SEBAGO TECHNICS

CIVIL ENGINEERING • SURVEYING • LANDSCAPE ARCHITECTURE

TOWN OF WINDHAM
PRELIMINARY PLAN REVIEW
SUBDIVISION APPLICATION

Prepared for:

WDCJCS Subdivision
Former Andrew School Site Redevelopment
55 High Street
Windham, ME 04062

Applicants:

Great Falls Construction
20 Mechanic Street
Gorham, ME 04038

and

Westbrook Development Corp.
30 Liza Harmon Drive
Westbrook, ME 04092

Prepared by:

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

September 2024

240577

Preliminary Plan – Subdivision Application
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ATTACHED: **Plan Set**

September 18, 2024
240577

Steve Puleo, Planning Director
Town of Windham, Planning Department
8 School Road
Windham, Maine 04062

RE: Preliminary Plan Review Application
Former John A. Andrew School – Site Redevelopment
55 High Street; MBLU: 37-24

Dear Steve,

On behalf of Great Falls Construction and the Westbrook Development Corporation, Sebago Technics, Inc. has prepared this letter, the enclosed information, and attached drawings for a Preliminary Plan Review application for the redevelopment of the former John A. Andrew school property. This site is addressed at 55 High Street in the Town of Windham, and can further be identified on the Town Tax Map 37 as Lot 24.

Existing Conditions: The property subject to this application is the site of the former John A. Andrew school building. The site is approximately 2.39 acres in size, and is zoned under the Windham Village Commercial District. The site is largely surrounded by single-family residences and undeveloped, wooded areas to the north, south, and east, and High Street to the west.

The topography of the site is described as sloping upwards from High Street, relatively level in the middle (where the school building is located), and sloping back downwards towards the rear. The site also contains a small wetland area located along the northeastern border of the parcel.

Project Description: This proposed project offers a mixed-income development with a total of eighteen (18) affordable apartments for senior (55+) housing. This project also includes associated parking areas, internal vehicular drive aisles, pedestrian pathways, a centralized open green space, and subsurface stormwater treatment area. Please see the proposed Preliminary Subdivision Plan enclosed within this application binder for the proposed layout of the site.

Project Team: A talented and professionally diverse team has been assembled for the design of this project. The project team consists of: Great Falls Construction, Inc., Westbrook Development Corporation, Archetype Architects, and Sebago Technics, Inc. The enclosed *Section 5* contains a description of each firm involved and their respective roles in the project's design, construction, and management.

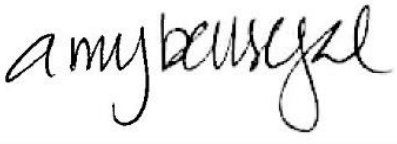
Utilities: This project is proposed to be served by available public utilities currently located along High Street. Water and sewer service will be accomplished through connecting to the Portland Water District (PWD) mains within High Street, and will be extended interior to the site to serve each building. Similarly, this development will connect to existing overhead electric service and continue power underground throughout the site.

Waivers: Two (2) waivers have been granted for this proposed project. One is related to submitting a high-intensity soil survey by a Certified Soil Scientist (per §120-910.C.3.a.). The other waiver granted was from providing a Hydrogeological Assessment (per §120-910.C.3.c.). Both of these were waived by the Planning Director, as this application includes a medium-intensity soil survey and will connect to available public water and sewer along High Street.

We appreciate your attention to this project, and we look forward to its successful completion. Upon your review, please contact me if you have any questions or require additional information.

Sincerely,

SEBAGO TECHNICS, INC.



Amy Bell Segal, RLA
Senior Project Manager & Landscape Architect
Maine Licensed Landscape Architect

ABS/bjw

Section 1

Application Forms

Town of Windham
Planning Department:
8 School Road
Windham, Maine 04062
Tel: (207) 894-5960 ext. 2
Fax: (207) 892-1916 -
www.windhammaine.us

MAJOR SUBDIVISION - PRELIMINARY PLAN - REVIEW APPLICATION

FEES FOR MAJOR SUBDIVISION PRELIMINARY PLAN REVIEW	**APPLICATION FEE:** + EACH LOT > 10 = $300/LOT	X $1,300.00 X $ 2,400.00	**AMOUNT PAID:** $_____ DATE: _____ *Office Use:*
	REVIEW ESCROW: Up to 10 Lots = $2,500 11 – 15 Lots = $3,000 16 – 30 Lots = $4,000 30 + Lots = $5,000	X $ 4,000.00	*Office Stamp:*

PROPERTY DESCRIPTION	Parcel ID	Map(s) # 37	Lot(s) # 24	Zoning District(s)	Village Comm. (VC)	Total Land Area SF:	+/- 2.39 ac.
	# Lots/dwelling units: 18	Total Distr. >1Ac. X Y ☐ N				Est. Road Length(ft):	n/a
	Physical Address	55 High Street, Windham		Watershed:	Upper Presumpscot River		

PROPERTY OWNER'S INFORMATION	Name	Jonathan Smith, President	Name of Business	Great Falls Construction, Inc.
	Phone	(207) 839-2744	Mailing Address:	20 Mechanic Street
	Fax or Cell			Gorham, ME 04038
	Email	jon@greatfallsinc.com		
APPLICANT'S INFORMATION (*IF DIFFERENT FROM OWNER*)	Name	Tyler Norod	Name of Business:	Westbrook Development Corp.
	Phone	(207) 956-1575	Mailing Address	30 Liza Harmon Drive
	Fax or Cell			Westbrook, ME 04092
	Email	tnorod@westbrookdevelopmentcorp.org		
APPLICANT'S AGENT INFORMATION	Name	Amy Bell Segal, RLA	Name of Business	Sebago Technics, Inc.
	Phone	(207) 200-2055	Mailing Address	75 John Roberts Rd. Ste. 4A
	Fax or Cell	(207) 856-2206		South Portland, ME 04106
	Email	absegal@sebagotechnics.com		

PROJECT INFORMATION

Existing Land Use *(Use extra paper, if necessary)*:

Please see the Cover Letter attached with this application for information regarding the existing use and conditions of the property.

Provide a narrative description of the Proposed Project *(Use extra paper, if necessary)*:

Please see the Cover Letter attached with this application for information regarding the proposed project.

Provide a narrative description of construction constraints (wetlands, shoreland zone, flood plain, non-conformance, etc.):

Please see the Cover Letter attached with this application for a description of development and construction constraints.

MAJOR SUBDIVISION - PRELIMINARY PLAN - REVIEW APPLICATION REQUIREMENTS

Section 910 of the Land Use Ordinance

The submission shall contain, five (5) copies of the following information, including full plan sets. Along with one (1) electronic version of the entire submission unless a waiver of a submission requirement is granted.

The Major Plan document/map:

A) Plan size: 24" X 36"
B) Plan Scale: No greater 1":100'
C) Title block: Applicant's name and address

- Name of the preparer of plans with professional information
- Parcel's tax map identification (map and lot) and street address, if available

- Complete application submission deadline: three (3) weeks before the desired Staff Review Committee meeting.
  - Five copies of the application and plans
  - Application Payment and Review Escrow
- A pre-submission meeting with the Town staff is required.
- Contact information:

Windham Planning Department (207) 894-5960, ext. 2
Steve Puleo, Town Planner sjpuleo@windhammaine.us
Amanda Lessard, Planning Director allessard@windhammaine.us

APPLICANT/PLANNER'S CHECKLIST FOR MAJOR SUBDIVISION REVIEW

SUBMITTALS THAT THE TOWN PLANNER DEEMS SUFFICIENTLY LACKING IN CONTENT WILL NOT BE SCHEDULED FOR PLANNING BOARD REVIEW.

The following checklist includes items generally required for development by the Town of Windham's LAND USE ORDINANCE, Sections 907.B., 910.C., & 911. Due to projects specifics, are required to provide a complete and accurate set of plans, reports, and supporting documentation (as listed in the checklist below).

IT IS THE RESPONSIBILITY OF THE APPLICANT TO PRESENT A CLEAR UNDERSTANDING OF THE PROJECT.

Staff recommends the applicant provide a proposed construction schedule, a draft Homeowner's Association (HOA) documentation, public open space to be provided, and written offers of cession to the Town, and/or road maintenance agreement with at the Preliminary Plan application submission.

Major Subdivision Preliminary Plan Submission Requirements:			Major Subdivision Preliminary Plan Submission Requirements (Continued):	Applicant	Staff
A. Mandatory Written Information submitted in a bound format:	**Applicant**	**Staff**	6. Vicinity plan showing the area within 250 feet, to include:	X	☐
1. A fully executed application form, signed by a person with right, title, or interest in the property or Authorized Agent.	X	☐	i. approximate location of all property lines and acreage of parcels.	X	☐
2. Evidence of payment of the application and escrow fees.	X	☐	ii. locations, widths, and names of existing, filed, or proposed streets, easements, or building footprints.	X	☐
3. Proposed name of the Subdivision.	X	☐	iii. location and designations of any public spaces.	X	☐
4. Verification of right, title, or interest in the property, and any abutting property, by deed, purchase and sales agreement, option to purchase, or some other proof of interest.	X	☐	iv. outline of the proposed subdivision, together with its street system and an indication of future probably street system, if the proposed subdivision encompasses only part of the applicant's entire property.	X	☐
5. Copy(ies) of the most recently recorded deed for the parcel, along with a copy(ies) of all existing deed restrictions, easements, rights-of-way, or some other proof of interest.	X	☐	7. Standard boundary survey of the parcel, including all contiguous land in common ownership within the last 5 years.	X	☐
6. Copy(ies) of any existing and/or proposed covenants, deed restrictions intended to cover all or part of the lots or dwellings in the subdivision.	X	☐	8. Existing and proposed street names, pedestrian ways, lot easements, and areas to be reserved or dedicated to public use.	X	☐
7. Copy(ies) of any existing or proposed easements on the property	X	☐	9. Contour lines at 2-foot intervals, or intervals required by the Board, showing elevations to the required datum.	X	☐
8. Name, registration number, and seal of Maine Licensed Professional Land Surveyor who conducted the survey.	X	☐	10. Typical cross-sections of the proposed grading for roadways, sidewalks, etc., including width, type of pavement, elevations, and grades.	X	☐
9. Name, registration number, and seal of the licensed professional who prepared the plan (if applicable).	X	☐			
10. An indication of the type of sewage disposal to be used in the subdivision.			11. Wetland areas shall be delineated on the survey. If none, please note.	X	☐
i. If connecting to the public sewer, provide a letter from Portland Water District stating the District can collect and treat the wastewater	X	☐	12. The number of acres within the proposed subdivision, location of property lines, existing buildings, vegetative cover type, specimen trees, if present, and other essential existing physical features.	X	☐

Mandatory Written Information submitted in a bound format (continued):	Applicant	Staff			
ii. If using subsurface wastewater disposal systems (septic), submit test pit analyses prepared by a Maine Licensed Site Evaluator or Certified Soil Scientist. Test pit locations must be shown on a map.	N/A	☐	14. Rivers, streams, and brooks within or adjacent to the proposed subdivision. If any portion of the proposed subdivision is in the direct watershed of a great pond, note which great pond.	X	☐
11. Indicate the type of water supply system(s) to be used in the subdivision.	X	☐	15. Location & size of existing and proposed sewers, water mains, culverts, bridges, and drainage ways on or adjacent to the property to be subdivided. The Board may require this information to be depicted via cross-section, plan, or profile views.	X	☐
12. If connecting to public water, submit a written statement from the Portland Water District indicating there is adequate supply and pressure for the subdivision.	X	☐	16. Location, names, and present width of existing streets, highways, easements, building lines, parks, and other open spaces on or adjacent to the subdivision.	X	☐
13. Names and addresses of the record owner, applicant, and adjoining property owners.	X	☐	17. Location and widths of any streets, public improvements, or open space within the subdivision (if any) are shown on the official map and the comprehensive plan.	X	☐
14. An acceptable title opinion proving the right of access to the proposed subdivision or site for any property proposed for development on or off a private way or private road.	X	☐	18. All parcels of land proposed to be dedicated to public use and the conditions of such dedication.	X	☐
15. The name and contact information for the road association whose private way or road is used to access the subdivision.	X	☐	19. Location of any open space to be preserved or common areas to be created, and general description of proposed ownership, improvement, and management	X	☐
16. Financial Capacity. Estimated costs of development, and an itemization of major costs.			20. Approximate location of treeline after development.	X	☐
i. Estimated costs of development, and an itemization of major costs.	X	☐	21. Delineate boundaries of any flood hazard areas and the 100-year flood elevation as depicted on the Town's Flood Insurance Rate Map.	N/A	☐
			22. Show any areas within or adjacent to the proposed subdivision which has been identified by the Maine Department of Inland Fisheries and Wildlife "Beginning with Habitat project maps or within the Comprehensive Plan.		
ii. Financing - provide one of the following:	X	☐	23. Show areas within or adjacent to the proposed subdivision which is either listed on or eligible for the National Register of Historic Places, or have been identified in the comprehensive plan or by the Maine Historic Preservation Commission as sensitive or likely to contain such sites.	N/A	☐
a. Letter of commitment to funding from a financial institution, governmental agency, or other funding agency.	X	☐			
b. Annual corporate report with explanatory material showing the availability of liquid assets to finance development	☐	☐	24. Erosion & Sedimentation control plan, prepared by MDEP Stormwater Law Chapter 500 Basic Standards, and the MDEP Maine Erosion and Sediment Control Best Management Practices, published March 2003.	X	☐
c. Bank statement showing the availability of funds if personally financing development	☐	☐	25. A stormwater management plan, prepared by a Maine licensed Professional Engineer by the most recent edition of Stormwater Management For Maine: BMPS Technical Design Manual, published by the MDEP 2006.	X	☐
d. Cash equity commitment.	☐	☐			
e. Financial plan for remaining financing.	☐	☐	26. For Cluster Subdivisions that do not maximize the development potential of the property being subdivided, a conceptual master plan for the remaining land showing future roads, Open Space, and lot layout, consistent with the requirements of 911.K., Custer Developments will be submitted.	N/A	☐
f. Letter from financial institution indicating an intention to finance.	X	☐	**C. Submission information for which a waiver may be granted.**	**Applicant**	**Staff**
iii. If a corporation, Certificate of Good Standing from the Secretary of State	X	☐	1. High-intensity soil survey by a Certified Soil Scientist	N/A **Waiver Granted**	☐
			2. Landscape Plan	X	☐
2. Technical Capacity:			3. Hydrogeologic assessment - required if i) subdivision is not served by public sewer and either any part of the subdivision is over a sand and gravel aquifer or has an average density of more than one dwelling unit per 100,000 square feet, or ii) where site considerations or development design indicate the greater potential of adverse impacts on groundwater quality.	N/A **Waiver Granted**	☐

i. A statement of the applicant's experience and training related to the nature of the development, including developments receiving permits from the Town.	X	☐	a) Map showing basic soil types.	X	☐
			b) Depth to the water table at representative points	X	☐
ii. Resumes or similar documents showing experience and qualifications of full-time, permanent, or temporary staff contracted with or employed by the applicant who will design the development.	X	☐	c) Drainage conditions throughout the subdivision.	X	☐
			d) Data on existing groundwater quality.	X	☐
			e) Analysis and evaluation of the effect of the subdivision on groundwater.	X	☐
2. Name and contact information for the road association whose private way or road is used to access the subdivision (if applicable).	N/A	☐	f) map showing the location of any subsurface wastewater disposal systems and drinking water wells within the subdivision & within 200 feet of the subdivision boundaries.	N/A	☐
			4. Estimate the amount and type of vehicular traffic to be generated on a daily basis and at peak hours.	X	☐
B. Mandatory Preliminary Plan Information	**Applicant**	**Staff**	5. Traffic Impact Analysis for subdivisions involving 28 or more parking spaces or projected to generate more than 140 vehicle trips per day.	N/A	☐
1. Name of subdivision, date, and scale.	X	☐			
2. Stamp of the Maine License Professional Land Surveyor that conducted the survey, including at least one copy of the original stamped seal that is embossed and signed.	X Under Final	☐	6. If any portion of the subdivision is in the direct watershed of a great pond.	N/A	☐
			i. phosphorous impact analysis and control plan.	N/A	☐
3. Stamp with the date and signature of the Maine Licensed Professional Engineer that prepared the plans.	X	☐	ii. long term maintenance plan for all phosphorous control measures.	N/A	☐
4. North arrow identifying all of the following: Grid North, Magnetic North, declination between Grid and Magnetic, and whether Magnetic or Grid bearings were used in the plan design.	X	☐	iii. contour lines at an interval of 2 feet.	N/A	☐
			iv. delineate areas with sustained slopes greater than 25% covering more than one acre.	N/A	☐
5. Location map showing the subdivision within the municipality.	X	☐	**Electronic Submission**	X	☐

The undersigned *hereby makes an application to the Town of Windham for approval of the proposed project and declares the foregoing to be true and accurate to the best of his/her knowledge.*

amy bell segal

09/12/2024
DATE

Amy Bell Segal, RLA of Sebago Technics, Inc.
PLEASE TYPE OR PRINT THE NAME

AGENT AUTHORIZATION

APPLICANT/ OWNER	Name	Jonathan Smith, Great Falls Construction and/or assigns		
PROPERTY DESCRIPTION	Physical Address	20 Mechanic Street Gorham, ME 04038	Map	37
			Lot	24
APPLICANT'S AGENT INFORMATION	Name	Sebago Technics, Inc. c/o Amy Bell-Segal, RLA		
	Phone	(207) 200-2100	Business Name & Mailing Address	SEBAGO TECHNICS, INC. 75 John Roberts Road, Suite 4A South Portland, ME 04106

9/9/24

APPLICANT SIGNATURE DATE

PLEASE TYPE OR PRINT NAME HERE

JONATHAN E. SMITH
PRESIDENT, GREAT FALLS CONSTRUCTION

amybellsegal.

APP)9/2024

Amy Bell-Segal, RLA
Project Manager
Sebago Technics, Inc.

PLEASE TYPE OR PRINT NAME HERE

Section 2

Location & Resource Maps

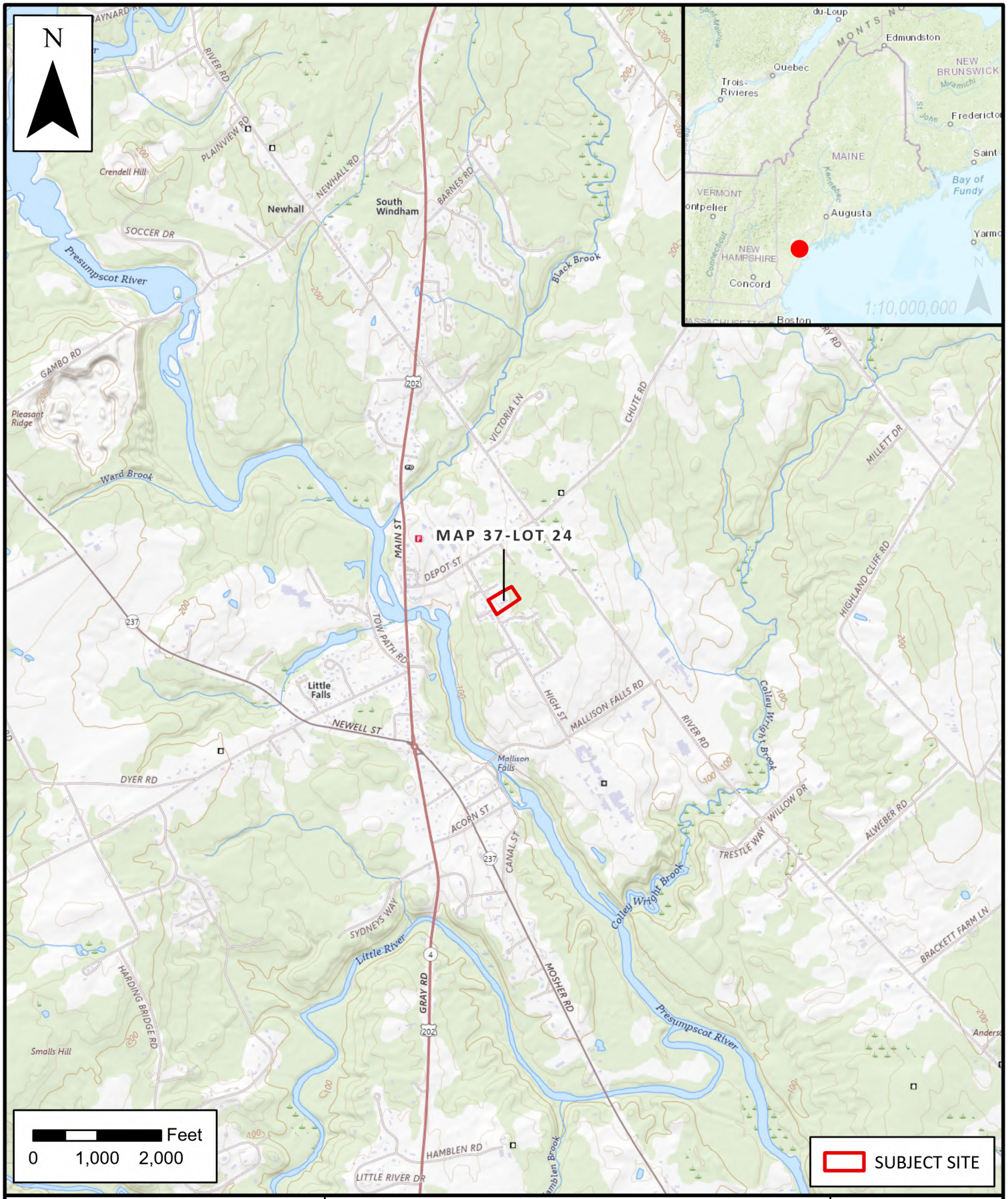
Section 2 – Location & Resource Maps

Location Map: Enclosed within this Section is a Location Map, a mapped excerpt from the USGS quadrangle showing the site's location for identification purposes. The project site is located at 55 High Street in the Town of Windham, Maine.

Tax Map: The site can further be identified on the Town of Windham's Tax Map 37 as Lot 24. The referenced Tax Map is also enclosed within this Section with a leader identifying the site.

Zoning Map: For reference, a Zoning Map is also enclosed within this Section. This map details the subject property is located within the Village Commercial (VC) Zoning District, and is abutting the Residential Medium (RM) district to the south and the Village Residential (VR) district to the northwest.

Resource Maps: There are two (2) additional maps enclosed within this Section that identify resources on and around the project site. The first is a Wetlands & Waterbodies map, that shows nearby wetlands and rivers in proximity to the site. The second map is a Plan & Animal Habitat Map, using source data from the Maine Department of Inland Fisheries & Wildlife (MDIFW) Beginning with Habitat data. This map shows that there are not any areas that contain high value plant or animal habitats, water resources, or riparian habitats within or adjacent to the project site.



SEBAGO TECHNICS

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

LOCATION MAP

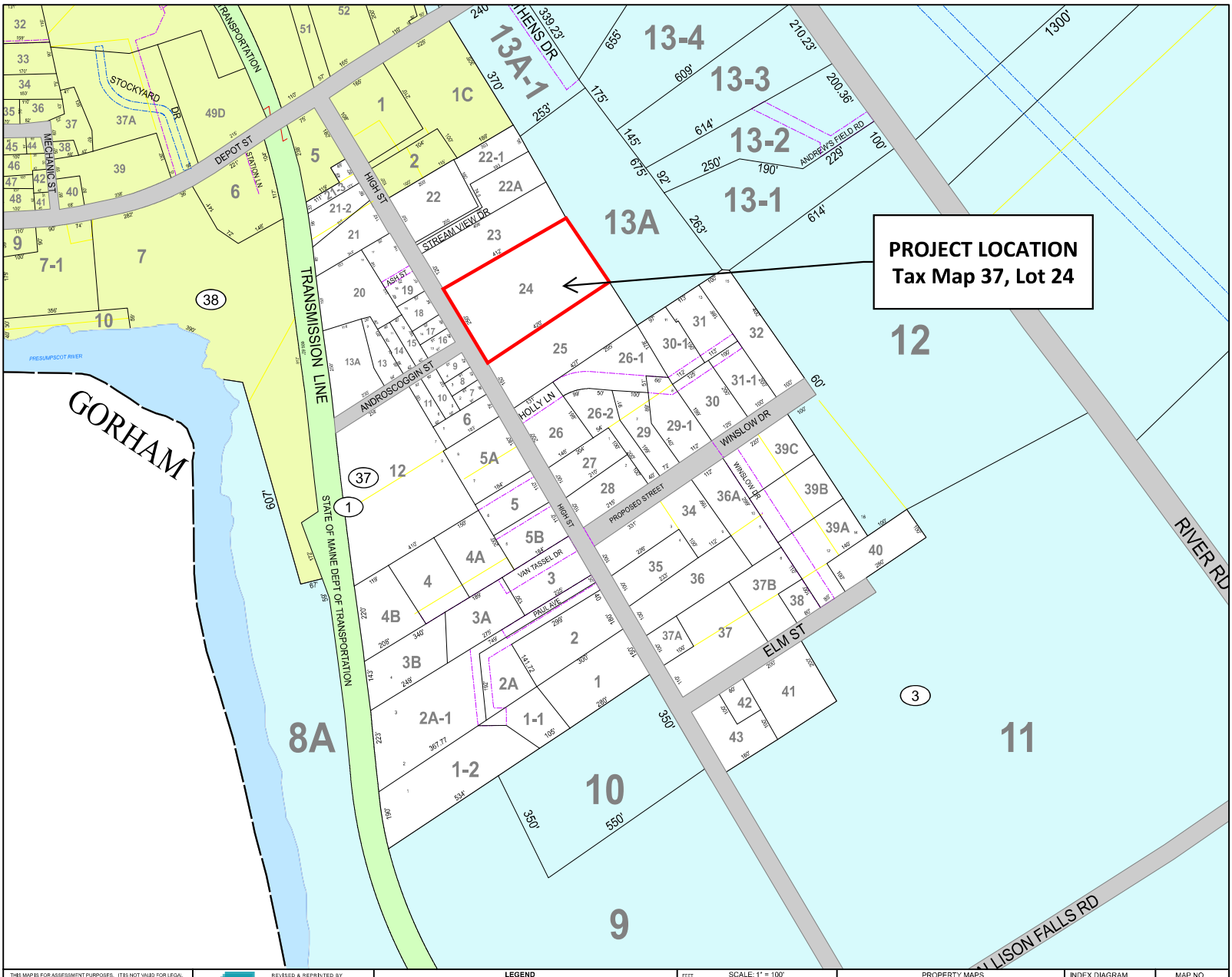
JOHN A. ANDREW SCHOOL - SITE REDEVELOPMENT

SCALE: 1:24,000

DATE: 8/28/2024

LOCATION:
55 HIGH ST
WINDHAM, ME

INFORMATION:
MAINE GEOLIBRARY
USGS QUADRANGLE



THIS MAP IS FOR ASSESSMENT PURPOSES. IT IS NOT VALID FOR LEGAL DESCRIPTION OR CONVEYANCE.

THE HORIZONTAL DATUM IS THE MAINE STATE PLANE COORDINATE SYSTEM, NAD 83.

ORIGINAL MAPPING BY JAMES W. SEWALL COMPANY, OLD TOWN, MAINE

REVISED & REPRINTED BY
CAI Technologies
Precision Mapping, Geospatial Solutions
11 Pleasant Street, Littleton, NH 03561
800.922.8411 • www.caimaps.com

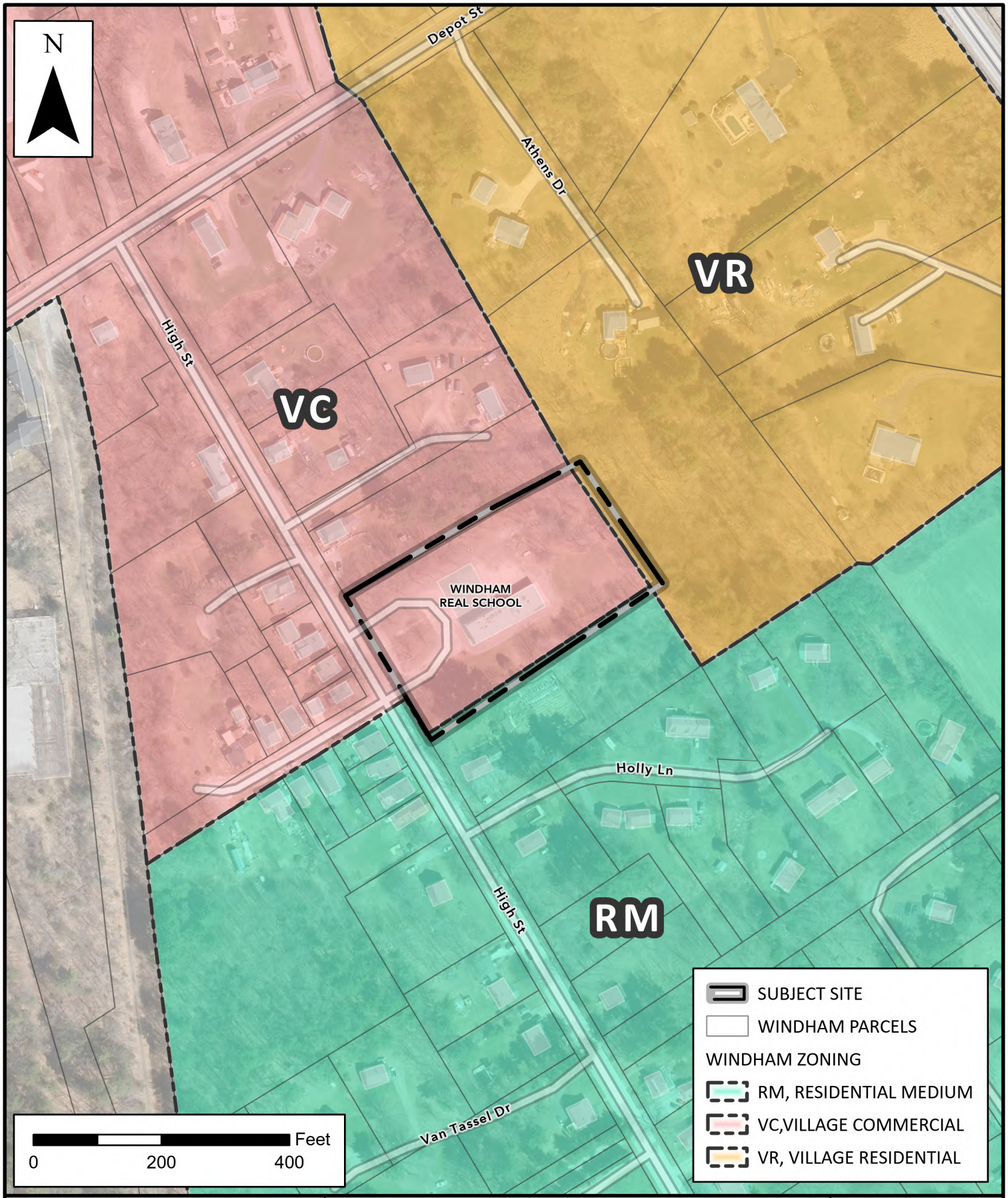
LEGEND
PARCEL NUMBER
RECORD DIMENSION
SUBDIVISION LOT NO.
COMMON OWNERSHIP
STREAMS
CEMETERY
CONSERVATION
FARMSTEAD
OLD PROPERTY LINES
UTILITY LINES
ROW EASEMENT
ROW EASEMENT FIXED

SCALE: 1" = 100'
FEET
METERS
REVISED TO: APRIL 1, 2023

PROPERTY MAPS
WINDHAM
MAINE

INDEX DIAGRAM

MAP NO.
37



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

ZONING MAP

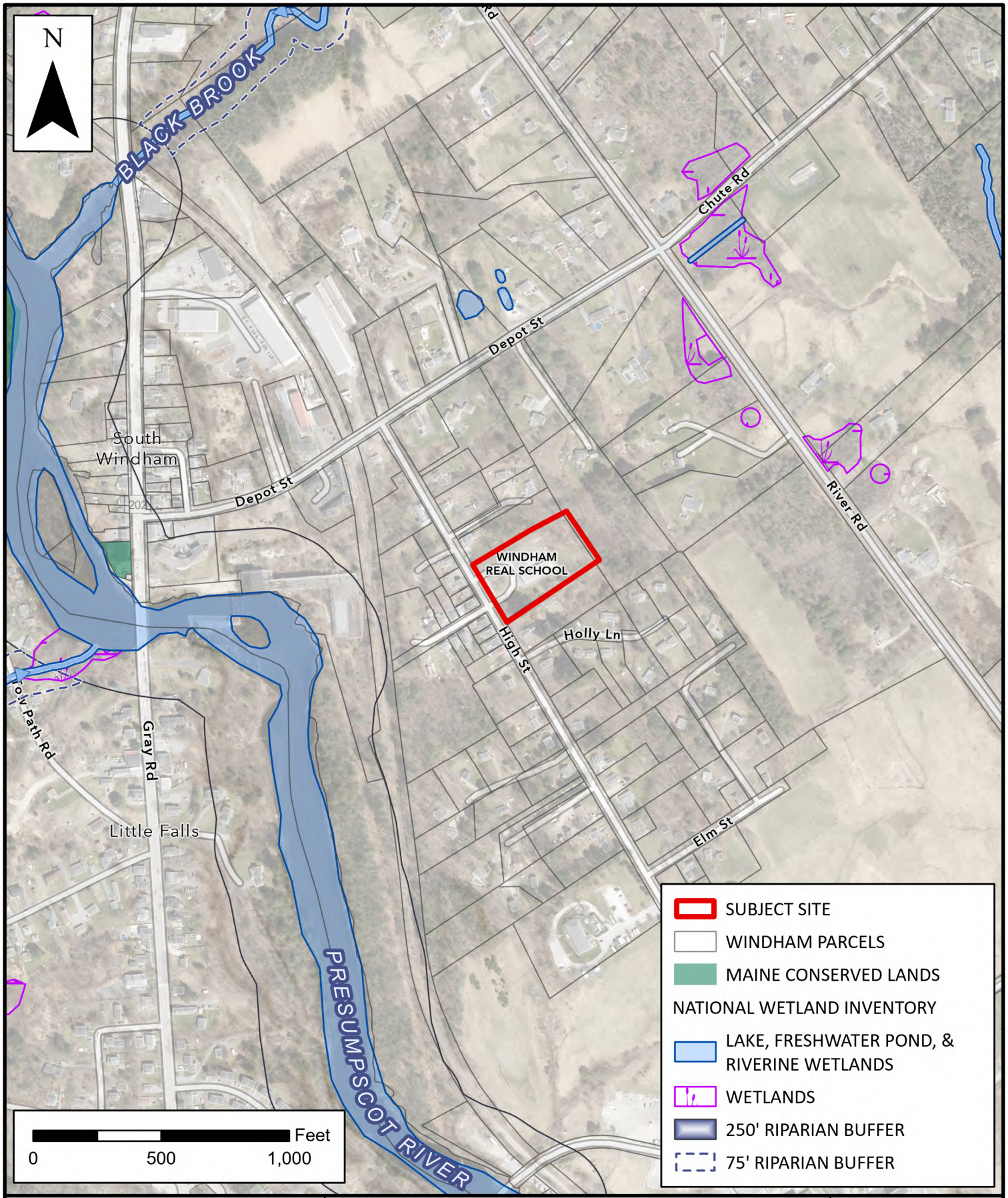
JOHN A. ANDREW SCHOOL - SITE REDEVELOPMENT

SCALE: 1:2,400

DATE: 8/28/2024

LOCATION:
55 HIGH ST
WINDHAM, ME

INFORMATION:
WINDHAM MAINE ZONING MAP
LAST UPDATED 2024-05-08



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

WETLANDS & WATERBODIES

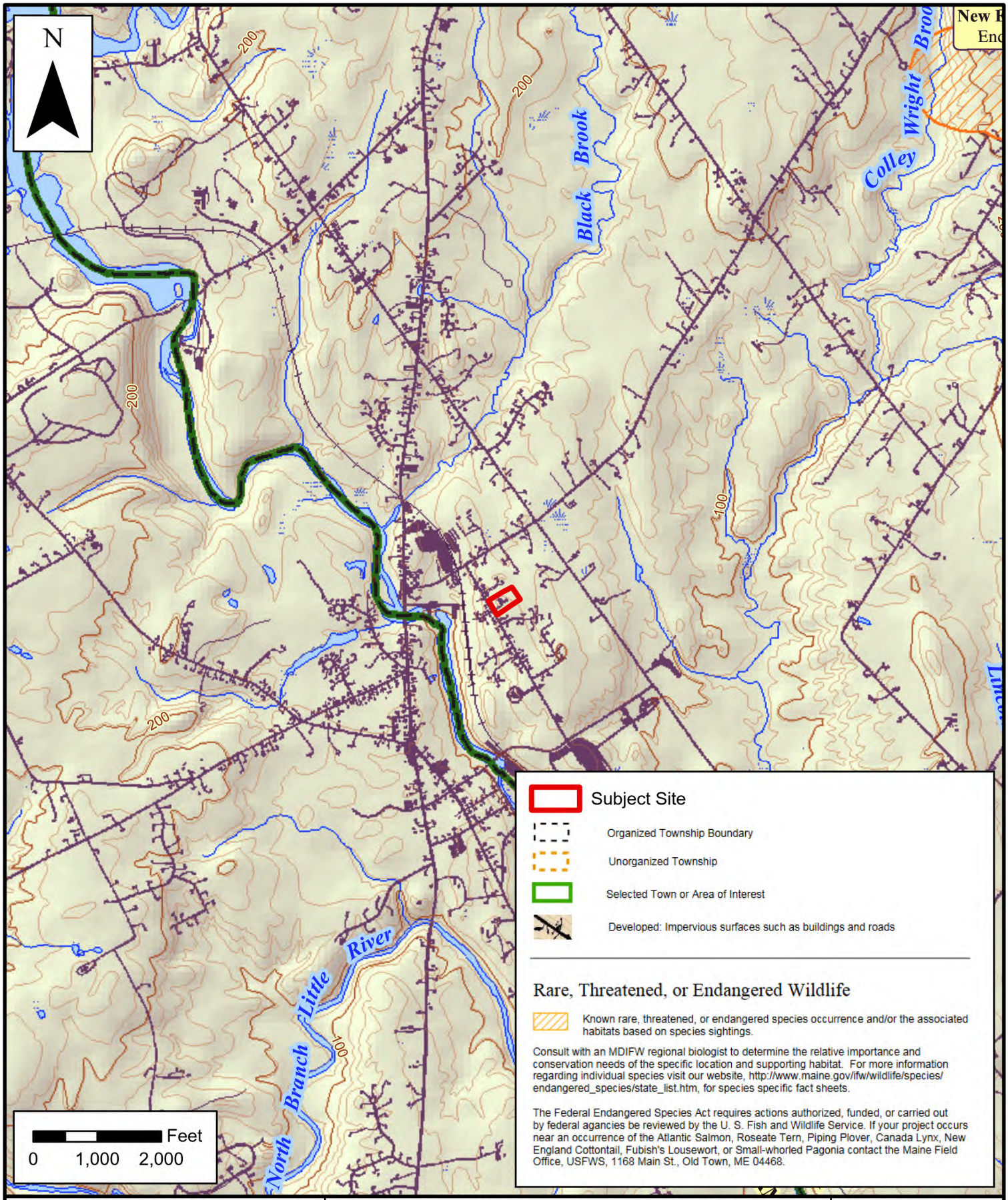
JOHN A. ANDREW SCHOOL - SITE REDEVELOPMENT

SCALE: 1:6,000

DATE: 8/29/2024

LOCATION:
55 HIGH ST
WINDHAM, ME

INFORMATION:
MAINE GEOLIBRARY
NATIONAL WETLAND INVENTORY



SEBAGO TECHNICS

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

HIGH VALUE PLANT & ANIMAL HABITAT

JOHN A. ANDREW SCHOOL - SITE REDEVELOPMENT

SCALE: 1:24,000

DATE: 8/29/2024

LOCATION:
55 HIGH ST
WINDHAM, ME

INFORMATION:
MDIFW BEGINNING WITH HABITAT
HIGH VALUE PLANT & ANIMAL HABITATS - APR. 2016

Section 3

Abutters Information

Section 3 – Abutters Information

For reference, we have included information pertaining to the abutters within a one hundred (100) ft. buffer around the project site. This list includes the map-lot number, location, and property owner. Please see the referenced list enclosed within this Section.

Abutting Properties for
55 HIGH ST WINDHAM, ME 04062
37/ 24/ / /
(100 Feet)

Location:
3/ 13/ A/ /
11 ATHENS DR
Owner:
REED HOLLY A
11 ATHENS DRIVE
WINDHAM, ME 04062

Location:
37/ 8/ / /
48 HIGH ST
Owner:
BUTTS TYLER W &
MONTIMURRO SARAH A
48 HIGH STREET
WINDHAM, ME 04062

Location:
37/ 17/ / /
56 HIGH ST
Owner:
HO CHARLIE
HO TIMMY
56 HIGH ST
WINDHAM, ME 04062

Location:
37/ 23/ / /
59 HIGH ST
Owner:
JACKSON SARAH
59 HIGH ST
WINDHAM, ME 04062

Location:
37/ 6/ / /
44 HIGH ST
Owner:
SEARS THOMAS
SEARS JENELL
44 HIGH ST
WINDHAM, ME 04062

Location:
37/ 9/ / /
50 HIGH ST
Owner:
MATTSON DOREEN
50 HIGH ST
WINDHAM, ME 04062

Location:
37/ 18/ / /
58 HIGH ST
Owner:
VILLACCI TERRI
58 HIGH STREET
WINDHAM, ME 04062

Location:
37/ 24/ / /
55 HIGH ST
Owner:
TOWN OF WINDHAM
JOHN A ANDREW SCHOOL
8 SCHOOL ROAD
WINDHAM, ME 04062

Location:
37/ 7/ / /
46 HIGH ST
Owner:
HIGGINS EOIN P &
SILLS ROBIN MARIE
46 HIGH ST
WINDHAM, ME 04062

Location:
37/ 16/ / /
54 HIGH ST
Owner:
SMUTZ CYNTHIA L
54 HIGH ST
WINDHAM, ME 04062

Location:
37/ 19/ / /
60 HIGH ST
Owner:
RANDALL ARNOLD P &
RANDALL PATRICIA A
60 HIGH STREET
WINDHAM, ME 04062

Location:
37/ 25/ / /
43 HIGH ST
Owner:
DAMON PAUL L & MARIE A &
DAMON GREGORY L
43 HIGH STREET
WINDHAM, ME 04062

Section 4

Right, Title, or Interest

Section 4 – Right, Title, or Interest

The current owner of the property subject to this application is the Town of Windham, in accordance with the deed recorded at the Cumberland County Registry of Deeds in Book 40367, Page 18. The above-referenced deed is enclosed within this Section.

The Applicants, Great Falls Construction, Inc. and the Westbrook Development Corporation, were awarded the Request for Proposal (RFP) for the project site. For reference, we have enclosed this email within this Section.

DLN: 1002340249390

Quitclaim Deed without Covenant

REGIONAL SCHOOL UNIT NO. 14, a Maine regional school unit with a mailing address of 228 Windham Center Road, Windham, ME 04062 ("RSU") for consideration paid, hereby grants to **TOWN OF WINDHAM**, a Maine municipality with a mailing address of 8 School Road, Windham, ME 04062 ("Town") RSU's right, title, and interest in and to that certain real property, together with any buildings and improvements thereon, known as the John H. Andrews School, situated at 55 High Street in the Town of Windham, County of Cumberland, and State of Maine, more particularly described in **Exhibit A**, attached hereto and made a part hereof.

See attached Exhibit A

For source of title, reference may be had to that certain deed from the Town to the RSU, dated October 1, 2012 and recorded in the Cumberland County Registry of Deeds in Book 30002, Page 222.

[Signature page follows.]

IN WITNESS WHEREOF, the authorized representative of the RSU has caused this instrument to be executed this 9/18 day of 2023.

WITNESS

REGIONAL SCHOOL UNIT NO. 14

Christopher Howell, Superintendent

STATE OF MAINE
COUNTY OF Cumberland, SS

Then personally appeared before me the above named Christopher Howell, Superintendent of Regional School Unit No. 14 and acknowledged the foregoing instrument to be his free act and deed and the free act and deed of said entity.

Before me:

~~Notary Public~~ / Attorney at Law 6086
Print Name: Laura Hartz
Commission Expiry: N/A

DOC :33264 BK:40367 PG:20
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
09/18/2023, 02:29:50P
Register of Deeds Jessica M. Spaulding E-RECORDED

EXHIBIT A

A certain lot or parcel of land, together with the buildings and improvements to realty thereon, situated in the Town of Windham, County of Cumberland and State of Maine, commonly known as the John Andrews School Property and being more particularly described as follows:

The premises described in the following deeds as recorded in the Cumberland County Registry of Deeds (the "Registry"):

a) Warranty Deed from Samuel Bragdon to the Inhabitants of School District No. 2 dated September 23, 1886 and recorded in the Registry at Book 574, Page 281;
b) Warranty Deed from Philip L. Ames to the Town of Windham dated May 5, 1953 and recorded in the Registry at Book 2118, Page 459; and
c) Warranty Deed from Edna A. Murch to the Town of Windham dated April 29, 1953 and recorded in the Registry at Book 2127, Page 447.

Also conveying, to the extent not included in the foregoing deeds, all of the Grantor's right, title and interest in and to any other real estate comprising the John Andrews School premises, so-called. Reference is made to Town of Windham Property Tax Map 37, Lot 24, revised as of April 1, 2010.

Being a portion of the premises conveyed by Quitclaim Deed without Covenant from the Inhabitants of the Town of Windham, a/k/a Inhabitants of Windham, a/k/a the Inhabitants of the Municipality of Windham, a/k/a the Town of Windham to Regional School Unit No. 14 dated October 1, 2012 and recorded in the Cumberland County Registry of Deeds in Book 30002, Page 222.

From: Joseph Smith
To: Julie Curran
Subject: FW: WDC+GFC Andrews School Site Redev. Digital Submission
Date: Monday, August 26, 2024 8:52:02 AM
Attachments: image001.png

Joey Smith
Business Development & Marketing Associate
Great Falls Construction
JCS Property Management
20 Mechanic Street, Gorham, ME 04038
Office: (207) 839-2744
Cell: (207) 409-2820
www.greatfallsinc.com

Celebrating 35 Great Years in Business 1988-2023

From: Tammy Hodgman <tahodgman@windhammaine.us>
Sent: Thursday, July 25, 2024 4:06 PM
To: Joseph Smith <jksmith@greatfallsinc.com>
Cc: Barry A. Tibbetts <batibbetts@windhammaine.us>
Subject: RE: WDC+GFC Andrews School Site Redev. Digital Submission

Hi Joey,
We had one other submission that did not meet the criteria. The award to WDC & GFC will be on the August 20th council agenda for approval. Congratulations!

Tammy

Section 5

Financial & Technical Capacity

Section 5 – Financial & Technical Capacity

Financial Capacity

Please see the enclosed letters from the Kennebunk Savings Bank and Gorham Savings Bank. These are the financial lenders for Great Falls Construction, Inc. and Westbrook Development Corporation, respectively. In the enclosed letters, each Bank states their standing with each Applicant, and that they each have the financial capacity to support and successfully complete the proposed project.

Technical Capacity

The following professional teams have been assembled for the overall design and development of this proposed project. The project team consists of Applicants Westbrook Development Corporation and Great Falls Construction, Inc., with Archetype Architects and Sebago Technics, Inc. working on the design. Please see a brief description of each firm below and their respective attachments enclosed within this Section.

Great Falls Construction, Inc. (GFC) is one of Northern New England's premier construction management, design build, and general contacting firms. They are widely respected throughout the industry for meticulous craftsmanship, with a diverse portfolio of project throughout several industries. GFC will be responsible for the site development and building construction included under this project.

The Westbrook Development Corporation (WDC) is committed to the long-term growth of affordable housing throughout the Greater Portland area and Southern Maine region. They develop quality affordable housing to assist low income individuals and families to encourage independence within a supportive community. WDC will be responsible for the building development and overall management of the proposed eighteen (18) affordable senior housing units.

Archetype Architects has decades of real-world experience, designing buildings of all types for clients throughout New England for over 20 years. These range from large scale office spaces, affordable and market rate housing, commercial retail spaces, and mixed-use developments.

Sebago Technics, Inc. is a multi-disciplinary engineering firm that offers a wide range of services specializing in land development, planning, permitting, and engineering design services. Sebago maintains a staff of professionals to provide services in the areas of general civil engineering, road and utility design, construction management, permitting, landscape architecture, environmental services, and soil and wetlands science. Resumes of key personnel at Sebago are also enclosed within this Section.

Kennebunk Savings
PURPOSE DRIVEN.

August 23, 2024

Stephen Puleo - Planner
Town of Windham, ME
8 School Street
Windham, ME 04062

RE: Andrews School Site Redevelopment Project – 55 High St. Windham, ME

Stephen:

Jonathan and Cynthia Smith, through their construction company Great Falls Builders and various other real estate entities, have been commercial customers of Kennebunk Savings Bank for more than twenty years. The Bank has extensive lending experience with this customer and long standing confidence in both their financial strength and construction management expertise completing commercial and residential projects.

It is the opinion of Kennebunk Savings Bank that Great Falls Builders has the technical and financial capacity to successfully undertake the above referenced project As such - this letter is confirmation of Kennebunk Savings Bank's "intent to fund" the portion of the 55 High St. project as proposed by Great Falls Construction. Please forward this letter to any Town or State agencies that require this document as part of the project approval process.

Full funding approval of the project is expected upon receipt of the final project plans, specs, estimates and projections to be provided by the borrower upon final Town approval.

Please do not hesitate to contact me directly at (603-334-1021) with any questions or concerns.

Sincerely,

Christopher Kehl
Executive Vice President

Gorham Savings Bank

August 26, 2024

Town of Windham
Attn: Planning Board
8 School Street
Windham, ME 04062

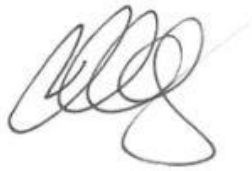
RE: New Project on High Street

To Whom It May Concern:

We have been working with Westbrook Development Corporation on their application to build 18, 1 Bedroom affordable housing apartments spread over four new buildings. The project will be located on the former Andrew School site located on High Street in Windham. The total development cost is approximately $6,500,000.00. Westbrook Development Corporation is an established and valued customer of Gorham Savings Bank. They have ample liquid funds and a long history of banking and lending with Gorham Savings Bank. Please be advised they have the cash resources, financial capacity, and track record to successfully complete this project.

Please feel free to contact me with any questions.

Sincerely,



Matthew W. Early
Senior Vice President
207-222-1493

MWE/JRS

MAINE
Department of the Secretary of State
Bureau of Corporations, Elections and Commissions

Corporate Name Search

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Tue Aug 27 2024 15:33:14. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
GREAT FALLS BUILDERS, INC.	19941225 D	BUSINESS CORPORATION	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
12/28/1993	N/A	MAINE

Other Names	(A=Assumed ; F=Former)
GREAT FALLS CONSTRUCTION	A
GREAT FALL BUILDERS, INC.	F

Principal Home Office Address

Physical	Mailing
20 MECHANIC STREET	20 MECHANIC STREET
GORHAM, ME 04038	GORHAM, ME 04038

Clerk/Registered Agent

Physical	Mailing
PAUL F. DRISCOLL TWO CANAL PLAZA	PAUL F. DRISCOLL P.O. BOX 4600
PORTLAND, ME 04101	PORTLAND, ME 04112-4600

New Search

Click on a link to obtain additional information.

List of Filings — View list of filings

Obtain additional information:

Corporate Name Search

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Tue Aug 27 2024 15:30:05. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
WESTBROOK DEVELOPMENT CORPORATION	19870463ND	NON-PROFIT CORPORATION (UNDER TITLE 13-B)	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
04/22/1987	N/A	MAINE

Other Names **(A=Assumed ; F=Former)**

NONE

Principal Home Office Address

Physical	Mailing
30 LIZA HARMON DRIVE	30 LIZA HARMON DRIVE
WESTBROOK, ME 04092	WESTBROOK, ME 04092

Clerk/Registered Agent

Physical	Mailing
GARY D. VOGEL 84 MARGINAL WAY, SUITE 600	GARY D. VOGEL 84 MARGINAL WAY, SUITE 600
PORTLAND, ME 04101-2480	PORTLAND, ME 04101-2480

New Search

Click on a link to obtain additional information.

List of Filings View list of filings

Obtain additional information:

Spring Crossing, 19 Ash Street, Westbrook, ME
A WDC project, General Contracted by GFC,
Designed by Archetype Architects, 2010-2011
34 Units of Affordable Senior Housing

Sketch Plan Application: Relevant Experiences 08/26/24

THE WDC/GFC CO-DEVELOPMENT TEAM'S RELEVANT EXPERIENCES/ DEMONSTRATED CAPACITY

Great Falls CONSTRUCTION WDC

Westbrook Development Corporation – Portfolio

Spring Crossing

Nestled on the scenic banks of the Presumpscot River in the heart of downtown Westbrook, Spring Crossing is conveniently located off Ash Street, surrounded by a plethora of dining options, financial institutions, and other daily essentials. This four-story apartment building comprises 34 affordable units that cater to seniors. In addition to providing heat and hot water, residents also have access to on-site laundry facilities, a fitness room, and a computer room.

Golder Apartments

Located off Lincoln Street in downtown Westbrook, Golder Apartments spans four-stories while offering 26-units of affordable apartments for families. The property is managed by Westbrook Housing Authority, which provides tenants with the added convenience of heat and hot water as part of their rent. Despite the challenges of being constructed on a small urban infill lot, Golder Commons has managed to emerge as a thriving and attractive member of the community, thanks to its quality design and modern amenities.

Robert L. Harnois Apartments

Designed to address the need for affordable senior housing, the Robert L. Harnois Apartments were completed in 2020. The building presents a unique challenge due to its location on a tight site, nestled within a granite hillside at the Westbrook Housing Authority's campus. Although not visible from the front due to grade changes along the rear of the site, this building includes a fifth story of apartments at the back of the building. In addition to the much-needed affordable housing, the Robert L. Harnois Apartments offer several amenities, including a community room, a library, exercise facilities, an on-site laundry, and a walking trail that runs alongside the property.

Lewis H. Emery Apartments

In 2021, the Lewis H. Emery Apartments were completed as a counterpart to the Robert L. Harnois apartments. This building comprises 30 low-income senior apartments, bringing the total number of new affordable apartments to 91 for both developments. The location of this site proved to be a challenge as it is situated near an old granite quarry, making access and construction difficult. The project relied primarily on 4% low-income housing tax credits for funding. As a fully ADA-compliant building, the Lewis H. Emery Apartments cater to a diverse range of residents.

Stroudwater Apartments

Commencing construction in June 2023, Stroudwater Apartments is set to provide 55 units of affordable housing for seniors. Working in collaboration with the City, WDC is transforming the former municipal lot located across from Westbrook High School. As part of this development, WDC has partnered with Portland Trails to extend trail access throughout the site for the benefit of the community. Along with offering much-needed housing, WDC plans to install new pedestrian infrastructure, public trails, and allocate funds towards the construction of a new public ice rink in the city.

Stacy M. Symbol Apartments

WDC recently broke ground on the Stacy M. Symbol Apartments, situated on the former Rivermeadow Golf Course, off Lincoln Street in Westbrook. This upcoming development will bring 60 units of affordable senior housing to the community upon completion. The project is just one component of a larger multi-phased endeavor spanning over 90 acres. The overall development encompasses 358 new housing units, presenting a mix of market-rate homeownership single-family homes and rental apartments.

An exciting aspect of this project is the dedication of over 40 acres of the proposed site to conservation land. This protected area will be managed by the Presumpscot Regional Land Trust, fostering environmental preservation and creating vital connectivity for segments of the Sebago to Sea Trail network. With a thoughtful blend of affordable senior housing and conservation efforts, the Stacy M. Symbol Apartments and the larger development project promise to make a meaningful and positive impact on the community and the environment.

References

Joshua J. Reny – Assistant City Manager, South Portland
jreny@southportland.org
(207) 767-7606

While at Avesta, Tyler teamed up with Kaplan Thompson Architects to work on a mixed-use development known as West End Apartments I & II. Prior to completing plans for the site, Tyler worked with the City on the West End Neighborhood Master Plan that envisioned a new urban village along Westbrook Street between Redbank and Brick Hill. The plan can be found here: https://www.southportland.org/files/3016/7725/3132/West_End_Neighborhood_Plan_08.21.2017.pdf

Tyler and Josh worked together to ensure that Avesta's development acted as a catalyst for the City's vision of creating a new mixed-use neighborhood center. Phase I of West End Apartments includes space for a new market, restaurant, community meeting space, and new office for Opportunity Alliance's Resource Hub. Phase II continued active uses along its ground floor with outdoor public seating options, community space, and new office space. The project was recently recognized with the Exemplary Smart Growth Development award by GrowSmart Maine at its 2023 annual conference.

Julia Morgan – Director of Community Investments, Evernorth
jmorgan@evernorthus.org
(603) 801-6377

Evernorth is a non-profit organization that provides affordable housing and community investments in Maine, New Hampshire, and Vermont. Evernorth has raised and deployed more than $1 billion in equity capital for affordable housing and built more than 15,000 affordable homes for low- and moderate-income people across northern New England.

As the Director of Community Investments, Julia has primary responsibility for overseeing and leading the underwriting of Low-Income Housing Tax Credit (LIHTC) and New Markets Tax Credit (NMTC) investments, performing a critical role in the adherence to investor driven expectations. Julia has over 20 years of experience in the finance industry, holding positions such as a securities trader, various analyst roles, and prior to joining Evernorth, as an underwriter in the low-income multi-family industry. Julia holds both a bachelor's degree and an MBA from Southern New Hampshire University, as well as a New Hampshire real estate license.

Tyler and Julia have worked together on several complex affordable housing projects across Maine and New Hampshire. Evernorth has been a key partner with Westbrook Development Corporation on several deals and is currently helping to finance WDC's Stacy M. Symbol and Stroudwater Apartments projects and the 100 unit occupied rehab of the Millbrook Apartments in Westbrook.

Dan Stevenson – Economic Development Director, City of Westbrook
dstevenson@westbrook.me.us
(207) 205-3808

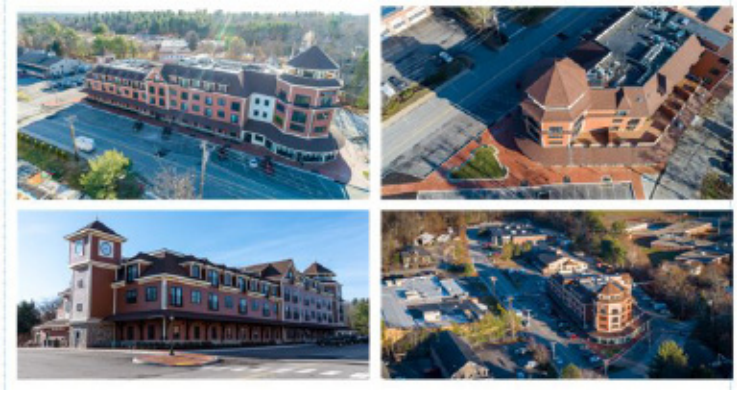
Dan Stevenson leads Westbrook's economic development initiatives fostering continued sustainable growth for Maine's 8th largest city. Tyler and Dan have worked closely on several development projects including most recently, Stroudwater Apartments. This 60-unit affordable housing complex for seniors stands as a testament to their partnership, leveraging municipal-owned land identified by the City as pivotal in tackling Westbrook's housing challenges. Through collaborative efforts with Westbrook Development Corporation (WDC), city staff, the City Council, and Planning Board, a visionary concept emerged. Beyond addressing critical housing needs, the project encompassed extensive public benefits. These included enhancements to local trail networks, bolstered pedestrian infrastructure, and funding earmarked for relocating and constructing a new public outdoor ice rink—a testament to their commitment to enhancing community life through thoughtful development.

RELEVANT PROJECTS

Great Falls CONSTRUCTION

Included within this section are relevant project experiences are similar to this project at hand. Our team has delineated its experience in both developing and constructing appropriate mixed use urban center facilities, focal space building design, and historically influenced designs. Throughout this section, you will become more familiar with the recent projects the GFC team has successfully developed, designed, and/or constructed and completed. Below are the "before and afters" followed by these similar project expanded upon in greater detail with photos. References are included at the end of this section.

AFTER



BEFORE

Station Square: a mixed-use Village center facility
7 Railroad Ave, Gorham, ME | Mixed Use Facility (33-apartments and 6-commercial units) | 70,000 SF facility
This was a design build project | Mike Richman, Custom Concepts, Inc. Architecture was the architect
Project construction timeline was 14 months with a June 2019 completion for residential and November 2019 for commercial fitups

AFTER

BEFORE

109 Main Street Redevelopment: a Village center prominent commercial facility
109 Main Street, Gorham, ME | Commercial Facility (4-first floor commercial offerings) | 10,000 SF facility
This was a design build project | Evan Carroll of Bild Architecture was the architect
Project construction timeline was 12 months with a completion in November 2015

RELEVANT PROJECTS CONTINUED

AFTER

BEFORE

Perennial Place: a renovation of historic school into multi-unit housing
7 North Gorham Road, Gorham, ME | Renovation of former school into residential units (12-first floor residential units)
11,360SF facility
This was a design build project | Bruce Macleod of Macleod was the designer
Project construction timeline was 12 months with a completion in January 2015

AFTER

BEFORE

Red City Ale: a renovation of an old and abandoned fire station currently being redeveloped into a restaurant space
8 Main Street, Windham, ME | Renovated ~6,800SF building from a fire station into a restaurant.
This was a design build project | Ryan Senatore of RSA Architecture was the architect & Sebago Technics is the Civil Designer
Project construction took 10 months with a completion in Spring 2023

AFTER

BEFORE

12 Sullivan Street, Berwick: a renovation of an old and abandoned mill building for 8-commercial units.
12 Sullivan Street, Berwick, ME | Renovated ~20,000SF building.
This was a design build project | Ryan Senatore of RSA Architecture was the architect & Sebago Technics is the Civil Designer
Project construction timeline was 12 months with a completion in Summer 2022

RELEVANT PROJECTS CONTINUED

8 Main Street, Berwick, ME: a mixed-use new construction with ten 1-bedroom apartements and two commercial units. This building is a ~9,860SF design build project | Ryan Senatore of RSA Architecture was the architect & Sebago Technics is the Civil Designer

3 School Street, Berwick, ME: a mixed-use new construction with 7 apartment units (four 2-beds, three 1-beds) and 2 commercial units. The building is a ~7,400SF design build project | Isaak Design is the architect & Sebago Technics is the Civil Designer

16-18 Sullivan Street, Berwick, ME: Currently under construction with anticipated completion Q4 2024-Q1 2025. Two 12-unit, 2 bedroom apartment buildings. Each building will be a ~12,400SF design build project. | Isaak Design is the architect & Sebago Technics is the Civil Designer

AMY BELL SEGAL, RLA

Senior Project Manager/Senior Landscape Architect

In the course of her 30 year career, Amy has worked on a great variety of projects in the public and private sectors across Maine and New England. Her work has included site planning, permitting and construction management for residential, commercial, institutional, and industrial properties as well as recreation, trail, and community planning. She has earned a wonderful reputation through great work, relationships and communication.

EXPERIENCE

- **Portland Harbor Common Lot (Phase 1) Portland, ME:** Part of design team working with City staff and community working group to transform an oceanfront parking lot between Ocean Gateway and Maine State Pier into a park amenity for residents and visitors.
- **Portland Tree Canopy Project, Portland, ME**: Working with Parks and Forestry Staff to plan and implement tree planting strategies to increase the canopy within Bayside and Downtown neighborhoods.
- **Acadia Hospital, Northern Light Health, Bangor, ME**: Design of children, adolescent, and adult outdoor courtyard spaces to promote mental and physical well being in a safe environment. *With Lavallee Brensinger*
- **Shore Road Improvement Project, Cape Elizabeth, ME:** Working with transportation engineers and town staff to provide pedestrian and bicyclist amenities within road reconstruction design. Prepared visualizations from key locations for public outreach.
- **Deering Corner Roundabout, Portland, ME:** Designed pedestrian and landscape amenities adjacent to roundabout and within stormwater infrastructure. Collaboration with Metro and University of Southern Maine gateway planning. Worked with artist on sculpture placement and lighting. *Designed at TJD&A with Ransom Engineering, oversaw implementation at Sebago*
- **Lakeside Norway, ME.** Working with Left Turn Enterprises to develop a 6-acre four season event and recreation center and new brewery for Norway Brewing Company on Lake Pennesseewassee within the Downtown Gateway Area.
- **Arthur P. Girard Columbarium Garden,Westbrook, ME:** Conceptual design through construction documentation for a 400 niche columbarium garden in Woodlawn Cemetery. The Garden includes public and veterans sections, extensive landscaping, and a pergola for outdoor funeral services.
- **Red Cross Park Renovation, Greenville, ME:** Master Plan for renovation of 6-acre park on Moosehead Lake that provides swimming and boating access. Plan includes shoreland stabilization, improved parking, accessibility, playspace, trails, and a pump track. Park applying for funding through the Land & Water Conservation Fund Grant program.
- **Evergreen Cemetery Expansion, Rangeley, ME:** Master Plan for a multi generation expansion for Town-owned cemetery. Highlights of initial phases include a 500 in ground plots, 250 cremains plots, columbarium niche walls and a gathering space that overlooks Rangeley Lake and the western mountains.
- **Bonney Park, Androscoggin Riverwalk, Riverpark, Moulton Park Rail Trail, and Little Andy Park, Auburn, ME:** A series of linked open spaces along the Androscoggin River. Design, permitting, and construction management. *With TJD&A*

EDUCATION

BSLA, Cornell University
Denmark International Study, 1992

REGISTRATIONS

Maine Licensed Landscape Architect #2265
CLARB Certified
Maine DOT LPA Certified 2019 - 2023

SPECIAL TRAINING

MeDEP Low Impact Development Stormwater BMP training
Courses in ADA standards, Complete Streets, Sustainable Sites (ASLA LEED equiv)

PROFESSIONAL EMPLOYMENT

2020 - Present: Sebago Technics, Inc.
South Portland, ME

1992 - 2020: TJD&A
Landscape Architects & Planners
Yarmouth, ME

1988 - 1992: Bell & Spina Architects
Camillus, NY

SEBAGO TECHNICS

207.200.2055 ABSEGAL@SEBAGOTECHNICS.COM

MARGO BARAJAS, RLA

Landscape Architect

Ms. Barajas joined Sebago Technics, Inc., (STI) in January of 2023. Margo is a highly qualified Landscape Architect with a Master of Landscape Architecture degree from the University of Oregon. She has over 4 years of experience in the field and holds a Maine license as a Landscape Architect. She currently works as a part of the Project Delivery Team at Sebago Technics, bringing her extensive design and project management skills to the company.

EXPERIENCE

Narragansett School Playground - Gorham, ME: Conducted outreach with school staff, designed preschool playground, and guided construction documents. To be constructed Summer 2023.

Prior to her employment at Sebago Technics, Margo's experience includes:

Mercy Hospital Mixed-Use Redevelopment - Portland, ME: Co-lead design, construction documents, and construction administration of West End redevelopment project. Under Construction.

Homeless Services Center - Portland, ME: Worked with City of Portland, Developers, and extensive project team on the site and amenity space design at the recently completed HSC. Project completed April 2023.

Raise-Op Housing - Lewiston, ME: Designed and lead construction documentation for two affordable, family-focused housing projects on Blake and Walnut Streets in downtown Lewiston.

Jackson Labs Workforce Housing - Bar Harbor, ME: Twenty-four unit workforce housing project with tenant amenity space, including a playground.

Woodfords Family Services - New Gloucester, ME: Designed upgrades to a playground at a daycare center.

PROFESSIONAL EXPERIENCE

ACETO LANDSCAPE ARCHITECTURE (ALA) - *PROJECT MANAGER*
November 2020 - September 2022, Portland, ME

CARROLL & ASSOCIATES - *LANDSCAPE DESIGNER*
May 2019 - October 2020, Portland, ME

THE CULTURAL LANDSCAPE FOUNDATION - *BOASBERG FELLOW*
Summer 2017, Washington, D.C.

EDUCATION

University of Oregon, College of Design
Master of Landscape Architecture, 2018
Master's Project: *"Designing for Sea Level Rise: Back Cove, Portland, Maine."*

Boston University,
College of Communication
B.S. Journalism, 2009
London Internship Program, 2008

REGISTRATIONS

Maine Licensed Landscape Architect: #5544

MEMBERSHIPS

American Society of Landscape Architects,
Member of Maine Section 2018 - Present

Oregon State University, Extension Service,
Master Gardener, 2015 - 2016
Corvallis, Oregon

AWARDS

American Society of Landscape Architects
Honor Award for Communications
What's Out There: Cultural Landscapes Guides,
The Cultural Landscape Foundation

SEBAGO TECHNICS

207.200.2119 MBARAJAS@SEBAGOTECHNICS.COM

KELSEY WEIR, EI

Civil Engineer

Kelsey joined Sebago Technics, Inc. (Sebago) in February of 2024 as a Civil Engineer. Hailing from Ohio, Kelsey graduated from the University of Maine with a degree in Civil Engineering. Prior to her employment at Sebago, she had been working for a local civil engineering firm with experience in coastal permitting and design projects. While in college, Kelsey had internships with experience in research for the United States Army Corps of Engineers (USACE), teaching assistant roles, and worked on transportation projects for a national transportation engineering firm. Kelsey is proficient in Civil 3D, HydroCAD and Microstation.

EXPERIENCE

Cascades Subdivision – Saco, Maine
Design engineer for stormwater for a 195-unit residential subdivision. Assisted in site development plans.

Fairway Commons Subdivision – Gorham, Maine
Design engineer for a 14-unit residential subdivision. Provided site grading, stormwater treatment and design, and utility layout.

Private Residence – Cape Elizabeth, Maine
Assisted in the preliminary site development concepts for a sand dune restoration for a residence in Cape Elizabeth.

Prior to her employment at Sebago Technics, Kelsey's experience includes:

- Working on coastal shoreline stabilization projects in Peaks Island, Kennebunkport, and York, Maine
- Design riprap revetments with Civil-3D and Excel using Army Corp of Engineers Design Standards for residential and commercial properties.
- Permitted shoreline stabilization projects with the Department of Environmental Protection, Army Corp of Engineers, and local municipalities.
- Coordinated, scheduled, and communicated with private clients and surveying subconsultants.
- Performed stormwater drainage design and analysis for subdivisions utilizing Hydro-CAD software.
- Drafted residential and commercial stormwater drainage design, shoreline stabilization, and wetland delineation.
- Permitted SLODA stormwater permits with the Department of Environmental Protection for subdivisions.
- Coordinated and compiled Army Corp of Engineers permits for a multi marina dredge project.

EDUCATION

University of Maine - Orono, ME
B.S., Civil Engineering
Concentration: Structures
Minor: Marine and Ocean Engineering

CERTIFICATIONS

Engineering Intern (EI)

OSHA 10

MEMBERSHIPS

Society of Women Engineers

American Society of Civil Engineers (ASCE)

SEBAGO TECHNICS

207.482.6377 KWEIR@SEBAGOTECHNICS.COM

GRIFFIN R. STEINMAN, EI

Traffic Engineer

Mr. Steinman joined Sebago Technics, Inc., (STI) in April of 2021 as a Traffic Engineer within the Transportation Team. In this position, he conducts traffic studies and permitting for site development projects. He also provides support to our traffic signal design and operations practice. A Maine native, Mr. Steinman graduated from the University of Maine with a degree in Civil Engineering. He served in transportation intern roles with both the Maine Department of Transportation and City of Portland. In these roles, he gained experience in highway/bridge construction, parking inventory/demand, traffic counts and bike/ped planning. Since graduation, Griffin has worked as a Project Engineer/Estimator with a regional traffic signal equipment/services provider. In this role, he has gained technical knowledge regarding the design, operations, and installation of traffic signals and signal systems.

EXPERIENCE

186 Main Street – Auburn, Maine: Served as the Lead Engineer to provide traffic engineering permitting services for new infill multi-use development in Downtown Auburn. Worked with the City of Auburn to obtain a traffic movement permit (TMP) for the site as the City has Delegated Review Authority for TMPs from MaineDOT. Analysis included trip generation and assignments, safety analysis, and review of pedestrian infrastructure. Additional planning level efforts were coordinated with the City for long-term downtown improvements as a part of the permitting coordination.

Route 236 Traffic Study – South Berwick, Maine: Project responsibilities included modeling existing conditions and over ten proposed alternatives in Synchro SimTraffic for a major planning study along Route 236/Route 4 (Main Street) in South Berwick. The study focused on improving vehicular and pedestrian mobility along a commuter-heavy corridor that had significant existing capacity constraints.

Route 202 at Route 35 Traffic Signal Improvements – Hollis, Maine: Part of the design team in the creation of a new traffic signal plan, including a span wire layout, advanced signage plan, and strain pole cross-section loadings at the intersection of Route 202 and 35 in Hollis. The project is in conjunction with the MaineDOT to improve intersection safety.

Route 1 Traffic Signal Replacements – Kittery, Maine: Part of the design team including existing conditions modeling and preliminary design efforts for the ongoing MaineDOT projects 25433.00 and 25435.00 that include replacing existing signalized intersections along Route 1 in Kittery.

Rock Row Traffic Permitting and Off-Site Improvements – Westbrook/Portland, Maine: Project responsibilities include traffic impact studies to assess and permit the phased build-out of mixed-use development. Design efforts include the simulation modeling of existing and proposed traffic conditions and the monitoring/optimization of traffic signal timings. Work also included the creation of mast arm cross-section plans for a concept traffic signal design.

385 Congress Street – Portland, Maine: Traffic Impact Study to assess and permit the hotel, residential, and commercial mixed-use development. The study included an alternative analysis of proposed traffic configurations using Synchro/SimTraffic modeling software.

Bath Road Brunswick Apartments – Brunswick, Maine: Creation of traffic signal plan set including traffic signal notes, pavement marking plans, and the traffic signal plan sheets.

EDUCATION

University of Maine - Orono, ME
B.S., Civil Engineering, 2019
Concentration: Transportation Engineering

CERTIFICATIONS

Engineering Intern #7821

MaineDOT
Local Project Administration Certification

SEBAGO TECHNICS

207.482.6301 GSTEINMAN@SEBAGOTECHNICS.COM

BRETT WIEMKEN

Permitting Specialist/Project Coordinator

Mr. Wiemken joined Sebago Technics in September 2023 as Permitting Specialist / Project Coordinator. He holds a degree in City and Regional Planning from Ohio State University, underscoring his profound understanding of zoning and development projects. As a member of our Entitlements Group within Project Delivery, Brett plays an important role in orchestrating seamless permitting processes and ensuring regulatory compliance for our diverse projects.

Brett is the lead planner for many projects, from leading policy research, to public engagement design, and document development. Having relocated from Central Ohio to Maine, Brett uses his prior educational background and public sector experience to produce visual graphics from public input, coordinate with external entities in gathering document data, and structure the document's open space strategy.

EXPERIENCE

The Ohio State University, Columbus, Ohio
Brett is a graduate of The Ohio State University, with a Bachelor of Science in City and Regional Planning, minoring in Architectural Studies. This program is one of only sixteen undergraduate programs accredited by the Planning Accreditation Board. This community-based program offered a blend of planning history, law, communications, public participation, advocacy, forecasting, and data analysis.

At the heart of this program, Brett had the opportunity to join studio courses where he engaged in real-life planning. One of the studios was an adaptive reuse project for the Snyder Park Clubhouse in Springfield, Ohio. Using modeling, stakeholder meetings, SWOT analyses (Strengths, Weaknesses, Opportunities, & Threats), and researching cost projections, the studio group was able to develop recommendations for the City of Springfield as they looked to turn a vacant building into an accessible, functional, and essential component within the community park.

Orange Township, Delaware County, Ohio
Bordering the northern boundary of Columbus, Ohio, Orange Township is home to nearly 35,000 residents. This community is experiencing a growing population, having doubled in size since 2000, and even growing as much as 10,000 in population within the last decade. Located in the heart of a fast-developing Central Ohio, Orange Township has managed to maintain nearly forty percent of their land dedicated to parks, open spaces, and the Alum Creek Reservoir.

During his education at The Ohio State University, Brett secured a position working for the Orange Township Zoning Department in 2020. His job responsibilities included facilitation and management of the Board of Zoning Appeals, collaboration with Township staff for the implementation of the Comprehensive Plan, and management of the Township GIS database. Brett was also involved in the implementation and development of a New Urbanism style community, and the refinement of a transportation corridor overlay district.

As the Senior Zoning Officer, Brett also played a critical role in the Zoning Code Rewrite for Orange Township. Though the project is still ongoing to date, Brett played critical roles in participating in public engagement sessions, reviewing contemporary planning policies, and communicating with residents to ensure the premium quality of the zoning ordinance overhaul. Brett also actively participated in other Township planning projects like the Active Transportation Plan (adopted January 2024) and the 10-year Master Plan for Parks, recreation, and Trails (adopted August 2022).

EDUCATION

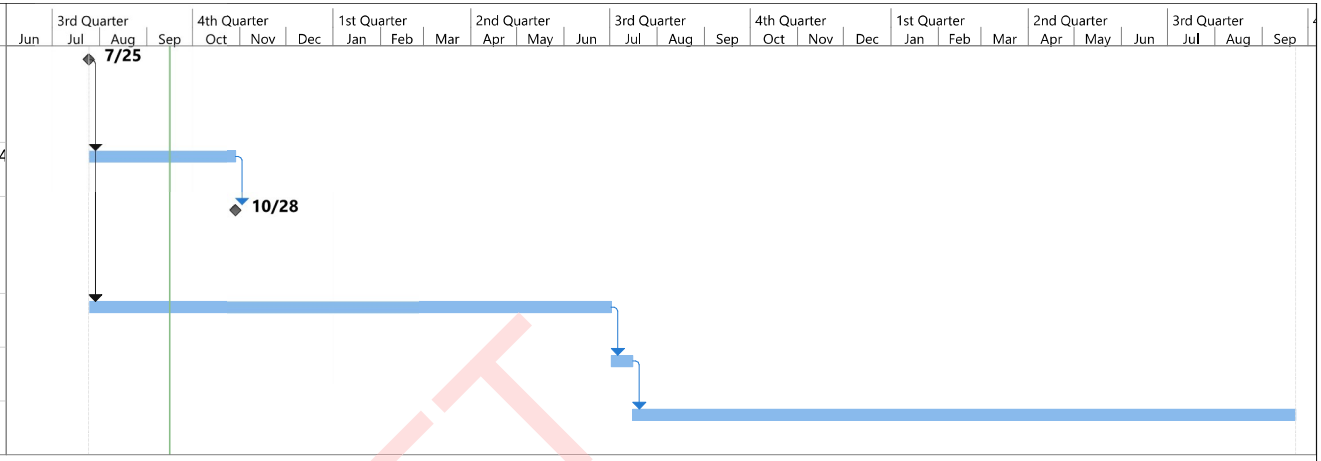
The Ohio State University
Columbus, OH
City & Regional Planning
Minor: Architectural Studies
2021

Columbus State Community College
Columbus, OH
Architectural CAD Drafting Certificate
2022

SEBAGO TECHNICS

207.482.6323 BWIEMKEN@SEBAGOTECHNICS.COM

ID	Task Mode	Task Name	Duration	Start	Finish
1		Notification of Award	0 days	Thu 7/25/24	Thu 7/25/24
2		Planning Board	68 days	Thu 7/25/24	Mon 10/28/24
3		Receive Board Approval	0 days	Mon 10/28/24	Mon 10/28/24
4		Preconstruction	244 days	Thu 7/25/24	Tue 7/1/25
5		Permitting	10 days	Wed 7/2/25	Tue 7/15/25
6		Construction	310 days	Wed 7/16/25	Tue 9/22/26



WESTBROOK DEVELOPMENT CORPORATION

Great Falls CONSTRUCTION

All timing is dependent upon funding.

Project: Andrews Draft PB Schedule
Date: Mon 9/16/24

Task	Project Summary	Manual Task	Start-only	Deadline	
Split	Inactive Task	Duration-only	Finish-only	Progress	
Milestone	Inactive Milestone	Manual Summary Rollup	External Tasks	Manual Progress	
Summary	Inactive Summary	Manual Summary	External Milestone		

Section 6

Traffic Information

Section 6 – Traffic Information

A Traffic Memorandum has been prepared for this project and is enclosed within this Section. This memorandum includes estimated trip generations for this proposed affordable senior housing project. As detailed within the Memo, this development is estimated to generate five (5), five (5), and six (6) trips during the AM, PM, and Saturday peak hours of the generator, respectively. Given this level of trip generation, a Traffic Movement Permit (TMP) is not required from the Maine Department of Transportation (MDOT), as this development does not exceed the one hundred (100) trip threshold during a peak hour period.

Additionally, sight distance on High Street exceeds the required minimum for a 25 miles per hour (mph) roadway, as defined by the Town of Windham's sight distance standards. Please see the enclosed Traffic Memorandum for additional information.

Memorandum

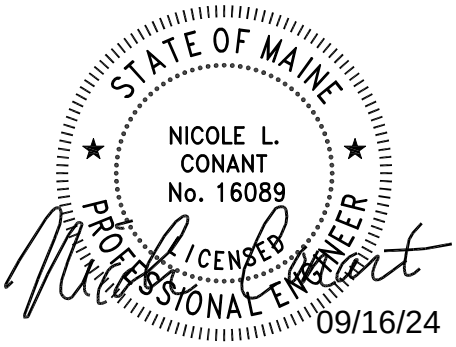
240577

To: Amy Bell Segal, Sebago Technics

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

Griffin Steinman, EI, Sebago Technics

Date: September 16, 2024



Subject: Traffic Impact Assessment, Andrew's School Redevelopment, Windham, Maine

Introduction

The purpose of this memorandum is to provide a Traffic Impact Assessment (TIA) for a proposed site redevelopment located at 55 High Street in Windham, Maine. The proposed development includes the conversion of the former Andrew's School to 18 units of multifamily affordable senior housing. Access to the site is proposed via a reconstructed access across from Androscoggin Street. This development also includes the removal of the existing access approximately 115 feet north of Androscoggin Street.

As such, this memorandum details the calculated trip generation for the development, provides a crash data review for roadways in the vicinity of the site, and reviews sight distance for the proposed access.

Trip Generation

Trip generation was completed utilizing the 11th Edition of the Institute of Transportation Engineers (ITE), *Trip Generation Manual.* Land use code (LUC) 252 – Senior Adult Housing – Multifamily was utilized based on 18 dwelling units. ITE defines LUC 252 as "independent living developments that are called various names including retirement communities, age-restricted housing, and active adult communities. The development has a specific age restriction for its residents, typically a minimum of 55 years of age for at least one resident of the household." Estimated trip generation for the proposed development is outlined in Table 1.

Table 1 – Proposed ITE Trip Generation
Land Use Code 252 – Senior Adult Housing – Multifamily
18 Dwelling Units

Time Period	*Average Rate per Dwelling Unit*	*Trips*	*Entering*	*Exiting*
Weekday	3.24	58	29 (50%)	29 (50%)
AM Peak Hour – Adjacent Street (7 – 9 AM)	0.20	4	1 (34%)	3 (66%)
AM Peak Hour – Generator	0.29	5	2 (45%)	3 (55%)
PM Peak Hour – Adjacent Street (4 – 6 PM)	0.25	5	3 (56%)	2 (44%)
PM Peak Hour – Generator	0.30	5	3 (54%)	2 (46%)
Saturday	2.74	50	25 (50%)	25 (50%)
Saturday Peak Hour	0.32	6	3 (54%)	3 (46%)

As demonstrated in Table 1, the development is estimated to generate a total of five (5) trips, five (5) trips, and six (6) trips during the AM, PM, and Saturday peak hour periods of the generator, respectively. Given this level of trip generation, a Traffic Movement Permit (TMP) is not required from the Maine Department of Transportation (MaineDOT) as project trip generation does not exceed the 100-trip threshold during a peak hour period.

Additionally, the Town of Windham *Land Use Ordinance* may require developments that exceed 140 vehicle trips per day to provide a full Traffic Impact Analysis. Given the development is calculated to generate 58 daily trips, no additional analysis is anticipated.

Crash Data

The MaineDOT Public Map Viewer was utilized to determine if there are any high crash locations (HCL) 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.

High Street from Depot Street was reviewed for the three-year study period from 2021 to 2023. Based on the available crash information, no high crash locations are located within the immediate vicinity of the site. As such, there are no recommendations for improvements in conjunction with this project.

Sight Distance Analysis

Sight distance was reviewed in the field on August 29, 2024, at the proposed site access location on High Street opposite Androscoggin Street.

The analysis was completed in accordance with the standards set forth by Town of Windham *Land Use Ordinance Appendix B - Street Design and Construction Standards*. Measurements were conducted from a point ten (10) feet behind the edge of the travel way, determined by offsetting 11 feet from the centerline of High Street, considering a height of eye of 3.5 feet and a height of object of 4.25 feet. Sight distance requirements are summarized in Table 2.

Table 2 – Sight Distance Requirements

Posted Speed (MPH)	*Minimum Sight Distance (feet)*
20	155’
25	200’
30	250’
35	305’
40	360’
45	425’
50	495’
55	570’

According to the MaineDOT Public Map Viewer, the posted speed limit on High Street in the vicinity of the site is 25 MPH. This was confirmed by signage in the field, thus corresponding to a required sight distance of 200 feet per the Town of Windham’s standards. Sight distance was measured to be 270 feet looking to the left as shown in Image 1, before obstructed by overgrown vegetation along High Street. Sight distance to the right was measured to exceed 700 feet as shown in Image 2. As such, sight distance on High Street exceeds the required minimum for a 25 MPH roadway. It is important to note that no landscaping, signage, or other features shall be located within the sight triangles of the driveways.

Image 1: Sight Distance Looking Left

Image 2: Sight Distance Looking Right

Conclusion

Sebago Technics, Inc. has completed the traffic impact assessment for the Andrew's School redevelopment in Windham, Maine and provides the following conclusions:

- The proposed redevelopment consisting of 18 units of multifamily senior housing is estimated to generate a total of five (5) trips, five (5) trips and six (6) trips during the AM, PM, and Saturday peak hour periods, respectively. As such, a TMP is not required by MaineDOT.
- Additionally, this level of traffic is not anticipated to require a full Traffic Impact Analysis by the Town of Windham for developments that exceed 140 vehicle trips per day, given the development is calculated to generate 58 new daily trips.
- The segment of High Street in the immediate vicinity of the site is not classified as a high crash location. As such, no recommendations for improvements are included with this development.
- Sight distance from the proposed access on High Street exceeds the Town of Windham minimum requirement for a 25 MPH. It is important to note that no landscaping, signage, or other features shall be located within the sight triangle of the proposed driveway.

Section 7

Utilities

Section 7 – Utilities

Water:

There is an existing water main located along High Street, operated by the Portland Water District (PWD). This project is proposing to connect to the available water main, and draw water service interior to the site near the site's proposed entrance. From there, this line will connect to a meter pit for oversight of total water usage within the development. From the meter pit, water will continue interior to the site and branch off to serve each of the proposed buildings. Each building will have submeters for oversight of each unit's water usage. An Ability to Serve letter was requested from PWD on September 16, 2024, and is enclosed within this Section. Please also see the *Grading & Utility Plan* within the Plan Set.

Sewer:

Similar to water, there is an existing sewer main located along High Street, also operated by the Portland Water District (PWD). This development is proposing to connect to the available sewer main, and connect to the internal sewer infrastructure, as detailed on the *Grading & Utility Plan*. The proposed system is gravity-fed with no pumps proposed at this time. An Ability to Serve letter was requested from PWD on September 13, 2024, and this correspondence is enclosed within this Section.

Electrical:

Central Maine Power currently has existing electrical service through overhead power lines running along High Street. One of these poles is directly adjacent to the site's access. Through this proposed project, electrical service is accomplished from dropping power down onto the site, and installing underground electric lines that branch off to serve each residential building. Please see the *Grading & Utility Plan* enclosed within the Plan Set for additional information.

September 17, 2024
240577

Robert Bartels, Senior Project Engineer
Portland Water District
225 Douglass Street, PO Box 3553
Portland, ME 04104

RE: John A. Andrew School Site Redevelopment
55 High Street, Windham, ME 04062; MBLU 37-24

To Whom It May Concern,

On behalf of the Westbrook Development Corporation and Great Falls Construction Inc., Sebago Technics, Inc. is requesting confirmation that there is sufficient capacity to accommodate the anticipated water and sewer demand for a residential development located at 55 High Street in the Town of Windham, Maine.

This development is for an affordable senior housing project containing eighteen (18) units housed within four (4) multi-unit buildings. According to the State of Maine Subsurface Wastewater Disposal Rules (Amended September 23, 2023), each multi-family 1-bedroom unit has a design flow of 120 gallons per day (gpd). With 120 gpd per unit, and there being a total of eighteen (18) units, we calculate the total design flow to amount to approximately 2,160 gpd.

There may also be potential future development on the site, with approximately seventeen (17) units contained within a 12-unit apartment building and five (5) townhomes. According to the State of Maine Subsurface Wastewater Disposal Rules (Amended September 23, 2023), each 2-bedroom unit has a design flow of 90 gpd per bedroom. With all additional units being two bedrooms and 17 additional units, we calculated the total design flow to approximately 3,060 gpd. In total, the currently proposed development with the potential future units amount to an anticipated demand of 5,220 gpd.

The Applicants propose connecting to existing water and sewer infrastructure along High Street. Water service will be pulled into the site to a meter pit that tracks the overall water usage for the site. From there, water service extends to each of the proposed buildings. Similarly, sewer service is proposed to connect to the existing infrastructure along High Street and will be gravity-fed throughout the site.

For your reference, we have attached a Location Map and conceptual Utility Plan. We look forward to confirmation that there is sufficient water supply to serve the proposed phased development. In the interim, please call with any questions or if you require additional information. We appreciate your time and consideration.

Sincerely,
SEBAGO TECHNICS, INC.

Brett Wiemken

Brett Wiemken
Permitting Specialist/Project Coordinator

Section 8

Stormwater Management

Section 8 – Stormwater Management

Please see the *Stormwater Management Report* enclosed within this Section that has been prepared for this proposed development.

SEBAGO TECHNICS

CIVIL ENGINEERING • SURVEYING • LANDSCAPE ARCHITECTURE

Stormwater Management Report

For

WDCJCS Subdivision
Former Andrews School Site
Redevelopment

Prepared for:

Great Falls Construction
20 Mechanic Street
Gorham, ME 04038
and
Westbrook Development Corp.
30 Liza Harmon Drive
Westbrook, ME 04092

Prepared by:

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

September, 2024

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4. Proposed Site Improvements 2
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Basic Standard - Chapter 500, Section 4(B) 4

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Appendices

Appendix 1: Stormwater Quality Calculations
Appendix 2A: Hydrologic Modeling– Existing Conditions (HydroCAD)Summary
Appendix 2B: Hydrologic Modeling – Proposed Conditions (HydroCAD) Summary
Appendix 3: Inspection, Maintenance and Housekeeping Plan
Appendix 4: Subsurface Soil Investigations
Appendix 5: Stormwater Management Plans

STORMWATER MANAGEMENT REPORT
WDCJCS SUBDIVISION

1. Introduction

This Stormwater Management Plan Report has been prepared to present analyses performed to address the potential impacts associated with the project due to proposed modifications in stormwater runoff characteristics and land cover changes. The stormwater management controls that are outlined in this report have been designed to suit the proposed development and to comply with applicable regulatory requirements.

2. Existing Conditions

The subject parcel is approximately 2.39 acres in size and is shown as Lot 24 on the Town of Windham Assessor's Tax Map 37. The parcel is presently developed and previously operated as the John A Andrew School. One of the two structures remains on-site, with portions of the parcel still occupied by bituminous parking and access ways, as well as gravel backfill within the previously razed building footprint. The parcel is bounded by residential developments, with High Street located at the southwest of the parcel. Topography onsite ranges from relatively flat around the existing buildings to moderately steep (10-15%) at the perimeter of the site. There is a ridge line within the central portion of the site, which runs north-south, thereby sending half the parcel drainage towards High Street to the southwest and the other half of the parcel to the abutting land to the northeast.

The parcel is located within the watershed of the Presumpscot River, with the northerly half discharging to Colley Wright Brook before feeding into the Presumpscot River. Neither Colley Wright Brook or the Presumpscot River are listed as Urban Impaired Streams or otherwise threatened watershed by MaineDEP, Chapter 502. The subject parcel is not located within an identified flood zone per the FEMA Flood Insurance Rate Map Number 23005C0656F, effective date June 20, 2024.

3. Soils

Soil information for the site was obtained via the USDS United States Department of Agriculture and Natural Resource Conservation Services (NRCS) Web Soil Survey. The Hydrologic Soil Groups (HSG) of the soils on site as classified by the Soil Conservation Service are delineated on the stormwater management plans and are as follows:

Soil Map Symbol	Soil Name	Slope (%)	HSG
BgB	Nicholville, very fine sandy loam	0-8	C
EmB	Elmwood, fine sandy loam	0-8	B
PbB	Paxton, fine sandy loam	3-8	C

A copy of the Class D (Medium Intensity) NRCS Web Soil Survey is included in Appendix 4.

4. Proposed Site Improvements

The project proposes razing the existing structure and pavement and redeveloping the site as affordable housing with a total of eighteen (18) apartment units contained withing four (4) buildings. Three of the buildings will contain 4 apartment units each and the fourth building will contain 6 apartment units. The apartment units are supported by a 24-foot wide access way from High Street, pedestrian sidewalks throughout the site connecting to High Street and resident open space.

As the site is presently developed, the storwmater management has been designed utilizing the Redevelopment Standard contained within MaineDEP Chapter 500, Section 4.C.(2)(d) where the required level of stormwater treatment is scaled backed based on the net change in pollutant discharge associated with the parcel. The net change in pollutant ranking associated with redeveloping the site requires a 60% treatment level associated with the site's propsoed developed footprint. Calculations for the Redevelopment Standard are contained in Appendix 1.

5. Methodology

Stormwater runoff analyses were developed using "HydroCAD" computer modeling software, which incorporates the TR-55 and TR-20 methodologies as provided by the Soil Conservation Service of the U.S. Department of Agriculture.

The estimated peak runoff rates were calculated using a 24-hour duration storm event with a Type III rainfall distribution. The rainfall amounts for Cumberland (SE) County for the 2-year, 10-year and 25-year storm events are as follows:

Storm Frequency	24-hr Duration Rainfall (in.)
2-yr	3.1
10-yr	4.6
25-yr	5.8

6. Existing Conditions Model

The existing conditions storwmater model consists of three subcatchments, labeled 1S thru 3S and three Points of Analysis (POA) labeled POA-1 thru POA-3.

POA-1 is represents the site's discharge of runoff into High Street and the associated storm drain collection system within High Street. Sub-catchment 1S is the only sub-catchment that is tributary to POA-1 and consists of the southwesterly half of the site from the center ridge line to High Street. Stormwater runoff from drainage area drains to High Street overland flow as there are presently no storm drain collection within the site. Sub-catchment consists of approximately 1.3 acres.

POA-2, located along the northwesterly property line where a small section of the stie drains via overland flow across the property line and onto the abutting parcel. Sub-catchment 2S is tributary to POA-2 and consists of approximately 0.35 acres of land area.

POA-3 is located along the rear (northeast portion of the site) property line where the back half of the site, from the central ridge line, drainage via overland flow onto the abutting parcel. Sub-catchment 3S is tributary to POA-3 and is approximately 1.05 acres in size.

HydroCAD modeling outputs are contained in Appendix 2A and the Existing Conditions Stormwater Plan is contained in Appendix 5.

7. Proposed Conditions Model

The proposed condition sub-catchment areas consist of the same overall area as the existing conditions plan; however, the existing conditions sub-catchments have had their areas altered because of the proposed development. POA-1, POA-2, and POA-3 remain as the three analysis points for comparing peak runoff rates.

POA-1 represents the site's discharge of runoff into High Street and the associated storm drain collection system within High Street. Sub-catchment 1S - 3S, 5S, 7S – 12S, 14S, and 16S are tributary to POA-1. These subcatchments are the southwesterly half of the site and any area collected by the proposed drainage network. Sub-catchments 7S – 12S, 14S, and 16S are treated through a subsurface chamber sand filter BMP, while subcatchments 1S-3S are treated by roof drip edges. The collected and treated stormwater is discharged to a storm drain line which ties into the existing storm drain system within High Street. The Point of Analysis consists of approximately 2.04 acres.

POA-2, located along the northwesterly property line where a small section of the site drains via overland flow across the property line and onto the abutting parcel. Sub-catchments 6S and 15S are tributary to POA-2 and consist of approximately 0.19 acres of land area.

POA-3 is located along the rear (northeast portion of the site) property line, where the back half of the site drains via overland flow onto the abutting parcel. Sub-catchments 4S, 12S, and 13S are tributaries to POA-3 and are approximately 0.57 acres in size.

The proposed subsurface chamber sand filter and roof drip edge filters have been designed to meet the standards set forth in the Maine DEP's Best Management Practices (BMP) Manual. Sizing Calculations can be found in Appendix 1.

8. Stormwater Management

Basic Standard - Chapter 500, Section 4(B)

Since the project will disturb more than one (1) acre of land area, MDEP Basic Standards apply, requiring that grading or other construction activities on the site do not impede or otherwise alter drainage ways to have an unreasonable adverse impact. We have avoided adverse impacts by providing an Erosion & Sedimentation Control Plan, and an Inspection, Maintenance and Housekeeping Plan (Appendix 3) to be implemented during construction and post-construction stabilization of the site. These construction requirements have been developed following Best Management Practice guidelines.

General Standard- Chapter 500, Section 4(C)

The project does not result in the creation of one (1) acre or more of impervious surface and therefore does not trigger a Storwmater Management Permit through the MaineDEP which would require the site to meet the General Standards. However, the site is required to provide stormwater mitigation, peak runoff control and water quality, through the Town of Windham per Chapter 201 – Stormwater Management Ordinance. As mentioned previously, the site is considered a redevelopment project and will utilize the redevelopment standard as contained within MaineDEP Chapter 500 which scales base the level of stormwater treatment based on the net change in pollutant discharge associated with the parcel. The pollutant ranking analysis, contained in Appendix 1, results in a required treatment level of 60% of the sites proposed developed area.

To mitigate the changes in hydrologic patterns due to the redevelopment of this project, a subsurface chamber sand filter is proposed which will provide both water quality and quantity treatment. The subsurface chamber sand filter has been sized according to MaineDEP standards with calculations provided in Appendix 1.

The proposed subsurface chamber sand filter provides treatment of 91% of the site's redeveloped impervious area and 63% of the site's redeveloped area, which exceeds the redevelopment requirement of 60% of the site's redeveloped area.

Flooding Standard – Chapter 500, Section 4(F)

Since the planned project will not create more than three (3) acres of impervious surface or five (5) acres of disturbed area, MDEP Flooding Standards do not apply. However, the site is required to provide stormwater mitigation, peak runoff control and water quality, through the Town of Windham per Chapter 201 – Stormwater Management Ordinance. As such, a runoff evaluation was performed using the methodology outlined in the USDA Soil Conservation Service's "Urban Hydrology for Small Watersheds - Technical Release #55 (TR-55)". HydroCAD computer software was utilized to perform the calculations.

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

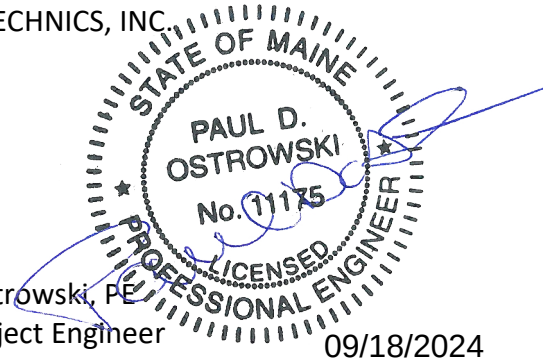
Peak Runoff Rate Summary Table			
Analysis Point	**Storm Event**	**Existing Conditions (cfs)**	**Proposed Conditions (cfs)**
POA-1	2-Year	1.4	0.8
	10-Year	3.1	2.4
	25-Year	4.6	4.4
POA-2	2-Year	0.1	0.1
	10-Year	0.4	0.2
	25-Year	0.7	0.3
POA-3	2-Year	0.6	0.3
	10-Year	1.8	0.9
	25-Year	2.9	1.4

The model predicts that the peak runoff rates in the proposed condition at all Point of Analysis are at or below the existing condition runoff rates for the 2, 10, and 25-year storm events with the implementation of the proposed BMP. Please refer to Appendix 2A and Appendix 2B for existing and proposed conditions stormwater modeling as well as Appendix 5 for the Stormwater Management Plans.

9. Summary

The proposed development has been designed to manage stormwater runoff through Best Management Practices approved by MDEP. The Stormwater BMPs provide treatment to 91% of the site's impervious area and 63% of the site's developed area. Peak rates of stormwater runoff discharging from the site will be at or below pre-development peak runoff rates for the 2, 10, and 25-year storm events at the identified points of analysis. Additionally, erosion and sedimentation controls, along with associated maintenance and housekeeping procedures, have been outlined to prevent unreasonable impacts on the site and to the surrounding environment.

Prepared by:
SEBAGO TECHNICS, INC.



Paul D. Ostrowski, PE
Senior Project Engineer
09/18/2024

Appendix 1

Stormwater Quality Calculations

Table 1: MDEP GENERAL STANDARD CALCULATIONS

Job # 240577

AREA ID	WATERSHED SIZE (S.F.)	ONSITE IMPERVIOUS AREA (S.F.)	ONSITE LANDSCAPED AREA (S.F.)	NET EXISTING DEVELOPED AREAS (S.F.)	TREATMENT PROVIDED?	IMPERVIOUS AREA TREATED (S.F.)	LANDSCAPED AREA TREATED (S.F.)	DEVELOPED AREA TREATED (S.F.)	TREATMENT BMP
1	2,400	2,400	0	2,400	YES	2,400	0	2,400	DE
2	2,400	2,400	0	2,400	YES	2,400	0	2,400	DE
3	2,400	2,400	0	2,400	YES	2,400	0	2,400	DE
4	3,475	3,475	0	3,475	YES	3,475	0	3,475	DE
5	22,525	3,239	14,895	18,134	NO	0	0	0	
6	4,100	81	4,019	4,100	NO	0	0	0	
7	8,350	3,655	4,645	8,300	YES	3,655	4,645	8,300	Chambers
8	9,550	4,093	5,457	9,550	YES	4,093	5,457	9,550	Chambers
9	7,975	3,531	4,444	7,975	YES	3,531	4,444	7,975	Chambers
10	11,250	3,517	1,593	5,110	YES	3,517	1,593	5,110	Chambers
11	1,800	0	1,153	1,153	YES	0	1,153	1,153	Chambers
12	4,375	2,243	1,079	3,322	YES	2,243	1,079	3,322	Chambers
13	21,375	0	9,137	9,137	NO	0	0	0	
14	8,800	4,475	4,325	8,800	YES	4,475	4,325	8,800	Chambers
15	4,500	0	1,670	1,670	NO	0	0	0	
16	2,049	1,479	570	2,049	YES	1,479	570	2,049	Chambers
TOTAL (S.F.)	**117,324**	**36,988**	**52,987**	**89,975**		**33,668**	**23,266**	**56,934**	

TOTAL IMPERVIOUS AREA (S.F.)	**36,988**	**TOTAL DEVELOPED AREA (S.F.)**	**89,975**
TOTAL IMPERVIOUS AREA RECEIVING TREATMENT (S.F.)	**33,668**	**TOTAL AREA RECEIVING TREATMENT (S.F.)**	**56,934**
% OF IMPERVIOUS AREA RECEIVING TREATMENT	**91.02%**	**% OF AREA RECEIVING TREATMENT**	**63.28%**

Table 2: MDEP REDEVELOPMENT STANDARD CALCULATIONS: Former Andrews School, 55 High Street Windham

Existing Areas by Pollutant Ranking (S.F.)							Proposed Areas by Pollutant Ranking (S.F.)						
0	1	2	3	4	5	SUM	0	1	2	3	4	5	SUM
39,870	0	46,150	0	20,785	0	106,805	18,980	0	54,360	0	33,465	0	106,805

Existing Areas by Pollutant Ranking (acres)							Proposed Areas by Pollutant Ranking (acres)						
0	1	2	3	4	5	SUM	0	1	2	3	4	5	SUM
0.915	0.000	1.059	0.000	0.477	0.000	2.452	0.436	0.000	1.248	0.000	0.768	0.000	2.452

Existing Weighted Average (Item A)	Proposed Weighted Average (Item B)
4.028	**5.569**

Existing Ranked Impact (Item C)	Proposed Ranked Impact (Item D)
1.643	**2.271**

Ranked Impact Change Due to Redevelopment (Item E)
0.629

Treatment Levels for Redevelopment Projects	
Ranked Impact Change Due to Redevelopment (Item E)	**Percentage of Developed Area that Must be Treated**
0.0 or less	**0% (Stormwater projects)** **50% (Site projects)**
≤ 0.0 to ≥ 1.0	60%
> 1.0 to ≥ 2.0	**70%**
> 2.0 to ≥ 3.0	**80%**
> 3.0	**Same treatment level as for new development**

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JOB	WDCJCS Subdivision		
SHEET NO.	1	OF	1
CALCULATED BY	KEW	DATE	9/1/2024
FILE NAME	240577 WQC.xlsx	PRNT DATE	9/18/2024

UNDERDRAINED SUBSURFACE SAND FILTER

Task: Calculate water quality volume per MDEP chapter 500 regulations

References

1. Maine DEP Chapter 500, Section 4.C.(3)(b)
   "must detain a runoff volume equal to 1.0 inch times the subcatchment's impervious area plus 0.4 inch times the subcatchment's landscaped area"
2. Maine DEP Best Management Practices Stormwater Manual, Section 7.3.2
   a. "detain runoff volume equal to 1.0 inch times the subcatchment's impervious area plus 0.4 inch times the subcatchment's landscaped area"
   b. "surface area of the sand filter bed and chamber system must be at least equal to 5% of the impervious area draining to it and 2% of the landscaped area."
   c. "treatment flow rate for the Stormtech Isolator Row is the projected one year peak flow rate for the drainage area feeding the Isolator Row"

Flow rates:

SC-310	0.10	cfs/chamber
SC-740	0.20	cfs/chamber
DC-780	0.20	cfs/chamber
MC-3500	0.30	cfs/chamber

d. Inspection ports to the underdrain gravel layer should be provided with at least one port per 500 square-feet of subsurface filter area.

Tributary to Subsurface Sand Filter: Chambers

Landscaped Area	23,266.00	SF	
Impervious Area	22,993.00	SF	

Minimum Surface Area for sand filter and chamber system

Required (2% X Landscaped + 5%" X Impervious)

Total Landscaped Area	23,266.00	SF	Area	465.3	SF			
Total Impervious Area	22,993.00	SF	Area	1,149.7	SF			
Required Minimum Surface Area				1,615.0	SF			
							Required	No. of Inspection Ports
Provided Surface Area				4,367.0	SF		9	

Treatment Volume

Required (0.4" X Landscaped + 1.0" X Impervious)

Landscaped Area	23,266.00	SF	Volume	775.5				
Impervious Area	22,993.00	SF	Volume	1,916.1				
Treatment Volume Required				2,691.6	CF	0.062	AF	
Provided Treatment Volume				5,531.0	CF			

Sediment Pre-Treatment

Per Reference 2.c above

One year flow rate out put from Hydrocad:	0.80	cfs	
ISO Row sizing for:	**SC-310**	**0.1**	cfs
Total number of Isolator Row Chambers required:	8		

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JOB	240557		
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CALCULATED BY	KEW	DATE	9/1/2024
CHECKED BY	PDO		
FILE NAME	240577 WQC	PRINT DATE	9/18/2024

ORIFICE SIZING CALCULATION

Stormwater BMP: Chamber System

Orifice Equation $Q = CA\sqrt{(2gh)}$

Q = Rate of Discharge (cfs)
A = Orifice Area (sf)
G = Gravitational Constant (32.2 ft/s^2)
h = Depth of water above the flow line (center) of the orifice (ft)
C = 0.6 Orifice coefficient (usually assumed = 0.6)

Average discharge rate required to drawdown the treatment volume in a desired amount of time is:

$$Q = \frac{WQv}{Tcf}$$

TV = Treatment Volume (cf)
T = Target Drain Time (Hours)
cf = Conversion Factor = 3600 sec/hr

TV = 5,531 cf
t = 36 hr

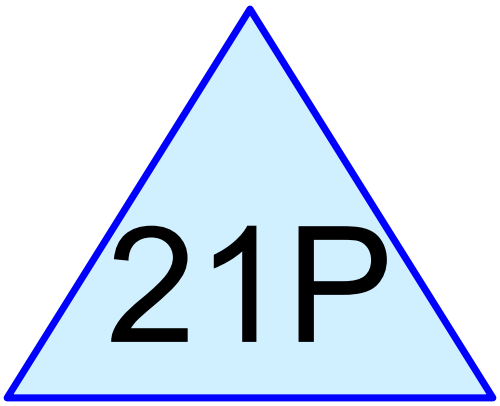
$$Q = \frac{TV}{tCF}$$ 0.04 cfs Target Rate for 36 hour discharge

surface area of filter = 4,367 SF

hmax = 1.27 ft h/2= 0.63 ft

$$A = \frac{Q}{C\sqrt{(2gh)}}$$ A = 0.011 sf = 1.60 sq. in.

Diam =	1.43	in



ADS SC-310

Subcat Reach Pond Link

Routing Diagram for 240577 Post Dev
Prepared by Sebago Technics, Printed 9/18/2024

Summary for Pond 21P: ADS SC-310

Inflow Area = 54,149 sf, 42.46% Impervious, Inflow Depth = 0.60" for wqv event
Inflow = 0.6 cfs @ 12.15 hrs, Volume= 2,710 cf
Outflow = 0.0 cfs @ 17.37 hrs, Volume= 2,710 cf, Atten= 95%, Lag= 312.8 min
Primary = 0.0 cfs @ 17.37 hrs, Volume= 2,710 cf
Routed to Link POA-1 : POA-1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 174.50' @ 17.37 hrs Surf.Area= 4,903 sf Storage= 1,583 cf
Flood Elev= 179.18' Surf.Area= 4,903 sf Storage= 6,274 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 587.0 min (1,463.2 - 876.2)

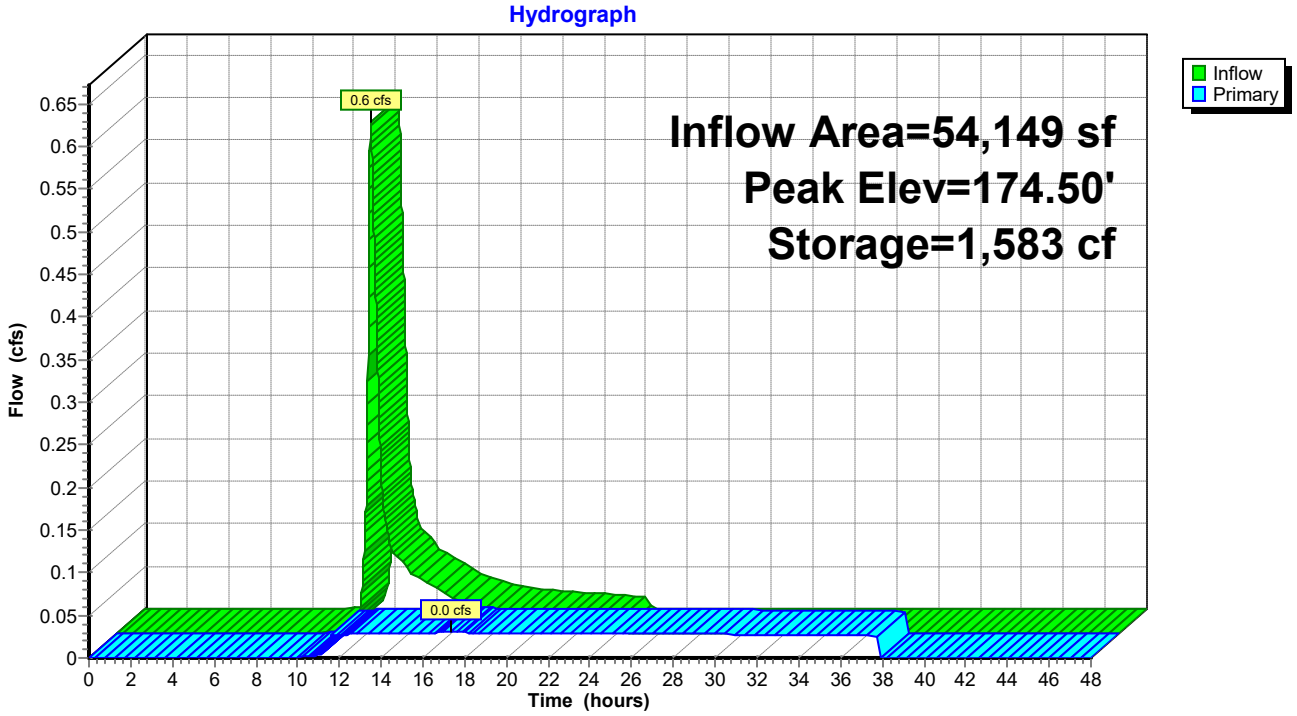
Volume	Invert	Avail.Storage	Storage Description
#1	171.35'	0 cf	**81.50'W x 60.16'L x 2.50'H Prismatoid** 12,258 cf Overall x 0.0% Voids
#2A	173.85'	3,444 cf	**81.50'W x 60.16'L x 2.33'H Field A** -Impervious 11,440 cf Overall - 2,830 cf Embedded = 8,610 cf x 40.0% Voids
#3A	174.35'	2,830 cf	**ADS_StormTech SC-310 +Cap** x 192 Inside #2 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap 192 Chambers in 24 Rows
		6,274 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	171.35'	**18.0" Round Culvert** L= 62.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 171.35' / 170.73' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	171.45'	**0.8" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	174.50'	**30.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	175.00'	**5.0' long x 2.00' rise Sharp-Crested Rectangular Weir X 0.00** 2 End Contraction(s)

Primary OutFlow Max=0.0 cfs @ 17.37 hrs HW=174.50' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 0.0 cfs of 10.4 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.0 cfs @ 8.37 fps)
  - **3=Orifice/Grate** (Orifice Controls 0.0 cfs @ 0.20 fps)
  - **4=Sharp-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond 21P: ADS SC-310



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Treatment Calculations for Proposed Roof Drip Edge Unit 1-3									
WQV Calculation									
(WQV = Water Quality Volume)									
Total Impervious Area =			2,400	sf					
WQV (MDEP)= 1" x Impervious Area =				200.0	cf =	0.005	acre-ft		
Length of Trench=				65.0	ft.				
Width of Trench=				4.0	ft.				
Depth of Stone				16.0	in.	40% porosity			
Depth of Sand Media=				15.0	in.	20% porosity			
WQV Provided = Area of Trench * (Depth of stone*stone porosity + Depth of sand*sand porosity)									
WQV for first 1" =			138.7						
Additional WQV Provided =			65.0	cf					
Total WQV Provided =			**203.7**	**cf**					

The stone reservoir volume for the drip edge filter was designed to provide the storage required to convey the water quality storm (storm that generates 1" of runoff over the roof) through the filter media under the stone. Additonal water quality is provided in the porosity of the underdrain sand.

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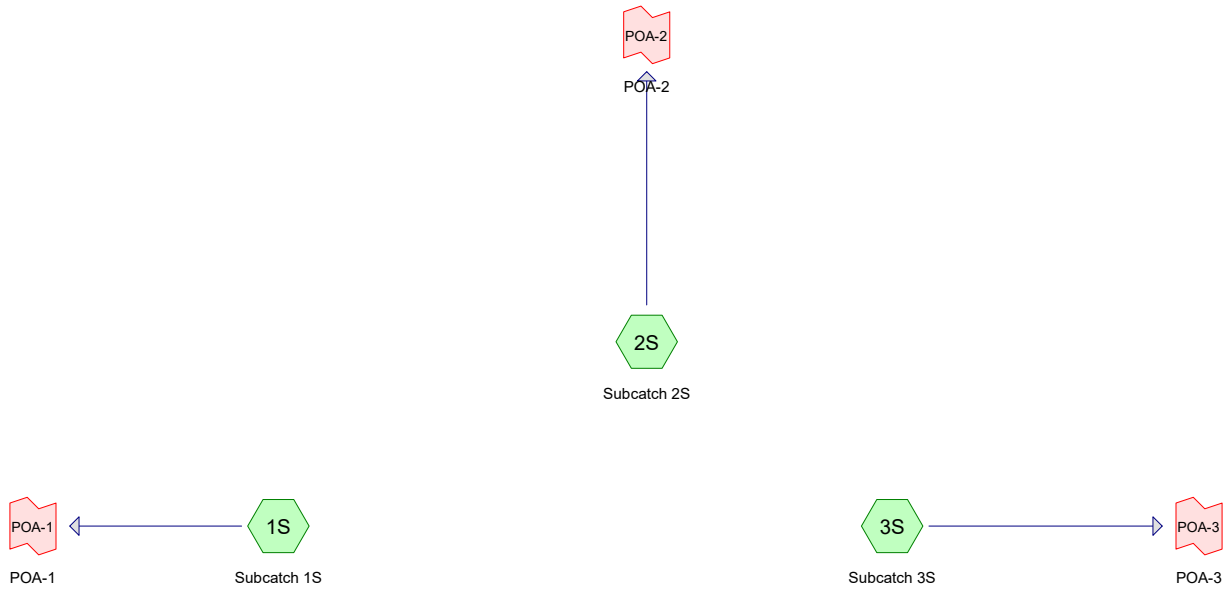
Treatment Calculations for Proposed Roof Drip Edge Unit 4									
WQV Calculation									
(WQV = Water Quality Volume)									
Total Impervious Area =			3,475	sf					
WQV (MDEP)= 1" x Impervious Area =				289.6	cf =	0.007	acre-ft		
Length of Trench=				155.0	ft.				
Width of Trench=				4.0	ft.				
Depth of Stone				12.0	in.	40% porosity			
Depth of Sand Media=				12.0	in.	20% porosity			
WQV Provided = Area of Trench * (Depth of stone*stone porosity + Depth of sand*sand porosity)									
WQV for first 1" =			248.0						
Additional WQV Provided =			124.0	cf					
Total WQV Provided =			**372.0 cf**						

The stone reservoir volume for the drip edge filter was designed to provide the storage required to convey the water quality storm (storm that generates 1" of runoff over the roof) through the filter media under the stone. Additonal water quality is provided in the porosity of the underdrain sand.

Appendix 2A

Existing Conditions HydroCAD Summary



Subcat Reach Pond Link

Routing Diagram for 240577 Pre Dev
Prepared by Sebago Technics, Printed 9/18/2024

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
33,600	61	>75% Grass cover, Good, HSG B (1S, 2S, 3S)
3,605	74	>75% Grass cover, Good, HSG C (1S)
4,555	96	Gravel surface (1S, 2S, 3S)
20,785	98	Paved parking (1S, 2S, 3S)
4,390	98	Roof (3S)
38,354	55	Woods, Good, HSG B (1S, 2S, 3S)
12,035	70	Woods, Good, HSG C (1S, 2S, 3S)
117,324	**70**	**TOTAL AREA**

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 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: Subcatch 1S Runoff Area=56,129 sf 26.28% Impervious Runoff Depth=0.97"
Flow Length=195' Tc=6.0 min CN=74 Runoff=1.4 cfs 4,548 cf

Subcatchment 2S: Subcatch 2S Runoff Area=15,475 sf 7.21% Impervious Runoff Depth=0.40"
Flow Length=100' Tc=6.0 min CN=61 Runoff=0.1 cfs 521 cf

Subcatchment 3S: Subcatch 3S Runoff Area=45,720 sf 20.36% Impervious Runoff Depth=0.64"
Flow Length=250' Tc=6.0 min CN=67 Runoff=0.6 cfs 2,421 cf

Link POA-1: POA-1 Inflow=1.4 cfs 4,548 cf
Primary=1.4 cfs 4,548 cf

Link POA-2: POA-2 Inflow=0.1 cfs 521 cf
Primary=0.1 cfs 521 cf

Link POA-3: POA-3 Inflow=0.6 cfs 2,421 cf
Primary=0.6 cfs 2,421 cf

Total Runoff Area = 117,324 sf Runoff Volume = 7,489 cf Average Runoff Depth = 0.77"
78.54% Pervious = 92,149 sf 21.46% Impervious = 25,175 sf

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 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: Subcatch 1S Runoff Area=56,129 sf 26.28% Impervious Runoff Depth=2.05"
Flow Length=195' Tc=6.0 min CN=74 Runoff=3.1 cfs 9,587 cf

Subcatchment 2S: Subcatch 2S Runoff Area=15,475 sf 7.21% Impervious Runoff Depth=1.14"
Flow Length=100' Tc=6.0 min CN=61 Runoff=0.4 cfs 1,464 cf

Subcatchment 3S: Subcatch 3S Runoff Area=45,720 sf 20.36% Impervious Runoff Depth=1.53"
Flow Length=250' Tc=6.0 min CN=67 Runoff=1.8 cfs 5,830 cf

Link POA-1: POA-1 Inflow=3.1 cfs 9,587 cf
Primary=3.1 cfs 9,587 cf

Link POA-2: POA-2 Inflow=0.4 cfs 1,464 cf
Primary=0.4 cfs 1,464 cf

Link POA-3: POA-3 Inflow=1.8 cfs 5,830 cf
Primary=1.8 cfs 5,830 cf

Total Runoff Area = 117,324 sf Runoff Volume = 16,881 cf Average Runoff Depth = 1.73"
78.54% Pervious = 92,149 sf 21.46% Impervious = 25,175 sf

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 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: Subcatch 1S Runoff Area=56,129 sf 26.28% Impervious Runoff Depth=3.02"
Flow Length=195' Tc=6.0 min CN=74 Runoff=4.6 cfs 14,114 cf

Subcatchment 2S: Subcatch 2S Runoff Area=15,475 sf 7.21% Impervious Runoff Depth=1.87"
Flow Length=100' Tc=6.0 min CN=61 Runoff=0.7 cfs 2,415 cf

Subcatchment 3S: Subcatch 3S Runoff Area=45,720 sf 20.36% Impervious Runoff Depth=2.38"
Flow Length=250' Tc=6.0 min CN=67 Runoff=2.9 cfs 9,068 cf

Link POA-1: POA-1 Inflow=4.6 cfs 14,114 cf
Primary=4.6 cfs 14,114 cf

Link POA-2: POA-2 Inflow=0.7 cfs 2,415 cf
Primary=0.7 cfs 2,415 cf

Link POA-3: POA-3 Inflow=2.9 cfs 9,068 cf
Primary=2.9 cfs 9,068 cf

Total Runoff Area = 117,324 sf Runoff Volume = 25,597 cf Average Runoff Depth = 2.62"
78.54% Pervious = 92,149 sf 21.46% Impervious = 25,175 sf

Summary for Subcatchment 1S: Subcatch 1S

Runoff = 1.4 cfs @ 12.10 hrs, Volume= 4,548 cf, Depth= 0.97"
Routed to Link POA-1 : POA-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Rainfall=3.10"

	Area (sf)	CN	Description
*	14,750	98	Paved parking
*	4,000	96	Gravel surface
	17,015	61	>75% Grass cover, Good, HSG B
	3,605	74	>75% Grass cover, Good, HSG C
	9,039	55	Woods, Good, HSG B
	7,720	70	Woods, Good, HSG C
	56,129	74	Weighted Average
	41,379		73.72% Pervious Area
	14,750		26.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0100	0.89		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.3	40	0.0750	1.91		**Sheet Flow, B-C** Smooth surfaces n= 0.011 P2= 3.10"
0.5	70	0.1200	2.42		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
0.1	35	0.1000	6.42		**Shallow Concentrated Flow, D-E** Paved Kv= 20.3 fps
4.2					**Direct Entry, MIN TIME**
6.0	195	Total			

Summary for Subcatchment 2S: Subcatch 2S

Runoff = 0.1 cfs @ 12.13 hrs, Volume= 521 cf, Depth= 0.40"
Routed to Link POA-2 : POA-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Rainfall=3.10"

	Area (sf)	CN	Description
*	1,115	98	Paved parking
*	40	96	Gravel surface
	2,055	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	9,870	55	Woods, Good, HSG B
	2,395	70	Woods, Good, HSG C
	15,475	61	Weighted Average
	14,360		92.79% Pervious Area
	1,115		7.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0220	1.02		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.1	10	0.1000	2.21		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
0.7	70	0.1200	1.73		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
4.9					**Direct Entry, MIN TIME**
6.0	100	Total			

Summary for Subcatchment 3S: Subcatch 3S

Runoff = 0.6 cfs @ 12.11 hrs, Volume= 2,421 cf, Depth= 0.64"
Routed to Link POA-3 : POA-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Rainfall=3.10"

	Area (sf)	CN	Description
*	4,920	98	Paved parking
*	515	96	Gravel surface
	14,530	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	19,445	55	Woods, Good, HSG B
	1,920	70	Woods, Good, HSG C
*	4,390	98	Roof
	45,720	67	Weighted Average
	36,410		79.64% Pervious Area
	9,310		20.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	95	0.0110	1.06		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.4	50	0.0900	2.10		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
0.7	65	0.0530	1.61		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
0.5	40	0.0700	1.32		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
2.9					**Direct Entry, MIN TIME**
6.0	250	Total			

Summary for Link POA-1: POA-1

Inflow Area = 56,129 sf, 26.28% Impervious, Inflow Depth = 0.97" for 2 event
Inflow = 1.4 cfs @ 12.10 hrs, Volume= 4,548 cf
Primary = 1.4 cfs @ 12.10 hrs, Volume= 4,548 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Link POA-2: POA-2

Inflow Area = 15,475 sf, 7.21% Impervious, Inflow Depth = 0.40" for 2 event
Inflow = 0.1 cfs @ 12.13 hrs, Volume= 521 cf
Primary = 0.1 cfs @ 12.13 hrs, Volume= 521 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Link POA-3: POA-3

Inflow Area = 45,720 sf, 20.36% Impervious, Inflow Depth = 0.64" for 2 event
Inflow = 0.6 cfs @ 12.11 hrs, Volume= 2,421 cf
Primary = 0.6 cfs @ 12.11 hrs, Volume= 2,421 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Subcatchment 1S: Subcatch 1S

Runoff = 3.1 cfs @ 12.09 hrs, Volume= 9,587 cf, Depth= 2.05"
Routed to Link POA-1 : POA-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Rainfall=4.60"

	Area (sf)	CN	Description
*	14,750	98	Paved parking
*	4,000	96	Gravel surface
	17,015	61	>75% Grass cover, Good, HSG B
	3,605	74	>75% Grass cover, Good, HSG C
	9,039	55	Woods, Good, HSG B
	7,720	70	Woods, Good, HSG C
	56,129	74	Weighted Average
	41,379		73.72% Pervious Area
	14,750		26.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0100	0.89		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.3	40	0.0750	1.91		**Sheet Flow, B-C** Smooth surfaces n= 0.011 P2= 3.10"
0.5	70	0.1200	2.42		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
0.1	35	0.1000	6.42		**Shallow Concentrated Flow, D-E** Paved Kv= 20.3 fps
4.2					**Direct Entry, MIN TIME**
6.0	195	Total			

Summary for Subcatchment 2S: Subcatch 2S

Runoff = 0.4 cfs @ 12.10 hrs, Volume= 1,464 cf, Depth= 1.14"
Routed to Link POA-2 : POA-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Rainfall=4.60"

	Area (sf)	CN	Description
*	1,115	98	Paved parking
*	40	96	Gravel surface
	2,055	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	9,870	55	Woods, Good, HSG B
	2,395	70	Woods, Good, HSG C
	15,475	61	Weighted Average
	14,360		92.79% Pervious Area
	1,115		7.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0220	1.02		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.1	10	0.1000	2.21		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
0.7	70	0.1200	1.73		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
4.9					**Direct Entry, MIN TIME**
6.0	100	Total			

Summary for Subcatchment 3S: Subcatch 3S

Runoff = 1.8 cfs @ 12.10 hrs, Volume= 5,830 cf, Depth= 1.53"
Routed to Link POA-3 : POA-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Rainfall=4.60"

	Area (sf)	CN	Description
*	4,920	98	Paved parking
*	515	96	Gravel surface
	14,530	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	19,445	55	Woods, Good, HSG B
	1,920	70	Woods, Good, HSG C
*	4,390	98	Roof
	45,720	67	Weighted Average
	36,410		79.64% Pervious Area
	9,310		20.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	95	0.0110	1.06		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.4	50	0.0900	2.10		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
0.7	65	0.0530	1.61		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
0.5	40	0.0700	1.32		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
2.9					**Direct Entry, MIN TIME**
6.0	250	Total			

Summary for Link POA-1: POA-1

Inflow Area = 56,129 sf, 26.28% Impervious, Inflow Depth = 2.05" for 10 event
Inflow = 3.1 cfs @ 12.09 hrs, Volume= 9,587 cf
Primary = 3.1 cfs @ 12.09 hrs, Volume= 9,587 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Link POA-2: POA-2

Inflow Area = 15,475 sf, 7.21% Impervious, Inflow Depth = 1.14" for 10 event
Inflow = 0.4 cfs @ 12.10 hrs, Volume= 1,464 cf
Primary = 0.4 cfs @ 12.10 hrs, Volume= 1,464 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Link POA-3: POA-3

Inflow Area = 45,720 sf, 20.36% Impervious, Inflow Depth = 1.53" for 10 event
Inflow = 1.8 cfs @ 12.10 hrs, Volume= 5,830 cf
Primary = 1.8 cfs @ 12.10 hrs, Volume= 5,830 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Subcatchment 1S: Subcatch 1S

Runoff = 4.6 cfs @ 12.09 hrs, Volume= 14,114 cf, Depth= 3.02"
Routed to Link POA-1 : POA-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Rainfall=5.80"

	Area (sf)	CN	Description
*	14,750	98	Paved parking
*	4,000	96	Gravel surface
	17,015	61	>75% Grass cover, Good, HSG B
	3,605	74	>75% Grass cover, Good, HSG C
	9,039	55	Woods, Good, HSG B
	7,720	70	Woods, Good, HSG C
	56,129	74	Weighted Average
	41,379		73.72% Pervious Area
	14,750		26.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0100	0.89		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.3	40	0.0750	1.91		**Sheet Flow, B-C** Smooth surfaces n= 0.011 P2= 3.10"
0.5	70	0.1200	2.42		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
0.1	35	0.1000	6.42		**Shallow Concentrated Flow, D-E** Paved Kv= 20.3 fps
4.2					**Direct Entry, MIN TIME**
6.0	195	Total			

Summary for Subcatchment 2S: Subcatch 2S

Runoff = 0.7 cfs @ 12.10 hrs, Volume= 2,415 cf, Depth= 1.87"
Routed to Link POA-2 : POA-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Rainfall=5.80"

	Area (sf)	CN	Description
*	1,115	98	Paved parking
*	40	96	Gravel surface
	2,055	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	9,870	55	Woods, Good, HSG B
	2,395	70	Woods, Good, HSG C
	15,475	61	Weighted Average
	14,360		92.79% Pervious Area
	1,115		7.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0220	1.02		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.1	10	0.1000	2.21		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
0.7	70	0.1200	1.73		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
4.9					**Direct Entry, MIN TIME**
6.0	100	Total			

Summary for Subcatchment 3S: Subcatch 3S

Runoff = 2.9 cfs @ 12.09 hrs, Volume= 9,068 cf, Depth= 2.38"
Routed to Link POA-3 : POA-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Rainfall=5.80"

	Area (sf)	CN	Description
*	4,920	98	Paved parking
*	515	96	Gravel surface
	14,530	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	19,445	55	Woods, Good, HSG B
	1,920	70	Woods, Good, HSG C
*	4,390	98	Roof
	45,720	67	Weighted Average
	36,410		79.64% Pervious Area
	9,310		20.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	95	0.0110	1.06		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.4	50	0.0900	2.10		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
0.7	65	0.0530	1.61		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
0.5	40	0.0700	1.32		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
2.9					**Direct Entry, MIN TIME**
6.0	250	Total			

Summary for Link POA-1: POA-1

Inflow Area = 56,129 sf, 26.28% Impervious, Inflow Depth = 3.02" for 25 event
Inflow = 4.6 cfs @ 12.09 hrs, Volume= 14,114 cf
Primary = 4.6 cfs @ 12.09 hrs, Volume= 14,114 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Link POA-2: POA-2

Inflow Area = 15,475 sf, 7.21% Impervious, Inflow Depth = 1.87" for 25 event
Inflow = 0.7 cfs @ 12.10 hrs, Volume= 2,415 cf
Primary = 0.7 cfs @ 12.10 hrs, Volume= 2,415 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

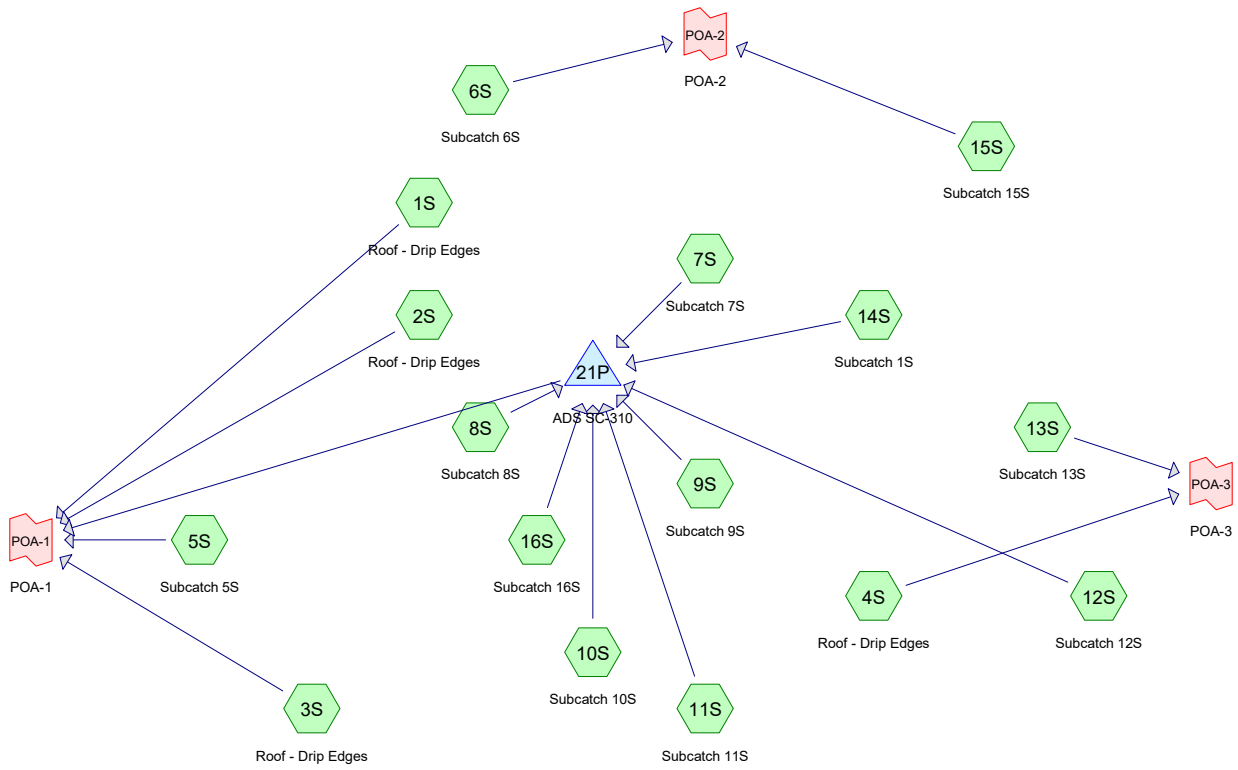
Summary for Link POA-3: POA-3

Inflow Area = 45,720 sf, 20.36% Impervious, Inflow Depth = 2.38" for 25 event
Inflow = 2.9 cfs @ 12.09 hrs, Volume= 9,068 cf
Primary = 2.9 cfs @ 12.09 hrs, Volume= 9,068 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Appendix 2B

Proposed Conditions
HydroCAD Summary



Subcat Reach Pond Link

Routing Diagram for 240577 Post Dev
Prepared by Sebago Technics, Printed 9/18/2024
HydroCAD® 10.20-5a s/n 00643 © 2023 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
48,361	61	>75% Grass cover, Good, HSG B (5S, 6S, 7S, 8S, 9S, 10S, 11S, 12S, 13S, 14S, 15S, 16S)
4,626	74	>75% Grass cover, Good, HSG C (5S, 13S, 15S)
26,313	98	Paved parking (5S, 6S, 7S, 8S, 9S, 10S, 12S, 14S, 16S)
10,675	98	Roofs (1S, 2S, 3S, 4S)
15,899	55	Woods, Good, HSG B (5S, 7S, 10S, 11S, 12S, 13S, 15S)
11,450	70	Woods, Good, HSG C (5S, 10S, 13S, 15S)
117,324	**73**	**TOTAL AREA**

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 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: Roof - Drip Edges Runoff Area=2,400 sf 100.00% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=0.2 cfs 574 cf

Subcatchment 2S: Roof - Drip Edges Runoff Area=2,400 sf 100.00% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=0.2 cfs 574 cf

Subcatchment 3S: Roof - Drip Edges Runoff Area=2,400 sf 100.00% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=0.2 cfs 574 cf

Subcatchment 4S: Roof - Drip Edges Runoff Area=3,475 sf 100.00% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=0.2 cfs 830 cf

Subcatchment 5S: Subcatch 5S Runoff Area=22,525 sf 14.38% Impervious Runoff Depth=0.77"
Flow Length=110' Tc=9.8 min CN=70 Runoff=0.4 cfs 1,446 cf

Subcatchment 6S: Subcatch 6S Runoff Area=4,100 sf 1.98% Impervious Runoff Depth=0.44"
Flow Length=85' Slope=0.0100 '/' Tc=16.8 min CN=62 Runoff=0.0 cfs 150 cf

Subcatchment 7S: Subcatch 7S Runoff Area=8,350 sf 43.77% Impervious Runoff Depth=1.14"
Flow Length=99' Tc=6.0 min CN=77 Runoff=0.2 cfs 794 cf

Subcatchment 8S: Subcatch 8S Runoff Area=9,550 sf 42.86% Impervious Runoff Depth=1.14"
Flow Length=180' Tc=15.4 min CN=77 Runoff=0.2 cfs 908 cf

Subcatchment 9S: Subcatch 9S Runoff Area=7,975 sf 44.28% Impervious Runoff Depth=1.14"
Flow Length=186' Tc=15.4 min CN=77 Runoff=0.2 cfs 758 cf

Subcatchment 10S: Subcatch 10S Runoff Area=11,250 sf 31.26% Impervious Runoff Depth=0.82"
Flow Length=152' Tc=11.3 min CN=71 Runoff=0.2 cfs 767 cf

Subcatchment 11S: Subcatch 11S Runoff Area=1,800 sf 0.00% Impervious Runoff Depth=0.34"
Flow Length=30' Slope=0.1000 '/' Tc=6.0 min CN=59 Runoff=0.0 cfs 51 cf

Subcatchment 12S: Subcatch 12S Runoff Area=4,375 sf 51.27% Impervious Runoff Depth=1.26"
Flow Length=78' Tc=8.9 min CN=79 Runoff=0.1 cfs 460 cf

Subcatchment 13S: Subcatch 13S Runoff Area=21,375 sf 0.00% Impervious Runoff Depth=0.37"
Flow Length=100' Tc=6.0 min CN=60 Runoff=0.1 cfs 659 cf

Subcatchment 14S: Subcatch 1S Runoff Area=8,800 sf 50.85% Impervious Runoff Depth=1.33"
Flow Length=100' Slope=0.0500 '/' Tc=10.0 min CN=80 Runoff=0.3 cfs 972 cf

Subcatchment 15S: Subcatch 15S Runoff Area=4,500 sf 0.00% Impervious Runoff Depth=0.55"
Flow Length=68' Tc=6.0 min CN=65 Runoff=0.1 cfs 207 cf

Subcatchment 16S: Subcatch 16S Runoff Area=2,049 sf 72.18% Impervious Runoff Depth=1.91"
Tc=6.0 min CN=88 Runoff=0.1 cfs 326 cf

Pond 21P: ADS SC-310 Peak Elev=174.61' Storage=1,976 cf Inflow=1.2 cfs 5,036 cf
Outflow=0.3 cfs 5,036 cf

Link POA-1: POA-1 Inflow=0.8 cfs 8,203 cf
Primary=0.8 cfs 8,203 cf

Link POA-2: POA-2 Inflow=0.1 cfs 357 cf
Primary=0.1 cfs 357 cf

Link POA-3: POA-3 Inflow=0.3 cfs 1,490 cf
Primary=0.3 cfs 1,490 cf

Total Runoff Area = 117,324 sf Runoff Volume = 10,050 cf Average Runoff Depth = 1.03"
68.47% Pervious = 80,336 sf 31.53% Impervious = 36,988 sf

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 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: Roof - Drip Edges Runoff Area=2,400 sf 100.00% Impervious Runoff Depth=4.36"
Tc=6.0 min CN=98 Runoff=0.2 cfs 873 cf

Subcatchment 2S: Roof - Drip Edges Runoff Area=2,400 sf 100.00% Impervious Runoff Depth=4.36"
Tc=6.0 min CN=98 Runoff=0.2 cfs 873 cf

Subcatchment 3S: Roof - Drip Edges Runoff Area=2,400 sf 100.00% Impervious Runoff Depth=4.36"
Tc=6.0 min CN=98 Runoff=0.2 cfs 873 cf

Subcatchment 4S: Roof - Drip Edges Runoff Area=3,475 sf 100.00% Impervious Runoff Depth=4.36"
Tc=6.0 min CN=98 Runoff=0.4 cfs 1,264 cf

Subcatchment 5S: Subcatch 5S Runoff Area=22,525 sf 14.38% Impervious Runoff Depth=1.74"
Flow Length=110' Tc=9.8 min CN=70 Runoff=0.9 cfs 3,275 cf

Subcatchment 6S: Subcatch 6S Runoff Area=4,100 sf 1.98% Impervious Runoff Depth=1.20"
Flow Length=85' Slope=0.0100 '/' Tc=16.8 min CN=62 Runoff=0.1 cfs 409 cf

Subcatchment 7S: Subcatch 7S Runoff Area=8,350 sf 43.77% Impervious Runoff Depth=2.29"
Flow Length=99' Tc=6.0 min CN=77 Runoff=0.5 cfs 1,595 cf

Subcatchment 8S: Subcatch 8S Runoff Area=9,550 sf 42.86% Impervious Runoff Depth=2.29"
Flow Length=180' Tc=15.4 min CN=77 Runoff=0.4 cfs 1,824 cf

Subcatchment 9S: Subcatch 9S Runoff Area=7,975 sf 44.28% Impervious Runoff Depth=2.29"
Flow Length=186' Tc=15.4 min CN=77 Runoff=0.4 cfs 1,523 cf

Subcatchment 10S: Subcatch 10S Runoff Area=11,250 sf 31.26% Impervious Runoff Depth=1.82"
Flow Length=152' Tc=11.3 min CN=71 Runoff=0.5 cfs 1,705 cf

Subcatchment 11S: Subcatch 11S Runoff Area=1,800 sf 0.00% Impervious Runoff Depth=1.01"
Flow Length=30' Slope=0.1000 '/' Tc=6.0 min CN=59 Runoff=0.0 cfs 152 cf

Subcatchment 12S: Subcatch 12S Runoff Area=4,375 sf 51.27% Impervious Runoff Depth=2.46"
Flow Length=78' Tc=8.9 min CN=79 Runoff=0.3 cfs 897 cf

Subcatchment 13S: Subcatch 13S Runoff Area=21,375 sf 0.00% Impervious Runoff Depth=1.07"
Flow Length=100' Tc=6.0 min CN=60 Runoff=0.5 cfs 1,914 cf

Subcatchment 14S: Subcatch 1S Runoff Area=8,800 sf 50.85% Impervious Runoff Depth=2.55"
Flow Length=100' Slope=0.0500 '/' Tc=10.0 min CN=80 Runoff=0.5 cfs 1,868 cf

Subcatchment 15S: Subcatch 15S Runoff Area=4,500 sf 0.00% Impervious Runoff Depth=1.39"
Flow Length=68' Tc=6.0 min CN=65 Runoff=0.2 cfs 523 cf

Subcatchment 16S: Subcatch 16S Runoff Area=2,049 sf 72.18% Impervious Runoff Depth=3.29"
Tc=6.0 min CN=88 Runoff=0.2 cfs 562 cf

Pond 21P: ADS SC-310 Peak Elev=174.84' Storage=2,839 cf Inflow=2.5 cfs 10,127 cf
Outflow=1.6 cfs 10,127 cf

Link POA-1: POA-1 Inflow=2.4 cfs 16,021 cf
Primary=2.4 cfs 16,021 cf

Link POA-2: POA-2 Inflow=0.2 cfs 932 cf
Primary=0.2 cfs 932 cf

Link POA-3: POA-3 Inflow=0.9 cfs 3,177 cf
Primary=0.9 cfs 3,177 cf

Total Runoff Area = 117,324 sf Runoff Volume = 20,129 cf Average Runoff Depth = 2.06"
68.47% Pervious = 80,336 sf 31.53% Impervious = 36,988 sf

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 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: Roof - Drip Edges Runoff Area=2,400 sf 100.00% Impervious Runoff Depth=5.56"
Tc=6.0 min CN=98 Runoff=0.3 cfs 1,112 cf

Subcatchment 2S: Roof - Drip Edges Runoff Area=2,400 sf 100.00% Impervious Runoff Depth=5.56"
Tc=6.0 min CN=98 Runoff=0.3 cfs 1,112 cf

Subcatchment 3S: Roof - Drip Edges Runoff Area=2,400 sf 100.00% Impervious Runoff Depth=5.56"
Tc=6.0 min CN=98 Runoff=0.3 cfs 1,112 cf

Subcatchment 4S: Roof - Drip Edges Runoff Area=3,475 sf 100.00% Impervious Runoff Depth=5.56"
Tc=6.0 min CN=98 Runoff=0.5 cfs 1,611 cf

Subcatchment 5S: Subcatch 5S Runoff Area=22,525 sf 14.38% Impervious Runoff Depth=2.65"
Flow Length=110' Tc=9.8 min CN=70 Runoff=1.4 cfs 4,969 cf

Subcatchment 6S: Subcatch 6S Runoff Area=4,100 sf 1.98% Impervious Runoff Depth=1.95"
Flow Length=85' Slope=0.0100 '/' Tc=16.8 min CN=62 Runoff=0.1 cfs 668 cf

Subcatchment 7S: Subcatch 7S Runoff Area=8,350 sf 43.77% Impervious Runoff Depth=3.31"
Flow Length=99' Tc=6.0 min CN=77 Runoff=0.7 cfs 2,300 cf

Subcatchment 8S: Subcatch 8S Runoff Area=9,550 sf 42.86% Impervious Runoff Depth=3.31"
Flow Length=180' Tc=15.4 min CN=77 Runoff=0.6 cfs 2,630 cf

Subcatchment 9S: Subcatch 9S Runoff Area=7,975 sf 44.28% Impervious Runoff Depth=3.31"
Flow Length=186' Tc=15.4 min CN=77 Runoff=0.5 cfs 2,196 cf

Subcatchment 10S: Subcatch 10S Runoff Area=11,250 sf 31.26% Impervious Runoff Depth=2.74"
Flow Length=152' Tc=11.3 min CN=71 Runoff=0.7 cfs 2,567 cf

Subcatchment 11S: Subcatch 11S Runoff Area=1,800 sf 0.00% Impervious Runoff Depth=1.71"
Flow Length=30' Slope=0.1000 '/' Tc=6.0 min CN=59 Runoff=0.1 cfs 257 cf

Subcatchment 12S: Subcatch 12S Runoff Area=4,375 sf 51.27% Impervious Runoff Depth=3.50"
Flow Length=78' Tc=8.9 min CN=79 Runoff=0.4 cfs 1,277 cf

Subcatchment 13S: Subcatch 13S Runoff Area=21,375 sf 0.00% Impervious Runoff Depth=1.79"
Flow Length=100' Tc=6.0 min CN=60 Runoff=1.0 cfs 3,192 cf

Subcatchment 14S: Subcatch 1S Runoff Area=8,800 sf 50.85% Impervious Runoff Depth=3.60"
Flow Length=100' Slope=0.0500 '/' Tc=10.0 min CN=80 Runoff=0.7 cfs 2,641 cf

Subcatchment 15S: Subcatch 15S Runoff Area=4,500 sf 0.00% Impervious Runoff Depth=2.21"
Flow Length=68' Tc=6.0 min CN=65 Runoff=0.3 cfs 828 cf

Subcatchment 16S: Subcatch 16S Runoff Area=2,049 sf 72.18% Impervious Runoff Depth=4.43"
Tc=6.0 min CN=88 Runoff=0.2 cfs 757 cf

Pond 21P: ADS SC-310 Peak Elev=175.00' Storage=3,408 cf Inflow=3.7 cfs 14,625 cf
Outflow=2.9 cfs 14,625 cf

Link POA-1: POA-1 Inflow=4.4 cfs 22,932 cf
Primary=4.4 cfs 22,932 cf

Link POA-2: POA-2 Inflow=0.3 cfs 1,496 cf
Primary=0.3 cfs 1,496 cf

Link POA-3: POA-3 Inflow=1.4 cfs 4,803 cf
Primary=1.4 cfs 4,803 cf

Total Runoff Area = 117,324 sf Runoff Volume = 29,230 cf Average Runoff Depth = 2.99"
68.47% Pervious = 80,336 sf 31.53% Impervious = 36,988 sf

Summary for Subcatchment 1S: Roof - Drip Edges

Runoff = 0.2 cfs @ 12.08 hrs, Volume= 574 cf, Depth= 2.87"
Routed to Link POA-1 : POA-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Rainfall=3.10"

	Area (sf)	CN	Description
*	2,400	98	Roofs
*	0	98	Paved parking
	0	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	2,400	98	Weighted Average
	2,400		100.00% Impervious Area

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

Summary for Subcatchment 2S: Roof - Drip Edges

Runoff = 0.2 cfs @ 12.08 hrs, Volume= 574 cf, Depth= 2.87"
Routed to Link POA-1 : POA-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Rainfall=3.10"

	Area (sf)	CN	Description
*	2,400	98	Roofs
*	0	98	Paved parking
	0	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	2,400	98	Weighted Average
	2,400		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Roof -MIN TIME**

Summary for Subcatchment 3S: Roof - Drip Edges

Runoff = 0.2 cfs @ 12.08 hrs, Volume= 574 cf, Depth= 2.87"
Routed to Link POA-1 : POA-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Rainfall=3.10"

	Area (sf)	CN	Description
*	2,400	98	Roofs
*	0	98	Paved parking
	0	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	2,400	98	Weighted Average
	2,400		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Roof -MIN TIME**

Summary for Subcatchment 4S: Roof - Drip Edges

Runoff = 0.2 cfs @ 12.08 hrs, Volume= 830 cf, Depth= 2.87"
Routed to Link POA-3 : POA-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Rainfall=3.10"

	Area (sf)	CN	Description
*	3,475	98	Roofs
*	0	98	Paved parking
	0	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	3,475	98	Weighted Average
	3,475		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Roof - MIN TIME**

Summary for Subcatchment 5S: Subcatch 5S

Runoff = 0.4 cfs @ 12.15 hrs, Volume= 1,446 cf, Depth= 0.77"
Routed to Link POA-1 : POA-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Rainfall=3.10"

	Area (sf)	CN	Description
*	0	98	Roofs
*	3,239	98	Paved parking
	10,664	61	>75% Grass cover, Good, HSG B
	4,231	74	>75% Grass cover, Good, HSG C
	303	55	Woods, Good, HSG B
	4,088	70	Woods, Good, HSG C
	22,525	70	Weighted Average
	19,286		85.62% Pervious Area
	3,239		14.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	70	0.0280	0.12		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.3	40	0.1300	2.52		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
9.8	110	Total			

Summary for Subcatchment 6S: Subcatch 6S

Runoff = 0.0 cfs @ 12.33 hrs, Volume= 150 cf, Depth= 0.44"
Routed to Link POA-2 : POA-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Rainfall=3.10"

	Area (sf)	CN	Description
*	0	98	Roofs
*	81	98	Paved parking
	4,019	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	4,100	62	Weighted Average
	4,019		98.02% Pervious Area
	81		1.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	85	0.0100	0.08		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"

Summary for Subcatchment 7S: Subcatch 7S

Runoff = 0.2 cfs @ 12.09 hrs, Volume= 794 cf, Depth= 1.14"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Rainfall=3.10"

	Area (sf)	CN	Description
*	0	98	Roofs
*	3,655	98	Paved parking
	4,645	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	50	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	8,350	77	Weighted Average
	4,695		56.23% Pervious Area
	3,655		43.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	37	0.3300	0.29		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.4	62	0.0200	2.87		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
3.5					**Direct Entry, MIN TIME**
6.0	99	Total			

Summary for Subcatchment 8S: Subcatch 8S

Runoff = 0.2 cfs @ 12.23 hrs, Volume= 908 cf, Depth= 1.14"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Rainfall=3.10"

	Area (sf)	CN	Description
*	0	98	Roofs
*	4,093	98	Paved parking
	5,457	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	9,550	77	Weighted Average
	5,457		57.14% Pervious Area
	4,093		42.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	150	0.0400	0.16		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.2	30	0.0200	2.87		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
15.4	180	Total			

Summary for Subcatchment 9S: Subcatch 9S

Runoff = 0.2 cfs @ 12.23 hrs, Volume= 758 cf, Depth= 1.14"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Rainfall=3.10"

	Area (sf)	CN	Description
*	0	98	Roofs
*	3,531	98	Paved parking
	4,444	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	7,975	77	Weighted Average
	4,444		55.72% Pervious Area
	3,531		44.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	150	0.0400	0.16		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.2	36	0.0200	2.87		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
15.4	186	Total			

Summary for Subcatchment 10S: Subcatch 10S

Runoff = 0.2 cfs @ 12.17 hrs, Volume= 767 cf, Depth= 0.82"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Rainfall=3.10"

	Area (sf)	CN	Description
*	0	98	Roofs
*	3,517	98	Paved parking
	1,593	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	4,862	55	Woods, Good, HSG B
	1,278	70	Woods, Good, HSG C
	11,250	71	Weighted Average
	7,733		68.74% Pervious Area
	3,517		31.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	107	0.0460	0.16		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.3	45	0.0200	2.87		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
11.3	152	Total			

Summary for Subcatchment 11S: Subcatch 11S

Runoff = 0.0 cfs @ 12.14 hrs, Volume= 51 cf, Depth= 0.34"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Rainfall=3.10"

	Area (sf)	CN	Description
*	0	98	Roofs
*	0	98	Paved parking
	1,153	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	647	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	1,800	59	Weighted Average
	1,800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	15	0.1000	0.10		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.10"
0.1	15	0.1000	2.21		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
3.4					**Direct Entry, MIN TIME**
6.0	30	Total			

Summary for Subcatchment 12S: Subcatch 12S

Runoff = 0.1 cfs @ 12.13 hrs, Volume= 460 cf, Depth= 1.26"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Rainfall=3.10"

	Area (sf)	CN	Description
*	0	98	Roofs
*	2,243	98	Paved parking
	1,079	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	1,053	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	4,375	79	Weighted Average
	2,132		48.73% Pervious Area
	2,243		51.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.7	45	0.0400	0.09		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.10"
0.0	7	0.3000	3.83		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
0.2	26	0.0200	2.87		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
8.9	78	Total			

Summary for Subcatchment 13S: Subcatch 13S

Runoff = 0.1 cfs @ 12.13 hrs, Volume= 659 cf, Depth= 0.37"
Routed to Link POA-3 : POA-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Rainfall=3.10"

	Area (sf)	CN	Description
*	0	98	Roofs
*	0	98	Paved parking
	9,053	61	>75% Grass cover, Good, HSG B
	84	74	>75% Grass cover, Good, HSG C
	8,257	55	Woods, Good, HSG B
	3,981	70	Woods, Good, HSG C
	21,375	60	Weighted Average
	21,375		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.9	30	0.1000	0.17		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.6	70	0.1400	1.87		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
2.5					**Direct Entry, MIN TIME**
6.0	100	Total			

Summary for Subcatchment 14S: Subcatch 1S

Runoff = 0.3 cfs @ 12.14 hrs, Volume= 972 cf, Depth= 1.33"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Rainfall=3.10"

	Area (sf)	CN	Description
*	0	98	Roofs
*	4,475	98	Paved parking
	4,325	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	8,800	80	Weighted Average
	4,325		49.15% Pervious Area
	4,475		50.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.0500	0.17		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"

Summary for Subcatchment 15S: Subcatch 15S

Runoff = 0.1 cfs @ 12.11 hrs, Volume= 207 cf, Depth= 0.55"
Routed to Link POA-2 : POA-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Rainfall=3.10"

	Area (sf)	CN	Description
*	0	98	Roofs
*	0	98	Paved parking
	1,359	61	>75% Grass cover, Good, HSG B
	311	74	>75% Grass cover, Good, HSG C
	727	55	Woods, Good, HSG B
	2,103	70	Woods, Good, HSG C
	4,500	65	Weighted Average
	4,500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	38	0.1000	0.18		**Sheet Flow, A-B**
					Grass: Dense n= 0.240 P2= 3.10"
0.2	30	0.3000	2.74		**Shallow Concentrated Flow, B-C**
					Woodland Kv= 5.0 fps
2.3					**Direct Entry, MIN TIME**
6.0	68	Total			

Summary for Subcatchment 16S: Subcatch 16S

Runoff = 0.1 cfs @ 12.09 hrs, Volume= 326 cf, Depth= 1.91"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Rainfall=3.10"

	Area (sf)	CN	Description
*	0	98	Roofs
*	1,479	98	Paved parking
	570	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	2,049	88	Weighted Average
	570		27.82% Pervious Area
	1,479		72.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Pavement -MIN TIME**

Summary for Pond 21P: ADS SC-310

Inflow Area = 54,149 sf, 42.46% Impervious, Inflow Depth = 1.12" for 2 event
Inflow = 1.2 cfs @ 12.14 hrs, Volume= 5,036 cf
Outflow = 0.3 cfs @ 12.69 hrs, Volume= 5,036 cf, Atten= 75%, Lag= 32.6 min
Primary = 0.3 cfs @ 12.69 hrs, Volume= 5,036 cf
Routed to Link POA-1 : POA-1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 174.61' @ 12.69 hrs Surf.Area= 4,903 sf Storage= 1,976 cf
Flood Elev= 179.18' Surf.Area= 4,903 sf Storage= 6,274 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 381.6 min (1,239.4 - 857.7)

Volume	Invert	Avail.Storage	Storage Description
#1	171.35'	0 cf	**81.50'W x 60.16'L x 2.50'H Prismatoid** 12,258 cf Overall x 0.0% Voids
#2A	173.85'	3,444 cf	**81.50'W x 60.16'L x 2.33'H Field A** -Impervious 11,440 cf Overall - 2,830 cf Embedded = 8,610 cf x 40.0% Voids
#3A	174.35'	2,830 cf	**ADS_StormTech SC-310 +Cap** x 192 Inside #2 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap 192 Chambers in 24 Rows
		6,274 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	171.35'	**18.0" Round Culvert** L= 62.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 171.35' / 170.73' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	171.45'	**0.8" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	174.50'	**30.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	175.00'	**5.0' long x 2.00' rise Sharp-Crested Rectangular Weir X 0.00** 2 End Contraction(s)

Primary OutFlow Max=0.3 cfs @ 12.69 hrs HW=174.61' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.3 cfs of 10.6 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.0 cfs @ 8.51 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 0.3 cfs @ 1.04 fps)
  └─**4=Sharp-Crested Rectangular Weir** (Controls 0.0 cfs)

Summary for Link POA-1: POA-1

Inflow Area = 83,874 sf, 39.86% Impervious, Inflow Depth = 1.17" for 2 event
Inflow = 0.8 cfs @ 12.11 hrs, Volume= 8,203 cf
Primary = 0.8 cfs @ 12.11 hrs, Volume= 8,203 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Link POA-2: POA-2

Inflow Area = 8,600 sf, 0.94% Impervious, Inflow Depth = 0.50" for 2 event
Inflow = 0.1 cfs @ 12.13 hrs, Volume= 357 cf
Primary = 0.1 cfs @ 12.13 hrs, Volume= 357 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Link POA-3: POA-3

Inflow Area = 24,850 sf, 13.98% Impervious, Inflow Depth = 0.72" for 2 event
Inflow = 0.3 cfs @ 12.10 hrs, Volume= 1,490 cf
Primary = 0.3 cfs @ 12.10 hrs, Volume= 1,490 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Subcatchment 1S: Roof - Drip Edges

Runoff = 0.2 cfs @ 12.08 hrs, Volume= 873 cf, Depth= 4.36"
Routed to Link POA-1 : POA-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Rainfall=4.60"

	Area (sf)	CN	Description
*	2,400	98	Roofs
*	0	98	Paved parking
	0	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	2,400	98	Weighted Average
	2,400		100.00% Impervious Area

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

Summary for Subcatchment 2S: Roof - Drip Edges

Runoff = 0.2 cfs @ 12.08 hrs, Volume= 873 cf, Depth= 4.36"
Routed to Link POA-1 : POA-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Rainfall=4.60"

	Area (sf)	CN	Description
*	2,400	98	Roofs
*	0	98	Paved parking
	0	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	2,400	98	Weighted Average
	2,400		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Roof -MIN TIME**

Summary for Subcatchment 3S: Roof - Drip Edges

Runoff = 0.2 cfs @ 12.08 hrs, Volume= 873 cf, Depth= 4.36"
Routed to Link POA-1 : POA-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Rainfall=4.60"

	Area (sf)	CN	Description
*	2,400	98	Roofs
*	0	98	Paved parking
	0	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	2,400	98	Weighted Average
	2,400		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Roof -MIN TIME**

Summary for Subcatchment 4S: Roof - Drip Edges

Runoff = 0.4 cfs @ 12.08 hrs, Volume= 1,264 cf, Depth= 4.36"
Routed to Link POA-3 : POA-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Rainfall=4.60"

	Area (sf)	CN	Description
*	3,475	98	Roofs
*	0	98	Paved parking
	0	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	3,475	98	Weighted Average
	3,475		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Roof - MIN TIME**

Summary for Subcatchment 5S: Subcatch 5S

Runoff = 0.9 cfs @ 12.14 hrs, Volume= 3,275 cf, Depth= 1.74"
Routed to Link POA-1 : POA-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Rainfall=4.60"

	Area (sf)	CN	Description
*	0	98	Roofs
*	3,239	98	Paved parking
	10,664	61	>75% Grass cover, Good, HSG B
	4,231	74	>75% Grass cover, Good, HSG C
	303	55	Woods, Good, HSG B
	4,088	70	Woods, Good, HSG C
	22,525	70	Weighted Average
	19,286		85.62% Pervious Area
	3,239		14.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	70	0.0280	0.12		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.3	40	0.1300	2.52		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
9.8	110	Total			

Summary for Subcatchment 6S: Subcatch 6S

Runoff = 0.1 cfs @ 12.26 hrs, Volume= 409 cf, Depth= 1.20"
Routed to Link POA-2 : POA-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Rainfall=4.60"

	Area (sf)	CN	Description
*	0	98	Roofs
*	81	98	Paved parking
	4,019	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	4,100	62	Weighted Average
	4,019		98.02% Pervious Area
	81		1.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	85	0.0100	0.08		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"

Summary for Subcatchment 7S: Subcatch 7S

Runoff = 0.5 cfs @ 12.09 hrs, Volume= 1,595 cf, Depth= 2.29"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Rainfall=4.60"

	Area (sf)	CN	Description
*	0	98	Roofs
*	3,655	98	Paved parking
	4,645	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	50	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	8,350	77	Weighted Average
	4,695		56.23% Pervious Area
	3,655		43.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	37	0.3300	0.29		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.4	62	0.0200	2.87		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
3.5					**Direct Entry, MIN TIME**
6.0	99	Total			

Summary for Subcatchment 8S: Subcatch 8S

Runoff = 0.4 cfs @ 12.21 hrs, Volume= 1,824 cf, Depth= 2.29"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Rainfall=4.60"

	Area (sf)	CN	Description
*	0	98	Roofs
*	4,093	98	Paved parking
	5,457	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	9,550	77	Weighted Average
	5,457		57.14% Pervious Area
	4,093		42.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	150	0.0400	0.16		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.2	30	0.0200	2.87		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
15.4	180	Total			

Summary for Subcatchment 9S: Subcatch 9S

Runoff = 0.4 cfs @ 12.21 hrs, Volume= 1,523 cf, Depth= 2.29"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Rainfall=4.60"

	Area (sf)	CN	Description
*	0	98	Roofs
*	3,531	98	Paved parking
	4,444	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	7,975	77	Weighted Average
	4,444		55.72% Pervious Area
	3,531		44.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	150	0.0400	0.16		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.2	36	0.0200	2.87		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
15.4	186	Total			

Summary for Subcatchment 10S: Subcatch 10S

Runoff = 0.5 cfs @ 12.16 hrs, Volume= 1,705 cf, Depth= 1.82"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Rainfall=4.60"

	Area (sf)	CN	Description
*	0	98	Roofs
*	3,517	98	Paved parking
	1,593	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	4,862	55	Woods, Good, HSG B
	1,278	70	Woods, Good, HSG C
	11,250	71	Weighted Average
	7,733		68.74% Pervious Area
	3,517		31.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	107	0.0460	0.16		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.3	45	0.0200	2.87		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
11.3	152	Total			

Summary for Subcatchment 11S: Subcatch 11S

Runoff = 0.0 cfs @ 12.10 hrs, Volume= 152 cf, Depth= 1.01"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Rainfall=4.60"

	Area (sf)	CN	Description
*	0	98	Roofs
*	0	98	Paved parking
	1,153	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	647	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	1,800	59	Weighted Average
	1,800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	15	0.1000	0.10		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.10"
0.1	15	0.1000	2.21		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
3.4					**Direct Entry, MIN TIME**
6.0	30	Total			

Summary for Subcatchment 12S: Subcatch 12S

Runoff = 0.3 cfs @ 12.13 hrs, Volume= 897 cf, Depth= 2.46"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Rainfall=4.60"

	Area (sf)	CN	Description
*	0	98	Roofs
*	2,243	98	Paved parking
	1,079	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	1,053	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	4,375	79	Weighted Average
	2,132		48.73% Pervious Area
	2,243		51.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.7	45	0.0400	0.09		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.10"
0.0	7	0.3000	3.83		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
0.2	26	0.0200	2.87		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
8.9	78	Total			

Summary for Subcatchment 13S: Subcatch 13S

Runoff = 0.5 cfs @ 12.10 hrs, Volume= 1,914 cf, Depth= 1.07"
Routed to Link POA-3 : POA-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Rainfall=4.60"

	Area (sf)	CN	Description
*	0	98	Roofs
*	0	98	Paved parking
	9,053	61	>75% Grass cover, Good, HSG B
	84	74	>75% Grass cover, Good, HSG C
	8,257	55	Woods, Good, HSG B
	3,981	70	Woods, Good, HSG C
	21,375	60	Weighted Average
	21,375		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.9	30	0.1000	0.17		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.6	70	0.1400	1.87		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
2.5					**Direct Entry, MIN TIME**
6.0	100	Total			

Summary for Subcatchment 14S: Subcatch 1S

Runoff = 0.5 cfs @ 12.14 hrs, Volume= 1,868 cf, Depth= 2.55"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Rainfall=4.60"

	Area (sf)	CN	Description
*	0	98	Roofs
*	4,475	98	Paved parking
	4,325	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	8,800	80	Weighted Average
	4,325		49.15% Pervious Area
	4,475		50.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.0500	0.17		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"

Summary for Subcatchment 15S: Subcatch 15S

Runoff = 0.2 cfs @ 12.10 hrs, Volume= 523 cf, Depth= 1.39"
Routed to Link POA-2 : POA-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Rainfall=4.60"

	Area (sf)	CN	Description
*	0	98	Roofs
*	0	98	Paved parking
	1,359	61	>75% Grass cover, Good, HSG B
	311	74	>75% Grass cover, Good, HSG C
	727	55	Woods, Good, HSG B
	2,103	70	Woods, Good, HSG C
	4,500	65	Weighted Average
	4,500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	38	0.1000	0.18		**Sheet Flow, A-B**
					Grass: Dense n= 0.240 P2= 3.10"
0.2	30	0.3000	2.74		**Shallow Concentrated Flow, B-C**
					Woodland Kv= 5.0 fps
2.3					**Direct Entry, MIN TIME**
6.0	68	Total			

Summary for Subcatchment 16S: Subcatch 16S

Runoff = 0.2 cfs @ 12.09 hrs, Volume= 562 cf, Depth= 3.29"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Rainfall=4.60"

	Area (sf)	CN	Description
*	0	98	Roofs
*	1,479	98	Paved parking
	570	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	2,049	88	Weighted Average
	570		27.82% Pervious Area
	1,479		72.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Pavement -MIN TIME**

Summary for Pond 21P: ADS SC-310

Inflow Area = 54,149 sf, 42.46% Impervious, Inflow Depth = 2.24" for 10 event
Inflow = 2.5 cfs @ 12.14 hrs, Volume= 10,127 cf
Outflow = 1.6 cfs @ 12.35 hrs, Volume= 10,127 cf, Atten= 37%, Lag= 12.8 min
Primary = 1.6 cfs @ 12.35 hrs, Volume= 10,127 cf
Routed to Link POA-1 : POA-1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 174.84' @ 12.35 hrs Surf.Area= 4,903 sf Storage= 2,839 cf
Flood Elev= 179.18' Surf.Area= 4,903 sf Storage= 6,274 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 208.4 min (1,046.3 - 837.9)

Volume	Invert	Avail.Storage	Storage Description
#1	171.35'	0 cf	**81.50'W x 60.16'L x 2.50'H Prismatoid** 12,258 cf Overall x 0.0% Voids
#2A	173.85'	3,444 cf	**81.50'W x 60.16'L x 2.33'H Field A** -Impervious 11,440 cf Overall - 2,830 cf Embedded = 8,610 cf x 40.0% Voids
#3A	174.35'	2,830 cf	**ADS_StormTech SC-310 +Cap** x 192 Inside #2 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap 192 Chambers in 24 Rows
		6,274 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	171.35'	**18.0" Round Culvert** L= 62.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 171.35' / 170.73' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	171.45'	**0.8" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	174.50'	**30.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	175.00'	**5.0' long x 2.00' rise Sharp-Crested Rectangular Weir X 0.00** 2 End Contraction(s)

Primary OutFlow Max=1.6 cfs @ 12.35 hrs HW=174.84' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.6 cfs of 11.1 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.0 cfs @ 8.82 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 1.6 cfs @ 1.87 fps)
  └─**4=Sharp-Crested Rectangular Weir** (Controls 0.0 cfs)

Summary for Link POA-1: POA-1

Inflow Area = 83,874 sf, 39.86% Impervious, Inflow Depth = 2.29" for 10 event
Inflow = 2.4 cfs @ 12.29 hrs, Volume= 16,021 cf
Primary = 2.4 cfs @ 12.29 hrs, Volume= 16,021 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Link POA-2: POA-2

Inflow Area = 8,600 sf, 0.94% Impervious, Inflow Depth = 1.30" for 10 event
Inflow = 0.2 cfs @ 12.11 hrs, Volume= 932 cf
Primary = 0.2 cfs @ 12.11 hrs, Volume= 932 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Link POA-3: POA-3

Inflow Area = 24,850 sf, 13.98% Impervious, Inflow Depth = 1.53" for 10 event
Inflow = 0.9 cfs @ 12.09 hrs, Volume= 3,177 cf
Primary = 0.9 cfs @ 12.09 hrs, Volume= 3,177 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Subcatchment 1S: Roof - Drip Edges

Runoff = 0.3 cfs @ 12.08 hrs, Volume= 1,112 cf, Depth= 5.56"
Routed to Link POA-1 : POA-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Rainfall=5.80"

	Area (sf)	CN	Description
*	2,400	98	Roofs
*	0	98	Paved parking
	0	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	2,400	98	Weighted Average
	2,400		100.00% Impervious Area

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

Summary for Subcatchment 2S: Roof - Drip Edges

Runoff = 0.3 cfs @ 12.08 hrs, Volume= 1,112 cf, Depth= 5.56"
Routed to Link POA-1 : POA-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Rainfall=5.80"

	Area (sf)	CN	Description
*	2,400	98	Roofs
*	0	98	Paved parking
	0	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	2,400	98	Weighted Average
	2,400		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Roof -MIN TIME**

Summary for Subcatchment 3S: Roof - Drip Edges

Runoff = 0.3 cfs @ 12.08 hrs, Volume= 1,112 cf, Depth= 5.56"
Routed to Link POA-1 : POA-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Rainfall=5.80"

	Area (sf)	CN	Description
*	2,400	98	Roofs
*	0	98	Paved parking
	0	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	2,400	98	Weighted Average
	2,400		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Roof -MIN TIME**

Summary for Subcatchment 4S: Roof - Drip Edges

Runoff = 0.5 cfs @ 12.08 hrs, Volume= 1,611 cf, Depth= 5.56"
Routed to Link POA-3 : POA-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Rainfall=5.80"

	Area (sf)	CN	Description
*	3,475	98	Roofs
*	0	98	Paved parking
	0	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	3,475	98	Weighted Average
	3,475		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Roof - MIN TIME**

Summary for Subcatchment 5S: Subcatch 5S

Runoff = 1.4 cfs @ 12.14 hrs, Volume= 4,969 cf, Depth= 2.65"
Routed to Link POA-1 : POA-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Roofs
*	3,239	98	Paved parking
	10,664	61	>75% Grass cover, Good, HSG B
	4,231	74	>75% Grass cover, Good, HSG C
	303	55	Woods, Good, HSG B
	4,088	70	Woods, Good, HSG C
	22,525	70	Weighted Average
	19,286		85.62% Pervious Area
	3,239		14.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	70	0.0280	0.12		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.3	40	0.1300	2.52		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
9.8	110	Total			

Summary for Subcatchment 6S: Subcatch 6S

Runoff = 0.1 cfs @ 12.25 hrs, Volume= 668 cf, Depth= 1.95"
Routed to Link POA-2 : POA-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Roofs
*	81	98	Paved parking
	4,019	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	4,100	62	Weighted Average
	4,019		98.02% Pervious Area
	81		1.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	85	0.0100	0.08		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"

Summary for Subcatchment 7S: Subcatch 7S

Runoff = 0.7 cfs @ 12.09 hrs, Volume= 2,300 cf, Depth= 3.31"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Roofs
*	3,655	98	Paved parking
	4,645	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	50	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	8,350	77	Weighted Average
	4,695		56.23% Pervious Area
	3,655		43.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	37	0.3300	0.29		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.4	62	0.0200	2.87		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
3.5					**Direct Entry, MIN TIME**
6.0	99	Total			

Summary for Subcatchment 8S: Subcatch 8S

Runoff = 0.6 cfs @ 12.21 hrs, Volume= 2,630 cf, Depth= 3.31"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Roofs
*	4,093	98	Paved parking
	5,457	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	9,550	77	Weighted Average
	5,457		57.14% Pervious Area
	4,093		42.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	150	0.0400	0.16		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.2	30	0.0200	2.87		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
15.4	180	Total			

Summary for Subcatchment 9S: Subcatch 9S

Runoff = 0.5 cfs @ 12.21 hrs, Volume= 2,196 cf, Depth= 3.31"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Roofs
*	3,531	98	Paved parking
	4,444	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	7,975	77	Weighted Average
	4,444		55.72% Pervious Area
	3,531		44.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	150	0.0400	0.16		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.2	36	0.0200	2.87		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
15.4	186	Total			

Summary for Subcatchment 10S: Subcatch 10S

Runoff = 0.7 cfs @ 12.16 hrs, Volume= 2,567 cf, Depth= 2.74"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Roofs
*	3,517	98	Paved parking
	1,593	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	4,862	55	Woods, Good, HSG B
	1,278	70	Woods, Good, HSG C
	11,250	71	Weighted Average
	7,733		68.74% Pervious Area
	3,517		31.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	107	0.0460	0.16		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.3	45	0.0200	2.87		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
11.3	152	Total			

Summary for Subcatchment 11S: Subcatch 11S

Runoff = 0.1 cfs @ 12.10 hrs, Volume= 257 cf, Depth= 1.71"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Roofs
*	0	98	Paved parking
	1,153	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	647	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	1,800	59	Weighted Average
	1,800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	15	0.1000	0.10		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.10"
0.1	15	0.1000	2.21		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
3.4					**Direct Entry, MIN TIME**
6.0	30	Total			

Summary for Subcatchment 12S: Subcatch 12S

Runoff = 0.4 cfs @ 12.13 hrs, Volume= 1,277 cf, Depth= 3.50"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Roofs
*	2,243	98	Paved parking
	1,079	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	1,053	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	4,375	79	Weighted Average
	2,132		48.73% Pervious Area
	2,243		51.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.7	45	0.0400	0.09		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.10"
0.0	7	0.3000	3.83		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
0.2	26	0.0200	2.87		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
8.9	78	Total			

Summary for Subcatchment 13S: Subcatch 13S

Runoff = 1.0 cfs @ 12.10 hrs, Volume= 3,192 cf, Depth= 1.79"
Routed to Link POA-3 : POA-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Roofs
*	0	98	Paved parking
	9,053	61	>75% Grass cover, Good, HSG B
	84	74	>75% Grass cover, Good, HSG C
	8,257	55	Woods, Good, HSG B
	3,981	70	Woods, Good, HSG C
	21,375	60	Weighted Average
	21,375		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.9	30	0.1000	0.17		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.6	70	0.1400	1.87		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
2.5					**Direct Entry, MIN TIME**
6.0	100	Total			

Summary for Subcatchment 14S: Subcatch 1S

Runoff = 0.7 cfs @ 12.14 hrs, Volume= 2,641 cf, Depth= 3.60"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Roofs
*	4,475	98	Paved parking
	4,325	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	8,800	80	Weighted Average
	4,325		49.15% Pervious Area
	4,475		50.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.0500	0.17		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"

Summary for Subcatchment 15S: Subcatch 15S

Runoff = 0.3 cfs @ 12.09 hrs, Volume= 828 cf, Depth= 2.21"
Routed to Link POA-2 : POA-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Roofs
*	0	98	Paved parking
	1,359	61	>75% Grass cover, Good, HSG B
	311	74	>75% Grass cover, Good, HSG C
	727	55	Woods, Good, HSG B
	2,103	70	Woods, Good, HSG C
	4,500	65	Weighted Average
	4,500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	38	0.1000	0.18		**Sheet Flow, A-B**
					Grass: Dense n= 0.240 P2= 3.10"
0.2	30	0.3000	2.74		**Shallow Concentrated Flow, B-C**
					Woodland Kv= 5.0 fps
2.3					**Direct Entry, MIN TIME**
6.0	68	Total			

Summary for Subcatchment 16S: Subcatch 16S

Runoff = 0.2 cfs @ 12.09 hrs, Volume= 757 cf, Depth= 4.43"
Routed to Pond 21P : ADS SC-310

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Roofs
*	1,479	98	Paved parking
	570	61	>75% Grass cover, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	2,049	88	Weighted Average
	570		27.82% Pervious Area
	1,479		72.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Pavement -MIN TIME**

Summary for Pond 21P: ADS SC-310

Inflow Area = 54,149 sf, 42.46% Impervious, Inflow Depth = 3.24" for 25 event
Inflow = 3.7 cfs @ 12.14 hrs, Volume= 14,625 cf
Outflow = 2.9 cfs @ 12.27 hrs, Volume= 14,625 cf, Atten= 23%, Lag= 7.8 min
Primary = 2.9 cfs @ 12.27 hrs, Volume= 14,625 cf
Routed to Link POA-1 : POA-1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 175.00' @ 12.27 hrs Surf.Area= 4,903 sf Storage= 3,408 cf
Flood Elev= 179.18' Surf.Area= 4,903 sf Storage= 6,274 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 152.9 min (980.5 - 827.7)

Volume	Invert	Avail.Storage	Storage Description
#1	171.35'	0 cf	**81.50'W x 60.16'L x 2.50'H Prismatoid** 12,258 cf Overall x 0.0% Voids
#2A	173.85'	3,444 cf	**81.50'W x 60.16'L x 2.33'H Field A** -Impervious 11,440 cf Overall - 2,830 cf Embedded = 8,610 cf x 40.0% Voids
#3A	174.35'	2,830 cf	**ADS_StormTech SC-310 +Cap** x 192 Inside #2 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap 192 Chambers in 24 Rows
		6,274 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	171.35'	**18.0" Round Culvert** L= 62.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 171.35' / 170.73' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	171.45'	**0.8" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	174.50'	**30.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	175.00'	**5.0' long x 2.00' rise Sharp-Crested Rectangular Weir X 0.00** 2 End Contraction(s)

Primary OutFlow Max=2.9 cfs @ 12.27 hrs HW=175.00' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 2.9 cfs of 11.4 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.0 cfs @ 9.03 fps)
  - **3=Orifice/Grate** (Orifice Controls 2.8 cfs @ 2.27 fps)
  - **4=Sharp-Crested Rectangular Weir** (Controls 0.0 cfs)

Summary for Link POA-1: POA-1

Inflow Area = 83,874 sf, 39.86% Impervious, Inflow Depth = 3.28" for 25 event
Inflow = 4.4 cfs @ 12.19 hrs, Volume= 22,932 cf
Primary = 4.4 cfs @ 12.19 hrs, Volume= 22,932 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Link POA-2: POA-2

Inflow Area = 8,600 sf, 0.94% Impervious, Inflow Depth = 2.09" for 25 event
Inflow = 0.3 cfs @ 12.11 hrs, Volume= 1,496 cf
Primary = 0.3 cfs @ 12.11 hrs, Volume= 1,496 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Link POA-3: POA-3

Inflow Area = 24,850 sf, 13.98% Impervious, Inflow Depth = 2.32" for 25 event
Inflow = 1.4 cfs @ 12.09 hrs, Volume= 4,803 cf
Primary = 1.4 cfs @ 12.09 hrs, Volume= 4,803 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Appendix 3

Inspection, Maintenance and Housekeeping Plan

INSPECTION, MAINTENANCE, AND HOUSEKEEPING PLAN
WDCJCS Subdivision

By:
Sebago Technics, Inc.
75 John Roberts Road, Suite 4A
South Portland, Maine

Introduction

The following plan outlines the anticipated inspection and maintenance procedures for the erosion and sedimentation control measures as well as stormwater management facilities for the project. This plan also outlines several housekeeping requirements that shall be followed during and after construction. These procedures shall be followed in order to ensure the intended function of the designed measures and to prevent unreasonably adverse impacts to the surrounding environment.

The procedures outlined in this Inspection, Maintenance and Housekeeping Plan are provided as an overview of the anticipated practices to be used on this site. In some instances, additional measures may be required due to unexpected conditions. For additional detail on any of the erosion and sedimentation control measures or stormwater management devices to be utilized on this project, refer to the most recently revised edition of the "Maine Erosion and Sedimentation Control BMP" manual and/or the "Stormwater Management for Maine: Best Management Practices" manual as published by the Maine Department of Environmental Protection (MDEP).

During Construction

1. **Inspection:** During the construction process, it is the Contractor's responsibility to comply with the inspection and maintenance procedures outlined in this section. These responsibilities include inspecting disturbed and impervious areas, erosion control measures, materials storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. These areas shall be inspected at least once a week as well as before and after a storm event of 0.5" of rainfall in a 24-hour period, and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control, including the standards and conditions in any applicable permits, shall conduct the inspections.

2. **Maintenance:** All measures shall be maintained in an effective operating condition until areas are permanently stabilized. If Best Management Practices (BMPs) need to be maintained or modified, additional BMPs are necessary, or other corrective action is needed, implementation must be completed within 7 calendar days and prior to any storm event (0.5" of rainfall).

3. **Documentation:** A log summarizing the inspections and any corrective action taken must

be maintained on-site. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of erosion and sedimentation controls, material storage areas, and vehicle access points to the site. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and locations where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken. The log must be made accessible to the appropriate regulatory agency upon request. The permittee shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

4. **Specific Inspection and Maintenance Tasks:** The following is a list of erosion control and stormwater management measures and the specific inspection and maintenance tasks to be performed during construction.

A. Sediment Barriers:

- Hay bale barriers, silt fences, and filter berms shall be inspected immediately after each rainfall and at least daily during prolonged rainfall.
- If the fabric on a silt fence or filter barrier should decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, it shall be replaced.
- Sediment deposits should be removed after each storm event (0.5" of rainfall). They must be removed before deposits reach approximately one-half the height of the barrier.
- Filter berms shall be reshaped as needed.
- Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required should be dressed to conform to the existing grade, prepared, and seeded.

B. Riprap Materials:

- Once a riprap installation has been completed, it should require very little maintenance. It shall, however, be inspected periodically to determine if high flows have caused scour beneath the riprap or dislodged any of the stone.

C. Erosion Control Blankets:

- Inspect these reinforced areas semi-annually and after significant rainfall events for slumping, sliding, seepage, and scour. Pay close attention to unreinforced areas adjacent to the erosion control blankets, which may experience accelerated erosion.
- Review all applicable inspection and maintenance procedures recommended by the specific blanket manufacturer. These tasks shall be included in

addition to the requirements of this plan.

D. Stabilized Construction Entrances/Exits:

- The exit shall be maintained in a condition that will prevent tracking of sediment onto public rights-of-way.
- When the control pad becomes ineffective, the stone shall be removed along with the collected soil material. The entrance should then be reconstructed.
- Areas that have received mud-tracking or sediment deposits shall be swept or washed. Washing shall be done on an area stabilized with aggregate, which drains into an approved sediment-trapping device (not into storm drains, ditches, or waterways).

E. Temporary Seed and Mulch:

- Mulched areas should be inspected after rain events to check for rill erosion.
- If less than 90% of the soil surface is covered by mulch, additional mulch shall be applied in bare areas.
- In applications where seeding and mulch have been applied in conjunction with erosion control blankets, the blankets must be inspected after rain events for dislocation or undercutting.
- Mulch shall continue to be reapplied until 95% of the soil surface has established temporary vegetative cover.

F. Stabilized Temporary Drainage Swales:

- Sediment accumulation in the swale shall be removed once the cross section of the swale is reduced by 25%.
- The swales shall be inspected after rainfall events. Any evidence of sloughing of the side slopes or channel erosion shall be repaired and corrective action should be taken to prevent reoccurrence of the problem.
- In addition to the stabilized lining of the channel (i.e. erosion control blankets), stone check dams may be needed to further reduce channel velocity.

5. **Housekeeping:** The following general performance standards apply to the proposed project.

A. Spill prevention: Controls must be used to prevent pollutants from being discharged from materials on-site, including storage practices to minimize exposure of the materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation.

B. Groundwater protection: During construction, liquid petroleum products and

other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors, accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials.

C. Fugitive sediment and dust: Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control.

D. Debris and other materials: Litter, construction debris, and chemicals exposed to stormwater must be prevented from becoming a pollutant source.

E. Trench or foundation dewatering: Trench dewatering is the removal of water from trenches, foundations, cofferdams, ponds, and other areas within the construction area that retain water after excavation. In most cases, the collected water is heavily silted and hinders correct and safe construction practices. The collected water must be removed from the ponded area, either through gravity or pumping, and must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved.

Post-Construction

1. **Inspection:** After construction, it is the responsibility of the owner or assigned heirs to comply with the inspection and maintenance procedures outlined in this section. All measures must be maintained in effective operating condition. The owner shall inspect and maintain the BMPs, including but not limited to any parking areas, catch basins, drainage swales, detention basins and ponds, pipes and related structures, in accordance with all municipal and state inspection, cleaning and maintenance requirements of the approved post-construction stormwater management plan.

2. **Specific Inspection and Maintenance Tasks:** The following is a list of permanent erosion control and stormwater management measures and the inspection and maintenance tasks to be performed after construction. If the BMP requires maintenance, repair or replacement to function as intended by the approved post-construction stormwater management plan, the owner or operator of the BMP shall take corrective action(s) to address the deficiency or deficiencies as soon as possible after the deficiency is discovered and shall provide a record of the deficiency and corrective action(s) to the local municipality in the annual report.

   A. Vegetated Areas:

- Inspect vegetated areas, particularly slopes and embankments, early in the growing season or after heavy rains (>0.5") to identify active or potential erosion problems.
- Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows.

B. Ditches, Swales and Other Open Channels:

- Inspect ditches, swales, level spreaders and other open stormwater channels in the spring, in the late fall, and after heavy rains to remove any obstructions to flow. Remove accumulated sediments and debris, remove woody vegetative growth that could obstruct flow, and repair any erosion of the ditch lining.
- Vegetated ditches must be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity.
- Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable.
- If the ditch has a riprap lining, replace riprap in areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged.

C. Culverts:

- Inspect culverts in the spring, in the late fall, and after heavy rains (>0.5") to remove any obstructions to flow.
- Remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit.
- Inspect and repair any erosion damage at the culvert's inlet and outlet.

D. Removal of Winter Sand:

- Clear accumulations of winter sand in parking lots and along roadways at least once a year, preferably in the spring.
- Accumulations on pavement may be removed by pavement sweeping.
- Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader or other acceptable method.

E. Catch Basins:

- Inspect and, if required, clean out basins bi-annually starting in early spring in preferred.

- Cleaning of catch basins will be required when sediment of at least 6-inches has accumulated within the sump.
- Cleanout must include the removal and legal disposal of accumulated sediments and debris at the bottom of the basin, at any inlets grates, and any inflow channels to the basin, and at any pipes between basins.

F. Roof Drip Edges:

- These structures may not be paved over or altered in anyway. No gutter may be installed on the roof line.
- Debris and sediment buildup shall be removed as needed. Any bare area or erosion rills shall be repaired with new stone.
- See inspection log within Attachment 1 of this document for the inspection requirements of this BMP.

G. Subsurface Sand Filter:

- Follow Operation & Maintenance procedures per manufacturer.
- Inspect the site monthly for the first few months after construction. Then inspections can occur on an annual basis, preferably after rain events when clogging will be obvious.
- Make any repairs necessary to ensure the measure is operating properly.
- Regular maintenance is necessary to remove surface sediment, trash, debris,
  and leaf litter.
- Outlets and chambers need to be cleaned/repaired when drawdown times in
  the filter exceeds 36 hours.

G. Outlet Control Structures:

- Inspect outlet structures two times per year (preferably in spring and fall) to ensure that the outlet structures are working in their intended fashion and that they are free of debris.
- Clean structures when sediment depths reach 6 inches from invert of outlet.
- At a minimum, remove floating debris at the time of the inspection.

3. Documentation:

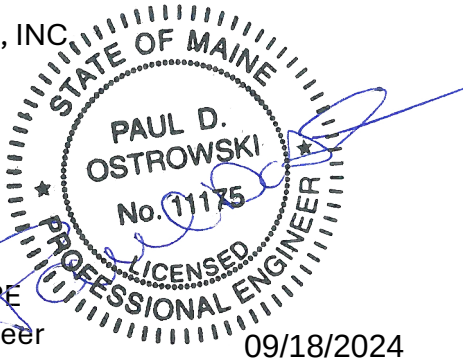
A. The owner or operator of a BMP or a qualified post-construction stormwater inspector hired by that person, shall, as required by the local municipality, provide a completed and signed certification on a form provided by the local municipality, certifying that the person has inspected the BMP(s) and that they are adequately maintained and functioning as intended by the approved post-

construction stormwater management plan, or that they required maintenance or repair, including the record of the deficiency and corrective action(s) taken.

B. A log summarizing the inspections and any corrective action taken must be maintained. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of controls. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and locations where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken. The log must be made accessible to the appropriate regulatory agency upon request. A sample "Stormwater Inspection and Maintenance Form" has been included as Attachment 1 of this Inspection, Maintenance, and Housekeeping Plan.

4. Duration of Maintenance: Perform maintenance as described and required for any associated permits unless and until the system is formally accepted by a municipality or quasi-municipal district, or is placed under the jurisdiction of a legally created association that will be responsible for the maintenance of the system. If a municipality or quasi-municipal district chooses to accept a stormwater management system, or a component of a stormwater system, it must provide a letter to the MDEP stating that it assumes responsibility for the system. The letter must specify the components of the system for which the municipality or district will assume responsibility, and that the municipality or district agrees to maintain those components of the system in compliance with MDEP standards. Upon such assumption of responsibility, and approval by the MDEP, the municipality, quasi-municipal district, or association becomes a co-permittee for this purpose only and must comply with all terms and conditions of the permit.

Prepared by:
SEBAGO TECHNICS, INC.



Paul D. Ostrowski, PE
Senior Project Engineer

09/18/2024

Attachment 1

Sample Post-Construction Inspection Form

ATTACHMENT 1 – STORMWATER INSPECTION AND MAINTENANCE LOG

WDCJCS Subdivision
Windham, Maine

This log is intended to accompany the Inspection, Maintenance, and Housekeeping Plan for WDCJCS Subdivision located at 55 High Street in Windham, Maine. The following items shall be checked, cleaned, and maintained on a regular basis as specified in the Maintenance Plan and as described in the sections below. This log shall be kept on file for a minimum of five (5) years and shall be available for review by the Town of Windham. Qualified personnel familiar with drainage systems and soils shall perform all inspections.

This form shall be submitted to the Town of Windham along with the Annual Stormwater Management Facilities Certification form, contained in Attachment 2, on or before June 1 of each year.

INSPECTION MAINTENANCE AND HOUSEKEEPING FORM			
General Information			
Project Name:		**Inspection Date:**	
Project Location:		**Current Weather:**	
		Date / Amount Last Precip:	
BMP Owner:		**Company conducting inspection:**	
Owner Mailing Address:		**Company Mailing Address**	
Owner Phone #:		**Company Phone #:**	
Owner Email:		**Inspector Name:**	
		Inspector Email:	
Site Element	**Suggested Maintenance (recm'd frequency)**	**Observations**	**Inspection Notes/Recommended Action**
Vegetated Areas	Inspect Slopes/Embankments for erosion (annually)		
	Replant bare areas or areas of sparse growth (annually)		
Ditches/Swales	Remove obstructions/debris/sediment (monthly)		
	Inspect for erosion/repair as needed (annually)		
	Remove woody vegetation (annually)		
	Mow vegetated ditches (annually)		
Catch Basins	Remove sediment/debris from sump (annually)		
	Remove accumulated debris from inlet grate		
Culverts	Remove sediment/debris from inlet/outlet aprons (annually)		
	Inspect inlet/outlet aprons for erosion, repair as needed (annually)		
	Inspect, repair as needed, riprap aprons for dislodged/sparse coverage (annually)		
Pipe Outlets	Remove sediment/debris from outlet aprons (annually)		
	Inspect outlet aprons for erosion, repair as needed (annually)		
	Inspect, repair as needed, riprap aprons for dislodged/sparse coverage (annually)		
Additional Notes/Observations:			

Subsurface Sand Filter

INSPECTION MAINTENANCE AND HOUSEKEEPING FORM			
General Information			
Project Name:		**Inspection Date:**	
Project Location:		**Current Weather:**	
		Date / Amount Last Precip:	
BMP Owner:		**Company conducting inspection:**	
Owner Mailing Address:		**Company Mailing Address**	
Owner Phone #:		**Company Phone #:**	
Owner Email:		**Inspector Name:**	
		Inspector Email:	

BMP Element	Suggested Maintenance	Observations	Inspection Notes/Recommended Action
Pretreatment			
	Sediment Depth/Removal (Annually)		
Outlet Control Structure			
	Sediment Depth (Annually)		
	Floatables/Debris (Annually)		
Discharge Pipe			
	Ground Stabilized (>1" rain, Annually)		
Subsurface Chambers			
	Sediment Depth/Removal (Annually)		

Additional Notes/Observations:

Roof Drip Edge Filter

INSPECTION MAINTENANCE AND HOUSEKEEPING FORM			
General Information			
Project Name:		**Inspection Date:**	
Project Location:		**Current Weather:**	
		Date / Amount Last Precip:	
BMP Owner:		**Company conducting inspection:**	
Owner Mailing Address:		**Company Mailing Address**	
Owner Phone #:		**Company Phone #:**	
Owner Email:		**Inspector Name:**	
		Inspector Email:	

BMP Element	Suggested Maintenance (recm'd frequency)	Observations	Inspection Notes/Recommended Action
Pretreatment	Sediment/Debris Removal (Annually)		
	Inspect for bare areas or rill erosion (Annually)		
Downstream Structure	Sediment Depth (Annually)		
	Floatables/Debris (Annually)		
Discharge Pipe	Ground Stabilized (>1" rain, Annually)		
Embankments	Review for signs of erosion (Twice Annually)		
Stone	Trim overgrown vegetation with string trimmer (annually)		
	Review trench for evidence of vehicular traffic or storage of snow within footprint (annually)		
	Confirm no excessive ponding of water (annually)		

Additional Notes/Observations:

Attachment 2

Town of Windham Annual Stormwater Management Facilities Certification

201 Attachment 1

Town of Windham

Appendix 1

Annual Stormwater Management Facilities Certification
(to be sent to Municipal Enforcement Authority)

I,_____ (print or type name), certify the following:

1. I am making this annual stormwater management facilities certification for the following property:_____ (print or type name of subdivision, condominium or other development) located at _____ (print or type address), (the "property");

2. The owner, operator, tenant, lessee or homeowners' association of the property is: _____ [name(s) of owner, operator, tenant, lessee, homeowners' association or other party having control over the property];

3. I am the owner, operator, tenant, lessee or president of the homeowners' association, or am a qualified third-party inspector hired by the same (circle one);

4. I have knowledge of erosion and stormwater control and have reviewed the approved post-construction stormwater management plan for the property;

5. On_____, 20_____, I inspected or had inspected by _____, a qualified third-party inspector, the stormwater management facilities, including but not limited to parking areas, catch basins, drainage swales, detention basins and ponds, pipes and related structures required by the approved post-construction stormwater management plan for the property;

6. At the time of my inspection of the stormwater management facilities on the property, I or the qualified third-party inspector identified the following need(s) for routine maintenance or deficiencies in the stormwater management facilities:
   _____
   _____
   _____
   _____
   _____

7. On_____, 20__, I took or had taken the following routine maintenance or the following corrective action(s) to address the deficiencies in the stormwater management facilities stated in 6 above:
   _____
   _____
   _____
   _____

8. As of the date of this certification, the stormwater management facilities are functioning as intended by the approved post-construction stormwater management plan for the property

Date:_____, 20_____ By:_____
Signature

_____
Print Name

STATE OF MAINE
_____, ss _____, 20_____

Personally appeared the above-named _____, the _____ of _____, and acknowledged the foregoing annual certification to be said person's free act and deed in said capacity.

Before me,

_____
Notary Public/Attorney at Law

Print Name: _____

Mail this certification to the Town of Windham at the following address:

Office of Code Enforcement
Town of Windham
8 School Road
Windham, ME 04062

Appendix 4

Subsurface Soil Investigations

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

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

August 29, 2024

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

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

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How Soil Surveys Are Made

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

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

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

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

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

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: 1:1,120 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 15 30 60 90

Feet
0 50 100 200 300

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 1:24,000.

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: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 20, Sep 5, 2023

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

Date(s) aerial images were photographed: Jul 22, 2021—Oct 7, 2021

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

MAP LEGEND	MAP INFORMATION
	imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BgB	Nicholville very fine sandy loam, 0 to 8 percent slopes	0.2	6.8%
EmB	Elmwood fine sandy loam, 0 to 8 percent slopes	2.2	88.7%
PbB	Paxton fine sandy loam, 3 to 8 percent slopes	0.1	4.5%
Totals for Area of Interest		**2.4**	**100.0%**

Map Unit Descriptions

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

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

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

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

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

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

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

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

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

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

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

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

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

Cumberland County and Part of Oxford County, Maine

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

Map Unit Setting

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

Map Unit Composition

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

Description of Nicholville

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

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

Map Unit Setting

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

Map Unit Composition

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

Description of Elmwood

Setting

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

Typical profile

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

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.7 inches)

Interpretive groups

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

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

Map Unit Setting

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

Map Unit Composition

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

Description of Paxton

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

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Appendix 5

Stormwater Management Plans

Section 9

Performance Standards & Approval Criteria

Section 9 – Performance Standards & Approval Criteria

This application is subject to review by several articles as defined within the Town of Windham's Land Use Ordinance (Chapter 120). Below, we offer the following narrative to directly address the applicable articles subject to this application:

ARTICLE 3 – DEFINITIONS:

Dwelling, Multifamily: A building containing three or more dwelling units. A multifamily dwelling may be attached to a nonresidential use.

The proposed project meets the definition of a multifamily dwelling development, as three (3) of the proposed buildings contain four (4) units, and one (1) proposed building contains six (6) units.

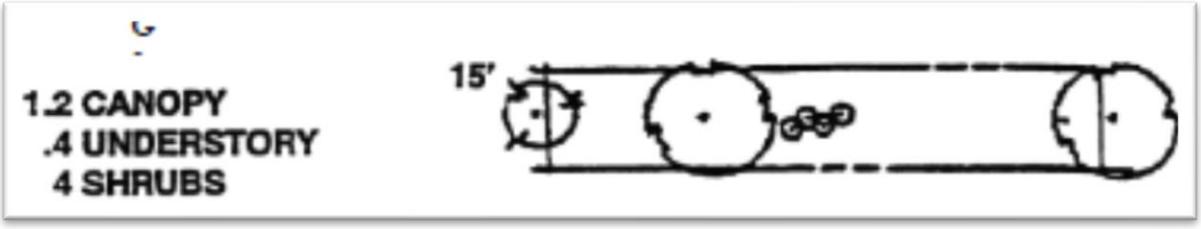
ARTICLE 4 – ZONING DISTRICTS:

(§120-415.B. – Village Commercial District (VC)): Permitted Uses – Dwelling, multifamily.

As defined above, the proposed multifamily dwelling development is a permitted use within the Village Commercial (VC) zoning district. The proposed site is identified on the Town's Tax Map 37 as Lot 24, and is also identified on the Town of Windham Land Use Map as being zoned within the VC District (Council approved, dated April 9, 2024).

ARTICLE 5 – PERFORMANCE STANDARDS

(§120-511.C.3.b. – Buffer Yard: Buffers Along Streets): Commercial Districts (C-1, C-2, C-3, C-4, VC, & WC Districts): Use Buffer Yard G.



The project site has approximately 260 linear feet of street frontage along High Street. As such, calculated below are the applicable Buffer Yard "G" standards:

	Required	*Proposed*
2.6 (frontage) x 1.2 =	*3.12 Canopy Trees*	*3 Canopy Trees*
2.6 (frontage) x 0.4 =	*1.04 Understory Trees*	*1 Understory Tree*
2.6 (frontage) x 4.0 =	*10 Shrubs*	*10 Shrubs*

The proposed trees and shrubs comply with the above standards, as the project is not required to round up from partial decimals. The proposed plantings use native species, as encouraged.

ARTICLE 8 – SITE PLAN REVIEW

This application is subject to the Site Plan Review criteria, as defined within the Town of Windham's Land Use Ordinance, §120-812 Major Site Performance Standards & Approval Criteria. As such, listed below are each of the applicable standards and how they relate to this proposed project.

§120-812.A. Utilization of the Site: *The property subject to this application is the site of the former John A. Andrew school building located at 55 High Street. The site is approximately 2.4 acres in size, and is zoned under the Windham Village Commercial (VC) zoning district. The site generally slopes upwards from High Street, is relatively level in the middle (where the former school building was located), and slopes back downwards towards the rear. The site also contains a small wetland area located along the northeastern border of the parcel. No wetland impacts are proposed under the scope of this application, and the proposed development reflects the natural capabilities of the site.*

§120-812.B. Vehicular Traffic: *The site's layout includes two (2) turnaround areas designed to provide adequate emergency vehicular turnaround and maneuvering. Additionally, the proposed access driveway will be designed to meet the applicable private road standards.*

§120-812.C. Parking & Loading Requirements: *The proposed development is designed to include a total of twenty-seven (27) vehicular parking spaces. The parking sequence provides an adequate amount of parking for the senior housing use, and complies with the minimum parking standard of a 1.5:1 ratio of parking spaces to dwelling units.*

§120-812.D. Pedestrian Traffic: *The proposed development incorporates a network of sidewalks that provide both internal connectivity and link externally to the existing sidewalk on the west side of High Street. Please see the plan information submitted for specific locations and details of the proposed layout.*

§120-812.E. Stormwater Management: *A Stormwater Management Report has been prepared for this proposed project, and is included in the enclosed Section 8 – Stormwater Management.*

§120-812.F. Erosion Control: *An Erosion & Sedimentation Control Plan has been developed for this project and is enclosed within the Plan Set.*

§120-812.G. Water Supply Provisions: *This proposed residential development will connect to existing public water infrastructure that is available along High Street. Please see the enclosed Section 7 – Utilities for the Ability to Serve request correspondence with the Portland Water District (PWD).*

§120-812.H. Sewage Disposal Provisions: *This proposed residential development will connect to existing public sewer infrastructure that is available along High Street. Please see the enclosed Section 7 – Utilities for the Ability to Serve request correspondence with the Portland Water District (PWD).*

§120-812.I. Utilities: *This proposed development includes utility connections for electrical, water, and sewer services. All proposed utilities are located underground, including the electrical service which is accomplished from connecting to the existing overhead lines along High Street, then drawn underground near the site's frontage. A Grading & Utility Plan will be submitted for Final Plan Review.*

§120-812.J. Groundwater Protection: *This proposed development will connect to available water supply provided by the Portland Water District (PWD) that has an existing main along High Street. The scale of this development is not anticipated to adversely impact the overall quality or quantity of available water supply.*

§120-812.K. Water Quality Protection: *The project site is located within the Upper Presumpscot River Watershed, which is not an At-Risk Lake Watershed or an Urban Impaired Stream Watershed, as defined by the Maine Department of Environmental Protection (MDEP). This project will utilize available public water supply from the existing connection along High Street and will incorporate a stormwater management system to provide treatment of runoff. Day-to-day operations do not require hazardous substances such as fuels, industrial chemicals, or wastes.*

§120-812.L. Hazardous, Special, & Radioactive Materials: *There are no anticipated sources or generators that may produce hazardous, special, or radioactive materials within the scope of the proposed development. Additionally, there are no flammable or explosive liquids, solids, or gases that will be stored in bulk above-ground within the project site.*

§120-812.M. Shoreland Relationship: *The project site is not located within the Shoreland Zoning District. The successful completion of this proposed development will not result in any adverse impacts to available water quality or quantity.*

§120-812.N. Technical & Financial Capacity: *Please see the enclosed Section 5 – Financial & Technical Capacity demonstrating that the Applicants have sufficient financial resources to construct, operate, and maintain all aspect of the proposed development. Additionally, Section 5 contains supplemental information related to the project team assembled and their history, qualifications, and evidence of prior experience.*

§120-812.O. Solid Waste Management: *The proposed development will handle and process solid waste privately through a licensed solid waste contractor. Internally, each of the proposed units will contain private bins to collect generated waste and the selected contractor will haul to a licensed facility.*

§120-812.P. Historical & Archaeological Resources: *The property subject to this application is a previously developed site, which contained the recently demolished John A. Andrew school building and its associated developed area. Upon our review of the National Register of Historic Places, the Town's Comprehensive Plan, and available local historical archives, there are no portions of the subject property or surrounding properties that are of significant historical or*

archaeological significance. A review request letter, dated September 13, 2024, was sent to the Maine Historic Preservation Commission (MHPC), seeking their respected consultation. No response has been recorded from MHPC at the time of this submission. For reference, we have included our letter and supplementary attachments sent to MHPC enclosed within this Section.

§120-812.Q. Floodplain Management*: Please see the information provided within the enclosed Section 10 – Flooding Information. The project site is not located within the mapped Federal Emergency Management Agency (FEMA) 100-year Floodplain hazard area.*

§120-812.R. Exterior Lighting: *Photometrics and supplementary lighting details will be provided within the Final Plan Review application.*

§120-812.S. Noise: *The proposed development is not anticipated to generate an unreasonable amount of noise detectable at property lines. This project is subject to the limitations regarding the timing of construction activities, and will comply with the 10:00 p.m. – 6:00 a.m. restrictions.*

§120-812.T. Storage of Materials (Landscape Plan): *A Landscape Plan has been developed for this proposed residential development and is enclosed within the Plan Set. This project does not contain any exposed storage areas, machinery, or areas used for the storage or collection of automobile parts.*

This application is also subject to the criteria defined within the Town of Windham's Land Use Ordinance, §120-814 Multifamily Development Standards. As such, listed below are each of the applicable standards and how they relate to this proposed project.

§120-814.A. Building Architecture:

1. **Architectural Variety:** *Architectural renderings and designs for each structure are included within the enclosed Section 12. These renderings demonstrate that the proposed structures offer a variety in materials and design that satisfy the standards of this Section.*
2. **Façade:** *Facades of all proposed structures are included within the enclosed Section 12 that detail the horizontal and vertical definitions, with architectural articulation that creates visual interest. The proposed structures meet the 25% fenestration requirements.*
3. **Orientation:** *Proposed buildings are oriented in a way that provides their respective entrances facing towards the internal private drives The facades of the 4-Unit buildings facing High Street have porches which create a front-facing orientation.*

§120-814.B. Site Design:

1. **Parking:** *The proposed development incorporates parking areas directly off the internal private vehicular drives. A total of twenty-seven (27) parking spaces will serve the proposed eighteen (18) units.*
2. **Screening:** *This development proposes a minor amount of tree clearing to existing trees near High Street and the northern and southern property lines. There is a proposed replanted buffer located along High Street with replantings and fencing located at the*

southern property line. These vegetative buffers offer a natural screening of the proposed development. Trash totes/bins will be stored within a shed-like structure attached to each building. Utilities will also be screened, which are detailed on the Landscape Plan.

3. **Bicycle/Pedestrian:** *The site's design incorporates internal walkways that connect the entrances of each building to the sidewalk network. The design also offers a connection to the existing sidewalk located along the western side of High Street.*
4. **Recreation & Open Space:** *This proposed development offers an area designated for open space within the central portion of the site. Please see the Open Space requirements table listed on the Site Plan within the Plan Set.*
5. **Landscape/Lighting:** *A Landscape Plan is included within this Preliminary Plan submission. A Lighting Plan will be submitted under the Final Plan Review application.*
6. **Access Drive Standards:** *This proposed development will retain one (1) of the existing access points off High Street, which will provide the framework for the proposed private access drive that will service this project. This access drive will remain private and shall not be maintained by the Town of Windham. This proposed location for primary access will be improved to meet the applicable 'Major Private Road' standards, as required by the ordinance.*

ARTICLE 9

This application is subject to the Subdivision regulations defined within the Town of Windham's Land Use Ordinance, §120-911 Performance & Design Standards. As such, listed below are each of the applicable standards and how they relate to this proposed project.

§120-911.A. Basic Subdivision Layout: *This proposed project consists of the development of one (1) parcel for the construction of four (4) residential buildings that contain a collective total of eighteen (18) affordable senior housing units. This amount conforms with the applicable density requirements of §120-541 Net Residential Area or Acreage. The proposed site will utilize subsurface utilities (water, sewer, electrical) that are located along High Street, as indicated on the Grading & Utility Plan. Proposed locations of monuments are also shown within the Plan Set.*

§120-911.B. Sufficient Water; Water Supply: *This proposed residential development will connect to existing and available public water infrastructure along High Street. Please see the enclosed Section 7 – Utilities for the Ability to Serve request correspondence with the Portland Water District (PWD). The overall scale of this development is not anticipated to adversely impact the overall quality or quantity of available water supply. Each proposed structure will also be sprinklered.*

§120-911.C. Erosion & Sedimentation Control: *An Erosion & Sedimentation Control Plan has been developed for this project and is enclosed within the Plan Set.*

§120-911.D. Sewage Disposal: *This proposed residential development will connect to existing public sewer infrastructure that is available along High Street. Please see the enclosed Section 7 – Utilities for the Ability to Serve request correspondence with the Portland Water District (PWD).*

§120-911.E. Impact on Natural Beauty, Aesthetics, Historic Sites, Wildlife Habitat, Rare Natural Areas, or Public Access to the Shoreline: *The proposed project is primarily located over existing developed area that has been cleared for the former John A. Andrews school building, and utilizes an existing driveway into the site for access. A minor amount of tree clearing is required for this project, which has been designed to the minimum amount insofar as practicable. The Subdivision Plan details which areas of trees will be cleared and others that will be protected for a period of at least five (5) years. This development also incorporates street trees into the overall design. These street trees are planted at locations which conforms with the fifty (50) ft. minimum spacing standard.*

A Landscape Plan has been developed for this Preliminary Plan Review application. On this plan, a centralized open green space is proposed within the center of the site. This space will provide an adequate common area for internal users of the site. This designated open space will be owned and operated by the owners of the property, and will not be used for any future buildings or lots.

§120-911.F. Conformance with Land Use Ordinances: *The proposed project meets the goals of the Town of Windham's 2017 Comprehensive Plan, and meets the applicable dimensional and performance standards within the Town of Windham's Land Use Ordinance.*

§120-911.G. Financial & Technical Capacity: *Please see the enclosed Section 5 – Financial & Technical Capacity demonstrating that the Applicants have sufficient financial resources to construct, operate, and maintain all aspect of the proposed development. Additionally, Section 5 contains supplemental information related to the project team assembled and their relevant history, prior experience, and qualifications for evidence that they have proficient technical knowledge to complete this project.*

§120-911.H. Impact on Groundwater Quality or Quantity: *This proposed development will connect to available water supply provided by the Portland Water District (PWD) that has an existing main along High Street. The scale of this development is not anticipated to adversely impact the overall quality or quantity of available water supply.*

§120-911.I. Floodplain Management: *Please see the information provided within the enclosed Section 10 – Flooding Information. The project site is not located within a mapped special flood hazard area, as defined by the Federal Emergency Management Agency (FEMA).*

§120-911.J. Stormwater Management: *A Stormwater Management Report has been prepared for this project and is included within the enclose Section 8 - Stormwater Management. This project will require a Stormwater Management Law permit from the Maine Department of Environmental Protection (MDEP), which will be submitted concurrently with our Final Plan Review application.*

§120-911.K. Conservation Subdivisions: *This Section is not applicable to this proposed project, as this development is not a conservation subdivision.*

§120-911.L. Compliance with Timber Harvesting Rules: *There is not any timber harvesting activities proposed under the scope of this application. As such, this Section is not applicable to this proposed project.*

§120-911.M. Traffic Conditions & Streets: *A Traffic Memorandum has been prepared for this project and is enclosed within Section 6 – Traffic Information. This memo includes estimated trip generations for this proposed affordable senior housing project. As detailed within the Memo, this development is estimated to generate five (5), five (5), and six (6) trips during the AM, PM, and Saturday peak hours of the generator, respectively. Given this level of trip generation, a Traffic Movement Permit (TMP) is not required from the Maine Department of Transportation (MDOT), as this development does not exceed the one hundred (100) trip threshold during a peak hour period. Additionally, sight distance on High Street exceeds the required minimum for a 25 miles per hour (mph) roadway, as defined by the Town of Windham's sight distance standards. Please see the Traffic Memorandum for additional information.*

§120-911.N. Maintenance of Common Elements: *Draft Condominium Association documents will be submitted under the Final Plan Review application for review from the Town's Attorney.*

September 13, 2024
240577

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

Email Submittal: MHPCprojectreview@maine.gov

Re: 55 High Street, Windham, ME 04062
Tax Map-Lot: 37-24, Review Request

Dear Mr. Mohney:

On behalf of our client, Sebago Technics, Inc. respectfully requests a review for a proposed multi-unit senior-housing development located at 55 High Street in the Town of Windham, Maine. The site can further be identified on the Town Tax Map 37 as Lot 24.

The property subject to this application is the site of the former John A. Andrew school building. The site is approximately 2.39 acres in size, and is zoned under the Windham Village Commercial District. The site is largely surrounded by undeveloped, wooded areas to the north, south, and east, and High Street to the west. This proposed development will result in the construction of eighteen (18) total senior-housing units contained within four (4) separate smaller-scale buildings on the site.

As part of the site reconnaissance, we request review by the Maine Historic Preservation Commission for any properties, structures, or archaeological areas of historic significance in the vicinity of the project site.

Upon review of the current Town Comprehensive Plan, available local historical archives, and the National Register of Historic Places, there are no properties or structures identified with historical or archaeological interest within close proximity to the project site. However, while using available Town Assessor resources, there were several residential properties adjacent to the project site that contained structures constructed over fifty (50) years ago. These properties are:

Address	MBLU	Year Built
59 High Street	37-23	1910
58 High Street	37-18	1920
56 High Street	37-17	1920
54 High Street	37-16	1920
50 High Street	37-09	1920
48 High Street	37-08	1920
43 High Street	37-25	1900

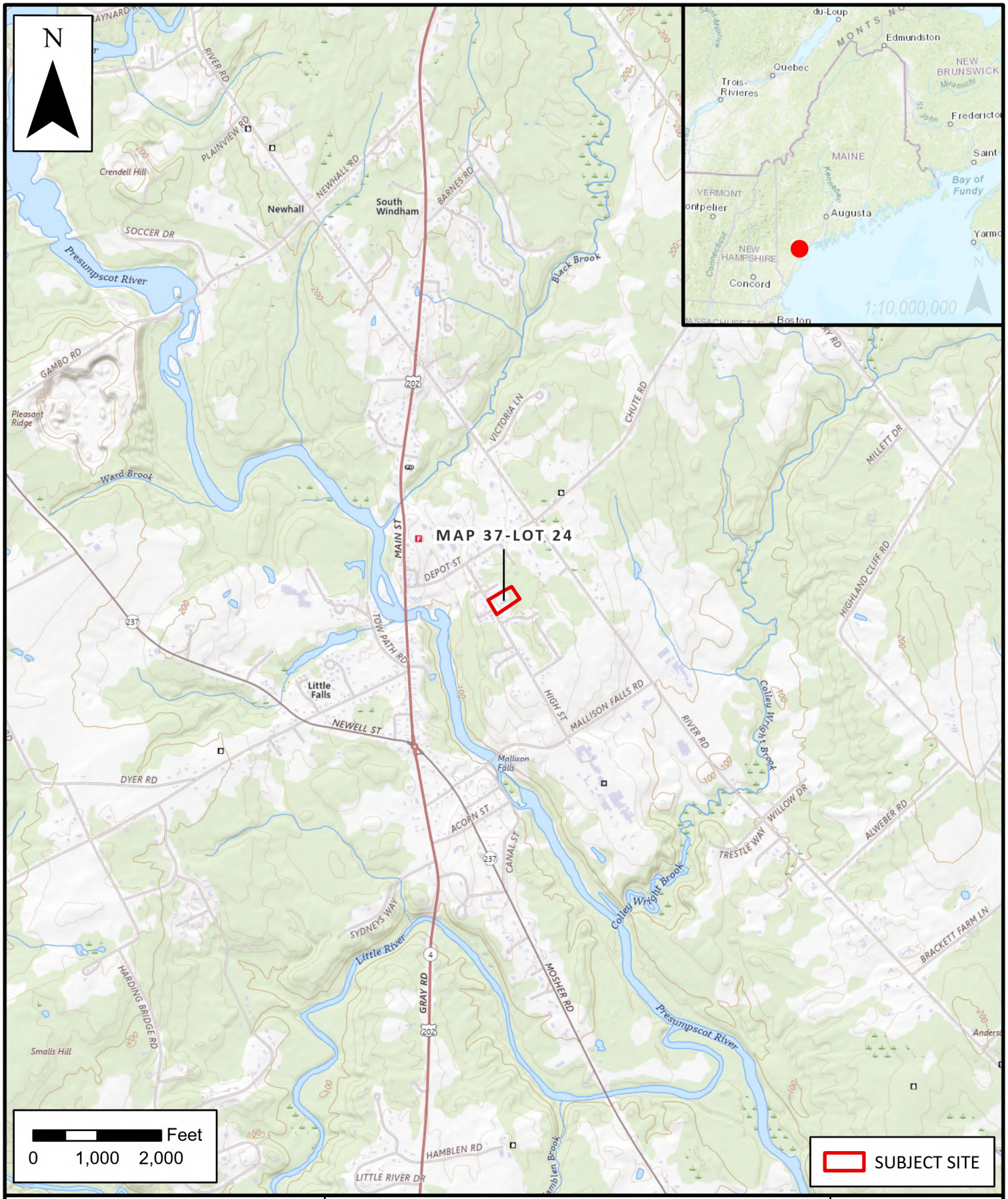
All of the above-listed properties are residential in nature, and are adjacent to or near the project site. These properties will have filtered views of the proposed project through the preservation of existing mature vegetation. As part of this development, a significant portion of the existing tree canopy will be preserved, thus offering an adequate visual buffer from the project.

For your reference, we have attached a Location Map of the project site and photographs of the subject site to assist in your review of historical resources. We have also enclosed the property cards of the above-mentioned properties. At your earliest convenience, please review the enclosed materials and forward your findings. If you have any questions on this project, please do not hesitate to contact me by email at bwiemken@sebagotechnics.com or by telephone at (207) 482-6323. Thank you, and I look forward to hearing from you.

Sincerely,
SEBAGO TECHNICS, INC.

Brett Wiemken
Permitting Specialist/Project Coordinator

Enc.



SEBAGO TECHNICS

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

LOCATION MAP

JOHN A. ANDREW SCHOOL - SITE REDEVELOPMENT

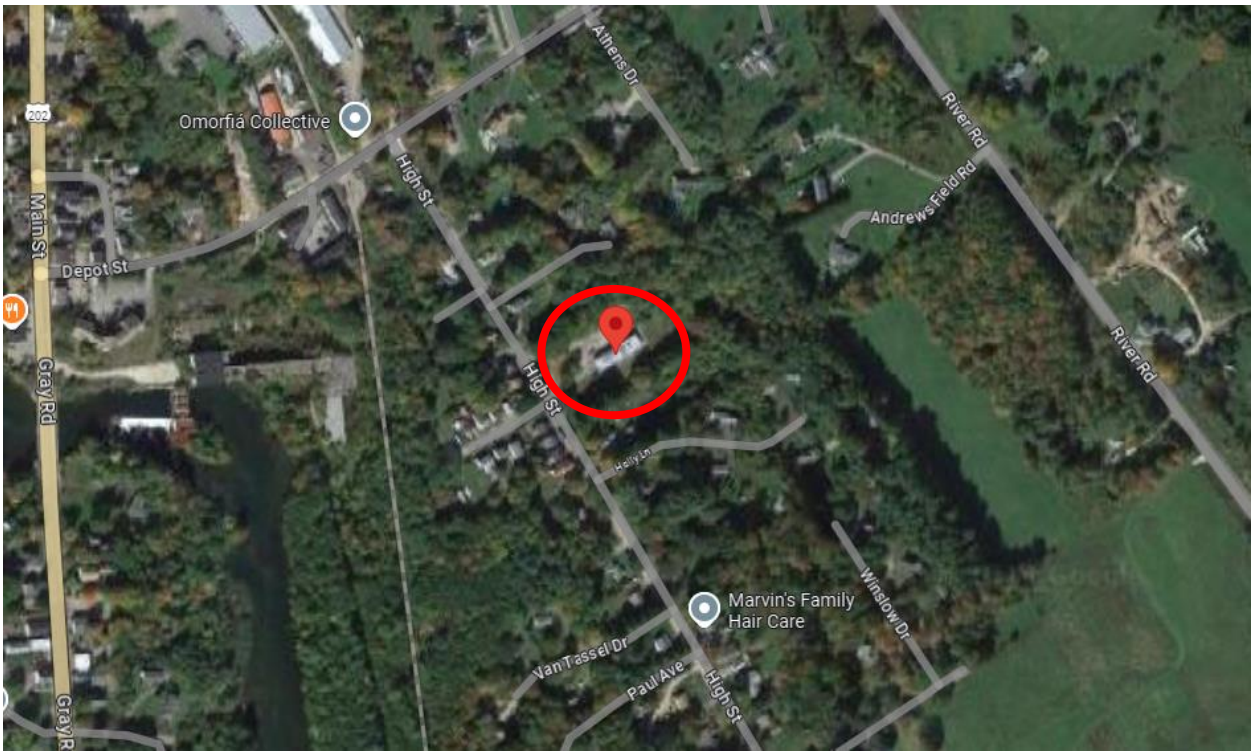
SCALE: 1:24,000

DATE: 8/28/2024

LOCATION:
55 HIGH ST
WINDHAM, ME

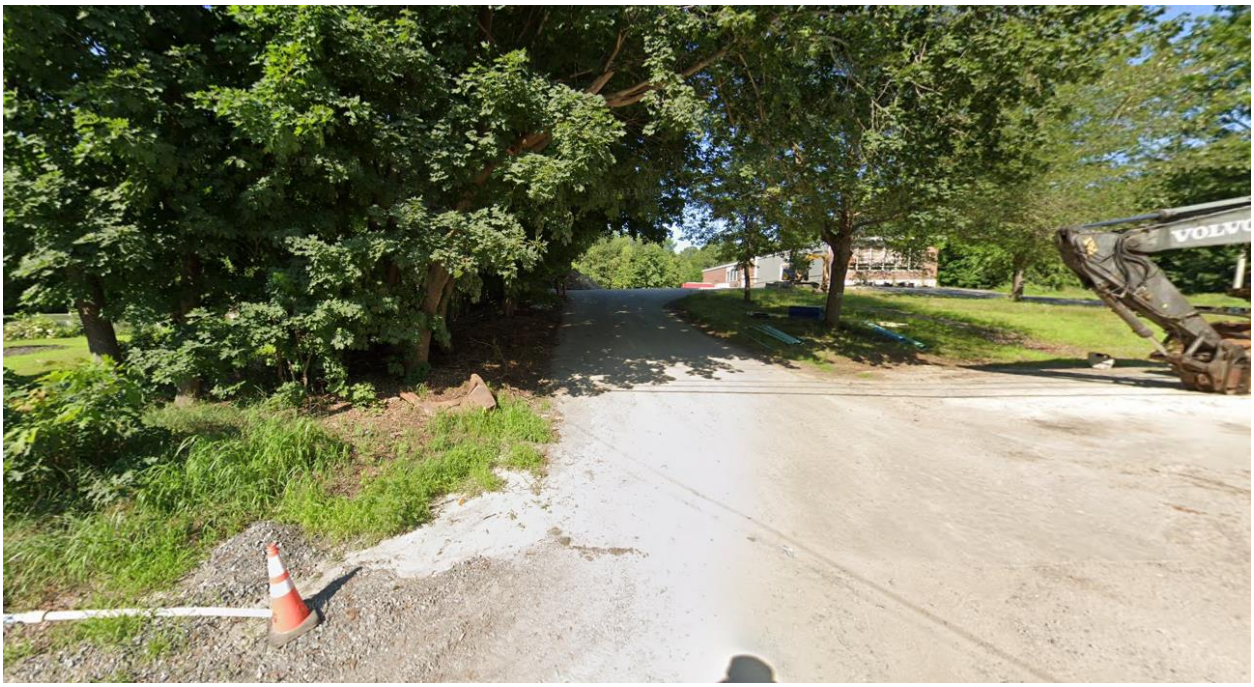
INFORMATION:
MAINE GEOLIBRARY
USGS QUADRANGLE

Aerial View of Existing Site



Aerial View of Existing Site (Zoomed Out)

MHPC Images
55 High Street, Windham



1 – View of site's existing northern entrance along High Street (to be closed off for The proposed multi-unit senior housing development). The John A. Andrew school building in this picture has since been demolished.

2 – View of site's existing northern entrance along High Street, facing towards High Street. In this photo, the existing vegetated buffer along the property line can be seen, which Will be preserved under the scope of this proposed development.

3 – View of the site's existing southern entrance, facing the former John A. Andrews School building. This entrance will be improved to provide access into the proposed Senior-housing development.

4 – View of the site's existing southern entrance (left) and facing towards High Street. In this photo, the existing vegetated buffer along the property line can be seen, which will be preserved under the scope of this proposed development.

5 – View directly across from the project site. This area is residential in nature, in which the Proposed senior housing development is in-kind and generally fits the character of the neighborhood.

59 HIGH ST

Location	59 HIGH ST	**Mblu**	37/ 23/ / /
Acct#	J1905R	**Owner**	JACKSON SARAH
Assessment	$469,400	**PID**	4113
Building Count	1	**Zone**	VC

Current Value

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2023	$333,700	$135,700	$469,400

Owner of Record

Owner	JACKSON SARAH	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	59 HIGH ST	**Book & Page**	38430/80
	WINDHAM, ME 04062	**Sale Date**	06/14/2023
		Instrument	DE

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
JACKSON SARAH	$0		38430/80	DE	06/14/2023
JACKSON KENNETH L II	$0		38430/80	LE	07/08/2021
JACKSON KENNETH L III	$0		37521/273	DV	10/20/2020
JACKSON KENNETH L &	$25,000		22573/0019	IF	04/26/2005
BROWN JANE VARNEY	$0	1	5014/0273		08/18/1982

Building Information

Building 1 : Section 1

Year Built:	1910
Living Area:	2,030
Replacement Cost:	$364,928
Building Percent Good:	89

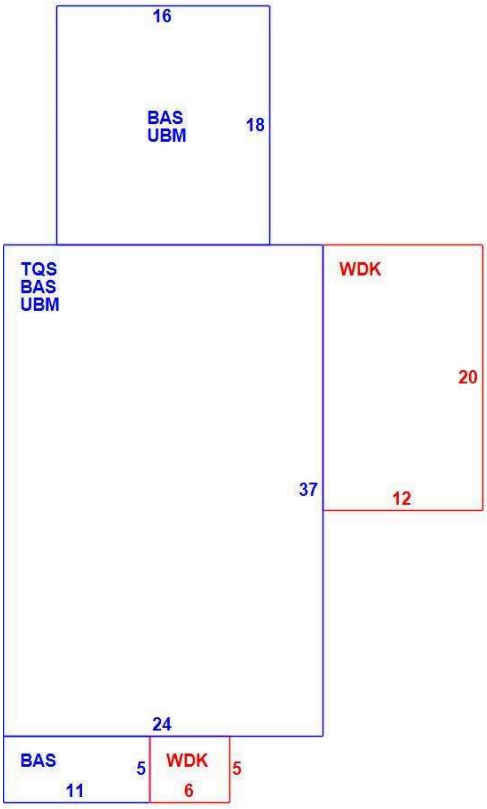
Replacement Cost
Less Depreciation: $324,800

Building Attributes	
Field	**Description**
Style:	Cape Cod
Model	Residential
Grade:	Average +10
Stories:	1.75
Occupancy	1
Exterior Wall 1	Clapboard
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	Ceram Clay Til
Heat Fuel	Oil
Heat Type:	Forced Air-Duc
AC Type:	
Total Bedrooms:	3 Bedrooms
Total Bthrms:	2
Total Half Baths:	0
Total Xtra Fixtrs:	1
Total Rooms:	7
Bath Style:	Modern
Kitchen Style:	Good
Num Kitchens	
Cndtn	
Num Park	
Fireplaces	
Fndtn Cndtn	
Basement	

Building Photo

(https://images.vgsi.com/photos/WindhamMEPhotos///0022/37-23_22194.jpg)

Building Layout



(ParcelSketch.ashx?pid=4113&bid=4113)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,231	1,231
TQS	Three Quarter Story	888	799
UBM	Basement, Unfinished	1,176	0
WDK	Deck, Wood	270	0
		3,565	2,030

Extra Features

Extra Features				Legend
Code	**Description**	**Size**	**Value**	**Bldg #**
HTP	HEAT PUMP CONDENSER	2.00 UNITS	$8,900	1

Land

Land Use

Use Code	1010
Description	SINGLE FAM
Neighborhood	001
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	1.10
Frontage	
Depth	
Assessed Value	$135,700

lbllndfront

Outbuildings

Outbuildings	Legend
No Data for Outbuildings	

Valuation History

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2024	$333,700	$135,700	$469,400
2023	$317,900	$126,200	$444,100
2022	$279,900	$111,800	$391,700

58 HIGH ST

Location	58 HIGH ST	**Mblu**	37/ 18/ / /
Acct#	V0870R	**Owner**	VILLACCI TERRI
Assessment	$277,300	**PID**	4106
Building Count	1	**Zone**	VC

Current Value

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2023	$178,200	$99,100	$277,300

Owner of Record

Owner	VILLACCI TERRI	**Sale Price**	$41,900
Co-Owner		**Certificate**	1
Address	58 HIGH STREET WINDHAM, ME 04062	**Book & Page**	6213/0144
		Sale Date	07/01/1983

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
VILLACCI TERRI	$41,900	1	6213/0144	07/01/1983

Building Information

Building 1 : Section 1

Year Built:	1920
Living Area:	1,498
Replacement Cost:	$245,591
Building Percent Good:	68
Replacement Cost Less Depreciation:	$167,000

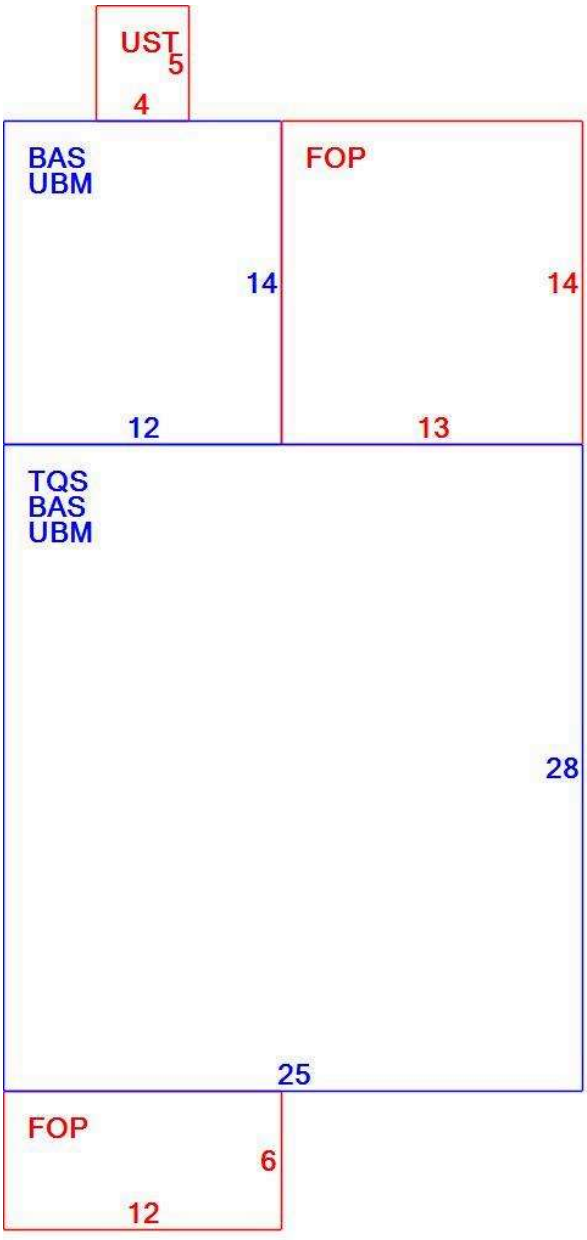
Building Attributes	
Field	**Description**
Style:	Cape Cod

Model	Residential
Grade:	Average
Stories:	1.75
Occupancy	1
Exterior Wall 1	Asbest Shingle
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Plastered
Interior Wall 2	Drywall/Sheet
Interior Flr 1	Pine/Soft Wood
Interior Flr 2	Hardwood
Heat Fuel	Oil
Heat Type:	Forced Air-Duc
AC Type:	
Total Bedrooms:	3 Bedrooms
Total Bthrms:	1
Total Half Baths:	0
Total Xtra Fixtrs:	
Total Rooms:	6
Bath Style:	Average
Kitchen Style:	Average
Num Kitchens	
Cndtn	
Num Park	
Fireplaces	
Fndtn Cndtn	
Basement	

Building Photo

(https://images.vgsi.com/photos/WindhamMEPhotos/\00\01\61\48.jpg)

Building Layout



(ParcelSketch.ashx?pid=4106&bid=4106)

Building Sub-Areas (sq ft)	Legend

Code	Description	Gross Area	Living Area
BAS	First Floor	868	868
TQS	Three Quarter Story	700	630
FOP	Porch, Open, Finished	254	0
UBM	Basement, Unfinished	868	0
UST	Utility, Storage, Unfinished	20	0
		2,710	1,498

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	1010
Description	SINGLE FAM
Neighborhood	001
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	0.18
Frontage	
Depth	
Assessed Value	$99,100

lblIndfront

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
FGR1	GARAGE-AVE			720.00 S.F.	$11,200	1

Valuation History

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2024	$178,200	$99,100	$277,300
2023	$170,000	$92,100	$262,100
2022	$151,300	$81,500	$232,800

Valuation History

Exemptions			
Exemption Year	**Code**	**Description**	**Amount**
2005	7	HOMESTEAD	$25,000

56 HIGH ST

Location	56 HIGH ST	**Mblu**	37/ 17/ / /
Acct#	H5141R	**Owner**	HO CHARLIE
Assessment	$298,600	**PID**	4105
Building Count	1	**Zone**	VC

Current Value

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2023	$212,700	$85,900	$298,600

Owner of Record

Owner	HO CHARLIE	**Sale Price**	$315,000
Co-Owner	HO TIMMY	**Certificate**	
Address	56 HIGH ST	**Book & Page**	38757/192
	WINDHAM, ME 04062	**Sale Date**	10/08/2021
		Instrument	JT

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
HO CHARLIE	$315,000		38757/192	JT	10/08/2021
GILLIAM AMY B	$130,000		28294/0111	WD	11/19/2010
REYNOLDS KATHY A	$69,900	1	12888/0233		12/27/1996
ALLEN GERALD P & VACCHIANO S L &	$0	2	9089/0190		02/15/1990
ALLEN DUANE M	$0		1947/0417		02/18/1949

Building Information

Building 1 : Section 1

Year Built:	1920
Living Area:	1,498
Replacement Cost:	$251,542
Building Percent Good:	84

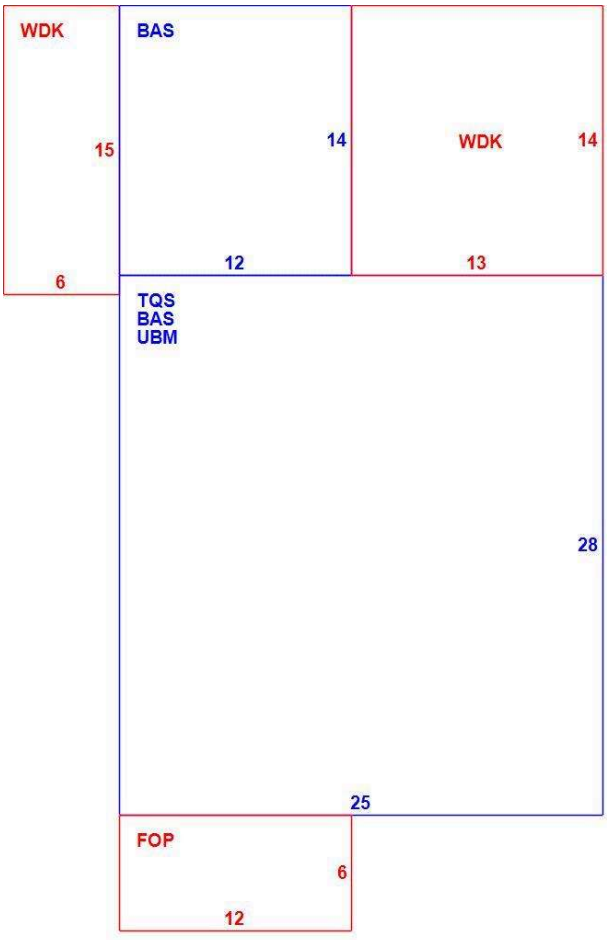
Replacement Cost
Less Depreciation: $211,300

Building Attributes	
Field	**Description**
Style:	Cape Cod
Model	Residential
Grade:	Average
Stories:	1.75
Occupancy	1
Exterior Wall 1	Cedar or Redwd
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Plastered
Interior Wall 2	
Interior Flr 1	Carpet
Interior Flr 2	Pine/Soft Wood
Heat Fuel	Oil
Heat Type:	Forced Air-Duc
AC Type:	
Total Bedrooms:	3 Bedrooms
Total Bthrms:	1
Total Half Baths:	1
Total Xtra Fixtrs:	
Total Rooms:	6
Bath Style:	Average
Kitchen Style:	Average
Num Kitchens	
Cndtn	
Num Park	
Fireplaces	
Fndtn Cndtn	
Basement	

Building Photo

(https://images.vgsi.com/photos/WindhamMEPhotos///0025/37-17_25193.jpg)

Building Layout



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Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	868	868
TQS	Three Quarter Story	700	630
FOP	Porch, Open, Finished	72	0
UBM	Basement, Unfinished	700	0

WDK	Deck, Wood	272	0
		2,612	1,498

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	1010
Description	SINGLE FAM
Neighborhood	001
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	0.1
Frontage	
Depth	
Assessed Value	$85,900

lblIndfront

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
SHD1	SHED FRAME			96.00 S.F.	$1,400	1

Valuation History

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2024	$212,700	$85,900	$298,600
2023	$202,400	$79,900	$282,300
2022	$177,300	$70,700	$248,000

54 HIGH ST

Location	54 HIGH ST	**Mblu**	37/ 16/ / /
Acct#	S6245R	**Owner**	SMUTZ CYNTHIA
Assessment	$228,900	**PID**	4104
Building Count	1	**Zone**	VC

Current Value

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2023	$145,300	$83,600	$228,900

Owner of Record

Owner	SMUTZ CYNTHIA	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	54 HIGH ST	**Book & Page**	37707/108
	WINDHAM, ME 04062	**Sale Date**	12/30/2020
		Instrument	MQ

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
SMUTZ CYNTHIA	$0		37707/108	MQ	12/30/2020
SMUTZ CYNTHIA L	$0		35289/0091	MQ	11/06/2018
SMUTZ CYNTHIA L	$0		22269/0130		05/24/2004
SMUTZ TERRY A &	$62,000	1	7269/0149		07/11/1986

Building Information

Building 1 : Section 1

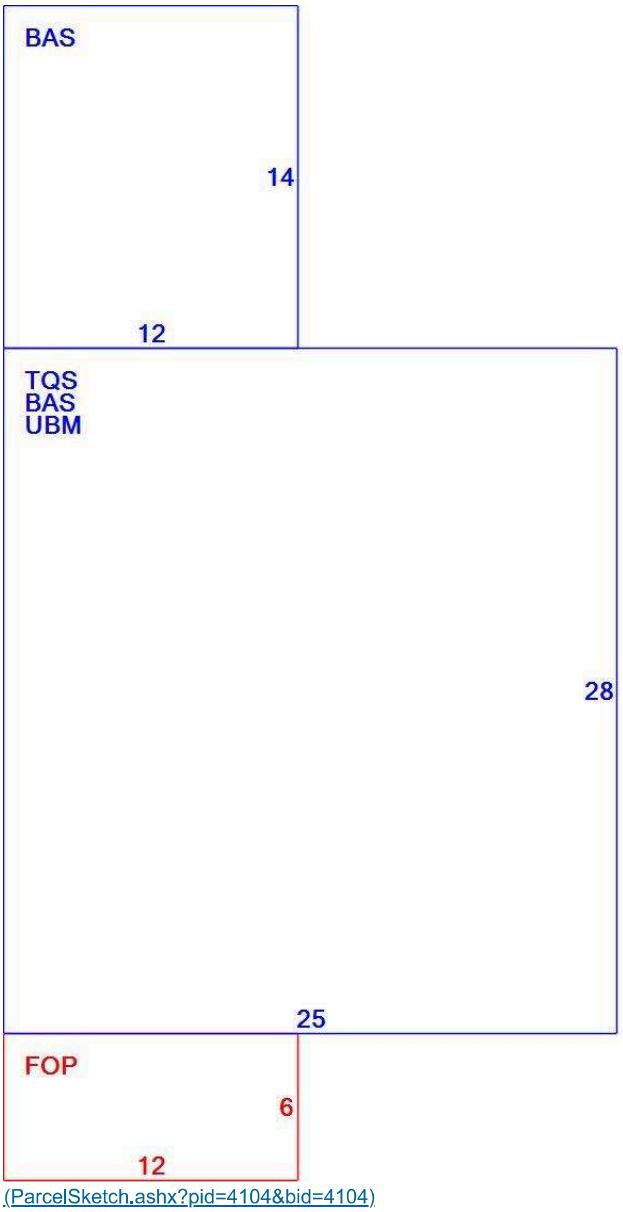
Year Built:	1920
Living Area:	1,498
Replacement Cost:	$246,181
Building Percent Good:	57
Replacement Cost Less Depreciation:	$140,300

Building Attributes	
Field	**Description**
Style:	Cape Cod
Model	Residential
Grade:	Average
Stories:	1.75
Occupancy	1
Exterior Wall 1	Wood Shingle
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	Plastered
Interior Flr 1	Carpet
Interior Flr 2	Pine/Soft Wood
Heat Fuel	Oil
Heat Type:	Hot Water
AC Type:	
Total Bedrooms:	3 Bedrooms
Total Bthrms:	1
Total Half Baths:	0
Total Xtra Fixtrs:	
Total Rooms:	6
Bath Style:	Average
Kitchen Style:	Average
Num Kitchens	
Cndtn	
Num Park	
Fireplaces	
Fndtn Cndtn	
Basement	

Building Photo

(https://images.vgsi.com/photos/WindhamMEPhotos/\00\01\61\44.jpg)

Building Layout



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Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**

BAS	First Floor	868	868
TQS	Three Quarter Story	700	630
FOP	Porch, Open, Finished	72	0
UBM	Basement, Unfinished	700	0
		2,340	1,498

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	1010
Description	SINGLE FAM
Neighborhood	001
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	0.09
Frontage	
Depth	
Assessed Value	$83,600

lblIndfront

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
FGR1	GARAGE-AVE			400.00 S.F.	$5,000	1

Valuation History

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2024	$145,300	$83,600	$228,900
2023	$139,100	$77,700	$216,800
2022	$136,500	$68,800	$205,300

Valuation History

Exemptions			
Exemption Year	**Code**	**Description**	**Amount**
2005	7	HOMESTEAD	$25,000

50 HIGH ST

Location	50 HIGH ST	**Mblu**	37/ 9/ / /
Acct#	M6438R	**Owner**	MATTSON DOREEN
Assessment	$259,900	**PID**	4097
Building Count	1	**Zone**	RM

Current Value

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2023	$176,300	$83,600	$259,900

Owner of Record

Owner	MATTSON DOREEN	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	50 HIGH ST WINDHAM, ME 04062	**Book & Page**	34985/0040
		Sale Date	06/04/2018
		Instrument	QC

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
MATTSON DOREEN	$0		34985/0040	QC	06/04/2018
MATTSON DOREEN	$0		34827/0033	MQ	04/11/2018
MATTSON JAMES J &	$82,500		33892/0305	PI	03/15/2017
MATTSON DOREEN M THORPE	$0	1	18948/0139		02/24/2003
THORPE WALTER W SR & SANDRA M &	$0	2	14614/0305		03/14/1999

Building Information

Building 1 : Section 1

Year Built:	1920
Living Area:	1,546
Replacement Cost:	$258,638
Building Percent Good:	68

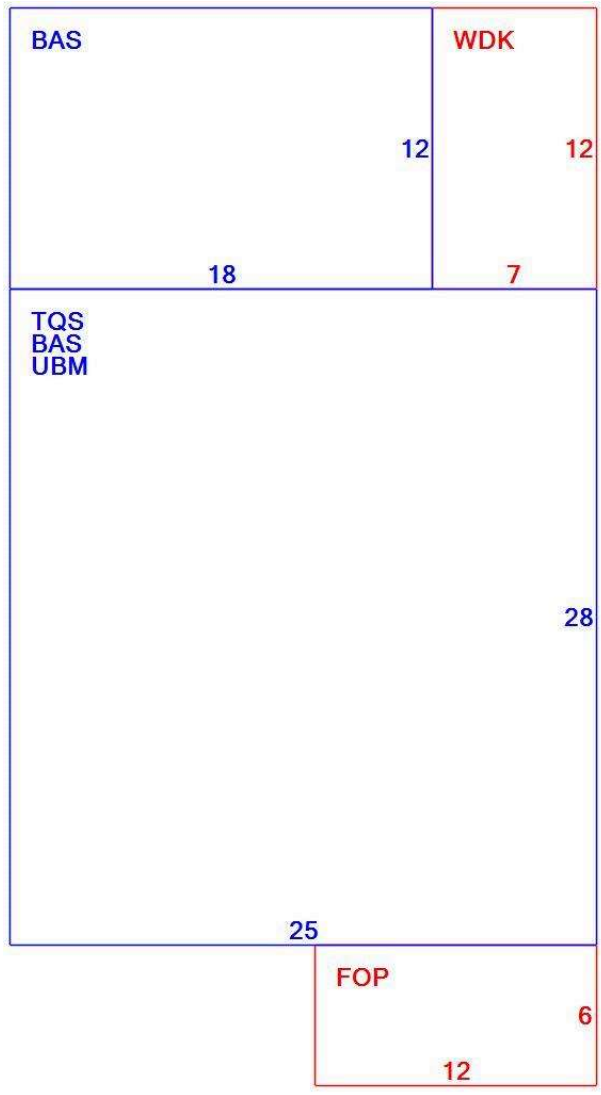
Replacement Cost
Less Depreciation: $175,900

Building Attributes	
Field	**Description**
Style:	Cape Cod
Model	Residential
Grade:	Average
Stories:	1.75
Occupancy	1
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	Wood Shingle
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	Plastered
Interior Flr 1	Carpet
Interior Flr 2	
Heat Fuel	Oil
Heat Type:	Hot Water
AC Type:	
Total Bedrooms:	4 Bedrooms
Total Bthrms:	2
Total Half Baths:	0
Total Xtra Fixtrs:	
Total Rooms:	7
Bath Style:	Average
Kitchen Style:	Average
Num Kitchens	
Cndtn	
Num Park	
Fireplaces	
Fndtn Cndtn	
Basement	

Building Photo

(https://images.vgsi.com/photos/WindhamMEPhotos/\00\01\61\38.jpg)

Building Layout



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Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	916	916

TQS	Three Quarter Story	700	630
FOP	Porch, Open, Finished	72	0
UBM	Basement, Unfinished	700	0
WDK	Deck, Wood	84	0
		2,472	1,546

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	1010
Description	SINGLE FAM
Neighborhood	001
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	0.09
Frontage	
Depth	
Assessed Value	$83,600

lblIndfront

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
SHD1	SHED FRAME			32.00 S.F.	$400	1

Valuation History

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2024	$176,300	$83,600	$259,900
2023	$168,600	$77,700	$246,300
2022	$150,600	$68,800	$219,400

Valuation History

Exemptions			
Exemption Year	**Code**	**Description**	**Amount**
2010	7	HOMESTEAD	$25,000

48 HIGH ST

Location	48 HIGH ST	**Mblu**	37/ 8/ / /
Acct#	B6730R	**Owner**	BUTTS TYLER W &
Assessment	$299,500	**PID**	4096
Building Count	1	**Zone**	RM

Current Value

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2023	$215,900	$83,600	$299,500

Owner of Record

Owner	BUTTS TYLER W &	**Sale Price**	$205,000
Co-Owner	MONTIMURRO SARAH A	**Certificate**	
Address	48 HIGH STREET WINDHAM, ME 04062	**Book & Page**	34004/0260
		Sale Date	05/11/2017
		Instrument	WD

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
BUTTS TYLER W &	$205,000		34004/0260	WD	05/11/2017
KELLEY TIMOTHY & WAGNER K D	$140,000		26352/0170	WD	09/22/2008
GORDON WAYNE F &	$186,000		25103/0039	WD	05/14/2007
LINK DANIEL N & HODGSON LORI J	$155,000		24226/0142	QC	07/28/2006
WM SPECIALTY MORTGAGE LLC	$0		23842/0115	FC	03/15/2006

Building Information

Building 1 : Section 1

Year Built:	1920
Living Area:	1,498
Replacement Cost:	$255,964
Building Percent Good:	84

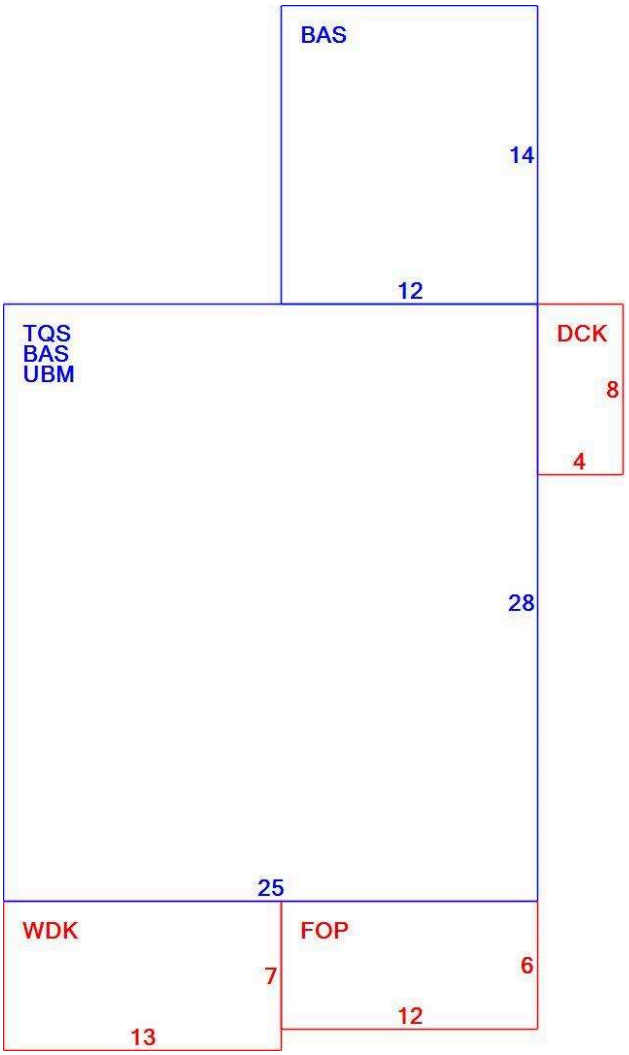
Replacement Cost
Less Depreciation: $215,000

Building Attributes	
Field	**Description**
Style:	Cape Cod
Model	Residential
Grade:	Average
Stories:	1.75
Occupancy	1
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Plastered
Interior Wall 2	Drywall/Sheet
Interior Flr 1	Carpet
Interior Flr 2	
Heat Fuel	Oil
Heat Type:	Hot Water
AC Type:	
Total Bedrooms:	4 Bedrooms
Total Bthrms:	2
Total Half Baths:	0
Total Xtra Fixtrs:	
Total Rooms:	8
Bath Style:	Average
Kitchen Style:	Average
Num Kitchens	
Cndtn	
Num Park	
Fireplaces	
Fndtn Cndtn	
Basement	

Building Photo

(https://images.vgsi.com/photos/WindhamMEPhotos/\00\01\61\36.jpg)

Building Layout



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Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	868	868
TQS	Three Quarter Story	700	630
DCK	Deck	32	0

FOP	Porch, Open, Finished	72	0
UBM	Basement, Unfinished	700	0
WDK	Deck, Wood	91	0
		2,463	1,498

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	1010
Description	SINGLE FAM
Neighborhood	001
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	0.09
Frontage	
Depth	
Assessed Value	$83,600

lblIndfront

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
SHD1	SHED FRAME			64.00 S.F.	$900	1

Valuation History

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2024	$215,900	$83,600	$299,500
2023	$206,500	$77,700	$284,200
2022	$183,900	$68,800	$252,700

Valuation History

Exemptions			
Exemption Year	**Code**	**Description**	**Amount**
2020	7	HOMESTEAD	$25,000

43 HIGH ST

Location	43 HIGH ST	**Mblu**	37/ 25/ / /
Acct#	D4036R	**Owner**	DAMON PAUL L & MARIE A &
Assessment	$466,800	**PID**	4115
Building Count	1	**Zone**	RM

Current Value

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2023	$328,400	$138,400	$466,800

Owner of Record

Owner	DAMON PAUL L & MARIE A &	**Sale Price**	$120,100
Co-Owner	DAMON GREGORY L	**Certificate**	
Address	43 HIGH STREET WINDHAM, ME 04062	**Book & Page**	32928/0178
		Sale Date	02/19/2016
		Instrument	FS

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
DAMON PAUL L & MARIE A &	$120,100		32928/0178	FS	02/19/2016
FEDERAL HOME LOAN	$163,672		32893/0001	FC	01/05/2016
MORIN CHARLENE M	$0		22235/0027		01/10/2005
COFFIN PAUL C &	$0	1	18646/0201		12/26/2002
COFFIN PAUL C	$163,500	2	17148/0267		12/28/2001

Building Information

Building 1 : Section 1

Year Built:	1900
Living Area:	1,928
Replacement Cost:	$315,968
Building Percent Good:	84

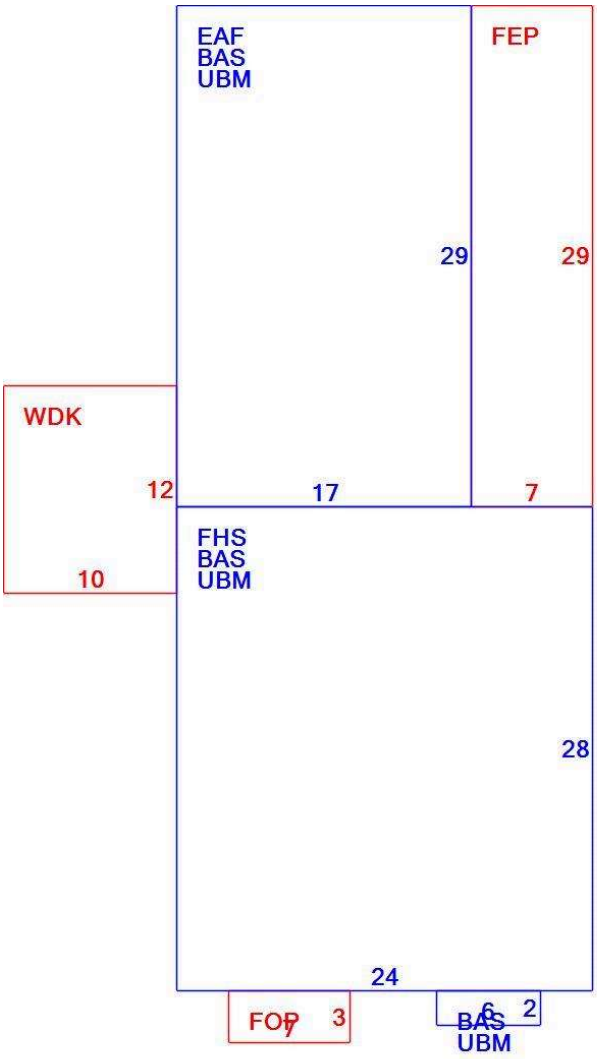
Replacement Cost
Less Depreciation: $265,400

Building Attributes	
Field	**Description**
Style:	Cape Cod
Model	Residential
Grade:	Average
Stories:	1.5
Occupancy	1
Exterior Wall 1	Aluminum Sidng
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Plastered
Interior Wall 2	Drywall/Sheet
Interior Flr 1	Carpet
Interior Flr 2	
Heat Fuel	Oil
Heat Type:	Forced Air-Duc
AC Type:	
Total Bedrooms:	5 Bedrooms
Total Bthrms:	2
Total Half Baths:	0
Total Xtra Fixtrs:	
Total Rooms:	10
Bath Style:	Average
Kitchen Style:	Average
Num Kitchens	
Cndtn	
Num Park	
Fireplaces	
Fndtn Cndtn	
Basement	

Building Photo

(https://images.vgsi.com/photos/WindhamMEPhotos/\00\01\94\21.jpg)

Building Layout



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Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,177	1,177
FHS	Half Story, Finished	672	504

EAF	Attic, Expansion, Finished	493	247
FEP	Porch, Enclosed, Finished	203	0
FOP	Porch, Open, Finished	21	0
UBM	Basement, Unfinished	1,177	0
WDK	Deck, Wood	120	0
		3,863	1,928

Extra Features

Extra Features				Legend
Code	**Description**	**Size**	**Value**	**Bldg #**
HRT	HEARTH	1.00 UNITS	$600	1
HTP	HEAT PUMP CONDENSER	5.00 UNITS	$21,000	1

Land

Land Use

Use Code 1010
Description SINGLE FAM
Neighborhood 001
Alt Land Appr No
Category

Land Line Valuation

Size (Acres) 1.50
Frontage
Depth
Assessed Value $138,400

lblIndfront

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
SHP5	W/IMPROV GOOD			840.00 S.F.	$36,400	1
GRN3	GRN HOUSE PLASTIC			1320.00 S.F.	$5,000	1

Valuation History

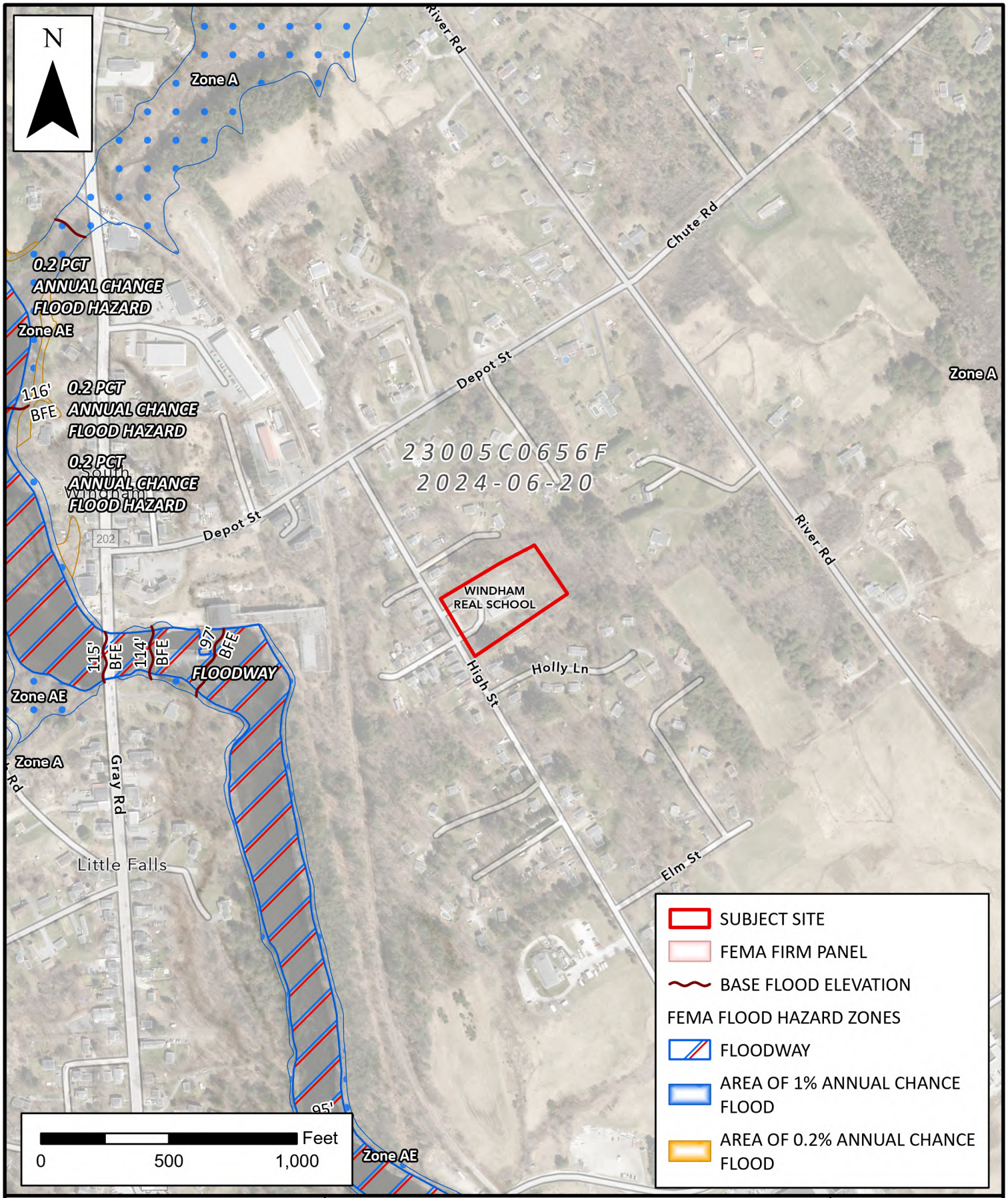
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2024	$328,400	$138,400	$466,800
2023	$315,500	$128,800	$444,300
2022	$281,800	$114,100	$395,900

Section 10

Flooding Information

Section 10 – Flooding Information

Flood Map: The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panel 23005C0656F, effective June 20, 2024, shows that the site is wholly located within an area of minimal flooding. A copy of this map is also enclosed within this Section.



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

FEMA NATIONAL FLOOD HAZARDS

JOHN A. ANDREW SCHOOL - SITE REDEVELOPMENT

SCALE: 1:6,000

DATE: 8/28/2024

LOCATION:
55 HIGH ST
WINDHAM, ME

INFORMATION:
MAINE GEOLIBRARY
FEMA NFHL 2024-07-17

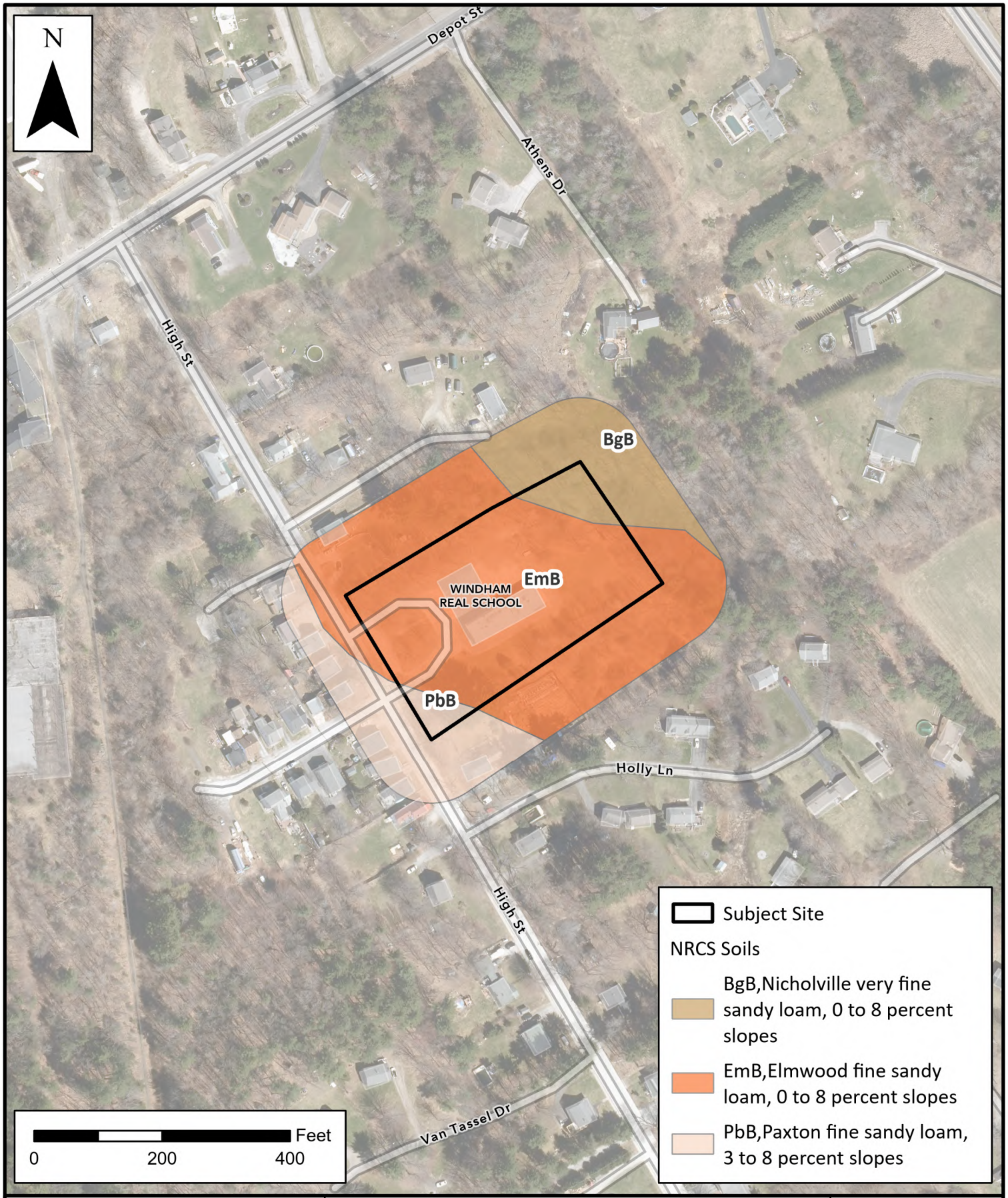
Section 11

Soils Information

Section 11 – Soils Information

Enclosed within this section is a custom Soil Resource Report derived from the Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS) online tool. This report was generated by specifying an approximate area of interest that contains the entire subject parcel area. This report also includes a Soil Map, detailing the project boundary in accordance with the existing soil classifications within and around the property.

Geotechnical information will be submitted under the Final Plan Review application.



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

NRCS SOIL SURVEY MAP

JOHN A. ANDREW SCHOOL - SITE REDEVELOPMENT

SCALE:	1:2,400
DATE:	8/29/2024

LOCATION:
55 HIGH ST
WINDHAM, ME

INFORMATION:
MAINE GEOLIBRARY
USDA NRCS SOIL SURVEY 2020

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

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

August 29, 2024

Preface

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

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

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

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

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

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

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How Soil Surveys Are Made

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

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

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

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

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

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: 1:1,120 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 15 30 60 90

Feet
0 50 100 200 300

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 1:24,000.

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: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 20, Sep 5, 2023

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

Date(s) aerial images were photographed: Jul 22, 2021—Oct 7, 2021

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

MAP LEGEND	MAP INFORMATION
	imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BgB	Nicholville very fine sandy loam, 0 to 8 percent slopes	0.2	6.8%
EmB	Elmwood fine sandy loam, 0 to 8 percent slopes	2.2	88.7%
PbB	Paxton fine sandy loam, 3 to 8 percent slopes	0.1	4.5%
Totals for Area of Interest		**2.4**	**100.0%**

Map Unit Descriptions

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

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

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

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

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

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

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

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

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

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

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

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

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

Cumberland County and Part of Oxford County, Maine

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

Map Unit Setting

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

Map Unit Composition

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

Description of Nicholville

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

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

Map Unit Setting

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

Map Unit Composition

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

Description of Elmwood

Setting

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

Typical profile

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

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.7 inches)

Interpretive groups

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

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

Map Unit Setting

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

Map Unit Composition

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

Description of Paxton

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

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Section 12

Architectural & Elevations