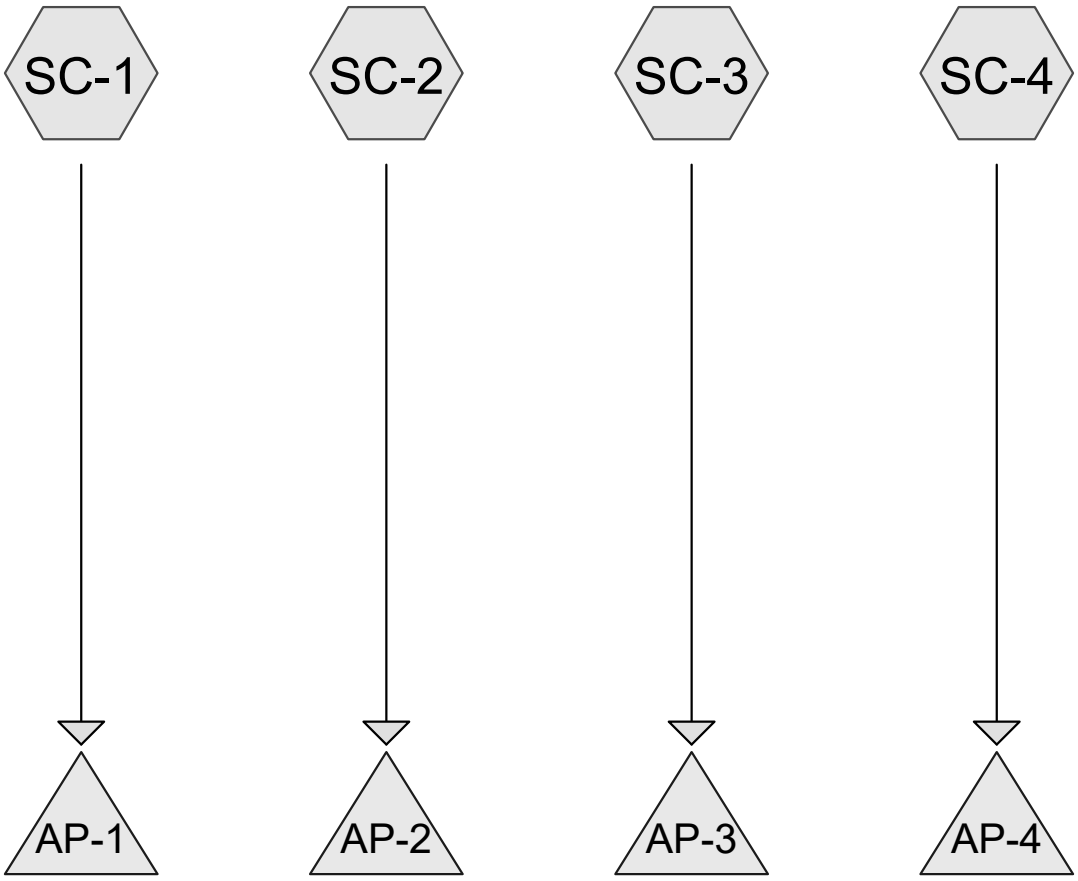
APPENDIX B

PRE- AND POST-DEVELOPMENT HYDROCAD CALCULATIONS

SME
SEVEE & MAHER
ENGINEERS



Subcat Reach Pond Link

Routing Diagram for PRE-DEV 20220104
Prepared by {enter your company name here}, Printed 1/10/2022

Summary for Subcatchment SC-1:

Runoff = 0.19 cfs @ 12.49 hrs, Volume= 0.027 af, Depth= 0.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	1,057	98	Pavement
	15,354	70	Woods, Good, HSG C
	16,411	72	Weighted Average
	15,354		93.56% Pervious Area
	1,057		6.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0400	0.06		**Sheet Flow, A-B** Woods: Dense underbrush n= 0.800 P2= 3.00"
2.0	81	0.0190	0.69		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
31.3	181	Total			

Summary for Subcatchment SC-2:

Runoff = 7.01 cfs @ 13.12 hrs, Volume= 1.641 af, Depth= 0.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	34,366	96	Gravel
*	13,013	98	Building
*	5,927	98	Pond
*	109,692	55	Woods, Good, HSG B
	194,976	70	Woods, Good, HSG C
*	27,667	77	Woods, Good, HSG D
*	197,898	61	Pasture/grassland/range, Good, HSG B
	378,453	74	Pasture/grassland/range, Good, HSG C
*	85,740	80	Pasture/grassland/range, Good, HSG D
	1,047,732	71	Weighted Average
	1,028,792		98.19% Pervious Area
	18,940		1.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0400	0.06		**Sheet Flow, A-B** Woods: Dense underbrush n= 0.800 P2= 3.00"
13.9	495	0.0140	0.59		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
19.8	1,208	0.0210	1.01		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
12.2	416	0.0130	0.57		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
75.2	2,219	Total			

Summary for Subcatchment SC-3:

Runoff = 0.81 cfs @ 12.58 hrs, Volume= 0.121 af, Depth= 0.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
	44,734	70	Woods, Good, HSG C
*	23,058	77	Woods, Good, HSG D
*	1,265	80	Pasture/grassland/range, Good, HSG D
	69,057	73	Weighted Average
	69,057		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.9	100	0.0350	0.05		**Sheet Flow, A-B** Woods: Dense underbrush n= 0.800 P2= 3.00"
6.6	315	0.0250	0.79		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
37.5	415	Total			

Summary for Subcatchment SC-4:

Runoff = 2.85 cfs @ 12.66 hrs, Volume= 0.491 af, Depth= 0.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	12,006	55	Woods, Good, HSG B
	55,855	70	Woods, Good, HSG C
*	103,994	61	Pasture/grassland/range, Good, HSG B
	182,438	74	Pasture/grassland/range, Good, HSG C
	354,293	69	Weighted Average
	354,293		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	100	0.0200	0.11		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.00"
27.8	1,882	0.0260	1.13		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
42.5	1,982	Total			

Summary for Pond AP-1:

Inflow Area = 0.377 ac, 6.44% Impervious, Inflow Depth = 0.87" for 2-Year event
Inflow = 0.19 cfs @ 12.49 hrs, Volume= 0.027 af
Primary = 0.19 cfs @ 12.49 hrs, Volume= 0.027 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Pond AP-2:

Inflow Area = 24.053 ac, 1.81% Impervious, Inflow Depth = 0.82" for 2-Year event
Inflow = 7.01 cfs @ 13.12 hrs, Volume= 1.641 af
Primary = 7.01 cfs @ 13.12 hrs, Volume= 1.641 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Pond AP-3:

Inflow Area = 1.585 ac, 0.00% Impervious, Inflow Depth = 0.92" for 2-Year event
Inflow = 0.81 cfs @ 12.58 hrs, Volume= 0.121 af
Primary = 0.81 cfs @ 12.58 hrs, Volume= 0.121 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Pond AP-4:

Inflow Area = 8.133 ac, 0.00% Impervious, Inflow Depth = 0.72" for 2-Year event
Inflow = 2.85 cfs @ 12.66 hrs, Volume= 0.491 af
Primary = 2.85 cfs @ 12.66 hrs, Volume= 0.491 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Subcatchment SC-1:

Runoff = 0.45 cfs @ 12.45 hrs, Volume= 0.059 af, Depth= 1.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.60"

	Area (sf)	CN	Description
*	1,057	98	Pavement
	15,354	70	Woods, Good, HSG C
	16,411	72	Weighted Average
	15,354		93.56% Pervious Area
	1,057		6.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0400	0.06		**Sheet Flow, A-B** Woods: Dense underbrush n= 0.800 P2= 3.00"
2.0	81	0.0190	0.69		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
31.3	181	Total			

Summary for Subcatchment SC-2:

Runoff = 16.94 cfs @ 13.04 hrs, Volume= 3.646 af, Depth= 1.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.60"

	Area (sf)	CN	Description
*	34,366	96	Gravel
*	13,013	98	Building
*	5,927	98	Pond
*	109,692	55	Woods, Good, HSG B
	194,976	70	Woods, Good, HSG C
*	27,667	77	Woods, Good, HSG D
*	197,898	61	Pasture/grassland/range, Good, HSG B
	378,453	74	Pasture/grassland/range, Good, HSG C
*	85,740	80	Pasture/grassland/range, Good, HSG D
	1,047,732	71	Weighted Average
	1,028,792		98.19% Pervious Area
	18,940		1.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0400	0.06		**Sheet Flow, A-B** Woods: Dense underbrush n= 0.800 P2= 3.00"
13.9	495	0.0140	0.59		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
19.8	1,208	0.0210	1.01		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
12.2	416	0.0130	0.57		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
75.2	2,219	Total			

Summary for Subcatchment SC-3:

Runoff = 1.84 cfs @ 12.54 hrs, Volume= 0.260 af, Depth= 1.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.60"

	Area (sf)	CN	Description
	44,734	70	Woods, Good, HSG C
*	23,058	77	Woods, Good, HSG D
*	1,265	80	Pasture/grassland/range, Good, HSG D
	69,057	73	Weighted Average
	69,057		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.9	100	0.0350	0.05		**Sheet Flow, A-B** Woods: Dense underbrush n= 0.800 P2= 3.00"
6.6	315	0.0250	0.79		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
37.5	415	Total			

Summary for Subcatchment SC-4:

Runoff = 7.35 cfs @ 12.61 hrs, Volume= 1.133 af, Depth= 1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.60"

	Area (sf)	CN	Description
*	12,006	55	Woods, Good, HSG B
	55,855	70	Woods, Good, HSG C
*	103,994	61	Pasture/grassland/range, Good, HSG B
	182,438	74	Pasture/grassland/range, Good, HSG C
	354,293	69	Weighted Average
	354,293		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	100	0.0200	0.11		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.00"
27.8	1,882	0.0260	1.13		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
42.5	1,982	Total			

Summary for Pond AP-1:

Inflow Area = 0.377 ac, 6.44% Impervious, Inflow Depth = 1.89" for 10-Year event
Inflow = 0.45 cfs @ 12.45 hrs, Volume= 0.059 af
Primary = 0.45 cfs @ 12.45 hrs, Volume= 0.059 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Pond AP-2:

Inflow Area = 24.053 ac, 1.81% Impervious, Inflow Depth = 1.82" for 10-Year event
Inflow = 16.94 cfs @ 13.04 hrs, Volume= 3.646 af
Primary = 16.94 cfs @ 13.04 hrs, Volume= 3.646 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Pond AP-3:

Inflow Area = 1.585 ac, 0.00% Impervious, Inflow Depth = 1.97" for 10-Year event
Inflow = 1.84 cfs @ 12.54 hrs, Volume= 0.260 af
Primary = 1.84 cfs @ 12.54 hrs, Volume= 0.260 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Pond AP-4:

Inflow Area = 8.133 ac, 0.00% Impervious, Inflow Depth = 1.67" for 10-Year event
Inflow = 7.35 cfs @ 12.61 hrs, Volume= 1.133 af
Primary = 7.35 cfs @ 12.61 hrs, Volume= 1.133 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Subcatchment SC-1:

Runoff = 0.69 cfs @ 12.45 hrs, Volume= 0.089 af, Depth= 2.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	1,057	98	Pavement
	15,354	70	Woods, Good, HSG C
	16,411	72	Weighted Average
	15,354		93.56% Pervious Area
	1,057		6.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0400	0.06		**Sheet Flow, A-B** Woods: Dense underbrush n= 0.800 P2= 3.00"
2.0	81	0.0190	0.69		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
31.3	181	Total			

Summary for Subcatchment SC-2:

Runoff = 26.05 cfs @ 13.03 hrs, Volume= 5.489 af, Depth= 2.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	34,366	96	Gravel
*	13,013	98	Building
*	5,927	98	Pond
*	109,692	55	Woods, Good, HSG B
	194,976	70	Woods, Good, HSG C
*	27,667	77	Woods, Good, HSG D
*	197,898	61	Pasture/grassland/range, Good, HSG B
	378,453	74	Pasture/grassland/range, Good, HSG C
*	85,740	80	Pasture/grassland/range, Good, HSG D
	1,047,732	71	Weighted Average
	1,028,792		98.19% Pervious Area
	18,940		1.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0400	0.06		**Sheet Flow, A-B** Woods: Dense underbrush n= 0.800 P2= 3.00"
13.9	495	0.0140	0.59		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
19.8	1,208	0.0210	1.01		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
12.2	416	0.0130	0.57		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
75.2	2,219	Total			

Summary for Subcatchment SC-3:

Runoff = 2.76 cfs @ 12.54 hrs, Volume= 0.386 af, Depth= 2.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
	44,734	70	Woods, Good, HSG C
*	23,058	77	Woods, Good, HSG D
*	1,265	80	Pasture/grassland/range, Good, HSG D
	69,057	73	Weighted Average
	69,057		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.9	100	0.0350	0.05		**Sheet Flow, A-B** Woods: Dense underbrush n= 0.800 P2= 3.00"
6.6	315	0.0250	0.79		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
37.5	415	Total			

Summary for Subcatchment SC-4:

Runoff = 11.52 cfs @ 12.61 hrs, Volume= 1.733 af, Depth= 2.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	12,006	55	Woods, Good, HSG B
	55,855	70	Woods, Good, HSG C
*	103,994	61	Pasture/grassland/range, Good, HSG B
	182,438	74	Pasture/grassland/range, Good, HSG C
	354,293	69	Weighted Average
	354,293		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	100	0.0200	0.11		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.00"
27.8	1,882	0.0260	1.13		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
42.5	1,982	Total			

Summary for Pond AP-1:

Inflow Area = 0.377 ac, 6.44% Impervious, Inflow Depth = 2.83" for 25-Year event
Inflow = 0.69 cfs @ 12.45 hrs, Volume= 0.089 af
Primary = 0.69 cfs @ 12.45 hrs, Volume= 0.089 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Pond AP-2:

Inflow Area = 24.053 ac, 1.81% Impervious, Inflow Depth = 2.74" for 25-Year event
Inflow = 26.05 cfs @ 13.03 hrs, Volume= 5.489 af
Primary = 26.05 cfs @ 13.03 hrs, Volume= 5.489 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Pond AP-3:

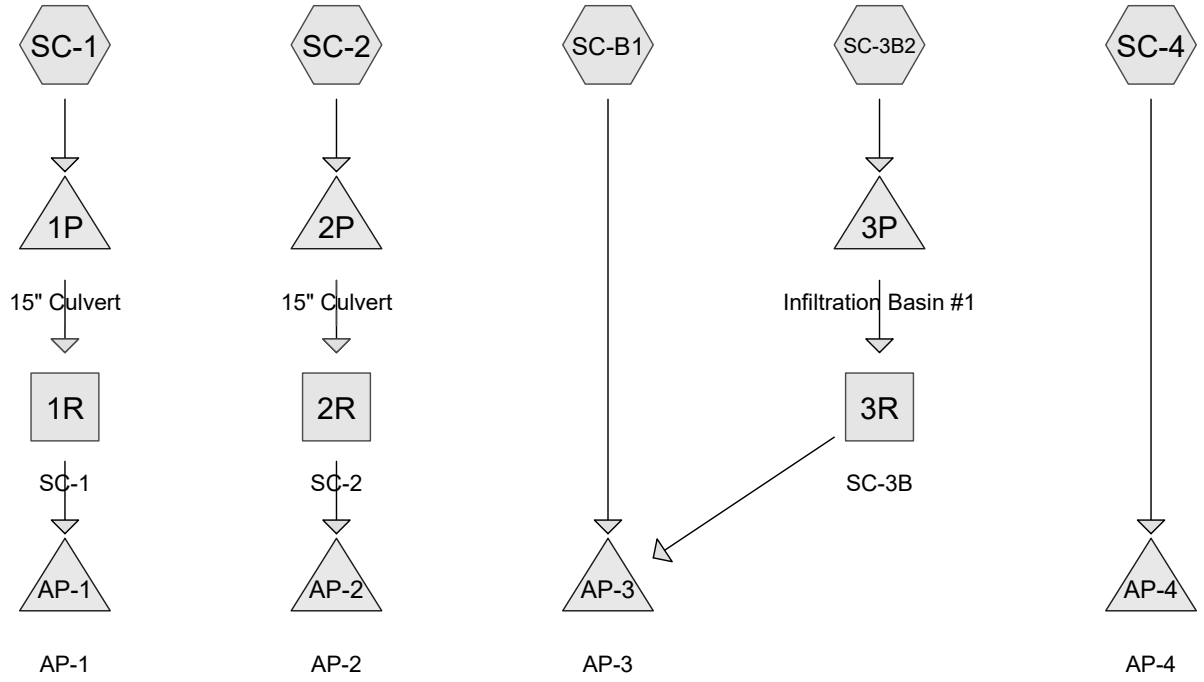
Inflow Area = 1.585 ac, 0.00% Impervious, Inflow Depth = 2.92" for 25-Year event
Inflow = 2.76 cfs @ 12.54 hrs, Volume= 0.386 af
Primary = 2.76 cfs @ 12.54 hrs, Volume= 0.386 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Pond AP-4:

Inflow Area = 8.133 ac, 0.00% Impervious, Inflow Depth = 2.56" for 25-Year event
Inflow = 11.52 cfs @ 12.61 hrs, Volume= 1.733 af
Primary = 11.52 cfs @ 12.61 hrs, Volume= 1.733 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs



Subcat Reach Pond Link

Routing Diagram for POST-DEV 202201010

Prepared by {enter your company name here}, Printed 1/10/2022

Summary for Subcatchment SC-1:

Runoff = 0.37 cfs @ 12.25 hrs, Volume= 0.038 af, Depth= 1.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	4,015	98	Pavement
	8,396	70	Woods, Good, HSG C
	4,000	74	Pasture/grassland/range, Good, HSG C
	16,411	78	Weighted Average
	12,396		75.53% Pervious Area
	4,015		24.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0400	0.10		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
0.8	25	0.0100	0.50		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.1	14	0.0530	1.61		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
17.7	139	Total			

Summary for Subcatchment SC-2:

Runoff = 7.81 cfs @ 12.92 hrs, Volume= 1.639 af, Depth= 0.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	14,413	98	Building
*	34,366	96	Gravel
*	9,850	98	Pavement
*	5,927	98	Pond
	109,692	55	Woods, Good, HSG B
	179,710	70	Woods, Good, HSG C
	15,293	77	Woods, Good, HSG D
	197,898	61	Pasture/grassland/range, Good, HSG B
	386,091	74	Pasture/grassland/range, Good, HSG C
	93,172	80	Pasture/grassland/range, Good, HSG D
	1,046,412	71	Weighted Average
	1,016,222		97.11% Pervious Area
	30,190		2.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0400	0.06		**Sheet Flow, A-B** Woods: Dense underbrush n= 0.800 P2= 3.00"
11.9	519	0.0212	0.73		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
19.8	1,208	0.0210	1.01		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
1.9	45	0.0060	0.39		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
0.6	19	0.0050	0.49		**Shallow Concentrated Flow, E-F** Short Grass Pasture Kv= 7.0 fps
63.5	1,891	Total			

Summary for Subcatchment SC-3B2:

Runoff = 1.37 cfs @ 12.05 hrs, Volume= 0.088 af, Depth= 1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	10,041	98	Pavement
*	1,582	98	Building
	9,946	74	Pasture/grassland/range, Good, HSG C
	5,819	80	Pasture/grassland/range, Good, HSG D
	27,388	85	Weighted Average
	15,765		57.56% Pervious Area
	11,623		42.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	24	0.0830	1.77		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.00"
3.0	281	0.0110	1.57		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
3.2	305	Total			

Summary for Subcatchment SC-4:

Runoff = 2.58 cfs @ 12.77 hrs, Volume= 0.488 af, Depth= 0.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	1,626	98	Building
	12,002	55	Woods, Good, HSG B
	46,480	70	Woods, Good, HSG C
	103,994	61	Pasture/grassland/range, Good, HSG B
	188,054	74	Pasture/grassland/range, Good, HSG C
	352,156	69	Weighted Average
	350,530		99.54% Pervious Area
	1,626		0.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.6	100	0.0200	0.07		**Sheet Flow, A-B** Grass: Bermuda n= 0.410 P2= 3.00"
27.8	1,882	0.0260	1.13		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
50.4	1,982	Total			

Summary for Subcatchment SC-B1:

Runoff = 0.61 cfs @ 12.35 hrs, Volume= 0.075 af, Depth= 0.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
29,672	70	Woods, Good, HSG C
13,863	77	Woods, Good, HSG D
1,589	74	Pasture/grassland/range, Good, HSG C
45,124	72	Weighted Average
45,124		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.9	100	0.0300	0.09		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
4.4	201	0.0230	0.76		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
23.3	301	Total			

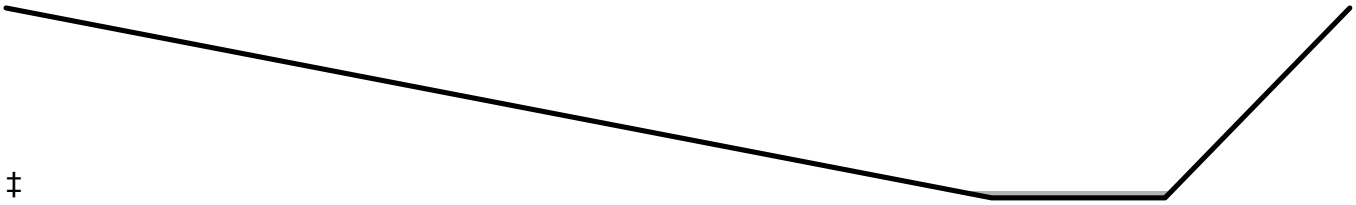
Summary for Reach 1R: SC-1

Inflow Area = 0.377 ac, 24.47% Impervious, Inflow Depth = 1.20" for 2-Year event
Inflow = 0.36 cfs @ 12.26 hrs, Volume= 0.038 af
Outflow = 0.36 cfs @ 12.27 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.94 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 0.44 fps, Avg. Travel Time= 0.4 min

Peak Storage= 4 cf @ 12.27 hrs
Average Depth at Peak Storage= 0.05'
Bank-Full Depth= 1.50' Flow Area= 41.6 sf, Capacity= 258.50 cfs

6.33' x 1.50' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 24.0 4.5 '/' Top Width= 49.08'
Length= 9.6' Slope= 0.0198 '/'
Inlet Invert= 116.70', Outlet Invert= 116.51'



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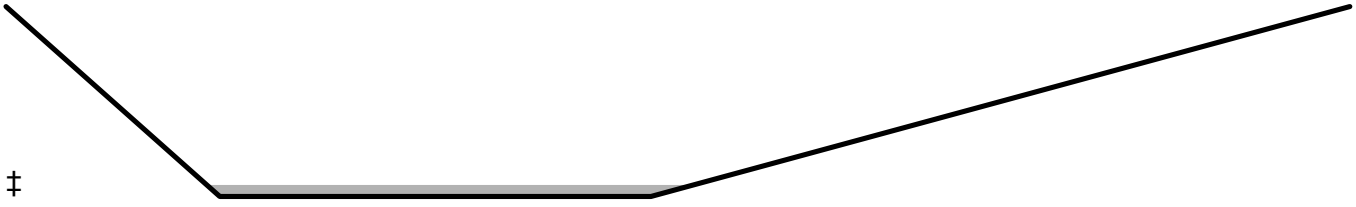
Summary for Reach 2R: SC-2

Inflow Area = 24.022 ac, 2.89% Impervious, Inflow Depth > 0.82" for 2-Year event
Inflow = 6.92 cfs @ 13.20 hrs, Volume= 1.632 af
Outflow = 6.90 cfs @ 13.32 hrs, Volume= 1.632 af, Atten= 0%, Lag= 7.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.15 fps, Min. Travel Time= 4.6 min
Avg. Velocity = 0.53 fps, Avg. Travel Time= 10.0 min

Peak Storage= 1,887 cf @ 13.25 hrs
Average Depth at Peak Storage= 0.09'
Bank-Full Depth= 1.50' Flow Area= 191.4 sf, Capacity= 1,126.10 cfs

62.00' x 1.50' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 20.5 67.0 '/' Top Width= 193.25'
Length= 315.0' Slope= 0.0143 '/'
Inlet Invert= 113.00', Outlet Invert= 108.50'



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Summary for Reach 3R: SC-3B

Inflow Area = 0.629 ac, 42.44% Impervious, Inflow Depth = 0.01" for 2-Year event
Inflow = 0.01 cfs @ 24.01 hrs, Volume= 0.000 af
Outflow = 0.01 cfs @ 24.16 hrs, Volume= 0.000 af, Atten= 4%, Lag= 9.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.49 fps, Min. Travel Time= 7.5 min
Avg. Velocity = 0.49 fps, Avg. Travel Time= 7.5 min

Peak Storage= 3 cf @ 24.04 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.50' Flow Area= 156.8 sf, Capacity= 1,274.85 cfs

52.00' x 1.50' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 27.0 43.0 '/' Top Width= 157.00'
Length= 222.0' Slope= 0.0270 '/'
Inlet Invert= 113.00', Outlet Invert= 107.00'

‡

Summary for Pond 1P: 15" Culvert

Inflow Area = 0.377 ac, 24.47% Impervious, Inflow Depth = 1.20" for 2-Year event
Inflow = 0.37 cfs @ 12.25 hrs, Volume= 0.038 af
Outflow = 0.36 cfs @ 12.26 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.6 min
Primary = 0.36 cfs @ 12.26 hrs, Volume= 0.038 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 117.18' @ 12.26 hrs Surf.Area= 61 sf Storage= 15 cf

Plug-Flow detention time= 1.2 min calculated for 0.038 af (100% of inflow)
Center-of-Mass det. time= 1.1 min (862.8 - 861.8)

Volume	Invert	Avail.Storage	Storage Description
#1	116.70'	2,058 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
116.70	0	0	0
118.00	164	107	107
120.00	1,787	1,951	2,058

Device	Routing	Invert	Outlet Devices
#1	Primary	116.75'	**15.0" Round Culvert** L= 32.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 116.75' / 116.70' S= 0.0016 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 1.23 sf
#2	Secondary	119.50'	**32.0' long x 22.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.36 cfs @ 12.26 hrs HW=117.18' (Free Discharge)
1=Culvert (Barrel Controls 0.36 cfs @ 1.44 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=116.70' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 2P: 15" Culvert

Inflow Area = 24.022 ac, 2.89% Impervious, Inflow Depth = 0.82" for 2-Year event
Inflow = 7.81 cfs @ 12.92 hrs, Volume= 1.639 af
Outflow = 6.92 cfs @ 13.20 hrs, Volume= 1.632 af, Atten= 11%, Lag= 16.8 min
Primary = 6.92 cfs @ 13.20 hrs, Volume= 1.632 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 114.63' @ 13.20 hrs Surf.Area= 10,819 sf Storage= 5,291 cf

Plug-Flow detention time= 13.8 min calculated for 1.632 af (100% of inflow)
Center-of-Mass det. time= 11.3 min (939.2 - 927.9)

Volume	Invert	Avail.Storage	Storage Description
#1	113.00'	141,665 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
113.00	0	0	0
114.00	2,326	1,163	1,163
116.00	29,371	31,697	32,860
118.00	79,434	108,805	141,665

Device	Routing	Invert	Outlet Devices
#1	Primary	113.50'	**15.0" Round Culvert X 2.00** L= 40.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 113.50' / 113.00' S= 0.0125 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 1.23 sf
#2	Secondary	117.00'	**40.0' long x 220.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=6.92 cfs @ 13.20 hrs HW=114.63' (Free Discharge)
1=Culvert (Barrel Controls 6.92 cfs @ 3.91 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=113.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 3P: Infiltration Basin #1

Inflow Area = 0.629 ac, 42.44% Impervious, Inflow Depth = 1.67" for 2-Year event
Inflow = 1.37 cfs @ 12.05 hrs, Volume= 0.088 af
Outflow = 0.01 cfs @ 24.01 hrs, Volume= 0.012 af, Atten= 99%, Lag= 717.4 min
Discarded = 0.01 cfs @ 24.01 hrs, Volume= 0.012 af
Primary = 0.01 cfs @ 24.01 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 112.50' @ 24.01 hrs Surf.Area= 3,364 sf Storage= 3,451 cf

Plug-Flow detention time= 569.9 min calculated for 0.012 af (14% of inflow)
Center-of-Mass det. time= 411.0 min (1,236.0 - 824.9)

Volume	Invert	Avail.Storage	Storage Description
#1	111.00'	5,344 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
111.00	1,415	0	0	1,415
112.00	2,573	1,965	1,965	2,584
113.00	4,255	3,379	5,344	4,278

Device	Routing	Invert	Outlet Devices
#1	Discarded	111.00'	**0.100 in/hr Exfiltration over Wetted area**
#2	Primary	112.50'	**10.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.01 cfs @ 24.01 hrs HW=112.50' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 24.01 hrs HW=112.50' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 0.00 cfs @ 0.10 fps)

Summary for Pond AP-1: AP-1

Inflow Area = 0.377 ac, 24.47% Impervious, Inflow Depth = 1.20" for 2-Year event
Inflow = 0.36 cfs @ 12.27 hrs, Volume= 0.038 af
Primary = 0.36 cfs @ 12.27 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Pond AP-2: AP-2

Inflow Area = 24.022 ac, 2.89% Impervious, Inflow Depth > 0.82" for 2-Year event
Inflow = 6.90 cfs @ 13.32 hrs, Volume= 1.632 af
Primary = 6.90 cfs @ 13.32 hrs, Volume= 1.632 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Pond AP-3: AP-3

Inflow Area = 1.665 ac, 16.03% Impervious, Inflow Depth = 0.54" for 2-Year event
Inflow = 0.61 cfs @ 12.35 hrs, Volume= 0.075 af
Primary = 0.61 cfs @ 12.35 hrs, Volume= 0.075 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Pond AP-4: AP-4

Inflow Area = 8.084 ac, 0.46% Impervious, Inflow Depth = 0.72" for 2-Year event
Inflow = 2.58 cfs @ 12.77 hrs, Volume= 0.488 af
Primary = 2.58 cfs @ 12.77 hrs, Volume= 0.488 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Subcatchment SC-1:

Runoff = 0.74 cfs @ 12.25 hrs, Volume= 0.075 af, Depth= 2.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.60"

	Area (sf)	CN	Description
*	4,015	98	Pavement
	8,396	70	Woods, Good, HSG C
	4,000	74	Pasture/grassland/range, Good, HSG C
	16,411	78	Weighted Average
	12,396		75.53% Pervious Area
	4,015		24.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0400	0.10		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
0.8	25	0.0100	0.50		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.1	14	0.0530	1.61		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
17.7	139	Total			

Summary for Subcatchment SC-2:

Runoff = 18.95 cfs @ 12.91 hrs, Volume= 3.642 af, Depth= 1.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.60"

	Area (sf)	CN	Description
*	14,413	98	Building
*	34,366	96	Gravel
*	9,850	98	Pavement
*	5,927	98	Pond
	109,692	55	Woods, Good, HSG B
	179,710	70	Woods, Good, HSG C
	15,293	77	Woods, Good, HSG D
	197,898	61	Pasture/grassland/range, Good, HSG B
	386,091	74	Pasture/grassland/range, Good, HSG C
	93,172	80	Pasture/grassland/range, Good, HSG D
	1,046,412	71	Weighted Average
	1,016,222		97.11% Pervious Area
	30,190		2.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0400	0.06		**Sheet Flow, A-B** Woods: Dense underbrush n= 0.800 P2= 3.00"
11.9	519	0.0212	0.73		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
19.8	1,208	0.0210	1.01		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
1.9	45	0.0060	0.39		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
0.6	19	0.0050	0.49		**Shallow Concentrated Flow, E-F** Short Grass Pasture Kv= 7.0 fps
63.5	1,891	Total			

Summary for Subcatchment SC-3B2:

Runoff = 2.43 cfs @ 12.05 hrs, Volume= 0.157 af, Depth= 3.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.60"

	Area (sf)	CN	Description
*	10,041	98	Pavement
*	1,582	98	Building
	9,946	74	Pasture/grassland/range, Good, HSG C
	5,819	80	Pasture/grassland/range, Good, HSG D
	27,388	85	Weighted Average
	15,765		57.56% Pervious Area
	11,623		42.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	24	0.0830	1.77		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.00"
3.0	281	0.0110	1.57		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
3.2	305	Total			

Summary for Subcatchment SC-4:

Runoff = 6.65 cfs @ 12.71 hrs, Volume= 1.126 af, Depth= 1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.60"

	Area (sf)	CN	Description
*	1,626	98	Building
	12,002	55	Woods, Good, HSG B
	46,480	70	Woods, Good, HSG C
	103,994	61	Pasture/grassland/range, Good, HSG B
	188,054	74	Pasture/grassland/range, Good, HSG C
	352,156	69	Weighted Average
	350,530		99.54% Pervious Area
	1,626		0.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.6	100	0.0200	0.07		**Sheet Flow, A-B** Grass: Bermuda n= 0.410 P2= 3.00"
27.8	1,882	0.0260	1.13		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
50.4	1,982	Total			

Summary for Subcatchment SC-B1:

Runoff = 1.42 cfs @ 12.34 hrs, Volume= 0.164 af, Depth= 1.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
29,672	70	Woods, Good, HSG C
13,863	77	Woods, Good, HSG D
1,589	74	Pasture/grassland/range, Good, HSG C
45,124	72	Weighted Average
45,124		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.9	100	0.0300	0.09		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
4.4	201	0.0230	0.76		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
23.3	301	Total			

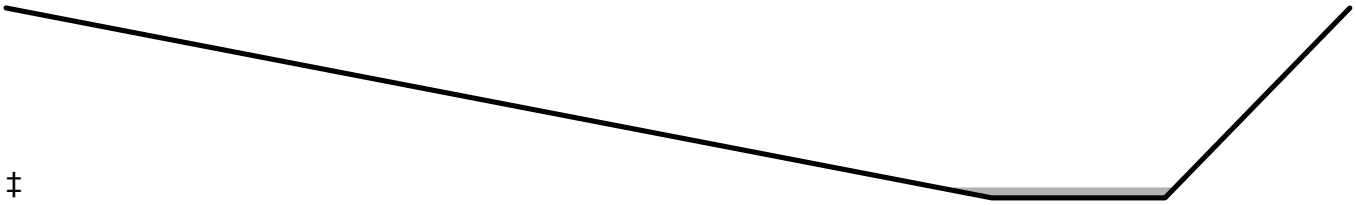
Summary for Reach 1R: SC-1

Inflow Area = 0.377 ac, 24.47% Impervious, Inflow Depth = 2.38" for 10-Year event
Inflow = 0.74 cfs @ 12.26 hrs, Volume= 0.075 af
Outflow = 0.74 cfs @ 12.26 hrs, Volume= 0.075 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.20 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 0.47 fps, Avg. Travel Time= 0.3 min

Peak Storage= 6 cf @ 12.26 hrs
Average Depth at Peak Storage= 0.08'
Bank-Full Depth= 1.50' Flow Area= 41.6 sf, Capacity= 258.50 cfs

6.33' x 1.50' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 24.0 4.5 '/' Top Width= 49.08'
Length= 9.6' Slope= 0.0198 '/'
Inlet Invert= 116.70', Outlet Invert= 116.51'



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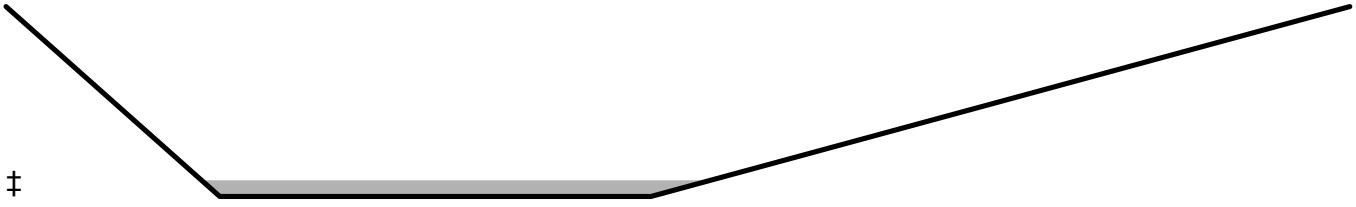
Summary for Reach 2R: SC-2

Inflow Area = 24.022 ac, 2.89% Impervious, Inflow Depth = 1.82" for 10-Year event
Inflow = 12.24 cfs @ 13.43 hrs, Volume= 3.635 af
Outflow = 12.23 cfs @ 13.53 hrs, Volume= 3.635 af, Atten= 0%, Lag= 6.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.42 fps, Min. Travel Time= 3.7 min
Avg. Velocity = 0.65 fps, Avg. Travel Time= 8.1 min

Peak Storage= 2,708 cf @ 13.47 hrs
Average Depth at Peak Storage= 0.13'
Bank-Full Depth= 1.50' Flow Area= 191.4 sf, Capacity= 1,126.10 cfs

62.00' x 1.50' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 20.5 67.0 '/' Top Width= 193.25'
Length= 315.0' Slope= 0.0143 '/'
Inlet Invert= 113.00', Outlet Invert= 108.50'



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Summary for Reach 3R: SC-3B

Inflow Area = 0.629 ac, 42.44% Impervious, Inflow Depth = 1.31" for 10-Year event
Inflow = 0.46 cfs @ 12.47 hrs, Volume= 0.069 af
Outflow = 0.36 cfs @ 12.73 hrs, Volume= 0.069 af, Atten= 22%, Lag= 15.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.49 fps, Min. Travel Time= 7.5 min
Avg. Velocity = 0.49 fps, Avg. Travel Time= 7.5 min

Peak Storage= 163 cf @ 12.60 hrs
Average Depth at Peak Storage= 0.01'
Bank-Full Depth= 1.50' Flow Area= 156.8 sf, Capacity= 1,274.85 cfs

52.00' x 1.50' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 27.0 43.0 '/' Top Width= 157.00'
Length= 222.0' Slope= 0.0270 '/'
Inlet Invert= 113.00', Outlet Invert= 107.00'

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Summary for Pond 1P: 15" Culvert

Inflow Area = 0.377 ac, 24.47% Impervious, Inflow Depth = 2.38" for 10-Year event
Inflow = 0.74 cfs @ 12.25 hrs, Volume= 0.075 af
Outflow = 0.74 cfs @ 12.26 hrs, Volume= 0.075 af, Atten= 0%, Lag= 0.5 min
Primary = 0.74 cfs @ 12.26 hrs, Volume= 0.075 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 117.36' @ 12.26 hrs Surf.Area= 83 sf Storage= 27 cf

Plug-Flow detention time= 0.9 min calculated for 0.075 af (100% of inflow)
Center-of-Mass det. time= 0.9 min (842.7 - 841.8)

Volume	Invert	Avail.Storage	Storage Description
#1	116.70'	2,058 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
116.70	0	0	0
118.00	164	107	107
120.00	1,787	1,951	2,058

Device	Routing	Invert	Outlet Devices
#1	Primary	116.75'	**15.0" Round Culvert** L= 32.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 116.75' / 116.70' S= 0.0016 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 1.23 sf
#2	Secondary	119.50'	**32.0' long x 22.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.74 cfs @ 12.26 hrs HW=117.36' (Free Discharge)
1=Culvert (Barrel Controls 0.74 cfs @ 1.83 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=116.70' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 2P: 15" Culvert

Inflow Area = 24.022 ac, 2.89% Impervious, Inflow Depth = 1.82" for 10-Year event
Inflow = 18.95 cfs @ 12.91 hrs, Volume= 3.642 af
Outflow = 12.24 cfs @ 13.43 hrs, Volume= 3.635 af, Atten= 35%, Lag= 31.2 min
Primary = 12.24 cfs @ 13.43 hrs, Volume= 3.635 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 115.68' @ 13.43 hrs Surf.Area= 25,073 sf Storage= 24,207 cf

Plug-Flow detention time= 20.0 min calculated for 3.635 af (100% of inflow)
Center-of-Mass det. time= 18.8 min (921.7 - 902.9)

Volume	Invert	Avail.Storage	Storage Description
#1	113.00'	141,665 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
113.00	0	0	0
114.00	2,326	1,163	1,163
116.00	29,371	31,697	32,860
118.00	79,434	108,805	141,665

Device	Routing	Invert	Outlet Devices
#1	Primary	113.50'	**15.0" Round Culvert X 2.00** L= 40.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 113.50' / 113.00' S= 0.0125 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 1.23 sf
#2	Secondary	117.00'	**40.0' long x 220.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=12.24 cfs @ 13.43 hrs HW=115.68' (Free Discharge)
1=Culvert (Barrel Controls 12.24 cfs @ 4.99 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=113.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 3P: Infiltration Basin #1

Inflow Area = 0.629 ac, 42.44% Impervious, Inflow Depth = 3.00" for 10-Year event
Inflow = 2.43 cfs @ 12.05 hrs, Volume= 0.157 af
Outflow = 0.47 cfs @ 12.47 hrs, Volume= 0.082 af, Atten= 81%, Lag= 25.3 min
Discarded = 0.01 cfs @ 12.47 hrs, Volume= 0.013 af
Primary = 0.46 cfs @ 12.47 hrs, Volume= 0.069 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 112.57' @ 12.47 hrs Surf.Area= 3,481 sf Storage= 3,686 cf

Plug-Flow detention time= 265.3 min calculated for 0.082 af (52% of inflow)
Center-of-Mass det. time= 154.1 min (962.4 - 808.2)

Volume	Invert	Avail.Storage	Storage Description
#1	111.00'	5,344 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
111.00	1,415	0	0	1,415
112.00	2,573	1,965	1,965	2,584
113.00	4,255	3,379	5,344	4,278

Device	Routing	Invert	Outlet Devices
#1	Discarded	111.00'	**0.100 in/hr Exfiltration over Wetted area**
#2	Primary	112.50'	**10.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.01 cfs @ 12.47 hrs HW=112.57' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.46 cfs @ 12.47 hrs HW=112.57' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Weir Controls 0.46 cfs @ 0.65 fps)

Summary for Pond AP-1: AP-1

Inflow Area = 0.377 ac, 24.47% Impervious, Inflow Depth = 2.38" for 10-Year event
Inflow = 0.74 cfs @ 12.26 hrs, Volume= 0.075 af
Primary = 0.74 cfs @ 12.26 hrs, Volume= 0.075 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Pond AP-2: AP-2

Inflow Area = 24.022 ac, 2.89% Impervious, Inflow Depth > 1.82" for 10-Year event
Inflow = 12.23 cfs @ 13.53 hrs, Volume= 3.635 af
Primary = 12.23 cfs @ 13.53 hrs, Volume= 3.635 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Pond AP-3: AP-3

Inflow Area = 1.665 ac, 16.03% Impervious, Inflow Depth = 1.67" for 10-Year event
Inflow = 1.42 cfs @ 12.34 hrs, Volume= 0.232 af
Primary = 1.42 cfs @ 12.34 hrs, Volume= 0.232 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Pond AP-4: AP-4

Inflow Area = 8.084 ac, 0.46% Impervious, Inflow Depth = 1.67" for 10-Year event
Inflow = 6.65 cfs @ 12.71 hrs, Volume= 1.126 af
Primary = 6.65 cfs @ 12.71 hrs, Volume= 1.126 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Subcatchment SC-1:

Runoff = 1.07 cfs @ 12.25 hrs, Volume= 0.107 af, Depth= 3.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	4,015	98	Pavement
	8,396	70	Woods, Good, HSG C
	4,000	74	Pasture/grassland/range, Good, HSG C
	16,411	78	Weighted Average
	12,396		75.53% Pervious Area
	4,015		24.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0400	0.10		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
0.8	25	0.0100	0.50		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.1	14	0.0530	1.61		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
17.7	139	Total			

Summary for Subcatchment SC-2:

Runoff = 29.05 cfs @ 12.91 hrs, Volume= 5.482 af, Depth= 2.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	14,413	98	Building
*	34,366	96	Gravel
*	9,850	98	Pavement
*	5,927	98	Pond
	109,692	55	Woods, Good, HSG B
	179,710	70	Woods, Good, HSG C
	15,293	77	Woods, Good, HSG D
	197,898	61	Pasture/grassland/range, Good, HSG B
	386,091	74	Pasture/grassland/range, Good, HSG C
	93,172	80	Pasture/grassland/range, Good, HSG D
	1,046,412	71	Weighted Average
	1,016,222		97.11% Pervious Area
	30,190		2.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0400	0.06		**Sheet Flow, A-B** Woods: Dense underbrush n= 0.800 P2= 3.00"
11.9	519	0.0212	0.73		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
19.8	1,208	0.0210	1.01		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
1.9	45	0.0060	0.39		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
0.6	19	0.0050	0.49		**Shallow Concentrated Flow, E-F** Short Grass Pasture Kv= 7.0 fps
63.5	1,891	Total			

Summary for Subcatchment SC-3B2:

Runoff = 3.30 cfs @ 12.05 hrs, Volume= 0.216 af, Depth= 4.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	10,041	98	Pavement
*	1,582	98	Building
	9,946	74	Pasture/grassland/range, Good, HSG C
	5,819	80	Pasture/grassland/range, Good, HSG D
	27,388	85	Weighted Average
	15,765		57.56% Pervious Area
	11,623		42.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	24	0.0830	1.77		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.00"
3.0	281	0.0110	1.57		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
3.2	305	Total			

Summary for Subcatchment SC-4:

Runoff = 10.43 cfs @ 12.71 hrs, Volume= 1.723 af, Depth= 2.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	1,626	98	Building
	12,002	55	Woods, Good, HSG B
	46,480	70	Woods, Good, HSG C
	103,994	61	Pasture/grassland/range, Good, HSG B
	188,054	74	Pasture/grassland/range, Good, HSG C
	352,156	69	Weighted Average
	350,530		99.54% Pervious Area
	1,626		0.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.6	100	0.0200	0.07		**Sheet Flow, A-B** Grass: Bermuda n= 0.410 P2= 3.00"
27.8	1,882	0.0260	1.13		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
50.4	1,982	Total			

Summary for Subcatchment SC-B1:

Runoff = 2.16 cfs @ 12.33 hrs, Volume= 0.244 af, Depth= 2.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.80"

Area (sf)	CN	Description
29,672	70	Woods, Good, HSG C
13,863	77	Woods, Good, HSG D
1,589	74	Pasture/grassland/range, Good, HSG C
45,124	72	Weighted Average
45,124		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.9	100	0.0300	0.09		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
4.4	201	0.0230	0.76		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
23.3	301	Total			

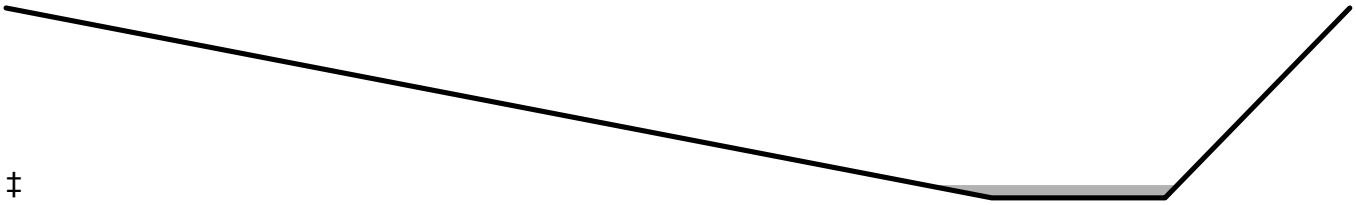
Summary for Reach 1R: SC-1

Inflow Area = 0.377 ac, 24.47% Impervious, Inflow Depth = 3.40" for 25-Year event
Inflow = 1.06 cfs @ 12.25 hrs, Volume= 0.107 af
Outflow = 1.06 cfs @ 12.26 hrs, Volume= 0.107 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.35 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 0.50 fps, Avg. Travel Time= 0.3 min

Peak Storage= 8 cf @ 12.25 hrs
Average Depth at Peak Storage= 0.10'
Bank-Full Depth= 1.50' Flow Area= 41.6 sf, Capacity= 258.50 cfs

6.33' x 1.50' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 24.0 4.5 '/' Top Width= 49.08'
Length= 9.6' Slope= 0.0198 '/'
Inlet Invert= 116.70', Outlet Invert= 116.51'



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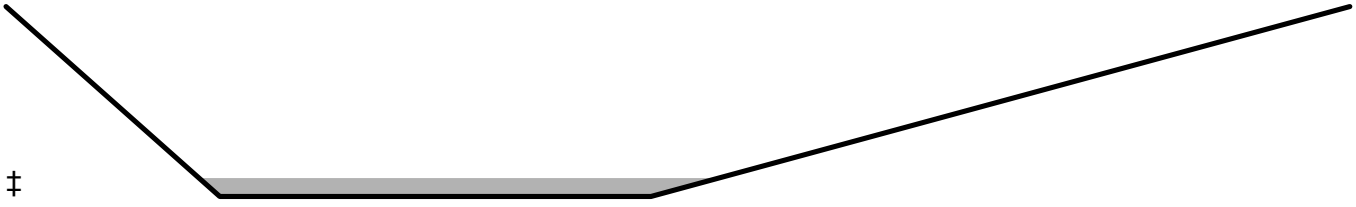
Summary for Reach 2R: SC-2

Inflow Area = 24.022 ac, 2.89% Impervious, Inflow Depth = 2.74" for 25-Year event
Inflow = 15.29 cfs @ 13.58 hrs, Volume= 5.475 af
Outflow = 15.28 cfs @ 13.67 hrs, Volume= 5.475 af, Atten= 0%, Lag= 5.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.54 fps, Min. Travel Time= 3.4 min
Avg. Velocity = 0.73 fps, Avg. Travel Time= 7.2 min

Peak Storage= 3,122 cf @ 13.61 hrs
Average Depth at Peak Storage= 0.14'
Bank-Full Depth= 1.50' Flow Area= 191.4 sf, Capacity= 1,126.10 cfs

62.00' x 1.50' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 20.5 67.0 '/' Top Width= 193.25'
Length= 315.0' Slope= 0.0143 '/'
Inlet Invert= 113.00', Outlet Invert= 108.50'



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Summary for Reach 3R: SC-3B

Inflow Area = 0.629 ac, 42.44% Impervious, Inflow Depth = 2.42" for 25-Year event
Inflow = 1.50 cfs @ 12.17 hrs, Volume= 0.127 af
Outflow = 1.33 cfs @ 12.35 hrs, Volume= 0.127 af, Atten= 11%, Lag= 10.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.80 fps, Min. Travel Time= 4.6 min
Avg. Velocity = 0.50 fps, Avg. Travel Time= 7.4 min

Peak Storage= 368 cf @ 12.27 hrs
Average Depth at Peak Storage= 0.03'
Bank-Full Depth= 1.50' Flow Area= 156.8 sf, Capacity= 1,274.85 cfs

52.00' x 1.50' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 27.0 43.0 '/' Top Width= 157.00'
Length= 222.0' Slope= 0.0270 '/'
Inlet Invert= 113.00', Outlet Invert= 107.00'

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Summary for Pond 1P: 15" Culvert

Inflow Area = 0.377 ac, 24.47% Impervious, Inflow Depth = 3.40" for 25-Year event
Inflow = 1.07 cfs @ 12.25 hrs, Volume= 0.107 af
Outflow = 1.06 cfs @ 12.25 hrs, Volume= 0.107 af, Atten= 0%, Lag= 0.4 min
Primary = 1.06 cfs @ 12.25 hrs, Volume= 0.107 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 117.48' @ 12.25 hrs Surf.Area= 98 sf Storage= 38 cf

Plug-Flow detention time= 0.9 min calculated for 0.107 af (100% of inflow)
Center-of-Mass det. time= 0.8 min (832.3 - 831.4)

Volume	Invert	Avail.Storage	Storage Description
#1	116.70'	2,058 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
116.70	0	0	0
118.00	164	107	107
120.00	1,787	1,951	2,058

Device	Routing	Invert	Outlet Devices
#1	Primary	116.75'	**15.0" Round Culvert** L= 32.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 116.75' / 116.70' S= 0.0016 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 1.23 sf
#2	Secondary	119.50'	**32.0' long x 22.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=1.06 cfs @ 12.25 hrs HW=117.48' (Free Discharge)
└**1=Culvert** (Barrel Controls 1.06 cfs @ 2.07 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=116.70' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 2P: 15" Culvert

Inflow Area = 24.022 ac, 2.89% Impervious, Inflow Depth = 2.74" for 25-Year event
Inflow = 29.05 cfs @ 12.91 hrs, Volume= 5.482 af
Outflow = 15.29 cfs @ 13.58 hrs, Volume= 5.475 af, Atten= 47%, Lag= 40.2 min
Primary = 15.29 cfs @ 13.58 hrs, Volume= 5.475 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 116.48' @ 13.58 hrs Surf.Area= 41,482 sf Storage= 50,001 cf

Plug-Flow detention time= 30.5 min calculated for 5.475 af (100% of inflow)
Center-of-Mass det. time= 29.7 min (920.6 - 890.9)

Volume	Invert	Avail.Storage	Storage Description
#1	113.00'	141,665 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
113.00	0	0	0
114.00	2,326	1,163	1,163
116.00	29,371	31,697	32,860
118.00	79,434	108,805	141,665

Device	Routing	Invert	Outlet Devices
#1	Primary	113.50'	**15.0" Round Culvert X 2.00** L= 40.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 113.50' / 113.00' S= 0.0125 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 1.23 sf
#2	Secondary	117.00'	**40.0' long x 220.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=15.29 cfs @ 13.58 hrs HW=116.48' (Free Discharge)
└**1=Culvert** (Barrel Controls 15.29 cfs @ 6.23 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=113.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 3P: Infiltration Basin #1

Inflow Area = 0.629 ac, 42.44% Impervious, Inflow Depth = 4.11" for 25-Year event
Inflow = 3.30 cfs @ 12.05 hrs, Volume= 0.216 af
Outflow = 1.51 cfs @ 12.17 hrs, Volume= 0.140 af, Atten= 54%, Lag= 7.5 min
Discarded = 0.01 cfs @ 12.17 hrs, Volume= 0.013 af
Primary = 1.50 cfs @ 12.17 hrs, Volume= 0.127 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 112.66' @ 12.17 hrs Surf.Area= 3,628 sf Storage= 3,988 cf

Plug-Flow detention time= 199.8 min calculated for 0.140 af (65% of inflow)
Center-of-Mass det. time= 100.8 min (900.1 - 799.3)

Volume	Invert	Avail.Storage	Storage Description
#1	111.00'	5,344 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
111.00	1,415	0	0	1,415
112.00	2,573	1,965	1,965	2,584
113.00	4,255	3,379	5,344	4,278

Device	Routing	Invert	Outlet Devices
#1	Discarded	111.00'	**0.100 in/hr Exfiltration over Wetted area**
#2	Primary	112.50'	**10.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.01 cfs @ 12.17 hrs HW=112.66' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=1.50 cfs @ 12.17 hrs HW=112.66' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Weir Controls 1.50 cfs @ 0.96 fps)

Summary for Pond AP-1: AP-1

Inflow Area = 0.377 ac, 24.47% Impervious, Inflow Depth = 3.40" for 25-Year event
Inflow = 1.06 cfs @ 12.26 hrs, Volume= 0.107 af
Primary = 1.06 cfs @ 12.26 hrs, Volume= 0.107 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Pond AP-2: AP-2

Inflow Area = 24.022 ac, 2.89% Impervious, Inflow Depth = 2.74" for 25-Year event
Inflow = 15.28 cfs @ 13.67 hrs, Volume= 5.475 af
Primary = 15.28 cfs @ 13.67 hrs, Volume= 5.475 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Pond AP-3: AP-3

Inflow Area = 1.665 ac, 16.03% Impervious, Inflow Depth = 2.67" for 25-Year event
Inflow = 3.49 cfs @ 12.34 hrs, Volume= 0.371 af
Primary = 3.49 cfs @ 12.34 hrs, Volume= 0.371 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Pond AP-4: AP-4

Inflow Area = 8.084 ac, 0.46% Impervious, Inflow Depth = 2.56" for 25-Year event
Inflow = 10.43 cfs @ 12.71 hrs, Volume= 1.723 af
Primary = 10.43 cfs @ 12.71 hrs, Volume= 1.723 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

APPENDIX G

MEDOT DRIVEWAY ENTRANCE PERMIT

SME
SEVEE & MAHER
ENGINEERS

SME
SEVEE & MAHER
ENGINEERS

4 Blanchard Road, P.O. Box 85A
Cumberland, ME 04021
Tel: 207.829.5016 • Fax: 207.829.5692
info@sme-engineers.com
sme-engineers.com

January 6, 2022

VIA EMAIL

Van Terrell
Maine Department of Transportation Region 1

E-mail: Van.Terrell@maine.gov

Subject: 78 Walnut Hill Road /ME Route 115, North Yarmouth, ME
MaineDOT Driveway/Entrance Permit Application

Dear Mr. Terrell:

On behalf of Miles Hunt and the Learning Loft Preschool, Sevee & Maher Engineers, Inc. (SME) is pleased to submit the attached Maine Department of Transportation (MaineDOT) Driveway/Entrance Permit Application for a single-family residence and 24' by 36' accessory structure to serve as a preschool in North Yarmouth, Maine. The proposed site entrance is shown in Figure 1.

The property is located off Walnut Hill Road/ME Route 115 in North Yarmouth on a 4.50-acre parcel identified as Lot 62 of North Yarmouth Tax Map 1. The majority of the site is forested. The property is bounded by Walnut Hill Road/ME Route 115 to the northeast and existing residential development to the northwest and southeast. A Central Maine Power Company utility corridor exists to the southwest. The North Yarmouth Tax Map 1 and a copy of the Boundary Survey are attached to this application.

The property is currently served by an existing entrance permitted through MaineDOT by a previous owner. The location of the existing entrance and lot geometry do not allow the proposed access drive to be constructed to current Town geometric design standards and restrict emergency vehicle access to the proposed residence and preschool.

The proposed location for the new access drive will allow a more direct entry to the property constructed to Town private road standards. The access road will be 20-feet wide and feature a cul-de-sac turnaround to facilitate internal traffic circulation and accommodate emergency vehicle access. Sight distance from the proposed entrance is 425 feet looking southeast and over 500 feet looking northwest on ME Route 115.

Please feel free to contact me at 207.829.5016 or jtr@smemaine.com if you have any questions or need additional information.

Very truly yours,

SEVEE & MAHER ENGINEERS, INC.

Jeffrey T. Read, P.E.

Attachments: Application for Driveway/Entrance Permit
Figure 1 – Maine Department of Transportation Plan
North Yarmouth Tax Map 1
Boundary Survey

cc: Miles Hunt, Esq.

APPLICATION FOR DRIVEWAY/ENTRANCE PERMIT

SME
SEVEE & MAHER
ENGINEERS

Date Received:	**APPLICATION FOR DRIVEWAY/ENTRANCE PERMIT** **MAINE DEPARTMENT OF TRANSPORTATION** **P.O. Box 358** **Scarborough, ME 04070** **Phone: (207)-885-7000 FAX: (207)-883-3806**
Application No. _____	

Application is hereby made to construct, change location, grade or use served by a driveway or entrance to property in accordance with Title 23 M.R.S.A. § 704 and §705.

Section A Property Owner Information

1. Land Owner's Name: Learning Loft Preschool c/o Miles Hunt Phone# 207-722-4100 x. 410
2. Land Owner's Mailing Address: 159 Longwoods Road, Cumberland, ME 04021
   Address Town/City State Zip Code
3. Applicant or Agent's Name: Jeffrey Read, Sevee & Maher Engineers, Inc Phone # 207-829-5016
4. Applicant/Agent Mailing Address: 4 Blanchard Road Cumberland, ME 04021
   Address Town/City State Zip Code
5. Other contact information: jtr@smemaine.com Work _____ Cell _____

Section B Property Location Information

6. Directions to property: From I-295N, take exit 15 towards Yarmouth, turn right onto US Route 1 and continue for 1.2 miles. Turn right onto York Street, then turn right onto Route 115 / Main Street and continue for 2.3 miles. The Site Entrance is on the left.
7. Route No. ME 115 Road Name: Walnut Hill Road
8. ❒North ❒ South ❒East ❒West – side of highway
9. City/Town: North Yarmouth County: Cumberland
10. Distance from nearest intersection: 0.4 miles Name of Intersection: Fairy Tale Lane /Walnut Hill Road
    (estimated in tenths of a mile)
11. Nearest Utility Pole #: 54 Attach Survey Data *(if available)*
12. Map and Lot number 1/62 (**MUST** provide copy of tax map) Lot prior to May 25,2002? ___ Yes X No

Proposed Location of Driveway/Entrance shall be staked and flagged by applicant.

Section C Driveway/ Entrance Information

13. Desired width of Driveway/Entrance: 20 (feet) Type of Surface: Reclaimed Asphalt (gravel, pavement, etc.)
14. Will the development associated with this driveway/entrance have more than 10,000 square feet of impervious surface draining towards the highway? YES _____ NO X "Impervious surfaces" are the footprint of buildings, pavement, gravel, or other low-permeability or compacted surfaces, not including natural or man-made water bodies.
15. Does your property have an existing access? X yes _____ no (If no go to line 18)
16. If this is an existing access and you are changing its use, please describe _____ Go to Section D.
17. If this is an existing access and you are physically modifying, please describe: Shift the access entrance 65' west to allow emergency truck access into site Go to Section D.
18. Proposed Driveway/Entrance Purpose: ☑ Single Family Residence ❒ Home Business ❒ Commercial/Industrial ❒ Subdivision or Development ❒ Multi-family with 5 or less units ❒ Multifamily with more than 5 units ❒ Retail ❒ Office ❒School ❒Business Park ❒ Mall ❒ Other (explain) Private Preschool Facility
    # employees/day 2 # customers/day 16 Busiest time of day 7:30 AM # of Lots 2

Section D Construction Information

19. Construction expected to begin on Spring 2022 (date) and be completed on Fall 2022 (date)
20. Person/Company constructing entrance MB Contracting
21. Construction contacts name Mike Burgess Phone 207-653-7367

Site Sketch or attach Site Plan

THE OWNER HEREBY AGREES

1) Provide, erect and maintain all necessary barricades, lights, warning signs and other devices to direct traffic safely while the work is in progress.
2) **At no time cause the highway to be closed to traffic.**
3) Where the drive/entrance is located within a curb, curb and gutter, and/or sidewalk section, completely remove the existing curb, curb and gutter, and/or sidewalk as may be required to create the drive/entrance and restore drainage. All driveways/entrances abutting sidewalk sections shall meet the requirements set forth in the Americans with Disabilities Act of 1990, 42 U.S.C. §§ 12132 et seq.
4) Obtain, deliver to site and install any culverts and/or drainage structures necessary for drainage; the size, type and length of such culverts or structures shall be as specified in the permit pursuant to 23 M.R.S.A. § 705. **All culverts and/or drainage structures shall be new.**
5) Complete construction of proposed driveway/entrance within twelve months of commencement of construction.
6) COMPLY WITH ALL FEDERAL, STATE AND MUNICIPAL LAWS AND ORDINANCES.
7) Not alter, without the express written consent of the MDOT, any culverts, drainage patterns or swales within MDOT right-of-way.
8) File a copy of the approved driveway/entrance permit with the affected municipality or LURC, as appropriate, within 5 business days of receiving the MDOT approval.
9) Shall construct and maintain the entrance side slopes to be no steeper than the adjacent roadway side slopes, but in no case to be steeper than 3 horizontal to 1 vertical, unless the side slope is behind existing roadway guardrail, in which case it shall be no steeper than 2 horizontal to 1 vertical.
10) Notify the MeDOT(in writing) of a proposed change to use served by driveway/entrance when increase in traffic flow is expected to occur. This does not exempt the need for obtaining a Traffic Movement Permit (TMP) if trip generation meets or exceeds 100 passenger car equivalents (pce) during the peak hour of the day.

Draw arrow to show "North"

FURTHER CONDITION OF THE PERMIT:

The owner shall assume the defense of, and pay all damages, fines, and penalties for which he/she shall become liable, and shall indemnify and safe harmless said Department, its representatives, agents and employees from liability, actions against all suite, claims, damages for wrongful death, personal injuries or property damage suffered by any person or association which results from the willful or negligent action or inaction of the owner/applicant/agent and in proceedings of every kind arising out of the construction and maintenance of said entrance(s), including snow removal. Nothing herein shall, nor is intended to, waive and defense, immunity or limitation of liability which may be available to the MDOT, their officers, agents or employees under the Maine Tort Claims Act or any other privileges and/or immunities provided by law.

The submission of false or misleading statements on or with this application, or the omission of information necessary to prevent statements submitted herein or herewith from being misleading, is a crime punishable under Chapter 19 of the Maine Criminal Code, and any permit issued in reliance thereon will be considered null and void without notice or further action by the Department.

Date Filed: _____ Miles Hunt, Esq. _____

Signature of Owner

Signature of Applicant _____

☑ **By signing and checking this box I hereby certify that I have been granted permission from the property owner to act in their behalf.**

FIGURE 1 – MAINE DEPARTMENT OF TRANSPORTATION PLAN

SME
SEVEE & MAHER
ENGINEERS

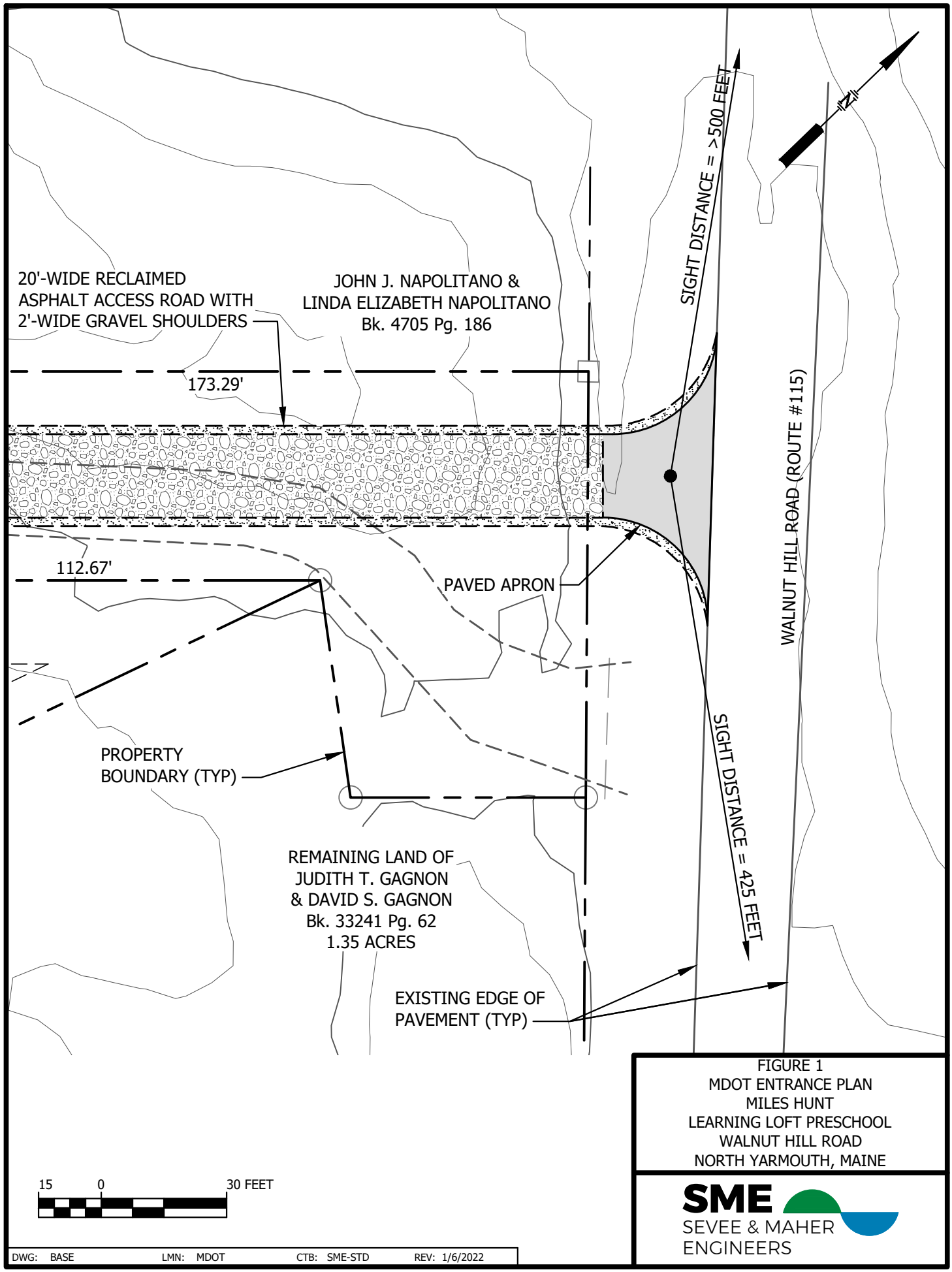


FIGURE 1
MDOT ENTRANCE PLAN
MILES HUNT
LEARNING LOFT PRESCHOOL
WALNUT HILL ROAD
NORTH YARMOUTH, MAINE

SME
SEVEE & MAHER
ENGINEERS

\\NSERVER\cfs\Miles Hunt\North Yarmouth Pre-school\Acad\Plans\BASE.dwg, 1/6/2022 2:50:55 PM, jrl

NORTH YARMOUTH TAX MAP 1

SME
SEVEE & MAHER
ENGINEERS

Tax Sheets are intended for assessing purposes only. Boundary locations are approximateand should not be used for conveyance of property.

Maps updated - 01/28/2021

Legend

Parcel
Town
Railroad
Road
Water
Cemetery
ROW
Stream

North Yarmouth, Maine

Maps Prepared by:

Cumberland County Regional Assessing

0 300 600

1 inch = 300 Feet

Tax Sheet

1

BOUNDARY SURVEY

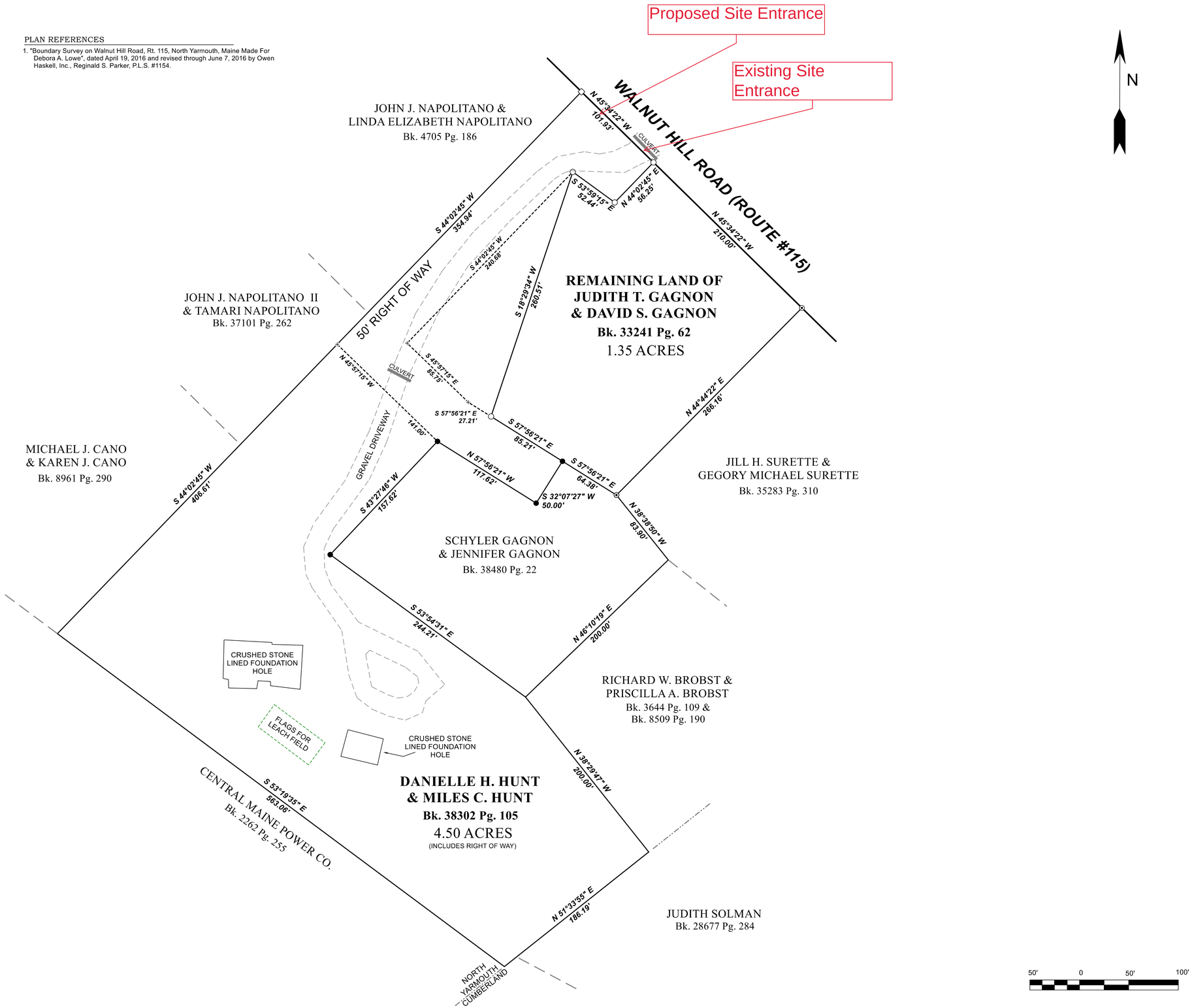
SME
SEVEE & MAHER
ENGINEERS

NOTES

1. Bearings refer to Maine State Grid West Zone (see plan reference).
2. Deed references are to the Cumberland County Registry of Deeds.
3. Iron rods set are 5/8" rebar, 40" long, with plastic cap P.L.S. #2495, driven to within 12" of the ground surface, unless otherwise noted.
4. The existing boundary of this lot is based on the plan reference.

PLAN REFERENCES

1. "Boundary Survey on Walnut Hill Road, Rt. 115, North Yarmouth, Maine Made For Debora A. Lowe", dated April 19, 2016 and revised through June 7, 2016 by Owen Haskell, Inc., Reginald S. Parker, P.L.S. #1154.



LEGEND

- ○ Iron Rod With Cap P.L.S. #1154
- ● Iron Rod Set
- ⊙ Iron Pipe
- □ Broken Concrete Monument
- \+ Angle Point In Right Of Way

STATE OF MAINE
MATTHEW C. BURKE
2495
PROFESSIONAL LAND SURVEYOR

Matthew C. Burke
PLS #2495

REV:	BY:	DATE:	DESCRIPTION:

RIVERSIDE SURVEY, LLC
711 BOLSTERS MILLS ROAD
HARRISON, ME 04040
207-583-4891

SITE LOCATION FOR
MILES HUNT
WALNUT HILL ROAD (ROUTE #115)
NORTH YARMOUTH, MAINE

OWNERS OF RECORD:
MILES C. HUNT &
DANIELLE H. HUNT

DATE	SCALE
9-17-2021	1" = 50'

112-2121-D

APPENDIX H

WETLANDS REPORT

SME
SEVEE & MAHER
ENGINEERS

Albert Frick Associates, Inc
Environmental Consultants
731 Foss Road Limerick, ME 04048
(207) 839-5563 FAX (207) 839-5564
www.albertfrick.com info@albertfrick.com

October 11, 2021

Mr. Jeff Read, P.E.
Sevee & Maher Engineers, Inc.
4 Blanchard Road, PO BOX 85A
Cumberland, ME 04021

RE: *Wetland Delineation*: 78 Walnut Hill Road (Map 1, Lot 62), North Yarmouth.

Dear Jeff:

On September 29th, 2021, I completed a wetland delineation at the above-mentioned property. The scope of delineation included the proposed right-of-way leading to the main portion of the lot. Wetlands were previously delineated by Sebago Technics. I reviewed the existing delineation and observed that a driveway was constructed after that delineation had been completed. A portion of the driveway was constructed in the delineated wetland. I refreshed the wetland boundary with blue flags using alphanumerical labels. These flags were GPS located using a Trimble Geo 7x Hand-Held unit. The attached site plan illustrates the existing conditions of the property, namely the ROW.

Based on observations during the delineation and analysis of NWI maps, it appears that wetland impacts in the ROW would be eligible for the normal Tier review process; hence no wetlands of special significance were observed on the property. Offsite per the NWI map, there is an emergent wetland that is over 20,000 SF in size which may be connected to the property wetlands by a drainage or water course. Typically, DEP does not consider a water course as a connector of two different wetlands; the connection has to be a wetland connection. Therefore, based on NWI analysis, the potential off-site WOSS would not be contiguous with the ROW/property wetlands since the connection is a watercourse.

If the wetland impact associated with the driveway amounts to 4,300 SF or less, a DEP permit is not necessary as the impact qualifies as an exempt fill, per NRPA 480 (Q) (17) in my opinion. However, any amount of impact requires a Corps approval under the CWA, Section 404 pursuant to the Maine General Permit (GP). Total wetland impact would include the existing impact plus additional impact if the driveway was relocated and additional impact was incurred as a result. The Corps may require restoration of wetland impacts that are not necessary for the access road (driveway). Please contact me if you have any questions or matters for further discussion. I can be reached by phone at 756-3245 or by email at chris@albertfrick.com.
Sincerely,

Christopher J. Coppi

Christopher J. Coppi LSS, LSE, CWS
Independent Consulting Scientist *Enclosures via email: site plan, NWI Map*

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

BASE MAP SURVEY BY RIVERTIDE SURVEY, LLC DATED 9/17/2021

DATE:	REVISIONS:

SITE PLAN
PREPARED FOR
SEVEE & MAHER
WALNUT HILL ROAD
(MAP 1, LOT 62)
NORTH YARMOUTH, MAINE

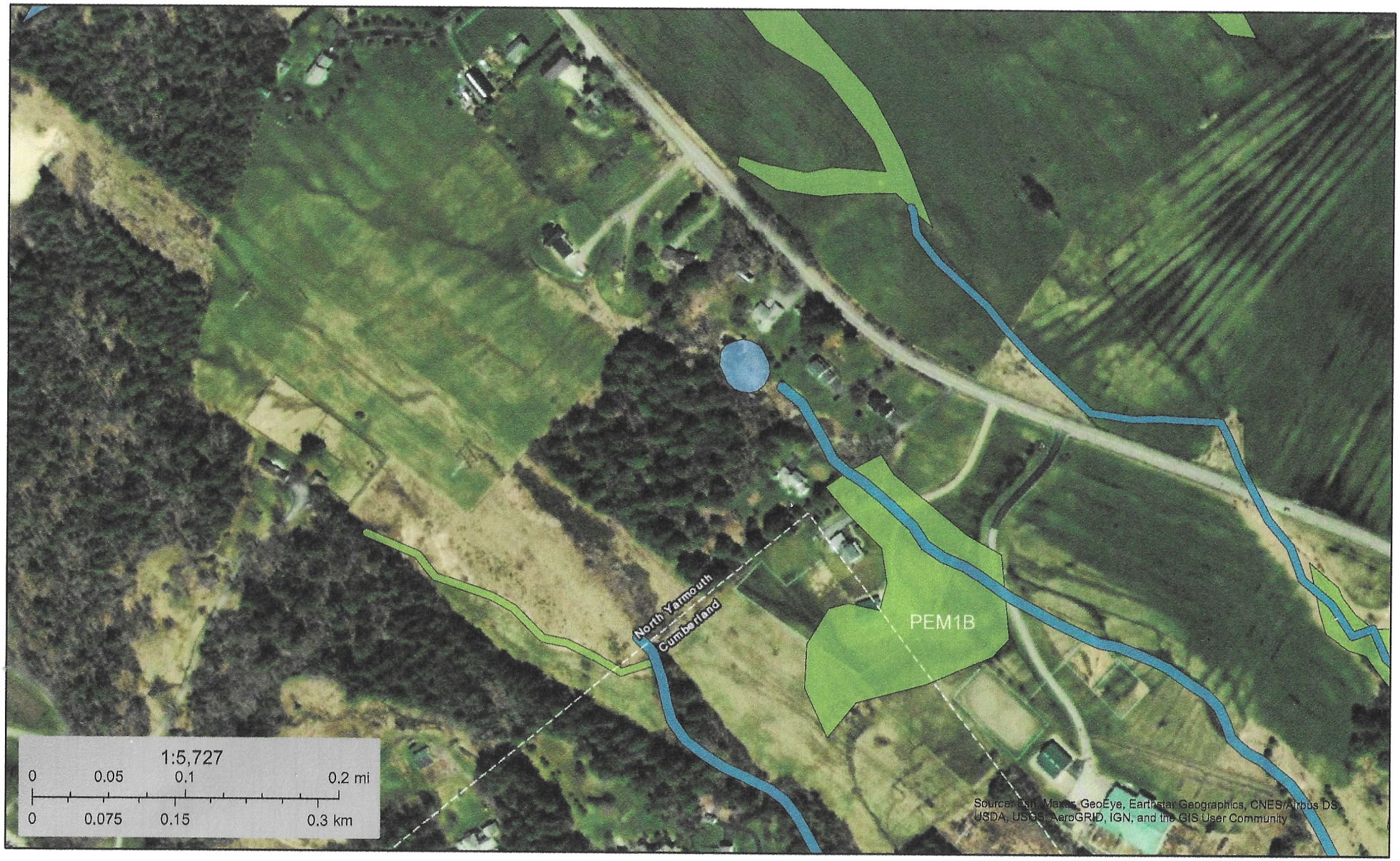
Albert Frick Associates, Inc.
Environmental Consultants
Gorham, Maine

Drawn By: B.J.	Checked By: C.C.
Date: 9/27/21	Scale: 1" = 50'

U.S. Fish and Wildlife Service

National Wetlands Inventory

78 Walnut Hill Road, North Yarmouth



October 8, 2021

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

APPENDIX I

NOTICE TO ABUTTERS

SME
SEVEE & MAHER
ENGINEERS

SME
SEVEE & MAHER
ENGINEERS

4 Blanchard Road, P.O. Box 85A
Cumberland, ME 04021
Tel: 207.829.5016 • Fax: 207.829.5692
info@smemaine.com
smemaine.com

December 1, 2021

Subject: Learning Loft Preschool
Map 001, Lot 062
North Yarmouth, Maine

Dear Abutter:

Town records indicate you are the owner of a property that is within 500 feet of the referenced property above that has submitted a proposed Site Plan Application to the North Yarmouth Planning Board.

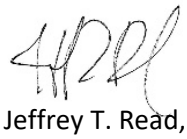
The Learning Loft Preschool is being developed by Miles Hunt. The project will be located off Walnut Hill Road in the Village Residential Zoning District and will include a four-bedroom residence, three car garage, and a 24-by-36-square-foot accessory structure for use as a preschool. This project will include approximately 1,600 linear feet of roadway and underground utilities. Two buildings will be served by combined private well and septic system.

The application will be reviewed at the Planning Board meeting on Tuesday, January 11, 2022, at 7:00 PM. Materials for this meeting can be found on the Town's website under the Planning Board calendar event for January 11, 2022

If you have any questions, please do not hesitate to contact the North Yarmouth Code Enforcement office.

Sincerely,

SEVEE & MAHER ENGINEERS, INC.



Jeffrey T. Read, P.E.

Attachments

Parcel Number	GIS Number	Cama Number	Property Address	Owner Name	Co-Owner Name	Owner Address	Owner Address 2	Owner City	Owner State	Owner Zip
001-026	001-026	001-026	0 BROWNS WAY	WOODWARD, JR., ARTHUR - TRUSTEE		69 MEREWIND DRIVE		CUMBERLAND	ME	04021
001-027	001-027	001-027	60 BROWNS WAY	LORD, ALEXANDER M & HALEY		60 BROWNS WAY		NORTH YARMOUTH	ME	04097
001-059	001-059	001-059	120 WALNUT HILL RD	CANO, MICHAEL J. & KAREN		120 WALNUT HILL RD		NORTH YARMOUTH	ME	04097
001-060	001-060	001-060	108 WALNUT HILL RD	WHITE, DAVID		108 WALNUT HILL RD		NORTH YARMOUTH	ME	04097
001-061	001-061	001-061	86 WALNUT HILL RD	NAPOLITANO, JOHN		86 WALNUT HILL RD		NORTH YARMOUTH	ME	04097
001-061-001	001-061-001	001-061-001	90 WALNUT HILL RD	NAPOLITANO, MITCHELL		86 WALNUT HILL RD		NORTH YARMOUTH	ME	04097
001-063	001-063	001-063	60 WALNUT HILL RD	BROBST, RICHARD W. & PRISCILLA A.		60 WALNUT HILL RD		NORTH YARMOUTH	ME	04097
001-064	001-064	001-064	62 WALNUT HILL RD	HEIN, ASHLI E		178 TUTTLE RD		CUMBERLAND	ME	04021
001-064-001	001-064-001	001-064-001	66 WALNUT HILL RD	SURETTE, JILL H & GREGORY M		66 WALNUT HILL RD		NORTH YARMOUTH	ME	04097
001-065	001-065	001-065	56 WALNUT HILL RD	SOLMAN, JUDITH		56 WALNUT HILL ROAD		NORTH YARMOUTH	ME	04097
001-066	001-066	001-066	52 WALNUT HILL RD	NITTOBO AMERICA INC		25549 ADAMS AVENUE		MURRIETA	CA	92562
001-073	001-073	001-073	143 WALNUT HILL RD	GROVER, ALWIN H.		137 WALNUT HILL RD		NORTH YARMOUTH	ME	04097

BROBST, RICHARD W. & PRI
60 WALNUT HILL RD
NORTH YARMOUTH, ME 04097

CANO, MICHAEL J. & KAREN
120 WALNUT HILL RD
NORTH YARMOUTH, ME 04097

GROVER, ALWIN H.
137 WALNUT HILL RD
NORTH YARMOUTH, ME 04097

HEIN, ASHLI E
178 TUTTLE RD
CUMBERLAND, ME 04021

LORD, ALEXANDER M & HALEY
60 BROWNS WAY
NORTH YARMOUTH, ME 04097

NAPOLITANO, JOHN
86 WALNUT HILL RD
NORTH YARMOUTH, ME 04097

NAPOLITANO, MITCHELL
86 WALNUT HILL RD
NORTH YARMOUTH, ME 04097

NITTOBO AMERICA INC
25549 ADAMS AVENUE
MURRIETA, CA 92562

SOLMAN, JUDITH
56 WALNUT HILL ROAD
NORTH YARMOUTH, ME 04097

SURETTE, JILL H & GREGORY
66 WALNUT HILL RD
NORTH YARMOUTH, ME 04097

WHITE, DAVID
108 WALNUT HILL RD
NORTH YARMOUTH, ME 04097

WOODWARD, JR., ARTHUR - T
69 MEREWIND DRIVE
CUMBERLAND, ME 04021