SME
SEVEE & MAHER
ENGINEERS

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

March 2, 2020

Jenn Curtis, Town Planner
Windham Town Hall
8 School Road
Windham, Maine 04062

Subject: Bangor Savings Bank
Windham Branch/Office Building
Final Major Site Plan Application

Dear Ms. Curtis:

On behalf of Bangor Savings Bank (BSB), Sevee & Maher Engineers (SME) is pleased to submit the attached Final Major Site Plan Application for a proposed bank branch and office building at 745 Roosevelt Trail in Windham. Please consider this project for placement on the Planning Board meeting agenda for March 23, 2020. In accordance with submission requirements, we have attached five (5) copies of this narrative, associated plans, and figures for staff and Planning Board review.

BSB plans to construct 7,000 square feet bank branch and office building and to house Bangor Savings Bank and Cross Insurance, a two-lane drive thru, a drive thru bypass lane, and a twenty-eight (28) space paved parking area.

We appreciate your consideration of our application and look forward to reviewing the project in more detail with the Planning Board on March 23, 2020. Please feel free to contact me at 207.829.5016 or dpd@smemaine.com if you have any questions or need additional information.

Very truly yours,

SEVEE & MAHER ENGINEERS, INC.

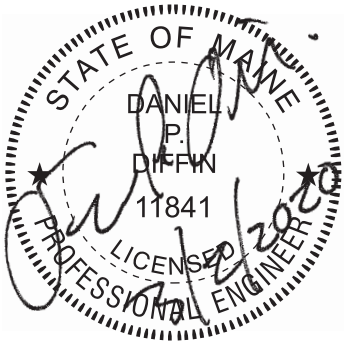
Daniel P. Diffin, P.E., LEED AP BD+C
Vice President/Senior Civil Engineer

Attachments

TOWN OF WINDHAM PLANNING BOARD SITE PLAN APPLICATION
BANGOR SAVINGS BANK BRANCH/OFFICE BUILDING

Prepared for

BANGOR SAVINGS BANK
745 Roosevelt Trail
Windham, Maine



March 2020

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

ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

SME
SEVEE & MAHER
ENGINEERS

TOWN OF WINDHAM
MAJOR SITE PLAN APPLICATION

Final Plan

(Section 811 – Site Plan Review, Submission Requirements)

The original signed copy of this application must be accompanied by:

- The required application and review escrow fees,
- Five (5) collated submission packets, which must include
  - Full size paper copies of each plan, map, or drawing, and
  - A bound copy of the required information found in Section 811 of the Land Use Ordinance.
    - The checklist below offers a brief description of these requirements for the purpose of determining the completeness of a submission. Please use the Ordinance for assembling the submission packets.
    - Only two (2) full copies of Stormwater Management Plan and Traffic Impact Study are required. Summaries and conclusions of the Stormwater Management Plan and Traffic Impact Study are adequate for the remaining three (3) submission packets.
- Electronic submission in PDF format of:
  - All plans, maps, and drawings.
    - These may be submitted as a single PDF file or a PDF for each sheet in the plan set.
  - A PDF of the required information found in Section 811 of the Land Use Ordinance

The submission deadline for Final plans is three (3) weeks before the Planning Board meeting for which it will be scheduled.

Applicants are strongly encouraged to schedule a brief submission meeting with Planning Staff, to walk through the application checklist at the time a Planning Board submission is made. This will allow applicants to receive a determination of completeness, or a punch list of outstanding items, at the time a submission is made.

If you have questions about the submission requirements, please contact:

Windham Planning Department	(207) 894-5960, ext. 2
Amanda Lessard, Planner	allessard@windhammaine.us
Ben Smith, Planning Director	bwsmith@windhammaine.us

Final Plan - Major Site Plan

Project Name: Bangor Savings Bank, Windham Branch/Office Building

Tax Map: 67 **Lot:** 54/55

Estimated square footage of building(s): 7,000 sf

If no buildings proposed, estimated square footage of total development: n/a

Is the total disturbance proposed > 1 acre? ☐ **Yes** ☑ **No**

Contact Information

1. Applicant

Name: Bangor Savings Bank c/o Jason Donovan

Mailing Address: 11 Hamlin Way, Bangor, ME 04401

Telephone: (207)262-4991 Fax: n/a E-mail: Jason.Donovan@Bangor.com

2. Record owner of property

☐ (Check here if same as applicant)

Name: Cross Realty, LLC c/o Alice Dyer

Mailing Address: 745 Roosevelt Trail, Unit 1 Windham, ME, 04062

Telephone: (207) 892-7996 Fax: (207) 892-8229 E-mail: dyer@crossagency.com

3. Contact Person/Agent (if completed and signed by applicant's agent, provide written documentation of authority to act on behalf of applicant)

Name: Daniel Diffin, P.E.

Company Name: Sevee & Maher Engineers, Inc.

Mailing Address: 4 Blanchard Road, Cumberland, ME 04021

Telephone: (207)829-5016 Fax: (207)829-5692 E-mail: dpd@smemaine.com

I certify all the information in this application form and accompanying materials is true and accurate to the best of my knowledge.

Signature 2/27/20 Date

	Final Plan - Major Site Plan: Submission Requirements	Applicant	Staff
a.	Complete Sketch Plan Application form	✓	
b.	Evidence of payment of application and escrow fees	✓	
c.	Written information - submitted in bound report		
1	A narrative describing the proposed use or activity	✓	
2	Name, address, & phone number of record owner, and applicant if different	✓	
3	Names and addresses of all abutting property owners	✓	
4	Documentation demonstrating right, title, or interest in property	✓	
5	Copies of existing proposed covenants or deed restrictions	✓	
6	Copies of existing or proposed easements on the property	✓	
7	Name, registration number, and seal of the licensed professional who prepared the plan, if applicable	✓	
8	Evidence of applicant's technical capability to carry out the project	✓	
9	Assessment of the adequacy of any existing sewer and water mains, culverts and drains, on-site sewage disposal systems, wells, underground tanks or installations, and power and telephone lines and poles on the property	✓	
10	Estimated demand for water supply and sewage disposal	✓	
11	Provisions for handling all solid wastes, including hazardous and special wastes	✓	
12	Detail sheets of proposed light fixtures		
13	Listing of proposed trees or shrubs to be used for landscaping	✓	
14	Estimate weekday AM and PM and Saturday peak hour and daily traffic to be generated by the project	✓	
15	Description of important or unique natural areas and site features, including floodplains, deer wintering areas, significant wildlife habitats, fisheries, scenic areas, habitat for rare and endangered plants and animals, unique natural communities and natural areas, sand and gravel aquifers, and historic and/or archeological resources	✓	
16	If the project requires a stormwater permit from MaineDEP or if the Planning Board or if the Staff Review Committee determines that such information is required, submit the following:	✓	
	stormwater calculations	✓	
	erosion and sedimentation control measures	✓	
	water quality and/or phosphorous export management provisions		
17	If public water or sewerage will be utilized, provide statement from utility district regarding the adequacy of water supply in terms of quantity and pressure for both domestic and fire flows, and the capacity of the sewer system to accommodate additional wastewater.	✓	
18	Financial Capacity	✓	
	i. Estimated costs of development and itemize estimated major expenses	✓	
	ii. Financing (submit one of the following)		
	a. Letter of commitment to fund		

	b. Self-financing		
	1. Annual corporate report		
	2. Bank Statement		
	c. Other		
	1. Cash equity commitment of 20% of total cost of development		
	2. Financial plan for remaining financing		
	3. Letter from institution indicating intent to finance	✓	
	iii. If a registered corporation a Certificate of Good Standing from:	✓	
	Secretary of State, or	✓	
	statement signed by corporate officer		
19	Technical Capacity (address both)	✓	
	i. Prior experience	✓	
	ii. Personnel	✓	
d.	**Plan Requirements - Existing Conditions**		
i.	Location Map adequate to locate project within the municipality	✓	
ii.	Vicinity Plan. Drawn to scale of not over 400 feet to the inch, and showing area within 250 feet of the property line, and shall show the following:	✓	
	a. Approximate location of all property lines and acreage of parcels	✓	
	b. Locations, widths and names of existing, filed or proposed streets, easements or building footprints	✓	
	c. Location and designations of any public spaces	✓	
	d. Outline of proposed subdivision, together with its street system and an indication of the future probable street system of the remaining portion of the tract		
iii.	North Arrow identifying Grid North; Magnetic North with the declination between Grid and Magnetic; and whether Magnetic or Grid bearings were used	✓	
iv.	Location of all required building setbacks, yards, and buffers	✓	
v.	Boundaries of all contiguous property under the total or partial control of the owner or applicant	✓	
vi.	Tax map and lot number of the parcel or parcels on which the project is located	✓	
vii.	Zoning classification(s), including overlay and/or subdistricts, of the property and the location of zoning district boundaries if the property is located in 2 or more districts or abuts a different district.	✓	
viii.	Bearings and lengths of all property lines of the property to be developed, and the stamp of the surveyor that performed the survey.	✓	
ix.	Existing topography of the site at 2-foot contour intervals	✓	
x.	Location and size of any existing sewer and water mains, culvers and drains, on-site sewage disposal systems, wells, underground tanks or installations, and power and telephone lines and poles on the property and on abutting streets or land that may serve the development.	✓	
xi.	Location, names, and present widths of existing public and/or private streets and rights-of way within or adjacent to the proposed development	✓	
xii.	Location, dimensions, and ground floor elevation of all existing buildings	✓	

xiii.	Location and dimensions of existing driveways, parking and loading areas, walkways, and sidewalks on or adjacent to the site.	✓	
xiv.	Location of intersecting roads or driveways within 200 feet of the site.	✓	
xv.	Location of the following:	✓	
	a. Open drainage courses	✓	
	b. Wetlands	✓	
	c. Stone walls	✓	
	d. Graveyards	✓	
	e. Fences	✓	
	f. Stands of trees or treeline, and	✓	
	g. Other important or unique natural areas and site features, including but not limited to, floodplains, deer wintering areas, significant wildlife habitats, fisheries, scenic areas, habitat for rare and endangered plants and animals, unique natural communities and natural areas, sand and gravel aquifers, and historic and/or archaeological resources	✓	
xvi.	Direction of existing surface water drainage across the site	✓	
xvii.	Location, front view, dimensions, and lighting of existing signs	✓	
xviii.	Location & dimensions of existing easements that encumber or benefit the site	✓	
xix.	Location of the nearest fire hydrant, dry hydrant, or other water supply	✓	
	Plan Requirements - Proposed Development Activity		
i.	Location and dimensions of all provisions for water supply and wastewater disposal, and evidence of their adequacy for the proposed use, including soils test pit data if on-site sewage disposal is proposed	✓	
ii.	Grading plan showing the proposed topography of the site at 2-foot contour intervals	✓	
iii.	Direction of proposed surface water drainage across the site and from the site, with an assessment of impacts on downstream properties.	✓	
iv.	Location and proposed screening of any on-site collection or storage facilities	✓	
v.	Location, dimensions, and materials to be used in the construction of proposed driveways, parking and loading areas, and walkways, and any changes in traffic flow onto or off-site	✓	
vi.	Proposed landscaping and buffering	✓	
vii.	Location, dimensions, and ground floor elevation of all buildings or expansions	✓	
viii.	Location, front view, materials and dimensions of proposed signs together with method for securing sign	✓	
ix.	Location and type of exterior lighting. Photometric plan to demonstrate coverage area of all lighting may be required by Planning Board.	✓	
x.	Location of all utilities, including fire protection systems	✓	
xi.	Approval block: Provide space on the plan drawing for the following words, "Approved: Town of Windham Planning Board" along with space for signatures and date	✓	

2.	**Major Final Site Plan Requirements**		
a.	Narrative and/or plan describing how the proposed development plan relates to the sketch plan	✓	
b.	Stormwater drainage and erosion control program showing:	✓	
	1. Existing and proposed method of handling stormwater runoff	✓	
	2. Direction of the flow of the runoff, through the use of arrows and a description of the type of flow (e.g. sheet flow, concentrated flow, etc.)	✓	
	3. Location, elevation, and size of all catch basins, dry wells, drainage ditches, swales, retention basins, and storm sewers	✓	
	4. Engineering calculations used to determine drainage requirements based on the 25-year, 24-hour storm frequency.	✓	
	5. Methods of minimizing erosion and controlling sedimentation during and after construction.	✓	
c.	A groundwater impact analysis prepared by a groundwater hydrologist for projects involving on-site water supply or sewage disposal facilities with a capacity of 2,000 gallons or more per day	✓	
d.	Name, registration number, and seal of the Maine Licensed Professional Architect, Engineer, Surveyor, Landscape Architect and/or similar professional who prepared the plan	✓	
e.	A utility plan showing, in addition to provisions for water supply and wastewater disposal, the location and nature of electrical, telephone, cable TV, and any other utility services to be installed on the site	✓	
f.	A planting schedule keyed to the site plan indicating the general varieties and sizes of trees, shrubs, and other vegetation to be planted on the site, as well as information pertaining to provisions that will be made to retain and protect existing trees, shrubs, and other vegetation	✓	
g.	Digital transfer of any site plan data to the town (GIS format)	✓	
h.	A traffic impact study if the project expansion will generate 50 or more trips during the AM or PM peak hour, or if required by the Planning Board	✓	
Electronic Submission		✓	

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LIST OF APPENDICES

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TOWN OF WINDHAM PLANNING BOARD SITE PLAN APPLICATION
BANGOR SAVINGS BANK BRANCH/OFFICE BUILDING
WINDHAM, MAINE

1.0 PROJECT DESCRIPTION

Bangor Savings Bank (BSB) proposes to develop a new bank branch and office building on two properties located at 745 and 747 Roosevelt Trail in Windham. The property is located on the corner of Roosevelt Trail (US Route 302) and Tandberg Trail (ME 115). To accommodate the bank branch and office building and parking, proposed development will combine the two existing commercial properties into a single parcel. Both existing properties are currently owned by Cross Insurance and identified as Lots 55 and 54 on Town of Windham Tax Map 67.

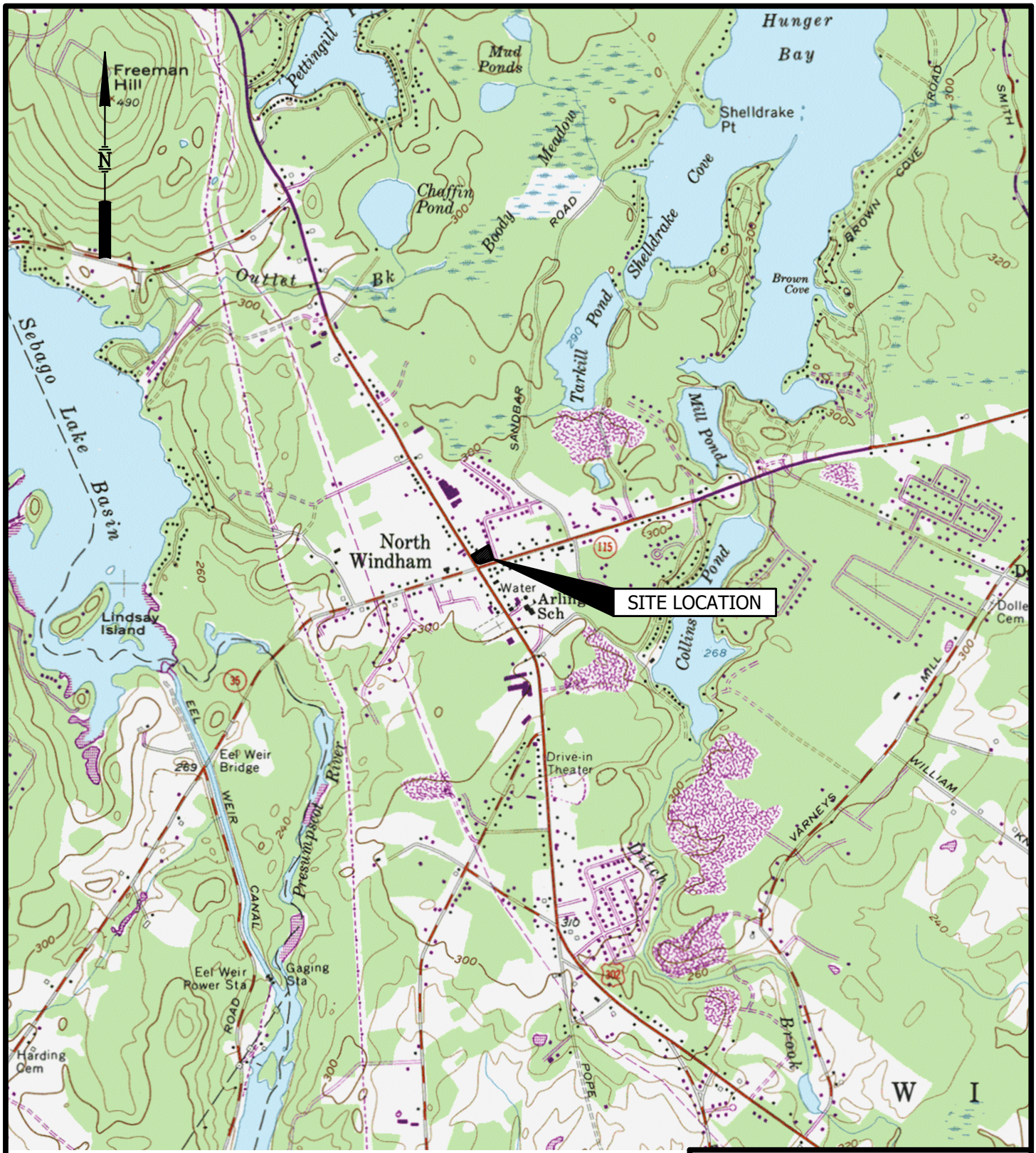
Lots are mapped in the Commercial 1 (C1) District. The project site is bounded by Roosevelt Trail (US 302) on the west, Tandberg Trail (ME 115) on the south, and Abby Road on the east. Developed commercial and residential properties exist to the north. The property has approximately 141 linear feet of frontage on Roosevelt Trail, approximately 223 linear feet of frontage on Tandberg Trail, and approximately 200 linear feet of frontage on Abby Road. The property location is outlined on the attached Figure 1 - Site Location Map.

Proposed development will include a single story, 7,000-square-foot (sf) bank branch and office building to house Bangor Savings Bank and Cross Insurance. Additional construction includes a two-lane drive thru, a drive thru bypass lane, and a twenty-eight (28) space paved parking area. The project will maintain existing site access from Tandberg Trail, Roosevelt Trail, and Abby Road. Additional site improvements include public water, private sewer, underground utilities, site lighting, and landscaping.

The existing properties are currently developed with commercial structures and paved parking. Existing construction will be removed to accommodate the new Bank branch and office building, parking, and updated site access. Existing impervious area on the parcel is approximately 27,537 sf, consisting of the two buildings and accompanying parking areas and access drives. The existing developed area is approximately one acre.

As previously outlined, proposed site improvements include approximately 28,090 sf of redeveloped impervious area for the building, parking, drive thru, and site access. As with the current site, the proposed redeveloped area will also be approximately one acre with a slight increase in impervious area of approximately 470 sf.

This project will result in less than one acre of total impervious surface and less than 5 acres of new developed area. Per the current municipal ordinance, the project is designed to meet Basic Standards as



BASE MAP ADAPTED FROM 7.5 MIN
USGS TOPOGRAPHIC QUADRANGLES
NORTH WINDHAM, ME - 1977

1000 0 2000 FEET

DWG: SITELOC LMN: NONE CTB: SME-STD REV: 1/15/2020

FIGURE 1
SITE LOCATION MAP
WINDHAM BRANCH/OFFICE
BANGOR SAVINGS BANK
WINDHAM, MAINE

SME
SEVEE & MAHER
ENGINEERS

\\Nserver\cfs\Bangor Savings Bank\North Windham\Acad\Figures\SITELOC.dwg, 1/15/2020 11:07:00 AM, sjm

outlined in Maine Department of Environmental Protection (MEDEP) Chapter 500. The project is not required to obtain a MEDEP Stormwater Management Permit.

The following describes how the project complies with the applicable Chapters of the Land Use Ordinances of the Town of Windham:

2.0 OWNER INFORMATION

Cross Insurance is the current owner of both properties used to form the combined parcel and Bangor Savings Bank is the Applicant for this project. A copy of the titles for the two properties are included in Attachment A. The 7,000-sf structure proposed for this project will house a new Bangor Savings Bank branch and updated office space for the existing Cross Insurance business on the property. Contact information for the Owner and Applicant are provided below:

Applicant
Bangor Savings Bank c/o Jason Donovan
11 Hamlin Way
Bangor, Maine 04401
Phone: 207-262-4991

Owner
Cross Insurance Agency c/o Alice Dyer
P. O. BOX 1388
Bangor, ME 04402
Phone: 207-947-7345

3.0 SECTION 812 – PERFORMANCE STANDARDS AND APPROVAL CRITERIA

The following describes how *t*he project complies with Section 800 Site Plan Review of the Town of Windham Land Use Ordinance. The following corresponds with the specific Performance Standards and Approval Criteria for Major Site Plans.

3.1 Utilization of the Site

As previously outlined, the existing property is currently developed with two commercial structures, paved parking, and multiple site access locations. Commercial use will remain on the property following proposed improvements, with a single new commercial structure, updated parking, utility services, and landscaping. New construction is designed to conform to the current comprehensive plan and adhere to current setback requirements. There are no environmentally sensitive areas on the property; existing drainage patterns on the property will be maintained to the greatest extent possible.

3.2 Vehicular Traffic

A total of 24 employees are anticipated for the proposed bank branch and office building. Ten employees will work at the Bangor Savings Bank branch and 14 employees will occupy the Cross Insurance office space.

The site currently has two site access locations on Roosevelt Trail, one access location on Tandberg Trail, and two access locations on Abby Road. Proposed development is designed to reduce the number of existing curb cuts and streamline access to the property. Plans include converting the existing entrance location at Tandberg Trail to a reduced width right turn in only, limiting Roosevelt Trail access to a single right turn in/right turn out, and consolidating the multiple access points at Abby Road to a single site entrance. The improved site access is designed to meet the requirements of current municipal Ordinance and provide safe, efficient access to the property. A full evaluation of the anticipated traffic at the site and the level of service of the surrounding roadways is included in a Traffic Analysis Report prepared by Diane Morabito, P.E., PTOE, of Sewall Company will be submitted under separate cover.

The sight distance measured at the proposed access points exceeds the Town of Windham standards for posted speeds on the respective roadways.

The proposed parking area and drive aisles are designed to meet the requirements for off-street parking outlined in this Ordinance. The parking area will be paved and feature well-defined circulation routes, traffic control signage, and pedestrian crossings to minimize conflict between vehicles and pedestrians. The Site Layout Plan, Drawing C-103, outlines design and construction for the proposed parking area.

3.3 Parking and Loading Requirements

The project converts existing curb cuts on Abby Road, Tandberg Trail, and Roosevelt Trail for access to the proposed twenty-eight (28) space parking lot. Parking on-site was designed to maximize the number of parking spaces. It is not anticipated that the parking will be full during most periods of use. As outlined in the municipal ordinance, 30 percent of the total parking spaces are oversize spaces at 10 feet by 20 feet. The proposed parking area and drive aisles were designed to meet the requirements for ninety-degree off-street parking outlined in this Ordinance. The Site Layout Plan, Drawing C-103, outlines design and construction dimensions for the proposed parking area.

3.4 Pedestrian Traffic

The parking area will feature well defined circulation routes, traffic control signage, and pedestrian crossings to minimize conflict between vehicles and pedestrians. A connection to the existing sidewalk in Roosevelt Trail will provide dedicated access into the site for pedestrians. The Site Layout Plan, Drawing C-103, outlines design and construction for the proposed pedestrian walks.

3.5 Stormwater Management

See Attachment C for the Stormwater Management Report describing the impacted watershed area and projected site runoff. There are no adverse impacts on downstream drainage anticipated because of this project. A Post-construction Stormwater Management Plan is provided as well, outlining the required inspections and maintenance for the site.

3.6 Erosion Control

All grading, filling, and associated site construction will be conducted in accordance with the Maine Erosion and Sediment Control Best Management Practices (BMPs) latest edition, dated October 2016. This will be the minimum standard for erosion and sedimentation control for the project, as adopted by the Town of Windham from the MEDEP standards. Erosion and sedimentation control notes and details are included on Drawing C-105 and Drawing C-300 in the attached drawing set.

3.7 Water Supply Provisions

The bank branch and office building will require a 1.5-inch water supply line. Public water will be provided with a connection into the existing water main in Tandberg Trail. The design of the connection has been coordinated with the Portland Water District.

3.8 Sewage Disposal Provisions

The branch and office building will require a septic system. Borings completed during the geotechnical investigation indicate on-site soils are suitable for a septic system. Andrew Gobeil, C.G., L.S.E., P.G will complete test pits and a septic design for the proposed facility prior to application for a building permit. Test boring locations are outlined on Drawing C-102 in the attached drawing set. Boring logs are included in Attachment D.

3.9 Utilities

The proposed building will include a new 1.5-inch water service connecting to the existing 8-inch water main in the Tandberg Trail right-of-way. Portland Water District (PWD) has verified they have capacity to serve the project. A copy of their letter is included in Attachment E.

Natural gas service will be provided from the existing gas main in the Tandberg Trail right-of-way. Installation of the new service will be coordinated with Maine Natural Gas.

Electric and communications services will be provided to the site from the existing utility pole on north side of Tandberg Trail. The new service will include a pole-mounted transformer and underground utility service from the existing pole into the building.

3.10 Groundwater Protection

The proposed bank branch and office building will not, alone or in conjunction with existing activities, adversely affect the quality or quantity of groundwater.

3.11 Water Quality Protection

The proposed Bank branch and office building will not have storage or discharge of any treated or untreated liquid, gases, or solids that will contaminate or pollute water. The Stormwater Management Report in Attachment C outlines how water quality will be protected. The quality of water will not be impacted by this project.

3.12 Hazardous, Special, and Radioactive Materials

There will be no hazardous, special, or radioactive material generated or stored on this property.

3.13 Shoreland Relationship

There are no shorelands on this property as shown on the FEMA Firmette Map included as Attachment F.

3.14 Technical and Financial Capacity

Anticipated construction cost for the project will total at approximately $1.64 million. Attachment B includes a unit cost estimate spreadsheet for the proposed construction and a letter outlining the Applicant's relationship with the lender and their capacity to complete the proposed project.

Bangor Savings Bank has contracted with experienced, qualified firms to manage the facility's design and permitting. The following is a list of the firms and the roles for this project.

Building Architect:

TAC Architectural Group
40 Summer St, Suite 4
Bangor, ME 04401
Website: https://tac-arch.com

Civil & Geotechnical Engineer:

Sevee & Maher Engineers, Inc.
4 Blanchard Road
Cumberland Center, ME 04021
Website: www.smemaine.com

Landscape Architect:

Land Design Solutions
160 Longwoods Road
Cumberland, ME 04021

3.15 Solid Waste Management

Solid waste will be disposed of at the dumpster located at the dumpster enclosure on the northeast corner of the parking lot. The solid waste will be removed through a contract with a private waste hauler such as Pine Tree Waste or Waste Management of Maine.

3.16 Historic and Archaeological Resources

The project will be completed on a developed parcel. No disturbance to historic buildings or structures is proposed as part of this project.

3.17 Floodplain Management

Based on review of the flood hazard boundary maps, the site is not situated in a federally designated flood hazard zone. A copy of the FEMA Firmette map is included as Attachment F.

3.18 Exterior Lighting

Site lighting is designed for the safe operations of the building and surrounding parking areas. Site lighting fixtures will be full cut-off and shielded. LED lights are planned to provide minimal light beyond what is needed. The proposed light poles locations have been shown on the Site Utilities Plan, drawing C-104. Cut sheets of fixtures used on similar BSB projects are included in Attachment G.

3.19 Noise

The noise levels of the proposed bank branch and office will be under 65 dB between 7:00 am and 10:00 pm and under 55 dB between 10:01 pm and 6:59 am.

3.20 Storage of Materials

There will be no storage of materials on site.

4.0 SECTION 813 – COMMERCIAL DISTRICT DESIGN STANDARDS

This project is located in the Commercial 1 Zoning District. The following corresponds with the specific Commercial District Design Standards.

4.1 Architecture/Building

Building style, color, and materials are designed to conform to the design standards established for development within Windham's Commercial 1 district. Attachment H includes architectural building elevations for the proposed structure.

4.2 Site/Parking

In conformance with the district design standards, parking will be located at the rear and side of the proposed bank branch/office structure. Internal traffic flow is designed to enhance the safety of motorists and pedestrians. Project plans include delineating internal traffic patterns. Parking spaces, directional arrows, and crosswalks will be delineated with pavement paint and traffic signage to ensure safe circulation.

Building orientation and site on the property was carefully coordinated with Town staff. Site design includes parking lot landscaping, low-impact stormwater management, underground site utilities, and appropriate screening for mechanical equipment and trash receptacles to conform to zoning requirements. These features are detailed in the project plan set included with this application.

4.3 Landscaping/Lighting

The lighting is designed to coordinate with the building and landscaping to prevent glare and dark spots in the parking lot and provide safe operation for the building and pedestrian/vehicle traffic. Exterior lighting will be shielded, full cut-off type LED fixtures to minimize impact to the night sky. Poles will be square steel and not exceed 15 feet in height. Illumination levels and uniformity shall be based on Illuminating Engineering Society of North America (IES) recommended levels and designed to comply with local ordinances. Attachment G includes product cut sheets for proposed pole mounted fixtures.

Landscape design was completed by Peter Beigel, ASLA of Land Design Solutions in Cumberland. A landscape plan outlining planting location and species is included in the project plan set. The landscaping will have variety of plants to provide seasonal colors and variety of heights. As requested by Town staff,

mature trees and existing buffering are preserved to the greatest extent possible. Snow storage areas are located adjacent to the proposed parking area and outlined in the project plan set.

4.4 Bicycle/Pedestrian

Site design includes sidewalks and crosswalks to provide safe internal pedestrian circulation between building entrances and parking areas. In addition, a 5-foot-wide walkway is proposed to link the building entrance to the public sidewalk on Roosevelt Trail and a bike rack is planned near the main building entrance. Details are provided in the attached plan set.

ATTACHMENT A

TITLE, RIGHT OR INTEREST

SME
SEVEE & MAHER
ENGINEERS

QUITCLAIM DEED
With Covenant

KNOW ALL PERSONS BY THESE PRESENTS, that I, **MARY LOU PATTEN,** Successor Trustee of the Frank Patten Revocable Trust dated April 19, 1982, as amended, of South Portland, County of Cumberland, State of Maine, for consideration paid, **GRANT** to **CROSS REALTY, LLC**, a Maine Limited Liability Company whose mailing address is P.O. Box 1388, Bangor, Maine, 04402, with **QUITCLAIM COVENANT,** the with any buildings thereon land in the Town of Windham, County of Cumberland, State of Maine bounded and described as follows:

Beginning at the intersection of the easterly line of the county road U.S. Route 302 with the northerly line of the Gray and Standish county road; thence on the easterly line of Route 302 North 15 degrees and 27 minutes West 106.83 feet to the Southerly line of Ronald and Goldie M. Pitt; thence North 77 degrees 13 minutes East 154 feet to an iron pipe in the ground at the Southeast corner of said Pitt land; thence North 8 degrees and 59 minutes West 43 feet to an iron pipe on the line formerly of Sarah Taylor; thence North 75 degrees and 39 minutes East 69.25 feet to an iron pipe at the Southeasterly corner of Sarah Taylor land; thence continuing on the same course to the Westerly side of a 50 foot unaccepted street located on land of Clinton H. Philpot and Venetia L. Philpot 55.98 feet to an iron pipe; thence South 1 degree and 5 minutes East 205.56 feet to an iron pipe on the Northerly side of the aforesaid Gray and Standish county road; thence along the Northerly side of said Gray and Standish county road South 88 degrees and 55 minutes West 240.38 feet to the point of beginning.

Excepting and reserving from the foregoing parcel of land a parcel of land containing about 116 square feet conveyed by Robert T. Meserve et al. for highway purposes by deed dated October 11, 1967 and recorded at the Cumberland County Registry of Deeds in Book 3016, Page 661.

Also excepting and reserving from the foregoing parcel of land such land or rights acquired by the Department of Transportation for the State of Maine by eminent domain pursuant to a Notice of Layout and Taking dated August 26, 1980 and recorded at the Cumberland County Registry of Deeds in Book 4654, Page 309. Also such land or rights acquired by the Department of Transportation for the State of Maine by eminent domain pursuant to a Notice of Layout and Taking dated September 13, 1994 and recorded at said Registry of Deeds in Book 11639, Page 317.

Being the same premises conveyed to the Grantor herein by Deed of Frank Patten and Mary Lou Patten dated January 11, 2000 and recorded in the Cumberland County Registry of Deeds in Book 15311, Page 081.

And the Grantor, in her capacity as Trustee of said Frank Patten Revocable Trust dated April 19, 1982, as amended, does hereby covenant with the Grantee, and the Grantee's successors and assigns, that the Grantor is the sole Trustee pursuant to said Trust; that said Trust is still in full force and effect; that the Grantor has the power thereunder to convey as aforesaid; and that in making this conveyance, the Grantor has, in all respects, acted pursuant to and in

accordance with the authority vested and granted to the Grantor herein and all terms and conditions of said Trust.

IN WITNESS WHEREOF, MARY LOU PATTEN, as Trustee of the Frank Patten Revocable Trust dated April 19, 1982, as amended, has hereunto set her hand and seal this 23rd day of March, 2007.

THE FRANK PATTEN REVOCABLE TRUST DATED APRIL 19, 1982, AS AMENDED

Witness

By: Mary Lou Patten, Trustee

STATE OF MAINE
CUMBERLAND, ss.

March 23, 2007

Personally appeared the above named MARY LOU PATTEN in her capacity as Trustee of the Frank Patten Revocable Trust dated April 19, 1982, as amended, and acknowledged the foregoing instrument to be her free act and deed and the free act and deed of said Trust.

Before me,

Notary Public/Attorney at Law

ELLEN R. GUPTILL
Notary Public, Maine
My Commission Expires April 23, 2007

SEAL

Received
Recorded Register of Deeds
Mar 23,2007 03:05:23P
Cumberland County
Pamela E. Lovley

Doc#: 55066 Bk:25434 Ps: 91

WARRANTY DEED
(Maine Statutory Short Form)

KNOW ALL BY THESE PRESENTS, that we, **LYNDEN A. PITT** AND **JEANETTE PITT** of Windham, Maine, for consideration paid, GRANT to **CROSS REALTY, LLC**, a limited liability company organized and existing under the laws of the State of Maine and having a mailing address of P. O. Box 1388, Bangor, Maine 04401, with WARRANTY COVENANTS, certain real estate located in Windham, Cumberland County, Maine, more particularly described in Exhibit A attached hereto and made a part hereof.

Meaning and intending to convey and hereby conveying the same premises conveyed to the Grantors by deed from Lynden A. Pitt, dated August 28, 1995 and recorded at the Cumberland County Registry of Deeds in Book 12113, Page 295.

WITNESS our hands and seals this 31st day of August, 2007.

MAINE REAL ESTATE TAX PAID

SIGNED, SEALED AND DELIVERED
IN THE PRESENCE OF

Witness — Lynden A. Pitt

Witness — Jeanette Pitt

STATE OF MAINE
County of Cumberland, SS.

August 31st, 2007

Then personally appeared the above-named Lynden & Jeanette and acknowledged the foregoing instrument to be his/her free act and deed.

Before me,

Notary Public/~~Maine Attorney at Law~~
Printed Name: Madison A. Stedl

MADISON A. STEDL
Notary Public, Maine
My Commission Expires May 26, 2011

SEAL

ATTACHMENT B

FINANCIAL CAPACITY

SME
SEVEE & MAHER
ENGINEERS

COST ESTIMATE WORKSHEET

OWNER/APPLICANT: Bangor Savings Bank

PROJECT NAME: Windham Bank Branch/Office Building

	ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
1	Clearing and Grubbing	Acre	0.5	$7,600.00	$3,800.00
2	Erosion/Sediment Control	Lump Sum	1	$5,000.00	$5,000.00
3	Site Stabilization	Lump Sum	1	$5,000.00	$5,000.00
4	Ledge Removal	Cubic Yard	0		$0.00
5	Sanitary Sewer				
	Septic Tank and Leachfeild	Each	1	$7,000.00	$7,000.00
	Manholes	Each	0		$0.00
	Main	Linear Foot			$0.00
	House Services	Linear Foot	60	$40.00	$2,400.00
6	Water Main				
	Main	Linear Foot			$0.00
	House Services	Linear Foot	55	$60.00	$3,300.00
	Hydrants	Each			$0.00
7	Electric				
	Underground Utility Trench	Linear Foot	55	$30.00	$1,650.00
	Conduit/Wiring	Linear Foot	55	$20.00	$1,100.00
	Transformer Bases	Each	0	$3,500.00	$0.00
8	Storm Drainage				
	Pipe/Culvert	Linear Foot	0	$50.00	$0.00
	Catch Basin	Each		$4,000.00	$0.00
	Other Treatment Devices -Soil Filter	Square foot	0	$10.00	$0.00
9	Stormwater Management				
	Outlet Control Structure	Each			$0.00
	Stromwater Management Facilities	Each	2	$1,000.00	$2,000.00
10	Excavate and Grade Subgrade	Cubic Yard	2000	$10.00	$20,000.00
11	Roadways				
	Subbase Gravel	Cubic Yard		$25.00	$0.00
	Base/Finish Gravel	Cubic Yard		$30.00	$0.00
	Base Paving	Ton		$80.00	$0.00
	Finish Paving	Ton		$100.00	$0.00
	Geotextile Fabric	Ton			$0.00
12	Sidewalks				
	Subbase Gravel	Cubic Yard	35	$25.00	$875.00
	Base/Finish Gravel	Cubic Yard	12	$30.00	$360.00
	Base Paving	Ton	11.3	$80.00	$904.00
	Finish Paving	Ton	11.3	$100.00	$1,130.00
13	Parking Lots/Other Areas				
	Subbase Gravel	Cubic Yard	950	$25.00	$23,750.00
	Base/Finish Gravel	Cubic Yard	255	$30.00	$7,650.00
	Base Paving	Ton	290	$80.00	$23,200.00
	Finish Paving	Ton	160	$100.00	$16,000.00

COST ESTIMATE WORKSHEET

14	Curbing – Bituminous	Linear Foot			$0.00
15	Curbing - Concrete	Linear Foot	1034	$5.00	$0.00
15	Curbing – Granite	Linear Foot	378	$30.00	$11,340.00
16	Pavement Striping	Acre	0.6	$5,000.00	$3,000.00
17	Guardrail	Linear Foot			$0.00
18	Fencing	Linear Foot		$30.00	$0.00
19	Loam and Seed	1,000 Square Feet	13	$2,000.00	$26,000.00
20	Riprap	Cubic Yard		$30.00	$0.00
21	Landscaping	Lump Sum	1	$10,000.00	$10,000.00
22	Street Lights	Each			$0.00
23	Site Lighting	Each	2	$3,500.00	$7,000.00
24	Monuments/Iron Pipes	Lump Sum	1	$500.00	$500.00
25	Clean Up	Lump Sum	1	$5,000.00	$5,000.00
26	As Builts	Lump Sum	1	$1,000.00	$1,000.00
27	Demo Buildings	Lump Sum	2	$16,000.00	$32,000.00
28	Building	Lump Sum	1	$1,400,000.00	$1,400,000.00
29	Signage	Each	2	$1,500.00	$3,000.00
30	Concrete Pads	Each	2	$5,000.00	$10,000.00
31	Other				$0.00

COST ESTIMATE TOTAL: **$1,633,959.00**

ATTACHMENT C

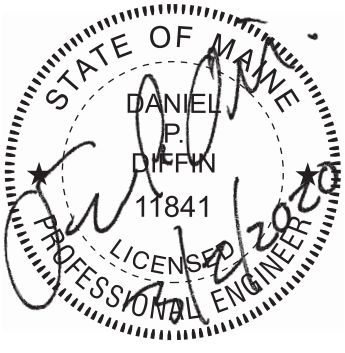
STORMWATER MANAGEMENT REPORT

SME
SEVEE & MAHER
ENGINEERS

STORMWATER MANAGEMENT REPORT
BANGOR SAVINGS BANK
WINDHAM BRANCH/OFFICE BUILDING

Prepared for

BANGOR SAVINGS BANK
745 and 747 Roosevelt Trail
Windham, Maine



March 2020

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

ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

SME
SEVEE & MAHER
ENGINEERS

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LIST OF FIGURES (END OF DOCUMENT)

LIST OF TABLES

STORMWATER MANAGEMENT REPORT
BANGOR SAVINGS BANK BRANCH/OFFICE BUILDING
WINDHAM, MAINE

1.0 INTRODUCTION

The following outlines the Stormwater Management Design for the Bangor Savings Bank (BSB) Branch/Office Building project at 745 Roosevelt Trail in Windham, Maine. The stormwater design prepared by Sevee & Maher Engineers, Inc. (SME) is based on the water quality and quantity objectives identified by the Town of Windham (Town) Land Use Ordinance and Maine Department of Environmental Protection (MEDEP) Chapter 500 Standards.

2.0 PROJECT DESCRIPTION

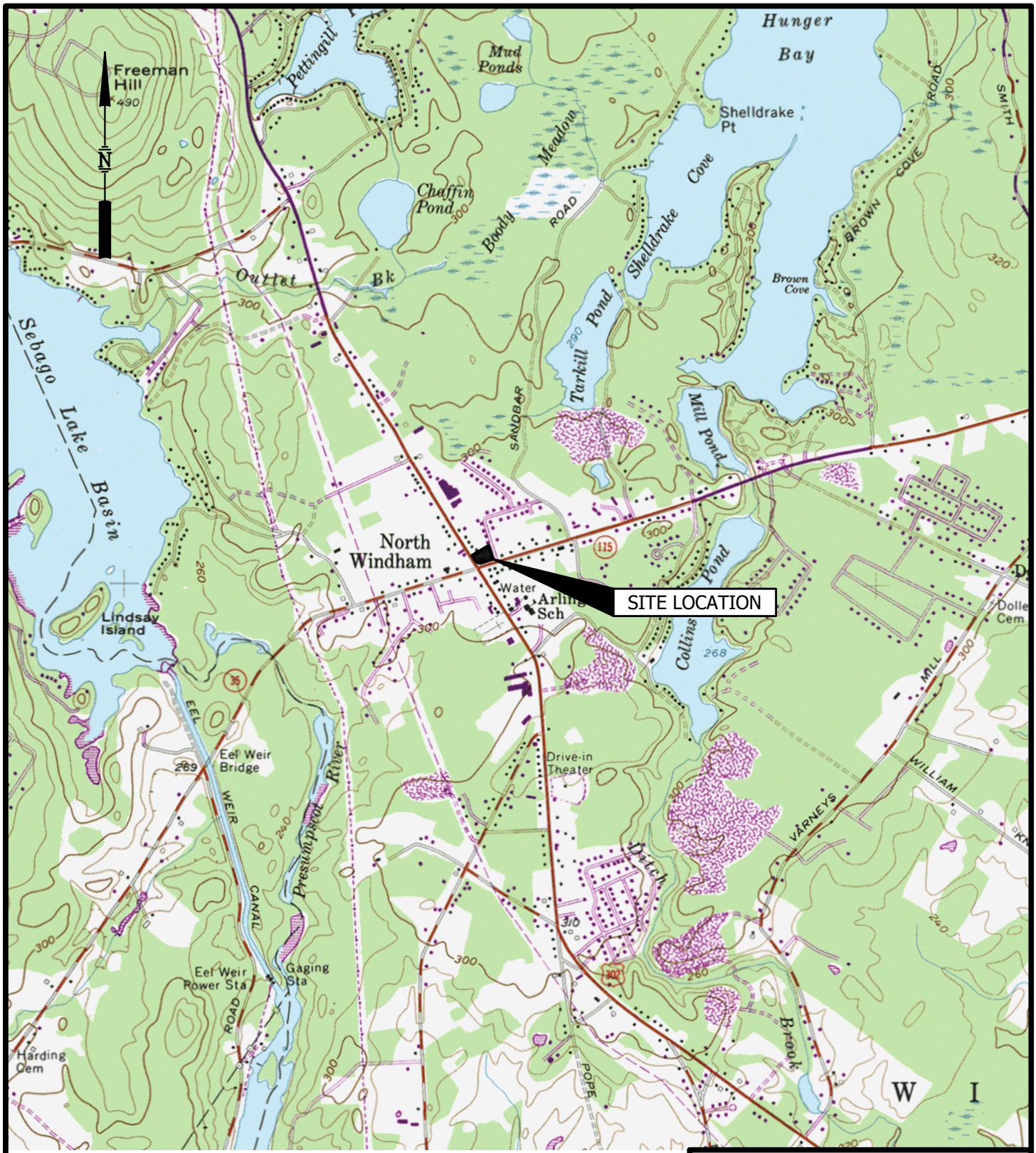
Bangor Savings Bank (BSB) proposes to develop a new bank branch and office building on two properties located at 745 and 747 Roosevelt Trail in Windham. The property is located on the corner of Roosevelt Trail (US Route 302) and Tandberg Trail (ME 115). To accommodate the bank branch and office building and parking, proposed development will combine the two existing commercial properties into a single parcel. Both existing properties are currently owned by Cross Insurance and identified as Lots 55 and 54 on Town of Windham Tax Map 67.

Lots are mapped in the Commercial 1 (C1) District. The project site is bounded by Roosevelt Trail (US 302) on the west, Tandberg Trail (ME 115) on the south, and Abby Road on the east. Developed commercial and residential properties exist to the north. The property has approximately 141 linear feet of frontage on Roosevelt Trail, approximately 223 linear feet of frontage on Tandberg Trail, and approximately 200 linear feet of frontage on Abby Road. The property location is outlined on the attached Figure 1 - Site Location Map.

Proposed redevelopment will include a single-story, 7,000-square-foot (sf), bank branch and office building to house Bangor Savings Bank and Cross Insurance. Additional construction includes a two-lane drive thru, a drive thru bypass lane, and a twenty-eight (28) space paved parking area. The project will maintain existing site access from Tandberg Trail, Roosevelt Trail, and Abby Road. Additional site improvements include public water, private sewer, underground utilities, site lighting, and landscaping.

The existing properties are currently developed with commercial structures and paved parking. Existing construction will be removed to accommodate the new Bank branch and office building, parking, and updated site access.

Existing impervious area on the parcel is approximately 27,537 sf, consisting of the two buildings and accompanying parking areas and drive aisles. The existing developed area is approximately one acre.



BASE MAP ADAPTED FROM 7.5 MIN
USGS TOPOGRAPHIC QUADRANGLES
NORTH WINDHAM, ME - 1977

1000 0 2000 FEET

DWG: SITELOC LMN: NONE CTB: SME-STD REV: 1/15/2020

FIGURE 1
SITE LOCATION MAP
WINDHAM BRANCH/OFFICE
BANGOR SAVINGS BANK
WINDHAM, MAINE

SME
SEVEE & MAHER
ENGINEERS

\\Nserver\cfs\Bangor Savings Bank\North Windham\Acad\Figures\SITELOC.dwg, 1/15/2020 11:07:00 AM, sjm

As previously outlined, proposed site improvements include approximately 28,090 sf of redeveloped impervious area for the building, parking, drive thru, and site access. As with the current site, the proposed redeveloped area will be approximately one acre, with a slight increase in impervious area of approximately 470 sf.

This project will result in less than one acre of total impervious surface and less than 5 acres of new developed area. Per the current municipal ordinance, the project is designed to meet Basic Standards as outlined in Maine Department of Environmental Protection (MEDEP) Chapter 500. The project is not required to obtain a MEDEP Stormwater Management Permit.

3.0 SITE WATERSHED

On-site soils were identified using the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil information for Cumberland County and part of Oxford County, Maine. A copy of the custom Soil Resource Report is included in Appendix A. The soil in the area of work consists of Hinckley loamy sand (HlB), which is classified as a "Excessively drained" hydrologic soil group (HSG) A type soil.

The site is currently developed with two commercial buildings, paved parking, landscaping, and a small area of maintained lawn totaling approximately one acre of existing developed area. The central portion of the property drains to a dry well installed in the paved parking area serving the Cross Insurance building. The remaining portion of the property generally drains to Abby Road, Tandberg Trail, and Roosevelt Trail to the east, south, and west, respectively, where it is collected by the municipal storm drain system. For the purposes of this stormwater management design, a central drain manhole at the intersection of Tandberg Trail and Roosevelt Trail was selected as Analysis Point 1 (AP1) to represent the Town storm drain system.

In developed conditions, stormwater management is designed to address surface runoff through a combination of infiltration and surface runoff to the existing municipal storm drain system, similar to existing conditions. Proposed development includes two infiltration basins to collect stormwater runoff from the roof of the new bank branch/office building and a significant portion of the paved parking and drive through area. The remaining portion of the property is designed to drain overland to the property boundary, where it will be collected by the municipal storm drain system, as it does in the existing configuration. In our model representing the developed site, AP1 remains the drain manhole at the intersection of Tandberg Trail and Roosevelt Trail.

Stormwater management plans identify the on-site drainage patterns before and after development (see Drawings D-100 and D-101). These drawings are included in the project plan set for reference. Appendix B provides pre- and post-development stormwater calculations using TR-20 methodologies prepared with

the HydroCAD Version 10.0 computer stormwater modeling system by Applied Microcomputer Systems of Chocorua, New Hampshire.

4.0 STORMWATER QUALITY ANALYSIS

As previously outlined, stormwater treatment will not be required for this project based on Town stormwater requirements and Maine Department of Environmental Protection (MEDEP) Chapter 500 standards. The project will result in approximately 28,090 sf of impervious surface within the 1 acre of redeveloped land in the project area. In accordance with the pollutant rankings and ranked impact change in Chapter 500, BSB is not required to treat the proposed impervious and developed areas for the project. A redevelopment treatment calculation summary is provided in Appendix E.

This project is designed to meet Basic Standards outlined in Maine Department of Environmental Protection (MEDEP) Chapter 500; construction will adhere to MEDEP Best Management Practices (BMPs) for erosion and sedimentation control as shown on drawings. Based on the size of the project and the scope of proposed development, we do not anticipate redevelopment of the parcel will adversely impact the quality of stormwater runoff from the property. The site is located in a large, urban watershed and currently discharges directly to a municipal storm drain system. New construction will include clearing the site, installation of landscaping, and construction of a stormwater infiltration system.

5.0 STORMWATER QUANTITY ANALYSIS

Stormwater quantity is managed to the maximum extent practicable through minimizing the amount of impervious area on the site and utilizing the storage characteristics of the infiltration basins in the southern portion of the project area.

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

TABLE 1

STORMWATER QUANTITY SUMMARY

AP	2-yr Storm		10-yr Storm		25-yr Storm	
	Pre- (cfs)	Post- (cfs)	Pre- (cfs)	Post- (cfs)	Pre- (cfs)	Post- (cfs)
1	2.31	1.19	4.43	2.41	6.21	3.45

Site drainage from the proposed redevelopment will generally follow the pre-development conditions. As outlined in Table 1, our model indicates decreased peak flow rates at AP-1 for the post-development conditions, which represents a reduction in surface runoff to the municipal storm drain system as compared to the existing conditions.

6.0 MAINTENANCE PLAN, INSPECTIONS, AND REQUIREMENTS

Maintenance of the proposed facility will be performed by BSB as part of their regular landscape operations. Contact information for the Owner's representative is included in the Post-Construction Stormwater Management Plan, attached as Appendix E. During construction, the site work contractor (not yet selected) will be responsible for all site maintenance. The Post-Construction Stormwater Management Plan describes the facilities to be maintained and includes sample maintenance logs. There are no new drainage easements, deed restrictions, or 'third-party' maintenance contracts proposed for this project.

7.0 SUMMARY

The stormwater management for this project was designed in accordance with the water quality and quantity objectives identified by the Town of Windham (Town) Land Use Ordinance and MEDEP Chapter 500 requirements for redevelopment projects. There will be no adverse impact to adjacent properties or downstream structures as a result of this project.

APPENDIX A

NRCS SOIL REPORT

SME
SEVEE & MAHER
ENGINEERS

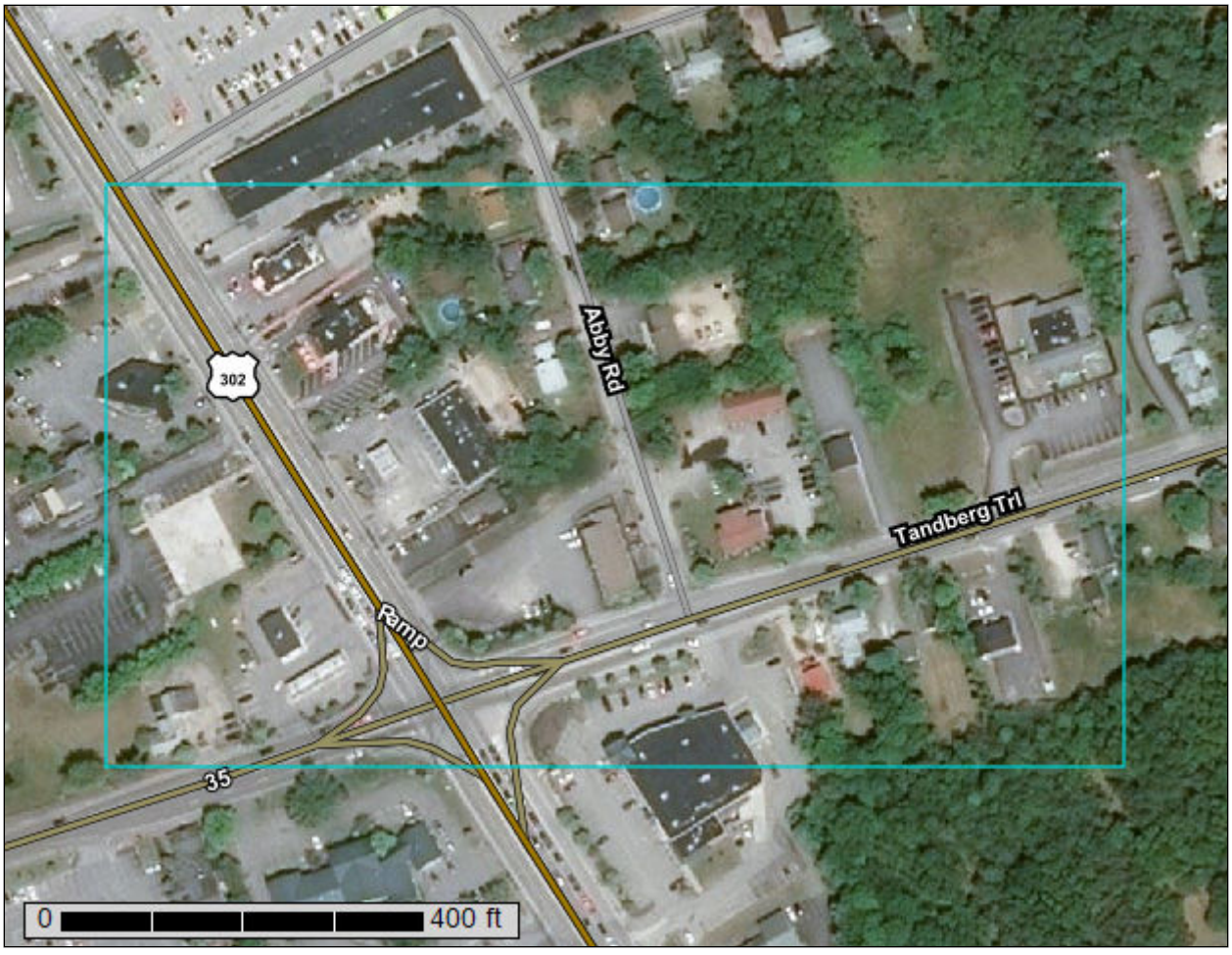
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

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



January 27, 2020

Preface

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

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

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

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

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

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

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

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Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

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

Soil Map

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

Custom Soil Resource Report
Soil Map

Map Scale: 1:1,880 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 25 50 100 150

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 16, Sep 16, 2019

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

Date(s) aerial images were photographed: Jun 7, 2019—Jul 2, 2019

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

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
HIB	Hinckley loamy sand, 3 to 8 percent slopes	16.6	100.0%
Totals for Area of Interest		**16.6**	**100.0%**

Map Unit Descriptions

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

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

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

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

Cumberland County and Part of Oxford County, Maine

HIB—Hinckley loamy sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2svm8
Elevation: 0 to 1,430 feet
Mean annual precipitation: 36 to 53 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 250 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hinckley and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

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

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

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

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A

Hydric soil rating: No

Minor Components

Windsor

Percent of map unit: 8 percent
Landform: Kame terraces, outwash plains, kames, eskers, moraines, outwash terraces, outwash deltas
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Nose slope, side slope, base slope, crest, tread, riser
Down-slope shape: Linear, convex, concave
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Sudbury

Percent of map unit: 5 percent
Landform: Kame terraces, outwash plains, moraines, outwash terraces, outwash deltas
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Side slope, base slope, head slope, tread
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: No

Agawam

Percent of map unit: 2 percent
Landform: Kame terraces, outwash plains, kames, eskers, moraines, outwash terraces, outwash deltas
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Nose slope, side slope, base slope, crest, tread, riser
Down-slope shape: Convex, concave, linear
Across-slope shape: Concave, linear, convex
Hydric soil rating: No

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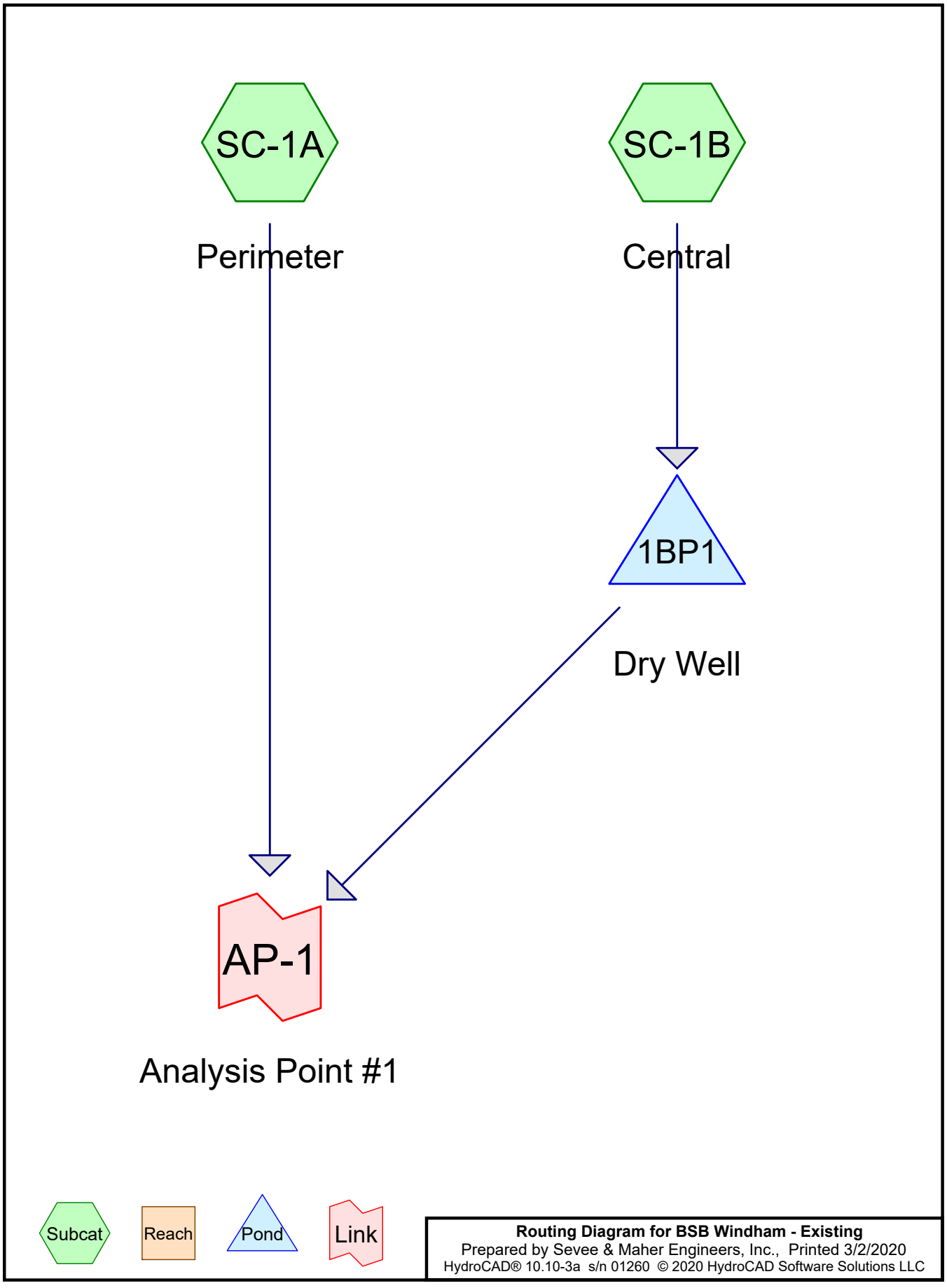
APPENDIX B

PRE-DEVELOPMENT HYDROCAD CALCULATIONS

SME
SEVEE & MAHER
ENGINEERS



Routing Diagram for BSB Windham - Existing
Prepared by Sevee & Maher Engineers, Inc., Printed 3/2/2020
HydroCAD® 10.10-3a s/n 01260 © 2020 HydroCAD Software Solutions LLC

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment SC-1A: Perimeter Runoff Area=45,157 sf 66.18% Impervious Runoff Depth>1.05"
Tc=5.0 min CN=77 Runoff=1.35 cfs 0.090 af

Subcatchment SC-1B: Central Runoff Area=19,613 sf 83.56% Impervious Runoff Depth>1.71"
Tc=5.0 min CN=87 Runoff=0.96 cfs 0.064 af

Pond 1BP1: Dry Well Peak Elev=308.53' Storage=383 cf Inflow=0.96 cfs 0.064 af
Discarded=0.00 cfs 0.003 af Primary=0.96 cfs 0.054 af Outflow=0.97 cfs 0.057 af

Link AP-1: Analysis Point #1 Inflow=2.31 cfs 0.144 af
Primary=2.31 cfs 0.144 af

Summary for Subcatchment SC-1A: Perimeter

Runoff = 1.35 cfs @ 12.08 hrs, Volume= 0.090 af, Depth> 1.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

	Area (sf)	CN	Description
	369	32	Woods/grass comb., Good, HSG A
*	3,214	30	Landscaping, Good, HSG A
	2,552	98	Roofs, HSG A
	14,790	98	Paved roads w/curbs & sewers, HSG A
	11,688	39	Pasture/grassland/range, Good, HSG A
	12,544	98	Paved parking, HSG A
	45,157	77	Weighted Average
	15,271		33.82% Pervious Area
	29,886		66.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Minimum 5 min**

Summary for Subcatchment SC-1B: Central

Runoff = 0.96 cfs @ 12.08 hrs, Volume= 0.064 af, Depth> 1.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

	Area (sf)	CN	Description
	14,919	98	Paved parking, HSG A
	810	39	>75% Grass cover, Good, HSG A
	1,469	98	Roofs, HSG A
*	2,415	30	Landscaping Good, HSG A
	19,613	87	Weighted Average
	3,225		16.44% Pervious Area
	16,388		83.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 MIN DRECT ENTERY**

Summary for Pond 1BP1: Dry Well

Inflow Area = 0.450 ac, 83.56% Impervious, Inflow Depth > 1.71" for 2-yr Storm event
Inflow = 0.96 cfs @ 12.08 hrs, Volume= 0.064 af
Outflow = 0.97 cfs @ 12.10 hrs, Volume= 0.057 af, Atten= 0%, Lag= 1.2 min
Discarded = 0.00 cfs @ 8.25 hrs, Volume= 0.003 af
Primary = 0.96 cfs @ 12.10 hrs, Volume= 0.054 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 308.53' @ 12.10 hrs Surf.Area= 2,053 sf Storage= 383 cf

Plug-Flow detention time= 53.8 min calculated for 0.057 af (88% of inflow)
Center-of-Mass det. time= 18.3 min (803.3 - 784.9)

Volume	Invert	Avail.Storage	Storage Description
#1	301.50'	99,927 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
301.50	13	0	0	13
301.60	13	1	1	14
308.00	13	83	85	96
308.15	25	3	87	108
309.00	8,836	2,644	2,731	8,921
320.00	8,836	97,196	99,927	12,586

Device	Routing	Invert	Outlet Devices
#1	Discarded	301.50'	**9.070 in/hr Exfiltration over Horizontal area from 301.00' - 308.00'** Excluded Horizontal area = 0 sf
#2	Primary	308.50'	**50.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.00 cfs @ 8.25 hrs HW=301.60' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.81 cfs @ 12.10 hrs HW=308.53' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 0.81 cfs @ 0.46 fps)

Summary for Link AP-1: Analysis Point #1

Inflow Area = 1.487 ac, 71.44% Impervious, Inflow Depth > 1.17" for 2-yr Storm event
Inflow = 2.31 cfs @ 12.09 hrs, Volume= 0.144 af
Primary = 2.31 cfs @ 12.09 hrs, Volume= 0.144 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment SC-1A: Perimeter Runoff Area=45,157 sf 66.18% Impervious Runoff Depth>2.13"
Tc=5.0 min CN=77 Runoff=2.78 cfs 0.184 af

Subcatchment SC-1B: Central Runoff Area=19,613 sf 83.56% Impervious Runoff Depth>3.01"
Tc=5.0 min CN=87 Runoff=1.67 cfs 0.113 af

Pond 1BP1: Dry Well Peak Elev=308.55' Storage=406 cf Inflow=1.67 cfs 0.113 af
Discarded=0.00 cfs 0.003 af Primary=1.65 cfs 0.102 af Outflow=1.66 cfs 0.105 af

Link AP-1: Analysis Point #1 Inflow=4.43 cfs 0.286 af
Primary=4.43 cfs 0.286 af

Summary for Subcatchment SC-1A: Perimeter

Runoff = 2.78 cfs @ 12.08 hrs, Volume= 0.184 af, Depth> 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Storm Rainfall=4.60"

	Area (sf)	CN	Description
	369	32	Woods/grass comb., Good, HSG A
*	3,214	30	Landscaping, Good, HSG A
	2,552	98	Roofs, HSG A
	14,790	98	Paved roads w/curbs & sewers, HSG A
	11,688	39	Pasture/grassland/range, Good, HSG A
	12,544	98	Paved parking, HSG A
	45,157	77	Weighted Average
	15,271		33.82% Pervious Area
	29,886		66.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Minimum 5 min**

Summary for Subcatchment SC-1B: Central

Runoff = 1.67 cfs @ 12.07 hrs, Volume= 0.113 af, Depth> 3.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Storm Rainfall=4.60"

	Area (sf)	CN	Description
	14,919	98	Paved parking, HSG A
	810	39	>75% Grass cover, Good, HSG A
	1,469	98	Roofs, HSG A
*	2,415	30	Landscaping Good, HSG A
	19,613	87	Weighted Average
	3,225		16.44% Pervious Area
	16,388		83.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 MIN DRECT ENTERY**

Summary for Pond 1BP1: Dry Well

Inflow Area = 0.450 ac, 83.56% Impervious, Inflow Depth > 3.01" for 10-yr Storm event
Inflow = 1.67 cfs @ 12.07 hrs, Volume= 0.113 af
Outflow = 1.66 cfs @ 12.09 hrs, Volume= 0.105 af, Atten= 1%, Lag= 1.1 min
Discarded = 0.00 cfs @ 6.55 hrs, Volume= 0.003 af
Primary = 1.65 cfs @ 12.09 hrs, Volume= 0.102 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 308.55' @ 12.09 hrs Surf.Area= 2,157 sf Storage= 406 cf

Plug-Flow detention time= 38.6 min calculated for 0.105 af (94% of inflow)
Center-of-Mass det. time= 15.2 min (786.8 - 771.6)

Volume	Invert	Avail.Storage	Storage Description
#1	301.50'	99,927 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
301.50	13	0	0	13
301.60	13	1	1	14
308.00	13	83	85	96
308.15	25	3	87	108
309.00	8,836	2,644	2,731	8,921
320.00	8,836	97,196	99,927	12,586

Device	Routing	Invert	Outlet Devices
#1	Discarded	301.50'	**9.070 in/hr Exfiltration over Horizontal area from 301.00' - 308.00'** Excluded Horizontal area = 0 sf
#2	Primary	308.50'	**50.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.00 cfs @ 6.55 hrs HW=301.60' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=1.20 cfs @ 12.09 hrs HW=308.55' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 1.20 cfs @ 0.53 fps)

Summary for Link AP-1: Analysis Point #1

Inflow Area = 1.487 ac, 71.44% Impervious, Inflow Depth > 2.31" for 10-yr Storm event
Inflow = 4.43 cfs @ 12.08 hrs, Volume= 0.286 af
Primary = 4.43 cfs @ 12.08 hrs, Volume= 0.286 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment SC-1A: Perimeter Runoff Area=45,157 sf 66.18% Impervious Runoff Depth>3.09"
Tc=5.0 min CN=77 Runoff=4.02 cfs 0.267 af

Subcatchment SC-1B: Central Runoff Area=19,613 sf 83.56% Impervious Runoff Depth>4.08"
Tc=5.0 min CN=87 Runoff=2.24 cfs 0.153 af

Pond 1BP1: Dry Well Peak Elev=308.55' Storage=425 cf Inflow=2.24 cfs 0.153 af
Discarded=0.00 cfs 0.003 af Primary=2.21 cfs 0.143 af Outflow=2.21 cfs 0.146 af

Link AP-1: Analysis Point #1 Inflow=6.21 cfs 0.409 af
Primary=6.21 cfs 0.409 af

Summary for Subcatchment SC-1A: Perimeter

Runoff = 4.02 cfs @ 12.08 hrs, Volume= 0.267 af, Depth> 3.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Storm Rainfall=5.80"

	Area (sf)	CN	Description
	369	32	Woods/grass comb., Good, HSG A
*	3,214	30	Landscaping, Good, HSG A
	2,552	98	Roofs, HSG A
	14,790	98	Paved roads w/curbs & sewers, HSG A
	11,688	39	Pasture/grassland/range, Good, HSG A
	12,544	98	Paved parking, HSG A
	45,157	77	Weighted Average
	15,271		33.82% Pervious Area
	29,886		66.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Minimum 5 min**

Summary for Subcatchment SC-1B: Central

Runoff = 2.24 cfs @ 12.07 hrs, Volume= 0.153 af, Depth> 4.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Storm Rainfall=5.80"

	Area (sf)	CN	Description
	14,919	98	Paved parking, HSG A
	810	39	>75% Grass cover, Good, HSG A
	1,469	98	Roofs, HSG A
*	2,415	30	Landscaping Good, HSG A
	19,613	87	Weighted Average
	3,225		16.44% Pervious Area
	16,388		83.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 MIN DRECT ENTERY**

Summary for Pond 1BP1: Dry Well

Inflow Area = 0.450 ac, 83.56% Impervious, Inflow Depth > 4.08" for 25-yr Storm event
Inflow = 2.24 cfs @ 12.07 hrs, Volume= 0.153 af
Outflow = 2.21 cfs @ 12.09 hrs, Volume= 0.146 af, Atten= 1%, Lag= 1.1 min
Discarded = 0.00 cfs @ 5.50 hrs, Volume= 0.003 af
Primary = 2.21 cfs @ 12.09 hrs, Volume= 0.143 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 308.55' @ 12.09 hrs Surf.Area= 2,243 sf Storage= 425 cf

Plug-Flow detention time= 31.6 min calculated for 0.145 af (95% of inflow)
Center-of-Mass det. time= 13.7 min (777.9 - 764.3)

Volume	Invert	Avail.Storage	Storage Description
#1	301.50'	99,927 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
301.50	13	0	0	13
301.60	13	1	1	14
308.00	13	83	85	96
308.15	25	3	87	108
309.00	8,836	2,644	2,731	8,921
320.00	8,836	97,196	99,927	12,586

Device	Routing	Invert	Outlet Devices
#1	Discarded	301.50'	**9.070 in/hr Exfiltration over Horizontal area from 301.00' - 308.00'** Excluded Horizontal area = 0 sf
#2	Primary	308.50'	**50.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.00 cfs @ 5.50 hrs HW=301.60' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=1.55 cfs @ 12.09 hrs HW=308.55' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 1.55 cfs @ 0.58 fps)

Summary for Link AP-1: Analysis Point #1

Inflow Area = 1.487 ac, 71.44% Impervious, Inflow Depth > 3.30" for 25-yr Storm event
Inflow = 6.21 cfs @ 12.08 hrs, Volume= 0.409 af
Primary = 6.21 cfs @ 12.08 hrs, Volume= 0.409 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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APPENDIX C

POST-DEVELOPMENT HYDROCAD CALCULATIONS

SME
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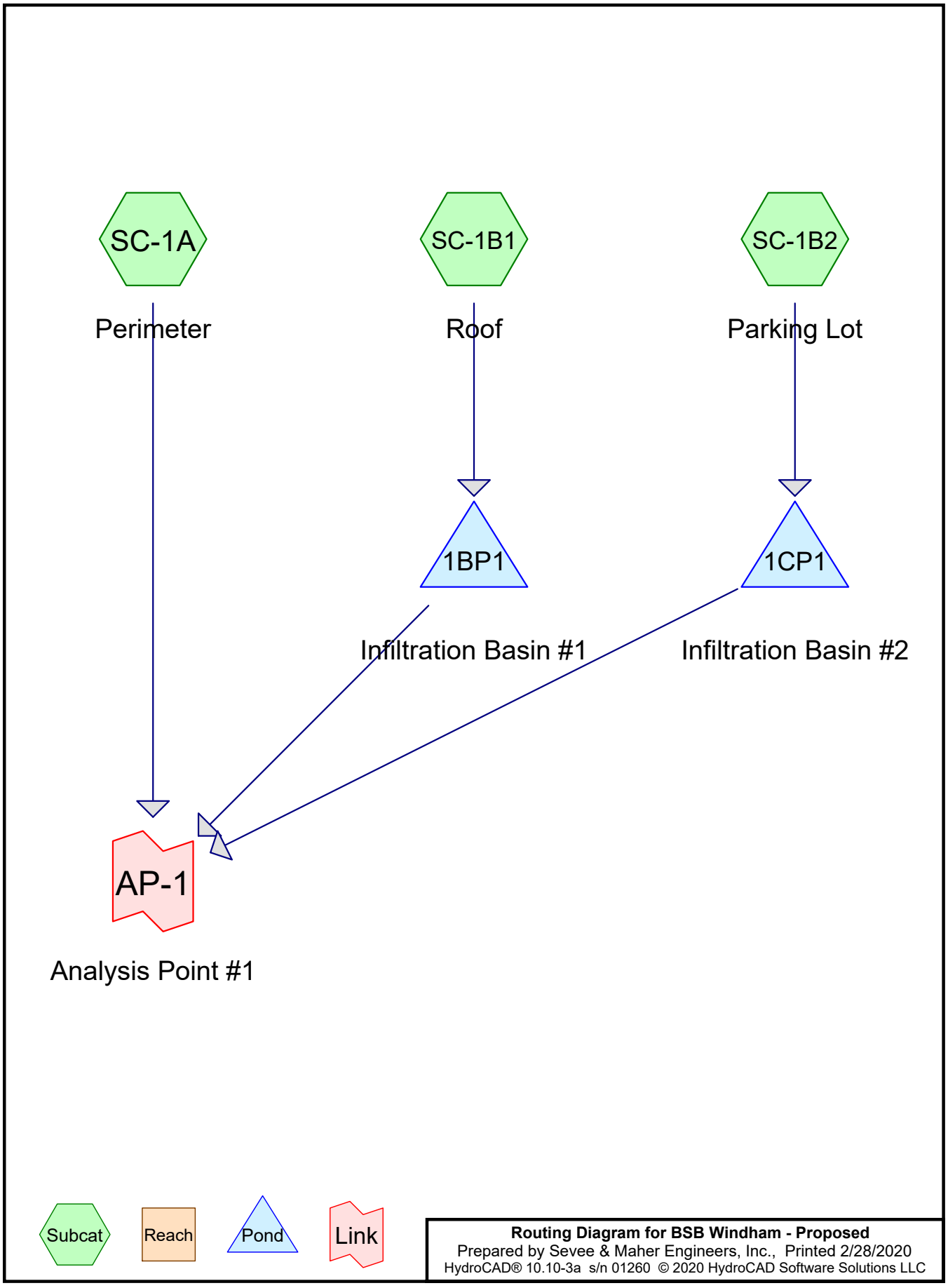

Routing Diagram for BSB Windham - Proposed
Prepared by Sevee & Maher Engineers, Inc., Printed 2/28/2020
HydroCAD® 10.10-3a s/n 01260 © 2020 HydroCAD Software Solutions LLC

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment SC-1A: Perimeter Runoff Area=37,666 sf 66.42% Impervious Runoff Depth>1.10"
Tc=5.0 min CN=78 Runoff=1.19 cfs 0.080 af

Subcatchment SC-1B1: Roof Runoff Area=10,924 sf 64.08% Impervious Runoff Depth>1.05"
Tc=5.0 min CN=77 Runoff=0.33 cfs 0.022 af

Subcatchment SC-1B2: Parking Lot Runoff Area=16,180 sf 85.39% Impervious Runoff Depth>1.87"
Tc=5.0 min CN=89 Runoff=0.87 cfs 0.058 af

Pond 1BP1: Infiltration Basin #1 Peak Elev=308.11' Storage=88 cf Inflow=0.33 cfs 0.022 af
Discarded=0.18 cfs 0.022 af Primary=0.00 cfs 0.000 af Outflow=0.18 cfs 0.022 af

Pond 1CP1: Infiltration Basin #2 Peak Elev=308.62' Storage=590 cf Inflow=0.87 cfs 0.058 af
Discarded=0.24 cfs 0.058 af Primary=0.00 cfs 0.000 af Outflow=0.24 cfs 0.058 af

Link AP-1: Analysis Point #1 Inflow=1.19 cfs 0.080 af
Primary=1.19 cfs 0.080 af

Summary for Subcatchment SC-1A: Perimeter

Runoff = 1.19 cfs @ 12.08 hrs, Volume= 0.080 af, Depth> 1.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

Area (sf)	CN	Description
131	32	Woods/grass comb., Good, HSG A
14,767	98	Paved roads w/curbs & sewers, HSG A
12,517	39	Pasture/grassland/range, Good, HSG A
10,251	98	Paved parking, HSG A
37,666	78	Weighted Average
12,648		33.58% Pervious Area
25,018		66.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes Minumum**

Summary for Subcatchment SC-1B1: Roof

Runoff = 0.33 cfs @ 12.08 hrs, Volume= 0.022 af, Depth> 1.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

Area (sf)	CN	Description
7,000	98	Roofs, HSG A
3,924	39	Pasture/grassland/range, Good, HSG A
10,924	77	Weighted Average
3,924		35.92% Pervious Area
7,000		64.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes min**

Summary for Subcatchment SC-1B2: Parking Lot

Runoff = 0.87 cfs @ 12.07 hrs, Volume= 0.058 af, Depth> 1.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

Area (sf)	CN	Description
13,816	98	Paved parking, HSG A
2,364	39	Pasture/grassland/range, Good, HSG A
16,180	89	Weighted Average
2,364		14.61% Pervious Area
13,816		85.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes minumum**

Summary for Pond 1BP1: Infiltration Basin #1

Inflow Area = 0.251 ac, 64.08% Impervious, Inflow Depth > 1.05" for 2-yr Storm event
Inflow = 0.33 cfs @ 12.08 hrs, Volume= 0.022 af
Outflow = 0.18 cfs @ 12.24 hrs, Volume= 0.022 af, Atten= 46%, Lag= 9.2 min
Discarded = 0.18 cfs @ 12.24 hrs, Volume= 0.022 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 308.11' @ 12.24 hrs Surf.Area= 833 sf Storage= 88 cf

Plug-Flow detention time= 3.3 min calculated for 0.022 af (100% of inflow)
Center-of-Mass det. time= 3.0 min (814.7 - 811.7)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	3,645 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	748	0	0	748
309.00	1,683	1,184	1,184	1,691
310.00	3,332	2,461	3,645	3,349

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.50'	**10.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.18 cfs @ 12.24 hrs HW=308.11' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.18 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=308.00' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 1CP1: Infiltration Basin #2

Inflow Area = 0.371 ac, 85.39% Impervious, Inflow Depth > 1.87" for 2-yr Storm event
Inflow = 0.87 cfs @ 12.07 hrs, Volume= 0.058 af
Outflow = 0.24 cfs @ 12.44 hrs, Volume= 0.058 af, Atten= 73%, Lag= 21.8 min
Discarded = 0.24 cfs @ 12.44 hrs, Volume= 0.058 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 308.62' @ 12.44 hrs Surf.Area= 1,112 sf Storage= 590 cf

Plug-Flow detention time= 15.9 min calculated for 0.058 af (100% of inflow)
Center-of-Mass det. time= 15.7 min (794.1 - 778.4)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	1,788 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	810	0	0	810
309.00	1,325	1,057	1,057	1,338
309.50	1,602	731	1,788	1,623

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.25'	**6.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.24 cfs @ 12.44 hrs HW=308.62' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.24 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=308.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link AP-1: Analysis Point #1

Inflow Area = 1.487 ac, 70.76% Impervious, Inflow Depth > 0.64" for 2-yr Storm event
Inflow = 1.19 cfs @ 12.08 hrs, Volume= 0.080 af
Primary = 1.19 cfs @ 12.08 hrs, Volume= 0.080 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment SC-1A: Perimeter Runoff Area=37,666 sf 66.42% Impervious Runoff Depth>2.21"
Tc=5.0 min CN=78 Runoff=2.41 cfs 0.159 af

Subcatchment SC-1B1: Roof Runoff Area=10,924 sf 64.08% Impervious Runoff Depth>2.13"
Tc=5.0 min CN=77 Runoff=0.67 cfs 0.044 af

Subcatchment SC-1B2: Parking Lot Runoff Area=16,180 sf 85.39% Impervious Runoff Depth>3.20"
Tc=5.0 min CN=89 Runoff=1.45 cfs 0.099 af

Pond 1BP1: Infiltration Basin #1 Peak Elev=308.41' Storage=378 cf Inflow=0.67 cfs 0.044 af
Discarded=0.23 cfs 0.044 af Primary=0.00 cfs 0.000 af Outflow=0.23 cfs 0.044 af

Pond 1CP1: Infiltration Basin #2 Peak Elev=309.16' Storage=1,281 cf Inflow=1.45 cfs 0.099 af
Discarded=0.30 cfs 0.099 af Primary=0.00 cfs 0.000 af Outflow=0.30 cfs 0.099 af

Link AP-1: Analysis Point #1 Inflow=2.41 cfs 0.159 af
Primary=2.41 cfs 0.159 af

Summary for Subcatchment SC-1A: Perimeter

Runoff = 2.41 cfs @ 12.08 hrs, Volume= 0.159 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Storm Rainfall=4.60"

Area (sf)	CN	Description
131	32	Woods/grass comb., Good, HSG A
14,767	98	Paved roads w/curbs & sewers, HSG A
12,517	39	Pasture/grassland/range, Good, HSG A
10,251	98	Paved parking, HSG A
37,666	78	Weighted Average
12,648		33.58% Pervious Area
25,018		66.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes Minumum**

Summary for Subcatchment SC-1B1: Roof

Runoff = 0.67 cfs @ 12.08 hrs, Volume= 0.044 af, Depth> 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Storm Rainfall=4.60"

Area (sf)	CN	Description
7,000	98	Roofs, HSG A
3,924	39	Pasture/grassland/range, Good, HSG A
10,924	77	Weighted Average
3,924		35.92% Pervious Area
7,000		64.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes min**

Summary for Subcatchment SC-1B2: Parking Lot

Runoff = 1.45 cfs @ 12.07 hrs, Volume= 0.099 af, Depth> 3.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Storm Rainfall=4.60"

Area (sf)	CN	Description
13,816	98	Paved parking, HSG A
2,364	39	Pasture/grassland/range, Good, HSG A
16,180	89	Weighted Average
2,364		14.61% Pervious Area
13,816		85.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes minumum**

Summary for Pond 1BP1: Infiltration Basin #1

Inflow Area = 0.251 ac, 64.08% Impervious, Inflow Depth > 2.13" for 10-yr Storm event
Inflow = 0.67 cfs @ 12.08 hrs, Volume= 0.044 af
Outflow = 0.23 cfs @ 12.39 hrs, Volume= 0.044 af, Atten= 66%, Lag= 18.7 min
Discarded = 0.23 cfs @ 12.39 hrs, Volume= 0.044 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 308.41' @ 12.39 hrs Surf.Area= 1,089 sf Storage= 378 cf

Plug-Flow detention time= 10.6 min calculated for 0.044 af (100% of inflow)
Center-of-Mass det. time= 10.3 min (806.1 - 795.7)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	3,645 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	748	0	0	748
309.00	1,683	1,184	1,184	1,691
310.00	3,332	2,461	3,645	3,349

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.50'	**10.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.23 cfs @ 12.39 hrs HW=308.41' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.23 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=308.00' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 1CP1: Infiltration Basin #2

Inflow Area = 0.371 ac, 85.39% Impervious, Inflow Depth > 3.20" for 10-yr Storm event
Inflow = 1.45 cfs @ 12.07 hrs, Volume= 0.099 af
Outflow = 0.30 cfs @ 12.50 hrs, Volume= 0.099 af, Atten= 79%, Lag= 25.4 min
Discarded = 0.30 cfs @ 12.50 hrs, Volume= 0.099 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 309.16' @ 12.50 hrs Surf.Area= 1,413 sf Storage= 1,281 cf

Plug-Flow detention time= 31.3 min calculated for 0.099 af (100% of inflow)
Center-of-Mass det. time= 31.0 min (796.6 - 765.5)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	1,788 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	810	0	0	810
309.00	1,325	1,057	1,057	1,338
309.50	1,602	731	1,788	1,623

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.25'	**6.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.30 cfs @ 12.50 hrs HW=309.16' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.30 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=308.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link AP-1: Analysis Point #1

Inflow Area = 1.487 ac, 70.76% Impervious, Inflow Depth > 1.29" for 10-yr Storm event
Inflow = 2.41 cfs @ 12.08 hrs, Volume= 0.159 af
Primary = 2.41 cfs @ 12.08 hrs, Volume= 0.159 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment SC-1A: Perimeter Runoff Area=37,666 sf 66.42% Impervious Runoff Depth>3.18"
Tc=5.0 min CN=78 Runoff=3.45 cfs 0.229 af

Subcatchment SC-1B1: Roof Runoff Area=10,924 sf 64.08% Impervious Runoff Depth>3.09"
Tc=5.0 min CN=77 Runoff=0.97 cfs 0.065 af

Subcatchment SC-1B2: Parking Lot Runoff Area=16,180 sf 85.39% Impervious Runoff Depth>4.29"
Tc=5.0 min CN=89 Runoff=1.91 cfs 0.133 af

Pond 1BP1: Infiltration Basin #1 Peak Elev=308.67' Storage=682 cf Inflow=0.97 cfs 0.065 af
Discarded=0.28 cfs 0.064 af Primary=0.00 cfs 0.000 af Outflow=0.28 cfs 0.064 af

Pond 1CP1: Infiltration Basin #2 Peak Elev=309.35' Storage=1,554 cf Inflow=1.91 cfs 0.133 af
Discarded=0.32 cfs 0.122 af Primary=0.45 cfs 0.010 af Outflow=0.78 cfs 0.133 af

Link AP-1: Analysis Point #1 Inflow=3.45 cfs 0.240 af
Primary=3.45 cfs 0.240 af

Summary for Subcatchment SC-1A: Perimeter

Runoff = 3.45 cfs @ 12.08 hrs, Volume= 0.229 af, Depth> 3.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Storm Rainfall=5.80"

Area (sf)	CN	Description
131	32	Woods/grass comb., Good, HSG A
14,767	98	Paved roads w/curbs & sewers, HSG A
12,517	39	Pasture/grassland/range, Good, HSG A
10,251	98	Paved parking, HSG A
37,666	78	Weighted Average
12,648		33.58% Pervious Area
25,018		66.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes Minumum**

Summary for Subcatchment SC-1B1: Roof

Runoff = 0.97 cfs @ 12.08 hrs, Volume= 0.065 af, Depth> 3.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Storm Rainfall=5.80"

Area (sf)	CN	Description
7,000	98	Roofs, HSG A
3,924	39	Pasture/grassland/range, Good, HSG A
10,924	77	Weighted Average
3,924		35.92% Pervious Area
7,000		64.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes min**

Summary for Subcatchment SC-1B2: Parking Lot

Runoff = 1.91 cfs @ 12.07 hrs, Volume= 0.133 af, Depth> 4.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Storm Rainfall=5.80"

Area (sf)	CN	Description
13,816	98	Paved parking, HSG A
2,364	39	Pasture/grassland/range, Good, HSG A
16,180	89	Weighted Average
2,364		14.61% Pervious Area
13,816		85.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes minumum**

Summary for Pond 1BP1: Infiltration Basin #1

Inflow Area = 0.251 ac, 64.08% Impervious, Inflow Depth > 3.09" for 25-yr Storm event
Inflow = 0.97 cfs @ 12.08 hrs, Volume= 0.065 af
Outflow = 0.28 cfs @ 12.43 hrs, Volume= 0.064 af, Atten= 71%, Lag= 21.3 min
Discarded = 0.28 cfs @ 12.43 hrs, Volume= 0.064 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 308.67' @ 12.43 hrs Surf.Area= 1,329 sf Storage= 682 cf

Plug-Flow detention time= 17.1 min calculated for 0.064 af (100% of inflow)
Center-of-Mass det. time= 16.9 min (804.2 - 787.3)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	3,645 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	748	0	0	748
309.00	1,683	1,184	1,184	1,691
310.00	3,332	2,461	3,645	3,349

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.50'	**10.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.28 cfs @ 12.43 hrs HW=308.66' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.28 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=308.00' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 1CP1: Infiltration Basin #2

Inflow Area = 0.371 ac, 85.39% Impervious, Inflow Depth > 4.29" for 25-yr Storm event
Inflow = 1.91 cfs @ 12.07 hrs, Volume= 0.133 af
Outflow = 0.78 cfs @ 12.29 hrs, Volume= 0.133 af, Atten= 59%, Lag= 13.0 min
Discarded = 0.32 cfs @ 12.29 hrs, Volume= 0.122 af
Primary = 0.45 cfs @ 12.29 hrs, Volume= 0.010 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 309.35' @ 12.29 hrs Surf.Area= 1,516 sf Storage= 1,554 cf

Plug-Flow detention time= 32.3 min calculated for 0.133 af (100% of inflow)
Center-of-Mass det. time= 32.2 min (791.0 - 758.9)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	1,788 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	810	0	0	810
309.00	1,325	1,057	1,057	1,338
309.50	1,602	731	1,788	1,623

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.25'	**6.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.32 cfs @ 12.29 hrs HW=309.35' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.32 cfs)

Primary OutFlow Max=0.45 cfs @ 12.29 hrs HW=309.35' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 0.45 cfs @ 0.75 fps)

Summary for Link AP-1: Analysis Point #1

Inflow Area = 1.487 ac, 70.76% Impervious, Inflow Depth > 1.93" for 25-yr Storm event
Inflow = 3.45 cfs @ 12.08 hrs, Volume= 0.240 af
Primary = 3.45 cfs @ 12.08 hrs, Volume= 0.240 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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APPENDIX D

POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN

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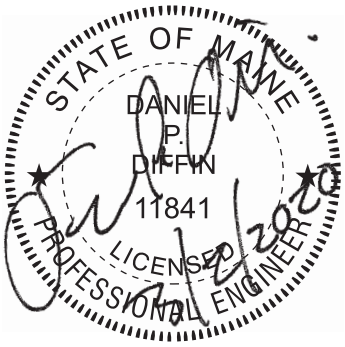
POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN
BANGOR SAVINGS BANK WINDHAM BRANCH/ OFFICE BUILDING

Prepared for

BANGOR SAVINGS BANK

745 Roosevelt Trail

Windham, Maine



March 2020

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

ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

SME
SEVEE & MAHER ENGINEERS

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LIST OF TABLES

POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN
BANGOR SAVINGS BANK WINDHAM BRANCH/OFFICE BUILDING
WINDHAM, MAINE

1.0 SITE DESCRIPTION

The site referenced in this document refers to the Bangor Savings Bank (BSB) Windham Branch/Office Building project at 745 Roosevelt Trail in Windham, Maine. The Project includes construction of a new single-story, 7,000-square-foot (sf), bank branch and office building to house Bangor Savings Bank and Cross Insurance. Additional construction includes a two-lane drive thru, a drive thru bypass lane, and a twenty-eight (28) space paved parking area. Additional site improvements include public water, private sewer, underground utilities, site lighting, and landscaping. Refer to the site plans prepared by Sevee & Maher Engineers, Inc. (SME) dated March 2020 for referenced site locations. The stormwater management system as referenced within this document refers to the system of swales, roof drip strips, and infiltration basins designed to collect, convey, and regulate stormwater runoff from the site.

2.0 FACILITY CONTACTS

Facility: Bangor Savings Bank Branch and Office Building
745 Roosevelt Trail
Windham, Maine 04062

Owner Representative: Bangor Savings Bank
11 Hamlin Way
Bangor, Maine 04401
Telephone: 207.262.4991
Jason Donovan, VP Facilities Manager

Consultant/Designer: Sevee & Maher Engineers
4 Blanchard Road
Cumberland, Maine 04021
Telephone: 207.829.5016
Jeffrey T. Read, P.E.
jtr@smemaine.com

3.0 POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN OVERVIEW AND OBJECTIVES

The Post-Construction Stormwater Management Plan (PSWMP) is an important component of the overall stormwater management system for the site. PSWMP addresses various maintenance activities that should occur after construction and site stabilization. Proper implementation of the SWP can minimize pollutant generation and transport and maintain the stormwater treatment system to ensure proper operation. This PSWMP includes three primary components:

1. Site Management Practices
2. Inspections
3. Routine Maintenance and Corrective Actions

3.1 Site Management Practices

Site management practices are aimed at reducing pollutants by minimizing use of certain materials, using alternative materials, or removing pollutants prior to discharge to the stormwater treatment system. These practices shall include:

1. Use slow release sulfur or plastic coated ureaform fertilizers (e.g., Nutralene).
2. Do not fertilize vegetated swales once vegetation is established.
3. Minimize use of pesticides by using a sound integrated pest management (IPM) approach to monitor and control the actual pests present.
4. Collect and remove autumn leaves to minimize transport to the stormwater treatment system.
5. Minimize use of de-icing materials and sand.
6. Routine sweeping of parking areas and driveways.
7. Fertilizers, pesticides and other hazardous materials should be stored in enclosed areas to avoid exposure to precipitation.
8. Material handling should be conducted to minimize risk of spillage and release to the stormwater treatment system.

3.2 Inspections

A series of routine inspections shall be completed to allow for the early identification of potential problems and to guide routine maintenance activities. Inspections shall be carried out in accordance with

the Site Inspection Schedule (Table 1). Dates and observations shall be recorded for each inspection on the attached 'Inspection Log'.

3.3 Routine Maintenance and Corrective Actions

Routine maintenance activities are designed to ensure proper function of the stormwater management system and minimize pollutant transport from the site. Routine maintenance activities must be completed according to the schedule (Table 1) provided in this plan. This schedule is the minimum amount of maintenance required; maintenance that is more frequent may be needed when indicated by the inspections. Corrective actions (supplemental maintenance activities or repairs) should be completed within 7 days of the inspection identifying the problem. Each maintenance activity will be recorded on the attached 'Maintenance and Repair Log'.

During construction, the Sitework Contractor (not yet selected by Bid process) shall be responsible for cleaning and maintaining stormwater components on the schedule outlined in Table 1.

Following completion of construction, BSB will be responsible for cleaning and maintaining stormwater components on the schedule outlined in Table 1.

Place removed sediments in an area of low erosion potential, either on-site or off-site, and seed with erosion control seed mix.

The following describes specific stormwater facilities maintenance requirements and minimum schedule of inspection and maintenance.

1. Open swales and ditches need to be inspected in the spring and fall, or after a major rainfall event, to assure that debris or sediments do not reduce the effectiveness of the system. Debris needs to be removed at that time. Sign of erosion or blockage shall be immediately repaired to assure a vigorous growth of vegetation for the stability of the structure and proper functioning. Swales that show newly formed channels or gullies will be immediately repaired by reseeding/sodding of bare spots, removal of trash, leaves and/or accumulated sediments, and the control of woody or other undesirable vegetation.
2. Vegetated ditches should be mowed at least once during the growing season. Larger brush or trees must not be allowed to become established in the channel. Any areas where the vegetation fails will be subject to erosion and should be repaired and revegetated.
3. The roof drip strips shall be inspected semi-annually and following major storm events. The system should be inspected after every major storm in the first few months to ensure proper

function. Debris shall be removed to ensure proper drainage. The Roof Dripline Filter may not be paved over or altered and a gutter shall not be installed on the roofline.

4. Infiltration basins shall be inspected after every major storm (2 inches of rainfall in a 24-hour period) during the first 6 months following construction to ensure proper operation. Thereafter, the facilities shall be inspected at least once every six months following significant rainfall to ensure that the facility is draining between 24 and 48 hours. Facilities that do not drain shall be rototilled to a depth of 12 inches. If rototilling does not result in improved drainage, the top several inches of material shall be removed and properly disposed of. New material shall be placed and revegetated.
5. Some erosion may occur at the inflow point of the infiltration basins. This needs to be corrected, as necessary. The surface of the infiltration basins may clog with fine sediments over time. Maintenance of good grass cover will minimize this. Any bare areas should be seeded or sodded, as necessary. Inspect the basin's drainage area semi-annually for eroding soil and other sediment sources. Repair eroding areas using appropriate erosion control BMPs immediately. Control sediment sources by removing them from the basin's drainage area or surrounding them with sediment control BMPs. Prohibit vehicle access to all filtration areas. Heavy equipment used to maintain or rehabilitate the basins should work from the basin's perimeter.
6. Paved surfaces shall be swept or vacuumed at least annually in the spring to remove winter sand and periodically during the year on an as-needed basis to minimize the transportation of sediment during rainfall events.

3.4 Maintenance Records

Use the following forms to record the inspection and repair of the stormwater management system.

a. Identification and repair of erosion problems. All areas of the project site have been inspected for areas of erosion and appropriate steps have been taken to permanently stabilize these areas.
b. Inspection and repair of stormwater control system. All aspects of the stormwater control system have been inspected for damage, wear, and malfunction and appropriate steps have been taken to repair or replace the system, or portions of the system.
c. Maintenance. The erosion and stormwater maintenance plan for the site is being implemented as written, or modifications to the plan have been submitted to and approved by the Town, and the maintenance log is being maintained.

TABLE 1

BANGOR SAVINGS BANK WINDHAM BRANCH/OFFICE BUILDING
LONG-TERM INSPECTION AND MAINTENANCE PLAN

	Spring	Fall or Yearly	After a Major Storm	Every 2-5 Years
Vegetated Areas				
Inspect all slopes and embankments.	X		X	
Replant bare areas or areas with sparse growth.	X		X	
Armor areas with rill erosion with an appropriate lining or divert the erosive flows to on-site areas able to withstand concentrated flows.	X		X	
Stormwater Channels				
Inspect ditches, swales and other open stormwater channels.	X	X	X	
Remove any obstructions and accumulated sediments or debris.	X	X		
Control vegetated growth and woody vegetation.		X		
Repair any erosion of the ditch lining.		X		
Mow vegetated ditches.		X		
Remove woody vegetation growing through riprap.		X		
Repair any slumping side slopes.		X		
Replace riprap where underlying filter fabric or underdrain gravel is showing or where stones have dislodged.		X		
Driveways and Parking Surfaces				
Clear accumulated winter sand in parking lots and along roadways.	X			
Sweep pavement to remove sediment.	X			
Roof Drip Strips				
Inspect drip edge for debris and to ensure proper function.	X	X	X	
Remove accumulated sediment, plants, excessive growth, and weeds.		X		
Infiltration Basins				
Inspect soil filter to see that collected water drains within 24 to 48 hours.	X	X	X	
Rototill top 12” soil, or remove and replace the top 3” to 4” of soil with clean soil, when the bed fails to drain dry within 24 to 48 hours.				X
Remove accumulated sediment, dead portions of plants, excessive growth, and weeds.		X		

The maintenance needs for most vegetative and stabilization measures may be found in the Maine Erosion and Sediment Control BMPs manual as published in 2016 (or latest version) and/or the Maine Stormwater Best Management Practices Manual.

BANGOR SAVINGS BANK WINDHAM BRANCH/OFFICE BUILDING
WINDHAM, MAINE
INSPECTION LOG

Date	Device/Area Inspected	Inspected By	Observations, Deficiencies & Recommended Corrective Actions

BANGOR SAVINGS BANK WINDHAM BRANCH/OFFICE BUILDING
WINDHAM, MAINE
MAINTENANCE AND REPAIR LOG

Date	Device/Area Maintained or Repaired	Maintenance/Repair Completed By	Maintenance Completed/Corrective Actions Taken

APPENDIX E

REDEVELOPMENT CALCULATIONS

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ENGINEERS

SME
SEVEE & MAHER ENGINEERS
4 Blanchard Road, P.O. Box 85A
Cumberland, ME 04021
Tel: 207.829.5016 / Fax: 207.829.5692
smemaine.com

REDEVELOPMENT TREATMENT LEVEL CALCULATIONS

Project Name: Bangor Savings Bank-Windham Branch/Office
Project Location: 745 Roosevelt Trail, Windham, ME
Project No: 19128
By: AML
Date: 2/4/2020
Checked By: JTR
Date: 2/4/2020

LISTING OF AREAS - EXISTING

Area	Pollutant Ranking						Notes
	0	1	2	3	4	5	
Pavement					22,692		
Concrete				475			
Buildings			4,022				
Landsccaped		5,001					
Walkway Pavement			296				
Grass			10,907				
Brush/Woods	369						
Total	**369**	**5,001**	**15,225**	**475**	**22,692**	**0**	**43,761 TOTAL**

LISTING OF AREAS - PROPOSED

Area	Pollutant Ranking						Notes
	0	1	2	3	4	5	
Pavement					20,446		
Concrete				429			
Buildings			7,049				
Landsccaped		2,661					
Walkway Pavement			896				
Grass			12,146				
Brush/Woods	133						
Total	**133**	**2,661**	**20,092**	**429**	**20,446**	**0**	**43,761 TOTAL**

EXISTING POLLUTANT RANKING CALCULATIONS

Land Use Type (from MEDEP Chapter 500)	(Square Feet)	(Acres)	Pollutant Ranking	Total Score
Other Roads/Medium Use Parking Lots	22,692	0.52	4	2.08
Other Parking/Industrial Roofs	475	0.01	3	0.03
Other Rooftops/Lawn Areas/Walkways	15,225	0.35	2	0.70
Landscaped/Stormwater Treatment System	5,001	0.11	1	0.11
Forest; Meadow mowed no more than twice per year	369	0.01	0	0.00
Total	**43,761**	**1.00**	**EIR**	**2.93**

PROPOSED POLLUTANT RANKING CALCULATIONS

Land Use Type (from MEDEP Chapter 500)	Area to be Redeveloped	Area to be Redeveloped	Pollutant Ranking	Total Score
Other Roads/Medium Use Parking Lots	20,446	0.47	4	1.88
Other Parking/Industrial Roofs	429	0.01	3	0.03
Other Rooftops/Lawn Areas/Walkways	20,092	0.46	2	0.92
Landscaped/Stormwater Treatment System	2,661	0.06	1	0.06
Forest; Meadow mowed no more than twice per year	133	0.00	0	0.00
Total	**43,761**	**1.00**	**PIR**	**2.89**

EIR / Redeveloped Acres =	**2.92**
PIR / Redeveloped Acres =	**2.88**
Ranked Impact Change Due to Redevelopment =	**-0.04**

0% treatment is required per Table 3 of Chapter 500

Total Redeveloped Area (from above table) =	43,761
Impervious Area Treated (from Stormwater Sizing Calculations) =	56,303
Treatment Percentage Provided =	**128.7%**

ATTACHMENT D

BORING LOGS

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PROJECT: BANGOR SAVINGS BANK - WINDHAM SITE		**JOB NO.:** 20132	**BORING#:** **B20-101**
DATE STARTED: 2/25/2020	**DATE FINISHED:** 2/25/2020	**DRILLING METHOD:** Hollow Stem Auger	
GROUND SURFACE ELEVATION (FT): N/A	**DRILLING CONTRACTOR:** New England Boring Contractors (Brad Ennis)		**LOGGED BY:** Sevee & Maher (EJL)
BOREHOLE DIA.: 4 1/4"	**WELL SCREEN/RISER DIA.:** N/A		**SHEET 1 OF 1**

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	Blows per 6" on Sampler	N-Value (bpf)	Recovery (in)	Water Content (%)	Sieve Analysis (%)			WELL LOG	DEPTH (FT)
0											0
	1D	3.0" BITUMINUS PAVEMENT Brown gravelly SAND, frost to 2 ft.	33-33-25-27	58	24	-					
	2D	Brown medium to fine SAND, trace gravel	2-4-3-4	7	13	2.6					
10	3D	Brown to light brown medium to fine SAND	2-2-2-3	4	14	-					10
		Bottom of Exploration @ 11.0 ft. No Refusal									
20											20
30											30
40											40

NOTES:

- Soil sample(s) collected using a 2" diameter by 24" long split spoon using 140-lb automatic hammer
- Water not observed in open auger after drilling
- Borehole backfilled with boring cuttings and sealed at the surface with cold patch

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PROJECT: BANGOR SAVINGS BANK - WINDHAM SITE		**JOB NO.:** 20132	**BORING#:** B20-102
DATE STARTED: 2/25/2020	**DATE FINISHED:** 2/25/2020	**DRILLING METHOD:** Hollow Stem Auger	
GROUND SURFACE ELEVATION (FT): N/A	**DRILLING CONTRACTOR:** New England Boring Contractors (Brad Ennis)	**LOGGED BY:** Sevee & Maher (EJL)	
BOREHOLE DIA.: 4 1/4"	**WELL SCREEN/RISER DIA.:** N/A	**SHEET 1 OF 1**	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	Blows per 6" on Sampler	N-Value (bpf)	Recovery (in)	Water Content (%)	Sieve Analysis (%)			WELL LOG	DEPTH (FT)
0											0
	1D	3.5" BITUMINUS PAVEMENT Brown c-f SAND, trace gravel	35-54-23-14	77	20	-					
	2D	Brown m-f SAND becoming light brown fine sand	2-3-5-5	8	12	2.7					
10	3D	Light brown m-f SAND, trace c-sand	3-4-4-7	8	15	28.7					10
	4D	Brown fine SAND, wet	6-6-5-4	11	18	23.7					
20	5D	Brown m-f SAND with fine sand seam at bottom of spoon	2-3-2-5	5	24	-					20
	6D	Brown m-f SAND with fine sand layering	5-8-10-10	18	24	-					
30		Bottom of Exploration @ 26.0 ft. No Refusal									30
40											40

NOTES:

- Soil sample(s) collected using a 2" diameter by 24" long split spoon using 140-lb automatic hammer
- Water observed at 17.7 ft. BGS in open auger after drilling
- Borehole backfilled with boring cuttings and sealed at the surface with cold patch

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PROJECT: BANGOR SAVINGS BANK - WINDHAM SITE		**JOB NO.:** 20132	**BORING#:** B20-103
DATE STARTED: 2/25/2020	**DATE FINISHED:** 2/25/2020	**DRILLING METHOD:** Hollow Stem Auger	
GROUND SURFACE ELEVATION (FT): N/A	**DRILLING CONTRACTOR:** New England Boring Contractors (Brad Ennis)	**LOGGED BY:** Sevee & Maher (EJL)	
BOREHOLE DIA.: 4 1/4"	**WELL SCREEN/RISER DIA.:** 2.0"	**SHEET 1 OF 1**	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	Blows per 6" on Sampler	N-Value (bpf)	Recovery (in)	Water Content (%)	% Pass #200 (%)			WELL LOG	DEPTH (FT)
0											0
	1D	0-1.0 ft. Brown loamy silty SAND 1.0-2.0 ft. Brown gravelly SAND	3-6-14-10	20	17	-			borehole cuttings		
	2D	Brown medium to fine SAND	5-4-4-4	8	16	-			bentonite seal		
									filter sand		
10	3D	Brown coarse to fine SAND	4-6-5-6	11	15	4.5	2.4				10
	4D	Brown coarse to fine SAND	22-9-4-4	13	14	-			10 ft slotted screen set at 16 ft BGS		
		Bottom of Exploration @ 16.0 ft. No Refusal									
20											20
30											30
40											40

NOTES:

- Soil sample(s) collected using a 2" diameter by 24" long split spoon using 140-lb automatic hammer
- 2" dia. piezometer installed with screened interval from 6-16 ft. BGS. Filter sand to 5 ft.
- Water not observed

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PROJECT: BANGOR SAVINGS BANK - WINDHAM SITE		**JOB NO.:** 20132	**BORING#:** B20-104
DATE STARTED: 2/25/2020	**DATE FINISHED:** 2/25/2020	**DRILLING METHOD:** Hollow Stem Auger	
GROUND SURFACE ELEVATION (FT): N/A	**DRILLING CONTRACTOR:** New England Boring Contractors (Brad Ennis)	**LOGGED BY:** Sevee & Maher (EJL)	
BOREHOLE DIA.: 4 1/4"	**WELL SCREEN/RISER DIA.:** N/A	**SHEET 1 OF 1**	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	Blows per 6" on Sampler	N-Value (bpf)	Recovery (in)	Water Content (%)	% Pass #200 (%)			WELL LOG	DEPTH (FT)
0											0
	1D	0-0.7 Brown loamy silty SAND 0.7-2.0 Brown m-f SAND, little gravel	5-7-5-4	12	17	-					
	2D	Brown m-f SAND, little gravel and coarse sand	4-5-7-7	12	15	5.9					
10	3D	Brown medium to fine SAND	5-5-6-7	11	20	9.5	8.3				10
	4D	Brown medium to fine SAND, wet	2-2-3-4	5	16	28.5					
20	5D	Brown fine SAND	2-2-3-3-	5	24	-					20
	6D	Brown fine SAND	4-3-2-3	5	24	-					
30		Bottom of Exploration @ 26.0 ft. No Refusal									30
40											40

NOTES:

- Soil sample(s) collected using a 2" diameter by 24" long split spoon using 140-lb automatic hammer
- Water observed at 17.1 ft. BGS in open auger after drilling
- Borehole backfilled with boring cuttings

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PROJECT: BANGOR SAVINGS BANK - WINDHAM SITE		**JOB NO.:** 20132	**BORING#:** B20-105
DATE STARTED: 2/25/2020	**DATE FINISHED:** 2/25/2020	**DRILLING METHOD:** Hollow Stem Auger	
GROUND SURFACE ELEVATION (FT): N/A	**DRILLING CONTRACTOR:** New England Boring Contractors (Brad Ennis)		**LOGGED BY:** Sevee & Maher (EJL)
BOREHOLE DIA.: 4 1/4"	**WELL SCREEN/RISER DIA.:** N/A		**SHEET 1 OF 1**

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	Blows per 6" on Sampler	N-Value (bpf)	Recovery (in)	Water Content (%)	Sieve Analysis (%)			WELL LOG	DEPTH (FT)
0											0
	1D	3.5" BITUMINUS PAVEMENT Brown sandy GRAVEL	12-26-25-9	51	11	-					
	2D	Brown silty m-f SAND to 4.5 ft. Brown medium to fine SAND	2-4-5-5	9	18	-					
10	3D	Brown medium to fine SAND	5-5-5-5	10	4	-					10
	4D	Brown medium to fine SAND Gray silty CLAY seam from 15.5-15.8 ft.	2-2-5-6	7	16	-					
20	5D	Brown m-f SAND with silty clay seam at 20.0 ft.	2-2-3-4	7	21	-					20
	6D	Brown m-f SAND with fine sand layering	4-5-8-6	13	24	-					
30		Bottom of Exploration @ 26.0 ft. No Refusal									30
40											40

NOTES:

- Soil sample(s) collected using a 2" diameter by 24" long split spoon using 140-lb automatic hammer
- Water observed at 19.3 ft. BGS in open auger after drilling
- Borehole backfilled with boring cuttings and sealed at the surface with cold patch

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ATTACHMENT E

CAPACITY TO SERVE LETTER

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Portland Water District

FROM SEBAGO LAKE TO CASCO BAY

February 21, 2020

Abigail Latulippe
4 Blanchard Road, P.O. Box 85A
Cumberland, ME 04021

Re: 747 Roosevelt Trail, WI
Ability to Serve with PWD Water

Dear Ms. Latulippe:

The Portland Water District has received your request for an Ability to Serve Determination for the noted site submitted on February 13, 2020. Based on the information provided per plans dated February 21, 2020, we can confirm that the District will be able to serve the proposed project as further described in this letter. **Please note that this letter constitutes approval of the water system as currently designed and is valid for eighteen (18) months after the date of issue. Any changes affecting the approved water system will require further review and approval by PWD.**

Conditions of Service

The following conditions of service apply:

- The existing service line at this site may be used to provide domestic water to the building. Our records show that the property is currently served with a 1.5-inch domestic water service.

- An approved backflow prevention device must be installed on the service line directly after the meter prior to service activation. Please refer to the PWD website for more information on cross-connection control policies.

- The existing 0.62-inch meter is undersized for the propsed use. The meter must be upgraded to a 1-inch meter.

- The existing building is currently served with two 0.75-inch domestic water services; these services are undersized for the proposed use. These services must be terminated by shutting the corporation valve and cutting the pipe from the water main. The building will be without water while the existing services are retired and the proposed service is installed. This process will take at least one day, and may take several days depending on the project.

- The Portland Water District does not have record of any other existing infrastructure in public roads and recommends a survey and test pitting be performed by the development team prior to construction. Any conflicts that arise during construction are at the risk of the developer and may result in job shutdown until new plans are submitted by the developer and reviewed and approved by PWD.

Prior to construction, the owner or contractor will need to make an appointment to complete a service application form and pay all necessary fees. The appointment shall be requested through MEANS@pwd.org or by calling 207-774-5961 ext. 3199. Please allow (3) business days to process the service application paperwork. PWD will guide the applicant through the new development process during the appointment.

Existing Site Service

According to District records, the project site does currently have existing water service. A 1.5-inch diameter copper domestic service line provides water service to the site. Please refer to the "Conditions of Service" section of this letter for requirements related to the use of this service.

Water System Characteristics

According to District records, there is an 12-inch diameter ductile iron water main in Tandburg Trail-Rt 115 and a public fire hydrant located approximately 50 feet from the site. The most recent static pressure reading was 80 psi on June 17, 2019.

Public Fire Protection

The installation of new public hydrants to be accepted into the District water system will most likely not be required. It is your responsibility to contact the Windham Fire Department to ensure that this project is adequately served by existing and/or proposed hydrants.

Domestic Water Needs

The data noted above indicates there should be adequate pressure and volume of water to serve the domestic water needs of your proposed project. Based on the high water pressure in this area, we recommend that you consider the installation of pressure reducing devices that comply with state plumbing codes.

Private Fire Protection Water Needs

You have indicated that this project will not require water service to provide private fire protection to the site.

Should you disagree with this determination, you may request a review by the District's Internal Review Team. Your request for review must be in writing and state the reason for your disagreement with the determination. The request must be sent to MEANS@PWD.org or mailed to 225 Douglass Street, Portland Maine, 04104 c/o MEANS. The Internal Review Team will undertake review as requested within 2 weeks of receipt of a request for review.

If the District can be of further assistance in this matter, please let us know.

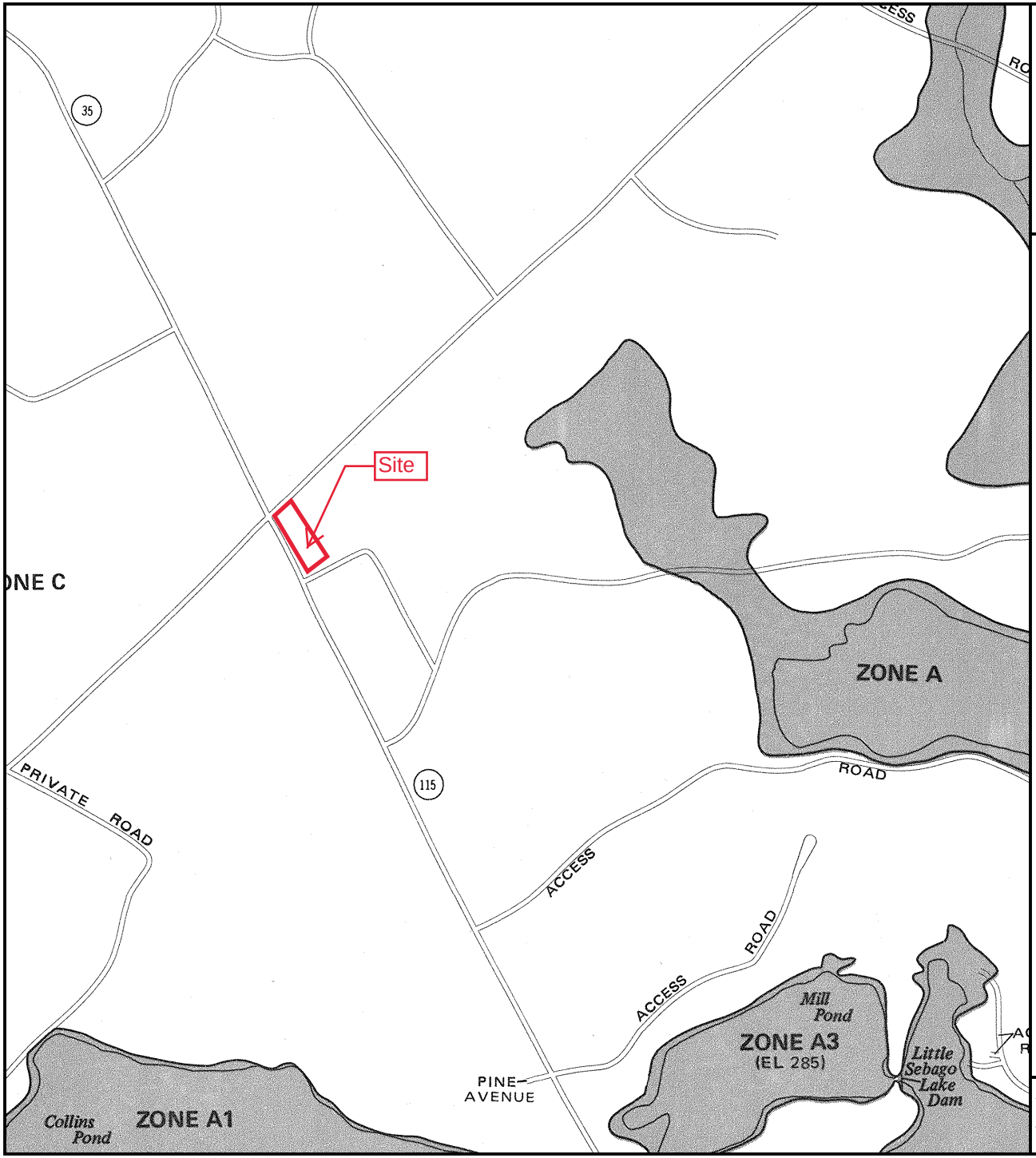
Sincerely,
Portland Water District

Robert A. Bartels, P.E.
Senior Project Engineer

ATTACHMENT F

FEMA MAP

SME
SEVEE & MAHER
ENGINEERS



APPROXIMATE SCALE

800 0 800 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

TOWN OF
WINDHAM, MAINE
CUMBERLAND COUNTY

PANEL 15 OF 35
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
230189 0015 B

EFFECTIVE DATE:
SEPTEMBER 2, 1981

federal emergency management agency
federal insurance administration

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

ATTACHMENT G

EXTERIOR LIGHTING CUT SHEETS

SME
SEVEE & MAHER
ENGINEERS

VIPER S SERIES

SMALL VIPER LUMINAIRE

Cat.#	
Job	Type

BEACON design . performance . technology

Approvals

SPECIFICATIONS

Intended Use:

The Beacon Viper luminaire is available with a wide choice of different LED Wattage configurations and optical distributions designed to replace HID lighting up to 400W MH or HPS.

Construction:

- Manufactured with die cast aluminum.
- Coated with a polyester finish that meets ASTM B117 corrosion test requirements and ASTM D522 cracking and loss of adhesion test requirements.
- External hardware is corrosion resistant.
- One piece optical cartridge system consisting of an LED engine, LED lamps, optics, gasket and stainless steel bezel.
- Cartridge is held together with internal brass standoffs soldered to the board so that it can be field replaced as a one piece optical system.
- Two-piece silicone and micro-cellular polyurethane foam gasket ensures a weather-proof seal around each individual LED.

Electrical:

- 100V through 277V, 50 Hz to 60 Hz (UNV), or 347V or 480V input.
- Power factor is ≥.90 at full load.
- Dimming drivers are standard, but must contact factory to request wiring leads for purpose of external dimming controls.
- Component-to-component wiring within the luminaire may carry no more than 80% of rated load and is certified by UL for use at 600VAC at 90°C or higher.
- Plug disconnects are certified by UL for use at 600 VAC, 13A or higher. 13A rating applies to primary (AC) side only.
- Fixture electrical compartment shall contain all LED driver components and shall be provided with a push-button terminal block for AC power connections.
- The housing is designed for an optional twist lock photo control receptacle.
- Ambient operating temperature -40°C to 40°C
- Surge protection - 20KA.
- Optional 7-pin ANSI C136.41-2013 twist-lock photo control receptacle available. Compatible with ANSI C136.41 external wireless control devices.
- Lifeshield™ Circuit - protects luminaire from excessive temperature. The device shall activate at a specific, factory-preset temperature, and progressively reduce power over a finite temperature range. Operation shall be smooth and undetectable to the eye. Thermal circuit is designed to "fail on", allowing the luminaire to revert to full power in the event of an interruption of its power supply, or faulty wiring connection to the drivers. The device shall be able to co-exist with other 0-10V control devices (occupancy sensors, external dimmers, etc.).

Controls/Options:

- Available with an optional passive infrared (PIR) motion sensor capable of detecting motion 360° around the luminaire. When no motion is detected for the specified time, the Motion Response system reduces the wattage to factory preset level, reducing the light level accordingly. When motion is detected by the PIR sensor, the luminaire returns to full wattage and full light output. Please contact Beacon Products if project requirements vary from standard configuration.
- Available with Energeni for optional set dimming, timed dimming with simple delay, or timed dimming based on time of night (see www.beaconproducts.com/products/energeni).
- In addition, Viper can be specified with **SiteSync™** wireless control system for reduction in energy and maintenance cost while optimizing light quality 24/7. See ordering information or visit www.hubbelllighting.com/sitesync for more details.

Installation:

- Mounting options for horizontal armd, vertical tenon or traditional arm mounting available. Mounting hardware included.

Finish:

- IFS polyester powder-coat electro-statically applied and thermocured.
- IFS finish consists of a five stage pretreatment regimen with a polymer primer sealer and top coated with a thermosetsuper TGIC polyester powder coat finish.
- The finish meets the AAMA 605.2 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance and resists cracking or loss of adhesion per ASTM D522 and resists surface impacts of up to 160 inch-pounds.

Listings:

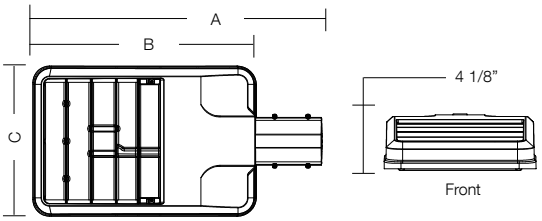
- DesignLights Consortium (DLC) qualified, consult DLC website for more details: http://www.designlights.org/QPL
- Certified to UL 1598 and CSA C22.2 No.250.0
- IDA approved
- This product is approved by the Florida Fish and Wildlife Conservation Commission. Separate spec available at: http://www.beaconproducts.com/products/vipersmall

Warranty:

Five year limited warranty for more information visit: www.hubbelllighting.com/resources/warranty

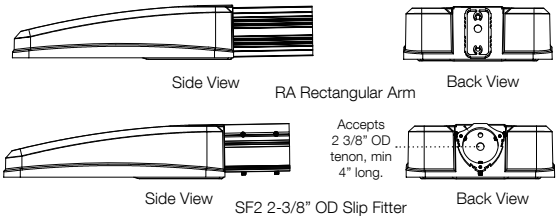
PRODUCT IMAGE(S)

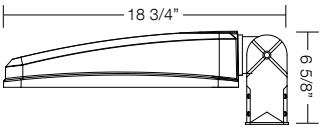
DIMENSIONS



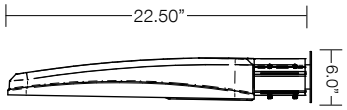
A	B	C	Weight:	EPA
22.75" (578 mm)	16.75" (425 mm)	11.25" (286 mm)	15.0 lbs (6.8 kg)	.67 ft²

MOUNTING OPTIONS

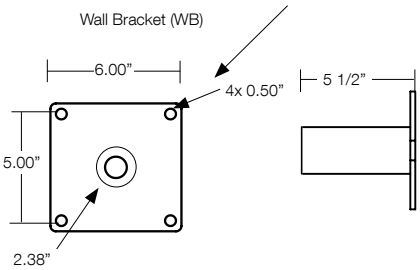




PK2 2-3/8" Adjustable Knuckle
Limit to 30° tilt - **Sensors, photocells and wireless** controls should not be tilted above horizontal



Wall Bracket (WB)



CERTIFICATIONS/LISTINGS

*3000K and warmer CCTs only

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HUBBELL Lighting

ORDERING INFORMATION ORDERING EXAMPLE: VPS/36NB-80/5K/T4/UNV/PEC/SWP/BLC/RA/BBT

VPS | | | | | | | | | | |

SERIES
VPS viper-small

ENGINE-WATTS
24NB-55 55W, LED array
36NB-80 80W, LED array
48NB-110 110W, LED array
60NB-136 136W, LED array

LED COLOR[8]
3K 3000K
4K 4000K
5K 5000K

VOLTAGE
UNV 120-277V
347V 347V
480V 480V

OPTICS[4]
T1 type I
T2 type II
T3 type III
T4 type IV
T5R type V, rectangular
T5QM type V, square medium
T5W type V, round wide
FR front row auto optic

ELECTRICAL OPTIONS
7PR[9] 7-PIN Receptacle only
PCR-TL 7-PIN Receptacle w/ Twist Lock photo control
PCR-SC 7-PIN Receptacle w/ Shorting Cap
2PF[7] dual power feed

HOUSE SIDE SHIELD OPTIONS
BLC[3] backlight control

BIRD DETERRENT
BSP bird spike

MOUNTING OPTIONS
RA rectangular arm for round or square pole mount. RPA included.
SF2 2 3/8" OD slip-fitter
PK2 2 3/8" adjustable knuckle
wall bracket (use with SF2 or PK2), SF2 standard

CONTROL OPTIONS
GENI-XX[6] Energeni
SWP[1,5] SiteSync Wireless Pre-Commission
SWPM[1,2,5] SiteSync Wireless Pre-Commission w/ Motion Detection
MDD[2,5] Motion Dimming Detector

FINISH
BBT basic black textured
BMT black matte textured
WHT white textured
MBT metallic bronze textured
BZT bronze textured
DBT dark bronze textured
GYS gray smooth
DPS dark platinum smooth
GNT green textured
MST metallic silver textured
MTT metallic titanium textured
OWI old world iron
RAL _____

HOUSE SIDE SHIELD ACCESSORIES
HSS/VP-S/90-FB/XXX 90° shield front or back
HSS/VP-S/90-LR/XXX 90° shield left or right
HSS/VP-S/270-FB/XXX 270° shield front or back
HSS/VP-S/270-LR/XXX 270° shield left or right
HSS/VP-S/360/XXX Full shield
(Replace XXX with notation for desired finish color)
(Refer to page 5 for shield images)

[1] Must specify group and zone information at time of order. See www.hubbelllighting.com/controls/sitesync for further details.
[2] Specify time delay; dimming level and mounting height.
[3] T4 optic only.
[4] To rotate optics Left or right 90 degrees, specify L or R after the optical distribution example T4L.
[5] Not available with other wireless control or sensor options.
[6] When ordering Energeni, specifiy the routine setting code (example GENI-04). See Energeni brochure and instructions for setting table and options. Not available with sensor options.
[7] Not available for 347V or 480V input.
[8] This product is approved by the Florida Fish and Wildlife Conservation Commission. Separate spec available at: http://cdn.beaconproducts.com/content/products/specs/specs_files/Viper_Small_LED_turtle_spec_sheet.pdf
[9] Shorting cap, phot control, or wireless control provided by others

PRECOMMISSIONED SITESYNC ORDERING INFORMATION: When ordering a fixture with the SiteSync lighting control option, additional information will be required to complete the order. The SiteSync Commissioning Form or alternate schedule information must be completed. This form includes Project location, Group information, and Operating schedules. For more detailed information please visit www.HubbellLighting.com/products/sitesync or contact Hubbell Lighting tech support at (800) 345-4928.

SiteSync fixtures with Motion control (SWPM) require the mounting height of the fixture for selection of the lens.

Examples: VP-S/24NB-55/5K/T3/UNV/SWP/RA/DBT — SiteSync only
VP-S/24NB-55/5K/T3/UNV/SWPM-20F/RA/DBT — SiteSync with Motion Control

MDD ORDERING INFORMATION: When ordering a fixture with the motion detection option (MDD), please specify the appropriate information. These settings are specified in the ordering as shown in the example below.

VP-S/24NB-55/5K/T3/UNV/MDD - 1 to 30 min. - 33% or 50% - ?? / RA/DBT

High to Dim Delay | Low Level | Mounting Height (ft.)

Accessories and Services (Ordered Separately)

Catalog Number	Description
SWUSB*	SiteSync interface software loaded on USB flash drive for use with owner supplied PC (Windows based only). Includes SiteSync license, software and USB radio bridge node
SWTAB*	Windows tablet and SiteSync interface software. Includes tablet with preloaded software, SiteSync license and USB radio bridge node.
SWBRG	SiteSync USB radio bridge node only. Order if a replacement is required or if an extra bridge node is requested.
SCP-REMOTE	Remote Control for SCP/_F option. Order at least one per project to program and control
SW7PR+	SiteSync 7 Pin on fixture module On/Off/Dim, Daylight Sensor 120-480VAC

* When ordering SiteSync at least one of these two interface options must be ordered per project.
+ Available as a SiteSync retrofit solution for fixtures with an existing 7pin receptacle.

Hubbell Control Solutions - Accessories (sold separately)

Catalog Number	Description	HCS System
NXOFM-1R1D-UNV	On-fixture Module (7-pin), On / Off / Dim, Daylight Sensor with HubbNET Radio and Bluetooth® Radio, 120-480VAC	NX Distributed Intelligence™
WIR-RME-L	On-fixture Module (7-pin or 5-pin), On / Off / Dim, Daylight Sensor with wiSCAPE Radio, 110-480VAC	wiSCAPE® Lighting Control

For additional information related to these accessories please visit www.hubbellcontrolsolutions.com. Options provided for use with integrated sensor, please view specification sheet ordering information table for details.

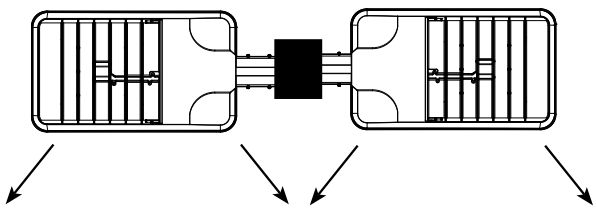
SiteSync 7-Pin Module

SW7PR

- SiteSync features in a new form
- Available as an accessory for new construction or retrofit applications (with existing 7-Pin receptacle)
- Does no interface with occupancy sensors

SiteSync LIGHTING CONTROL

LEFT ROTATED OPTIC **RIGHT ROTATED OPTIC**



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PERFORMANCE DATA

				5K (5000K nominal, 70 CRI)					4K (4000K nominal, 70 CRI)					3K (3000K nominal, 70 CRI)				
# LED'S	DRIVE CURRENT (MILLIAMPS)	SYSTEM WATTS	DISTRIBUTION TYPE	LUMENS	LPW[1]	B	U	G	LUMENS	LPW[1]	B	U	G	LUMENS	LPW[1]	B	U	G
24	700 mA	55 W	FR/T1	6339	114	1	0	1	6276	112	1	0	1	5389	97	1	0	1
			T2	5666	102	2	0	2	5610	101	2	0	2	4816	86	1	0	2
			T3	5610	101	1	0	2	5554	100	1	0	2	4784	86	1	0	2
			T4	6171	111	1	0	2	6110	109	1	0	2	5245	94	1	0	2
			T5R	6283	113	3	0	3	6221	111	3	0	3	5341	96	3	0	3
			T5QM	6171	111	3	0	1	6110	109	3	0	1	5245	94	2	0	1
			T5W	6087	109	3	0	1	6027	108	3	0	1	5201	93	3	0	1
36	700 mA	80 W	FR/T1	9515	114	1	0	1	9414	112	1	0	1	8083	96	1	0	1
			T2	8505	101	2	0	3	8415	100	2	0	3	7224	87	2	0	2
			T3	8415	100	2	0	2	8331	99	2	0	2	7175	86	2	0	2
			T4	9256	110	1	0	3	9164	109	1	0	3	7868	94	1	0	3
			T5R	9425	112	3	0	3	9331	111	3	0	3	8011	96	3	0	3
			T5QM	9257	110	3	0	1	9164	109	3	0	1	7868	94	3	0	1
			T5W	9131	109	3	0	2	9040	108	3	0	2	7801	93	3	0	2
48	700 mA	110 W	FR/T1	12679	114	2	0	1	15522	113	2	0	1	10777	97	1	0	1
			T2	11332	102	3	0	3	11220	101	3	0	3	9633	87	2	0	3
			T3	11220	101	2	0	3	11108	100	2	0	3	9567	86	2	0	3
			T4	12342	111	2	0	3	12219	110	2	0	3	10491	95	2	0	3
			T5R	12567	113	4	0	4	12441	112	4	0	4	10682	96	3	0	3
			T5QM	12342	111	3	0	2	12219	111	3	0	2	10491	95	3	0	2
			T5W	12175	110	4	0	2	12053	109	4	0	2	10402	94	4	0	2
60	700 mA	136 W	FR/T1	15848	116	2	0	1	15690	115	2	0	1	13471	98	2	0	1
			T2	14165	103	3	0	3	14025	102	3	0	3	12041	88	3	0	3
			T3	14025	102	3	0	3	13885	101	3	0	3	11959	87	3	0	3
			T4	15427	113	2	0	3	15274	111	2	0	3	13114	96	2	0	3
			T5R	15708	115	4	0	4	15259	111	4	0	4	13352	97	4	0	4
			T5QM	15427	113	4	0	2	15274	111	4	0	2	13314	96	3	0	2
			T5W	15218	111	4	0	2	15066	111	4	0	2	13002	95	4	0	2

[1]Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown. Actual performance may differ as a result of end-user environment and application.

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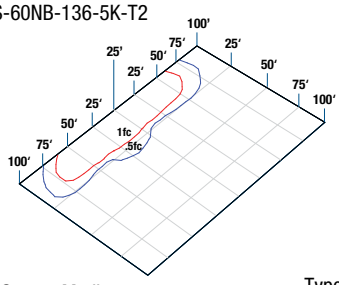
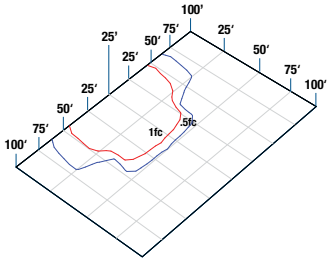
PHOTOMETRICS

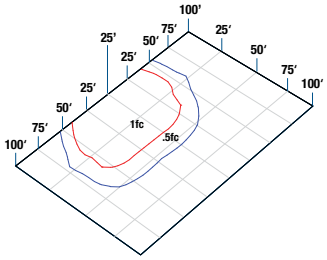
Type II
VP-S-60NB-136-5K-T2



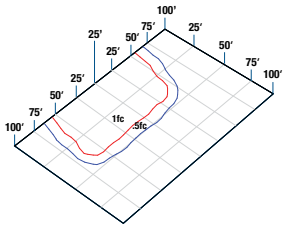
Type III
VP-S-60NB-136-5K-T3



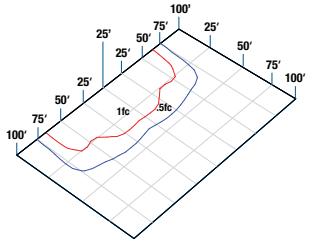
Type IV
VP-S-60NB-136-5K-T4



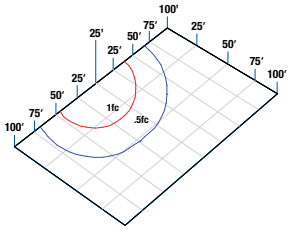
Type V Square Medium
VP-S-60NB-136-5K-T5QM



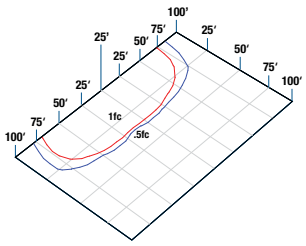
Type V Rectangular
VP-S-60NB-136-5K-T5R



Type V Round Wide
VP-S-60NB-136-5K-T5W



Front Row Auto Optic / Type I
VP-S-60NB-136-5K-FR
VP-S-60NB-136-5K-T1



ELECTRICAL DATA

# OF LEDS	NUMBER OF DRIVERS	DRIVE CURRENT (mA)	INPUT VOLTAGE (V)	SYSTEM POWER (w)	CURRENT (Amps)
24	2	700 mA	120	55	0.5
			277		0.2
			347		0.2
			480		0.1
36	1	700 mA	120	80	0.7
			277		0.3
			347		0.2
			480		0.2
48	1	700 mA	120	110	0.9
			277		0.4
			347		0.3
			480		0.2
60	1	700 mA	120	136	1.1
			277		0.5
			347		0.4
			480		0.3

PROJECTED LUMEN MAINTENANCE

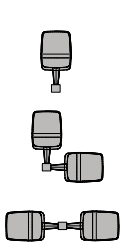
AMBIENT TEMP.	0	25,000	50,000	[1]TM-21-11 60,000	100,000	Calculated L70 (HOURS)
25°C / 77°C	1.00	0.97	0.95	0.95	0.92	>470,000

[1] Projected per IESNA TM-21-11
Data references the extrapolated performance projections for the base model in a 40°C ambient, based on 10,000 hours of LED testing per IESNA LM-80-08.

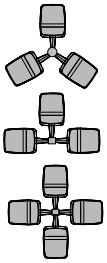
AMBIENT TEMPERATURE		LUMEN MULTIPLIER
0°C	32°F	1.02
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.98
40°C	104°F	0.98

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

EPA



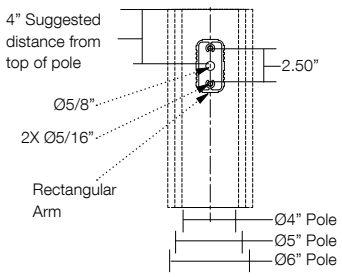
Config.	EPA
1	.67
2 @ 90°	1.06
2 @ 180°	1.34



Config.	EPA
3 @ 120°	1.68
3 @ 90°	1.73
4 @ 90°	2.12

DRILL PATTERN

RECTANGULAR ARM (A)
Compatible with Pole drill pattern B3



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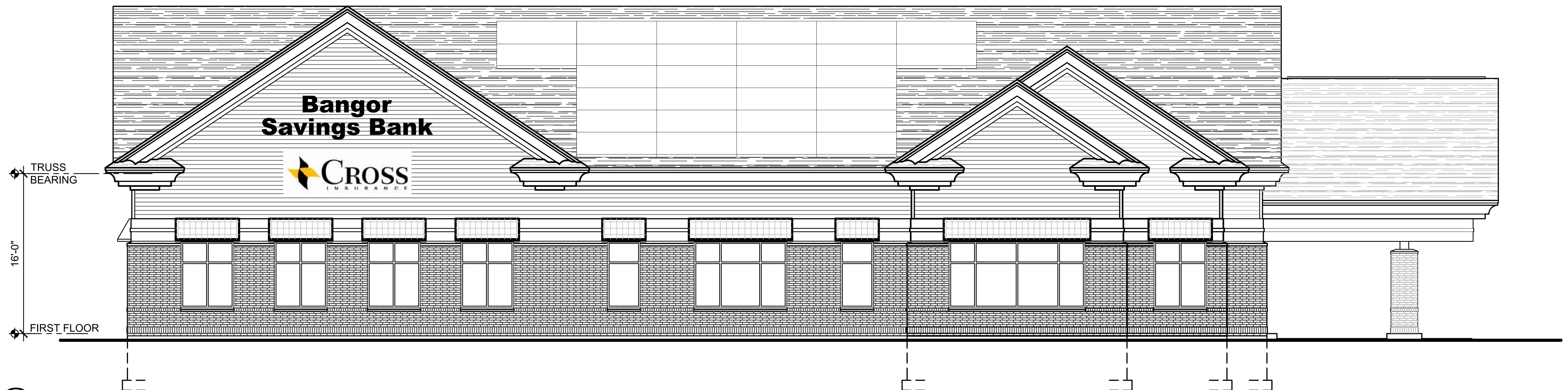
HUBBELL Lighting

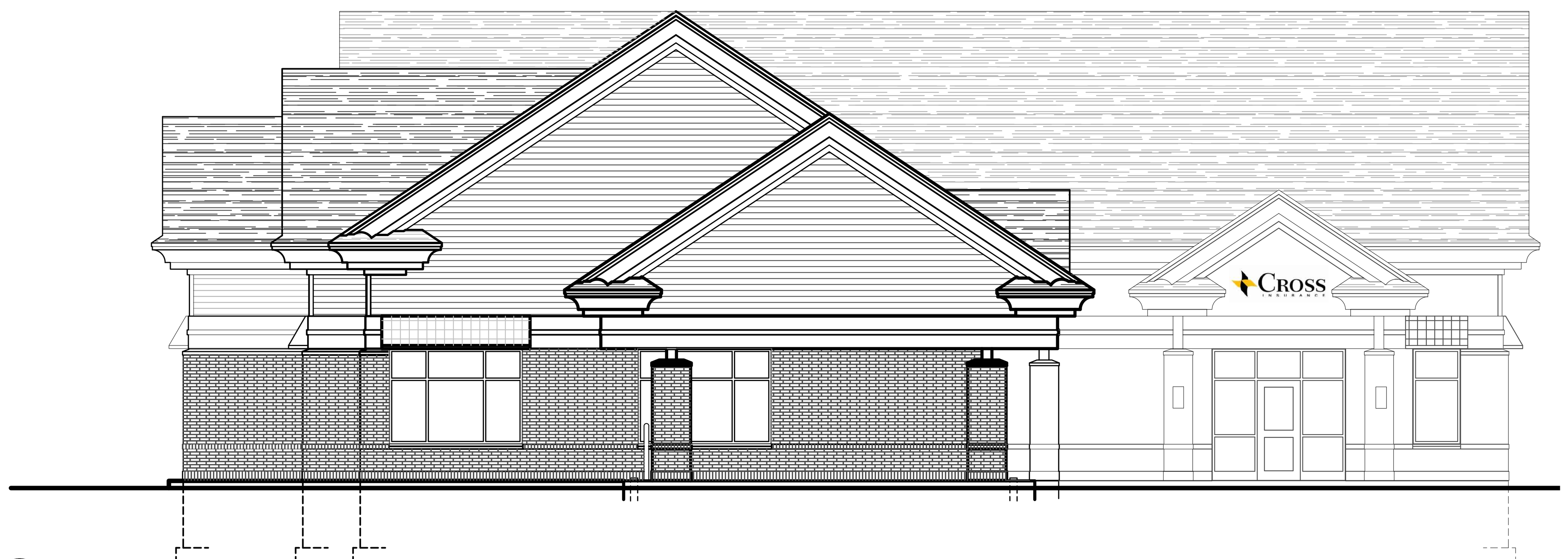
ATTACHMENT H

ARCHITECTURAL BUILDING ELEVATIONS

SME
SEVEE & MAHER
ENGINEERS

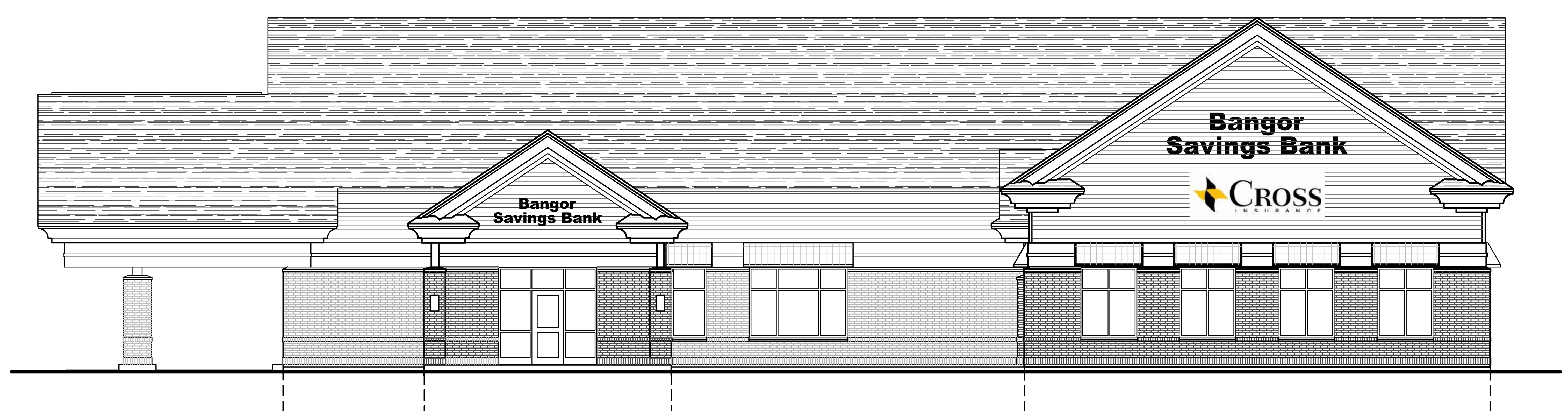


J3 EXTERIOR ELEVATION - TANBERG TRAIL (ROUTE 115/35)
1/8" = 1'-0"



J3 EXTERIOR ELEVATION - ABBY ROAD
1/8" = 1'-0"

J3 EXTERIOR ELEVATION - ROOSEVELT TRAIL (ROUTE 302)
1/8" = 1'-0"



J3 EXTERIOR ELEVATION - FRONT
1/8" = 1'-0"

NO.	DATE	DESCRIPTION
0	00.00.00	-----

PROGRESS PRINT
10.02.19

TAC Architectural Group Inc.
40 Summer St., Suite 4 Bangor, ME 04401

NOT FOR CONSTRUCTION
LICENSED ARCHITECT
STATE OF MAINE

BANGOR SAVINGS BANK - WINDHAM BRANCH

WINDHAM, MAINE

PROJECT NO:	19-013
CAD DWG FILE:	AE201X EXTERIOR ELEVATIONS - OPTION W.DWG
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EXTERIOR ELEVATIONS - OPTION W

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