Town of Waterboro
Site Plan Application

For

545 Main Street

545 Main Street
Waterboro, Maine 04087

Prepared for
The Heritage Company Coppersmith, LLC
545 Main Street
Waterboro, Maine 04087

Prepared by
Sebago Technics, Inc.
75 John Roberts Road, Suite 4A
South Portland, Maine 04106

February 2023

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February 3, 2023
21004

Lee Jay Feldman, Town Planner
Town of Waterboro
24 Townhouse Road
East Waterboro, ME 04030

Site Plan Submittal – 545 Main Street
545 Main Street, Waterboro, Maine

Dear Mr. Feldman:

On behalf of The Heritage Company Coppersmith, LLC, we have assembled the following site plan submittal for staff and Planning Board approval. The applicant proposes to construct a storage building and an office building with associated vehicular parking, access drives, and related site improvements. The proposed storage building will support the existing Heritage Company building. The project is planned to be constructed in phases, with phase 1 consisting of the storage building and associated site improvements. Phase 2 will consist of the office building and associated site improvements.

The project was initially reviewed with staff at an informal pre-application meeting on December 1, 2022. We also met with staff for a formal review on January 25, 2023. We have since revised the plans to accommodate a majority of staff's recommendations. Changes to the plans include adding a pick-up and drop-off only, no parking sign to the daycare building and revising lighting to add wall pack lights and modify light poles to better match the existing that are on site. It is noted that the storage building plans will be modified at the request of the fire department to add additional egress doors. Plans will be provided with the next submittal. It was confirmed with the applicant that the existing temporary structures, such as the roll-off storage containers and freight trailer, will be removed as the storage building is being built to house this material. The applicant's intent for the office building is to have professional office space, similar to the businesses that are currently located on the site in the existing buildings.

The site, which is approximately 48.6 acres, sits at 545 Main Street and is adjacent to undeveloped land and commercial properties. The site does not have any existing Maine Department of Environmental Protection (Maine DEP) permits associated with it. As the project will disturb greater than one acre of area, but proposes less than 20,000 square feet of new impervious area, a Stormwater Permit by Rule application will be prepared and submitted to Maine DEP. A Natural Resources Protection Act Permit by Rule application will also be prepared and submitted to Maine DEP for work adjacent to protected natural resources.

The proposed development will involve two main areas of construction. One area involves construction of a 60'x100' storage building west of the existing Heritage Company building with associated paved areas for vehicular traffic and maneuvering. The second area involves the construction of a 40'x72' office building, with a 12'x12' mechanical room on the rear of the building. The office building is proposed west of the existing daycare building and will include paved surfaces for vehicular traffic and parking. Access to the project is proposed to occur via the existing driveway entrance from Main Street.

Applicable access drives will be widened to ensure a minimum width of 20 feet. The proposed development will create approximately 15,050 square feet of new impervious area.
The project will be required to meet the MDEP Chapter 500 Basic Standards as well as the Town of Waterboro stormwater management criteria. A stormwater narrative is provided to outline the existing and proposed conditions and how the change in land cover impacts stormwater peak flows. With the incorporation of erosion and sedimentation measures, no significant impacts to off-site drainage related to erosion or peak runoff rates are anticipated due to the proposed project.

Exhibit 12 of the enclosed application package provides description of how the proposed project meets the Site Plan Criteria and Standards.

Please review the attached package and schedule this project for the earliest possible Planning Board hearing. If you have any questions relative to this package, do not hesitate to contact me. Thank you for your time and consideration of this application.

Sincerely,

SEBAGO TECHNICS, INC.

Aaron C. Hunter, P.E.
Project Engineer

Enc.

CC: The Heritage Company Coppersmith, LLC c/o Victor Wright

TOWN OF WATERBORO
PLACEMENT ON
PLANNING BOARD AGENDA

Date received: _____

APPLICATION TO BE PLACED ON PLANNING BOARD AGENDA [redacted] Main Street

I, [redacted] Owner ☐ Agent ☒ [redacted] agent authorization

Address: [redacted] Tax Map # [redacted] Lot # [redacted]

[redacted] Zone [redacted]

Telephone # [redacted]

HEREBY MAKE APPLICATION TO BE PLACED ON THE AGENDA OF THE WATERBORO PLANNING BOARD:

Description of project to be presented before the board:

[redacted]

Is the project in the Shoreland Zone? _____ yes [redacted] no

Name (s) of person (s) who will be appearing before the Planning Board:

[redacted]

Please file this form with the Code Enforcement Officer, at which time a **non-refundable** fee* must be paid. You will be notified of the date and time you are to appear. **You shall notify all abutters within 500' of your property of the date, time and purpose of your meeting and allow them 10 days prior to the meeting date to submit any concerns they may have in writing to the Planning Board.** Attach all supporting documentation per appropriate checklist.

WATERBORO PLANNING BOARD FEES

_____ **Conditional use**	**$100.00**
_____ **Subdivision Review**	**$1,000.00 +$250.00 per home and $.75 linear feet of interior road.**
_____ **Cluster development (Section 7.02)**	**$100.00 +$50.00 for each residential, commercial or industrial unit in the development**
_____ **Planned Unit (Section 7.01)**	**$100.00 +$50.00 for each development review residential, commercial or industrial unit in the development**
[redacted] **Site Plan Review**	**Less than 1,999 sq. ft. of development $300.00** **2,000 sq. ft. to 9,999 sq. ft. of development $600.00** **10,000 sq. ft. or more of development $2,000.00**

AGENT AUTHORIZATION

APPLICANT/ OWNER	**Name**	The Heritage Company [redacted]opersmith, LLC. c/o Victor Wright			
PROPERTY DESCRIPTION	**Physical Address**	545 Main Street Waterboro, ME 04087		**Map**	4
				Lot	31
APPLICANT'S AGENT INFORMATION	**Name**	Aaron Hunter, PE			
	Phone	(207) 200-2099	**Business Name & Mailing Address**	Sebago Technics, Inc. 75 John Roberts Road, Suite 4A South Portland, ME 04106	
	Fax	(207) 856-2206			
	Email	ahunter@sebagotechnics.com			

Said agent(s) may represent me/us to complete the approval of the proposed development for this parcel.

Victor A. Wright — 1-4-2023
APPLICANT SIGNATURE — DATE

Victor Wright
PLEASE TYPE OR PRINT NAME HERE

CO APPLICANT SIGNATURE (If applicable) — DATE

PLEASE TYPE OR PRINT NAME HERE

Aaron L. Hunter — 11/16/2022
APPLICANT'S AGENT SIGNATURE — DATE

Aaron Hunter
PLEASE TYPE OR PRINT NAME HERE

SITE PLAN REVIEW SUBMISSIONS CHECKLIST

Applicant Name [redacted] Date [redacted]

Map / Lot / Zone [redacted]

This checklist has been prepared to assist applicants in developing project applications. It should be used as a guide in assembling the information necessary for a site plan review/Conditional Use project. However, the checklist does not substitute for the text of Article 2 section 2.09 of the most current Zoning Ordinance. The Planning Board, also, will be using the checklist to make sure that your application is complete. Once the checklist is filled out according to the instructions below it should be submitted with the application form and any supporting documents:

1. Indicate if the information has been submitted by checking the appropriate box in column 1;
2. At the initial Completeness Meeting with the Planning Board, the Board will review this list;
3. If you believe that a required submission is not applicable to your project, please discuss the matter with the Planning/Code Staff. If the staff agrees that the submission is not applicable the Planning/Code Officer will check the box in column 3;
4. If the Planning Staff denies a waiver request Planning/Code Officer will check the box in Column 4 and the Planning Board will make the determination at the Completeness Hearing.

The applicant is responsible for the development of and mailing of the Abutter notifications. This notification must be developed using the layout provided as part of this packet. The Applicant shall use either their own letterhead or a blank paper for the development of this notification. The applicant shall also send these notifications out as a Return Receipt mailing and provide the Planning Office with the tracking information for the abutter's notification and 8 copies of the Return Receipts for the planning board members prior to the planning board meeting which the project is scheduled to be heard on. If all notifications have not been acknowledged than the application may be tabled by the board.

The Planning and Codes support stuff will generate the abutters list and provide it to the applicant as part of this process.

Note that this checklist only covers the submission requirements for a site plan review/conditional use ordinance. If the Planning Board feels additional information is required to review a particular development, they have the right to request that information.

	SITE PLAN REVIEW REQUIRED SUBMITTALS	1 Submitted by Applicant	2 Submission determined to be sufficient by the Planning Board	3 Submission determined not applicable by the Planning/Code Enforcement Officer.	4 Applicant requests waiver of Submission Requirement.
	12 copies of the plan(s) on 24"X36" paper at a scale of no greater than 1" to 100'	☒			
	Boundaries of the site with abutting streets with widths indicated	☒			
	Footprints of all buildings-showing the number of stories access and use	☒			
	Layout and location of off –street parking; loading; and access drives; and vehicular maneuver-areas to conform to standards set forth in Article 5 of this ordinance.	☒			
	Location of all signs, gasoline pumps and other free standing structures.	☒			
	Location direction and type of outdoor lighting	☒			
	Location of all utilities	☒			
	Topography of a contour interval not greater than two feet showing the effects of drainage from the site upon adjacent property. A greater countor interval may be used if the Planning Board determines that the plan is adequate to evaluate site conditions	☒			

	The applicant shall, in addition submit for any project utilizing an on-site septic disposal system has a design system flow in excess of 800 gallons/day or if predominantly made up of non-typical septic waste, a hydrogeological impact study prepared by a State of Maine licensed Geologist or a State of Maine licensed Professional Engineer with expertise in hydrogeology. The study shall contain at a minimum the following components:	N/A			
	a. A map showing the soil types using the Unified Soil Classification System (USCS); supplied **b.** Groundwater levels and flow rates through the site, and the aquifer type; N/A **c.** An analysis of surface drainage conditions and their relationship to off-site conditions; supplied **d.** Data on existing groundwater quality and quantity for the site. Collection of this data can either be provided by test wells on the proposed site or by existing wells on abutting properties, provided that the data collected from those wells would represent the groundwater on the site. If public water is to be used, the applicant shall submit a written statement from the Waterboro Water District that it can provide adequate water service to the proposed development; supplied **e.** A calculation of average nitrate nitrogen levels on-site after development and a calculation of nitrate nitrogen levels at the down-gradient property line(s). These calculations should be done under simulated conditions of both normal rainfall and drought; N/A **f.** A map showing the recommended sites for the subsurface wastewater disposal system(s) and well(s) on the site; supplied	X			posed. tal ombined esign flow i ss than 80 ons ar de

NO APPLICATION WILL BE SCHEDULED TO GO BEFORE THE PLANNING BOARD UNTIL THE PLANNING STAFF HAS REVIEWED THE APPLICATION PACKET AND SIGNED THIS FORM!

PLANNING STAFF _____ Date _____

CODE ENFORCEMENT OFFICE STAFF _____ Date _____

FIRE DEPARTMENT STAFF _____ Date _____

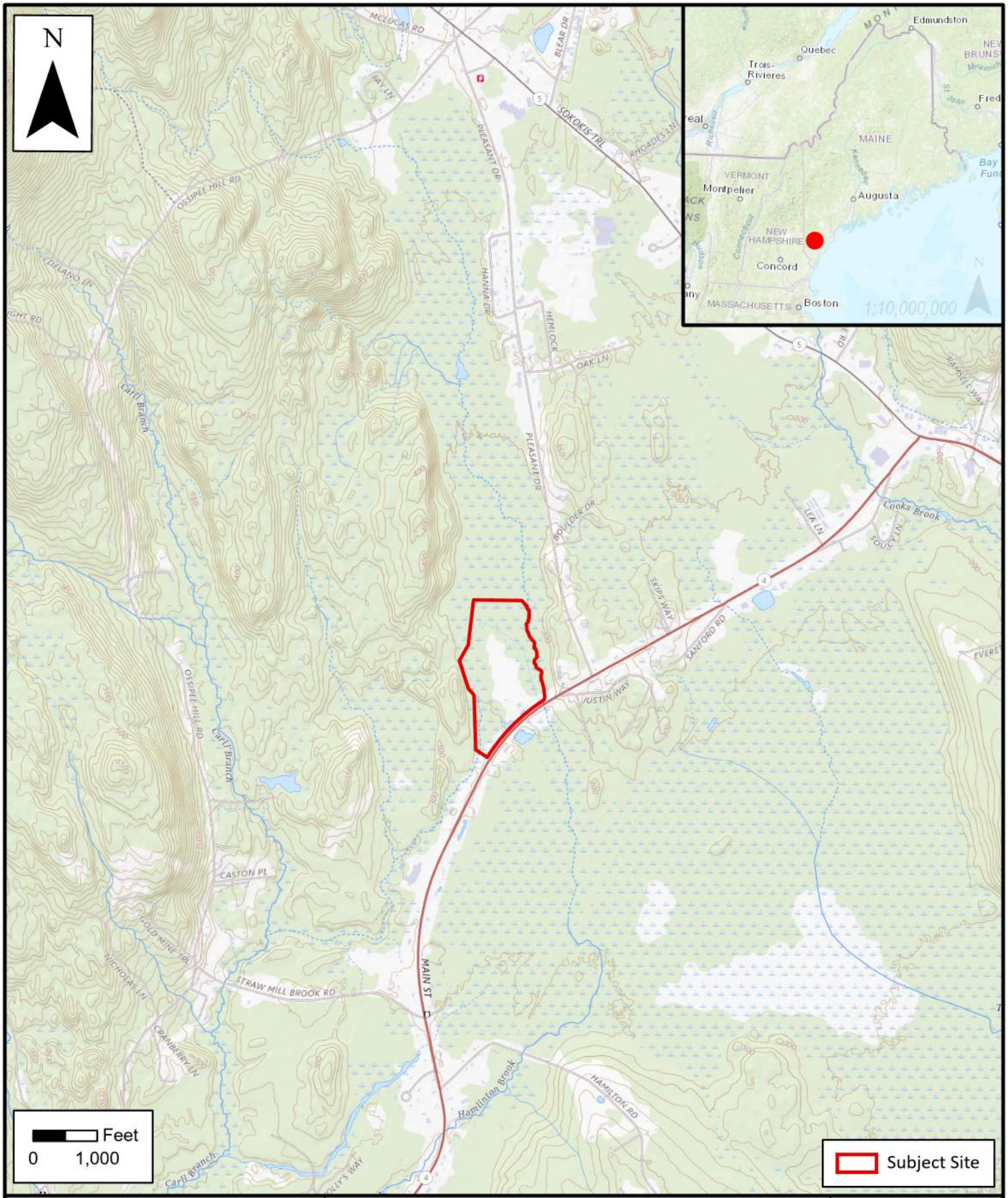
DEPARTMENT OF PUBLIC WORKS STAFF _____ Date _____

Exhibit 1

Location Map

Exhibit 1: Location Map

Please see the following USGS map with the project site highlighted.



SEBAGO TECHNICS

WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd. - Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

LOCATION MAP

THE HERITAGE COMPANY

SCALE:	1:24,000
DATE:	11/15/2021

LOCATION:
ROUTE 4,
WATERBORO, ME

INFORMATION:
USGS QUADRANGLE

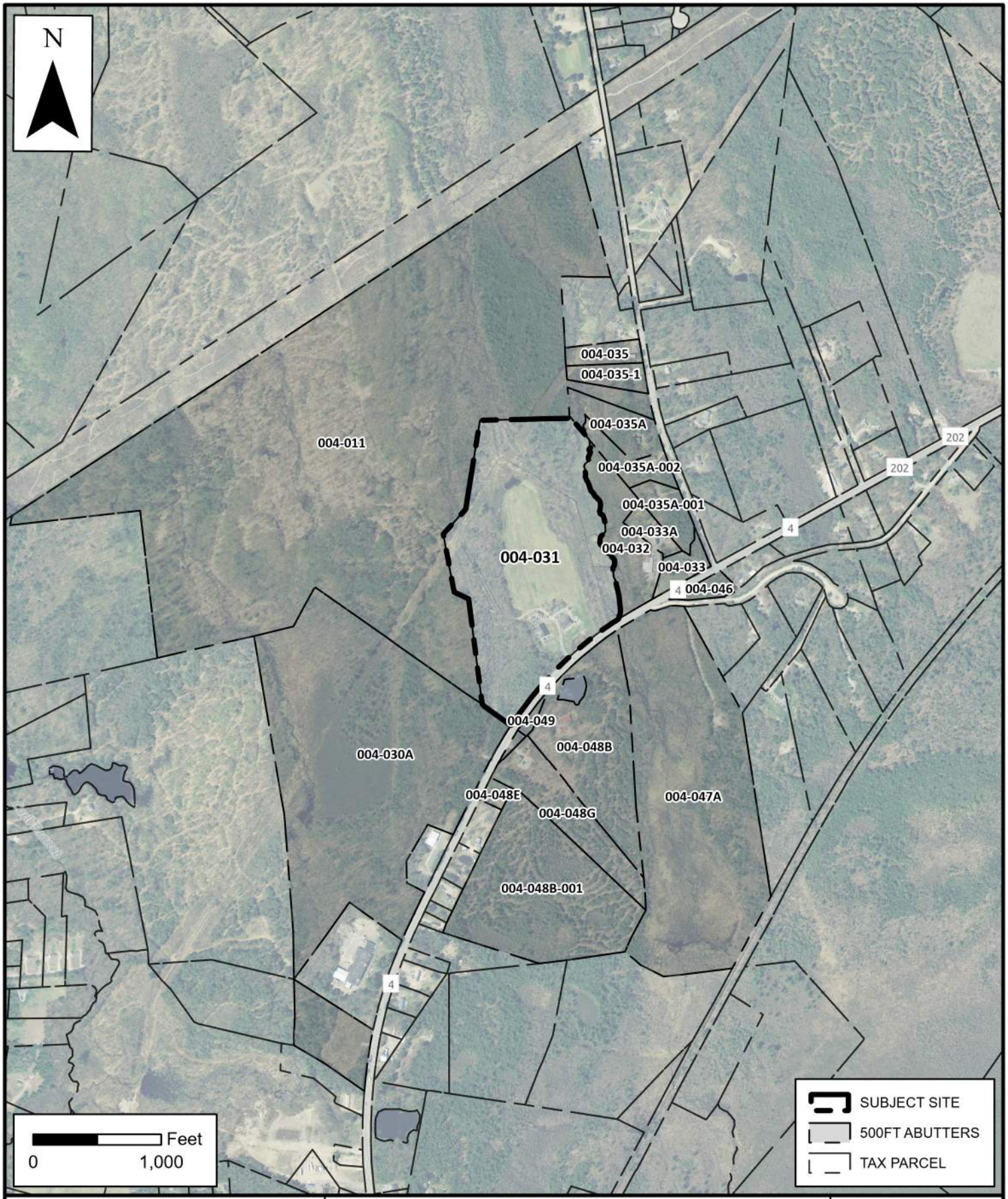
Exhibit 2

Tax Map & List of Abutters

Exhibit 2: Tax Map & List of Abutters

The subject site is listed as Lot 31 on the Town of Waterboro Tax Map 4. Attached is a tax map with the project location highlighted and a buffer showing all abutters within a 500’ radius.

It is requested that Planning and Codes support staff generate the abutters list and provide it to the applicant as part of the process as identified in the site plan review submissions checklist.



SEBAGO TECHNICS

WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd. - Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

TAX PARCEL MAP

THE HERITAGE COMPANY

SCALE: 1:12,000

DATE: 11/17/2022

LOCATION:
ROUTE 4
WATERBORO, ME

INFORMATION:
MAINE GEOLIBRARY
TOWN OF WATERBORO, ME

Exhibit 3

Right, Title, or Interest

Exhibit 3: Right, Title, or Interest

The record owner of the parcel is the Heritage Company Coppersmith, LLC by deed dated March 31, 2004 and recorded at the York County Registry of Deeds (YCRD) in Book 14035, Page 63. Please see the enclosed deeds.

MAINE STATUTORY SHORT FORM
QUITCLAIM DEED WITH COVENANT

KNOW ALL PERSONS BY THESE PRESENTS, that We, **VICTOR A. WRIGHT** and **RUSSELL W. WRIGHT**, individually and as partners of **HERITAGE COMPANY REAL ESTATE HOLDINGS**, formerly **THE HERITAGE COMPANY**, a Maine general partnership, having a place of business in the Town of Waterboro, County of York, and State of Maine,

for consideration paid,

GRANT to **THE HERITAGE COMPANY COPPERSMITH, LLC**, a Maine limited liability company having a place of business in the Town of Waterboro, County of York, and State of Maine, its mailing address is P O Box 71, East Waterboro, Maine 04030,

NO R.E. TRANSFER TAX PAID

with **QUITCLAIM COVENANT**,

Parcel 1:

A certain lot or parcel of land situated in the Town of Waterboro, County of York, and State of Maine, on the Westerly side of the highway Route 202 and 4 from East Waterboro to Alfred and known as the "Day Field" bounded and described as follows:

BEGINNING at a granite stone marker of said highway at the corner of land of Carll Brothers; thence running North 41° 45′ West 23 rods (less 166 feet, more or less, from the original marker, a granite post marked M.B. on Old Route 202 and 4); thence North 14° East 52 rods; thence North 27° 15′ West 8 rods; thence running North 3° West 28 rods; thence North 44° East 17 rods; thence North 22° 15′ East 42 rods and 20 links; thence South 75° East 46 rods; thence South 25° 15′ East to the main channel of the Brook; thence Southeasterly by said Brook to said highway; thence running Southerly by said highway to the point begun at and containing 50 acres, be it more or less.

Being the same premises conveyed to Victor A. Wright and Russell W. Wright, doing business as The Heritage Company by Deed of Willis A. Lord and Barbara R. Lord, dated April 1, 1988, and recorded in the York County Registry of Deeds in Book 4657, Page 086. See also deed from Victor A. Wright and Russell W. Wright, d/b/a The Heritage Company to Victor A. Wright and Russell W. Wright, d/b/a Heritage Real Estate Holdings, dated September 20, 1994, and recorded in said Registry of Deeds in Book 7194, Page 254.

The above-described premises are also conveyed subject to the following easements:

a. Easement given by Roy C. Stetson to Cumberland County Power & Light Company, dated December 14, 1936, and recorded in the York County Registry of Deeds in Book 892, Page 398.

b. Easement given by Roy C. Stetson to Cumberland County Power & Light Company, dated February 15, 1937, and recorded in the York County Registry of Deeds in Book 897, Page 205.

c. Easement given by Roy C. Stetson to Cumberland County Power & Light Company, dated December 6, 1939, and recorded in the York County Registry of Deeds in Book 945, Page 273.

d. Terms, conditions, and easements set forth in Memorandum of Agreement dated January 13, 1994, between Victor A. Wright and Bruce G. Kimball and others recorded in said Registry in Book 6909, Page 333.

Parcel 2:

A certain lot or parcel of land, with the buildings thereon, situated in the Town of Waterboro, County of York, and State of Maine, known as part of the McKenney farm, situated on the Easterly side of the highway leading from Alfred to Hollis on U.S. Route 202 and bounded and described as follows:

BEGINNING at a point on the Easterly side of the above highway and said point being the Southwesterly corner of a certain right of way owned by Howard E. Rickers heirs, said point also being the Northwesterly corner of the within-described property; thence Easterly by said right of way to land now or formerly owned by Harry Hamilton; thence South and Westerly by land of said Hamilton or owner to the above-mentioned highway and a stone post set in the ground; thence Northerly by said highway to the point of beginning.

Also, another certain lot or parcel of land situated in said Waterboro on the Easterly side of the above highway and bounded and described as follows:

BEGINNING at the above-mentioned stone post at the Southwesterly corner of the above-described property, formerly owned by Nellie E. Hamilton; thence Southerly by said highway a distance of Twelve (12) feet to an iron pipe driven into the ground; thence Easterly by land now or formerly of the heirs of Charles H. Hamilton Two Hundred Thirty-six (236) feet to another pipe driven as aforesaid; thence Northerly by land now or

formerly of the heirs of Charles E. Hamilton a distance of Twelve (12) feet to land formerly owned by the said Nellie E. Hamilton; thence by land of said Nellie Hamilton Westerly a distance of Two Hundred Thirty-six (236) feet to the point of beginning.

Being the same premises conveyed to the Heritage Company by Warranty Deed of Robert S. Hannon, Jr. and Maureen E. Hennigan, dated December 31, 1987, and recorded in the York County Registry of Deeds in Book 4583, Page 336.

WITNESS our hands this 31 day of March 2004.

Witness

Victor A. Wright

Witness

Russell W. Wright

STATE OF MAINE
York, ss.

March 31, 2004

Then personally appeared the above-named, **Victor A. Wright** and **Russell A. Wright**, and acknowledged the foregoing instrument to be their free act and deed and the free act and deed of said partnership.

Received York SS
04/06/2004 1:20PM
REGISTER OF DEEDS

Before me,

Susan A Leach
Notary Public/~~Maine Attorney-at-Law~~

SUSAN A. LEACH
Notary Public, Maine
My Commission Expires January 7, 2006

SEAL

Exhibit 4

Technical and Financial Capacity

Exhibit 4: Technical and Financial Capacity

Technical: To assist in the design and permitting of this project in Maine, the applicant retained the services of Sebago Technics, Inc.

Sebago Technics, Inc. (STI) is a multi-disciplinary engineering firm with over 40 years of experience that offers a wide range of services specializing in land development, planning, permitting, and engineering design services. We maintain a staff of multi-disciplinary professionals to provide services in the areas of general civil engineering, road and utility infrastructure design, construction management, permitting, landscape architecture, soil science, wetlands science, land surveying, and environmental engineering. Resumes of key personnel are enclosed in this Exhibit.

Financial: The applicant plans to construct the storage building and associated site work as the first phase of construction. The second phase of construction will include the office building and associated site work. Please see this Exhibit for a letter from the applicant's bank as proof of financial capacity to construct the project.

AARON C. HUNTER, PE

Project Engineer / Team Leader

Mr. Hunter joined Sebago Technics in 2014. Aaron is a Waterville native, and a Licensed Civil Engineer with over 8 years of project experience in the private and municipal sectors in Maine and Florida. Upon graduation from the University of Maine, Aaron joined Sebago as a Civil Engineer. In 2015 he left Sebago to relocate to Florida. While in Florida, he worked as a Project Engineer for a multi-disciplinary consulting firm serving residential, commercial, and municipal clients. He is involved in all aspects of roadway and site design, permitting, plan preparation, stormwater analyses, and construction administration.

As Team Leader, Aaron is responsible for overseeing his team's design work, thoughtful project management strategies, and strong mentoring to guide each member's career advancement. In addition to his role as a team leader, he will continue to serve as design lead for projects and continue to manage a robust portfolio of projects.

EXPERIENCE

Paul J. Schupf Art Center – Waterville, ME: Served as project manager for the 32,000 square-foot art center that will serve as a new beacon for the arts in downtown Waterville on Main Street. Led site civil engineering team and assisted project team with local permitting. Corresponded with Maine DOT to ensure coordination between site design and reconstruction of Main Street.

South Portland Municipal Services Facility – South Portland, ME: Completed engineering and permitting for a new combined Municipal Public Works Facility, Solid Waste Transfer Facility, Public Bus Transportation, and Parks and Recreation Facility. Permitting included local and state applications. Regularly coordinated with City Staff to accomplish project requirements and gain approvals.

Westbrook Public Services Facility – Westbrook, ME: Engineering and permitting for a new combined services facility for the City of Westbrook. Permitting included local and state applications. Regularly coordinated with City Staff to meet project needs and gain approvals.

Concord Coach Lines Bus Station – Auburn, ME: Site engineering and permitting for a new Concord Coach Lines Bus Station that included a 1,300 square foot terminal with 90 parking spaces. Permitting included local and state applications. Sebago Technics worked with Concord Coach Lines to provide intercity bus service to Portland and Boston.

Lewiston High School Expansion - Lewiston, ME: Led site engineering and permitting to support an approximately 20,000 square foot building expansion to accommodate an additional classroom wing to be added to Lewiston High School. Permits obtained for the project involved local approval. Permitting strategies allowed for an exemption from amending the existing Maine DEP Site Location of Development permit.

Central Maine Health Care Cancer Center – Lewiston, ME: Lead site engineer for a new 52,000 square foot Cancer Care Center that houses the Central Maine Cancer Institute. Permitting efforts included local and state applications. Extensive research and understanding of past permitting at the campus were involved to obtain permit approvals.

Northeast Air Fixed Based Operator – Portland, ME: Engineering and design, hydrologic modeling, state and city permitting applications. The project included expansion of the existing Northeast Air Hangar and Terminal along with a new parking lot at the Portland International Jetport.

EDUCATION

B.S., Civil Engineering,
University of Maine, Orono

REGISTRATIONS

Professional Engineer: Maine #16326

CERTIFICATIONS

Maintenance and Inspection of Stormwater Best Management Practices No#: 100

MEMBERSHIPS

American Society of Civil Engineers

American Public Works Association

SEBAGO TECHNICS

207.200.2099 AHUNTER@SEBAGOTECHNICS.COM

GARY M. FULLERTON, LSS, LSE, CWS (NH)

Director, Natural Resources

Mr. Fullerton joined Sebago Technics, Inc. (STI) in April of 2000 as a Soil Scientist. Gary is a Licensed Site Evaluator and Certified Soil Scientist in Maine. He is a Certified Wetland Scientist and Subsurface Disposal System Designer in New Hampshire. He has designed septic systems for single-family residential dwellings, campgrounds and large commercial facilities. He performs vernal pool surveys, wetland delineations, stream determinations and peer reviews as a contractor for the Maine Department of Environmental Protection. As a Soil Scientist, Gary prepares High Intensity Soil Surveys for subdivisions and commercial projects and determines soil classification for stormwater treatment ponds.

As the Director of Natural Resources, Mr. Fullerton is responsible for managing the environmental aspects of all projects within the company. He works with his staff to prepare wetland reports and supporting documentation for state and federal applications for wetland, stream and vernal pool impacts.

EXPERIENCE

Thornton Heights CSO Project – South Portland, ME: This project was completed to separate out stormwater from combined sewer overflow pipes. Some of the stormwater was treated in gravel wetlands and soil underdrain filters. These areas were generally wooded and required wetland mapping prior to construction. Wetland permitting through the NRPA application process was completed.

South Portland Municipal Services Facility – City of South Portland, ME: This project was completed for the new municipal services facility off Highland Avenue in South Portland. Mr. Fullerton mapped the wetlands for the project and assisted with the wetland permitting through the Department of Environmental Protection.

Scott Dyer Road Phase 2 Improvements – Cape Elizabeth, ME: Mr. Fullerton conducted natural resource mapping and prepared a wetland report to support local, State, and Federal permitting for a road improvement project.

York Toll Plaza, Maine Turnpike Authority (MTA) – York, ME: This project was completed for the proposed toll booth re-construction in York. It included reviewing 5 alternative sites for natural resource features including streams, wetlands of special significance, and vernal pools. A total of approximately 7 miles along the Maine Turnpike were reviewed as well as a parcel of land owned by the MTA. This project also required an individual NRPA application for wetland and vernal pool impacts. Project work also included designing a septic system for the administration building.

Pollack Brook Bridge and Trail – Cape Elizabeth, ME: Mr. Fullerton conducted natural resource mapping of tidal and freshwater wetlands with a stream crossing and prepared a wetland report to support local and State permitting for a pedestrian trail.

Sanford High School and Regional Technical Center – Sanford, ME: Mr. Fullerton mapped wetlands, vernal pools, and wetlands of special significance for the New Sanford High School and Regional Technical Center. He worked with the City to prepare a functional assessment of a large parcel to be put in permanent preservation as mitigation for wetland impacts. He also assisted with the wetland permitting through the Department of Environmental Protection.

EDUCATION

University of Rhode Island - Kingston, RI
B.S., Soil and Water Resources, 1998

CERTIFICATIONS

Licensed Site Evaluator: Maine #355

Certified Subsurface Wastewater Disposal System Inspector: ME #291

Certified Wetland Scientist: NH #246

Certified Designer of Subsurface Disposal Systems: NH #1796

MEMBERSHIPS

Maine Association of Professional Soil Scientists

Maine Association of Site Evaluators

Maine Association of Wetland Scientists

NH Granite State Designer and Installers Association

SEBAGO TECHNICS

207.200.2063 GFULLERTON@SEBAGOTECHNICS.COM

REBECCA L. GABRYSZEWSKI

Permitting Coordinator

Ms. Gabryszewski joined Sebago Technics, Inc. (STI) in May of 2016 as a Permitting Coordinator. Rebecca is a Regulatory Specialist with over 30 years of diverse experience. During this time she has worked with many different disciplines in the various aspects of permitting, environmental assessments and site planning. Rebecca provided permitting assistance, wetlands delineation/location, subdivision design, boundary research, environmental reporting, field data cataloguing, bid tracking and GIS mapping for projects throughout the Eastern states, Midwest, and New York. She has completed Environmental Assessments (NEPA), Phase I and Phase II Environmental Site Assessments, Long-Term Monitoring reports, Periodic Review reports, Water Quality Reports, and Integrated Natural Resource Management Plans for various municipal, state and federal clients.

EXPERIENCE

Municipality/State/Federal Permitting

- **Lewiston Fire Station – Lewiston, ME:** Completed Conditional Use and Development Review applications for the City of Lewiston for the construction of a new 9,192 s.f. fire station.
- **Gorham School Department – Gorham, ME:** Completed local Site Plan Review application for the addition of new modular classrooms and cafeteria at the Narragansett School in Gorham.
- **Back Cove South Storage Facility – Portland, ME:** Completed local and State applications for the City of Portland CSO Abatement Project.
- **Maine Correctional Center – Windham, ME:** Completed local and State applications for the Maine Correctional Center. Phase 1 Conditional use, site plan, Minor Amendment. Phase 2 Site plan, SLODA, NRPA, ACOE.
- **109 Capitol Street DHHS & MePERS Office Buildings Complex, Augusta, Maine** – Conditional Use and Development Review
- **Whittier Field Bowdoin College – Brunswick, ME** – Major Development Review, DEP Site Location of Development

Environmental Work

- **Commons Phase I ESA – Sanford, ME:** Completed a Phase I ESA of the Sanford Medical Center properties that comprised the Summer Commons site.
- **LPA Marine SPCC Plan – 98 Island Ave, Peaks Island, Portland, ME:** Provided compliance updates and responded to EPA comments to LPA Marine's SPCC plan.
- **193 Main Street Ellsworth Phase I ESA and Air Test – Ellsworth, ME:** Completed a Phase I ESA of the site, coordinated air testing, and provided reporting memo of air test results.
- **1397 Washington Avenue – Portland, ME:** Completed a Phase I ESA of site, coordinated air test, and provided reporting memo of air test results.
- **Precision Manufacturing Phase I ESA – Biddeford, ME:** Completed a Phase I ESA for the former location of Precision Manufacturing in Biddeford.
- **Phase I ESAs for assorted solar projects:** Denmark, Sanford, Baldwin, ME.

VRAP review/respond to DEP comments

- Orono Public Works – Orono Maine

EDUCATION

B.A. Geography
University of Connecticut, Storrs, CT
1993

A.S. Office Management Systems
Sacred Heart University, Fairfield, CT
1988

TRAINING

U.S. Department of Transportation/ Federal Highway Administration NEPA Training

U.S. Army Corps Wetland Delineation methods course at the University of New Hampshire - Durham, NH

SEBAGO TECHNICS

207.200.2065 RGABRYSZEWSKI@SEBAGOTECHNICS.COM

MAINE
COMMUNITY BANK

January 4, 2023

To Whom it may Concern:

This letter is to confirm that Victor Wright, owner of The Heritage Company Coppersmith LLC and Strawmill LLC, has approached the Bank for construction and permanent financing for the addition of a new multi-unit office building and warehouse on the property located at 545 Main Street, Waterboro, ME. Mr. Wright is an existing client of the Bank and in good financial standing. The Bank is comfortable with the project and once the plans/project costs have been finalized by our client, a formal commitment letter will be entertained.

Should you have further questions, please contact me at lwarchol@mainecb.com or (207)571-5685.

Sincerely,

Laurie Warchol

Vice President/Business Banking Officer II

Exhibit 5

Resource Information

Exhibit 5: Resource Information

Wetlands: Wetlands on site were reviewed and mapped by Sebago Technics Inc in November 2021. Please see the existing conditions plan for the most current wetland information. A wetland memo is enclosed in this Exhibit.

NRCS Soil Survey Map: The enclosed USDA Natural Resources Conservation Service soil survey map, legend and soils type identification is enclosed in this Exhibit.

Significant Sand & Gravel Aquifer Map: Per the enclosed Maine Geological Survey Significant Sand and Gravel Aquifers Map, the proposed site is located in a sand and gravel aquifer area identified with surficial deposits with moderate to good potential groundwater yield.

FEMA National Flood Hazards Map: Per the enclosed FEMA Flood Insurance Rate Map excerpt (FIRMette) Community Panel 230199 0020 C, the proposed project site is located in Zone C which is identified as an area of minimal flooding.

USGS Watershed Map: The USGS watershed map is enclosed in this section. Reference is made to the Shaker Pond Watershed (HUC: 010600030203). Stormwater Management is addressed in Exhibit 9 of this application.

Maine Historic Preservation Commission: The response from Maine Historic Preservation indicates that no historic properties affected by the proposed undertaking. See November 30, 2022 letter, this section.

Maine Natural Areas Program: The response from the Maine Natural Areas Program indicates that no botanical specimens or areas of concern are located within the project area. It is noted that although no features are mapped at the project location itself, the streams at this project site are hydrologically connected to Tarwater Pond Heath, where there is a raised level bog ecosystem along with several mapped peatland natural communities. All peatlands are considered Wetlands of Special Significance. MNAP recommends no clearing within 75-feet of perennial and intermittent streams on the property, and the use of standard best management practices for erosion control to help prevent downstream impacts to these peatlands. See November 21, 2022 letter and attachments, this section. The proposed project does not propose to clear within 75-feet of any streams and will implement the use of standard best management practices for erosion control as recommended.

Maine Department of Inland Fisheries and Wildlife: The response received from the Maine Department of Inland Fisheries and Wildlife indicates that no essential habitats are located within the project areas. See December 16, 2022 letter and map, this section. The proposed project will implement the use of standard best management practices for erosion control as recommended.

Wetland Memo

To: **Brandon Blake, Senior Civil Engineer**

From: **Gary Fullerton, LSS, LSE, CWS**

Date: **12/20/2021**

Project: **#21004 – The Heritage Company, Waterboro**

Methods of Investigation:
The wetlands on the site were delineated by Gary Fullerton of Sebago Technics, Inc. on 11/29/2021. This delineation conforms to the standards and methods outlined in the 1987 Wetlands Delineation Manual and 2012 Northeast Regional Supplement authored and published by the U.S. Army Corps of Engineers. The wetlands were marked in the field with alpha numeric pink "wetland delineation" flagging. The flags were then located using a Trimble GPS backpack unit capable of submeter accuracy.

Location and Description:
A portion of the parcel was review for wetlands which includes the areas closest to the existing and proposed development. The parcel is located to the northwest of Main Street (Routes 4 and 202)

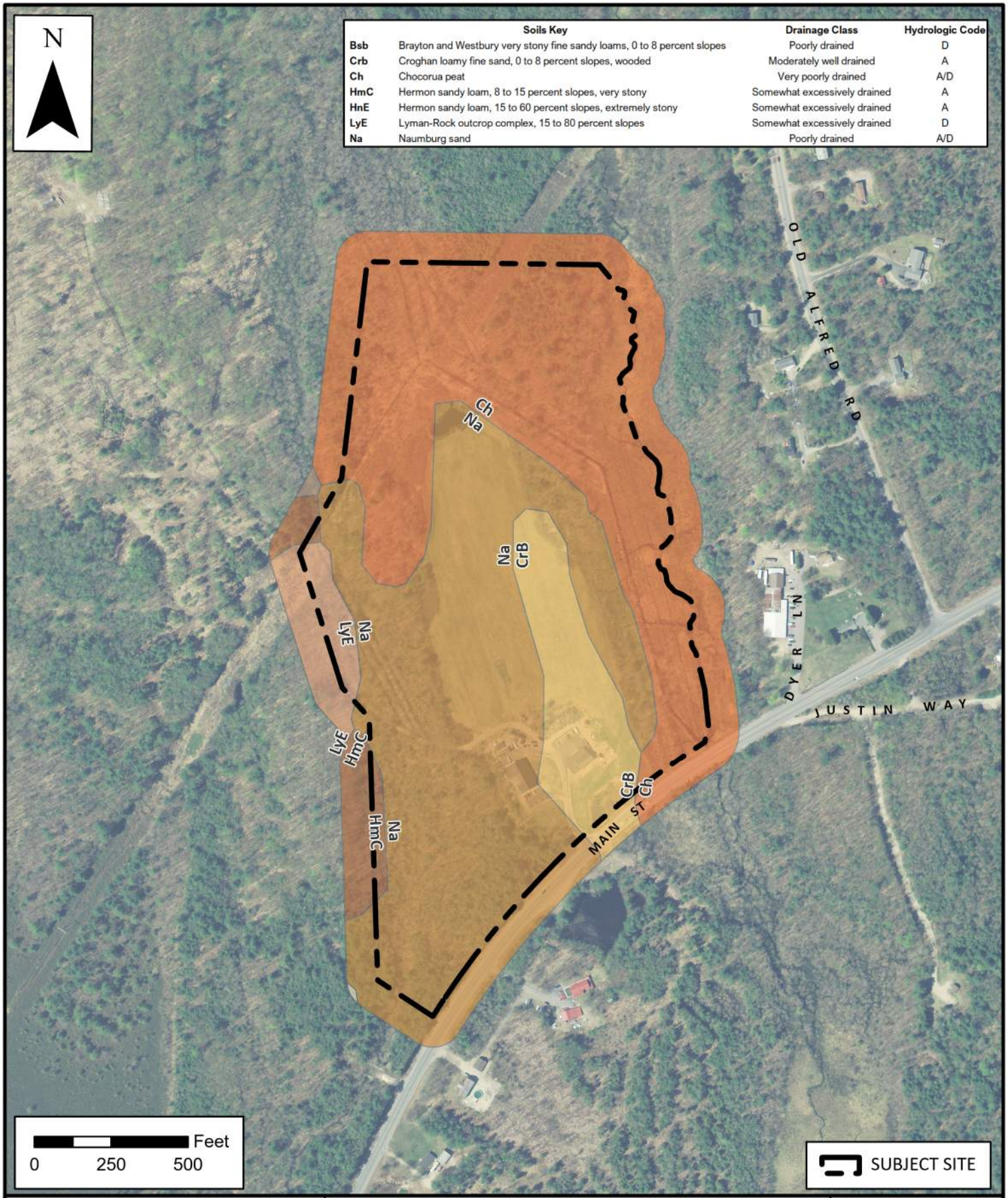
Results of Wetland Survey:
Multiple wetlands were delineated. The primary wetland type is Palustrine, forested, mixed wood (PFO8), as defined by the Classification of Wetlands and Deepwater Habitats (Cowardin, et al., 1979). The dominant vegetation found in the wetlands was red maple, gray birch, and sedges.

None of the wetlands on site appear to be a Wetland of Special Significance (WOSS) per the Maine Department of Environmental Protection. WOSS is defined in the Natural Resources Protection Act, Chapter 310 – Wetlands and Waterbodies Protection, Section 4.

One possible stream was mapped, but it was not confirmed. The location is within the wetland on the western edge of the parcel. The wetland to the south of the existing entrance and adjacent to Main Street was excavated in the past and contained a few feet of standing water at the time of the delineation.

No vernal pool survey has been completed by Sebago Technics, Inc.

Please contact me if you have any questions or need additional information.



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Tel. 207-200-2100

NCRS SOIL SURVEY MAP

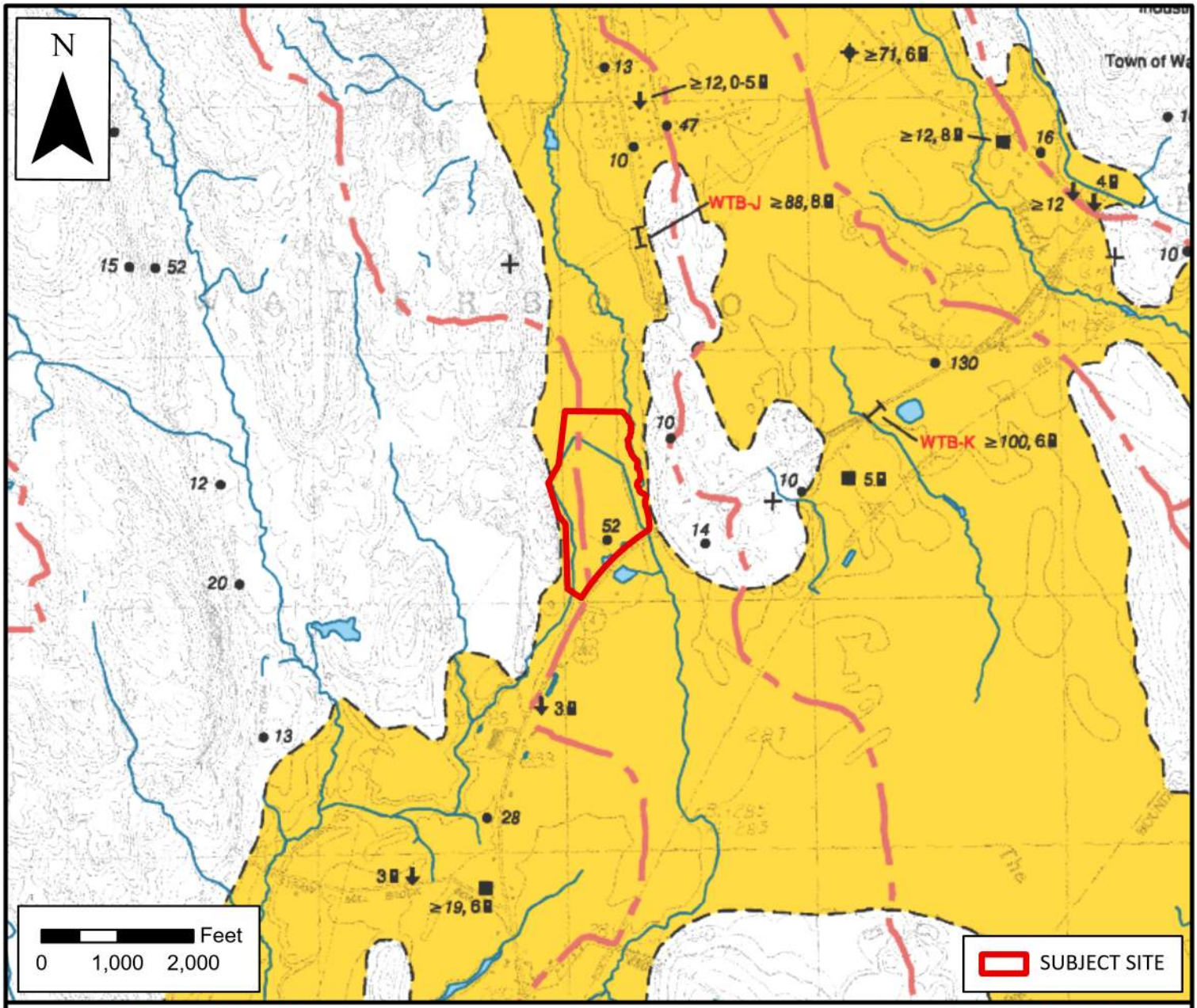
THE HERITAGE COMPANY

SCALE: 1:5,000

DATE: 11/16/2022

LOCATION:
ROUTE 4,
WATERBORO, ME

INFORMATION:
MAINE GEOLIBRARY
USDA NRCS SOIL SURVEY 2020
2018 ORTHOREGIONAL IMAGERY



SIGNIFICANT SAND AND GRAVEL AQUIFERS
(yields greater than 10 gallons per minute)

Approximate boundary of surficial deposits with significant saturated thickness where potential ground-water yield is moderate to excellent.

Surficial deposits with good to excellent potential ground-water yield; yields generally greater than 50 gallons per minute to a properly constructed well. Deposits consist primarily of glacial sand and gravel, but can include areas of sandy till and alluvium; yield zones are based on subsurface data where available, and may vary from mapped extent in areas where data are unavailable.

Surficial deposits with moderate to good potential ground-water yield; yields generally greater than 10 gallons per minute to a properly constructed well. Deposits consist primarily of glacial sand and gravel, but can include areas of sandy till and alluvium; yields may exceed 50 gallons per minute in deposits hydraulically connected with surface-water bodies, or in extensive deposits where subsurface data are available.

SURFICIAL DEPOSITS WITH LESS FAVORABLE AQUIFER CHARACTERISTICS
(yields less than 10 gallons per minute)

Areas with moderate to low or no potential ground-water yield (includes areas underlain by till, marine deposits, eolian deposits, alluvium, swamps, thin glacial sand and gravel deposits, or bedrock); yields in surficial deposits generally less than 10 gallons per minute to a properly constructed well.

SEISMIC-LINE INFORMATION

Profiles for 12-channel seismic lines are shown in Figure 6 of Open-File Report 87-24a (Adamik and others, 1987). Length of 12-channel seismic lines as shown on the map is to scale. All single-channel lines ranged from 80 to 250 feet long and are not shown to scale.

53 — Depth to bedrock, in feet below land surface.

≥53 — Depth to bedrock exceeds depth shown (based on calculations).

12 — Depth to water level, in feet below land surface.

MAP-7 131, 23 — Twelve-channel seismic line, with depth to bedrock and depth to water shown at the midpoint of the line, in feet below land surface.

69, 12 / MAP-E / 72, 12 — Single-channel seismic line, with depth to bedrock and depth to water shown at each end of the line, in feet below land surface. Unless otherwise indicated, data shown above the line-identifier box refers to the northern end of the seismic line.

The 3-letter identifier for a line is an abbreviation for the topographic quadrangle. If the 3-letter identifier for the line is followed by a number (ex: MAP - 7, MAP - 4), the line is a 12-channel line. If the identifier is followed by a letter (ex: MAP - E, MAP- P), the line is a single-channel line. Single-channel seismic interpretations by J. T. Adamik. Twelve-channel seismic interpretations by J. T. Adamik and C. D. Neil.

GEOLOGIC AND WELL INFORMATION

56 — Depth to bedrock, in feet below land surface

≥ 13 — Penetration depth of boring; ≥ symbol refers to minimum depth to bedrock based on boring depth or refusal

6 — Depth to water level in feet below land surface (observed in well, spring, test boring, pit, or seismic line)

Gravel pit (overburden thickness noted in feet, e.g. 5-12')

Quarry

4 GPM — Yield (flow) of well or spring in gallons per minute (GPM)

Spring, with general direction of flow

Drilled overburden well

Dug well

Observation well (project well if labeled; nonproject well if unlabeled)

Test boring (project boring if labeled; nonproject boring if unlabeled)

Driven point

Test pit

Drilled bedrock well

Potential point source of ground-water contamination

Bedrock outcrop

Surface-water drainage-basin boundary; surface-water divides generally correspond to ground-water divides. Horizontal direction of ground-water flow generally is away from divides and toward surface-water bodies.

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SIGNIFICANT SAND & GRAVEL AQUIFER MAP

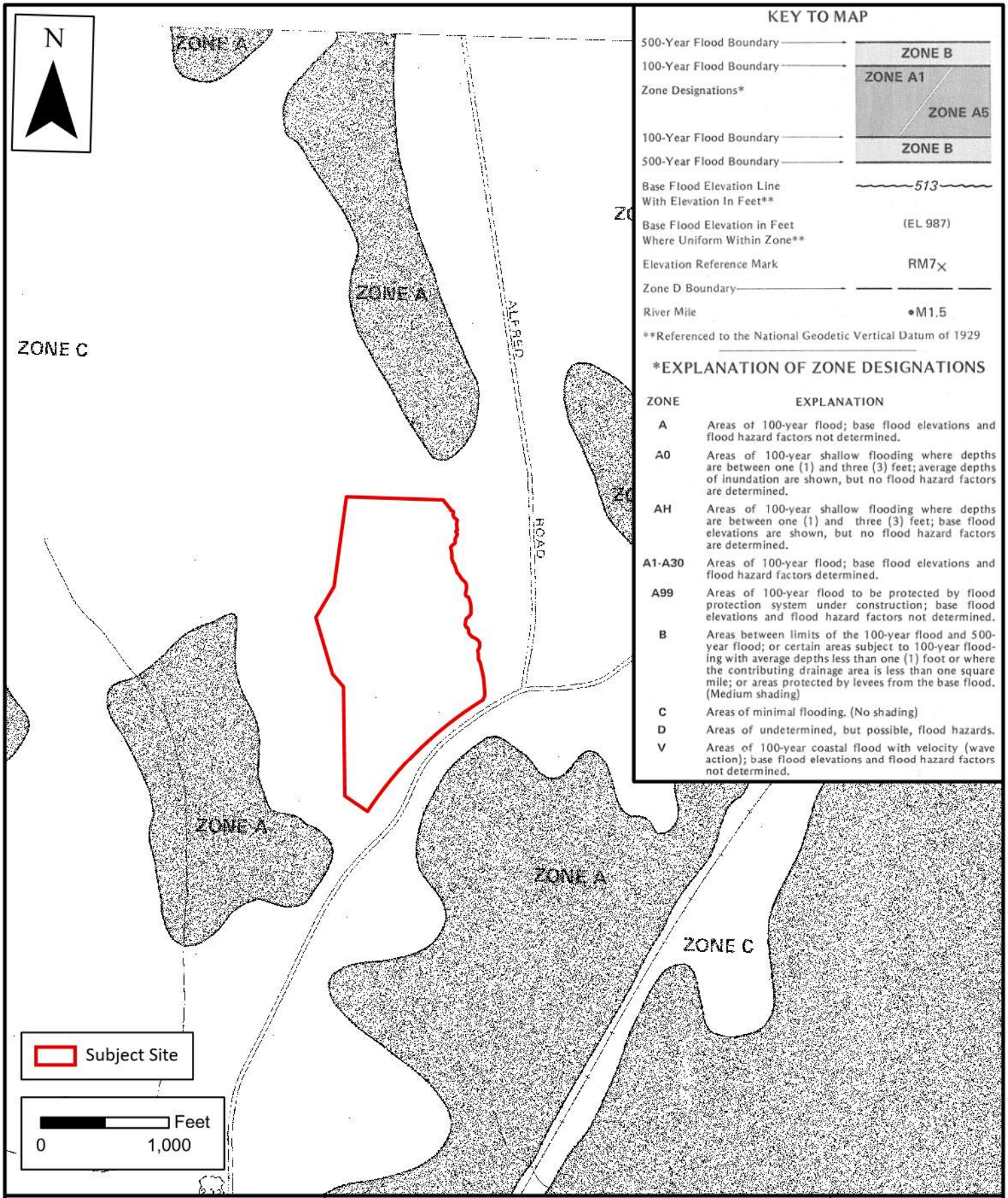
THE HERITAGE COMPANY

SCALE: 1:24,000

DATE: 11/16/2022

LOCATION:
ROUTE 4,
WATERBORO, ME

INFORMATION:
MAINE GEOLOGICAL SURVEY:
SAND & GRAVEL AQUIFERS 24K SCALE



KEY TO MAP

500-Year Flood Boundary	ZONE B
100-Year Flood Boundary	ZONE B
Zone Designations*	ZONE A1 / ZONE A5
100-Year Flood Boundary	ZONE B
500-Year Flood Boundary	ZONE B
Base Flood Elevation Line With Elevation In Feet**	513
Base Flood Elevation in Feet Where Uniform Within Zone**	(EL 987)
Elevation Reference Mark	RM7×
Zone D Boundary	
River Mile	•M1.5

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.

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FEMA NATIONAL FLOOD HAZARDS

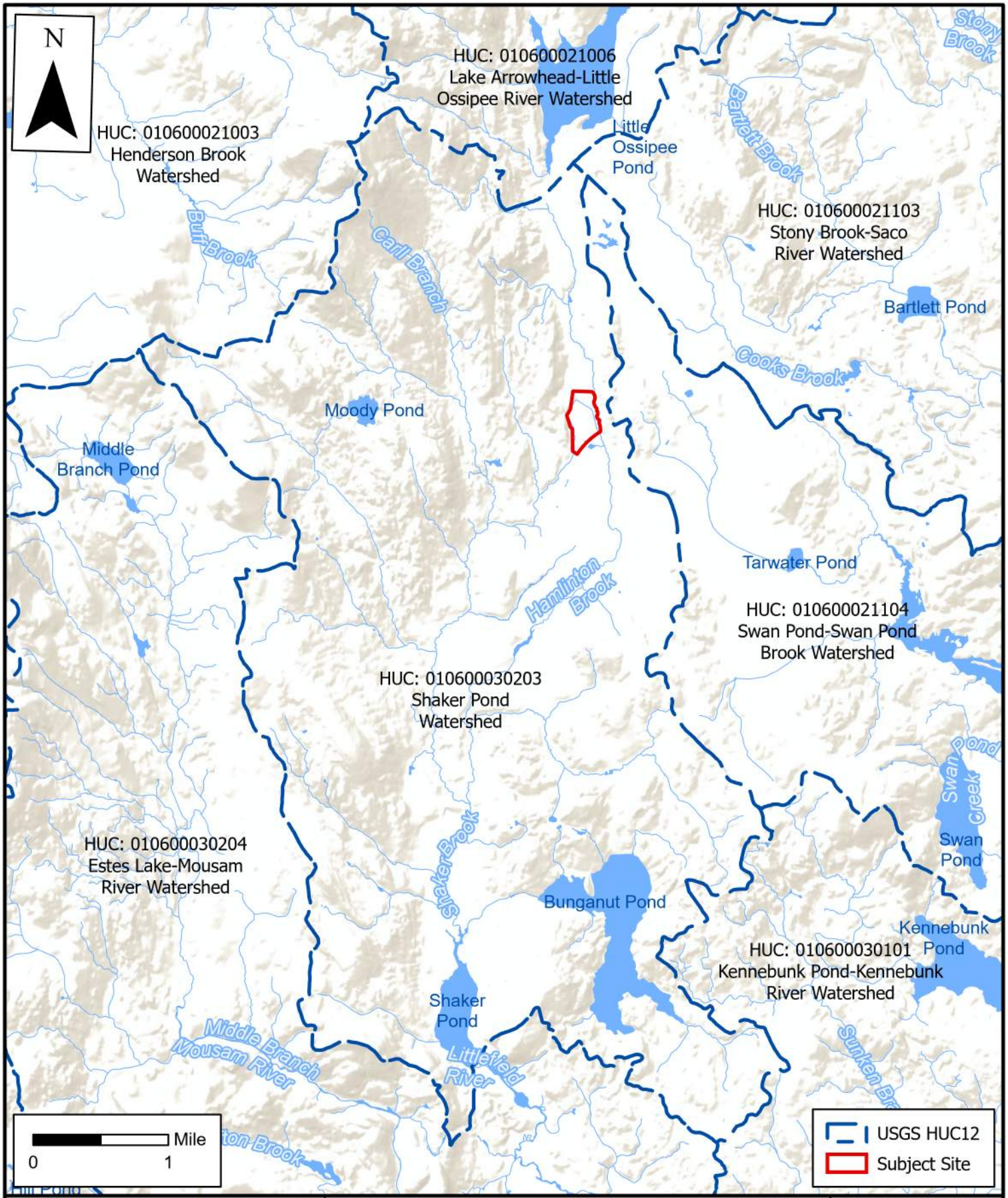
THE HERITAGE COMPANY

SCALE: 1:12,000

DATE: 11/15/2021

LOCATION: ROUTE 4, WATERBORO, ME

INFORMATION: FEMA FIRM PANEL 230199 0020 C



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Tel. 207-200-2100

USGS WATERSHED MAP

THE HERITAGE COMPANY

SCALE: 1:60,000

DATE: 11/15/2021

LOCATION:
ROUTE 4,
WATERBORO, ME

INFORMATION:
USGS NATIONAL HYDROLOGY DATASET
ESRI WORLD TERRAIN BASE

SEBAGO TECHNICS

November 17, 2022
21004

Kirk Mohney, Director and State Historic Preservation Officer
Maine Historic Preservation Commission
65 State House Station
Augusta, Maine 04333

Email submittal: MHPCprojectreview@maine.gov

Re: Proposed Site Improvements
545 Main Street, Waterboro
Tax Map-Lot: 4-31

Dear Mr. Mohney:

On behalf of our client, Sebago Technics respectfully requests a site review for a proposed new commercial project at 545 Main Street in the Town of Waterboro. The applicant proposes a storage building and office building, associated parking, utility, and site improvements. As part of the site reconnaissance, we request a review by the Maine Historic Preservation Commission for any properties or structures of historical significance in the vicinity of the proposed site.

The proposed project is situated along Main Street and will result in a small area of tree clearing directly adjacent to the existing developed area that serves the current buildings. A review of the Town Comprehensive Plan, Waterborough Historical Society, and The National Register of Historic Places did not identify any properties or structures of historical interest within close proximity to the project site. Available information does not identify any buildings over fifty years of age. We note that neighboring properties will have filtered views of the project site through mature vegetation

We have attached a USGS Site Location Map, a sketch plan, and an aerial photograph of the project site to assist in your review of historical resources.

At your earliest convenience, please review the material and let me know your findings. If you have any questions on this project or require additional information, please do not hesitate to contact me at (207) 200-2099 or by email at ahunter@sebagotechnics.com. I look forward to hearing from you.

Sincerely,
SEBAGO TECHNICS, INC.

Aaron Hunter
Project Engineer

enc.

Based on the information submitted, I have concluded that there will be no historic properties affected by the proposed undertaking, as defined by Section 106 of the National Historic Preservation Act. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.

Kirk F. Mohney
Kirk F. Mohney,
State Historic Preservation Officer
Maine Historic Preservation Commission

11/30/22
Date

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
177 STATE HOUSE STATION
AUGUSTA, MAINE 04333

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

November 21, 2022

Aaron Hunter
Sebago Technics
75 John Roberts Road, Suite 4A
South Portland, ME 04106

Via email: ahunter@sebagotechnics.com

Re: Rare and exemplary botanical features in proximity to: #21004, Commercial Project, 545 Main Street, Map 4 Lot 31, Waterboro, Maine

Dear Mr. Hunter:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received November 17, 2022 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Waterboro, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

Though the MNAP has no features mapped at the project location itself, the streams at this project site are hydrologically connected to Tarwater Pond Heath, where there is a raised level bog ecosystem along with several mapped peatland natural communities. All peatlands are considered Wetlands of Special Significance. MNAP recommends no clearing within 75-feet of perennial and intermittent streams on the property, and the use of standard best management practices for erosion control to help prevent downstream impacts to these peatlands. If clearing is planned within 75-feet of streams, please contact the MNAP for further guidance. Please see the table below and attached factsheets for more information about these features.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM
BLOSSOM LANE, DEERING BUILDING

maine DEPARTMENT OF Agriculture Conservation & Forestry

PHONE: (207) 287-804490
WWW.MAINE.GOV/DACF/MNAP

Feature	State Status	State Rank	Global Rank	Notes
Raised Level Bog Ecosystem	-	S4	GNR	Occurrence Rank B Tarwater Pond Heath
Dwarf Shrub Bog *Sheep Laurel Dwarf Shrub Bog*	-	S5	G5	Occurrence Rank B Tarwater Pond Heath
Red Maple Fen *Red Maple Wooded Fen*	-	S4	GNR	Occurrence Rank A Tarwater Pond Heath
Leatherleaf Bog *Leatherleaf Boggy Fen*	-	S4	G5	Occurrence Rank H Tarwater Pond Heath

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

The Maine Natural Areas Program (MNAP) is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. MNAP welcomes coordination with individuals or organizations proposing environmental alteration or conducting environmental assessments. If, however, data provided by MNAP are to be published in any form, the Program should be informed at the outset and credited as the source.

The Maine Natural Areas Program has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $150.00 for two hours of our services.

Thank you for using MNAP in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Lisa St. Hilaire

Lisa St. Hilaire | Information Manager | Maine Natural Areas Program
207-287-8044 | lisa.st.hilaire@maine.gov

Dwarf Shrub Bog

Sheep Laurel Dwarf Shrub Bog

State Rank S5

Community Description

A dense layer of dwarf heath shrubs dominates this common open peatland community. Stunted and scattered black spruce and larch trees form <25% cover. Heath shrubs carpet the hummocks and hollows of the peat substrate; sheep laurel or rhodora are typically dominant. Sedges contribute little cover (usually <15%, occasionally 20-25%); the most common is tufted cotton-grass, whose bright white tufts decorate the bog vegetation early in the summer. Insectivorous plants such as pitcher plant and sundew can be quite numerous. The ground surface is covered by a spongy carpet of peat mosses. The floristic composition varies depending upon bog morphology and nutrient availability.

Soil and Site Characteristics

This type occurs within raised portions of peatlands, where ombrotrophic conditions prevail (plant growth is raised above the water table, and virtually all nutrients come from precipitation). Although standing water may not be visible, the peat is commonly saturated with water throughout most of the year. The substrate is highly acidic, with pH 3.9-4.6.

Pitcher Plant Flower

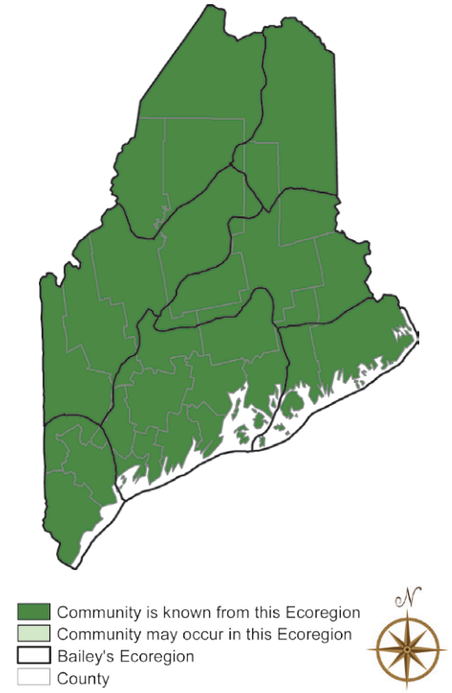
Diagnostics

Open peatland vegetation is raised above the regional water table and dominated by sheep laurel, rhodora, and/or Labrador tea. Leatherleaf is less abundant. Tufted cotton-grass is present. Black spruce is common as scattered trees, but tree cover <25%.

Similar Types

Spruce - Larch Wooded Bogs have more trees (canopy >25%). Huckleberry - Crowberry Bogs also feature sheep laurel, but have patches of dwarf huckleberry and crowberry or deer-hair sedge. These types can grade into each other within a peatland. Other dwarf shrub peatland types occur in more minerotrophic conditions and are dominated by leatherleaf, bog rosemary, and/or shrubby cinquefoil. Heath - Lichen Subalpine Slope Bogs and Heath - Crowberry Maritime Slope

Location Map



Dwarf Shrub Bog

Bogs share similar vegetation but overlay rock rather than occurring as part of a peatland.

Conservation, Wildlife, and Management Considerations

This community type is well represented in Maine and is fairly stable in extent, with many examples on public lands and private conservation lands. Peat harvesting is a direct threat to a few sites. Changes to bog hydrology, through impoundment or draining, lead to vegetation changes. Slow vegetation growth rates, due to the nutrient poor environment, result in slow recovery from physical disturbances, such as recreational trail use. If disturbance such as foot traffic, is a necessity, traversing during frozen conditions or using boardwalks can minimize impacts.

Occurrences of this community type in northwestern Maine may include the bog fritillary butterfly, which uses small cranberry as its larval host plant. The bog elfin butterfly uses black spruce as a larval host plant and may be found in this community when black spruce is abundant. Several dragonfly species may be found in examples of this community where bog pools occur, including the zigzag darner, subarctic darner, and incurvate emerald.

Distribution

Common throughout the state, occurring as a large uniform community or as a small component of a complex bog. Extends south and west through northern New England and New York, and northward and eastward into Canada.

Landscape Pattern: Small to Large Patch

Characteristic Plants

These plants are frequently found in this community type. Those with an asterisk are often diagnostic of this community.

Sapling/shrub
Black spruce*
Mountain holly*

Dwarf Shrub
Black huckleberry*
Labrador tea*
Leatherleaf*
Pale laurel
Rhodora*
Sheep laurel*
Small cranberry

Herb
Black spruce*
Narrow-leaved cotton-grass*
Pitcher plant
Tufted cotton-grass*

Bryoid
Reindeer lichen*
Sphagnum mosses*

Associated Rare Plants

Swamp birch

Examples on Conservation Lands You Can Visit

- Gassabias Stream, Duck Lake Public Lands – Hancock Co.
- Harmon Heath, Cutler Public Lands – Washington Co.
- Number Five Bog Public Lands – Somerset Co.
- Second Lake, Rocky Lake Public Lands – Washington Co.
- Sunkhaze Meadows National Wildlife Refuge – Penobscot Co.
- The Heath, Massabesic Experimental Forest – York Co.

Leatherleaf Bog

Leatherleaf Boggy Fen

State Rank S4

Community Description

This peatland vegetation type is dominated by leatherleaf and other low heath shrubs. Most of the vegetation is usually less than 1 m tall, although taller shrubs including black huckleberry, maleberry, and sweetgale may be sporadic. In the dwarf shrub/herb layer, leatherleaf is always present and usually dominant (30-60% cover at most sites). Other heath shrubs and sedges are mixed in with the leatherleaf. Graminoid cover is usually less than 30%. Typical bog plants including pitcher plant, sundew, and small cranberry are scattered on the peat moss substrate. Trees, if present at all, are <15% total cover.

Soil and Site Characteristics

This type is common in the wetter parts of bogs and acidic, nutrient poor fens (average pH is 4.0) with peat substrate. It usually occurs in settings where groundwater contact is maintained, and so is technically a fen from a hydrologic standpoint, although it is often referred to as "bog" because of the dominance of heath vegetation. This type is often a major constituent of "kettlehole bog" ecosystems, and it may be present in lakeshore peatlands or other sites with a fluctuating water table.

Ringed Boghaunter

Diagnostics

In a peatland setting, dwarf shrub cover exceeds herb cover, but sheep laurel is not dominant because most sites are hydrologically fens. Tufted cotton-grass and/or tawny cotton-grass are common sedges; white beak-rush is frequent but does not form high cover as it can in other types.

Similar Types

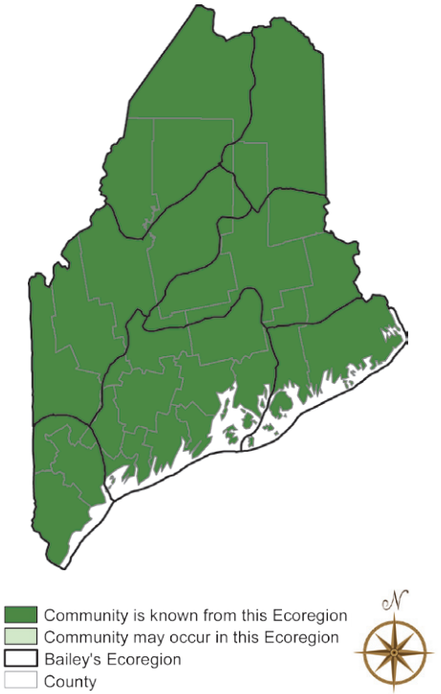
This type is intermediate in composition and nutrient regime between a Sheep Laurel Dwarf Shrub Bog (which is drier and has sheep laurel more abundant) and Sedge - Leatherleaf Fen Lawn or other graminoid dominated fen community types (which have graminoids more dominant).

Conservation, Wildlife, and Management Considerations

This type is well represented in Maine and is fairly stable in extent, with several examples on public lands and private conservation lands. Some sites in kettlehole settings have been degraded by adjacent gravel mining. Changes to bog hydrology through impoundment or draining could lead to vegetation changes. Slow vegetation growth rates, due to the nutrient-poor environment, mean slow recovery from physical disturbances, such as recreational trail use. If disturbance, such as foot traffic, is a necessity, traversing during frozen conditions or using boardwalks can minimize impacts.

The ringed boghaunter, a rare dragonfly restricted to York and southern Oxford counties, is found in this natural community type, especially in very wet locations with abundant inundated peat moss (often suspended in the water column). Occurrences of this community type in northwestern Maine may include the bog fritillary butterfly, which uses small cranberry as its larval host plant. Occurrences in northern Maine may be inhabited by the subarctic bluet, an uncommon damselfly that inhabits open marshes and fens and reaches the southern edge of its range in northern Maine.

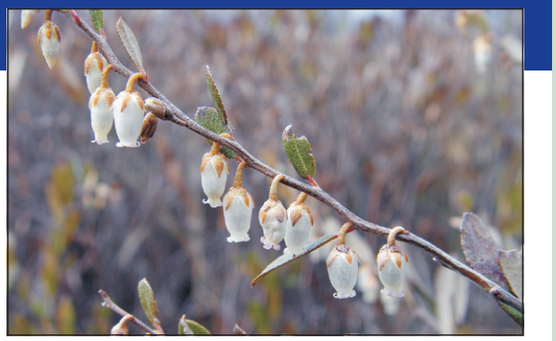
Location Map



Distribution

Statewide; extends in all directions from Maine.

Landscape Pattern: Small Patch



Leatherleaf

Characteristic Plants

These plants are frequently found in this community type. Those with an asterisk are often diagnostic of this community.

Sapling/shrub
Black huckleberry*
Maleberry*

Dwarf Shrub
Bog rosemary*
Leatherleaf*
Sheep laurel*
Small cranberry
Sweetgale*

Herb
Beaked sedge*
Bog aster*
Few-flowered sedge*
Pitcher plant*
Tawny cotton-grass
Three-leaved false Solomon's seal*
Tufted cotton-grass*
White beak-rush*

Bryoid
Sphagnum mosses*

Associated Rare Plants

Inkberry
Long's bulrush
Screwstem
Swamp birch

Associated Rare Animals

Ringed boghaunter

Examples on Conservation Lands You Can Visit

- Brownfield Bog Wildlife Management Area – Oxford Co.
- Great Heath Public Lands – Washington Co.
- Number Five Bog Public Lands – Somerset Co.
- Salmon Brook Lake Bog Public Lands – Aroostook Co.
- Sunkhaze Meadows National Wildlife Refuge – Penobscot Co.

Red Maple Fen

Red Maple Wooded Fen

State Rank S4

Community Description

Red maple dominates the canopy of this partly forested peatland, or it may be co-dominant with larch or black spruce. Canopy closure is usually <50%, sometimes to 65%. The shrub layer is locally dense, with small trees and thickets of winterberry, mountain holly, highbush blueberry, or maleberry. Sweetgale and heath shrubs that are typically dwarfed in bog settings grow taller (often >1 m) in this setting. Sedges are characteristic in the herb layer, and cinnamon fern and other wetland plants may be locally common. The bryoid layer is extensive (>60% cover) and dominated by peat mosses. A variant features larch as the dominant canopy tree, but vegetation is otherwise the same.

Soil and Site Characteristics

Sites occupy low basins (up to 1000' elevation) and are typically a peripheral portion of a larger wetland. The saturated soils are organic and the peat layer may be deep (>50 cm). The substrate is less acidic than most true bogs (pH 5.0-5.4).

Skunk Cabbage

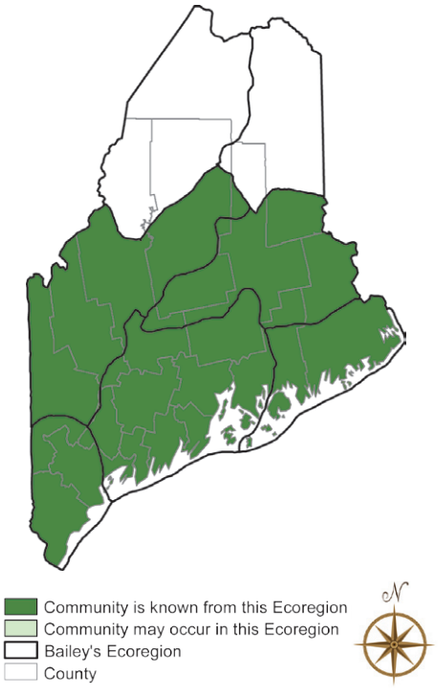
Diagnostics

Sites occur in a peatland setting with red maple dominant in a partial canopy (<65%, usually <50%) or co-dominant with larch or black spruce. Heath shrubs and other characteristic peatland plants are present in shrub and herb layers. The substrate is dominated by Sphagnum moss.

Similar Types

Red Maple - Sensitive Fern Swamps can have similar overstory vegetation, but occur on mineral soils (perhaps with a thin peat layer) rather than on a peat substrate, and typically have taller trees with a more continuous canopy; they lack the heath shrubs characteristic of this type. Northern White Cedar Woodland Fens are similar but are dominated by northern white cedar, sometimes mixed with red maple. Spruce - Larch Wooded Bogs occur in similar settings, but generally in more nutrient poor conditions, and have spruce and/or larch much more abundant than red maple in the canopy.

Location Map



Red Maple Fen

Conservation, Wildlife, and Management Considerations

These fens usually occur as part of larger peatlands, and maintaining the hydrologic integrity of the entire wetland with upland buffers is key. This community type is widespread and apparently has few or no competing uses.

Birds associated with this community include wetland species such as the common yellowthroat and northern waterthrush. Thaxter's pinion moth uses larch and sweetgale as its larval host plants and may be found in this community.

Distribution

Statewide, less abundant northward; extending westward and southward (and perhaps eastward) from Maine

Landscape Pattern: Large Patch

Characteristic Plants

These plants are frequently found in this community type. Those with an asterisk are often diagnostic of this community.

Canopy
Black spruce
Larch*
Red maple*

Sapling/shrub
Balsam fir
Rhodora*
Sweetgale*
Wild-raisin*
Winterberry*

Herb
Beaked sedge
Cinnamon fern*
Goldthread*
Marsh fern*
Skunk cabbage*
Three-leaved false Solomon's seal*
Three-seeded sedge*
Tussock sedge*

Bryoid
Sphagnum mosses*

Associated Rare Plants

Bog bedstraw

Examples on Conservation Lands You Can Visit

- Appleton Bog Preserve – Knox Co.
- Middle Pond State Park – Oxford Co.
- The Heath, Massabesic Experimental Forest – York Co.

Rare and Exemplary Botanical Features within 4 miles of
Project: #21004, Commercial Project, 545 Main St, Map 4 Lot 31, Waterboro, ME

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Blunt Mountain-mint						
	PE	SH	G5	1955-07-11	2	Hardwood to mixed forest (forest, upland)
Cattail Marsh						
		S5	G5	2009-09-01	1	
Dwarf Shrub Bog						
		S5	G5	2009-06-23	1	
Grassy Shrub Marsh						
		S5	GNR	2009-09-02	16	
		S5	GNR	2009-08-19	18	
Great Rhododendron						
	T	S1	G5	1955-07	5	Conifer forest (forest, upland),Hardwood to mixed forest
Hairy Bush-clover						
	E	S1	G5T5?	1936-07-23	1	Dry barrens (partly forested, upland),Hardwood to mixed
Leatherleaf Bog						
		S4	G5	1996-10-02	5	
Northern Blazing Star						
	T	S1	G5?T3	1916-08-10	3	Dry barrens (partly forested, upland)
Raised Level Bog Ecosystem						
		S4	GNR	2009-06-23	2	
Red Maple Fen						
		S4	GNR	2009-06-23	2	
Red Maple Swamp						
		S5	G3G5	1996-10-01	8	

Scarlet Oak					
E	S1	G5	1916-08	3	Hardwood to mixed forest (forest, upland)
E	S1	G5	1916-08	4	Hardwood to mixed forest (forest, upland)
Sedge Meadow					
	S4	GNR	1996-10-01	1	
	S4	GNR	2011	3	
Slippery Elm					
PE	SH	G5	1898-07	4	Hardwood to mixed forest (forest, upland)
Small Whorled Pogonia					
E	S2	G2G3	2020-09-23	25	Hardwood to mixed forest (forest, upland)
Smooth Winterberry Holly					
SC	S3	G5	1916-08-10	10	Forested wetland
Spicebush					
SC	S3	G5	1955-05-04	15	Forested wetland
Spotted Pondweed					
T	S1	G5	2003-09-30	6	Open water (non-forested, wetland)
Spotted Wintergreen					
T	S2	G5	2011-06-22	29	Conifer forest (forest, upland),Hardwood to mixed forest
Streamshore Ecosystem					
	S4	GNR	2009-08-19	5	
Sweet Pepper-bush					
SC	S2	G5	1936-07	7	Hardwood to mixed forest (forest, upland),Forested
SC	S2	G5	1997-08-18	19	Hardwood to mixed forest (forest, upland),Forested
Upright Bindweed					
T	S2	G4G5	2008-06-26	7	Dry barrens (partly forested, upland),Old field/roadside
T	S2	G4G5	2018-06-19	16	Dry barrens (partly forested, upland),Old field/roadside
White-topped Aster					
E	S1	G5	1916-08-10	4	Dry barrens (partly forested, upland)
Yellow Wild Indigo					

Yellow Wild Indigo						
	PE	SH	G5	1960-06-21	2	Dry barrens (partly forested, upland),Hardwood to mixed

Date Exported: 2022-11-21 13:30

Conservation Status Ranks

State and Global Ranks: This ranking system facilitates a quick assessment of a species' or habitat type's rarity and is the primary tool used to develop conservation, protection, and restoration priorities for individual species and natural habitat types. Each species or habitat is assigned both a state (S) and global (G) rank on a scale of critically imperiled (1) to secure (5). Factors such as range extent, the number of occurrences, intensity of threats, etc., contribute to the assignment of state and global ranks. The definitions for state and global ranks are comparable but applied at different geographic scales; something that is state imperiled may be globally secure.

The information supporting these ranks is developed and maintained by the Maine Natural Areas Program (state ranks) and NatureServe (global ranks).

Rank	Definition
S1 **G1**	**Critically Imperiled** – At very high risk of extinction or elimination due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.
S2 **G2**	**Imperiled** – At high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
S3 **G3**	**Vulnerable** – At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
S4 **G4**	**Apparently Secure** – At fairly low risk of extinction or elimination due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
S5 **G5**	**Secure** – At very low risk of extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.
SX **GX**	**Presumed Extinct** – Not located despite intensive searches and virtually no likelihood of rediscovery.
SH **GH**	**Possibly Extinct** – Known from only historical occurrences but still some hope of rediscovery.
S#S# **G#G#**	**Range Rank** – A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem.
SU **GU**	**Unrankable** – Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
GNR **SNR**	**Unranked** – Global or subnational conservation status not yet assessed.
SNA **GNA**	**Not Applicable** – A conservation status rank is not applicable because the species or ecosystem is not a suitable target for conservation activities (e.g., non-native species or ecosystems.
Qualifier	**Definition**
S#? **G#?**	**Inexact Numeric Rank** – Denotes inexact numeric rank.
Q	**Questionable taxonomy that may reduce conservation priority** – Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable. The "Q" modifier is only used at a global level.
T#	**Infraspecific Taxon (trinomial)** – The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank.

State Status: Endangered and Threatened are legal status designations authorized by statute. Please refer to MRSA Title 12, §544 and §544-B.

Status	Definition
E	**Endangered** – Any native plant species in danger of extinction throughout all or a significant portion of its range within the State or Federally listed as Endangered.
T	**Threatened** – Any native plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range in the State or Federally listed as Threatened.
SC	**Special Concern** – A native plant species that is rare in the State, but not rare enough to be considered Threatened or Endangered.
PE	**Potentially Extirpated** – A native plant species that has not been documented in the State in over 20 years, or loss of the last known occurrence.

Element Occurrence (EO) Ranks: Quality assessments that designate viability of a population or integrity of habitat. These ranks are based on size, condition, and landscape context. Range ranks (e.g., AB, BC) and uncertainty ranks (e.g., B?) are allowed. The Maine Natural Areas Program tracks all occurrences of rare plants and natural communities/ecosystems (S1-S3) as well as exemplary common natural community types (S4-S5 with EO ranks A/B).

Rank	Definition
A	**Excellent** – Excellent estimated viability/ecological integrity.
B	**Good** – Good estimated viability/ecological integrity.
C	**Fair** – Fair estimated viability/ecological integrity.
D	**Poor** – Poor estimated viability/ecological integrity.
E	**Extant** – Verified extant, but viability/ecological integrity not assessed.
H	**Historical** – Lack of field information within past 20 years verifying continued existence of the occurrence, but not enough to document extirpation.
X	**Extirpated** – Documented loss of population/destruction of habitat.
U	**Unrankable** – Occurrence unable to be ranked due to lack of sufficient information (e.g., possible mistaken identification).
NR	**Not Ranked** – An occurrence rank has not been assigned.

Visit the Maine Natural Areas Program website for more information
http://www.maine.gov/dacf/mnap

maine DEPARTMENT OF Agriculture Conservation & Forestry
NATURAL AREAS

JANET T. MILLS
GOVERNOR

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
353 WATER STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041

JUDITH CAMUSO
COMMISSIONER

December 16, 2022

Aaron Hunter
Sebago Technics
75 John Roberts Road, Suite 1A
South Portland, ME 04106

RE: Information Request – Commercial Development Project, Waterboro

Dear Aaron:

Per your request received on November 17, 2022, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information for known locations of Endangered, Threatened, and Special Concern species; designated Essential and Significant Wildlife Habitats; and inland fisheries habitat concerns within the vicinity of the *Commercial Development* project in Waterboro. Note that as project details are lacking, our comments are non-specific and should be considered preliminary.

Our Department has not mapped any Essential Habitats that would be directly affected by your project.

Endangered, Threatened, and Special Concern Species

Bat Species – Of the eight species of bats that occur in Maine, the three *Myotis* species are protected under Maine's Endangered Species Act (MESA) and are afforded special protection under 12 M.R.S §12801 - §12810. The three *Myotis* species include little brown bat (State Endangered), northern long-eared bat (State Endangered), and eastern small-footed bat (State Threatened). The five remaining bat species are listed as Special Concern: big brown bat, red bat, hoary bat, silver-haired bat, and tri-colored bat. While a comprehensive statewide inventory for bats has not been completed, based on historical evidence it is likely that several of these species occur within the project area during migration and/or the breeding season. However, our Agency does not anticipate significant impacts to any of the bat species as a result of this project.

Eastern Ribbon Snake - There is a potential for occurrences of Eastern ribbon snake, a state Species of Special Concern, within the proposed project. This rare species is a slender, semiaquatic snake often observed near the edges of emergent marshes, wet meadows, scrub-shrub wetlands, beaver impoundments, bogs, river and stream floodplains, and vegetated shorelines of ponds and lakes.

Rare Turtle Species - Occurrences of spotted turtle, a State Threatened species, and Blanding's turtle, a State Endangered Species, have been documented within the vicinity of the proposed project. These species are most frequently associated with small, acidic wetlands and vernal pools located in large, intact landscapes. They also use small streams, shrub swamps, wet meadows, bogs, and forested swamps, and development activity that compromises riparian integrity or migration permeability among seasonally critical wetlands can lead to degradation of habitat quality and potential loss of local populations. Additionally, development projects that lead to significant increases in local traffic volume will likely lead to increased roadkill and possible extirpation of the local population. If these habitats are present in the project area, we recommend that they be avoided and adequately buffered with a 250-foot

undisturbed, intact vegetative cover. MDIFW is willing to work closely with the applicant to design a project that attempts to limit potential impacts to these listed species.

Significant Wildlife Habitat

Deer Wintering Areas (DWAs) – The project search area intersects with a DWA. DWAs contain habitat cover components that provide conditions where deer find protection from deep snow and cold wind, which is important for overwinter survival. MDIFW recommends that development projects be designed to avoid losses or impacts to the continued availability of coniferous winter shelter. Any removal of vegetation should be conducted in such a way that improves the quality and vigor of the coniferous species providing this winter shelter.

Significant Vernal Pools - At this time, MDIFW Significant Wildlife Habitat maps indicate no known presence of Significant Vernal Pools in the project search area; however, a comprehensive statewide inventory for Significant Vernal Pools has not been completed. Therefore, we recommend that surveys for vernal pools be conducted within the project boundary by qualified wetland scientists prior to final project design to determine whether there are Significant Vernal Pools present in the area. These surveys should extend up to 250 feet beyond the anticipated project footprint because of potential performance standard requirements for off-site Significant Vernal Pools, assuming such pools are located on land owned or controlled by the applicant. Once surveys are completed, survey forms should be submitted to our Agency for review well before to the submission of any necessary permits. Our Department will need to review and verify any vernal pool data prior to final determination of significance.

Fisheries Habitat

We generally recommend maintaining 100-foot undisturbed vegetated buffers from the upland edge of all intermittent and perennial streams and any contiguous wetlands. Maintaining and enhancing buffers along these resources is critical to the protection of water temperatures, water quality, natural inputs of coarse woody debris, and various forms of aquatic life necessary to support fish and other aquatic species. Riparian buffers also provide critical habitat and important travel corridors for a variety of wildlife species. Stream crossings should be avoided, but if a stream crossing is necessary, or an existing crossing needs to be modified, it should be designed to provide for full aquatic passage. Small streams, including intermittent streams, can provide crucial rearing habitat, cold water for thermal refugia, and abundant food for juvenile salmonids on a seasonal basis. Undersized crossings may inhibit these functions and become a frequent maintenance problem that causes reoccurring damage to the resource. Generally, MDIFW recommends that all new, modified, and replacement stream crossings be sized to span at least 1.2 times the bankfull width of the stream. In addition, we generally recommend that stream crossings be open bottomed (i.e. natural bottom), although embedded structures which are backfilled with representative streambed material have been shown to be effective in providing habitat connectivity for fish and other aquatic organisms. Construction Best Management Practices should be closely followed to avoid erosion, sedimentation, alteration of stream flow, and other impacts as eroding soils can travel significant distances as well as transport other pollutants resulting in direct impacts to fish, other aquatic life, and their habitats. In addition, we recommend that any necessary instream work occur between July 15 and October 1.

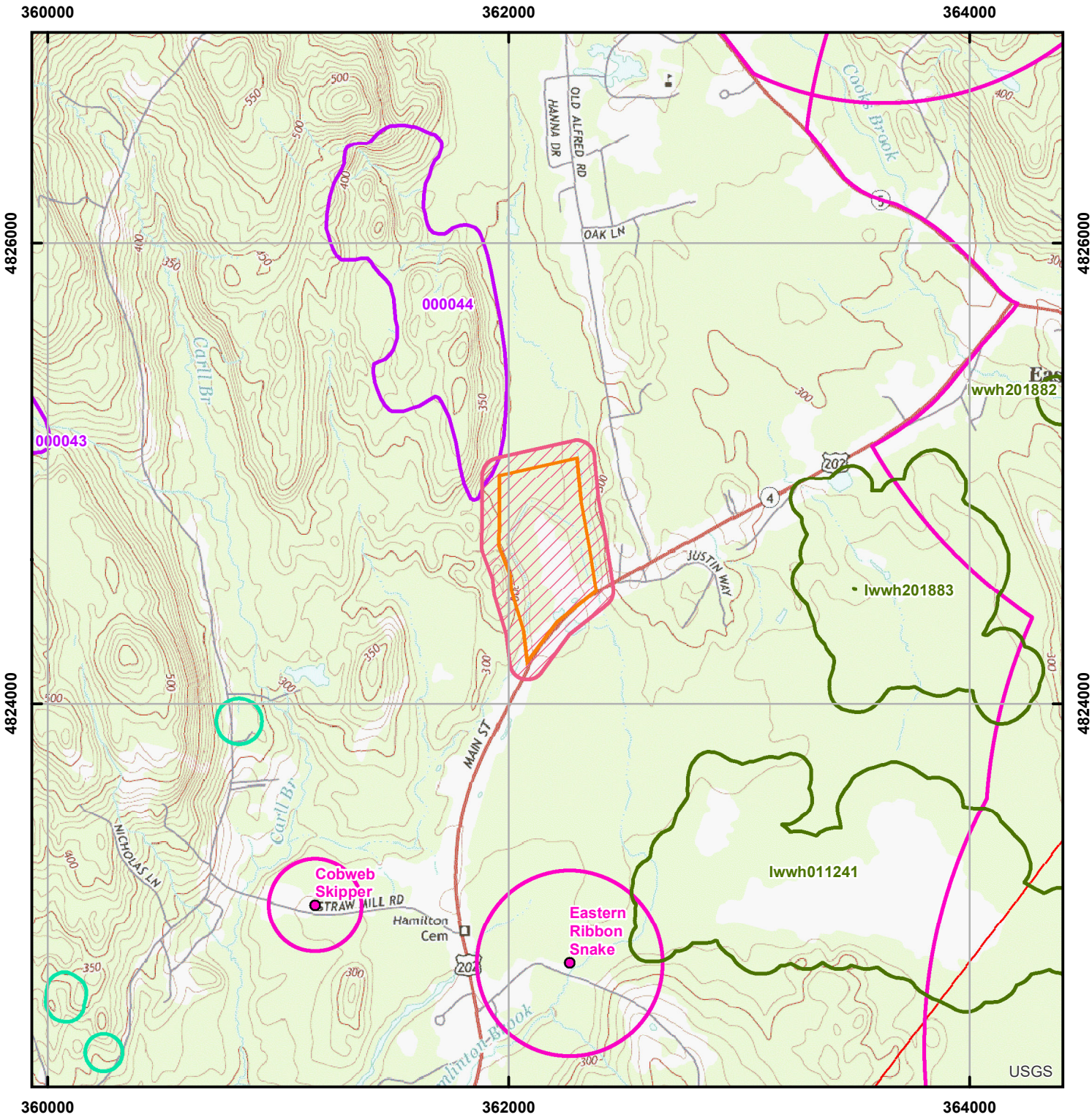
This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program,

Maine Department of Marine Resources, and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance.

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,

Becca Settele
Wildlife Biologist



Environmental Review of Fish and Wildlife Observations and Priority Habitats

Project Name: Commercial Development, Waterboro (Version 1)

Miles

0 0.1250.25 0.5 0.75 1

Projection: UTM, NAD83, Zone 19N

Date: 11/18/2022

Maine Department of Inland Fisheries and Wildlife

- ProjectSearchAreas - All Versions
- Maine Cliff and Talus Areas
- Deer Winter Area
- LUPC p-fw
- Cooperative DWAs
- Seabird Nesting Islands
- Shorebird Areas
- Inland Waterfowl and Wading Bird
- 2008 lwwh - Shoreland Zoning
- Tidal Waterfowl and Wading Bird
- Significant Vernal Pools
- Environmental Review Polygons
- Roseate Tern
- Piping Plover and Least Tern
- Aquatic ETSc - 2.5 mi review
- Rare Mussels - 5 mi review
- Maine Heritage Fish Waters
- Arctic Charr Habitat
- Redfin Pickerel and Swamp Darter Habitats - buffer100ft
- Special Concern occupied habitats - 100ft buffer
- Wild Lake Trout Habitats

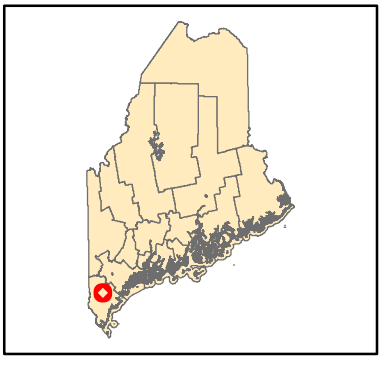


Exhibit 6

Lighting

Exhibit 6: Lighting

Please see this Exhibit for the proposed lighting product sheets. Proposed lighting for the project includes a combination of wall-pack lights and light poles. The proposed light poles will be similar to existing ones that are currently use on the site. It is noted that the existing daycare building has wall-pack lights that provide lighting of the entrance and parking area. Please see this Exhibit for site photos showing these existing light fixtures.

Existing Lighting – 545 Main Street

Photograph 1: Existing light poles located along site entrance drive and throughout site.

Photograph 2: Existing wall pack lights at daycare entrance.

HUBBELL Outdoor Lighting

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LNC2

SMALL LED LITEPAK

FEATURES

- 60% more lumens and increased performance than smaller LNC models
- 3000K, 4000K and 5000K as well as Amber
- Type II, III and IV distributions available for a variety of application needs
- Quick-mount adapter allows easy installation/maintance
- 347V and 480V versions for industrial applications and Canada
- Stock versions available for fast service
- Full cut-off, neighbor friendly
- Optional photocontrol for additional energy savings

C US

BUY AMERICAN SOLUTIONS
See Certification Specifications

RELATED PRODUCTS

LNC | LNC2 Prismatic | Airo

CONTROL TECHNOLOGY

NX DISTRIBUTED™ INTELLIGENCE

SPECIFICATIONS

CONSTRUCTION

- Rugged die-cast aluminum housing protects components and provides an architectural appearance
- Casting thermally conducts LED heat to optimize performance and long life
- Powder paint finish provides durability in outdoor environments. Tested to meet 1000 hour salt spray rating.

OPTICS

- Zero uplight distributions using individual acrylic Micro Strike Optics
- LED optics provide IES type III and IV distributions. Optional (CS) acrylic diffuser available for reduced glare
- Prismatic refractor lens provides ~10% uplight for increased vertical footcandles and forward light projection ideal for security lighting
- L96 at 60,000hrs (Projected per IESNA TM-21-11), see table on page 3 for all values

INSTALLATION

- Quick-mount adapter provides easy installation to wall or to recessed junction boxes (4" square junction box)
- Designed for direct j-box mount.
- Optional 1/2" conduit hubs available (standard for control options and battery versions)

ELECTRICAL

- 120V-277V universal voltage 50/60Hz 0-10V dimming drivers
- 347V and 480V dimmable driver option available in 25W and 35W configurations
- Minimum operating temperature is -40˚C/-40˚F
- Drivers have greater than .90 power factor and less than 20% Total Harmonic Distortion
- Driver RoHS and IP66
- 10kA surge protector
- 3000K CCT nominal, 4000K CCT nominal, 5000K CCT nominal (70 CRI)

CONTROLS

- Universal button photocontrol for use with 120-277V configurations
- Occupancy sensor options available for complete on/off and dimming control
- Integral Battery Backup provides emergency lighting for the required 90 minute path of egress
- Dual Driver and Dual Power Feed option for 18L-070 versions. Dual Driver option provides 2 drivers within luminaire but only one set of leads exiting the luminaire, where Dual Power Feed provides two drivers which can be wired independently as two sets of leads are extended from the luminaire.

CERTIFICATIONS

- Listed to UL1598 and CSAC22.2#250.0-24 for wet locations
- This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/23/2020. See Buy American Solutions

WARRANTY

- 5 year limited warranty
- See HLI Standard Warranty for additional information

KEY DATA	
Lumen Range	1000-5600
Wattage Range	10-45
Efficacy Range (LPW)	108-124
Fixture Projected Life (Hours)	L96>60K
Weights lbs. (kg)	9.6 (24.5)

HUBBELL Lighting

HUBBELL Outdoor Lighting

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LNC2

SMALL LED LITEPAK

ORDERING GUIDE

Example: LNC2-9L-3K-2-U-DBT-PCU

CATALOG #

ORDERING INFORMATION

Series	
LNC2	Small LitePak LNC2

Light Engine	
48L-10	1000 lumens
48L-15	2000 lumens
48L-20	2500 lumens
48L-25	3500 lumens
48L-35	4500 lumens
48L-45	5500 lumens
P15	15w Prismatic
P25	25w Prismatic
P35	35w Prismatic

CCT/CRI	
3K7	3000K, 70 CRI
4K7	4000K, 70 CRI
5K7	5000K, 70 CRI
AM	Amber

Distribution	
3	Type 3
4W	Type 4 Wide

Voltage	
UNV	120-277V
120	120V
208	208V
240	240V
277	277V
347	347V [7]
480	480V [7]

Mounting	
Leave blank for down	
NV	Inverted [3]

Finish	
BLT	Black Matte Textured
BLS	Black Gloss Smooth
DBT	Dark Bronze Matte Textured
DBS	Dark Brone Gloss Smooth
GTT	Graphite Matte Textured
LGS	Light Grey Gloss Smooth
PSS	Platinum Silver Smooth
WHT	White Matte Textured
WHS	White Gloss Smooth
VGT	Verde Green Textured

Color Option	
CC	Custom Color

Control Options	
PC	Photocontrol [4]
BTSO12F	"Bluetooth Programmable, PIR Occupancy/Daylight Sensor, up to 12' mounting height [5]
NXWE	NX hubbNET Wireless Radio Module NXRM2, without Sensor [5]
NXSPW12F	NX hubbNET Wireless Enabled Integral NXSMP2-OMNI PIR Occupancy Sensor, 12' mounting height [5]

Additional Options	
F	Fusing (specify voltage)
EH	Battery Backup Unit with Heater (-30˚C) [6]
E	Battery Backup Unit (0˚C) [6]
CS	Comfort Shield (N/A with Prismatic Refractor)
2DR	Dual Driver [1,2]
2PF	Dual Power Feed [1,2]
CH	Surface Conduit Hubs [5]

Items with a grey background can be done as a custom order.
Contact brand representative for more information

NOTES

1. Available in 35 & 45W
2. Options cannot be combined with controls or PC option
3. Not available with occupancy sensor, battery backup or prismatic refractor options
4. PC comes in standard housing
5. BTS, NX and CH options come in medium back box
6. E and EH come in large back box
7. 347V & 480V only available in 25 and 35W

REPLACEMENT PART - MADE TO ORDER

	Catalog Number	Description
☐	**WP-BB-XXX***	Accessory for conduit entry

Notes:

* Replace XXX with paint color

HUBBELL Lighting

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LNC2

SMALL LED LITEPAK

PERFORMANCE DATA

System Watts	Input Voltage	Current (AMPS)	System Power (W)
10W	120	0.09	10.6
	277	0.038	
	347	0.031	
	480	0.022	
15W	120	0.12	14.5
	277	0.07	
	347	0.04	
	480	0.03	
20W	120	0.169	20
	277	0.072	
	347	0.058	
	480	0.042	
25W	120	0.235	28
	277	0.101	
	347	0.081	
	480	0.058	
35W	120	0.305	36.4
	277	0.131	
	347	0.105	
	480	0.076	
45W	120	0.378	45.1
	277	0.163	
	347	0.13	
	480	0.094	

PROJECTED LUMEN MAINTENANCE

STANDARD 9, 12 AND 18L VERSIONS

Ambient Temperature	OPERATING HOURS					
	0	25,000	50,000	TM-21-11* L96 60,000	100,000	L70 (Hours)
25°C / 77°F	1	0.97	0.95	0.94	0.91	408,000
40°C / 104°F	0.99	0.96	0.94	0.93	0.89	356,000

LUMINAIRE AMBIENT TEMP FACTOR

AMB TEMP		LUMEN MULTIPLIER
0C	32F	1.03
10C	50F	1.01
20C	68F	1
25C	77F	1
30C	86F	0.99
40C	104F	0.98

HUBBELL Outdoor Lighting

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

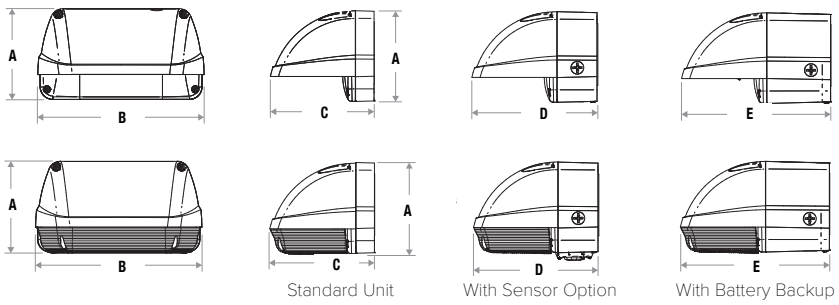
LNC2

SMALL LED LITEPAK

LUMEN

Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)			4K (4000K NOMINAL 70 CRI)			3K (3000K NOMINAL 80 CRI)		
			Lumens	LPW	B-U-G	Lumens	LPW	B-U-G	Lumens	LPW	B-U-G
10W	10.6W	Type 3	1213	121	B0-U0-G0	1117	112	B0-U0-G0	1081	108	B0-U0-G0
		Type 4	1244	124	B0-U0-G0	1144	114	B0-U0-G0	1109	111	B0-U0-G0
15W	14.5W	Type 3	1820	121	B0-U0-G0	1676	112	B0-U0-G1	1622	108	B0-U0-G1
		Type 4	1868	125	B0-U0-G1	1718	115	B0-U0-G1	1663	111	B0-U0-G1
20W	20W	Type 3	2427	121	B0-U0-G1	2234	112	B0-U0-G1	2163	108	B0-U0-G1
		Type 4	2487	124	B0-U0-G1	2292	115	B0-U0-G1	2218	111	B0-U0-G1
25W	28W	Type 3	3033	121	B1-U0-G1	2793	112	B0-U0-G1	2703	108	B0-U0-G1
		Type 4	3112	124	B0-U0-G1	2862	114	B0-U0-G1	2772	111	B0-U0-G1
35W	36.4W	Type 3	4247	121	B1-U0-G1	3910	112	B1-U0-G1	3785	108	B0-U0-G1
		Type 4	4355	124	B1-U0-G2	4011	115	B1-U0-G1	3881	111	B1-U0-G1
45W	45.1W	Type 3	5466	118	B1-U0-G1	5031	112	B1-U0-G1	4871	106	B1-U0-G2
		Type 4	5604	117	B1-U0-G2	5159	108	B1-U0-G2	4995	104	B1-U0-G2

DIMENSIONS



Standard Unit | With Sensor Option | With Battery Backup

A	B	C	D	E
5.54" (141 mm)	10.16" (258 mm)	6.33" (161 mm)	7.64" (194 mm)	9.10" (231 mm)

HUBBELL Lighting

LNC2

SMALL LED LITEPAK

ADDITIONAL INFORMATION

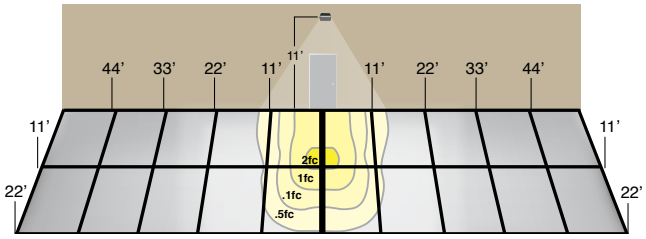
SHIPPING INFORMATION

Catalog Number	G.W(kg)/ CTN	Carton Dimensions			Carton Qty. per Master Pack
		Length Inch (cm)	Width Inch (cm)	Height Inch (cm)	
LNC2	14.3 (6.5)	14.5 (37)	11.4 (29)	8.4 (21.5)	2

CONTROL TABLE

Control Option	Sensor	Networkable	Scheduling	Occupancy	Daylight Harvesting	On/Off Control	Programming	Pair with Sensor	Sensor Mounting Height
PC	–	–	–	–	–	✔	–	–	–
NXWE	–	✔	✔	–	–	✔	Requires additional devices	–	–
NXSPW_F	NXSM-P	✔	✔	✔	✔	✔	Bluetooth	–	12 ft
BTSO12F	BTSMP-OMNI	–	–	✔	✔	with auxilary driver	–	–	12 ft

LNC2 - BATTERY BACK UP



11' Mounting Height

Provides Life Safety Code average illuminance of 1.0 fc. Assumes open space with no obstructions and mounting height of 11'.

Diagrams for illustration purposes only, please consult factory for application layout.

Battery backup units consume 6 watts when charging a dead battery and 2 watts during maintenance charging. EH (units with a heater) consume up to an additional 8 watts when charging if the battery temp is lower than 10°C

USE OF TRADEMARKS AND TRADE NAMES

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prescolite

LTR-6RD

LITEISTRY 6" ROUND DOWNLIGHT

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

LITEISTRY

FEATURES

- 6" architectural LED downlight delivering 600 – 9000 lm
- Five beam distributions from 0.3 to 1.1 Spacing Criteria
- Quiet reflector appearance with superior 50° optical cutoff
- 2700K – 5000K, 80+ and 90+ CRI options
- Available for New Construction (non-IC), IC and Chicago Plenum applications
- Variety of dimming protocol options including 0–10V, DALI, DMX, and Lutron EcoSystem
- NX Lighting Controls wired and wireless controls capability available

WET LOCATION | C SA US | ENERGY STAR | BUY AMERICAN SOLUTIONS See Certification Specifications | IP66** | IK10** | IP69K**

**Select models

SERVICE PROGRAMS

STOCK | QS

CONTROL TECHNOLOGY

NX LIGHTING CONTROLS

SPECIFICATIONS

CONSTRUCTION

- Standard Non-IC. Chicago Plenum and IC options
- Painted black durable steel platform with pre-installed bar hangers
- Pre-wired junction box with snap-on covers for easy access
- Snap-in connection from driver compartment allows easy installation
- Light Engine connections use plenum rated (CMP) cable

OPTICS

- Visually pleasing 50° cutoff to source and source image
- The light distribution is free of distracting bright spots or pixelation and the perimeter has a smooth transition
- Optical grade silicone lens integral to light engine
- High purity spun aluminum reflector, self-flanged
- Flush Mount flange option with mud-in ring available
- Large selection of anodized finishes and colors
- Painted cones and flange options available

ELECTRICAL

- Chip-on-board LED with 2 SDCM
- Multiple CCTs, 80+ or 90+ CRI
- Long LED life: L90 at >55,000 hours (TM-21)
- Universal voltage 120V–277V driver, 347V optional
- UL Class 2, inherent short circuit and overload protection
- Flicker free 0-10V dimming with 1% or <1% performance
- DALI, DMX, and Lutron EcoSystem options
- NX or Lutron Vive control options available
- Integral and remote controller and battery pack options available
- Refer to additional spec sheets for information on SpectraSync™ Tunable White or Dim-to-Warm or solutions

INSTALLATION

- Accommodates ceiling thickness up to 2" (SL, ML, HL); up to 1.25" (VL, XL) (See DIMENSIONS section for details)
- Universal adjustable mounting brackets also accept 0.5" EMT conduit or 1.5" or 0.75" lathing channel (by others) or Prescolite accessory bar hangers (B24 or B6).
- Light Engine/Driver fully serviceable from above or below the ceiling

CERTIFICATIONS

- cCSAus certified to UL 1598
- For ≥70L: Marked spacing required 36" fixture center to center; 36" fixture center to building member; 0.5" above fixture
- Suitable for wet locations, covered ceiling. EM/ EMR: Suitable for damp locations.
- EM/EMR: Certified under UL 924 standard for emergency lighting and power equipment
- When used with CE Bezel Trim Accessories: IP66/IP69K rating; also meets IK10 per IEC 60068-2-75 impact testing
- Approved for 8 (4 in/4 out) No. 12AWG conductors rated for 90°C through wiring
- ENERGY STAR® certified models available (For list and additional information, visit www.energystar.gov)
- This product qualifies as a "designated country construction material" per F AR 52.225-11 Buy American-Construction. Materials under Trade Agreements effective 6/6/2020.

WARRANTY

- 5 year warranty

KEY DATA	
Lumen Range	600-9000
Wattage Range	8-99
Efficacy Range (LPW)	94-104*
Reported Life (Hours)	L90 / >55,000
Input Current (mA)	65-825 (120V)

*Based on Specular, 35K, 80 CRI

prescolite

LTR-6RD

LITEISTRY 6" ROUND DOWNLIGHT

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

= Service Program STOCK QS

ORDERING GUIDE

Example: LTR–6RD–H–SL10L–DM1–LTR–6RD–T–SL35K8MD–S

CATALOG #

HOUSING

LTR-6RD-H –

Aperture/Shape/Function		Lumen Package		Lumen Output		Driver Options		Control Options		Voltage		Housing Options	
LTR-6RD-H	6" Round Downlight New Construction Housing	**SL**	Standard Lumen	**06L**	600	**DM1**	0-10V Dimming to 1%	**NXE**	NX Wired Dual RJ45 SmartPORTS, without Sensor [3]	*Standard 120-277V*		**CP**	Chicago Plenum [7,9]
				10L	1000	**DM01**	0-10V Dimming to < 1% [2]	**NXW**	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor [3]	**34**	347V [6]	**IC**	IC rated [8,9]
		ML	Medium Lumen	**15L**	1500	**DMX**	DMX with RDM dimming to < 0.1% [2]					**EM**	Emergency Battery Pack with integral test switch and indicator light [9]
				20L	2000	**DALI**	DALI Dimming to 1% [2]	**LV**	Lutron Vive Enabled, 0-10V (requires DM1 driver)			**EMR**	Emergency Battery Pack with remote test switch and indicator light [9]
		HL	High Lumen	**25L**	2500	**EDM**	Lutron Hi-Lume EcoSystem Dimming to 1% [2]					**DTS**	Device Transfer Switch with Dimming Bypass [9,12]
				30L	3000			**LVE**	Lutron Vive Enabled, EcoSystem, (requires EDM)			**GTD**	Generator Transfer Device [9]
		VL	Very High Lumen	**35L**	3500							**F**	Fuse [9]
				40L	4000								
				45L	4500								
				50L	5000								
				55L	5500								
				60L	6000								
		XL	Extra high Lumen [11]	**70L**	7000								
				80L	8000								
				90L	9000								

TRIM

LTR-6RD-T –

Aperture/Shape/Function		Lumen Package		CCT		CRI		Distribution	
LTR-6RD-T	6" Round Downlight Light Engine/Trim Assembly	**SL**	Standard Lumen	**27K**	2700K	**8**	80+CRI	**VNR**	Very Narrow (0.3 SC/18°)
		ML	Medium Lumen	**30K**	3000K	**9**	90+CRI	**NR**	Narrow (0.5 SC/29°)
		HL	High Lumen	**35K**	3500K			**MD**	Medium (0.6 SC/37°)
		VL	Very High Lumen	**40K**	4000K			**WD**	Wide (0.9 SC/59°)
		XL	Extra High Lumen [11]	**50K**	5000K [1]			**XW**	Extra Wide (1.1 SC/76°)

TRIM CONTINUED

–

Reflector Finish		Reflector Color		Flange Color Options		Lower Trim Options		Reflector Options	
Finish not applicable with painted reflectors (WC or BC)		*Standard Clear*		*Standard matches reflector color*		**EM**	Pre-punched reflector for EM integral test switch and indicator	**AM**	Antimicrobial Coating [5]
S	Specular	**CG**	Champagne Gold	**WT**	White Flange [4]	**FM**	Flush Mount Mud-in Ring [10]		
SS	Semi-Specular	**BL**	Black	**BT**	Black Flange [4]	**WF**	Wide Flange		
MFC	American Matte™	**LW**	Light Wheat						
VS	Softglow®	**PW**	Pewter						
VSS	SoftSheen™	**WC**	Painted White Cone and Flange						
		BC	Painted Black Cone and Flange						

Accessories	
☐ **B24**	Set of two (2) 24" bar hangers for T-bar ceilings
☐ **B6**	Set of two bar hangers for ceiling joist up to 24" centers
☐ **FMR6-R**	Flush Mount Mud-In Ring, 6" Round
☐ **LiteGear**	LiteGear® Inverter, 125VA-250VA
☐ **LPS Series**	LightPower Micro-Inverter, 20VA-55VA
☐ **MOR6-R-WH**	Metal Oversized Ring, 6" Round, White (10" outside diameter)
☐ **MOR6-R-BL**	Metal Oversized Ring, 6" Round, Black (10" outside diameter)
☐ **LTR-SCA6-__**	Sloped Ceiling Adapter, 6", White [13]

(See next page for Bezel Trim Accessories for Complex Environments) [14]

Notes:

1 5000K available in 80+ CRI only.
2 EDM available in 10L-35L. DMX not available on >35L. DM01, DALI not available on >55L.
3 NX requires DM1 driver option, not available on >60L.
4 WT not needed for WC, BT not needed for BC.
5 AM available with WC or Specular Clear (S or SWT). Consult factory for other colors.
6 347V requires DM1 driver option; available 06L - 30L not available with Controls, F, GTD, DTS, EM, EMR.
7 CP available up to 50L; not available with DMX, Controls, or EMR options.
8 IC available up to 20L; not available with Controls options.
9 Housing options (except Fuse) not available in combination.
10 Flush Mount Flange (FM) requires FMR accessory (sold separately).
11 XL (70L-90L) require marked spacing. See line art for more details.
12 DTS available with DM1, DM01, or DALI.
13 Specify slope angle 5°-35° in 5° increments. Not available with EM, WF, or FM options.
14 See next page for option restrictions when using with bezel trim accessories.

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LTR-6RD

LITEISTRY 6" ROUND DOWNLIGHT

ACCESSORIES CONTINUED

Bezel Trim Accessories

For more demanding environments, LITEISTRY™ offers bezel trim accessories that can be field installed onto standard housing/trim assemblies and are available with antimicrobial trim finish and/or vandal resistant hardware options.

FEATURES:

- Marine grade die cast aluminum bezel trim with low-copper alloy for durability
- Shatter resistant, 1/4" clear polycarbonate lens, completely flush for easy wipe down
- Closed cell silicone gasket protects against dust and water ingress
- Suitable for wet locations, covered ceiling
- IP66/IP69K rated (room side) when properly installed per installation instructions
- Meets IK10 per IEC 60068-2-75 impact testing
- Optional anti-microbial (AM) trim finish

WET LOCATION IP66 IK10 IP69K

Complex Environment (Includes stainless steel Philips head screws)	
☐ **LTR-6RD-CE-WT**	Bezel Trim Accessory, IP66/IP69K, 6" Round, White
☐ **LTR-6RD-CE-WTAM**	Bezel Trim Accessory, IP66/IP69K, 6" Round, White Antimicrobial

Vandal Resistant (Includes stainless steel Torx® screws with tamper resistant center pin reject)	
☐ **LTR-6RD-CEVR-WT**	Bezel Trim Accessory, Vandal Resistant/IP66/IP69K, 6" Round, White
☐ **LTR-6RD-CEVR-WTAM**	Bezel Trim Accessory, Vandal Resistant/IP66/IP69K, 6" Round, White Antimicrobial

Dimensional Data	
Aperture Opening	Ø 5.75" (146.1 mm)
Overall Flange	Ø 9.42" (293.3 mm)
Trim Height	0.42" (10.7 mm)
Ceiling Cutout	Ø 8.25" (209.6 mm)
Ceiling Thickness	0.50" to 2.00"(12.7 mm to 50.8 mm)

Notes:
1 Available up to 4000 Max Lumens.
2 Not available in combination with EM, FM, or WF options.
3 Not available in combination with FMR, LTR-MOR or LTR-SCA accessories.
4 Refer to all Installation Instructions for complete details.

CONTROLS

NX Lighting Controls:

Supports applications in a variety of deployment options. Integrates with and enables a wide array of luminaires including those with SpectraSync™ Color Tuning Technology.

NX LIGHTING CONTROLS

NX INTEGRATED CONTROLS REFERENCE								
NX Option	Sensor	Networkable	Scheduling	Occupancy	Daylight Harvesting	0–10V Dimming	On/off Control	Bluetooth® App Programming
NX Networked – Wired								
NXE	N/A	Yes	Yes	No	No	Yes	Yes	Requires NXBTC[1]
NX Networked – Wireless								
NXW[2]	N/A	Yes	Yes	No	No	Yes	Yes	Yes

1 NXBTC needs to be plugged into an available NX SmartPort™ on the fixture network
2 Programming via App requires factory assistance

prescolite

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LTR-6RD

LITEISTRY 6" ROUND DOWNLIGHT

PERFORMANCE DATA TABLE

Performance data provided below is for 3500K, 80 CRI with Specular Clear reflector finish/color

Lumen Package	Nominal Lumens	Distribution	Delivered Lumens	Watts	LPW
06L	600	Very Narrow	806	7.8	103
		Narrow	717	7.8	92
		Medium	746	7.8	96
		Wide	691	7.8	89
		Extra Wide	665	7.8	85
10L	1000	Very Narrow	1288	12.0	107
		Narrow	1146	12.0	96
		Medium	1192	12.0	99
		Wide	1104	12.0	92
		Extra Wide	1063	12.0	89
15L	1500	Very Narrow	1851	18.7	99
		Narrow	1623	18.7	87
		Medium	1712	18.7	92
		Wide	1586	18.7	85
		Extra Wide	1527	18.7	82
20L	2000	Very Narrow	2355	22.6	104
		Narrow	2263	22.7	100
		Medium	2265	22.6	100
		Wide	2180	22.7	96
		Extra Wide	2139	22.7	94
25L	2500	Very Narrow	3093	27.7	112
		Narrow	2751	27.7	99
		Medium	2860	27.7	103
		Wide	2650	27.7	96
		Extra Wide	2551	27.7	92
30L	3000	Very Narrow	3686	34.3	107
		Narrow	3278	34.3	96
		Medium	3409	34.3	99
		Wide	3158	34.3	92
		Extra Wide	3040	34.3	89

prescolite

LTR-6RD

LITEISTRY 6" ROUND DOWNLIGHT

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

PERFORMANCE DATA TABLE CONTINUED

Performance data provided below is for 3500K, 80 CRI with Specular Clear reflector finish/color

Lumen Package	Nominal Lumens	Distribution	Delivered Lumens	Watts	LPW
35L	3500	Very Narrow	4477	43.0	104
		Narrow	3942	43.0	93
		Medium	4140	43.0	96
		Wide	3836	43.0	89
		Extra Wide	3693	43.0	86
40L	4000	Very Narrow	5117	51.6	99
		Narrow	4552	51.6	88
		Medium	4733	51.6	92
		Wide	4385	51.6	85
		Extra Wide	4221	51.6	82
45L	4500	Very Narrow	5371	55.1	98
		Narrow	4775	55.1	87
		Medium	4967	55.1	90
		Wide	4602	55.1	84
		Extra Wide	4430	55.1	80
50L	5000	Very Narrow	5740	48.7	118
		Narrow	5105	48.7	105
		Medium	5308	48.7	109
		Wide	4918	48.7	101
		Extra Wide	4734	48.7	97
55L	5500	Very Narrow	6365	53.9	119
		Narrow	5662	53.9	105
		Medium	5887	53.9	109
		Wide	5454	53.9	101
		Extra Wide	5250	53.9	97
60L	6000	Very Narrow	7090	60.7	117
		Narrow	6299	60.7	104
		Medium	6557	60.7	108
		Wide	6075	60.7	100
		Extra Wide	5848	60.7	96
70L	7000	Very Narrow	8266	72.1	115
		Narrow	7353	72.1	102
		Medium	7645	72.1	106
		Wide	7083	72.1	98
		Extra Wide	6819	72.1	95
80L	8000	Very Narrow	9301	84.3	111
		Narrow	8273	84.3	98
		Medium	8602	84.3	102
		Wide	7970	84.3	95
		Extra Wide	7672	84.3	91
90L	9000	Very Narrow	10549	98.1	108
		Narrow	9383	98.1	96
		Medium	9756	98.1	99
		Wide	9039	98.1	92
		Extra Wide	8701	98.1	89

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LTR-6RD

LITEISTRY 6" ROUND DOWNLIGHT

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

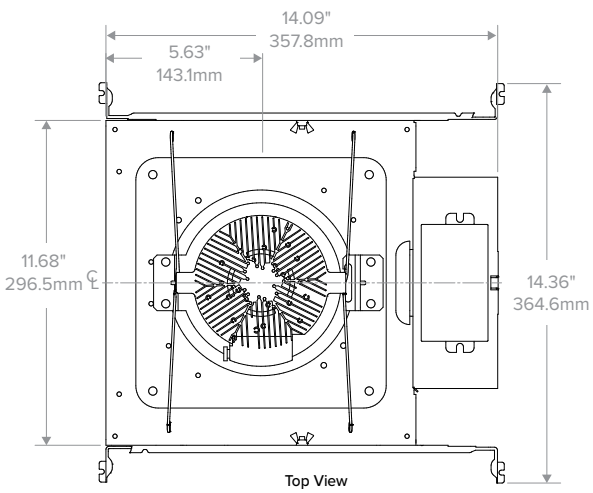
DIMENSIONS

Lumen Package	"A"
06L-15L	5.90" (149.9mm)
20L-30L	6.68" (169.7mm)
35L-40L	7.86" (199.6mm)
50L-60L	9.04" (229.6mm)

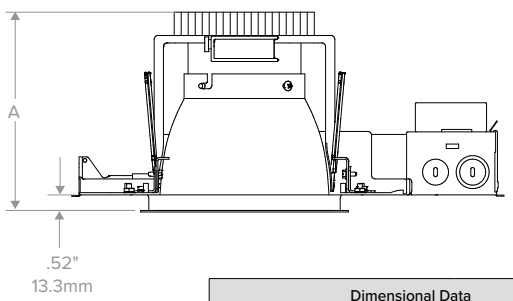
Dimensional Data		
Aperture		5.75" (146.1mm)
Flange:	Standard	7.00" (177.8mm)
	Flush Mount	6.54" (166.0mm)
	With Bezel Trim Accessory**	Ø 9.42" (293.3 mm)
Ceiling Cutout:	Standard	6.50" (165.1mm)
	Flush Mount	6.75" (171.5mm)
	With Bezel Trim Accessory**	Ø 8.25" (209.6 mm)
Ceiling Thickness:	Standard or w/SCA 5-20° slope	0.50" to 2.00" (12.7mm to 50.8mm)
	With SCA 25-35° slope	0.50" to 1.75" (12.7mm to 44.6mm)
	With Bezel Trim Accessory**	0.50" to 2.00"(12.7 mm to 50.8 mm)

SCA Sloped Ceiling Adapter accessory available, see LTR-SCA specification sheet and installation instructions for dimensional data and other details.

** For complete details on Bezel Trim Accessories, see Accessory section on Page 3 and Bezel Trim Installation Instructions on currentlighting.com/prescolite.



Top View

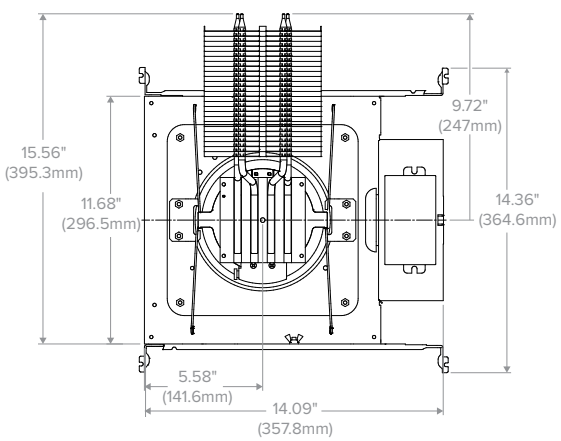


LTR-6RD-H (06L - 60L) New Construction

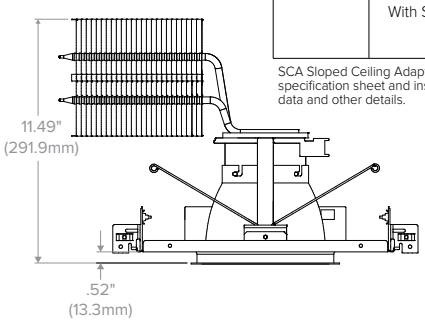
Dimensional Data		
Aperture		5.75" (146.1mm)
Flange:	Standard	7.00" (177.8mm)
	Flush Mount	6.54" (166.0mm)
Ceiling Cutout:	Standard	6.50" (165.1mm)
	Flush Mount	6.75" (171.5mm)
Ceiling Thickness:	Standard or w/SCA 5-20° slope	0.50" to 2.00" (12.7mm to 50.8mm)
	With SCA 25-35° slope	0.50" to 1.75" (12.7mm to 44.6mm)

SCA Sloped Ceiling Adapter accessory available, see LTR-SCA specification sheet and installation instructions for dimensional data and other details.

Marked spacing required:
36" fixture center to center;
36" center to building member;
0.50" above fixture



Top View



LTR-6RD-H (70L - 90L) New Construction

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LTR-6RD

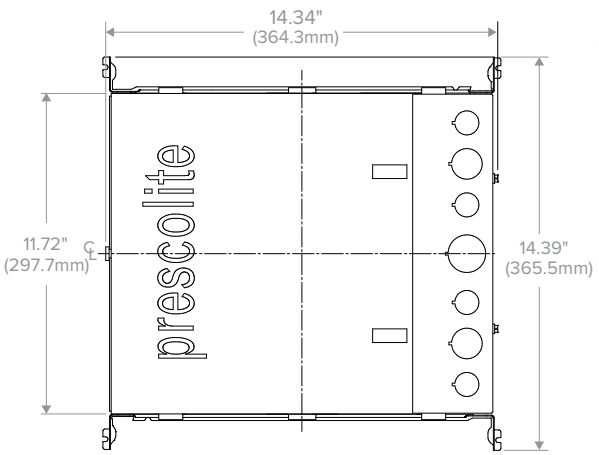
LITEISTRY 6" ROUND DOWNLIGHT

DATE: | LOCATION:

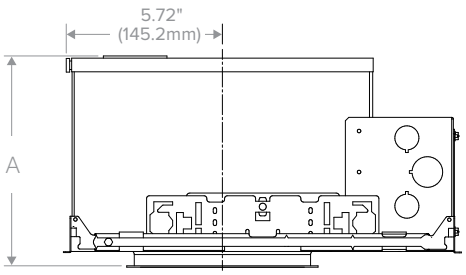
TYPE: | PROJECT:

CATALOG #:

DIMENSIONS CONTINUED



LTR-6RD-IC / LTR-6RD-CP



Lumen Package	"A"
Standard	7.68" (195.0mm)
CP option ≥35L	10.06" (255.5mm)

Dimensional Data		
Aperture		5.75" (146.1mm)
Flange:	Standard	7.00" (177.8mm)
	Flush Mount	6.54" (166.0mm)
Ceiling Cutout:	Standard	6.50" (165.1mm)
	Flush Mount	6.75" (171.5mm)
Ceiling Thickness:	Standard or w/SCA 5-20° slope	0.50" to 2.00" (12.7mm to 50.8mm)
	With SCA 25-35° slope	0.50" to 1.75" (12.7mm to 44.6mm)

SCA Sloped Ceiling Adapter accessory available, see LTR-SCA specification sheet and installation instructions for dimensional data and other details.

PHOTOMETRY

LTR-6RD-H-ML20L-DM1 / LTR-6RD-T-ML35K8VNR-S

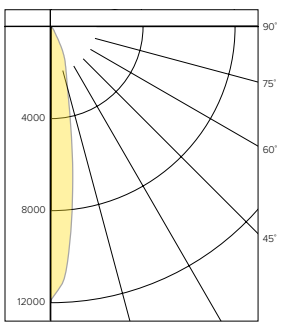
LUMINAIRE DATA

Test No.	**19.00588**
Description	**2000 lm, Very Narrow, 3500K, 80 CRI**
Delivered Lumens	**2355**
Watts	**22.6W**
Efficacy	**104.0**
Mounting	**Recessed**
Spacing Criterion	**0.3**
Beam Angle (FWHM)	**18**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	2290	97.2
0-60	2355	100.0
0-90	2355	100.0
0-180	2355	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	11881
5	9399
15	2776
25	1236
35	255
45	74
55	0
65	0
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	6247
55°	0
65°	0
75°	0
85°	0

*Candela/Square Meter

LTR-6RD-H-ML20L-DM1 / LTR-6RD-T-ML35K8NR-S

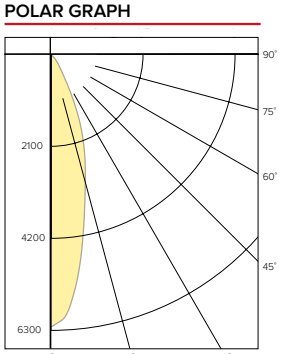
LUMINAIRE DATA

Test No.	**20.01439**
Description	**2000 lm, Narrow, 3500K, 80 CRI**
Delivered Lumens	**2263**
Watts	**22.1W**
Efficacy	**103.0**
Mounting	**Recessed**
Spacing Criterion	**0.5**
Beam Angle (FWHM)	**29**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	2185	96.6
0-60	2260	99.9
0-90	2263	100.0
0-180	2263	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	6222
5	5603
15	3035
25	1354
35	348
45	83
55	5
65	2
75	1
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	6712
55°	498
65°	271
75°	221
85°	0

*Candela/Square Meter

prescolite

LTR-6RD

LITEISTRY 6" ROUND DOWNLIGHT

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

PHOTOMETRY CONTINUED

LTR-6RD-H-ML20L-DM1 / LTR-6RD-T-ML35K8MD-S

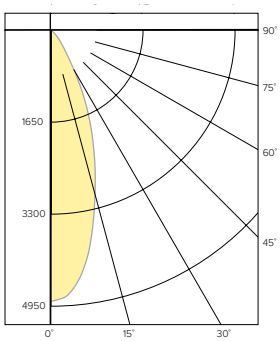
LUMINAIRE DATA

Test No.	**19.00587**
Description	**2000 lm, Medium, 3500K, 80 CRI**
Delivered Lumens	**2265**
Watts	**22.6W**
Efficacy	**100.0**
Mounting	**Recessed**
Spacing Criterion	**0.6**
Beam Angle (FWHM)	**37**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	2171	95.9
0-60	2262	99.9
0-90	2265	100.0
0-180	2265	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	4851
5	4619
15	3007
25	1450
35	386
45	99
55	6
65	2
75	1
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	8357
55°	624
65°	282
75°	231
85°	0

*Candela/Square Meter

LTR-6RD-H-ML20L-DM1 / LTR-6RD-T-ML35K8WD-S

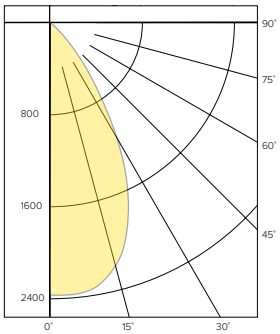
LUMINAIRE DATA

Test No.	**19.00585**
Description	**2000 lm, Wide, 3500K, 80 CRI**
Delivered Lumens	**2180**
Watts	**22.6W**
Efficacy	**96.1**
Mounting	**Recessed**
Spacing Criterion	**0.9**
Beam Angle (FWHM)	**59**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	2014	92.4
0-60	2176	99.8
0-90	2180	100.0
0-180	2180	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	2368
5	2371
15	2189
25	1591
35	726
45	177
55	10
65	3
75	1
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	14942
55°	1041
65°	424
75°	231
85°	0

*Candela/Square Meter

LTR-6RD-H-ML20L-DM1 / LTR-6RD-T-ML35K8XW-S

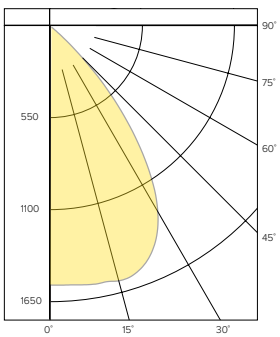
LUMINAIRE DATA

Test No.	**19.00586**
Description	**2000 lm, Extra Wide, 3500K, 80 CRI**
Delivered Lumens	**2139**
Watts	**22.7W**
Efficacy	**94.4**
Mounting	**Recessed**
Spacing Criterion	**1.1**
Beam Angle (FWHM)	**76**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1875	87.7
0-60	2134	99.8
0-90	2139	100.0
0-180	2139	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	1547
5	1552
15	1576
25	1461
35	1007
45	301
55	9
65	3
75	1
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	25409
55°	937
65°	424
75°	231
85°	0

*Candela/Square Meter

LUMEN MULTIPLIER

Option	27K8	30K8	35K8	40K8	50K8	27K9	30K9	35K9	40K9
Multiplier	0.94	0.98	1.00	1.01	1.02	0.81	0.84	0.85	0.85

Photometrics are published below at a nominal 3500 Kelvin, 80+ CRI. This table may be used to approximate the lumen values at different Kelvin temperatures. Power consumption would stay the same.

prescolite

LTR-6RD

LITEISTRY 6" ROUND DOWNLIGHT

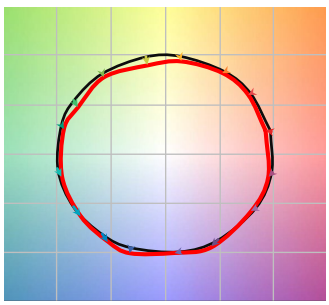
DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

TM-30 DATA

COLOR VECTOR GRAPHIC
3500K, 90 CRI

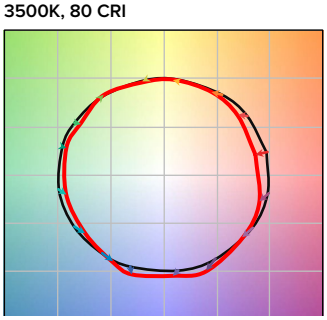


Reference Illuminant — Test Source

COLOR DISTORTION GRAPHIC
3500K, 90 CRI

TEST RESULTS - 3500K		
Value	80+ CRI	90+ CRI
R_f	84	88
R_g	95	95
CCT (K)	3411	3419
D_{UV}	0.0015	0.0042
x	0.4120	0.4147
y	0.3974	0.4052
CIE R_a	84	93
CIE R_9	11	62

COLOR VECTOR GRAPHIC
3500K, 80 CRI



Reference Illuminant — Test Source

COLOR DISTORTION GRAPHIC
3500K, 80 CRI

prescolite

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LTR-6RD

LITEISTRY 6" ROUND DOWNLIGHT

ELECTRICAL DATA

DRIVER DATA		
Input Voltage	120-277 V	347 V
Input Frequency	50/60 Hz	50/60 Hz
Power Factor	≥0.90	≥0.90
THD	<20%	<20%
EMI Filtering (FCC 47 CFR Part 15)	Class A	Class A

* Values for DM1 option shown, values for other dimming options may vary.

ADDITIONAL INFORMATION

Dimming Compatibility
For more details and recommended dimmer list, see Dimming Compatibility Information on currentlighting.com/prescolite.

DMX
See instruction sheet on currentlighting.com/prescolite for connection & installation information.

Central Inverters
For full fixture output in back-up mode, we recommend you visit currentlighting.com/dual-lite for your Central Lighting Inverter options. Please contact your local Current representative for any assistance with proper sizing and loading of your inverter selection. Central lighting inverters must be ordered separately.

Bezel Trim Accessories for Complex Environments
See installation instructions on currentlighting.com/prescolite for complete details.

Exhibit 7

Water and Wastewater Disposal

Exhibit 7: Water and Wastewater Disposal

Water: The existing buildings are served by public water from the Waterboro Water District. The Water District was contacted and they noted that they are not able to provide service to the proposed buildings at this time, as they are dealing with capacity issues. Please see this Exhibit for correspondence with the Waterboro Water District.

Individual wells will be drilled as the proposed storage building and office building are developed. It is the intent of the applicant that wells are installed by drillers licensed by the State and in good standing with the Maine Well Drillers Commission. The enclosed Maine Geological Survey Well Database map exhibit indicates that several wells have been installed in close vicinity to the proposed development since well tracking by the state was initiated in 1987. The existing wells indicate that a sufficient and healthful water supply is likely available for the development. It is noted that the well for the office building currently exists on the site and will be utilized in the second phase of construction if public water is not available by this time. The well locations are shown on the appended site plans.

Wastewater Disposal: Two separate subsurface wastewater disposal systems are proposed for this project and will be installed on the site to serve the proposed storage building and office building. The subsurface wastewater disposal system for the office building will be constructed in the second phase of construction. Suitable soils were located and a copy of both HHE-200 (septic design) as prepared by Sebago Technics, Inc. are included in this section. The disposal field location and soils test pits are shown on the appended site plans.

Aaron Hunter

From: Aaron Hunter
Sent: Thursday, December 15, 2022 3:40 PM
To: John Vacari
Subject: RE: 545 Main Street, Waterboro

Hi John,

Thank you for the update. I will send this information along to the client and we will be in touch.

We appreciate your help.

Thanks,

Aaron Hunter, PE *Project Engineer*
Sebago Technics, Inc. | An Employee-Owned Company
75 John Roberts Rd., Suite 4A, South Portland, ME 04106
Office: 207.200.2100 | Direct: 207.200.2099 |
ahunter@sebagotechnics.com | www.sebagotechnics.com

From: John Vacari <waterborowaterdist@yahoo.com>
Sent: Thursday, December 15, 2022 9:34 AM
To: Aaron Hunter <ahunter@sebagotechnics.com>
Subject: Re: 545 Main Street, Waterboro

Good morning Arron. Presently the District is waiting to rehab the primary supply well to determine the approval of additional commercial applicants. There have been other requests as well as yours therefore as a District we must consider the situation in a fair manner. The well rehab was approved and scheduled for this week unfortunately that has not happened yet. The Board of Trustees meet on the first and third Wednesday evenings at 5:00 PM, and you are welcome to personally offer your view in this matter. In the meantime I will update you if there are any new developments.

John Vacari

Sent from Yahoo Mail for iPhone

On Tuesday, December 13, 2022, 9:35 AM, Aaron Hunter <ahunter@sebagotechnics.com> wrote:

Hi John,

Hope all is well. I wanted to follow up on the subject project.

In speaking with the owner it is noted that project will likely be built in two phases, with the storage building being constructed as a part of the first phase and the office building as a part of the second phase. We are hopeful that the District can provide service to the given the minimal increase in water usage.

Thanks,

Aaron Hunter, PE *Project Engineer*

Sebago Technics, Inc. | An Employee-Owned Company

75 John Roberts Rd., Suite 4A, South Portland, ME 04106

Office: 207.200.2100 | Direct: 207.200.2099 |

ahunter@sebagotechnics.com | www.sebagotechnics.com

From: Aaron Hunter <ahunter@sebagotechnics.com>
Sent: Thursday, November 17, 2022 12:01 PM
To: John Vacari <waterborowaterdist@yahoo.com>
Subject: 545 Main Street, Waterboro

Good Morning John,

I am working on a proposed project at 545 Main Street in Waterboro. Our client is proposing to construct a storage building and office building. Attached for your reference is a preliminary plan that shows the proposed site layout.

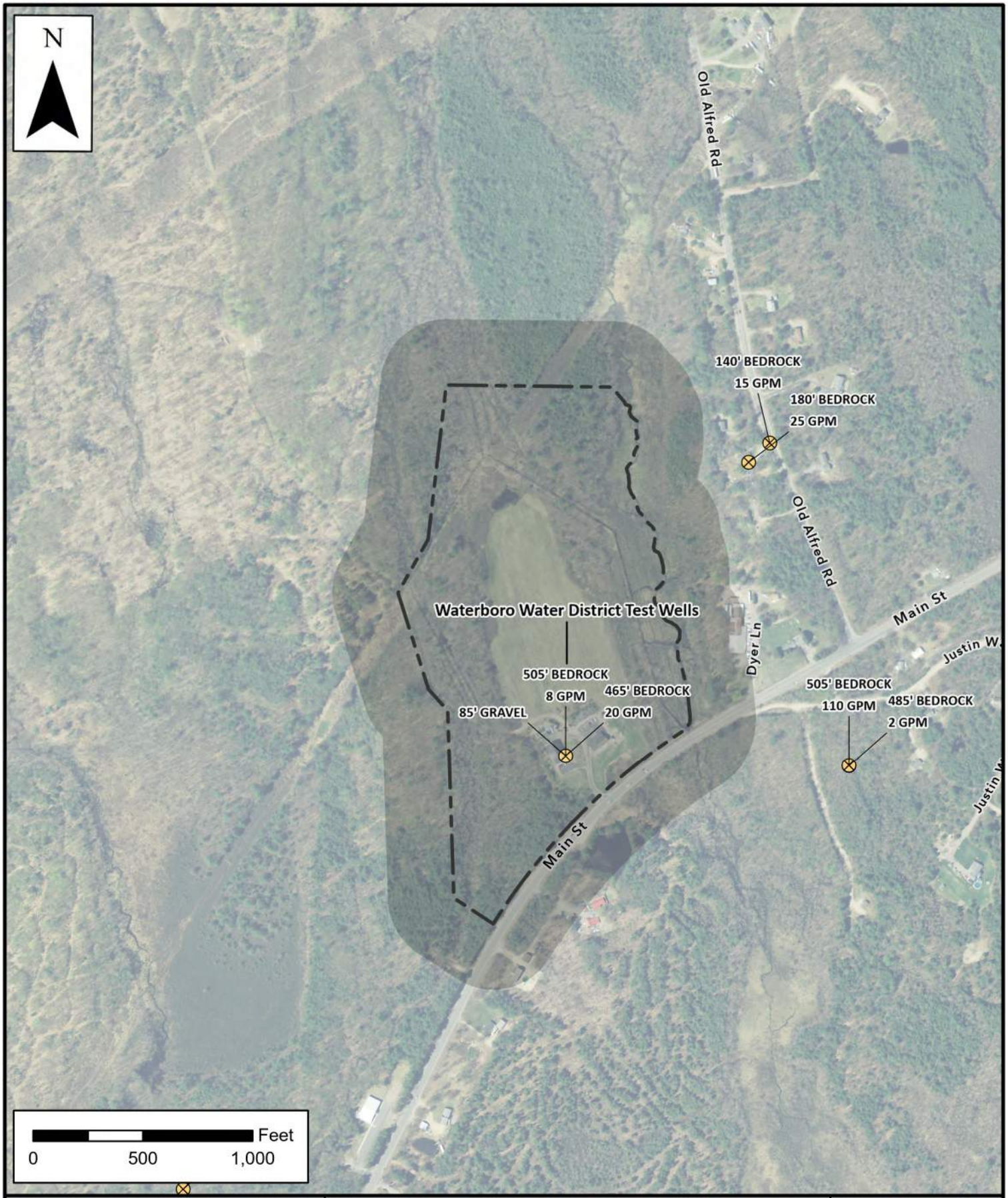
We understand that the existing buildings on site are serviced by public water. Can you please provide us with any record information that you have for the water main in street and also services to the buildings. This will be helpful in understanding what will be required to provide service to the proposed buildings.

The estimated water usage associated with this project was calculated based on the State of Maine Subsurface Wastewater Disposal Rules, Chapter 241, Table 4C. The development proposes a storage building and an office building. The storage building proposes 12 employees at 12 gpd/employee for a design flow of 144 gpd. The office building proposes 9 employees at 12 gpd/employee and 15 visitors at 3 gpd for a design flow of 153 gpd. This results in an estimated total water usage of 297 gpd.

Ultimately we will be submitting for Site Plan review with the Town of Waterboro and require a letter or email from you stating that the District can provide adequate water service to the proposed development. We will provide a proposed design for your review and approval after receiving additional information from you.

Please let us know if you have any questions. I am happy to discuss further over the phone.

Thanks,



SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd. - Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

MGS REGISTERED WELLS

THE HERITAGE COMPANY

SCALE:	1:7,000
DATE:	1/13/2023

LOCATION:
ROUTE 4
WATERBORO, ME

INFORMATION:
MAINE GEOLOGICAL SURVEY
2018 ORTHOREGIONAL IMAGERY

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Dept. of Health & Human Services
Division of Environmental Health, 11 SHS
(207) 287-5672 Fax: (207) 287-4172

PROPERTY LOCATION

City, Town, or Plantation	WATERBORO
Street or Road	545 MAIN STREET
Subdivision, Lot #	

>> CAUTION: LPI APPROVAL REQUIRED <<

Town/City_____ Permit # _____

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

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

☐Owner ☐ Town ☐ State

OWNER/APPLICANT INFORMATION

Name (last, first, MI) THE HERITAGE COMPANY ■ Owner ☐ Applicant

Mailing Address of Owner/Applicant	545 MAIN STREET
	WATERBORO, ME 04087
Daytime Tel. #	(207) 929-0133

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 # _____

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: 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

44 ± ☐ 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: WAREHOUSE
(specify)
Current Use ☐Seasonal ■Year Round ☐Undeveloped

TYPE OF WATER SUPPLY

■1. Drilled Well ☐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: 1,000 GAL.

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: 450 ■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

144 gallons per day
BASED ON:
☐1. Table 4A (dwelling unit(s))
■2. Table 4C (other facilities)
SHOW CALCULATIONS for other facilites

12 EMPLOYEES @ 12 GPD

☐3. Section 4G (meter readings)
ATTACH WATER METER DATA

SOIL DATA & DESIGN CLASS

PROFILE 5 CONDITION C
at Observation Hole # TP-1
Depth 17 "
of Most Limiting Soil Factor

DISPOSAL FIELD SIZING

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

EFFLUENT/EJECTOR PUMP

☐1. Not Required
☐2. May Be Required
■3. Required
Specify only for engineered systems:
DOSE: _____ GAL.

LATITUDE AND LONGITUDE

at center of disposal area
Lat. 43 d 33 m 37.9 s
Lon. -70 d 42 m 23.5 s

SITE EVALUATOR STATEMENT

I certify that on 1-12-22 (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
	355	2-12-23

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM

Site Evaluator Name Printed	Telephone Number	E-mail Address
Gary M. Fullerton	(207) 200-2063	gfullerton@sebagotechnics.com

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

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

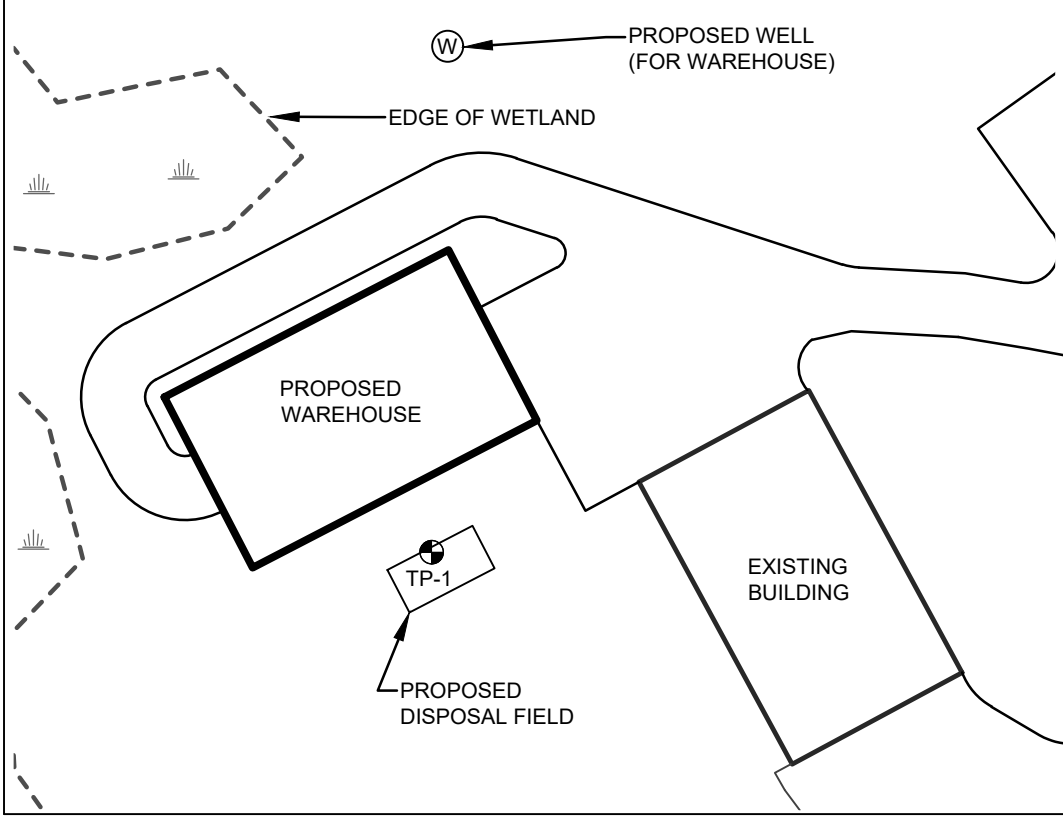
Maine Dept. of Health & Human Services
Division of Environmental Health, 11 SHS
(207) 287-5672 Fax: (207) 287-4172

Town, City, Plantation	Street, Road, Subdivision	Owner or Applicant Name
WATERBORO	545 MAIN STREET	THE HERITAGE COMPANY

SITE PLAN

SCALE: 1" = 60'

IPF = IRON PIN FOUND
TP = TEST PIT B = BORING



SITE LOCATION PLAN

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

Observation Hole TP-1 ■ Test pit ☐ Boring

1-2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0–10	LOAMY SAND	FRIABLE	DARK BROWN	
10–20	MEDIUM SAND		LIGHT GRAY	COMMON, MEDIUM, DISTINCT
20–50	LIMIT OF EXCAVATION = 45"			

Soil Classification	Slope	Limiting Factor	
5 Profile / C Condition	0-3 %	17 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole _____ ■ Test pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0–50				

Soil Classification	Slope	Limiting Factor	
Profile / Condition	%	"	☐ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Site Evaluator Signature | 355 SE # | 2-12-23 Date

SEBAGO TECHNICS, INC.

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Dept. of Health & Human Services
Division of Environmental Health, 11 SHS
(207) 287-5672 Fax: (207) 287-4172

Town, City, Plantation	Street, Road, Subdivision	Owner or Applicant Name
WATERBORO	545 MAIN STREET	THE HERITAGE COMPANY

ERP= ELEVATION REFERENCE POINT
IPF = IRON PIN FOUND

NOTES
1. ALLOW FOR POSITIVE DRAINAGE AROUND THE DISPOSAL FIELD.

2. REMOVE ALL VEGETATION AND SCARIFY THE AREA UNDER THE DISPOSAL FIELD, SHOULDER, AND FILL EXTENSION.

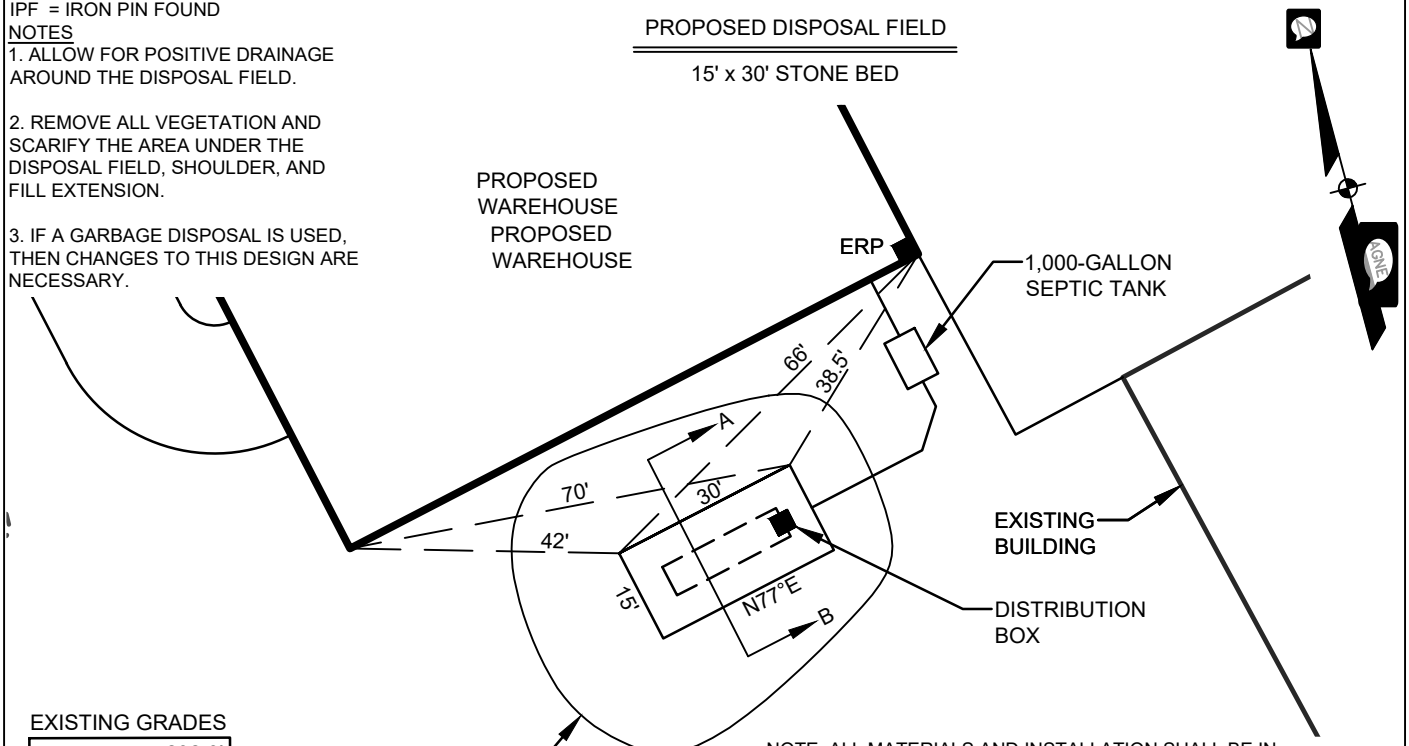
3. IF A GARBAGE DISPOSAL IS USED, THEN CHANGES TO THIS DESIGN ARE NECESSARY.

SUBSURFACE WASTEWATER DISPOSAL PLAN

SCALE: 1" = 30'

PROPOSED DISPOSAL FIELD

15' x 30' STONE BED



NOTE: ALL MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE MAINE SUBSURFACE WASTE-WATER DISPOSAL RULES DATED 08/15, AS AMENDED, AND SUPPLEMENTED BY THE ATTACHED GENERAL NOTES WHICH BECOME A PART OF THIS DESIGN.

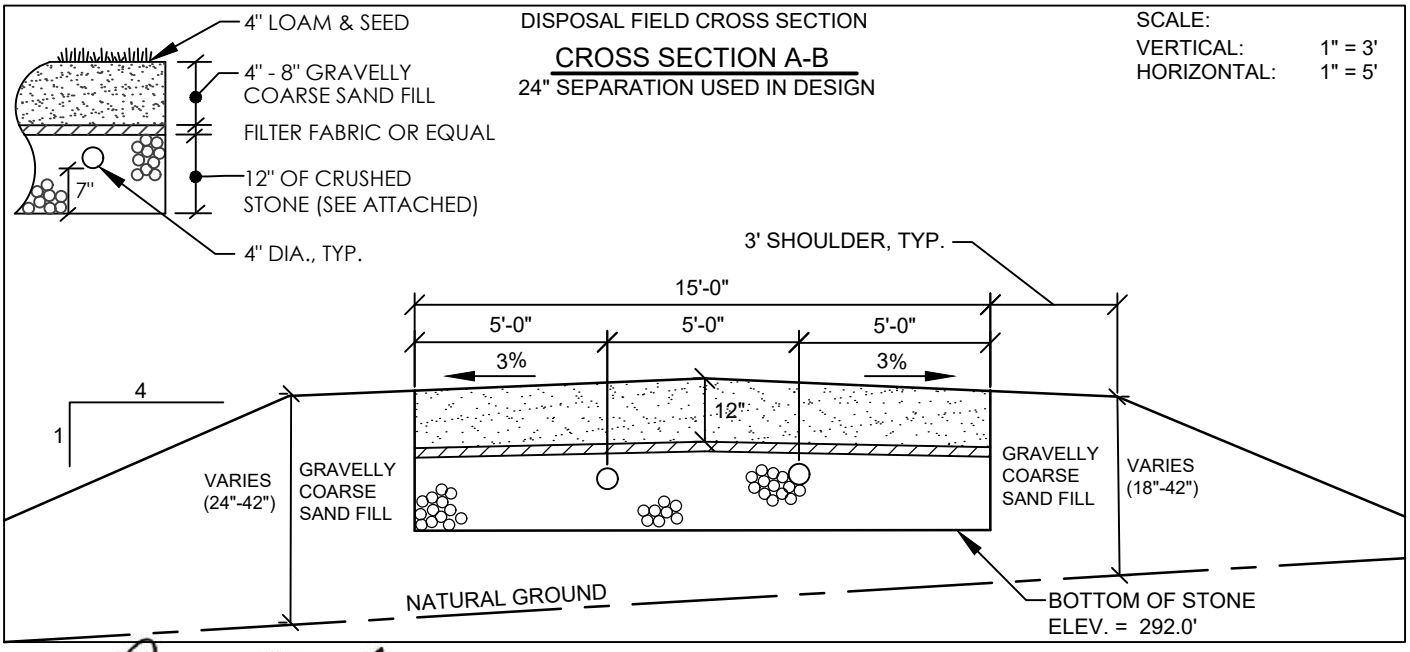
BACKFILL REQUIREMENTS		CONSTRUCTION ELEVATIONS		ELEVATION REFERENCE POINT	
Depth of Fill (Upslope)	18"-24"±	Finished Grade Elevation	294.0'	Location & Description	SOUTHEAST
Depth of Fill (Downslope)	42" ±	Top of Distribution Pipe or Proprietary Device	292.9'		CORNER OF BUILDING, FFE
		Bottom of Disposal Area (Bottom of Stone)	292.0'	Reference Elevation	FFE = 294.7

DISPOSAL FIELD CROSS SECTION

CROSS SECTION A-B

24" SEPARATION USED IN DESIGN

SCALE:
VERTICAL: 1" = 3'
HORIZONTAL: 1" = 5'



Site Evaluator Signature | 355 SE # | 2-12-23 Date

SEBAGO TECHNICS, INC.

General Notes
(attachment to form HHE-200)
<1,000 gpd Septic System

1. The nature of the site evaluation profession is one of interpretation of soil and site conditions. We, in the field, attempt to both provide a satisfactory service to the client, and comply by the rules by which we are bound - The Maine Subsurface Wastewater Disposal Rules. If at any time you, the client, are not satisfied with the service provided or the results found, it is your right to hire another site evaluator for a second opinion.

2. Property information is supplied by the owner, applicant or representative. Such information presented herein shall be verified as correct by the owner or applicant prior to signing this application.

3. All work shall be in accordance with the Maine Subsurface Wastewater Disposal Rules dated 8/3/15, as amended.

4. All work on the disposal field should be performed under dry conditions.

5. No vehicular or equipment traffic to be allowed on disposal area unless H-20 load is specified. Disposal field shall be constructed from outside the corner stakes located in the field. The downslope area is also to be protected in the same manner.

6. Backfill, if required, is to be gravelly coarse sand texture and to be free of foreign debris (per Table 11A of the Maine Subsurface Wastewater Disposal Rules). If backfill is coarser than original soil, then mix a minimum of 4" of backfill material into original soil.

7. No neighboring wells are apparent (unless so indicated) within 100' of disposal area. Owner or applicant shall verify this prior to signing the application.

8. The disposal field stone shall be clean, uniform in size and free of fines, dust, ashes, or clay. It shall have a nominal size of ¾" or 1½" (per Table 11B of the Maine Subsurface Wastewater Disposal Rules).

9. Minimum separation distances required (unless reduced by variance or special circumstance).

a) wells with water usage of 2000 or more gpd or public water supply wells:		
	Disposal Fields:	300'
	Treatment Tanks:	150'
b) potable water supply to disposal field:		100'
c) potable water supply to treatment tank:		50'
d) treatment tank or disposal field to lake, river, stream or brook:		100' for major watercourse, 50' for minor watercourse
e) house to treatment tank:		8'
f) house to disposal field:		20'

- For all other separation distances, use separations for less than 1,000 gpd per Maine Subsurface Wastewater Disposal Rules Table 7B for first-time systems and Table 8A for replacement systems.

10. Location of septic system near a wetland may require a separate permit. As such, the owner, prior to construction of the septic system, shall hire a professional to evaluate proximity of adjacent wetlands and prepare necessary permit applications.

11. Garbage disposals are not recommended and, if installed, are done so at the owner's risk. The additional waste load requires increased maintenance frequency and may cause premature failure of disposal field.

12. Pump stations, when required, shall be installed watertight to prevent infiltration of ground and/or surface water.

13. Force mains and pressure lines shall be flushed of any foreign material and pumps shall be checked for proper on/off cycle before being put into service.

14. Force mains, pump stations, and/or gravity piping subject to freezing shall be installed below frost line or adequately insulated.

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Dept. of Health & Human Services
Division of Environmental Health, 11 SHS
(207) 287-5672 Fax: (207) 287-4172

PROPERTY LOCATION

City, Town, or Plantation	WATERBORO
Street or Road	545 MAIN STREET
Subdivision, Lot #	

>> CAUTION: LPI APPROVAL REQUIRED <<

Town/City_____ Permit # _____

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

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

☐Owner ☐ Town ☐ State

OWNER/APPLICANT INFORMATION

Name (last, first, MI) THE HERITAGE COMPANY ■ Owner ☐ Applicant

Mailing Address of Owner/Applicant	545 MAIN STREET
	WATERBORO, ME 04087
Daytime Tel. #	(207) 929-0133

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 # _____

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: 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

44 ± ☐ 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: OFFICE BUILDING
(specify)
Current Use ☐Seasonal ■Year Round ☐Undeveloped

TYPE OF WATER SUPPLY

■1. Drilled Well ☐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: 1,000 GAL.

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: 450 ■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

153 gallons per day
BASED ON:
☐1. Table 4A (dwelling unit(s))
■2. Table 4C (other facilities)
SHOW CALCULATIONS for other facilites
9 EMPLOYEES @ 12 GPD
15 VISITORS @ 3 GPD (PUBLIC RESTROOM)
☐3. Section 4G (meter readings)
ATTACH WATER METER DATA

SOIL DATA & DESIGN CLASS

PROFILE 5 CONDITION C
at Observation Hole # TP-2
Depth 18 "
of Most Limiting Soil Factor

DISPOSAL FIELD SIZING

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

EFFLUENT/EJECTOR PUMP

☐1. Not Required
☐2. May Be Required
■3. Required
Specify only for engineered systems:
DOSE: _____ GAL.

LATITUDE AND LONGITUDE
at center of disposal area
Lat. 43 d 33 m 40.2 s
Lon. -70 d 42 m 21.3 s

SITE EVALUATOR STATEMENT

I certify that on 1-12-22 (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
	355	1-12-23

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM

Site Evaluator Name Printed	Telephone Number	E-mail Address
Gary M. Fullerton	(207) 200-2063	gfullerton@sebagotechnics.com

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

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

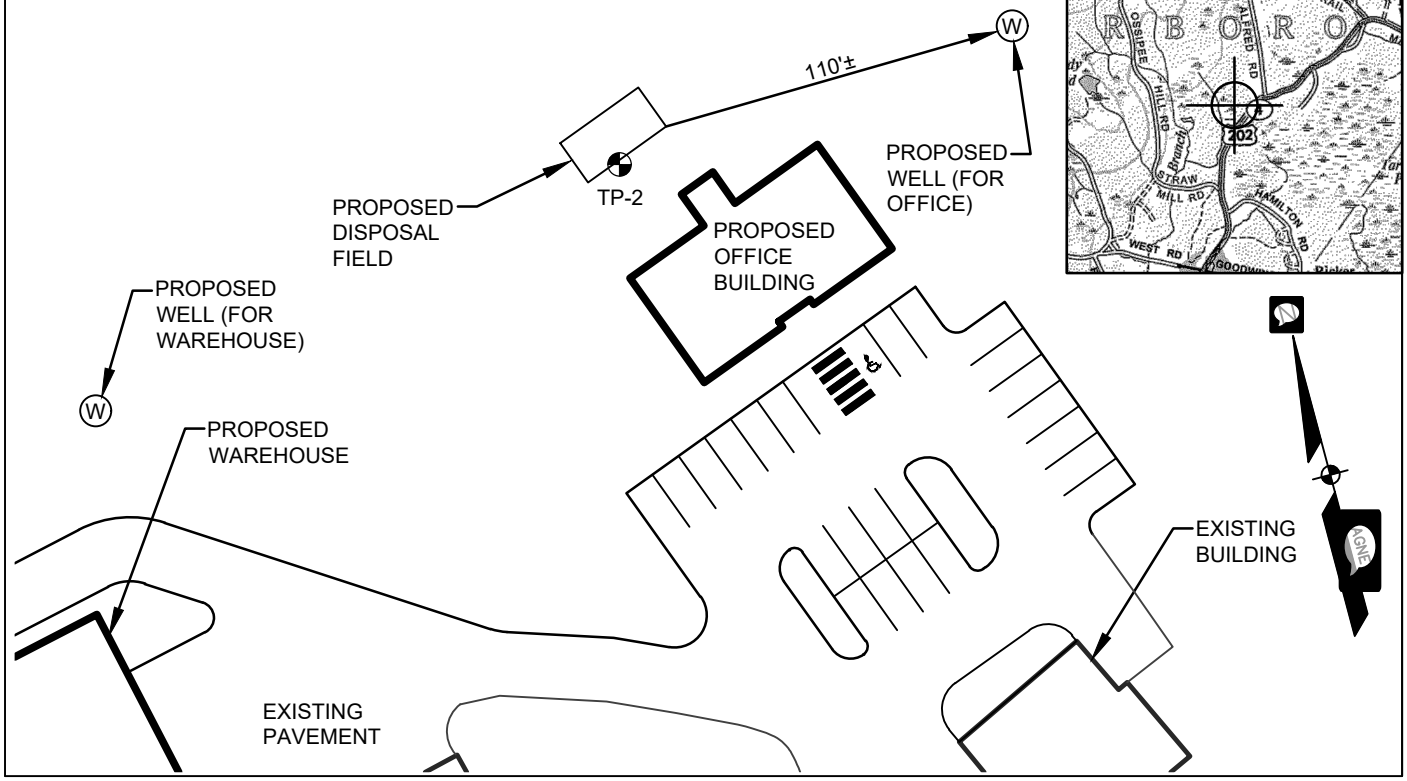
Maine Dept. of Health & Human Services
Division of Environmental Health, 11 SHS
(207) 287-5672 Fax: (207) 287-4172

Town, City, Plantation	Street, Road, Subdivision	Owner or Applicant Name
WATERBORO	545 MAIN STREET	THE HERITAGE COMPANY

SITE PLAN

IPF = IRON PIN FOUND
TP = TEST PIT B = BORING

SCALE: 1" = 60'

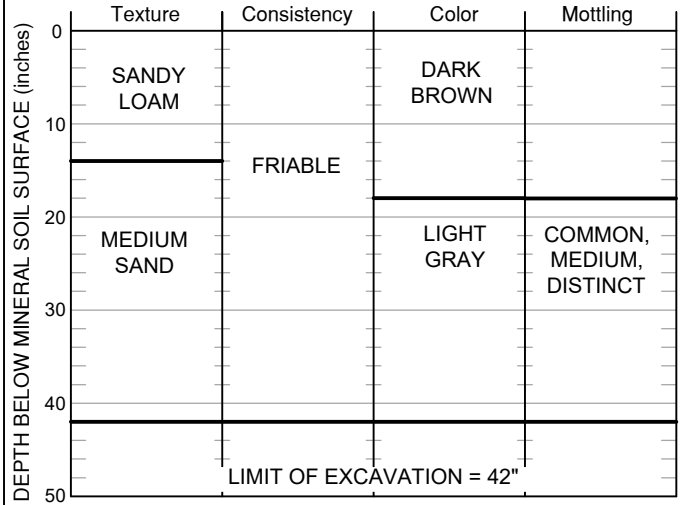


SITE LOCATION PLAN

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

Observation Hole TP-2 ■ Test pit ☐ Boring

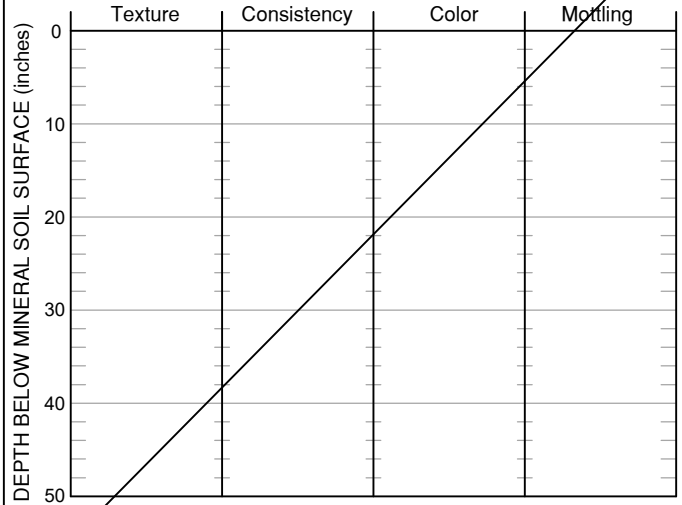
1-2 " Depth of Organic Horizon Above Mineral Soil



Soil Classification		Slope	Limiting Factor	
5 Profile	C Condition	0-3 %	18 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole _____ ■ Test pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil



Soil Classification		Slope	Limiting Factor	
_____ Profile	_____ Condition	_____ %	_____ "	☐ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Site Evaluator Signature | 355 SE # | 1-12-23 Date

SEBAGO TECHNICS, INC.

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Dept. of Health & Human Services
Division of Environmental Health, 11 SHS
(207) 287-5672 Fax: (207) 287-4172

Town, City, Plantation	Street, Road, Subdivision	Owner or Applicant Name
WATERBORO	545 MAIN STREET	THE HERITAGE COMPANY

ERP= ELEVATION REFERENCE POINT
IPF = IRON PIN FOUND

NOTES
1. ALLOW FOR POSITIVE DRAINAGE AROUND THE DISPOSAL FIELD.

2. REMOVE ALL VEGETATION AND SCARIFY THE AREA UNDER THE DISPOSAL FIELD, SHOULDER, AND FILL EXTENSION.

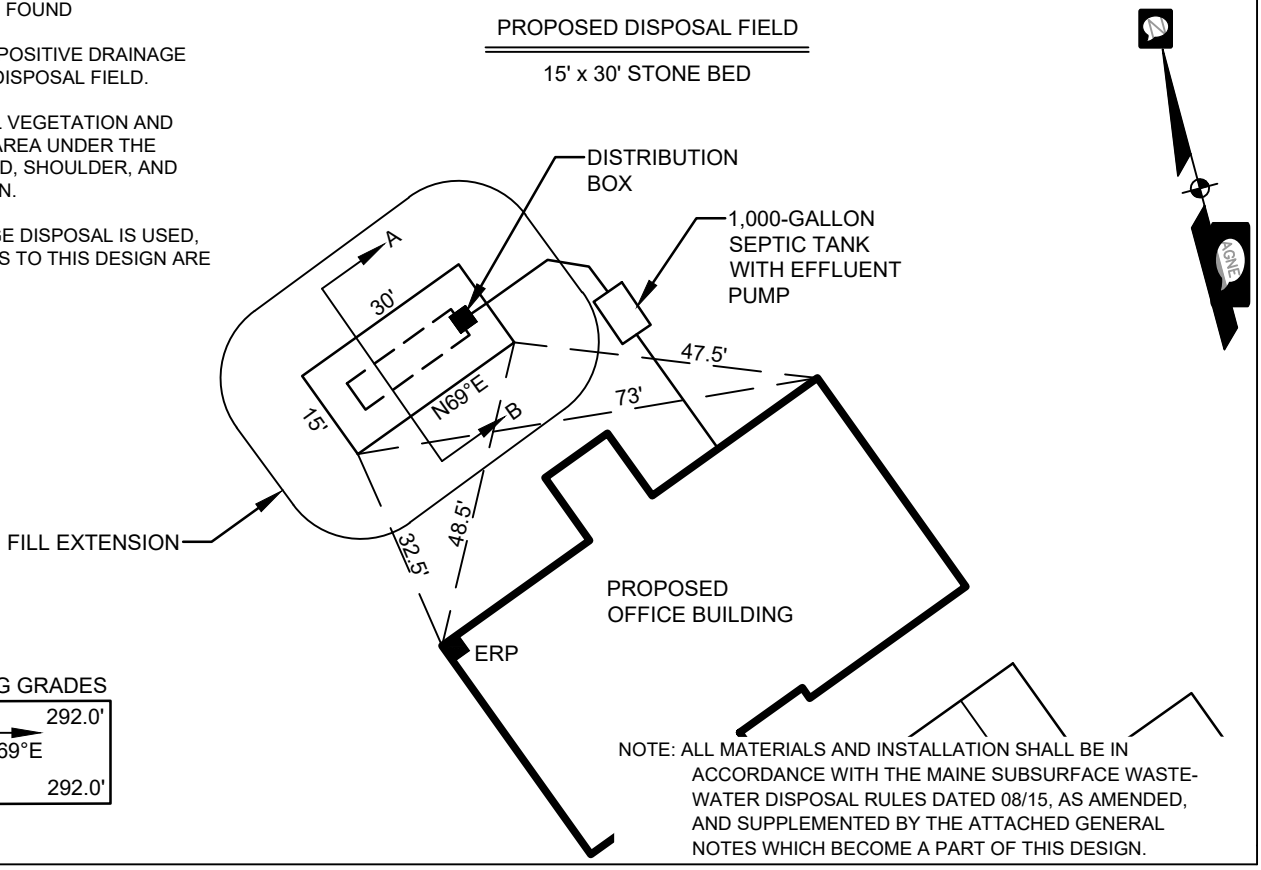
3. IF A GARBAGE DISPOSAL IS USED, THEN CHANGES TO THIS DESIGN ARE NECESSARY.

SUBSURFACE WASTEWATER DISPOSAL PLAN

SCALE: 1" = 30'

PROPOSED DISPOSAL FIELD

15' x 30' STONE BED



EXISTING GRADES

292.0' → 292.0'
N69°E
292.0' 292.0'

NOTE: ALL MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE MAINE SUBSURFACE WASTE-WATER DISPOSAL RULES DATED 08/15, AS AMENDED, AND SUPPLEMENTED BY THE ATTACHED GENERAL NOTES WHICH BECOME A PART OF THIS DESIGN.

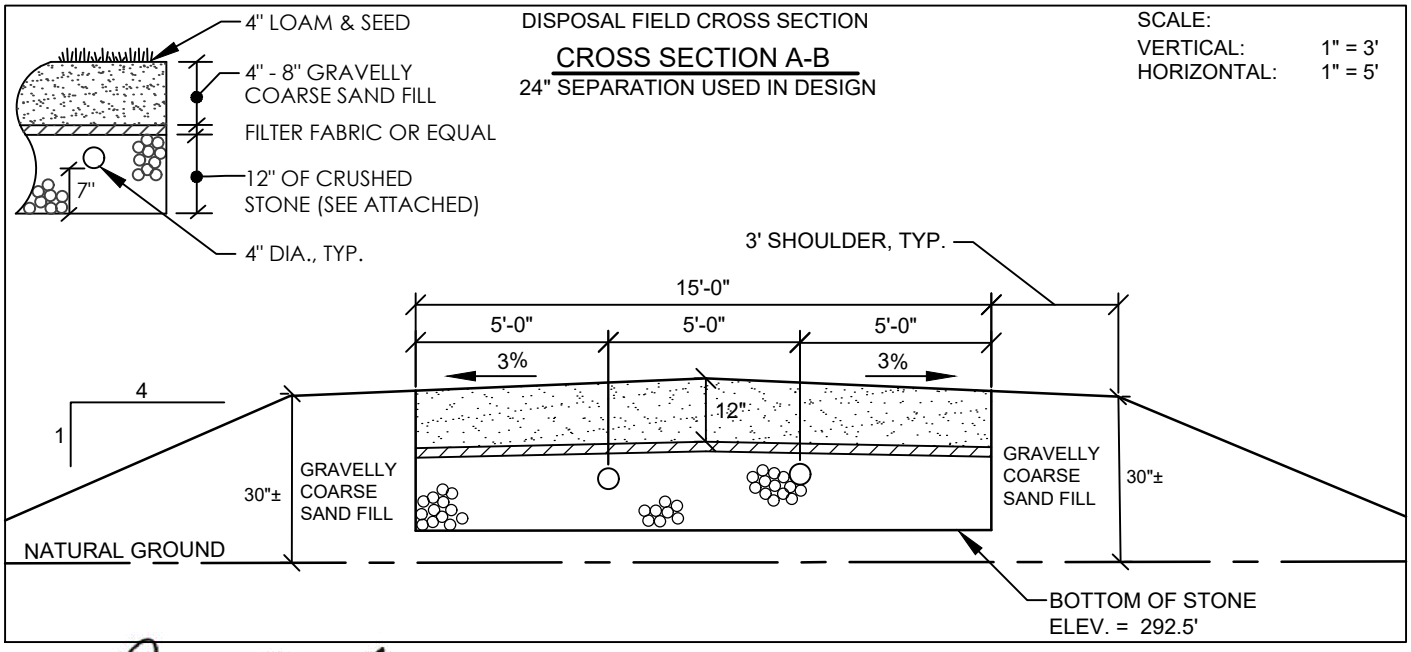
BACKFILL REQUIREMENTS		CONSTRUCTION ELEVATIONS		ELEVATION REFERENCE POINT	
Depth of Fill (Upslope)	30"±	Finished Grade Elevation	294.5'	Location & Description	NORTHWEST
Depth of Fill (Downslope)	30" ±	Top of Distribution Pipe or Proprietary Device	293.4'		CORNER OF BUILDING, FFE
		Bottom of Disposal Area (Bottom of Stone)	292.5'	Reference Elevation	FFE = 294.0

DISPOSAL FIELD CROSS SECTION

CROSS SECTION A-B

24" SEPARATION USED IN DESIGN

SCALE:
VERTICAL: 1" = 3'
HORIZONTAL: 1" = 5'



Site Evaluator Signature | 355 SE # | 1-12-23 Date

SEBAGO TECHNICS, INC.

General Notes
(attachment to form HHE-200)
<1,000 gpd Septic System

1. The nature of the site evaluation profession is one of interpretation of soil and site conditions. We, in the field, attempt to both provide a satisfactory service to the client, and comply by the rules by which we are bound - The Maine Subsurface Wastewater Disposal Rules. If at any time you, the client, are not satisfied with the service provided or the results found, it is your right to hire another site evaluator for a second opinion.

2. Property information is supplied by the owner, applicant or representative. Such information presented herein shall be verified as correct by the owner or applicant prior to signing this application.

3. All work shall be in accordance with the Maine Subsurface Wastewater Disposal Rules dated 8/3/15, as amended.

4. All work on the disposal field should be performed under dry conditions.

5. No vehicular or equipment traffic to be allowed on disposal area unless H-20 load is specified. Disposal field shall be constructed from outside the corner stakes located in the field. The downslope area is also to be protected in the same manner.

6. Backfill, if required, is to be gravelly coarse sand texture and to be free of foreign debris (per Table 11A of the Maine Subsurface Wastewater Disposal Rules). If backfill is coarser than original soil, then mix a minimum of 4" of backfill material into original soil.

7. No neighboring wells are apparent (unless so indicated) within 100' of disposal area. Owner or applicant shall verify this prior to signing the application.

8. The disposal field stone shall be clean, uniform in size and free of fines, dust, ashes, or clay. It shall have a nominal size of ¾" or 1½" (per Table 11B of the Maine Subsurface Wastewater Disposal Rules).

9. Minimum separation distances required (unless reduced by variance or special circumstance).

a) wells with water usage of 2000 or more gpd or public water supply wells:		
	Disposal Fields:	300'
	Treatment Tanks:	150'
b) potable water supply to disposal field:		100'
c) potable water supply to treatment tank:		50'
d) treatment tank or disposal field to lake, river, stream or brook:		100' for major watercourse, 50' for minor watercourse
e) house to treatment tank:		8'
f) house to disposal field:		20'

- For all other separation distances, use separations for less than 1,000 gpd per Maine Subsurface Wastewater Disposal Rules Table 7B for first-time systems and Table 8A for replacement systems.

10. Location of septic system near a wetland may require a separate permit. As such, the owner, prior to construction of the septic system, shall hire a professional to evaluate proximity of adjacent wetlands and prepare necessary permit applications.

11. Garbage disposals are not recommended and, if installed, are done so at the owner's risk. The additional waste load requires increased maintenance frequency and may cause premature failure of disposal field.

12. Pump stations, when required, shall be installed watertight to prevent infiltration of ground and/or surface water.

13. Force mains and pressure lines shall be flushed of any foreign material and pumps shall be checked for proper on/off cycle before being put into service.

14. Force mains, pump stations, and/or gravity piping subject to freezing shall be installed below frost line or adequately insulated.

Exhibit 8

Traffic

Exhibit 8: Traffic

Please see this Exhibit for a traffic memo regarding the site. As requested by Town Staff it was determined that on average the existing daycare has 30 kids per day.

SEBAGO TECHNICS

CIVIL ENGINEERING • SURVEYING • LANDSCAPE ARCHITECTURE

Memorandum

21004

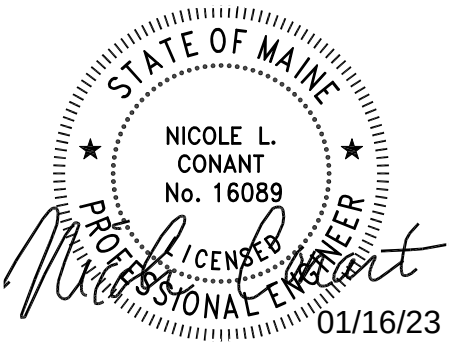
To: Aaron Hunter, P.E., Sebago Technics

From: Nikki Conant, P.E., Sebago Technics

Griffin Steinman, EI, Sebago Technics

Date: January 16, 2023

Subject: Traffic Impact Assessment, 545 Main Street, Waterboro



Introduction

The purpose of this memorandum is to provide a traffic impact assessment (TIA) for a proposed site development located at 545 Main Street in Waterboro, Maine. The existing site is made up of two buildings. One building is an existing day care and the other a general office building with multiple tenants, including The Heritage Company. Both existing buildings were built and occupied over 10-years ago.

The proposed development includes a 6,000 square foot (SF) storage space and a 3,000 SF shared building for three (3) offices. Access to the site is proposed via the existing full movement driveway off Main Street (Route 4/202). As such, this memorandum details estimated trip generation and provides a crash data review in the vicinity of the site.

Trip Generation

Trip generation was completed utilizing the 11th edition of the Institute of Transportation Engineers (ITE), *Trip Generation Manual.* Land use code (LUC) 150 – Warehousing was utilized on the basis of 6,000 SF. ITE defines LUC 150 as "primarily devoted to the storage of materials, but it may also include office and maintenance areas." As such, estimated trip generation for the proposed warehouse building is outlined in Table 1. Trip generation for the office space was estimated utilizing LUC 710 – General Office Building on the basis of 3,000 SF as shown in Table 2. Total proposed trip generation is summarized in Table 3.

Table 1 – ITE Trip Generation
Land Use Code 150 – Warehousing
6,000 SF

Time Period	*Average Rate per 1,000 SF*	*Trips*	*Entering*	*Exiting*
Weekday	1.71	10	5 (50%)	5 (50%)
AM Peak Hour – Adjacent Street (7 – 9 AM)	0.17	1	1 (77%)	0 (23%)
AM Peak Hour – Generator	0.21	1	1 (66%)	0 (34%)
PM Peak Hour – Adjacent Street (4 – 6 PM)	0.18	1	0 (28%)	1 (72%)
PM Peak Hour – Generator	0.23	1	0 (24%)	1 (76%)

Table 2 – ITE Trip Generation
Land Use Code 710 – General Office Building
3,000 SF

Time Period	*Fitted Curve Equation*	*Trips*	*Entering*	*Exiting*
Weekday	Ln(T) = 0.87 Ln(X) + 3.05	56	28 (50%)	28 (50%)
AM Peak Hour – Adjacent Street (7 – 9 AM)	Ln(T) = 0.86 Ln(X) + 1.16	8	7 (88%)	1 (12%)
AM Peak Hour – Generator *	Ln(T) = 0.86 Ln(X) + 1.16	8	7 (88%)	1 (12%)
PM Peak Hour – Adjacent Street (4 – 6 PM)	Ln(T) = 0.83 Ln(X) + 1.29	9	2 (17%)	7 (83%)
PM Peak Hour – Generator *	Ln(T) = 0.83 Ln(X) + 1.29	9	2 (17%)	7 (83%)

**Rates not available and assumed to match peak hours of adjacent street.*

Table 3 – Total Project Trip Generation

Time Period	*Trips*	*Entering*	*Exiting*
Weekday	66	33	33
AM Peak Hour – Adjacent Street (7 – 9 AM)	9	8	1
AM Peak Hour – Generator	9	8	1
PM Peak Hour – Adjacent Street (4 – 6 PM)	10	2	8
PM Peak Hour – Generator	10	2	8

As demonstrated in Table 3, the proposed development is estimated to generate nine (9) trips and ten (10) trips during the AM and PM peak hours of the generator, respectively. Given this level of trip generation, a Traffic Movement Permit (TMP) is not be required from the Maine Department of Transportation (MaineDOT) as project trip generation does not exceed the 100-trip threshold during a peak hour to require a permit. It is important to note that since the existing site was built and occupied over ten (10) years ago, those trips are grandfathered and the need for the new permit is on the basis of the proposed development.

75 John Roberts Road – Suite 4A, South Portland, ME 04106-6963 • 207.200.2100 • Fax: 207.856.2206

Crash Data

The MaineDOT Public Crash Query was utilized to determine if there are any high crash locations within the immediate vicinity of the site. An intersection or section of roadway is deemed an HCL if two criteria are met: a Critical Rate Factor (CRF) greater than 1.0 and a minimum of eight (8) crashes in a three-year period. The segment of Main Street where the existing access is located was reviewed for the three-year study period from 2019 to 2021. Based on the crash information, Main Street in the immediate vicinity of the site is not designated as a high crash location. As such, there are no recommendations for improvements in conjunction with this project.

Conclusion

- The development at 545 Main Street, made up of a 6,000 square foot (SF) storage space and a 3,000 SF shared building for three (3) offices is estimated to generate nine (9) trips and ten (10) trips during the AM and PM peak hour periods, respectively. As such, a TMP would not be required by the MaineDOT, as estimated trip generation for the development does not exceed the 100-trip threshold.

- The segment of Main Street where the existing site drive is located is not deemed a high crash location. As such, no recommendations for improvements are included with this development.

75 John Roberts Road – Suite 4A, South Portland, ME 04106-6963 • 207.200.2100 • Fax: 207.856.2206

Exhibit 9

Stormwater Management

Exhibit 9: Stormwater Management

Please see the Stormwater Management Report enclosed in this Exhibit.

Stormwater Narrative

The proposed project at 545 Main Street involves the addition of two new buildings and associated parking areas to the existing commercial buildings and parking. The project site is identified as Lot 31 on the Town of Waterboro Tax Map R004 and has an overall area of approximately 48.60 acres. Typical existing slopes on the site range from approximately 1% to 5%, averaging approximately 3% in the developed area. The existing developed area is situated on a high point and runoff from the site generally drains to the southeast and southwest, away from the project site. Most of the undeveloped portion of the site consists primarily of forested wetlands.

The proposed site improvements will result in a net increase of approximately 15,050 square feet of impervious area, and approximately 15,900 square feet of developed area. Proposed BMP's have not been designed to provide treatment of stormwater runoff and therefore sizing information is not included. Final grading of the site and drainage patterns will remain relatively unchanged from existing conditions. Two points of analysis (POA) were chosen for analyzing the peak runoff rates in the existing and proposed conditions. POA-1 is located at the southeast corner of the project site and represents an existing culvert where stormwater leaves the site and flows under Main Street. POA-2 is located at the southwest corner of the project site and represents an intermittent stream where stormwater leaves the site.

The following table presents the results of the peak runoff calculations at the analysis points for the existing and proposed conditions.

Peak Runoff Rate Summary Table			
Analysis Point	**Storm Event**	**Existing Conditions (cfs)**	**Proposed Conditions (cfs)**
POA-1	2-year	4.8	4.8
	10-year	12.3	12.3
	25-year	19.4	19.4
POA-2	2-year	9.8	9.8
	10-year	19.6	19.6
	25-year	28.2	28.2

The HydroCAD Data output sheets from this analysis are appended to this report along with the Stormwater Management Plans. The model predicts that the peak runoff rates in the proposed condition at the Points of Analysis will remain unchanged for the 2-, 10-, and 25-year storm events.

Areas of disturbance have been minimized to the greatest extent practicable. Erosion and sedimentation measures have been outlined in the attached plan set that emphasize the installation of sedimentation barriers and vegetation to minimize erosion potential from development activities during and after construction. The erosion and sedimentation control measures outlined in the design plans which include the locations of the erosion control provisions (i.e., silt fence) along with notes and construction details for reference by the contractor during construction. With incorporation of these measures, no significant impacts to off-site drainage related to erosion are anticipated due to the proposed project.

Prepared by:

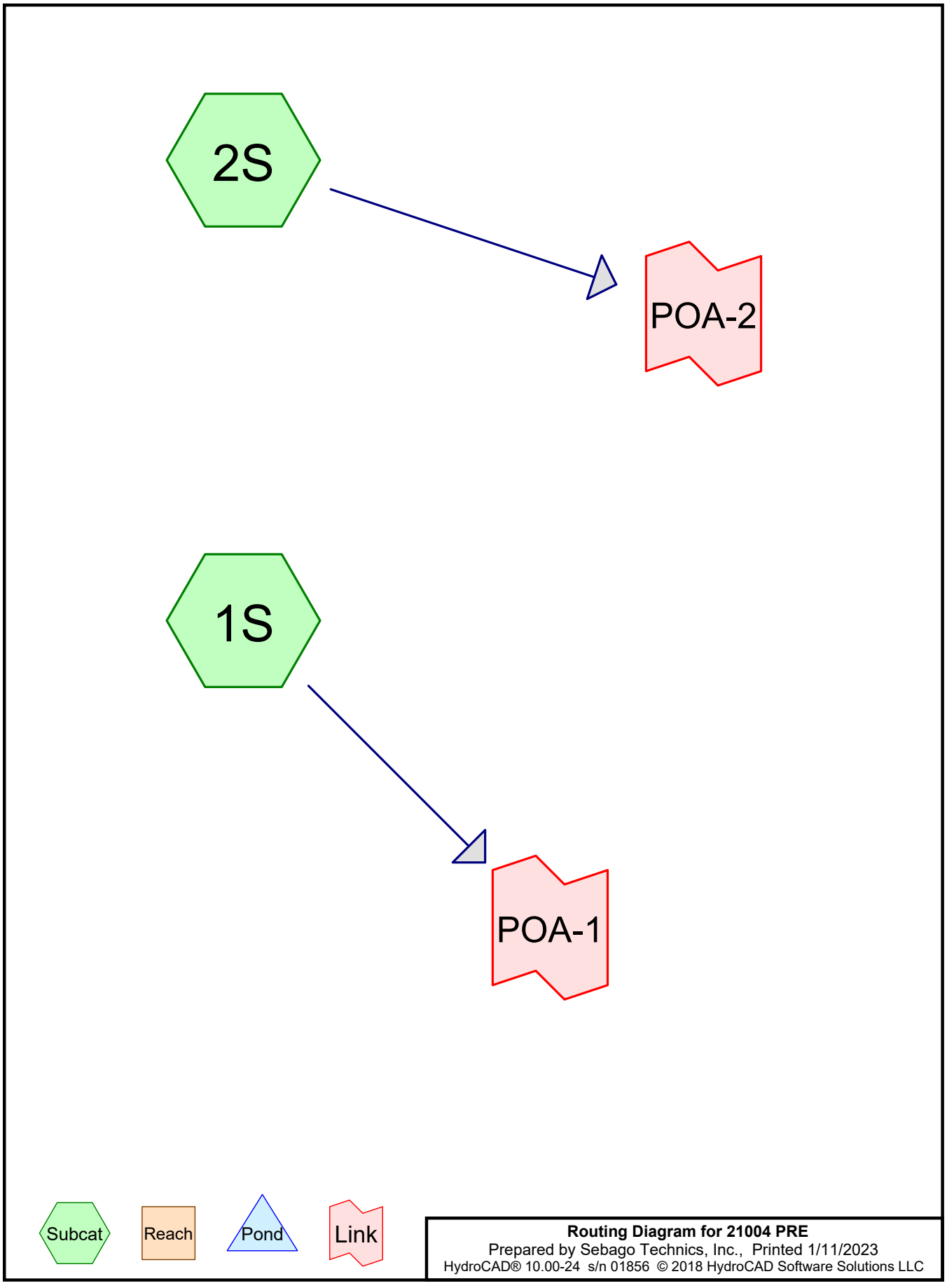
SEBAGO TECHNICS, INC.

Aaron C. Hunter, P.E.
Project Engineer

01-17-2023

Appendix 1A

Hydrologic Modeling
Existing Conditions
HydroCAD Summary



Routing Diagram for 21004 PRE
Prepared by Sebago Technics, Inc., Printed 1/11/2023

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
52,000	98	Impervious, HSG A (1S, 2S)
190,000	30	Meadow, non-grazed, HSG A (1S)
613,090	78	Meadow, non-grazed, HSG D (1S, 2S)
1,260,000	77	Woods, Good, HSG D (1S, 2S)
2,115,090	**74**	**TOTAL AREA**

Summary for Subcatchment 1S:

Runoff = 19.4 cfs @ 13.32 hrs, Volume= 217,062 cf, Depth= 2.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
*	18,000	98	Impervious, HSG A
	607,000	77	Woods, Good, HSG D
	190,000	30	Meadow, non-grazed, HSG A
	123,540	78	Meadow, non-grazed, HSG D
	938,540	68	Weighted Average
	920,540		98.08% Pervious Area
	18,000		1.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.1	50	0.0050	0.04		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.30"
3.2	95	0.0050	0.49		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
76.4	1,620	0.0050	0.35		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
100.7	1,765	Total			

Summary for Subcatchment 2S:

Runoff = 28.2 cfs @ 13.61 hrs, Volume= 368,272 cf, Depth= 3.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
*	34,000	98	Impervious, HSG A
	653,000	77	Woods, Good, HSG D
	489,550	78	Meadow, non-grazed, HSG D
	1,176,550	78	Weighted Average
	1,142,550		97.11% Pervious Area
	34,000		2.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.1	50	0.0050	0.04		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.30"
21.7	460	0.0050	0.35		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
6.4	190	0.0050	0.49		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
79.7	1,690	0.0050	0.35		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
128.9	2,390	Total			

Summary for Link POA-1:

Inflow Area = 938,540 sf, 1.92% Impervious, Inflow Depth = 2.78" for 25-YR event
Inflow = 19.4 cfs @ 13.32 hrs, Volume= 217,062 cf
Primary = 19.4 cfs @ 13.32 hrs, Volume= 217,062 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Summary for Link POA-2:

Inflow Area = 1,176,550 sf, 2.89% Impervious, Inflow Depth = 3.76" for 25-YR event
Inflow = 28.2 cfs @ 13.61 hrs, Volume= 368,272 cf
Primary = 28.2 cfs @ 13.61 hrs, Volume= 368,272 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Runoff Area=938,540 sf 1.92% Impervious Runoff Depth=0.79"
Flow Length=1,765' Slope=0.0050 '/' Tc=100.7 min CN=68 Runoff=4.8 cfs 61,598 cf

Subcatchment 2S: Runoff Area=1,176,550 sf 2.89% Impervious Runoff Depth=1.35"
Flow Length=2,390' Slope=0.0050 '/' Tc=128.9 min CN=78 Runoff=9.8 cfs 132,079 cf

Link POA-1: Inflow=4.8 cfs 61,598 cf
Primary=4.8 cfs 61,598 cf

Link POA-2: Inflow=9.8 cfs 132,079 cf
Primary=9.8 cfs 132,079 cf

Total Runoff Area = 2,115,090 sf Runoff Volume = 193,677 cf Average Runoff Depth = 1.10"
97.54% Pervious = 2,063,090 sf 2.46% Impervious = 52,000 sf

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Runoff Area=938,540 sf 1.92% Impervious Runoff Depth=1.81"
Flow Length=1,765' Slope=0.0050 '/' Tc=100.7 min CN=68 Runoff=12.3 cfs 141,465 cf

Subcatchment 2S: Runoff Area=1,176,550 sf 2.89% Impervious Runoff Depth=2.63"
Flow Length=2,390' Slope=0.0050 '/' Tc=128.9 min CN=78 Runoff=19.6 cfs 257,568 cf

Link POA-1: Inflow=12.3 cfs 141,465 cf
Primary=12.3 cfs 141,465 cf

Link POA-2: Inflow=19.6 cfs 257,568 cf
Primary=19.6 cfs 257,568 cf

Total Runoff Area = 2,115,090 sf Runoff Volume = 399,033 cf Average Runoff Depth = 2.26"
97.54% Pervious = 2,063,090 sf 2.46% Impervious = 52,000 sf

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Runoff Area=938,540 sf 1.92% Impervious Runoff Depth=2.78"
Flow Length=1,765' Slope=0.0050 '/' Tc=100.7 min CN=68 Runoff=19.4 cfs 217,062 cf

Subcatchment 2S: Runoff Area=1,176,550 sf 2.89% Impervious Runoff Depth=3.76"
Flow Length=2,390' Slope=0.0050 '/' Tc=128.9 min CN=78 Runoff=28.2 cfs 368,272 cf

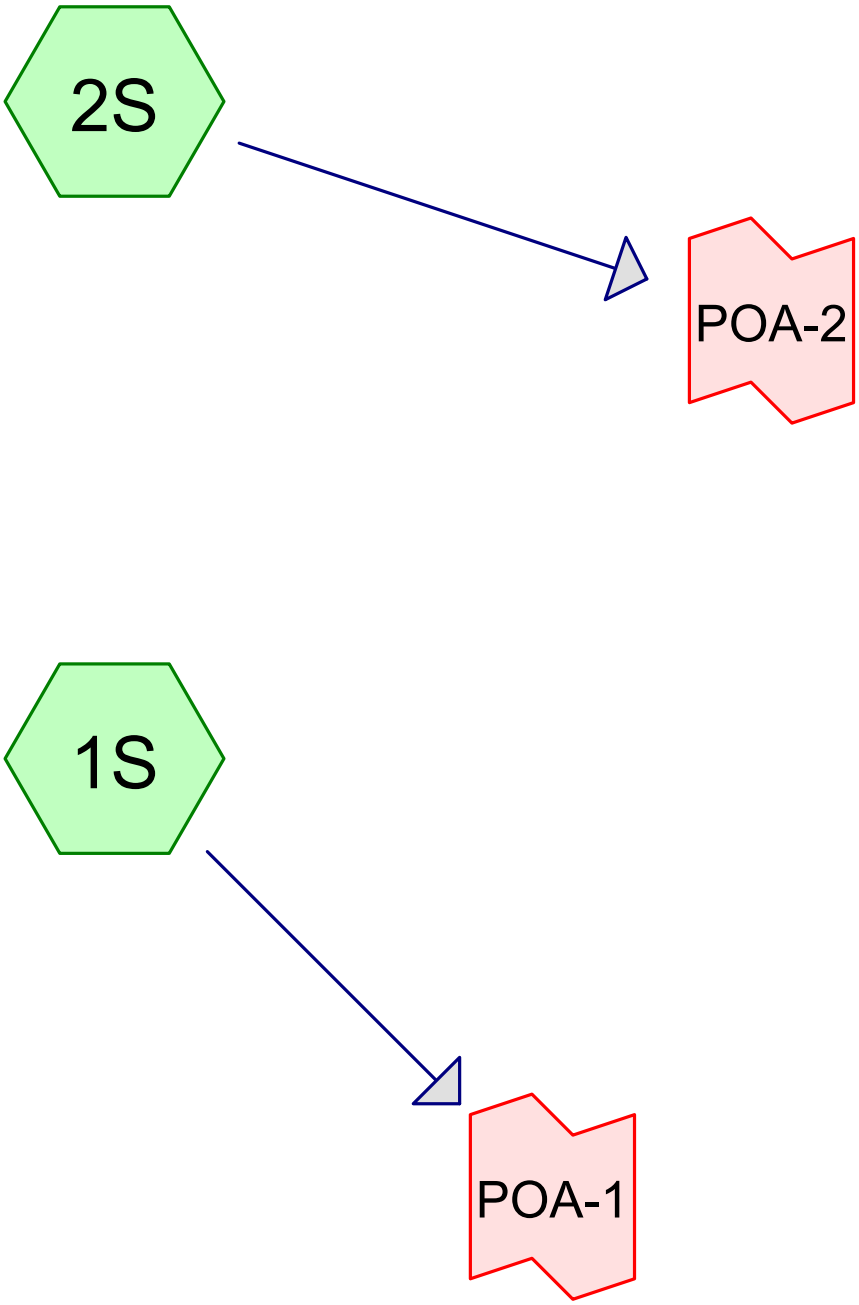
Link POA-1: Inflow=19.4 cfs 217,062 cf
Primary=19.4 cfs 217,062 cf

Link POA-2: Inflow=28.2 cfs 368,272 cf
Primary=28.2 cfs 368,272 cf

Total Runoff Area = 2,115,090 sf Runoff Volume = 585,335 cf Average Runoff Depth = 3.32"
97.54% Pervious = 2,063,090 sf 2.46% Impervious = 52,000 sf

Appendix 1B

Hydrologic Modeling
Proposed Conditions
HydroCAD Summary



Subcat Reach Pond Link

Routing Diagram for 21004 POST
Prepared by Sebago Technics, Inc., Printed 1/11/2023

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
67,050	98	Impervious, HSG A (1S, 2S)
190,000	30	Meadow, non-grazed, HSG A (1S)
598,040	78	Meadow, non-grazed, HSG D (1S, 2S)
1,260,000	77	Woods, Good, HSG D (1S, 2S)
2,115,090	**74**	**TOTAL AREA**

Summary for Subcatchment 1S:

Runoff = 19.4 cfs @ 13.32 hrs, Volume= 217,062 cf, Depth= 2.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
*	21,500	98	Impervious, HSG A
	607,000	77	Woods, Good, HSG D
	190,000	30	Meadow, non-grazed, HSG A
	120,040	78	Meadow, non-grazed, HSG D
	938,540	68	Weighted Average
	917,040		97.71% Pervious Area
	21,500		2.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.1	50	0.0050	0.04		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.30"
3.2	95	0.0050	0.49		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
76.4	1,620	0.0050	0.35		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
100.7	1,765	Total			

Summary for Subcatchment 2S:

Runoff = 28.2 cfs @ 13.61 hrs, Volume= 368,272 cf, Depth= 3.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
*	45,550	98	Impervious, HSG A
	653,000	77	Woods, Good, HSG D
	478,000	78	Meadow, non-grazed, HSG D
	1,176,550	78	Weighted Average
	1,131,000		96.13% Pervious Area
	45,550		3.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.1	50	0.0050	0.04		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.30"
21.7	460	0.0050	0.35		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
6.4	190	0.0050	0.49		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
79.7	1,690	0.0050	0.35		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
128.9	2,390	Total			

Summary for Link POA-1:

Inflow Area = 938,540 sf, 2.29% Impervious, Inflow Depth = 2.78" for 25-YR event
Inflow = 19.4 cfs @ 13.32 hrs, Volume= 217,062 cf
Primary = 19.4 cfs @ 13.32 hrs, Volume= 217,062 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Summary for Link POA-2:

Inflow Area = 1,176,550 sf, 3.87% Impervious, Inflow Depth = 3.76" for 25-YR event
Inflow = 28.2 cfs @ 13.61 hrs, Volume= 368,272 cf
Primary = 28.2 cfs @ 13.61 hrs, Volume= 368,272 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Runoff Area=938,540 sf 2.29% Impervious Runoff Depth=0.79"
Flow Length=1,765' Slope=0.0050 '/' Tc=100.7 min CN=68 Runoff=4.8 cfs 61,598 cf

Subcatchment 2S: Runoff Area=1,176,550 sf 3.87% Impervious Runoff Depth=1.35"
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Link POA-1: Inflow=4.8 cfs 61,598 cf
Primary=4.8 cfs 61,598 cf

Link POA-2: Inflow=9.8 cfs 132,079 cf
Primary=9.8 cfs 132,079 cf

Total Runoff Area = 2,115,090 sf Runoff Volume = 193,677 cf Average Runoff Depth = 1.10"
96.83% Pervious = 2,048,040 sf 3.17% Impervious = 67,050 sf

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Runoff Area=938,540 sf 2.29% Impervious Runoff Depth=1.81"
Flow Length=1,765' Slope=0.0050 '/' Tc=100.7 min CN=68 Runoff=12.3 cfs 141,465 cf

Subcatchment 2S: Runoff Area=1,176,550 sf 3.87% Impervious Runoff Depth=2.63"
Flow Length=2,390' Slope=0.0050 '/' Tc=128.9 min CN=78 Runoff=19.6 cfs 257,568 cf

Link POA-1: Inflow=12.3 cfs 141,465 cf
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Total Runoff Area = 2,115,090 sf Runoff Volume = 399,033 cf Average Runoff Depth = 2.26"
96.83% Pervious = 2,048,040 sf 3.17% Impervious = 67,050 sf

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Runoff Area=938,540 sf 2.29% Impervious Runoff Depth=2.78"
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Flow Length=2,390' Slope=0.0050 '/' Tc=128.9 min CN=78 Runoff=28.2 cfs 368,272 cf

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Appendix 2

NRCS Soils Map

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 York County, Maine

December 10, 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.

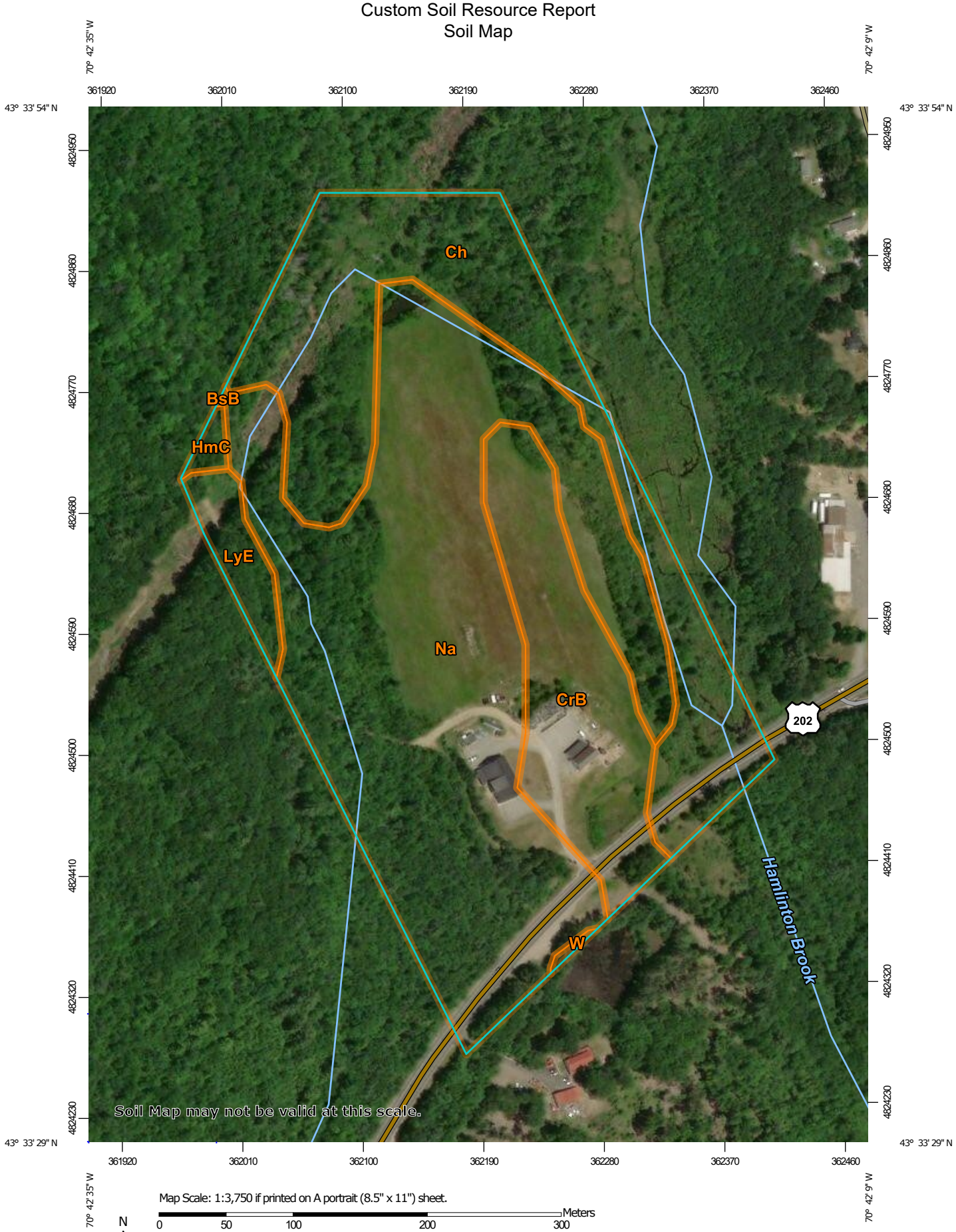
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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 Scale: 1:3,750 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

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

MAP LEGEND

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

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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

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

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

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

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

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

Soil Survey Area: York County, Maine
Survey Area Data: Version 20, 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: Dec 31, 2009—Sep 9, 2017

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
BsB	Brayton and Westbury very stony fine sandy loams, 0 to 8 percent slopes	0.0	0.0%
Ch	Chocorua peat	10.6	26.9%
CrB	Croghan loamy fine sand, 0 to 8 percent slopes, wooded	5.8	14.7%
HmC	Hermon sandy loam, 8 to 15 percent slopes, very stony	0.2	0.6%
LyE	Lyman-Rock outcrop complex, 15 to 80 percent slopes	1.1	2.9%
Na	Naumburg sand	21.7	54.8%
W	Water bodies	0.1	0.1%
Totals for Area of Interest		**39.6**	**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.

Appendix 3

Stormwater Management Plans

Appendix 3

Please see the attached plan set for the Stormwater Management Plans.

Exhibit 10

Floor Plans/Elevations

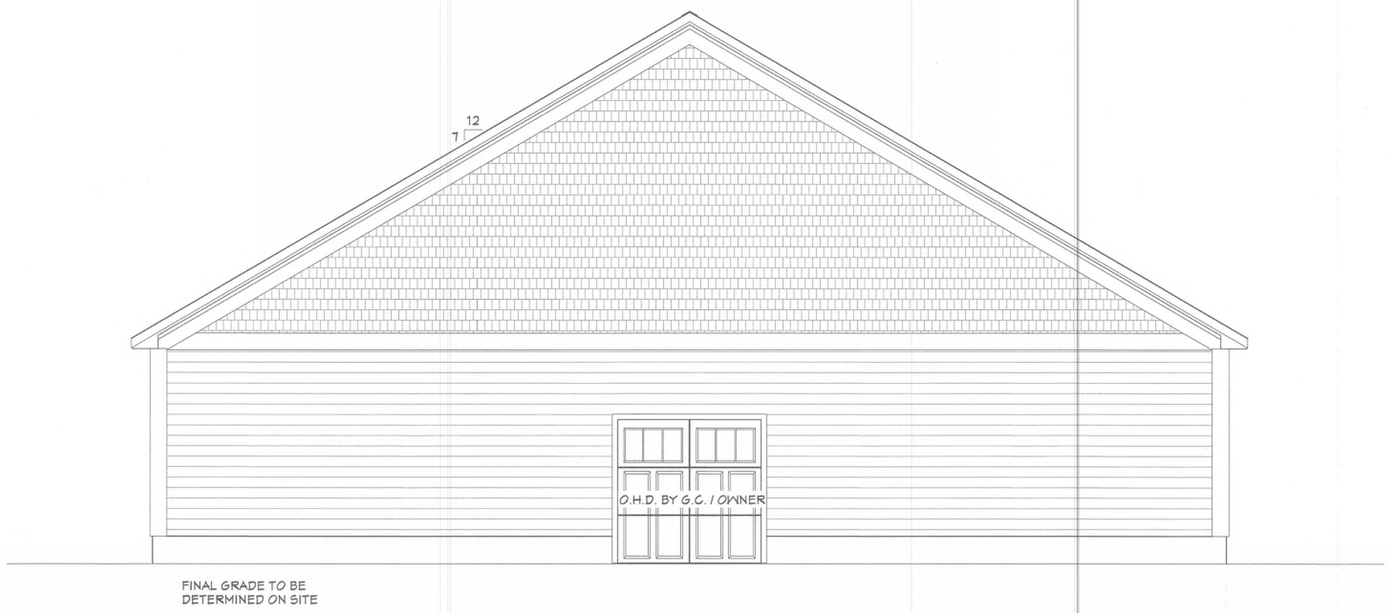
Exhibit 10: Floor Plans/Elevations

Please see this Exhibit for floor plans and elevations of the proposed storage building and office building.

Signage will be added to the existing pylon sign at the site entrance. A picture of the existing pylon sign is enclosed in this Exhibit. No additional signage is proposed at this time.

FOR CONSTRUCTION

FRONT ELEVATION



REAR ELEVATION

MOUSAM VALLEY
DRAFTING & DESIGN LLC
RESIDENTIAL HOME PLANS &
DRAFTING SERVICES
(207) 651-5982
E-MAIL: MVDD99@OUTLOOK.COM

PROJECT:
VICTOR & ROXI STORAGE
BUILDING
WATERBORO, ME.

CLIENT:
GRANT
CONSTRUCTION

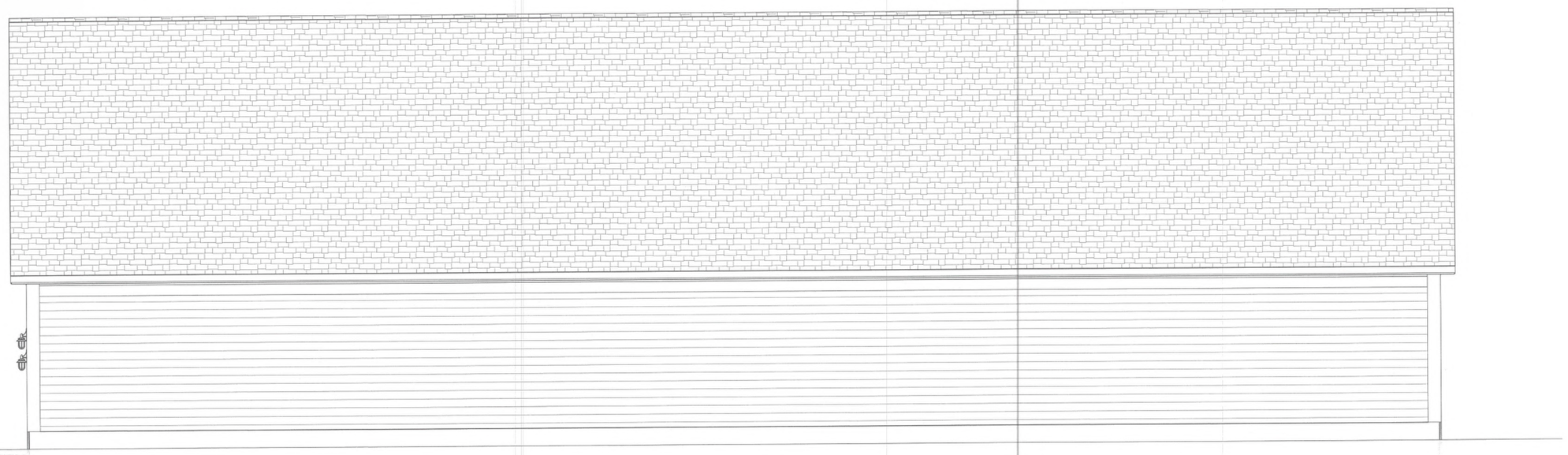
DATE:
10/18/2022

FOR CONST.
10-18-2022

SCALE:
1/4" = 1'-0"

A-2

FOR CONSTRUCTION



RIGHT ELEVATION

LEFT ELEVATION

MOUSAM VALLEY
DRAFTING & DESIGN LLC
RESIDENTIAL HOME PLANS &
DRAFTING SERVICES
(207) 451-5982
E-MAIL: MVDS99@OUTLOOK.COM

PROJECT:
VICTOR & ROXI STORAGE
BUILDING
WATERBORO, ME

CLIENT:
GRANT
CONSTRUCTION

DATE:
10/18/2022

FOR CONST.
10-18-2022

SCALE:
1/4" = 1'-0"

A-3

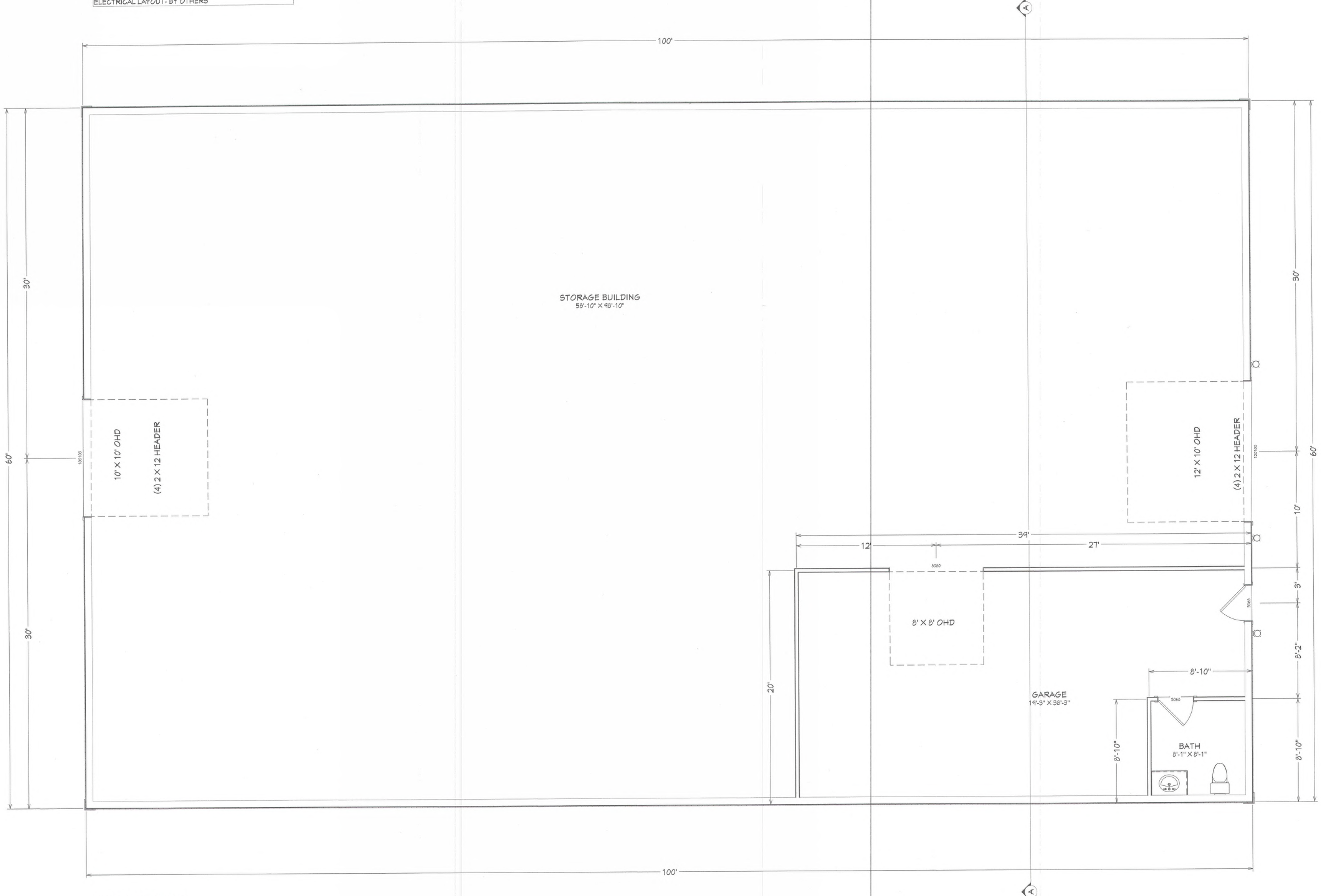
FOR CONSTRUCTION

NOTES:

IRC 2015 BRACING METHODS FOR ALL
BRACED WALLS & PORTAL FRAMING

(2) 2 X 12 W/1/2" PLYWOOD HEADERS @ OHD'S
(2) 2 X 8 W/1/2" PLYWOOD HEADERS @ OPENINGS UNDER 6'
UNLESS OTHERWISE NOTED: SEE FRAMING LAYOUT

ELECTRICAL LAYOUT- BY OTHERS



1ST FLOOR

MOUSAM VALLEY
DRAFTING & DESIGN LLC
RESIDENTIAL HOME PLANS &
DRAFTING SERVICES
(207) 651-5982
E-MAIL: MVDD99@OUTLOOK.COM

PROJECT:
VICTOR & ROXI STORAGE
BUILDING
WATERBORO, ME

CLIENT:
GRANT
CONSTRUCTION

DATE:
10/18/2022

FOR CONST.
10-18-2022

SCALE:
1/4" = 1'-0"

A-4

PERMIT / PRICING SET
NOT FOR CONSTRUCTION

FRONT ELEVATION

REAR ELEVATION

MOUSAM VALLEY DRAFTING & DESIGN LLC
RESIDENTIAL HOME PLANS & DRAFTING SERVICES
(207) 651-5982
E-MAIL: MVDD99@OUTLOOK.COM

PROJECT:
DAYFIELD PHASE 2 OFFICE BUILDING
WATERBORO, ME

CLIENT:
GRANT CONSTRUCTION

DATE:
11/2/2022

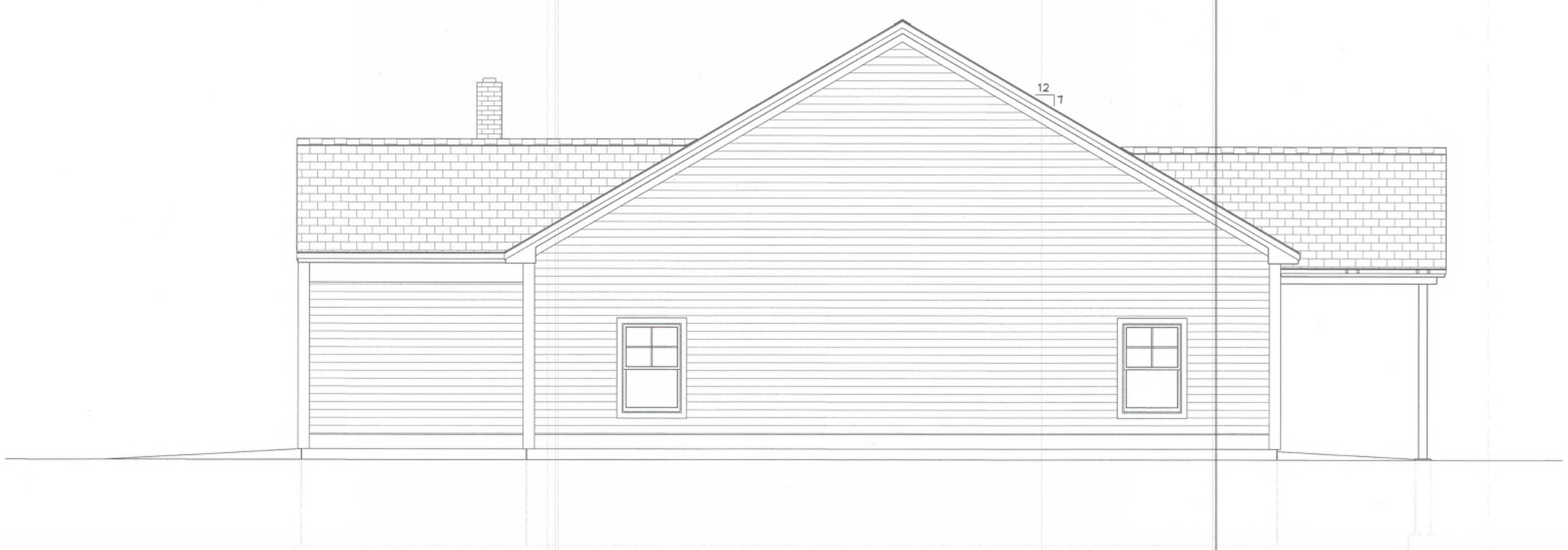
PERMIT SET
11-02-2022

SCALE:
1/4" = 1'-0"

A-2

PERMIT / PRICING SET
NOT FOR CONSTRUCTION

RIGHT ELEVATION



LEFT ELEVATION

MOUSAM VALLEY
DRAFTING & DESIGN LLC
RESIDENTIAL HOME PLANS &
DRAFTING SERVICES
(207) 651-5982
E-MAIL: MVDD99@OUTLOOK.COM

PROJECT:
DAYFIELD PHASE 2 OFFICE
BUILDING
WATERBORO, ME

CLIENT:
GRANT
CONSTRUCTION

DATE:
11/2/2022

PERMIT SET
11-02-2022

SCALE:
1/4" = 1'-0"

A-3

NOTES:

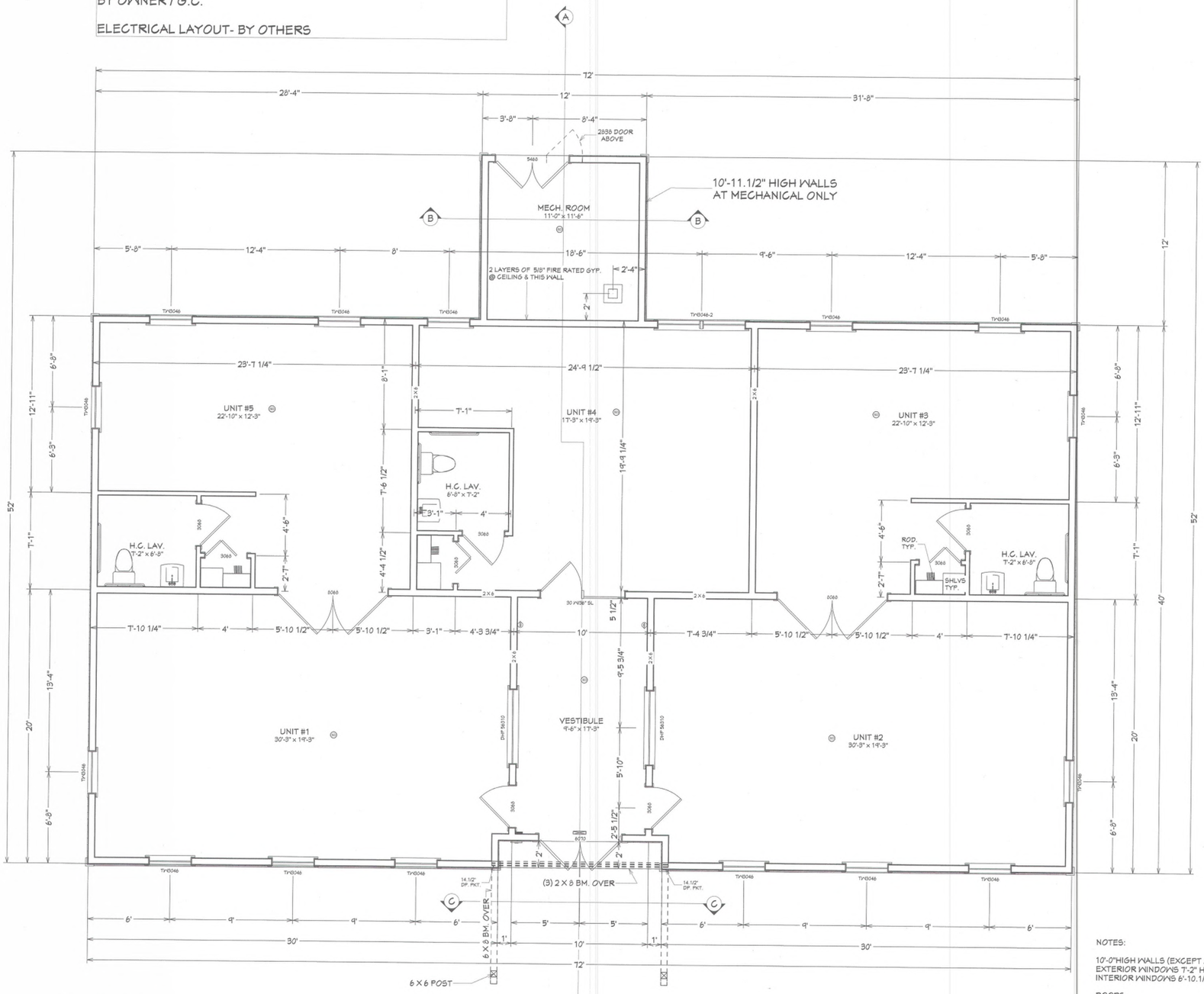
IBC 2015 BRACING METHODS FOR ALL
BRACED WALLS & PORTAL FRAMING

(3) 2 X 12 W/1/2" PLYWOOD HEADERS @ OPENINGS 6' & GREATER
(3) 2 X 8 W/1/2" PLYWOOD HEADERS @ OPENINGS UNDER 6'
UNLESS OTHERWISE NOTED: SEE FRAMING LAYOUT

WINDOWS: ANDERSEN TILT WASH DOUBLE HUNGS

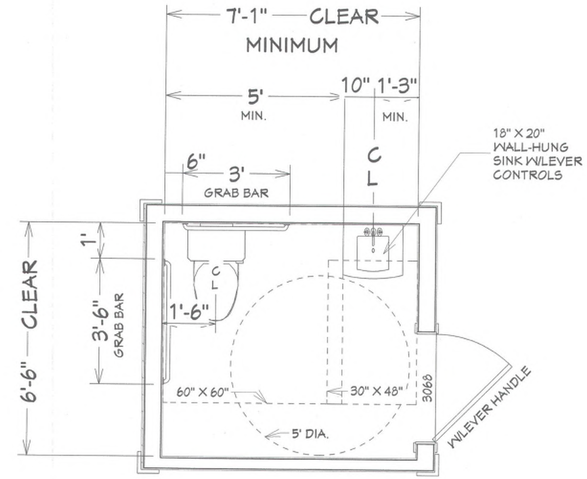
INTERIOR FINISH TRIM:
BY OWNER / G.C.

ELECTRICAL LAYOUT- BY OTHERS



1ST FLOOR PLAN

PERMIT / PRICING SET
NOT FOR CONSTRUCTION



PER ADA (4.22.2) DOORS SHALL NOT SWING
OVER THE CLEAR FLOOR SPACE REQ'D
FOR ANY PLUMBING FIXTURE

SAMPLE LAYOUT #1
FOR SINGLE USER TOILET ROOM

NOTES:

10'-0"HIGH WALLS (EXCEPT AS NOTED)
EXTERIOR WINDOWS 7'-2" HDR. HEIGHTS
INTERIOR WINDOWS 6'-10.1/2" HDR. HEIGHTS

DOORS:

FRONT ENT. PR. 3070 STORE FRONT DR. W/CLOSERS & LOW PROFILE THRESHOLD
EXTERIOR DOORS @ MECH. ROOM 2868 INSWING FLUSH METAL DOORS W/THRESHOLD
EXTERIOR DOORS ABOVE MECH. ROOM 2838 OUTSWING FLUSH METAL DOORS W/THRESHOLD
UNIT ENTRY DOORS- 3068 X 1.3/4" FINE, FULL GLASS W/CLOSER, LEVER HANDLE
INTERIOR SWING DOORS- 1.3/8" 6 PANEL MOULDED
INTERIOR BI-FOLD DOORS- 1.3/8" 6 PANEL MOULDED

LEGEND:

- ILLUMINATED EXIT SIGN
- SMOKE / C.M. DETECTOR
- CLASS A FIRE EXT.
- ANNUNCIATOR
- FIRE DEPT. KNOX BOX

MOUSAM VALLEY
DRAFTING & DESIGN LLC
RESIDENTIAL HOME PLANS &
DRAFTING SERVICES
(207) 651-5582
E-MAIL: MVDD9581@OUTLOOK.COM

PROJECT:
DAYFIELD PHASE 2 OFFICE
BUILDING
WATERBORO, ME.

CLIENT:
GRANT
CONSTRUCTION

DATE:
11/2/2022

PERMIT SET
11-02-2022

SCALE:
1/4" = 1'-0"

A-4


DAY FIELD
FOREVER YOUNG
Hearing
Essentials
MediTest
The Heritage Co

Exhibit 11

Vehicle Turning Movements

Exhibit 11: Vehicle Turning Movements

Please see the separately appended full size turning movement plans to demonstrate adequate vehicle turning movements throughout the site.

SPFD - Ladder

Overall Length	41.000ft
Overall Width	8.500ft
Overall Body Height	10.519ft
Min Body Ground Clearance	0.950ft
Track Width	8.500ft
Lock-to-lock time	4.00s

AARON C. HUNTER, PE #16326

PROGRESS PRINT

NOT FOR CONSTRUCTION

REV	BY	DATE	STATUS
B	ACH	12-29-2022	ISSUED FOR CLIENT REVIEW
A	ACH	11-28-2022	ISSUED FOR TOWN PRE-APPLICATION MEETING

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

AUTOTURN EXHIBIT - FIRE TRUCK

OF:

545 MAIN STREET

MAIN STREET
WATERBORO, MAINE

FOR:

THE HERITAGE COMPANY
545 MAIN STREET
WATERBORO, ME 04087

DESIGNED	BJB
DRAWN	DAB
CHECKED	BJB
DATE	10/27/2021
SCALE	1" = 20'
PROJECT	21004

SHEET 1 OF 2

21004 TRUCK.dwg, TAB FIRE TRUCK -1

SPFD - Ladder

Overall Length	41.000ft
Overall Width	8.500ft
Overall Body Height	10.519ft
Min Body Ground Clearance	0.950ft
Track Width	8.500ft
Lock-to-lock time	4.00s

MAIN STREET
ROUTES 4 & 202

PROGRESS PRINT

NOT FOR CONSTRUCTION

AARON C. HUNTER, PE #16326

REV	BY	DATE	STATUS
A	ACH	11-29-2022	ISSUED FOR TOWN PRE-APPLICATION MEETING
B	ACH	12-29-2022	ISSUED FOR CLIENT REVIEW

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

AUTOTURN EXHIBIT - FIRE TRUCK

OF:
545 MAIN STREET
MAIN STREET
WATERBORO, MAINE

FOR:
THE HERITAGE COMPANY
545 MAIN STREET
WATERBORO, ME 04087

DESIGNED	BJB
DRAWN	DAB
CHECKED	BJB
DATE	10/27/2021
SCALE	#########
PROJECT	21004

SHEET 2 OF 2

21004 TRUCK.dwg, TAB FIRE TRUCK - 2

Exhibit 12

Site Plan Review Standards

Exhibit 12: Site Plan Review Standards

1. The proposed use meets the definitions and/or requirements set forth in the Zoning Ordinance;
   The proposed use meets the definitions and requirements set forth in the Zoning Ordinance.

2. The proposed use will not create fire safety hazards by not providing adequate access to the site, or to the buildings on the site, for emergency vehicles; adequate dry hydrants; or adequate access to off-site dry hydrants and from there to the site;
   The proposed use will not create any fire safety hazards. Adequate access for emergency vehicles is provided to the site and the buildings. See Exhibit 11 for vehicle turning movements for a fire truck. Two existing fire hydrants are located within approximately 800 feet of the site entrance along Main Street, one on each side of the entrance.

3. The proposed exterior lighting will not: create hazards to motorists traveling on adjacent public streets: be inadequate for the safety of occupants or users of the site or will damage the value and diminish the usability of adjacent properties;
   The project proposes to utilize full cutoff LED wall packs and light poles for the site lighting. The proposed development will not create any hazards to motorists traveling on Main Street and is adequate enough to provide safe access to the building after dark. See Exhibit 6 for lighting information.

4. The provisions for buffers and on-site landscaping provides adequate protection to neighboring properties from detrimental features of the development;
   Existing vegetation will be retained to the greatest extent possible. Existing vegetation provides adequate protection to neighboring properties from any detrimental features of the development.

5. The proposed use will not have a significant detrimental effect on the use and peaceful enjoyment of abutting property as a result of noise, vibrations, fumes, odor, dust, glare or other cause;
   The proposed development will not create any nuisances, noise, vibrations, fumes, odor, glare or other causes, or have any effect on the peaceful enjoyment of abutting properties.

6. The provisions for vehicular loading and unloading and parking and for vehicular and pedestrian circulation on the site and onto adjacent public streets will not create hazards to safety or will not impose significant burdens on public facilities which could be avoided by reasonable modification of the plan;
   The proposed vehicular loading and unloading and parking for the project will not create any hazards to safety or significant burdens on public facilities. Please see the site plan for details.

7. The bulk, location, height or design of proposed buildings, structures or paved areas, or the proposed uses thereof, will not have a significant detrimental effect on private development on adjacent properties, or on the value of adjacent properties which could be avoided by reasonable modifications of the plan;
   The location and design of the proposed building and parking area does not have a significant detrimental effect on any adjacent properties. The proposed buildings are only one story and proposed to retain existing vegetation to the greatest extent possible.

8. The design of the site will not result in significant flood hazards or flood damage and is in conformance with applicable flood hazard protection requirements; or storm water detention pond(s) are not adequate;
   The proposed design will not result in any significant flood hazards or damage. See Exhibit 6 for additional information in regards to FEMA National Flood Hazards Map. In addition, the project has been designed to meet the stormwater requirements of both the Maine Department of Environmental Protection and the Town of Waterboro.

9. Adequate provisions have been made for the disposal of wastewater or solid waste or for the prevention of ground or surface water contamination;
   The proposed development provides adequate provision for wastewater and solid waste disposal. Two existing dumpsters are located on site to serve the Heritage Company building and Daycare. The existing dumpster that serves the Heritage Company building will also serve the proposed storage building and office building, as minimal solid waste is expected to be generated. Wastewater from the proposed storage building and office building will be collected in separate proposed septic tanks with effluent septic fields as detailed in Exhibit 7 and on the site plans.

10. Adequate provisions have been made to control erosion or sedimentation;
    Proper erosion and sedimentation control features have been provided on site. A sediment filter barrier will be placed at the toe of any proposed grading to prevent erosion. The entrance from construction areas will be provided with a stabilized construction entrance to prevent tracking of sediment onto the public road.

11. Adequate provisions have been made to handle storm water run-off or other drainage problems on the site;
    Please see the attached stormwater report for stormwater runoff and drainage control measures.

12. The proposed water supply will meet the demands of the proposed use or for fire protection purposes;
    Two wells are proposed to serve the storage building and office building, as the Waterboro Water District does not have capacity to serve the project at this time. See Exhibit 7 for correspondence from the Waterboro Water District. If capacity become available prior to the project, then public water use will be coordinated with the Water District. As mentioned above, two existing fire hydrants are located along Main Street, within 800 feet of the site entrance to meet the demands for fire protection.

13. Adequate provisions have been made for the transportation, storage and disposal of hazardous substances and materials as defined by state law and Waterboro Hazardous Waste Ordinance;
    Generated and stored hazardous substances and materials will be adequately managed as defined by state law and town ordinances.

14. The proposed use will not have an adverse impact on significant scenic vistas or on significant wildlife habitat which could be avoided by reasonable modification of the plan;
    The proposed development will not have any impacts on any significant wildlife habitat. See Exhibit 5 for letters from applicable agencies. There are no scenic vistas visible from the site.

15. The project will not increase nitrate nitrogen concentrations in surface or groundwater at the property line of the site in excess of State of Maine Drinking Water Standards. If groundwater contains contaminants in excess of the primary drinking water standards and the project is to be served by on site groundwater supplies, the applicant shall demonstrate how water quality will be improved or treated to meet applicable standards.
    The project will not create a significant wastewater flow; A hydrogeological impact study is not required as the total combined design flow for the two proposed on-site septic disposal systems is less than 800 gallons/day and will consist of typical septic waste. The project proposes to utilize on-site groundwater supplies and will maintain the required 100-foot setback from proposed and existing subsurface wastewater disposal fields as required by the State of Maine Subsurface Wastewater Disposal Rules.

Exhibit 13

Waivers

Exhibit 13: Waivers

No waivers are requested.