

CIVIL ENGINEERING • SURVEYING • LANDSCAPE ARCHITECTURE

# Town of Lyman Final Subdivision Application

For:

# Brookview Estates Brock Road, Lyman

Applicant:

Nason Property Management, LLC P.O. Box 384 Kennebunk, ME 04043

> May 2023 21092

> > Best Places to Work in ME

75 John Roberts Road, Suite 4A, South Portland, Maine 04106

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Cover Letter Application Form – Revised Final Plan Checklist A Regulations Responses, Section 7-Final Plan

Exhibit 1	Lot Numbering, Tax Assessor Correspondance
Exhibit 2	Homeowner's Association Documents – Draft
Exhibit 3	Abutters
Exhibit 4	Stormwater

Appended: Revised Subdivision Plan Set





May 15, 2023 21092

Town of Lyman Planning Board Mr. Roderick Tetu, Chair Ms. Brenda Charland, CEO 11 South Waterboro Road Lyman, Maine 04002

<u>RE: Final Subdivision Application – Brookview Estates</u> <u>Applicant: Nason Property Management, LLC</u> <u>Tax Map/Lot: 1/12-1</u>

Dear Ms. Charland, Chair Tetu, and Planning Board members:

On behalf of Nason Property Management, LLC, we are pleased to submit the following Final Subdivision Application for Brookview Estates residential subdivision, formerly known as Brock Road Subdivision, on Lot 12-1, Tax Map 1. The subject parcel is 74.6 acres in size and is located in the General Purpose District. The applicant proposes to subdivide a portion of the property fronting Brock Road, provide a large designated area of open space in the center of the parcel, and retain the remaining portion of land with frontage on South Waterboro Road.

The proposed development consists of ten (10) residential lots, which meet the Cluster Development Standards for the Town of Lyman, as outlined in Article 10 of Lyman Planning Board Land Development and Subdivision Standards. Subdivision lots will be accessed from a private paved road that is approximately 1,100 feet in length and 20 feet wide. Landscaping features will include 14 street trees and a landscaped bed around a "Brookview Estates" sign at the entrance of the subdivision. Stormwater runoff will be collected by vegetated roadside ditches and conveyed to a wet pond at the back of Lot 8 for detention and treatment.

The Preliminary Subdivision application and plans were approved by the Planning Board at the May 3<sup>rd</sup> meeting and resulted in two (2) Conditions of Approval and three (3) modifications to be included on the Final Plan. The Conditions of Approval, which have been added to the Final Plan are as follows:

1. All constructed roadways must comply with the Town of Lyman Street Acceptance, Design, and Construction Standards Ordinance adopted November 5, 2019 and amended through July 14, 2020.

2. An amended Subdivision Plan, which shall be approved by the Town of Lyman Planning Board, is required for any future division of the Land to be Retained by Nason Property Management, LLC.

Modifications to the Preliminary Plan, which have been incorporated on the Final Plan, are as follows:

- 1. Add a Private Way off of South Waterboro Road to provide at least 375 feet of frontage for the Land Retained by Owner. The Private Way shall be designed to meet all Town standards and shall include a hammerhead turn-around for emergency access.
- 2. Show the calculated sight distance at the entrance to Brookview Drive
- 3. Show Brookview Drive as paved, not gravel, on all plans and roadway details

The addition of the Private Way off of South Waterboro Road resulted in a revision to the Stormwater Report and plans, as treatment and detention of runoff from this area was required under MDEP Chapter 500 Standards and Town of Lyman Subdivision Standards. Accordingly, a vegetated swale will convey runoff to a level lip spreader and forested buffer, which shall be pinned and deed restricted, so as not to be disturbed. Nine copies of the revised Stormwater Report are included in the submitted application.

As you may remember, other permits currently under review include a Stormwater Management Law Permit Application, which has been filed with the Maine Department of Environmental Protection (DEP) and a Natural Resources Protection Act (NRPA) application for a small amount of wetland fill and stabilization improvements to the outlet of an existing stream crossing under Brock Road. A Self Verification Notification Form has also been submitted to the US Army Corps of Engineers (ACOE) to permit the filling of this wetland area. We respectfully request that receipt of permit approvals from other agnecies be considered a Final Plan Condition of Approval, which will prevent the start of construction until copies of each permit have been secured and forwarded to the Town. It should be noted that the statutory deadline for a decision on the MDEP Stormwater Management Law Application is June 26<sup>th</sup>, 2023.

We have connected with the Tax Assessor and Code Enforcement Officer regarding the proposed road name, Brookview Drive, and 911 addressing for each lot. The road name has been approved and official addressing/lot numbering will be coordinated with the Tax Assessor following approval. Please refer to Exhibit 1 for further detail and a copy of the email correspondence. We respectfully request that the Board make final review of the Home Owner's Association Documents, which we assume will need to be coordinated between the Town and Owner's attorney's, a Condition of Approval.

We are hopeful that we have provided sufficient information for a final subdivision review of the proposed cluster subdivision, Brookview Estates. Upon review of the enclosed material, please call with any questions or if you require additional information. We look forward to meeting with the Planning Board at their next regularly scheduled meeting. Thank you for your consideration.

Sincerely,

SEBAGO TECHNICS, INC.

KRamsel

Kendra J. Ramsell, El Project Manager Civil Engineer

## Town of Lyman Subdivision Application

Subdivision Name Brookview Estates
Date of Application May 15, 2023

### **APPLICANT INFORMATION**

Name of Property Owner Address	Nason Property Management, LLC PO Box 384		
Telephone	Kennebunk, ME 04043		
Name of Applicant Address	Same as Property Owner, See above.		
Telephone	· · · · · · · · · · · · · · · · · · ·		
If applicant is a corporati Registration.	on, check if licensed in Maine X Yes No and attach a copy of State's		
Name of applicant's authority	Address:         Sebago Technics, Inc.         c/o Kendra Ramsell           Address:         75 John Roberts Road, Suite 4A, South Portland, ME 04106		
(Include notarized lett	Telephone: (207) 200 - 2098 er from property owner verifying authorization)		
Name of Land Surveyor,	Engineer, Architect or others preparing plan: Sebago Technics, Inc.		
	Address:		
	Telephone:         207         200         2088         Registration #11175 Paul Ostrowski, P.E           Sebago Technics, Inc.         Sebago Technics, Inc.		
Person and Address to wi Kendra Ramsell, Seb 75 John Roberts Roa	nich all correspondence regarding this application should be sent: ago Technics, Inc. d, Suite 4A, South Portland, ME 04106		
What legal interest does t and sales contract, etc.)?	he applicant have in the property to be developed (ownership, option, purchase Ownership		
What interest does the ap	plicant have in any abutting property? None		
LAND INFORMATION			
Location of Property (S	street Location) Brock Road		
(f	rom County Registry of Deeds): Book <u>18581</u> Page <u>773</u>		
(f Current zoning of propert	rom Tax Maps): Map U1 Lot(s) 12-1		

Is any portion of the property within 250 feet of the high water mark of a pond, river or salt water body?

Total Acreage of Parcel: \_\_\_\_\_74.6 +/-

Acreage to be developed: 1.94 Acres +/-, See Exhibit 6-Stormwater

Indicate the nature of any restrictive covenants to be placed in the deeds:

There are no restrictive covenants proposed, however, easements for drainage, utilities, and maintenar are noted in the draft HOA documents, pertinent deeds and on design plans.
Has this land been part of a prior approved subdivision?       Yes       X         Or other divisions within the past 5 years?       X       Yes       No
Identify existing use(s) of land (farmland, woodlot, etc.) Unimproved forested land
Does the parcel include any waterbodies? X Yes No Does the parcel include any wetlands? X Yes No
Is any portion of the property within a special flood hazard area as identified by the Federal Emergen Management Agency?
List below the names and mailing addresses of abutting property owners. (All property within 500' of boundary lines)
Name SEE EXHIBIT 3 Address
GENERAL INFORMATION
Proposed name of development. Brookview Estates
Number of lots or units: 10
Anticipated date for construction: Summer 2023
Does this development require extension of public infrastructure?
roads storm drainage other
sewer lines fire protection equipment

Estimated cost for infrastructure improvements \$ 355,400.00

Identify method of water supply to the proposed development:

X individual wells

central well with distribution lines

connection to public water system

other, please state alternative

Identify method of sewage disposal to the proposed development:

X individual septic tanks

central on site disposal with distribution lines

connection to public sewer system

other, please state alternative

Identify method of fire protection for the proposed development:

hydrants connected to the public water system

dry hydrants located on an existing pond or water body

X existing fire pond and homes will be sprinklered

other, please state alternative.

Does the applicant propose to dedicate to the public any streets, recreation or common lands?

street(s) recreation area(s) Yes X No Estimated Length

Yes X No Estimated Acreage

Yes X No Estimated Acreage common land(s)

Does the applicant intend to request waivers of any of the subdivision submission requirements? If yes, list them and state reasons for the request.

NO	 	<u> </u>	 	
	 		 ·	

To the best of my knowledge, all the above stated information submitted in this application is true and correct.

May 15, 2023 (date) Sebago Technics, Inc. Agent

Fees: (see Arucie 1 Section 1.10 of the Lyman Zoning Ordinance, for explanation of ALL fees, including planning board legal fees and SMRPC fees.) Make check payable to the TOWN OF LYMAN. SUBDIVISION FEE: \$500.00. Fee must be paid when application submitted.

#### NOTE: EACH APPLICATION MUST BE SUBMITTED WITH A TOTAL OF NINE COPIES. THIS INCLUDES ALL SUBMITTALS ATTACHED TO THE APPLICATION. (see attached checklist for required submittals)

Form 206 Adopted 11/9/01

other, please state alternative

Identify method of fire protection for the proposed development:

hydrants connected to the public water system

- dry hydrants located on an existing pond or water body
- X existing fire pond

other, please state alternative.

Does the applicant propose to dedicate to the public any streets, recreation or common lands?

street(s)	Yes	Х
recreation area(s)	Yes	Χ
common land(s)	X Yes	

No Estimated Length \_\_\_\_\_ No Estimated Acreage

X Yes No Estimated Acreage

Does the applicant intend to request waivers of any of the subdivision submission requirements? If yes, list them and state reasons for the request.

NO		 	· · · · · · · · · · · · · · · · · · ·
	· · · · · · · · · · · · · · · · · · ·	 	

To the best of my knowledge, all the above stated information submitted in this application is true and correct. May 15 2023

WRamsell		Sebago Technics, Inc.	(date)	
Kendra Ramsell	Agent		(date)	

Fees: (see Article I Section 1.10 of the Lyman Zoning Ordinance, for explanation of ALL fees, including planning board legal fees and SMRPC fees.) Make check payable to the TOWN OF LYMAN. SUBDIVISION FEE: \$2,500.00. Fee must be paid when application submitted.

NOTE: EACH APPLICATION MUST BE SUBMITTED WITH A TOTAL OF NINE COPIES. THIS INCLUDES ALL SUBMITTALS ATTACHED TO THE APPLICATION. (see attached checklist for required submittals)

Form 206 Adopted 11/9/01 **Revised April 2004** 

## \*\* Reference is made to Section A for written responses to the FINAL PLAN Subdivision Regulations Checklists \*\*

SUBDIVISION REGULATIONS		Submitted By Applicant	Received by Planning Board	Applicant Request to be Waived	Waived by Planning Board	Approved by Planning Board
	PREVIOUSLY SUBMITTED					
SECTION 6	PRELIMINARY PLAN					
6.1	Nine copies of all maps and/or drawings or prints reproduced on paper, drawn to scale 1" = not more than 100'	x				
6.2	Location Map - scale not more than 400' =1"	X				
6.2(1)	All existing subdivision and approx. tract lines of	v				
	acreage with adjacent parcels owners names.	<b>∧</b>				
6.2(2)	Location of all existing & proposed streets, street	v				
	names, easements, building lines etc.	^				
6.2(3)	Boundaries of zoning & school districts, parks and public spaces	X				
6.2(4)	Outline of proposed subdivison with street system	X				
6.3	Name of subdivision, deed reference and engineer(s) and	v				
	surveyor(s)	Χ.				
6.4	Graphic scale 1"=100', date and north point	X				
6.5	Boundaries of tract.	X				
6.6	Ownership and location of abutting properties	X				
6.7	Name, location & width of all streets.	X				
6.7.1	Acceptable cross section layout of proposed roads	X				
6.7.2	Profile of proposed streets	X				
6.8	Drainage Plan, existing & proposed; and preliminary	X				
	design of any bridges or culverts required,					
6.9	Location of all existing utilities.	X				
610	Test pits for Subsurface waste water disposal systems	v				
t i	on each proposed lot shall be excavated in the presence	X				
0.44	or the Plumbing Inspector	N/				
0.11	Topography at 2 intervals.	X				
0.12	Lot lines and approximate dimensions.	X				
0.13	Proposed uses of property.	X				
6 15	Provisions of Zoning Ordinance Applicable to the area	X				
6.16	Soils report	- X				
6.17	Centerline of proposed streets staked and marked	× ×				
6.18	Soil erosion & sediment control plan containing	÷				
	endorsements from York County Soil and Water	<b>^</b>				
	Conservation District and Maine Soil & Water Conservation	· · · · · · · · · · · · · · · · · · ·				
	Commission					
<b>SECTION 7</b>	FINAL PLAN - vote to approve preliminary plan					
7.1.1	Requires DEP approval.	COA				
7.1.2	Water System Approval	Х				
7.1.3	Subsurface wastewater disposal system approval	X				
7.2	Performance Guaranty	TBD				
7.3	Inspection of Required improvements (informational and not a	By Poquest				
	submission requirement)	By Request				
7.4	Final Plan Submissions	X				
7.4.1	All information required for Preliminary Plan	X				
7.4.2	Existing and final lines of streets, utilities and lot lines.	X				
7.4.3	Road Profile, cross-section radius of curves	X				
7.4.3	Location of all permanent monuments existing & proposed	X				
7.4.5	Lot number & letters of lots acceptable to the Tax Assessor	X				
7.4.6	Name, registration number & seal of person who prepared the plan.	X				
7.5.1	Written offers of all open space shown on plan and documentation of title of how maintained	X				

## Α

<u>Regulations Responses</u> Section 7-Final Plan

#### 7.1 Other Approvals

#### 7.1.1 Requires DEP Approval.

Response: The DEP Stormwater Law and Natural Resources Protection Act applications are currently under review. We respectfully request that formal receipt of the DEP approvals be a Condition of Approval (COA).

#### 7.1.2 Water System Approval

Response: Water service will be provided via individual drilled wells. A common or municipal water system is not proposed for the Brookview Estates Subdivision; therefore, a maintenance agreement for a water supply system is not applicable.

#### 7.1.3 Subsurface wastewater disposal system approval

Response: As previously stated during the Preliminary review, individual HHE-200s will be submitted to the LPI for review and approval as the individual lots are developed. Two passing test pits were located on each lot as required by the Lyman Subdivision standards, and the logs were included in the Preliminary review submittal. The individual subsurface wastewater disposal systems will be designed and constructed in accordance with current State of Maine disposal rules.

#### 7.2 Performance Guarantee

Response: The applicant is aware of the guarantee requirements and will coordinate the fee and payment with the Town, as required to meet the requirements of this section, specifically:

7.2.1 Form - Certified check made payable to the Town of Lyman

7.2.2 Amount - 150% of the total cost of required improvements

7.2.3 Required improvements - All site preparation, including but not limited to any public or private road, add drainage structures and ditches, all erosion control measures, all common or public utilities, and all required landscaping.

7.2.4 Schedule of Values - Construction Cost breakdown of various items of work sufficient in detail for inspecting engineer or agent to determine the value of work completed and work remaining when the developer requests reductions in the amount of the performance guaranty. Reference is made to the schedule of values (Page 15) Article 7-Final Plan for Subdivision.

7.2.5 Timing - The applicant shall subit the schedule of values with the final plan review prior to approval and submit the performance guaranty within 45 days of approval and receive written authorization to proceed by the Municipal Officers prior to beginning work on the site...

7.2.6 Escrow Reduction Requests - the developer may request reductions in the amount of the escrow in accordance with the provisions of this section, Page 16 of Article 7-Final Plan for Subdivision.

7.2.7 Modifications to required improvements-demonstration of unforseen conditions allow for modification the location or design of any required improvement is allowed per this section of Article 7, Page 16.

7.2.8 Default - Deficiencies to required improvements identified upon inspection are addressed by Selectmen in order to preserve the Town's rights under the performance guaranty. Reference is made to Page 17, Article 7.

7.2.9 Maintenance - **Acknowledged**. The developer is responsible for the maintenance of improvements and snow removal until the homeowners association assumes responsibility.

7.2.10 Release - **Acknowledged**. The performance guaranty will not be completely released by the Selectmen until the Town's agent has completed a final inspection and submitted a written report stating that all required improvements have been completed in accordance with the approved plans and specifications.

7.3 Inspection of Required Improvements (informational and not a submission requirement) Response: Acknowledged. All inspections will be coordinated with the Town, as required. Reference is made to Page 17, Article 7 for details.

#### 7.4 Final Subdivision Plan

Response: The applicant's final plans amend and supersede the previous preliminary plan submittal based on comments received from the Town and review agencies. Reference is made to the appended plan set.

The Final Subdivision Plan shall contain:

#### 7.4.1 All information required for Preliminary Plan

Response: The information required for the Preliminary Plan that was previously reviewed is amended by the addition of items specific to the Final Subdivision Plan review.

7.4.2 Existing and final lines of streets, ways, lots, easements for utilities and/or drainage and public areas within the subdivision. Final dimensions of lots shall be shown on areas per lot in square feet.

Response: Existing and final street lines, utilities, easements, and lot lines and sizes are shown on the final plan set, as required.

7.4.3 Road Profile, cross-section radius of curves

Response: The final plan set includes road plan and profile sheets, including layout, easements, horizontal and vertical curve data.

#### 7.4.4 Location of all permanent monuments existing and proposed

Response: Permanent existing and proposed monumentation is shown on the final plan set.

#### 7.4.5 Lot number & letters of lot acceptable to the Tax Assessor

Response: The lot numbering sequence and assignment by the Tax Assessor are under discussion between Sebago Technics and the assessing office.

7.4.6 Name, registration number & seal of person who prepared the plans.

Response: The plans were reviewed and sealed by Sebago Technics' engineer, Paul D. Ostrowski, ME #11175.

#### 7.5 Final Subdivision Plan Submission

The Final Subdivision Plan package shall include:

7.5.1 Written offers of cession to the Municipality of all public open space shown on the Plan, and copies of agreements or other documents showing the manner in which spaces, title to which is reserved by the subdivider/applicant are to be maintained.

Response: The Open Space will be owned and maintained by the Homeowner's Association. The retained land will be owned and maintained by the Owner/Applicant, Nason Property Management, LLC. No land is proposed to be conveyed to the Town of Lyman. All easements and restrictions associated with the subdivision are shown on the final plans and are legally described in the Homeowner's Association Documents.

7.5.2 Written evidence that the Municipal Officers are satisfied with the legal sufficiency of the documents referred to in 7.5.1, above.

Response: To be determined – this shall be addressed in a Condition of Approval.

#### 7.6 Final Approval Filing

7.6.1 The Planning Board shall, within thirty days from the public hearing, approve, modify and approve or disapprove the Final Plan...and conveyed to the applicant in writing. **Response:** Acknowledged.

7.6.2 Upon completion of the requirements in Articles 7.5 and 7.6.1...it shall be deemed to have final approval and shall be properly signed by a majority of the members of the Planning Board...and shall be filed by the applicant with the York County Registry of Deeds. Any Subdivision Plan that is not so filed or recorded within ninety days of the date upon which such Plan is approved and signed by the Planning Board...shall become null and void...unless circumstances...warrant the Planning Board to grant an extension which shall not exceed two additional periods of ninety days.

#### Response: Acknowledged.

7.6.3 At the time the Planning Board grants Final Plan approval, it may permit the Plan to be divided into two or more sections subject to any conditions the Planning Board deems necessary in order to ensure the orderly development of the Plan...

Response: Acknowledged. Reference is made to the additional requirements of this section should multiple sections apply, see Page 20, Article 7.

#### 7.7 Plan Revisions after Approval

No changes, erasures, modifications or revisions shall be made in any Final Plan after approval has been given by the Planning Board...

#### Response: Acknowledged.

7.8 Public Acceptance of Streets, Recreation Areas

7.8.1 The approval by the Planning Board shall not be deemed to constitute or be evidence of any acceptance by the Municipality of any street, easement or other open space shown on such Plan.

#### Response: Acknowleged.

7.8.2 The procedure for street acceptance by the Town is dictated by the Townn of Lyman Street Acceptance, Design and Construction Standards Ordiance adopted by the Town on November 5, 2019.

#### Response: Acknowledged.

7.8.3 When a park, playground or other recreation area shall have been shown on the Plan, approval of the Plan shall not constitute an acceptance by the municipality of such areas...

Response: Not applicable. Park, playground, or other recreation area is not proposed at the Brookview Estates Subdivision.

# Exhibit 1 Lot Numbering

#### **Exhibit 1: Lot Numbering**

Per discussion between Sebago Technics and Lyman Assessing, we understand that the Code Enforcement Office will confirm the road name sign-off and street address numbering sequence. The Road Commissioner has been copied on the correspondence and is aware of the request.

From:	Admin CEO <adminceo@lyman-me.gov></adminceo@lyman-me.gov>
Sent:	Wednesday, May 17, 2023 1:59 PM
То:	Kendra Ramsell; Code Enforcement Officer
Cc:	Hannah Bonine; Stefanie Nichols; Road Commissioner
Subject:	RE: Brookview Estates Subdivsion

**Categories:** 

21092-Brook View Estates

**CAUTION:** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Kendra,

Brookview Drive is available to use in Lyman.

Julie

From: Kendra Ramsell <kramsell@sebagotechnics.com>
Sent: Monday, May 15, 2023 11:37 AM
To: Code Enforcement Officer <ceo@lyman-me.gov>
Cc: Admin CEO <adminceo@lyman-me.gov>; Hannah Bonine <hbonine@smpdc.org>; Stefanie Nichols
<snichols@sebagotechnics.com>; Road Commissioner <roadcommissioner@lyman-me.gov>
Subject: Brookview Estates Subdivsion

Good morning, Brenda -

I spoke with Laurie in the Assessor's office this morning regarding the road name and addresses for each lot in the Brookview Estates Subdivision. She said that you would be responsible for confirming that the road name, Brookview Drive, is available. The Final Subdivision check list also requires that addresses for the new lots be coordinated and that would fall to you, as well. I've copied the Road Commissioner, in case coordination with him is needed. I would think the addressing for 911 could be determined after approval but wanted to make sure I started the conversation! The only thing Laurie will do is determine the official Lot numbers.

Thank you,

### Kendra Ramsell, El Civil Engineer

Sebago Technics, Inc. | An Employee-Owned Company 75 John Roberts Rd., Suite 4A, South Portland, ME 04106 Office: 207.200.2100 | Direct: 207.200.2098 | Fax: 207.856.2206 kramsell@sebagotechnics.com | www.sebagotechnics.com



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From:	Kendra Ramsell
Sent:	Monday, May 15, 2023 11:37 AM
То:	Code Enforcement Officer
Cc:	Admin CEO; Hannah Bonine; Stefanie Nichols; roadcommissioner@lyman-me.gov
Subject:	Brookview Estates Subdivsion

Good morning, Brenda -

I spoke with Laurie in the Assessor's office this morning regarding the road name and addresses for each lot in the Brookview Estates Subdivision. She said that you would be responsible for confirming that the road name, Brookview Drive, is available. The Final Subdivision check list also requires that addresses for the new lots be coordinated and that would fall to you, as well. I've copied the Road Commissioner, in case coordination with him is needed. I would think the addressing for 911 could be determined after approval but wanted to make sure I started the conversation! The only thing Laurie will do is determine the official Lot numbers.

Thank you,

### Kendra Ramsell, El Civil Engineer

Sebago Technics, Inc. | An Employee-Owned Company 75 John Roberts Rd., Suite 4A, South Portland, ME 04106 Office: 207.200.2100 | Direct: 207.200.2098 | Fax: 207.856.2206 kramsell@sebagotechnics.com | www.sebagotechnics.com



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# Exhibit 2

# **Homeowners Association Documents-Draft**

#### **Exhibit 2: Homeowner's Documentation**

Homeowner's Association Documentation will be coordinated directly between the Applicant and Town's Attorneys. We respectfully request that the documents' submittal and finalization be considered a Condition of Approval.

#### DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR BROOKVIEW ESTATES

#### Article I. Governing Documents

#### 1.1. Scope and Applicability.

This Declaration by Nason Property Management, LLC, the Declarant and the owner of the property described in Exhibit A, applies to the Brookview Estates, as shown on the Plats and Plans approved by the Lyman Planning Board, dated \_\_\_\_\_\_, 2023, and recorded in the York County Registry of Deeds at Plan Book , pages , and to any amendments thereto.

This Declaration shall encumber the title to such Property, shall govern the development and use of such property, and shall be binding upon the Declarant and the future owners of any portion of such property, their respective heirs, successors, successors-in-title, and assigns, and any other person or entity that now or hereafter occupies or holds any legal, equitable, or beneficial interest in any portion of such property. Generally, reference in this document to the "<u>Association</u>" is a reference to the Brookview Estates Homeowners Association unless the context dictates otherwise.

#### 1.2. Conflicts and Ambiguities.

If there are conflicts between this Association's Articles of Incorporation, the Declaration, the Bylaws of the Brookview Estates Homeowners (the "<u>Association</u>") or any Rules (the "<u>Governing Documents</u>") and Maine law or local ordinance shall control, to the extent it is mandatory. If there are conflicts between or among any of the documents, then the Articles of Incorporation, the Declaration, the Bylaws and the Rules (in that order) shall control.

If any court determines that any provision of this Declaration is invalid, or invalid as applied in a particular instance, such determination shall not affect the validity of other provisions or applications of such provision in other instances.

The Association's board of directors ("<u>Board of Directors</u>" or "<u>Board</u>") may, by resolution, resolve any ambiguities in the Governing Documents, and the Board's reasonable interpretation of an ambiguous provision shall be determinative.

#### 1.3. Definitions.

Capitalized terms used in this Declaration have the meaning described in the paragraph where they first appear. All other terms have their usual, commonly accepted definitions.

For convenience, some terms are defined here:

"Common Area" is all the real estate shown on the Plan which is not within Lot boundaries, as shown on the Plan. It includes Open Space and other areas, but excluding any Land retained by Page | 1

Declarant which is not a part of Brookview Estates Subdivision.

"Declarant Affiliate" is any Person that controls, is controlled by, or is under common control with the Declarant, and any Person that is an owner, a member, a partner, or a shareholder of the Declarant.

"Declarant Control Period" is the period of time that the Declarant is entitled to appoint the members of the Association's board of directors. It begins on the date the Declaration is recorded and terminates upon the first of the following to occur:

(a) when the Declarant has conveyed all of the total of lots approved for the Property by the Lyman Planning Board to Persons other than a Declarant Affiliate;

(b) the maximum period permitted by Maine law; or

(c) when, in its discretion, the Declarant voluntarily and expressly surrenders such right in a recorded instrument.

"Development and Sale Period" is the period of time during which the Declarant, any

"Declarant Affiliate," or any Builder owns real property in the community primarily for development or sale or has an unexpired option to expand the community.

"Governing Documents" means the various documents, with plans.

"Lot"." "Lot" refers to a parcel of land where a single dwelling unit may be place, according to an approved subdivision plan recorded in the York County Registry of Deeds.

"Plan" refers to the set of subdivision plans for development of the Property approved by Lyman Planning Board and shown on plans recorded at Plan Book \_\_\_\_\_\_, pages \_\_\_\_\_\_ in the York County Registry of Deeds, as the Plans may be amended from time to time.

"Open Space" area refers to a portion of the Common Area which is set aside, dedicated, or reserved for public or private use or enjoyment, protection of natural or historic features, protection of abutting property owners, or to provide areas suitable for active or passive recreation, as approved by the Planning Board.

"Owner" refers to the owners of subdivision lots shown on the Plan. All Owners are also Members of the Association.

Article 2. Association Membership and Voting Rights.

2.1. Membership Classes.

The Association initially has two classes of membership, "A" Class, the Owner membership, which is comprised of all Owners, including Builders and the Declarant, if it is an Owner, and "B" Class, which consists solely of the Declarant. All persons holding a membership in the Association are referred to in this Declaration as "Members."

a. Owner Membership. Every Owner is automatically a Member of the Association. However, there shall be only one membership per Lot. Thus, if a Lot has more than one Owner, all co-Owners of the Lot share the privileges of such membership, subject to reasonable Board regulation and the restrictions on voting set forth below and in the Bylaws. If an Owner is a corporation, a partnership, or other legal entity, its membership rights may be exercised by any officer, director, partner, or trustee, or by an individual the Owner designates from time to time in a writing to the Association's Secretary, except that only the individuals residing in the Lot may use any Common Area recreational facilities available for use by Owners.

b. Declarant Membership. The Declarant holds the sole Declarant membership, designated as Page | 2

Class "B.". The Declarant membership shall be temporarily suspended during any period that the Declarant does not own a Lot, subject to automatic reinstatement upon Declarants acquisition of any Lot or expansion of the development; however, such temporary suspension shall not suspend, terminate, or otherwise affect the Declarant Control Period or any other rights reserved to the Declarant hereunder. The Declarant membership shall terminate upon expiration of the Declarant Control Period, or on such earlier date as the Declarant determines and declares in a recorded instrument.

#### 2.2. Voting.

Each Lot is assigned one equal vote, subject to the limitations on voting set forth in this Declaration and the other Governing Documents. No vote shall be exercised for any property exempt from assessment.

If there is more than one Owner of a Lot, its vote shall be exercised as the co-owners holding a majority of the ownership interest determine among themselves. Any co-Owner may cast the vote for the Lot or consent to any action requiring approval of the Owners on behalf of all co- Owners, and majority agreement shall be conclusively presumed unless another co-owner protests promptly to the President or other person presiding over the meeting or the balloting, in the case of a vote taken outside of a meeting. In the absence of majority agreement, the Lot's vote shall be suspended if two or more co-Owners seek to exercise it independently. No more than one vote shall be cast for any Lot.

Article 3. Maintenance, Repair and Replacement.

#### 3.1. Maintenance by Owners.

Unless otherwise provided in the Governing Documents, each Owner is responsible for maintenance, repair and replacement of his or her own dwelling and other structure and of the land constituting the Lot. Maintenance, repair and replacement responsibilities include all structures, landscaping, and other improvements, in a manner consistent with the Governing Documents, unless such maintenance responsibility is otherwise assumed by or assigned to the Association pursuant to this Declaration, any Supplement, or by law.

The Association may provide services to Lot owners, including the clearing of snow and ice from driveways, for a fee.

#### 3.2. Maintenance by the Association

The Brookview Estates Homeowners Association shall be established by the Declarant as a Maine non-profit corporation, and shall be the governing body for the Brookview Estates subdivision. Its responsibilities shall include:

- a. Maintenance of the Open Space, Easements and other portions of the Property, except the Lots.
- b. Maintenance and repair of the private roads within the subdivision
- c. Provision for the clearing of snow and ice from the private roads within the subdivision.
- d. Maintenance, repair and replacement of stormwater management systems as required by government authorities, including but not limited to the Inspection, Maintenance and

Housekeeping Plan (for Stormwater) attached hereto as Exhibit B, which Exhibit B shall be incorporated as if fully set forth herein.

Article 4. Use, Conduct and Transfer of Interests in Lots.

4.1. Rulemaking Authority and Procedures.

(a) The Declarant and the Board are authorized to change the Rules in accordance with the following procedures.

(b) Declarant Authority. So long as the Declarant has the right unilaterally to amend this Declaration, the Declarant may unilaterally add new Rules or to modify or rescind existing Rules.

(c) Board Authority. Subject to the notice and veto provisions and the Board's duty to exercise judgment and reasonableness on behalf of the Association and its Members, the Board may adopt new Rules and modify or rescind existing Rules by majority vote of the directors at any Board meeting. However, during the Development and Sale Period, any such action shall also be subject to the Declarant's approval.

(d) Notice; Effective Date. Changes in the Rules adopted under this Section shall take effect 30 days after the date on which written notice of the Rules change is given to the Owners unless, within such 30-day period the Members petition the Board for a special meeting pursuant to the Bylaws and veto the pro-posed Rule change by a majority of the total votes represented in person or by proxy at such meeting, a quorum being present.

(e) Administrative and Operating Policies. The procedures set forth in this section do not apply to administrative and operating policies that the Board may adopt relating to the Common Areas, such as safety regulations or the method of allocating or reserving use of a facility (if permitted) by particular individuals at particular times, notwithstanding that such policies may be published as part of the Rules.

(f) Conflicts. In the event of a conflict between the Rules and any provision of this Declaration (exclusive of the Rules), the Declaration shall control.

#### 4.2. Protection of Owners and Others.

Except as may be set forth in this Declaration (either initially or by amendment), all Rules shall comply with the following provisions:

Similar Treatment. Similarly situated Lots shall be treated similarly.

Displays. No Rule shall prohibit an Owner or occupant from displaying political, religious, or holiday symbols and decorations on his or her Lot of the kinds normally displayed in single-family residential neighborhoods, nor shall any Rule regulate the content of political signs. However, the Association may adopt time, place, and manner restrictions with respect to signs, symbols, and displays visible from outside structures on the Lot, including reasonable limitations on size and number.

Household Composition. No Rule shall interfere with an Owner's freedom to determine house hold composition, except that the Association may impose and enforce reasonable occupancy limitations and conditions based on Lot size and facilities and its fair share use of the Common Area.

Activities within Dwellings. No Rule shall interfere with the activities carried on within a dwelling, except that the Association may prohibit activities not normally associated with residential

property. It may also restrict or prohibit activities that create monetary costs for the Association or other Owners, that create a danger to anyone's health or safety, that generate excessive noise or traffic, that create unsightly conditions visible from outside the dwelling, or that are an unreasonable source of annoyance.

Allocation of Burdens and Benefits. No Rule shall alter the allocation of financial burdens among the various Lots or rights to use the Common Area set forth in this Declaration to the detriment of any Owner over that Owner's objection expressed in writing to the Association. Nothing in this provision shall prevent the Association from changing the Common Area available, from adopting generally applicable rules for use of Common Area, or from denying use privileges to those who are delinquent in paying assessments, abuse the Common Area, or violate the Governing Documents. This provision does not affect the right to increase the amount of assessments.

Leasing and Transfer of Lots. No Rule shall prohibit leasing or transfer of any Lot or require approval prior to leasing or transferring a Lot except as set forth herein. The Rules may require that Owners use Board-approved lease forms (or include specific lease terms) and may impose a reasonable administrative fee in connection with the Board's review of a lease.

Abridging Existing Rights. No Rule shall require that an Owner or occupant dispose of personal property kept in or on the Lot in compliance with the Rules in effect at the time such personal property was brought onto the Lot. This exemption shall apply only during the period of such Owner's ownership of the Lot and shall not apply to subsequent Owners who take title to the Lot after adoption of the Rule.

Reasonable Rights to Develop. No Rule may unreasonably interfere with the ability of the Declarant, any Declarant Affiliate or Builder to develop, market, and sell property in the Brookview Estates Subdivision.

Interference with Easements. No Rule may unreasonably interfere with the exercise of any easement.

#### 4.3. Subdivision; Boundary Changes.

No Person shall subdivide or change the boundary lines of any Lot or combine them without the approval of the Lyman Planning Board. During the Development and Sale Period, any such proposed change shall also require the written approval of the Declarant. After the Development and Sale Period, written approval shall also be obtained from the Board. Any change in the subdivision shall be effective only upon recording of a plat or other legal instrument reflecting the subdivision or new boundaries of the affected Lot(s).

Article 5. Property Management.

#### 5.1. Acceptance and Control of Association Property.

Transfers and Conveyances by the Declarant. The Declarant may transfer all Property, including the access road, but excluding the Lots, to the Association, subject to easement rights in favor of the Declarant for access to Declarant's other land and for utilities, and any other reserved rights of the Declarant. Upon the Declarant's written request, the Association shall reconvey to the Declarant, or any Declarant Affiliate or Builder, any unimproved real property that the Declarant originally Page | 5

conveyed to the Association for no payment, to the extent conveyed in error or needed to make minor adjustments in property lines or accommodate changes in the Plan.

#### 5.2. Management and Control.

The Association, upon transfer of title to the Common Area to it, is responsible for the Common Area, subject to any covenants set forth in the deed or other instrument transferring the property. They may enter into leases, licenses, or operating agreements with respect to portions of the Common Area, for payment or no payment, as deemed appropriate.

#### 5.3. Maintenance of Common Areas.

The deeded owner of the Common Areas shall maintain:

- a. the Open Space;
- b. Other portions of the Common Area;
- c. Landscaping and signage within public rights-of-way, if any, within Brookview Estates Subdivision, landscaping within public rights-of-way adjacent to Brookview Subdivision, to the extent that the Board determines it necessary or desirable to do so, and landscaping and signage features at the entrances to the subdivision;
- d. The stormwater management system, including the wet pond, vegetated swales for conveyance, and all culverts and storm drains based on standards and requirements of the Maine Department of Environmental Protection.
- e. those other areas where maintenance responsibilities are required by governmental bodies, whether they otherwise are within the "Common Area" or "Open Space;"
- f. such portions of any additional property as may be dictated by this Declaration, any Supplement, or any covenant or agreement for maintenance entered into by, or otherwise binding on, the Association

This Section may not be amended to reduce or eliminate any Association's obligation to maintain, repair or replace as required by governmental requirements, including the Lyman Planning Board or the Maine Department of Environmental Protection, without the written approval of such agency.

#### 5.4. Discontinuation of Operation.

To the extent that the Association has title to the Common Areas, it shall maintain it, unless the Declarant, during the Development and Sale Period, and Members entitled to cast 75% of the total votes in the Association, and the Lyman Planning Board and Maine Department of Environmental Protection, if applicable, consent in writing to discontinue such operation. This Section shall not apply to restrict the Board's ability to restrict temporary closures or interruptions in operation as the Board may determine appropriate to perform maintenance or repairs.

#### Article 6. Association Finances.

#### 6.1. Association Expenses.

Association assessments consist of the following:

(a) Base assessments, consisting of common charges assessed equally against each Lot, contained in an annual or supplemental budget.

(b) Special Assessments, to pay for common charges unanticipated in the annual budget, assessed equally against each Lot;

(c) Other Charges, Service Fees, Use and Consumption Fees, assessed for the purposes set forth herein.

Except as this Article and other provisions of the Governing Documents otherwise specifically provide, all expenses incurred by the Association in connection with the ownership, maintenance, improvement, and operation of the Common Area and the other responsibilities set out in this Declaration, and otherwise for the general benefit of the Owners, are considered "Common Expenses." Common Expenses include such operating reserves and reserves for repair and replacement of any capital items for which the Association has responsibility, as the Board finds necessary or appropriate in accordance with this Declaration.

The characterization of a particular expense as a "Common Expense" shall not preclude the Association from seeking reimbursement for, or a contribution toward, such expenses from other Persons who may be responsible for the expenses incurred or for sharing such expenses pursuant to this Declaration, any Supplement, or any other recorded covenants or agreements.

The requirement in this Section 6.1 that the Common Expenses allocated to all Lots include the costs to maintain, repair, and replace the Common Area shall not be amended without the consent of the Town of Lyman or the Maine Department of Environmental Protection.

#### 6.2. Obligation to pay Assessments.

The Declarant hereby establishes and the Association is hereby authorized to levy assessments as provided for in this Article and elsewhere in the Governing Documents. Except with respect to Lots owned by the Declarant, the obligation to pay assessments shall commence as to each Lot on the first day of the month following the date on which the Lot is made subject to this Declaration or the effective date of the Association's first budget, whichever is later. The Base Assessment levied on each Lot for the year in which the Lot is made subject to this Declaration shall be prorated according to the number of months remaining in the fiscal year at the time the Lot becomes subject to the Declaration.

Assessments shall be paid in such manner and on such dates as the Board may establish. The Board may require advance payment of assessments at closing of the transfer of title to a Lot and impose special requirements for Owners with a history of delinquent payment. If the Board so elects, assessments may be paid in two or more installments. The Base Assessment is an annual assessment due and payable in advance on the first day of each fiscal year; however, the Board may permit such assessment to be paid in installments. If any Owner is delinquent in paying any assessments or other charges levied on his Lot, the Board may revoke such Owner's privilege of paying in installments and require the outstanding balance on all assessments to be paid in full immediately.

Personal Obligation. By accepting a deed or entering into a recorded contract to purchase any Lot, each Owner covenants and agrees to pay all assessments authorized in the Governing Page | 7

Documents. All assessments, together with interest (computed from its due date at a rate of 18% per annum or such higher rate as the Board may establish, subject to the limitations of Maine law), late charges as determined by Board resolution, costs, and reasonable attorneys' fees, shall be the personal obligation of each Owner and a lien upon each Lot until paid in full. Upon a transfer of title to a Lot, the grantee shall be jointly and severally liable for any assessments and other charges due at the time of conveyance.

The Board's failure to fix assessment amounts or rates or to deliver or mail each Owner an assessment notice shall not be deemed a waiver, modification, or a release of any Owner from the obligation to pay assessments. In such event, each Owner shall continue to pay Base Assessments at the rate of assessment established for the last year for which an assessment was made, if any, until a new assessment is levied, at which time the Association may retroactively assess any shortfall.

No Owner may exempt himself or herself from liability for assessments by non-use of Common Area, abandonment of his or her Lot, or non-use of services provided to the Lots. The obligation to pay assessments is a separate and independent covenant on the part of each Owner. No diminution or abatement of assessments or set-off shall be claimed or allowed for any alleged failure of the Association or Board to take some action or perform some function required of it, or for inconvenience or discomfort arising from the making of repairs or improvements, or from any other action it takes.

#### 6.2a. Annual Budget Development and Ratification.

Preparation of Budget. At least 60 days before the beginning of each fiscal year, the Board shall prepare a budget of the estimated Common Expenses for the coming year. The estimated expenses shall include, in addition to any operating reserves, a reasonable contribution to a reserve fund for repair and replacement of any capital items to be maintained as a Common Expense. In determining the amount of such reserve contribution, the Board shall take into account the number and nature of replaceable assets, the expected useful life of each, the expected repair or replacement cost, and the contribution required to fund the projected needs by annual contributions over the useful life of the asset.

The budget shall also reflect the sources and estimated amounts of funds to cover such expenses, which may include any surplus to be applied from prior years, any income expected from sources other than assessments levied against the Lots, and the amount to be generated through the levy of Base Assessments pursuant to Section 6.3.

Notice of Budget and Assessment; Right to Disapprove. Within 30 days after adoption by the Board of any budget, the Board shall send a summary of the proposed budget, together with notice of the amount of the Base Assessment to be levied pursuant to such budget, and the date of a meeting of the Owners to consider ratification of the budget to the Owner of each Lot responsible for a share of the expenses covered by such budget. The meeting of the Owners to consider the budget shall occur not less than 10 nor more than 60 days after mailing of the budget summary. The Common Expense budget shall automatically be adopted and become effective on the date stated in the notice unless disapproved at a meeting by Members entitled to cast at least 75% of the total votes in the Association and by the Declarant, during the Development and Sale Period.

If any proposed budget is disapproved or the Board fails for any reason to determine the budget for any year, then the budget most recently in effect shall continue in effect until a new budget is ratified.

Budget Revisions. The Board may revise the budget and adjust the Base Assessment any time

during the year, subject to the same notice requirements and rights to disapprove set forth in this Section.

Surplus Funds. Any surplus funds of the Association remaining after payment of or provision for all Association expenses and any budgeted allocation to reserves may be used to supplement reserves or taken into account in the income portion of the budget pursuant to which the funds were collected in order to reduce the assessments that would otherwise be levied pursuant to that budget in the succeeding year, as the Board deems appropriate.

#### 6.3 Base Assessments.

Calculation of Base Assessments. The total budgeted Common Expenses, less any surplus in the Common Expense budget from prior years and any income anticipated from sources other than assessments against the Lots, shall be allocated among all Lots subject to assessment and levied as a "Base Assessment." Base Assessments shall be levied at a uniform rate per Lot subject to assessment.

#### 6.4. Special Assessments.

The Association may levy "Special Assessments" to cover Common Expenses that are nonroutine, unanticipated, or in excess of those anticipated in the applicable budget. Special assessments shall be payable in such manner and at such times as the Board determines and may be payable in installments extending beyond the fiscal year in which the Special Assessment is approved. Within 30 days after adoption of any special assessment, the board shall provide a summary to all the Lot owners, and shall set a date for a meeting of the Lot owners to consider ratification of the special assessment not less than 10 nor more than 30 days after mailing of the summary.

If the special assessment is to be paid entirely by Owners within the current budget year, it is ratified unless a majority of all the Owners reject it, whether or not a quorum is present.

If the special assessment is to be paid, in whole or in part, beyond the current budget year, it is not ratified unless a majority of all the Lot owners accept it.

Notwithstanding the above, if the amount of the special assessment does not exceed 2 months' common charges and the board determines that the assessment is necessary to meet an emergency, the board may make the special assessment immediately in accordance with the terms of the board's vote, without ratification by Lot owners.

Special Assessments shall be allocated equally among all such Lots.

During the Development and Sale Period, any special assessment shall also be subject to the Declarant's written consent.

#### 6.5. Other Charges.

The term "Other Charge," or "Charge" may refer generally to service, use, consumption and other charges which are not levied generally against all Lots.

The Association may levy Other Charges against a particular Lot as follows:

(a) to cover the costs, including overhead and administrative costs, of providing services to the Lot upon request of the Owner pursuant to any menu of optional services which the Association may

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offer (which might include the items identified in this Declaration). Other Charges for optional services may be levied in advance of the provision of the requested service;

(b) to cover the costs, including overhead and administrative costs, of providing other services to the Lot owner, as requested by such Owner;

(c) to cover costs which, in the opinion of the Board, and after notice and an opportunity to be heard, uniquely and significantly benefit one or more Lots;

(d) to cover costs incurred in bringing the Lot into compliance with the Governing Documents or costs incurred as a consequence of the conduct of the Owner or occupants, their agents, contractors, employees, licensees, invitees, or guests; however, the Board shall give the Owner prior written notice and an opportunity for a hearing in accordance with the Bylaws before levying any Other Charges under this subsection;

(e) to cover any deductible assessed against the Owners pursuant to this Declaration; and

(f) to cover any other amounts that the Governing Documents authorize the Association to charge to a particular Owner or levy against any particular Lot.

(g) to provide sewer services from community sewer facilities, based on usage as the board may determine by a schedule of fees. These charges may be subcategorized into charges for capital expenditures, maintenance, consumption or other categories, and separately assessed under different formulas against Owners.

(h) other use, consumption, or activity fees to any Person using Association services or facilities. The Board may determine the amount and method of determining such fees. Different fees may be charged to different classes of users (e.g., Owners and non-Owners).

#### 6.6. Declarant Financial Obligations to Association.

The Declarant shall be liable for assessments on any Lots it owns that are subject to assessment under this section, except that during the Development and Sale Period, the Declarant may satisfy its obligation to pay Base Assessments, and Special Assessments for Common Expenses on Lots it owns either (i) by paying such assessments (exclusive of any portion levied to fund contributions to reserve funds) in the same manner as any other Owner, or (ii) by paying any shortfall in actual expenses (excluding contributions to reserve funds) under the Common Expense budget resulting from events other than failure of other Owners to pay their assessments, the amount of any such shortfall determined after allocating to reserves that portion of the assessments actually collected from other Owners for purposes of funding reserve accounts.

Regardless of the Declarant's election under this section, any of the Declarant's financial obligations to the Association may be satisfied in the form of cash or by "in kind" contributions of services or materials, or by a combination of these.

#### 6.7. Lien for Assessments.

Existence of Lien. The Association shall have a lien against each Lot to secure payment of assessments, as well as interest, late charges (subject to the limitations of Maine law), and costs of collection (including attorney's fees and expenses). Such lien shall be superior to all other liens, except (i) liens and encumbrances recorded prior to this Declaration and which the Association has assumed or taken subject to; (ii) the liens of all real estate taxes and other governmental assessments or charges, and (iii) the lien or charge of any first mortgage made in good faith and for value having

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first priority over any other Mortgages on the Lot and recorded prior to the assessment becoming delinquent.

The Association may, as further evidence and notice of the lien, execute and record a document setting forth as to any Lot the amount of the delinquent sums due the Association at the time such document is executed and the fact that a lien exists to secure the repayment thereof. However, the failure of the Association to execute and record any such document shall not affect the validity, enforceability, or priority of the lien.

Enforcement of Lien. The Association may foreclose its lien in the same manner as a mortgage, bid for the Lot at the foreclosure sale and acquire, hold, lease, mortgage, and convey it, subject to the Owner's right of redemption, if any, under Maine law. While a Lot is owned by the Association following foreclosure: (i) no right to vote shall be exercised on its behalf; (ii) no assessment shall be levied on it; and (iii) each other Lot shall be charged, in addition to its usual assessment, its pro rata share of the assessment that would have been charged such Lot had it not been acquired by the Association. The Association may sue for unpaid assessments and other charges authorized hereunder without foreclosing or waiving the lien securing the same, in addition to pursuing any and all remedies allowed by law to enforce the lien.

Effect of Sale or Transfer. Sale or transfer of any Lot shall not affect the assessment lien or relieve such Lot from the lien for any subsequent assessments. However, the sale or transfer pursuant to foreclosure of a first Mortgage having priority over the Association's lien pursuant to Section 6.7(a) shall extinguish the lien as to any installments of such assessments due prior to the Mortgagee's foreclosure. The subsequent Owner shall not be personally liable for assessments due prior to such acquisition of title. Such unpaid assessments shall be deemed to be Common Expenses collectible from Owners of all Lots subject to assessment under Section 6.5, including such acquirer, its successors and assigns.

#### 6.8. Exempt Property.

The following property shall be exempt from payment of Base Assessments and Special Assessments:

(a) All Common Area and such portions of the property owned by the Declarant or a Declarant Affiliate; and

(b) Any property dedicated to and accepted by any governmental authority or public utility.

Article 7. Easements; Restrictions.

7.1. Easements in Common Area.

The Declarant grants to each Owner a nonexclusive right and easement of use, access, and enjoyment in and to the Common Area, subject to:

(a) the Governing Documents and any other applicable covenants;

(b) any restrictions or limitations contained in any deed conveying such property to the Association;

(c) the Board's right to:

(i) adopt rules regulating Common Area use and enjoyment;

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(ii)dedicate or transfer all or any part of the Common Area, subject to such approval requirements as may be set forth in this Declaration.

Any Owner may extend his or her right of use and enjoyment to the members of his or her family, and social invitees, as applicable, subject to reasonable Board regulation. An Owner who leases his or her Lot shall be deemed to have assigned all such rights to the lessee of such Lot for the period of the lease.

#### 7.2. Easements of Encroachment.

The Declarant grants reciprocal appurtenant easements of encroachment, and for maintenance and use of any permitted encroachment, between each Lot and any adjacent Common Area and between adjacent Lots. A permitted encroachment is a structure or fixture that extends unintentionally from one person's property onto another's a distance of not more than one foot, as measured from any point on the common boundary along a line perpendicular to such boundary. An encroachment easement shall not exist if the encroachment results from willful and knowing conduct on the part of, or with the knowledge and consent of, the Person claiming the benefit of such easement.

#### 7.3. Easements for Utilities, Etc.

(a) Installation and Maintenance. The Declarant reserves for itself, its successors, assigns, and designees, perpetual exclusive easements throughout Brookview Estates Subdivision (but not through a structure) for the purpose of:

(i) installing utilities and infrastructure, security and similar systems, and drainage systems to Brookview Estates Subdivision (as shown on the Plan or otherwise);

(ii) installing walkways, pathways and trails, streetlights, and signage on property the Declarant or the Association owns or within public rights-of-way or easements reserved for such purpose on a recorded plan;

(iii) inspecting, maintaining, repairing, and replace the utilities, infrastructure, and other improvements described above; and

(iv) access to read, maintain, and repair utility meters.

Notwithstanding the above, the Declarant reserves the right to deny access to any utility or service provider, to the extent permitted by law, and to condition such access on negotiated terms.

(b) Specific Easements. The Declarant also reserves the non-exclusive right and power to grant and record such specific easements, consistent with Section 7.3(a), as it deems necessary or appropriate to develop the property described in Exhibit "A". The location of the specific easement shall be subject to the written approval of the Owner of the burdened property, which approval shall not unreasonably be withheld, delayed, or conditioned.

(c) Minimal Interference. All work associated with the exercise of the easements described in subsections (a) and (b) of this Section shall be performed so as to minimize interference with the use and enjoyment of the property burdened by the easement. Upon completion of the work, the Person exercising the easement shall restore the property, to the extent reasonably possible, to the condition existing prior to the commencement of the work. The exercise of these easements shall not extend to permitting entry into the structures, nor shall it unreasonably interfere with its use,

and, except in an emergency, entry onto any Lot shall be made only after reasonable notice to the Owner or occupant.

#### 7.4. Easements to Serve Additional Property.

The Declarant reserves for itself and its duly authorized agents, successors, assigns, and Mortgagees, an easement over the road easements shown on Plans of the Property for the purposes of enjoyment, use, access, and development of adjacent or nearby property. This easement includes, but is not limited to, a right of ingress and egress, for construction of roads and for connecting and installing utilities on such property. The Person exercising such easement rights shall be responsible for any damage caused to the Common Area as a result of their actions in connection with development of such property.

If the above easement grants permanent access to any property which is not submitted to this Declaration, the Declarant, or its successors or assigns, shall enter into a reasonable agreement with the Association to share the cost of maintenance that the Association provides for the benefit of the easement holder. The shared maintenance costs may include maintenance to or along any roadway providing access to the benefited property.

#### 7.5. Easements for Maintenance, Emergency, and Enforcement.

The Association shall have the right, but not the obligation, to enter upon any Lot for emergency, security, and safety reasons, to perform maintenance, to inspect for compliance with the Governing Documents, and to enforce the Governing Documents. Any member of the Board and its duly authorized agents and assignees and all emergency personnel in the performance of their duties may exercise such right. Except in an emergency situation, entry shall only be during reasonable hours and after notice to the Owner.

#### 7.6. Easements for Maintenance and Flood Water.

The Declarant reserves for itself, the Association, and their successors, assigns, and designees, a perpetual, nonexclusive right and easement of access over the Common Area and Lots (but not the dwellings thereon) to the Common Areas in order to perform maintenance and repair; remove dead or diseased trees, shrubs, and plants; and control any condition or remove any thing that constitutes a potential health or safety hazard. All persons entitled to exercise this easement shall use reasonable care in and repair any damage resulting from the intentional exercise of such easement. Nothing herein shall be construed to make the Declarant, the Association, or any other Person liable for damage resulting from flooding due to weather events or other natural occurrences.

#### 7.7. Temporary Right and Easement for Service to Lots.

The Declarant reserves for itself, its agents, successors, and assigns, and any Builder whom the Declarant may designate, a temporary easement for access over and upon the front, side and rear yards of each Lot as the Declarant or Builder may determine necessary or convenient in the course of construction, landscaping, repair, and service to adjacent Lots.

The temporary right and easement under this Section shall terminate, as to each Lot, 60 days after expiration of the last to expire warranty period for the adjacent Lots, as established by the Page | 13

Builder's limited warranty provided to the original purchaser.

7.8. Permanent Dedication of Open Space.

The Open Space portion of the Property is hereby permanently dedicated as Open Space, as that term is defined in the Lyman Land Use Ordinance. It shall be preserved in its natural condition except where approved to be altered, as shown on the Plans and pursuant to the Maine DEP. Any change in the use of the Open Space requires approval of the Lyman Planning Board.

#### 7.10. Town Access over Roads and the Open Space.

The Town of Lyman and its various departments shall have a permanent right of access over the private roads to respond to emergencies and to perform other necessary functions of government.

Article 8. Termination and Amendment of this Declaration.

#### 8.1. Term and Termination.

This Declaration shall be effective for a minimum of 30 years from the date it is recorded. After 30 years, this Declaration shall be renewed and extended automatically for successive 20 year periods unless at least 67% of the then Owners sign a document stating that the Declaration is terminated, the document is recorded and the Lyman Planning Board approved the termination within the year before any extension. In such case, this Declaration shall terminate on the date specified in the termination document.

If any provision of this Declaration would be unlawful, void, or voidable by reason of any rule restricting the period of time that covenants can affect title to property, that provision shall expire one hundred (100) years from the date of this Declaration.

This section shall not permit termination of any easement created in this Declaration without the consent of the holder of such easement.

#### 8.2. Amendment.

By the Declarant. In addition to the specific amendment rights granted elsewhere in this Declaration, during the Declarant Control Period, the Declarant may unilaterally amend this Declaration for any purpose.

By the Board. The Board may, by at least a two-thirds vote of the directors, amend this Declaration to correct any error or omission required to conform this Declaration to the applicable provisions of Maine law, provided that the amendment does not materially or adversely affect the property rights of any Owner without the written consent of the affected Owner.

By the Owners. Except as otherwise specifically provided above or elsewhere in this Declaration, this Declaration may be amended only by the affirmative vote or written consent of Members entitled to cast not less than 67% of the total votes in the Association. During the Development and Sale Period, the Declarant's written consent shall also be required.

Any amendment pursuant to this Section shall be prepared, executed, certified and recorded on Page | 14
behalf of the Association by any officer designated for such purpose or, in the absence of such designation, by the Association's President.

Validity and Effective Date. Notwithstanding the above, the percentage of votes necessary to amend a specific clause shall not be less than the prescribed percentage of affirmative votes required for action to be taken under that clause.

No amendment may remove, revoke, or modify any right or privilege of the Declarant or the Declarant Member without the written consent of the Declarant or the Declarant Member, respectively (or the assignee of such right or privilege).

If an Owner consents to any amendment to this Declaration or the Bylaws, it will be conclusively presumed that such Owner has the authority to consent, and no contrary provision in any Mortgage or contract between the Owner and a third party will affect the validity of such amendment.

Any amendment shall become effective upon recording unless a later effective date is specified in the amendment.

No action to challenge the validity of an amendment may be brought more than two years after its recordation. In no event shall a change of conditions or circumstances operate to amend any provisions of this Declaration.

Exhibits. Exhibit "A" and Exhibit "B" are incorporated by this reference and this Article shall govern amendments of Exhibit A and Exhibit B (to the extent the Exhibit B can be amended without approval from governmental authorities).

In witness of the foregoing, the Declarant has executed this Declaration this\_\_\_\_\_ day of \_\_\_\_\_, 2023

Nason Property Services, LLC

By\_\_\_\_\_ Name: Joshua Nason, Its Manager

STATE OF MAINE,

\_\_\_\_\_, 2023

County of York, ss.

Then personally appeared the above-named Joshua Nason, Manager, of Nason Property Services, LLC, and acknowledged the foregoing instrument to be his free act and deed in his said capacity, before me,

Notary Public, Attorney at Law

(For Notaries), My commission expires \_\_\_\_\_.

PRINT NAME

### Exhibit A

Land Submitted to this Declaration

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### EXHIBIT B

Inspection, Maintenance and Housekeeping Plan (for Stormwater)

# Exhibit 3 Abutters

Lyman 001/ 008, 002/013, Municipal Copy INHABITANTS OF LYMAN 11 SOUTH WATERBORO RD LYMAN, ME 04002

Lyman 001/010-1 ROLLINS, ROGER J JR. & KIMBERLY J 49 BROCK RD LYMAN, ME 04002

Lyman 001/013, Waterboro 002/009 NEALE, LAURA H 1391 SOUTH WATERBORO RD LYMAN, ME 04002

Lyman 001/0107 YORK COUNTY SOIL CONSERVATION 21 BRADEEN ST. SUITE 104 SPRINGVALE, ME 04083

Lyman 005 001-A ABBOTT, DAVID J & JUDITH A 29 HAMILTON RD LYMAN, ME 04002

Lyman 005/002-3 KIMBALL, DAVID & ANN MARIE 1357 SOUTH WATERBORO RD LYMAN, ME 04002

Waterboro 002/004, 002/004-002, 002/004 002/005, 002/006, 002/006D FOGLIO, DOUGLAS C SR. PO BOX 308 WATERBORO, ME 04087

Waterboro 002/004-005 LAPENAS, SARA E & JOHN P (JT) 1410 GOODWINS MILL RD WATERBORO, ME 04087

> Waterboro 002/009-001B PERKINS, LYNN A 6 LEDGEVIEW LN WATERBORO, ME 04087

Waterboro 002/008-001 SAUCIER, DONALD F & DEBBIE 1450 GOODWINS MILL RD WATERBORO, ME 04087

#### Lyman 001/009 JAMIESON, HAROLD A SR. 487 FEDERAL ST WATERBORO, ME 04087

Lyman 001/012 MATHESON, KENNETH 1390 SOUTH WATERBORO RD LYMAN, ME 04002

Lyman 001/015 ROLLINS, ROGER J JR. 1308 SOUTH WATERBORO RD LYMAN, ME 04002

Lyman 002/014 HOUSEHOLD REALTY TRUST PO BOX 186 SEABROOK, NH 03874

Lyman 005/002-1 O'BLENIS, WENDY L 1367 SOUTH WATERBORO RD WATERBORO, ME 04087

Lyman 005/002-4 HYDE, LEWIS H & CROWLEY, MARGARET E 1349 SOUTH WATERBORO RD LYMAN, ME 04002

Waterboro 002/006-009 FOGLIO, DOUGLAS JR. & SUZANNE J. PO BOX 100 WATERBORO, ME 04087

> Waterboro 002/008-003 MUNRO, STEPHANIE PO BOX 696 WATERBORO, ME 04087

Lyman 005/001-A ABBOTT, DAVID J. & JUDITH A. 29 HAMILTON RD LYMAN, ME 04002

> Waterboro 002/008-002 TAPLEY, MICHELLE L PO BOX 2026 FLINT, MI 48501

Lyman 001/010 JONES, MELINDA SUE 1308 SOUTH WATERBORO RD LYMAN, ME 04002

Lyman 001 012-1A DYER, BRENDA M 9 MARIAL AVE BIDDEFORD, ME 04005

Lyman 001/016 CHENEY, ALBERT R & JULIA F 80 BROCK RD LYMAN, ME 04002

Lyman 002/014-3 CLOCK, KEVIN L & AMY B 84 BROCK RD LYMAN, ME 04002

Lyman 005/002-2 PENDLETON, TYLER 1363 SOUTH WATERBORO RD LYMAN, ME 04002

> Lyman 005/002-B PEOPLES, JESSICA J 32 ABC LANE LYMAN, ME 04002

Waterboro 002/006I FOGLIO, DWAYNE & HEATHER L. PO BOX 488 WATERBORO, ME 04087

Waterboro 002/009-001 RICHARD, GLEN R & SHELLY A 1413 GOODWINS MILL RD WATERBORO, ME 04087

LOCUS: Lyman 001/12-1 NASON PROPERTY MANAGEMENT, LLC 5 ANVIL ROAD KENNEBUNK, ME 04043

> 500'r Abutter List TOWN SUBMITTAL



Tax Parcel Map, 21092\_.aprx

Project Number: 21092\_

# Exhibit 4

# Stormwater



CIVIL ENGINEERING . SURVEYING . LANDSCAPE ARCHITECTURE

# **STORMWATER MANAGEMENT REPORT**

# For

# BROOKVIEW ESTATES LYMAN, MAINE

Prepared for:

Nason Property Management P.O. Box 384 Kennebunk, ME 04043

Prepared by:

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

# May, 2023

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# **Appendices**

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

# STORMWATER MANAGEMENT REPORT BROOKVIEW ESTATES LYMAN, MAINE

#### 1. Introduction

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

#### 2. Existing Conditions

The project site is an approximately 75-acre parcel of undeveloped land on Brock Road in Lyman, Maine. The parcel consists of undeveloped woodland and is located on the western side of Brock Road. The proposed site is identified on the Town of Lyman Tax Map 1 as lot 12-1. The site generally slopes towards a wetland and stream located in the middle of the parcel. Typical slopes on the site range from approximately 4-25%.

The proposed site is tributary to an unnamed stream that flows into Hamlinton Brook, which flows to Shaker Brook and then Shaker Pond. Shaker Pond is listed under Maine Department of Environmental Protection (DEP) Chapter 502, Appendix A, Lakes Most at Risk from New Development, not severely blooming.

### 3. <u>Soils</u>

Soil information for the site was obtained via the United States Department of Agriculture and Natural Resource Conservation Services (NRCS) Web Soil Survey and test pits performed by Gary Fullerton, LSS, LSE of Sebago Technics, Inc. Test pits were performed across the 10 lots of the proposed Brookview Estates subdivision for the evaluation of soil suitability for subsurface wastewater disposal systems. Based on the test pit data acquired and field observations, it was determined that the soil types shown on the NRCS Class D soil report do not accurately reflect the on-site soils in this area. For this reason, the hydrologic soil groups (HSG) shown on the stormwater plan in the Brookview Estates area reflect the soil types determined by the test pits and field observations. Test pits were not performed at the rear of the parcel where the short private way is proposed off of South Waterboro Road. The HSG of the soils at the short private way is based off of the NRCS Web Soil Survey. The soil types used for the two separate project areas are presented in the following tables:

Symbol	Soil Series	Drainage Class	Slope (%)	HSG
BeC	Becket	Well Drained	8-15	С
SkA	Skerry	Moderately Well Drained	0-3	С
WeB	Westbury	Somewhat Poorly Drained	3-8	D

## Table 3.1: Brookview Estates Subdivision Area

#### Table 3.2: Private Way Area at S. Waterboro Road

Symbol	Soil Series	Drainage Class	Slope (%)	HSG
BcB	Becket	Well Drained	3-8	С
SrB	Skerry	Moderately Well Drained	0-8	C/D

A copy of the Class D (Medium Intensity) NRCS Soil Map and the test pit logs from the site evaluation are included in Appendix 4.

### 4. <u>Proposed Site Improvements</u>

The proposed site improvements consist of a 10-lot residential cluster subdivision, approximately 40-acres of open space, and approximately 23-acres of land to be retained by the owner. Access for the proposed subdivision will be provided by a dead-end road off of Brock Road that will run through the center of the subdivision. The road will extend approximately 1,100 linear feet from the entrance point on Brock Road. The land to be retained by the owner has approximately 100' of street frontage along South Waterboro Road, but will require a short gravel private way to provide additional frontage to meet the Town of Lyman lot standards. This 23-acre piece of retained land will become its own parcel and remain separate from the cluster subdivision.

Stormwater runoff from the subdivision will be treated by a small wet pond located at the north boundary of the proposed cluster subdivision lots, and adjacent to the open space. The private way will receive treatment from a ditch turnout level spreader and wooded buffer. The level spreader berm has been designed with a length of 50' to account for the two lanes of roadway that drain to it (20' min. width required for one lane). Since the road is only 20' wide, and there is limited space for buffers on the site, we believe it is adequate to use the sizing standards for 300' of road length for determining the length of the wooded buffer. This results in a buffer length of 90', since it is located on HSG C (sandy loam) soil and at an approximate slope of 9%. This buffer meets the sizing standards of Table 5.7 in Chapter 5 of the Maine Stormwater Management Design Manual.

The proposed site improvements are for the construction of the subdivision road, small private way, and the associated stormwater control methods only. Development of the individual house lots is not proposed as part of this project. The proposed site improvements

will result in a total developed area of approximately 106,834 square feet, and create approximately 29,668 square feet of new impervious area.

# 5. Existing Conditions Model

The Existing Conditions Stormwater Management Plan consists of seven (7) subcatchments labeled 1.0S through 1.5S, and 2.0S in the HydroCAD model. Two (2) locations were identified as Points of Analysis (POA) for comparing peak runoff rates. A large portion of the site in between the two POAs was not modeled, as it consists of wooded area that will not be disturbed as part of this project, including the open space of the proposed cluster subdivision.

POA-1 represents the existing stream that runs through the site. The stream runs through the open space of the subdivision, just north of the proposed cluster lots. Subcatchments 1.0S, 1.1S, and 1.2S consist of large wooded upland areas that drain to the stream at three different points. Subcatchments 1.3S, 1.4S, and 1.5S consist primarily of wetland areas located immediately adjacent to the stream, and drain to roughly the same three points as 1.0S ,1.1S, and 1.2S respectively.

POA-2 is located at the southern property line of land to be retained, immediately adjacent to the proposed private way and wooded buffer. Runoff at POA-2 continues south through wetlands and eventually into the stream where POA-1 is located. Subcatchment 2.0S contributes runoff to POA-2 and consists primarily of wooded area.

# 6. Proposed Conditions Model

The Proposed Conditions Stormwater Management Plan consists of the same overall area as the Existing Conditions plan, however, the proposed condition subcatchments have been broken into smaller watersheds as a result of the proposed development. Subcatchment areas have been modeled to account for the future development of the 10 lots of the cluster subdivision by utilizing the approximate curve number for 1-acre lots provided within HydroCAD, which assumes 20% impervious coverage. The proposed wet pond has been designed to account for this additional quantity in runoff, however stormwater quality treatment is provided for the roadway and its associated developed area only. The private way off of South Waterboro Road will receive treatment through a level spreader and wooded buffer. The provided treatment has been designed to meet the Chapter 500 standards for the linear portion of a project.

The proposed conditions model consists of ten (10) subcatchments labeled 10.0S through 10.9S that are tributary to POA-1. Subcatchments 10.0S, 10.1S, and 10.2S contain the areas associated with the roadway development that will be receiving stormwater quality treatment from the proposed wet pond (WP-1). Subcatchment 10.9S contains the upper house lots located on the southern side of the subdivision road. Runoff from this subcatchment is also conveyed to the wet pond for control of stormwater quantity.

Subcatchments 10.6S and 10.7S represent the lower house lots located on the northern side of the subdivision road, which are not collected by the wet pond. The remaining subcatchments (10.3S, 10.4S, 10.5S, & 10.8S) consist primarily of area to remain undeveloped and are located around the perimeter of the subdivision.

Two subcatchments contribute runoff to POA-2, and are labeled 20.0S and 20.1S in HydroCAD model. Subcatchment 20.0S consists of the developed area that will drain to the level spreader and be treated by the wooded buffer. Subcatchment 20.1S consists primarily of undisturbed wooded area that is lot conveyed to the level spreader.

The proposed Best Management Practices (BMP) have been designed and sized in accordance with Maine DEP BMP standards contained within Chapter 500 and the BMP Manual. Sizing calculations for the wet pond can be found in Appendix 1.

### 7. <u>Stormwater Management</u>

### Basic Standard - Chapter 500, Section 4(B)

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

### General Standard - Chapter 500, Section 4(C)

Since the project will create more than 20,000 square feet of impervious area in the watershed of a lake most at-risk, MDEP General Standards apply, which require a project's stormwater management system to include treatment measures that will mitigate for the increased frequency and duration of channel erosive flows due to runoff from smaller storms, provide for effective treatment of pollutants in stormwater, and mitigate potential temperature impacts. To mitigate the changes in hydrologic patterns due to the development of this project, a wet pond has been implemented into the stormwater management infrastructure. Wet ponds provide a large amount of storage while also allowing the slow release of runoff and avoid thermal impacts. Additionally, wet ponds have high rates of removal of sediment and associated pollutants, and can provide some treatment of dissolved nutrients through biological processes in the pond.

The project is for the construction of a road only; therefore, it falls under the linear portion exception of the General Standard (Chapter 500, Section 4(C)5(c)). This exception reduces the treatment requirements to no less than 75% of the linear portion's impervious area and 50% of the linear portion's developed area (landscaped area and impervious area combined).

Through the use of the aforementioned BMP's, 83% of new impervious area and 78% of new developed area will be receiving treatment. This meets the requirements for the Maine DEP General Standards, Linear Portion of a Project Exemption. Treatment and BMP calculations are attached to this report as Appendix 1.

## Phosphorus Standard - Chapter 500, Section 4(D)

Since the proposed roadway will create less than 3 acres of impervious area and less than 5 acres of developed area in a lake watershed that is not severely blooming, the project is only required to meet the General Standards, and the Phosphorus Standards do not apply.

# Flooding Standard – Chapter 500, Section 4(F)

Since the project results in less than three acres of impervious area and less than 20 acres of developed area, DEP flooding standards do not apply. The flooding standard requires that the peak runoff rates in the proposed conditions do not exceed the existing peak runoff rates in the 2, 10, and 25-year frequencies.

# Lyman Zoning Ordinance – 10.7 Stormwater Management

Per the requirements of the Town of Lyman Zoning Ordinance, the stormwater system must be designed to accommodate stormwater runoff from a 25-year, 24-hour storm event. Additionally, the project is required to demonstrate that the proposed subdivision will not create an overload on existing downstream drainage systems. To meet these standards, the proposed stormwater system has been sized to convey runoff in a 25-year storm event without overtopping culverts and drainage structures, and without increasing peak runoff rates leaving the site. To demonstrate the fully developed condition, an assumed runoff curve number representing a typical 1-acre house lot was used in the HydroCAD model for sizing the system and predicting runoff rates. Please see the HydroCAD report sheets for more information on runoff rates for both the existing and proposed conditions.

# HydroCAD Analysis of Peak Rates of Runoff

Runoff curve numbers were determined for each subcatchment by measuring the area of each hydrologic soil group within each type of land cover. The type of land cover was determined based on survey data, field reconnaissance, and aerial photography. Times of concentration were determined from site topographic maps in accordance with SCS procedures.

The 24-hour rainfall values utilized in the hydrologic model were obtained from Appendix H of MDEP's Chapter 500: Stormwater Management (effective date August 2015). Rainfall values for York County are listed in the table below.

Storm Frequency Precipitation (in./24 hr) York County						
2-year	3.3					
10-year	4.9					
25-year	6.2					

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

Peak Runoff Rate Summary Table									
Analysis Point	Storm Event	Existing Conditions (cfs)	Proposed Conditions (cfs)						
	2-year	15.3	15.0						
POA-1	10-year	35.1	34.6						
	25-year	52.9	51.2						
	2-year	2.1	1.8						
POA-2	10-year	4.8	4.2						
	25-year	7.4	7.3						

The HydroCAD Data output sheets from this analysis are appended to this report (Appendix 2) along with the Stormwater Management Plans (Appendix 5). The model predicts that the peak runoff rates in the proposed conditions at the Points of Analysis will be at or below existing peak runoff rates for the 2, 10, and 25-year storm events with implementation of the proposed stormwater management practices.

# 8. <u>Summary</u>

The proposed development has been designed to manage stormwater runoff through Best Management Practices approved by MDEP. Stormwater BMPs provide treatment to 85% (75% required) of impervious areas, and 75% (50% required) of the total developed area associated with development of the subdivision road and private way only. Control of stormwater quantity has been designed for the subdivision road, private way, and all future development of the cluster subdivision lots by utilizing an assumed runoff curve number for a typical 1-acre house lot. Peak stormwater discharge rates from the fully developed subdivision and for the small private way are predicted to be at or below existing conditions for the 2, 10, and 25-year storm events at the points of analysis. Additionally, erosion and sedimentation controls along with associated maintenance and housekeeping procedures have been outlined to prevent unreasonable impacts on the site and to the surrounding environment.

Prepared by:

SEBAGO TECHNICS, INC.

Fals

Jeffrey Pollard, El Civil Engineer



# **Appendix 1**

**Stormwater Quality Calculations** 

#### Table 1: MDEP GENERAL STANDARD CALCULATIONS (LINEAR PORTION OF A PROJECT)

#### Job #21092

AREA ID	WATERSHED SIZE (S.F.)	EXISTING ONSITE IMPERVIOUS AREA TO REMAIN (S.F.)	NEW ONSITE IMPERVIOUS AREA (S.F.)	EXISTING ONSITE LANDSCAPED AREA TO REMAIN (S.F.)	NEW ONSITE LANDSCAPED AREA (S.F.)	NET NEW DEVELOPED AREA (S.F.)	NET EXISTING DEVELOPED AREAS (S.F.)	TREATMENT PROVIDED?	IMPERVIOUS AREA TREATED (S.F.)	LANDSCAPED AREA TREATED (S.F.)	DEVELOPED AREA TREATED (S.F.)	TREATMENT BMP
10.0S	20,882	0	8,597	0	12,285	20,882	0	YES	8,597	12,285	20,882	WP-1
10.1S	24,933	0	10,349	0	14,584	24,933	0	YES	10,349	14,584	24,933	WP-1
10.2S	55,214	0	0	0	20,185	20,185	0	YES	0	20,185	20,185	WP-1
10.3S	88,553	0	2,107	0	3,799	5,906	0	NO	0	0	0	
10.4S	88,945	0	0	0	5,752	5,752	0	NO	0	0	0	
10.5S	94,882	0	0	0	991	991	0	NO	0	0	0	
10.6S	67,506	0	0	0	0	0	0	NO	0	0	0	
10.7S	91,615	0	1,666	0	4,270	5,936	0	NO	0	0	0	
10.8S	56,577	0	0	0	0	0	0	NO	0	0	0	
10.9S	249,351	0	0	0	0	0	0	NO	0	0	0	
20.0S	14,450	0	6,386	0	8,064	14,450	0	YES	6,386	8,064	14,450	FB-1
20.15	98,160	0	563	0	7,236	7,799	0	NO	0	0	0	
TOTAL (S.F.)	951,068	0	29,668	0	77,166	106,834	0		25,332	55,118	80,450	

TOTAL NEW IMPERVIOUS AREA (S.F.)	29,668	TOTAL DEVELOPED AREA (S.F.)	106,834
TOTAL IMPERVIOUS AREA RECEIVING TREATMENT (S.F.)	25,332	TOTAL AREA RECEIVING TREATMENT (S.F.)	80,450
% OF IMPERVIOUS AREA RECEIVING TREATMENT	85.38%	% OF AREA RECEIVING TREATMENT	75.30%

75 John Roberts Road Suite 4A       SHEET NO.       1       or       2         South Portland, Maine 04106       CALCANTERY       JBP       overt       1/33         Image: Imag		
South Portland, Maine 04106         December 100         JBP         Date 100         JBP         JBP         Date 100         JBP         Date 100         JBP         JBP         Date 100         JBP	2	
Tel. (207) 200-2100       PELNAM       21092 WQC       PMICM       3/3,         Image: Market Mark	0/2023	
Task:       Calculate wetpond volumes based on MDEP Chapter 500 regulation       Image: Calculate wetpond volumes based on MDEP Chapter 500 regulation         References       1. Maine DEP Chapter 500, Section 4.C.(3)(b)       Image: Calculate wetpond's permanent pool, a runoff volume equal to 1.0 inch times         a.       "must detain, above a wetpond's permanent pool, a runoff volume equal to 1.0 inch times         b.       "must detain, above a wetpond's permanent pool a runoff volume equal to 2.0 inches         image: the subcatchment's impervious area plus 0.4 inch times the subcatchment's landscaped area"         b.       "must have a storage volume below the permanent pool elevation at least equal to 2.0 inches         image: the subcatchment's impervious area plus 0.68 inches times the subcatchment's non-impervious         developed area.       Image: the subcatchment's impervious area plus 0.68 inches times the subcatchment's non-impervious         image: the subcatchment's impervious area plus 0.68 inches times the subcatchment's non-impervious       Impervious developed area.         image: the subcatchment's impervious area plus 0.68 inches times the subcatchment's non-impervious       Image: the subcatchment's impervious area plus 0.68 inches times the subcatchment's non-impervious         image: the subcatchment's impervious area plus 0.68 inches times the subcatchment's non-impervious       Image: the subcatchment's impervious area plus 0.68 inches times the subcatchment's non-impervious         image: the subcatchment's impervious       Image: the subcatchment's impervious <td>/2023</td>	/2023	
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References       1. Maine DEP Chapter 500, Section 4.C.(3)(b)       Image: Constraint of the subcatchment's impervious area plus 0.4 inch times the subcatchment's landscaped area"         Image: Constraint of the subcatchment's impervious area plus 0.4 inch times the subcatchment's landscaped area"       Image: Constraint of the subcatchment's landscaped area"         Image: Constraint of the subcatchment's impervious area plus 0.4 inch times the subcatchment's landscaped area"       Image: Constraint of the subcatchment's landscaped area"         Image: Constraint of the subcatchment's impervious area plus 0.68 inches times the subcatchment's non-impervious area plus 0.68 inches times the subcatchment's non-impervious developed area.       Image: Constraint of the subcatchment's non-impervious area plus 0.68 inches times the subcatchment's non-impervious area plus 0.68 inches times the subcatchment's non-impervious developed area.         Image: Constraint of the subcatchment's impervious area plus 0.68 inches times the subcatchment's non-impervious area plus 0.68 inches times the subcatchment's non-impe		
References       1. Maine DEP Chapter 500, Section 4.C.(3)(b)       Image: Constraint of the subcatchment of the subc		
Intervences       Initial part endpoind one part one, section Area (S)(P)         a.       "must detain, above a wetpond's permanent pool, a runoff volume equal to 1.0 inch times         b.       "must detain, above a wetpond's permanent pool elevation at least equal to 2.0 inches         b.       "must have a storage volume below the permanent pool elevation at least equal to 2.0 inches         c.       A mean depth of at least three feet and a length to width ratio of 3:1 or greater.         c.       A mean depth of at least three feet and a length to width ratio of 3:1 or greater.         c.       A mean depth of at least three feet and a length to width ratio of 3:1 or greater.         c.       A mean depth of at least three feet and a length to width ratio of 3:1 or greater.         c.       A mean depth of at least three feet and a length to width ratio of 3:1 or greater.         c.       A mean depth of at least three feet and a length to width ratio of 3:1 or greater.         c.       A mean depth of at least three feet and a length to width ratio of 3:1 or greater.         c.       A mean depth of at least three feet and a length to width ratio of 3:1 or greater.         c.       A mean depth of at least three feet and a length to width ratio of 3:1 or greater.         c.       A mean depth of at least three feet and a length to width ratio of 3:1 or greater.         c.       Interview of the depth of at least three feet and a length to width ratio of 3:1 or greater.		
a.       "must detain, above a wetpond's permanent pool, a runoff volume equal to 1.0 inch times         b.       "must have a storage volume below the permanent pool elevation at least equal to 2.0 inches         c.       A mean depth of at least three feet and a length to width ratio of 3:1 or greater.         c.       A mean depth of at least three feet and a length to width ratio of 3:1 or greater.         Tributary to Wetpond       WP-1         Landscaped Area       47,054.00         Impervious Area       18,946.00         SF       Impervious Area         Impervious Area       18,946.00         SF       Impervious Area         Impervious Area       18,946.00         Required       (0.8" X Landscaped + 2.0" X Impervious)		
a.       Intestructant, above a wetpoint spermanent pool, a runner volume equal to 1.0 inclutions         ithe subcatchment's impervious area plus 0.4 inch times the subcatchment's landscaped area"         b.       "must have a storage volume below the permanent pool elevation at least equal to 2.0 inches         itimes the subcatchment's impervious area plus 0.68 inches times the subcatchment's non-impervious         developed area.         c.       A mean depth of at least three feet and a length to width ratio of 3:1 or greater.         Tributary to Wetpond       WP-1         Landscaped Area       47,054.00         Impervious Area       18,946.00         SF       Impervious         Impervious Area       18,946.00         SF       Impervious         Impervious Area       18,946.00         Required       (0.8" X Landscaped + 2.0" X Impervious)		
b.       "must have a storage volume below the permanent pool elevation at least equal to 2.0 inches         imust have a storage volume below the permanent pool elevation at least equal to 2.0 inches         imust have a storage volume below the permanent pool elevation at least equal to 2.0 inches         imust have a storage volume below the permanent pool elevation at least equal to 2.0 inches         imust have a storage volume below the permanent pool elevation at least equal to 2.0 inches         imust have a storage volume below the permanent pool elevation at least equal to 2.0 inches         imust have a storage volume below the permanent pool elevation at least equal to 2.0 inches         imust have a storage volume below the permanent pool elevation at least equal to 2.0 inches         imust have a storage volume below the permanent pool elevation at least equal to 2.0 inches         imust have a storage volume below the permanent pool elevation at least equal to 2.0 inches         imust have a storage volume below the permanent pool elevation at least equal to 2.0 inches         imust have a storage volume below the permanent pool volume (PPV)       imust have a length to width ratio of 3:1 or greater.         impervious Area       18,946.00       SF       imust have a length to an interview of a length to an interv		
b.       Indict nave a storage volume below the permanent pool elevation at least equal to 2.0 inches         image: the subcatchment's impervious area plus 0.68 inches times the subcatchment's non-impervious         developed area.         c.       A mean depth of at least three feet and a length to width ratio of 3:1 or greater.         Tributary to Wetpond       WP-1         Landscaped Area       47,054.00         Impervious Area       18,946.00         SF       Impervious         Impervious Area       18,946.00         SF       Impervious         Impervious Area       18,946.00         Required       (0.8" X Landscaped + 2.0" X Impervious)		
image: times the subcatchment's impervious area plus 0.68 inches times the subcatchment's non-impervious developed area.       developed area.       image: times the subcatchment's non-impervious of the subcatchment's non		
Image: constraint of the constraint		
c.       A mean depth of at least three feet and a length to width ratio of 3:1 or greater.         Image: Constraint of the set of		
Image:		
Tributary to Wetpond       WP-1       WP-1       Image: Constraint of the second sec		
Landscaped Area       47,054.00       SF       Impervious Area       47,054.00       SF       Impervious Area       Impervious Area       18,946.00       SF       Impervious Area		
Landscaped Area47,054.00SFImportantSFImportantImportantSFImportant<		
Impervious Area       18,946.00       SF       Impervious Area       Impervious Area <td></td>		
Impervious Area         18,946.00         SF         Impervious         Impervious<		
Permanent Pool Volume (PPV)     Image: Constraint of the second sec		
Permanent Pool Volume (PPV)         Image: Constraint of the second		
Permanent Pool Volume (PPV)		
Required (0.8" X Landscaped + 2.0" X Impervious)		
Required     (0.8" X Landscaped + 2.0" X Impervious)		
Required (0.8 x Lanuscaped + 2.0 x Impervious)		
Total Landscaped Area 47,054.00 Volume 3,136.9		
Total Impervious Area     18,946.00     Volume     3,157.7		
PPV Required 6,294.6 CF		
Provided PPV 11,015.0 CF (Elevation 269 to Elevation 275)		
Water Quality Volume		
Required (0.4" X Landscaped + 1.0" X Impervious)		
Landscaped Area 47.054.00 Volume (CE) 1.568		
CPV Required 3,147 0.072 AF		
Provided Treatment Volume 4,518.0 (Elevation 275 to Elevation 276)		
Provided Length of underdrained gravel trench outlet         15.0         LF         (8' Minimum)		
(Min. 3 LF per 1,000 CF of CPV required)		

#### SEBAGO TECHNICS, INC.

JOB	21092
SHEET NO.	2

FILE NAME

75 John Roberts Road Suite 4A

South Portland, Maine 04106 Tel. (207) 200-2100

JBP CALCULATED BY 21092 WQC

OF

DATE

PRNT DATE

2 1/30/2023 3/3/2023

Refere	ences	2. Maine	DEP BM	P Manual, Volu	me III, May 20	16							
Mean	Depth	Per Chapter 4 of Reference 2, Mean depth shall be the pond volume one foot below the											
		permane	nt pool ele	evation divided	by the pond s	surface area o	one foot belo	w perma	nent pool	elevation			
	Perman	ient Pool E	levation:	275.0									
	Pond V	olume at	Elevation	274.0		Volume:	8,109.0	CF					
	Pon	d Area at	Elevation	274.0		Area:	2,669.0	SF					
						Mean Depth:	3.04	Feet					
Lengtl	h to Wid	th											
	"a mini	mum leng	th to widt	h ratio of 3:1"	(Reference 1)								
	Wetpo	nd Length		99.0	FT								
	Wetpo	nd Width		33.0	FT								
Leng	th to W	idth Ratio		3.00									
Sedim	ent Pre-	Treatmen	t										
												L	
	Per Ref	erence 2,	Chapter 7 T	.1	"Pretreatmer	nt devices sha	ll be provide	ed to mini	mize disch	arge of se	diment to	the s	soil filter"
	Annual	Sediment	Load:	55 cubic feet	per acre per y	ear of sanded	area						
				10.010.00	0.5								
	Area to	be sanded	d:	18,946.00	SF								
	C 11			24	<b>CF</b>								
	Sedime	nt volume	2 	24									
	Duesdal			200	CE.	10	lash Deer	 Farak			200	of	
	Provide	eu		300		18	Inch Deep l	Forebay	with area		200	ST	

# SEBAGO TECHNICS, INC.

75 John Roberts Road, Suite 4A South Portland, ME 04106 (207)200-2100 FAX (207) 856-2206

JOB	21092			
SHEET NO.	1	OF	1	
CALCULATED BY	JBP	DATE	5/8/2023	
CHECKED BY		PRINT DATE	5/8/2023	
FILE NAME	21092 V	VQC		

Note: Buffers are sized in accordance with Chapter 5 of the <u>Maine Department of Environmental</u> Protection <u>BMPs Technical Design Manual</u>, latest revision.

Forested Buffer 1 (FB-1)							
Type of Buffer :		Forested B	uffer, Ditch	Turnout Level S	Spreader		
Existing Cover :		Forested					
Soils :		HSG C, Sa	ndy Loam				
Buffer Slope :		8.9%					
Buffer Length :		90	feet				
Tributary Area							
Impervious :		6,386	sf				
Landscaped :		8,064	sf				
Length of Road:		289	feet				
Per Table 5.7, Soil Gro	oup C Sand	<u>/ Loam, 300</u>	' Road Leng	gth, 9-15% slop	<u>be:</u>		
Length of Forested Bu	ffer Require	d:		90	feet		
Length of Forested Bu	ffer Provide	d:		90	feet		
Level Spreader Berm	Length Req	uired:		20	feet		
Level Spreader Berm I	Length Prov	ided:		50	feet		

# **Appendix 2A**

Existing Conditions HydroCAD Summary



### Area Listing (all nodes)

Area	CN	Description
(acres)		(subcatchment-numbers)
0.555	74	Pasture/grassland/range, Good, HSG C (1.0S)
15.055	70	Woods, Good, HSG C (1.0S, 1.1S, 1.2S, 1.4S, 1.5S, 2.0S)
6.223	77	Woods, Good, HSG D (1.3S, 1.4S, 1.5S, 2.0S)
21.833	72	TOTAL AREA

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points Runoff by SCS TR-20 method, UH=SCS, Weighted-CN Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method Page 3

Subcatchment1.0S: Front of Site	Runoff Area=100,910 sf 0.00% Impervious Runoff Depth=3.06" Flow Length=150' Tc=6.1 min CN=71 Runoff=8.3 cfs 0.591 af
Subcatchment1.1S: Middle of Site	Runoff Area=261,738 sf 0.00% Impervious Runoff Depth=2.96" Flow Length=925' Tc=17.4 min CN=70 Runoff=14.8 cfs 1.485 af
Subcatchment1.2S: Back of Site	Runoff Area=175,409 sf 0.00% Impervious Runoff Depth=2.96" Flow Length=770' Tc=13.3 min CN=70 Runoff=11.0 cfs 0.995 af
Subcatchment1.3S: Front Wetlands &	Runoff Area=96,171 sf 0.00% Impervious Runoff Depth=3.65" Flow Length=205' Tc=9.1 min CN=77 Runoff=8.5 cfs 0.672 af
Subcatchment1.4S: Middle Wetlands &	Runoff Area=93,096 sf 0.00% Impervious Runoff Depth=3.45" Flow Length=235' Tc=11.4 min CN=75 Runoff=7.2 cfs 0.615 af
Subcatchment1.5S: Back Wetlands &	Runoff Area=111,113 sf 0.00% Impervious Runoff Depth=3.55" Flow Length=210' Tc=9.3 min CN=76 Runoff=9.5 cfs 0.755 af
Subcatchment2.0S: Wooded Area	Runoff Area=112,610 sf 0.00% Impervious Runoff Depth=3.06" Flow Length=555' Tc=13.1 min CN=71 Runoff=7.4 cfs 0.659 af
Reach 1.0R: Reach to Stream n=0.100	Avg. Flow Depth=0.32' Max Vel=1.94 fps Inflow=8.3 cfs 0.591 af L=170.0' S=0.1059 '/' Capacity=73.6 cfs Outflow=8.1 cfs 0.591 af
Reach 1.1R: Reach to Stream n=0.100 L	Avg. Flow Depth=0.51' Max Vel=1.91 fps Inflow=14.8 cfs 1.485 af =240.0' S=0.0604 '/' Capacity=55.6 cfs Outflow=14.6 cfs 1.485 af
Reach 1.2R: Reach to Stream n=0.100 L	Avg. Flow Depth=0.38' Max Vel=2.11 fps Inflow=11.0 cfs 0.995 af =175.0' S=0.1029 '/' Capacity=72.6 cfs Outflow=10.9 cfs 0.995 af
Link POA-1: On-Site Stream	Inflow=52.9 cfs 5.113 af Primary=52.9 cfs 5.113 af
Link POA-2: Wetland near S. Waterboro	Rd. FrontageInflow=7.4 cfs0.659 afPrimary=7.4 cfs0.659 af

Total Runoff Area = 21.833 ac Runoff Volume = 5.772 af Average Runoff Depth = 3.17" 100.00% Pervious = 21.833 ac 0.00% Impervious = 0.000 ac

#### Summary for Subcatchment 1.0S: Front of Site

Page 4

Runoff = 8.3 cfs @ 12.09 hrs, Volume= 0.591 af, Depth= 3.06"

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

	Ai	rea (sf)	CN	Description			
		76,735	70 Woods, Good, HSG C				
		24,175 74 Pasture/grassland/range, Good, HSG C					
100,910 71 Weighted Average							
	1	00,910		100.00% P	ervious Are	а	
	Тс	Length	Slope	e Velocity	Capacity	Description	
_	(min)	(feet)	(ft/ft)	) (ft/sec)	(cfs)		
	5.5	90	0.0500	0.27		Sheet Flow, A to B	
						Range n= 0.130 P2= 3.30"	
	0.6	60	0.1167	' 1.71		Shallow Concentrated Flow, B to C	
_						Woodland Kv= 5.0 fps	
	61	150	Total				

6.1 150 Lotal

#### Summary for Subcatchment 1.1S: Middle of Site

14.8 cfs @ 12.24 hrs, Volume= 1.485 af, Depth= 2.96" Runoff =

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

Area (sf)	CN E	Description		
261,738	70 V	Voods, Go	od, HSG C	
261,738	100.00% Pervious Area			а
Tc Length (min) (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9 65	0.1385	0.16		Sheet Flow, A to B Woods: Light underbrush n= 0.400 P2= 3.30"
2.1 265	0.1774	2.11		Shallow Concentrated Flow, B to C Woodland Kv= 5.0 fps
8.4 595	0.0555	1.18		Shallow Concentrated Flow, C to D Woodland Kv= 5.0 fps

17.4 925 Total

#### Summary for Subcatchment 1.2S: Back of Site

11.0 cfs @ 12.19 hrs, Volume= Runoff 0.995 af, Depth= 2.96" =

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

### **21092 Existing Conditions**

 Type III 24-hr
 25-YR Rainfall=6.20"

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	Area (sf)	CN [	Description		
175,409		70 \	Noods, Go	od, HSG C	
175,409			100.00% P	ervious Are	а
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.1400	0.15		Sheet Flow, A to B
3.4	410	0.1600	2.00		Woods: Light underbrush n= 0.400 P2= 3.30" <b>Shallow Concentrated Flow, B to C</b> Woodland Kv= 5.0 fps
2.5	140	0.0357	0.94		Shallow Concentrated Flow, C to D
1.8	170	0.1000	1.58		Woodland Kv= 5.0 fps Shallow Concentrated Flow, D to E Woodland Kv= 5.0 fps
13.3	770	Total			

### Summary for Subcatchment 1.3S: Front Wetlands & Ravine

Runoff = 8.5 cfs @ 12.13 hrs, Volume= 0.672 af, Depth= 3.65"

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

	A	rea (sf)	CN [	Description		
		96,171	77 V	Voods, Go	od, HSG D	
96,171		96,171	100.00% Pervious			a
	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	7.4	60	0.1000	0.14		Sheet Flow, A to B
	1.3	95	0.0632	1.26		Woods: Light underbrush n= 0.400 P2= 3.30" Shallow Concentrated Flow, B to C
	0.4	50	0.1600	2.00		Shallow Concentrated Flow, C to D Woodland Kv= 5.0 fps
	9.1	205	Total			

### Summary for Subcatchment 1.4S: Middle Wetlands & Ravine

Runoff = 7.2 cfs @ 12.16 hrs, Volume= 0.615 af, Depth= 3.45"

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

 Area (sf)	CN	Description
20,003	70	Woods, Good, HSG C
 73,093	77	Woods, Good, HSG D
93,096	75	Weighted Average
93,096		100.00% Pervious Area

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	Тс	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	7.0	50	0.0800	0.12		Sheet Flow, A to B
						Woods: Light underbrush n= 0.400 P2= 3.30"
	0.7	75	0.1333	1.83		Shallow Concentrated Flow, B to C
						Woodland Kv= 5.0 fps
	3.7	110	0.0100	0.50		Shallow Concentrated Flow, C to D
_						Woodland Kv= 5.0 fps
	11.4	235	Total			

#### Summary for Subcatchment 1.5S: Back Wetlands & Ravine

Runoff = 9.5 cfs @ 12.13 hrs, Volume= 0.755 af, Depth= 3.55"

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

	A	rea (sf)	CN [	Description		
		20,383	70 V	Voods, Go	od, HSG C	
		90,730	77 V	Voods, Go	od, HSG D	
	1	11,113	76 V	Veighted A	verage	
	1	11,113	1	00.00% P	ervious Are	а
	Тс	Length	Slope	Velocity	Capacity	Description
(	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	5.6	50	0.1400	0.15		Sheet Flow, A to B
						Woods: Light underbrush n= 0.400 P2= 3.30"
	0.4	60	0.2000	2.24		Shallow Concentrated Flow, B to C
						Woodland Kv= 5.0 fps
	3.3	100	0.0100	0.50		Shallow Concentrated Flow, C to D
						Woodland Kv= 5.0 fps
			-			

9.3 210 Total

### Summary for Subcatchment 2.0S: Wooded Area

Runoff = 7.4 cfs @ 12.18 hrs, Volume= 0.659 af, Depth= 3.06"

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

 Area (sf)	CN	Description
101,521	70	Woods, Good, HSG C
 11,089	77	Woods, Good, HSG D
112,610	71	Weighted Average
112,610		100.00% Pervious Area

 Type III 24-hr
 25-YR Rainfall=6.20"

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#### 21092 Existing Conditions Type III 24-hr 25-YR Rainfall=6.20" Prepared by Sebago Technics, Inc. Printed 5/8/2023 HydroCAD® 10.00-24 s/n 01856 © 2018 HydroCAD Software Solutions LLC Page 7 Slope Velocity Capacity Tc Length Description (min) (feet) (ft/ft) (ft/sec) (cfs) 50 0.1000 6.4 0.13 Sheet Flow, A to B Woods: Light underbrush n= 0.400 P2= 3.30" 6.7 505 0.0630 1.25 Shallow Concentrated Flow, B to C Woodland Kv= 5.0 fps 13.1 555 Total Summary for Reach 1.0R: Reach to Stream Inflow Area = 2.317 ac, 0.00% Impervious, Inflow Depth = 3.06" for 25-YR event 8.3 cfs @ 12.09 hrs, Volume= 0.591 af Inflow = 8.1 cfs @ 12.11 hrs, Volume= Outflow 0.591 af, Atten= 2%, Lag= 1.0 min = Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs Max. Velocity= 1.94 fps, Min. Travel Time= 1.5 min Avg. Velocity = 0.56 fps, Avg. Travel Time= 5.0 min Peak Storage= 708 cf @ 12.11 hrs Average Depth at Peak Storage= 0.32' Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 73.6 cfs 10.00' x 1.00' deep channel, n= 0.100 Heavy timber, flow below branches Side Slope Z-value= 10.0 '/' Top Width= 30.00' Length= 170.0' Slope= 0.1059 '/' Inlet Invert= 311.00', Outlet Invert= 293.00' ‡ Summary for Reach 1.1R: Reach to Stream Inflow Area = 6.009 ac, 0.00% Impervious, Inflow Depth = 2.96" for 25-YR event 14.8 cfs @ 12.24 hrs, Volume= 1.485 af Inflow = 14.6 cfs @ 12.27 hrs, Volume= Outflow = 1.485 af, Atten= 1%, Lag= 1.7 min Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs Max. Velocity= 1.91 fps, Min. Travel Time= 2.1 min Avg. Velocity = 0.61 fps, Avg. Travel Time= 6.6 min Peak Storage= 1,836 cf @ 12.27 hrs Average Depth at Peak Storage= 0.51'

Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 55.6 cfs

#### 21092 Existing Conditions Type III 24-hr 25-YR Rainfall=6.20" Prepared by Sebago Technics, Inc. Printed 5/8/2023 HydroCAD® 10.00-24 s/n 01856 © 2018 HydroCAD Software Solutions LLC

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10.00' x 1.00' deep channel, n= 0.100 Heavy timber, flow below branches Side Slope Z-value= 10.0 '/' Top Width= 30.00' Length= 240.0' Slope= 0.0604 '/' Inlet Invert= 284.00', Outlet Invert= 269.50'

Summary for Reach 1.2R: Reach to Stream

Inflow Area	ı =	4.027 ac,	0.00% Impe	rvious,	Inflow Dept	th = 2.	96" for	25-YR event
Inflow	=	11.0 cfs @	12.19 hrs,	Volume	e= 0	).995 af	-	
Outflow	=	10.9 cfs @	12.20 hrs,	Volume	e= 0	).995 af	, Atten=	1%, Lag= 0.9 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs Max. Velocity= 2.11 fps, Min. Travel Time= 1.4 min Avg. Velocity = 0.67 fps, Avg. Travel Time= 4.4 min

Peak Storage= 906 cf @ 12.20 hrs Average Depth at Peak Storage= 0.38' Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 72.6 cfs

‡

10.00' x 1.00' deep channel, n= 0.100 Heavy timber, flow below branches Side Slope Z-value= 10.0 '/' Top Width= 30.00' Length= 175.0' Slope= 0.1029 '/' Inlet Invert= 283.00', Outlet Invert= 265.00'



### Summary for Link POA-1: On-Site Stream

Inflow A	Area =	19.248 ac,	0.00% Impervious,	Inflow Depth = 3.1	9" for 25-YR event
Inflow	=	52.9 cfs @	12.16 hrs, Volume	e= 5.113 af	
Primary	/ =	52.9 cfs @	12.16 hrs, Volume	e= 5.113 af,	Atten= 0%, Lag= 0.0 min

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

### Summary for Link POA-2: Wetland near S. Waterboro Rd. Frontage

Inflow A	Area	=	2.585 ac,	0.00% Impe	ervious,	Inflow D	Depth =	3.00	6" for 25-	YR event	
Inflow		=	7.4 cfs @	12.18 hrs,	Volum	e=	0.659	af			
Primary	y :	=	7.4 cfs @	12.18 hrs,	Volum	e=	0.659	af,	Atten= 0%,	Lag= 0.0	) min

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

21092 Existing Conditions	Type III 24-hr	2-YR Rainfall=3.30"
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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points Runoff by SCS TR-20 method, UH=SCS, Weighted-CN Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1.0S: Front of Site	Runoff Area=100,910 sf 0.00% Impervious Runoff Depth=0.94" Flow Length=150' Tc=6.1 min CN=71 Runoff=2.3 cfs 0.181 af				
Subcatchment1.1S: Middle of Site	Runoff Area=261,738 sf 0.00% Impervious Runoff Depth=0.89" Flow Length=925' Tc=17.4 min CN=70 Runoff=4.0 cfs 0.444 af				
Subcatchment1.2S: Back of Site	Runoff Area=175,409 sf 0.00% Impervious Runoff Depth=0.89" Flow Length=770' Tc=13.3 min CN=70 Runoff=3.0 cfs 0.298 af				
Subcatchment1.3S: Front Wetlands &	Runoff Area=96,171 sf 0.00% Impervious Runoff Depth=1.28" Flow Length=205' Tc=9.1 min CN=77 Runoff=2.9 cfs 0.236 af				
Subcatchment1.4S: Middle Wetlands &	Runoff Area=93,096 sf 0.00% Impervious Runoff Depth=1.16" Flow Length=235' Tc=11.4 min CN=75 Runoff=2.3 cfs 0.207 af				
Subcatchment1.5S: Back Wetlands &	Runoff Area=111,113 sf 0.00% Impervious Runoff Depth=1.22" Flow Length=210' Tc=9.3 min CN=76 Runoff=3.2 cfs 0.260 af				
Subcatchment2.0S: Wooded Area	Runoff Area=112,610 sf 0.00% Impervious Runoff Depth=0.94" Flow Length=555' Tc=13.1 min CN=71 Runoff=2.1 cfs 0.202 af				
Reach 1.0R: Reach to Stream n=0.100	Avg. Flow Depth=0.15' Max Vel=1.27 fps Inflow=2.3 cfs 0.181 af L=170.0' S=0.1059 '/' Capacity=73.6 cfs Outflow=2.2 cfs 0.181 af				
Reach 1.1R: Reach to Stream n=0.100	Avg. Flow Depth=0.25' Max Vel=1.27 fps Inflow=4.0 cfs 0.444 af L=240.0' S=0.0604 '/' Capacity=55.6 cfs Outflow=3.9 cfs 0.444 af				
Reach 1.2R: Reach to Stream n=0.100	Avg. Flow Depth=0.18' Max Vel=1.38 fps Inflow=3.0 cfs 0.298 af L=175.0' S=0.1029 '/' Capacity=72.6 cfs Outflow=2.9 cfs 0.298 af				
Link POA-1: On-Site Stream	Inflow=15.3 cfs 1.626 af Primary=15.3 cfs 1.626 af				
Link POA-2: Wetland near S. Waterboro Rd. Frontage Inflow=2.1 cfs 0.202 at Primary=2.1 cfs 0.202					
Total Runoff Area = 21.833 ac Runoff Volume = 1.828 af Average Runoff Depth = 1.00"					

100.00% Pervious = 21.833 ac 0.00% Impervious = 0.000 ac
21092 Existing Conditions	Type III 24-hr	10-YR Rainfall=4.90"
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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points Runoff by SCS TR-20 method, UH=SCS, Weighted-CN Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1.0S: Front of Site	Runoff Area=100,910 sf 0.00% Impervious Runoff Depth=2.04" Flow Length=150' Tc=6.1 min CN=71 Runoff=5.4 cfs 0.394 af
Subcatchment1.1S: Middle of Site	Runoff Area=261,738 sf 0.00% Impervious Runoff Depth=1.96" Flow Length=925' Tc=17.4 min CN=70 Runoff=9.6 cfs 0.983 af
Subcatchment1.2S: Back of Site	Runoff Area=175,409 sf 0.00% Impervious Runoff Depth=1.96" Flow Length=770' Tc=13.3 min CN=70 Runoff=7.2 cfs 0.659 af
Subcatchment1.3S: Front Wetlands &	Runoff Area=96,171 sf 0.00% Impervious Runoff Depth=2.54" Flow Length=205' Tc=9.1 min CN=77 Runoff=5.9 cfs 0.467 af
Subcatchment1.4S: Middle Wetlands &	Runoff Area=93,096 sf 0.00% Impervious Runoff Depth=2.37" Flow Length=235' Tc=11.4 min CN=75 Runoff=4.9 cfs 0.422 af
Subcatchment1.5S: Back Wetlands &	Runoff Area=111,113 sf 0.00% Impervious Runoff Depth=2.45" Flow Length=210' Tc=9.3 min CN=76 Runoff=6.5 cfs 0.522 af
Subcatchment2.0S: Wooded Area	Runoff Area=112,610 sf 0.00% Impervious Runoff Depth=2.04" Flow Length=555' Tc=13.1 min CN=71 Runoff=4.8 cfs 0.440 af
Reach 1.0R: Reach to Stream n=0.100	Avg. Flow Depth=0.25' Max Vel=1.70 fps Inflow=5.4 cfs 0.394 af L=170.0' S=0.1059 '/' Capacity=73.6 cfs Outflow=5.3 cfs 0.394 af
Reach 1.1R: Reach to Stream n=0.100	Avg. Flow Depth=0.40' Max Vel=1.68 fps Inflow=9.6 cfs 0.983 af L=240.0' S=0.0604 '/' Capacity=55.6 cfs Outflow=9.5 cfs 0.983 af
Reach 1.2R: Reach to Stream n=0.100	Avg. Flow Depth=0.30' Max Vel=1.84 fps Inflow=7.2 cfs 0.659 af L=175.0' S=0.1029 '/' Capacity=72.6 cfs Outflow=7.1 cfs 0.659 af
Link POA-1: On-Site Stream	Inflow=35.1 cfs 3.446 af Primary=35.1 cfs 3.446 af
Link POA-2: Wetland near S. Waterbord	Rd. FrontageInflow=4.8 cfs0.440 afPrimary=4.8 cfs0.440 af

Total Runoff Area = 21.833 ac Runoff Volume = 3.886 af Average Runoff Depth = 2.14" 100.00% Pervious = 21.833 ac 0.00% Impervious = 0.000 ac

## **Appendix 2B**

Proposed Conditions HydroCAD Summary



## Area Listing (all nodes)

Are	a CN	Description			
(acres	5)	(subcatchment-numbers)			
9.64	4 79	1 acre lots, 20% imp, HSG C (10.2S, 10.6S, 10.7S, 10.9S)			
1.77	1 74	>75% Grass cover, Good, HSG C (10.0S, 10.1S, 10.2S, 10.3S, 10.4S, 10.5S,			
		10.7S, 20.0S, 20.1S)			
0.52	2 98	Paved Roadway (10.0S, 10.1S, 10.3S, 10.7S)			
0.16	0 98	Private Roadway (20.0S, 20.1S)			
4.12	2 70	Woods, Good, HSG C (10.3S, 10.4S, 10.8S, 10.9S, 20.1S)			
5.61	4 77	Woods, Good, HSG D (10.3S, 10.4S, 10.5S, 20.1S)			
21.83	33 77	TOTAL AREA			

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

Subcatchment10.0S: lower R.O.W.	Runoff Area=20,882 sf 41.17% Impervious Runoff Depth=4.38" Tc=6.0 min CN=84 Runoff=2.4 cfs 0.175 af
Subcatchment10.1S: upper R.O.W.	Runoff Area=24,933 sf 41.51% Impervious Runoff Depth=4.38" Tc=6.0 min CN=84 Runoff=2.9 cfs 0.209 af
Subcatchment10.2S: House Lot 8	Runoff Area=55,214 sf 12.69% Impervious Runoff Depth=3.65" Flow Length=310' Tc=14.8 min CN=77 Runoff=4.1 cfs 0.386 af
Subcatchment10.3S: Front Wetlands,	Runoff Area=88,533 sf 2.38% Impervious Runoff Depth=3.65" Flow Length=150' Tc=8.5 min CN=77 Runoff=8.0 cfs 0.619 af
Subcatchment10.4S: Middle Wetlands &	Runoff Area=88,945 sf 0.00% Impervious Runoff Depth=3.55" Flow Length=210' Tc=11.1 min CN=76 Runoff=7.2 cfs 0.605 af
Subcatchment10.5S: Back Wetlands &	Runoff Area=94,882 sf 0.00% Impervious Runoff Depth=3.65" Flow Length=170' Tc=8.0 min CN=77 Runoff=8.7 cfs 0.663 af
Subcatchment10.6S: Front Lower House	Runoff Area=67,506 sf 20.00% Impervious Runoff Depth=3.86" Flow Length=250' Tc=8.5 min CN=79 Runoff=6.4 cfs 0.498 af
Subcatchment10.7S: Back Lower House	Runoff Area=91,615 sf 20.52% Impervious Runoff Depth=3.86" Flow Length=250' Tc=13.9 min CN=79 Runoff=7.4 cfs 0.676 af
Subcatchment10.8S: Back of Site	Runoff Area=56,577 sf 0.00% Impervious Runoff Depth=2.96" Flow Length=770' Tc=13.3 min CN=70 Runoff=3.6 cfs 0.321 af
Subcatchment10.9S: Upper House Lots	Runoff Area=249,351 sf 18.60% Impervious Runoff Depth=3.76" Flow Length=555' Tc=11.2 min CN=78 Runoff=21.2 cfs 1.792 af
Subcatchment20.0S: Private Road	Runoff Area=14,450 sf 44.19% Impervious Runoff Depth=4.49" Tc=6.0 min CN=85 Runoff=1.7 cfs 0.124 af
Subcatchment20.1S: Wooded Area	Runoff Area=98,160 sf 0.57% Impervious Runoff Depth=3.06" Flow Length=540' Tc=12.8 min CN=71 Runoff=6.5 cfs 0.575 af
Reach 10.0R: Reach to Stream n=0.100 L	Avg. Flow Depth=0.27' Max Vel=1.82 fps Inflow=6.4 cfs 0.498 af =105.0' S=0.1095 '/' Capacity=74.9 cfs Outflow=6.4 cfs 0.498 af
Reach 10.1R: Wet Pond Overflow to n=0.100 L	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af =190.0' S=0.0632 '/' Capacity=56.9 cfs Outflow=0.0 cfs 0.000 af
Reach 10.2R: Level Spreader to Wetland n=0.400 L	Avg. Flow Depth=0.45' Max Vel=0.84 fps Inflow=18.8 cfs 2.562 af =30.0' S=0.1667 '/' Capacity=22.4 cfs Outflow=18.8 cfs 2.562 af
Reach 10.3R: Wetland Flow to Stream n=0.100 L	Avg. Flow Depth=0.88' Max Vel=1.14 fps Inflow=18.8 cfs 2.562 af =85.0' S=0.0118 '/' Capacity=24.5 cfs Outflow=18.8 cfs 2.562 af

21092 Proposed Conditions	Type III 24-hr 25-YR Rainfall=6	6.20"
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Reach 10.4R: Reach to Stream Avg. Flow Depth=0.34'	Max Vel=1.62 tps Inflow=7.4 cfs 0.67	6 af
n=0.100 L=175.0 S=0.06867 C	apacity=59.3 cts Outflow=7.3 cts 0.67	6 af
Reach 10 5B: Reach to Stream Avg Flow Depth=0 20'	Max Vel=1 47 fps Inflow=3.6 cfs 0.32	1 af
n=0.100 L=175.0' S=0.1029 '/' C	Capacity=72.6 cfs Outflow= $3.5$ cfs $0.32$	1 af
Reach 20R: Wooded Buffer Sheet Flow Avg. Flow Depth=0.08'	Max Vel=0.21 fps Inflow=1.6 cfs 0.08	3 af
n=0.400 L=90.0' S=0.0889 '/'	Capacity=1.2 cfs Outflow=0.9 cfs 0.08	3 af
		~ <i>(</i>
Pond 10P: Wet Pond (WP-1) Peak Elev=280.76' S	Storage=24,523 cf Inflow=29.0 cfs 2.56	2 af
Primary=18.8 cfs 2.562 af Secondary=0	J.0 cts 0.000 at Outflow=18.8 cts 2.56.	z ar
Pond 11P: Low Point w/ 36" Culvert Peak Elev=299 39	) Storage=227 cf Inflow=25.1 cfs 2.17	6 af
36.0" Round Culvert n=0.013 L=230	0.0' S=0.0630 '/' Outflow=25.1 cfs 2.17	6 af
Pond 12P: Low Point w/ 36" Culvert Peak Elev=300.30	)' Storage=448 cf Inflow=23.4 cfs 2.00	1 af
36.0" Round Culvert n=0.013 L=39	0.0' S=0.0064 '/' Outflow=23.2 cfs 2.00	1 af
Develop Levelop and the Development of the		4 - 5
Pond 20P: Level Spreader Peak Elev=339.09	Storage=1,911 cf Inflow=1.7 cfs 0.12	4 ar
		os ai
Link POA-1: On-Site Stream	Inflow=51.2 cfs 5.94	4 af
	Primary=51.2 cfs 5.94	4 af
	-	
Link POA-2: Wetland near S. Waterboro Rd. Frontage	Inflow=7.3 cfs 0.65	58 af
	Primary=7.3 cfs 0.65	58 af
Total Dunoff Area = 04 000 as Dunoff Maluma	- C CA2 of Average Dupoff Double	

Total Runoff Area = 21.833 acRunoff Volume = 6.643 afAverage Runoff Depth = 3.65"88.05% Pervious = 19.223 ac11.95% Impervious = 2.610 ac

#### Summary for Subcatchment 10.0S: lower R.O.W.

Runoff = 2.4 cfs @ 12.09 hrs, Volume= 0.175 af, Depth= 4.38"

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

	Area (sf)	CN	Description						
*	8,597	98	Paved Roa	Paved Roadway					
	12,285	74	>75% Gras	s cover, Go	pod, HSG C				
	20,882	84	Weighted Average						
	12,285		58.83% Pervious Area						
	8,597		41.17% Impervious Area						
	T. I. wath			0	Description				
,	IC Length	Siop		Capacity	Description				
(r	nin) (feet)	(ft/f	t) (ft/sec)	(CIS)					
	6.0				Direct Entry, Direct				

#### Summary for Subcatchment 10.1S: upper R.O.W.

Runoff = 2.9 cfs @ 12.09 hrs, Volume= 0.209 af, Depth= 4.38"

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

	Area (sf)	CN	Description						
*	10,349	98	Paved Roa	Paved Roadway					
	14,584	74	>75% Gras	s cover, Go	ood, HSG C				
	24,933	84	Weighted A	Weighted Average					
	14,584		58.49% Pervious Area						
	10,349		41.51% Impervious Area						
To (min)	: Length ) (feet)	Slop (ft/fl	e Velocity ) (ft/sec)	Capacity (cfs)	Description				
6.0	)				Direct Entry, Direct				

## Summary for Subcatchment 10.2S: House Lot 8

Runoff = 4.1 cfs @ 12.20 hrs, Volume= 0.386 af, Depth= 3.65"

Area (sf)	CN	Description		
35,029	79	1 acre lots, 20% imp, HSG C		
20,185	74	>75% Grass cover, Good, HSG C		
55,214	77	Weighted Average		
48,208		87.31% Pervious Area		
7,006		12.69% Impervious Area		

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
11.9	70	0.0150	0.10		Sheet Flow, A to B	
2.9	240	0.0750	1.37		Grass: Dense n= 0.240 P2= 3.30" Shallow Concentrated Flow, B to C Woodland Kv= 5.0 fps	
14.8	310	Total				
Summary for Subcatchment 10.3S: Front Wetlands, Ravine, & Road						
Runoff	=	8.0 c	fs @ 12.1	2 hrs, Volu	ume= 0.619 af, Depth= 3.65"	
Runoff b Type III	y SCS TF 24-hr 25-	R-20 met YR Rain	hod, UH=S fall=6.20"	SCS, Weigh	nted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs	
A	10 200					
	10,200 72 339	70 V 77 V	Voods, Go Voods, Go	od HSG D		
*	2.107	98 P	aved Roa	dwav		
	3,799	74 >	75% Gras	s cover, Go	ood, HSG C	
	88,533 86,426 2,107	77 V 9 2	Veighted A 7.62% Pei .38% Impe	verage vious Area ervious Area	a	
Тс	l enath	Slope	Velocity	Canacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
7.4	50	0.0700	0.11		Sheet Flow, A to B Woods: Light underbrush n= 0.400 P2= 3.30"	
1.1	100	0.1000	1.58		Shallow Concentrated Flow, B to C Woodland Kv= 5.0 fps	
8.5	150	Total				
Runoff	S =	<b>ummar</b> 7.2 ct	<b>y for Sul</b> fs @ 12.1	ocatchme 5 hrs, Volu	ent 10.4S: Middle Wetlands & Ravine ume= 0.605 af, Depth= 3.55"	

Area (sf)	CN	Description
15,983	70	Woods, Good, HSG C
67,210	77	Woods, Good, HSG D
5,752	74	>75% Grass cover, Good, HSG C
88,945	76	Weighted Average
88,945		100.00% Pervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	50	0.0800	0.12		Sheet Flow, A to B
					Woods: Light underbrush n= 0.400 P2= 3.30"
0.4	50	0.1600	2.00		Shallow Concentrated Flow, B to C
					Woodland Kv= 5.0 fps
3.7	110	0.0100	0.50		Shallow Concentrated Flow, C to D
					Woodland Kv= 5.0 fps

11.1 210 Total

#### Summary for Subcatchment 10.5S: Back Wetlands & Ravine

Runoff = 8.7 cfs @ 12.11 hrs, Volume= 0.663 af, Depth= 3.65"

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

	Area (sf)	CN [	Description					
	93,891	77 \	Woods, Good, HSG D					
	991	74 >	>75% Gras	s cover, Go	ood, HSG C			
	94,882	77 \	Neighted A	verage				
	94,882		100.00% P	ervious Are	а			
Тс	c Length	Slope	Velocity	Capacity	Description			
(min	) (feet)	(ft/ft)	(ft/sec)	(cfs)				
4.4	4 30	0.0900	0.11		Sheet Flow, A to B			
					Woods: Light underbrush n= 0.400 P2= 3.30"			
0.3	3 40	0.2250	2.37		Shallow Concentrated Flow, B to C			
					Woodland Kv= 5.0 fps			
3.3	3 100	0.0100	0.50		Shallow Concentrated Flow, C to D			
					Woodland Kv= 5.0 fps			
		<b>—</b> · ·						

8.0 170 Total

#### Summary for Subcatchment 10.6S: Front Lower House Lots

Runoff = 6.4 cfs @ 12.12 hrs, Volume= 0.498 af, Depth= 3.86"

 Area (sf)	CN	Description
67,506	79	1 acre lots, 20% imp, HSG C
 54,005		80.00% Pervious Area
13,501		20.00% Impervious Area

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Тс	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.1	50	0.0400	0.14		Sheet Flow, A to B
					Grass: Dense n= 0.240 P2= 3.30"
2.4	200	0.0750	1.37		Shallow Concentrated Flow, B to C
					Woodland Kv= 5.0 fps

8.5 250 Total

#### Summary for Subcatchment 10.7S: Back Lower House Lots

Runoff = 7.4 cfs @ 12.19 hrs, Volume= 0.676 af, Depth= 3.86"

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

	A	rea (sf)	CN	Description		
		85,679	79	1 acre lots,	20% imp, H	ISG C
		4,270	74	>75% Gras	s cover, Go	ood, HSG C
*		1,666	98	Paved Roa	dway	
		91,615	79	Weighted A	verage	
72,813 79.48% Pervious Area						
18,802 20.52% Impervious Area					pervious Are	ea
	Тс	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	11.9	70	0.0150	0.10		Sheet Flow, A to B
						Grass: Dense n= 0.240 P2= 3.30"
	2.0	180	0.0875	1.48		Shallow Concentrated Flow, B to C
						Woodland Kv= 5.0 fps
	13.9	250	Total			
	10.0	200	rotai			

## Summary for Subcatchment 10.8S: Back of Site Woodlands

Runoff = 3.6 cfs @ 12.19 hrs, Volume= 0.321 af, Depth= 2.96"

Area (s	f) CN	Description	
56,57	7770	Woods, Good, HSG C	
56,57	7	100.00% Pervious Area	

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Type III 24-hr 25-YR Rainfall=6.20" Printed 5/8/2023 HydroCAD® 10.00-24 s/n 01856 © 2018 HydroCAD Software Solutions LLC Page 9

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.1400	0.15		Sheet Flow, A to B
					Woods: Light underbrush n= 0.400 P2= 3.30"
3.4	410	0.1600	2.00		Shallow Concentrated Flow, B to C
					Woodland Kv= 5.0 fps
2.5	140	0.0357	0.94		Shallow Concentrated Flow, C to D
					Woodland Kv= 5.0 fps
1.8	170	0.1000	1.58		Shallow Concentrated Flow, D to E
					Woodland Kv= 5.0 fps

770 Total 13.3

#### Summary for Subcatchment 10.9S: Upper House Lots

21.2 cfs @ 12.16 hrs, Volume= 1.792 af, Depth= 3.76" Runoff =

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

A	rea (sf)	CN [	Description		
2	31,898	79 <sup>~</sup>	acre lots,	20% imp, H	ISG C
	17,453	70 \	Voods, Go	od, HSĠ C	
2	49,351	78 \	Veighted A	verage	
2	02,971	8	31.40% Pei	vious Area	
46,380 18.60% Impervious Are				pervious Ar	ea
_					
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.9	65	0.1385	0.16		Sheet Flow, A to B
					Woods: Light underbrush n= 0.400 P2= 3.30"
1.8	240	0.1875	2.17		Shallow Concentrated Flow, B to C
					Woodland Kv= 5.0 fps
2.5	250	0.0560	1.66		Shallow Concentrated Flow, C to D
					Short Grass Pasture Kv= 7.0 fps
11.2	555	Total			

#### Summary for Subcatchment 20.0S: Private Road

1.7 cfs @ 12.09 hrs, Volume= 0.124 af, Depth= 4.49" Runoff =

	Area (sf)	CN	Description
*	6,386	98	Private Roadway
	8,064	74	>75% Grass cover, Good, HSG C
	14,450	85	Weighted Average
	8,064		55.81% Pervious Area
	6,386		44.19% Impervious Area

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HydroCA	D® 10.00-	-24 s/n 01	1856 © 201	18 HydroCA	AD Software Solutions LLC F	<u> 2age 10</u>
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.0					Direct Entry, Direct	
		Su	Immary 1	for Subca	atchment 20.1S: Wooded Area	
Runoff	=	6.5 c	fs @ 12.1	18 hrs, Volu	lume= 0.575 af, Depth= 3.06"	
Runoff b Type III	oy SCS TF 24-hr 25-	R-20 met YR Rain	hod, UH=S fall=6.20"	SCS, Weigh	hted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs	
A	vrea (sf)	CN D	escription			
	79,272	70 V	Voods, Go	od, HSG C		
	11,089	77 V	Voods, Go	od, HSG D	)	
	7,236	74 >	75% Gras	s cover, Go	ood, HSG C	
*	563	<u>98</u> P	rivate Roa	adway		
	98,160	71 V	Veighted A	verage		
	97,597	9	9.43% Pe	rvious Area	а	
	563	0	.57% Impe	ervious Area	ea	
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.4	50	0.1000	0.13		Sheet Flow, A to B	
6.4	490	0.0650	1.27		Woods: Light underbrush n= 0.400 P2= 3.30" Shallow Concentrated Flow, B to C Woodland Kv= 5.0 fps	
12.8	540	Total				

Type III 24-hr 25-YR Rainfall=6.20"

#### Summary for Reach 10.0R: Reach to Stream

Inflow Area	a =	1.550 ac, 20	).00% Impe	ervious, Infl	ow Depth =	3.86	" for	25-YF	event	
Inflow	=	6.4 cfs @	12.12 hrs,	Volume=	0.498	af				
Outflow	=	6.4 cfs @	12.13 hrs,	Volume=	0.498	af, <i>i</i>	Atten=	1%, L	ag= 0.7 r	min
Pouting by	Dun Stor	Ind mothod	Timo Sna	n- 0 00 60	00  bro  dt = 0	01 6	vro			

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs Max. Velocity= 1.82 fps, Min. Travel Time= 1.0 min Avg. Velocity = 0.52 fps, Avg. Travel Time= 3.4 min

Peak Storage= 367 cf @ 12.13 hrs Average Depth at Peak Storage= 0.27' Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 74.9 cfs

21092 Proposed Conditions

10.00' x 1.00' deep channel, n= 0.100 Heavy timber, flow below branches Side Slope Z-value= 10.0 '/' Top Width= 30.00' Length= 105.0' Slope= 0.1095 '/' Inlet Invert= 284.50', Outlet Invert= 273.00'



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 Type III 24-hr
 25-YR Rainfall=6.20"

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50.00' x 0.10' deep channel, n= 0.400 Sheet flow: Woods+light brush Side Slope Z-value= 10.0 '/' Top Width= 52.00' Length= 90.0' Slope= 0.0889 '/' Inlet Invert= 339.00', Outlet Invert= 331.00'

#### Summary for Pond 10P: Wet Pond (WP-1)

Inflow Area =	8.044 ac, 20	0.64% Impervious,	Inflow Depth =	3.82" for	25-YR event
Inflow =	29.0 cfs @	12.16 hrs, Volum	e= 2.562	af	
Outflow =	18.8 cfs @	12.32 hrs, Volum	e= 2.562	af, Atten=	35%, Lag= 9.8 min
Primary =	18.8 cfs @	12.32 hrs, Volum	e= 2.562	af	
Secondary =	0.0 cfs @	0.00 hrs, Volum	e= 0.000	af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs Starting Elev= 277.00' Surf.Area= 6,286 sf Storage= 0 cf Peak Elev= 280.76' @ 12.32 hrs Surf.Area= 11,795 sf Storage= 24,523 cf

Plug-Flow detention time= 75.7 min calculated for 2.562 af (100% of inflow) Center-of-Mass det. time= 75.7 min ( 896.5 - 820.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	271.00'	0 cf	<b>PPV (Prismatic)</b> Listed below (Recalc)
			11,015 cf Overall x 0.0% Voids
#2	277.00'	41,209 cf	STORAGE (Prismatic)Listed below (Recalc)
		41,209 cf	Total Available Storage
Elevation	Surf.A	rea Inc	.Store Cum.Store

	Sull.Alea	IIIC.SIDIE	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
271.00	675	0	0
272.00	1,024	850	850
273.00	1,397	1,211	2,060
274.00	1,796	1,597	3,657
275.00	2,220	2,008	5,665
276.00	2,669	2,445	8,109
277.00	3,143	2,906	11,015

Type III 24-hr 25-YR Rainfall=6.20" Printed 5/8/2023 Page 15

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Elevatio (fee	on et)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
277.0	)0	3.143	0	0	
278.0	00	5,892	4,518	4,518	
279.0	00	6,838	6,365	10,883	
280.0	00	7,842	7,340	18,223	
281.0	00	8,902	8,372	26,595	
282.0	00	10,019	9,461	36,055	
282.5	50	10,598	5,154	41,209	
Device	Routing	Invert	Outlet Devices		
#1	Primary	274.00'	18.0" Round C	Culvert	
	•		L= 55.0' CPP,	square edge h	neadwall, Ke= 0.500
			Inlet / Outlet Inv	ert= 274.00' /	273.50' S= 0.0091 '/' Cc= 0.900
			n= 0.013 Corru	gated PE, smo	ooth interior, Flow Area= 1.77 sf
#2	Device 1	274.50'	1.5" Vert. Unde	erdrain Orifice	e C= 0.600
#3	Device 2	277.00'	5.000 in/hr Exfi	iltration throu	ıgh Gravel Bench over Surface area from 277.00' ⋅
			Excluded Surface	ce area = 6,28	6 sf
#4	Device 1	278.00'	20.0" W x 12.0'	' H Vert. Orifi	ce in structure wall C= 0.600
#5	Device 1	280.00'	2.5" x 2.5" Hor	iz. OCS Grate	x 6.00 columns
			X 6 rows C= 0.6	500 in 24.0" x 2	24.0" Grate (39% open area)
			Limited to weir f	low at low hea	ads
#6	Seconda	ry 280.90'	25.0' long x 20	0.0' breadth B	road-Crested Rectangular Weir
			Head (feet) 0.2	0 0.40 0.60	0.80 1.00 1.20 1.40 1.60
			Coef. (English)	2.68 2.70 2.	70 2.64 2.63 2.64 2.64 2.63

**Primary OutFlow** Max=18.8 cfs @ 12.32 hrs HW=280.76' TW=273.45' (Dynamic Tailwater) -1=Culvert (Passes 18.8 cfs of 20.9 cfs potential flow)

-2=Underdrain Orifice (Orifice Controls 0.1 cfs @ 11.99 fps) -3=Exfiltration through Gravel Bench(Passes 0.1 cfs of 0.3 cfs potential flow)

-4=Orifice in structure wall (Orifice Controls 12.0 cfs @ 7.23 fps)

-5=OCS Grate (Orifice Controls 6.6 cfs @ 4.21 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=271.00' TW=280.50' (Dynamic Tailwater) **G=Broad-Crested Rectangular Weir**(Controls 0.0 cfs)

## Summary for Pond 11P: Low Point w/ 36" Culvert

Inflow Area	ı =	6.776 ac, 22	2.13% Impe	rvious, Inflow De	pth = 3.85"	for 25-1	/R event
Inflow	=	25.1 cfs @	12.15 hrs,	Volume=	2.176 af		
Outflow	=	25.1 cfs @	12.15 hrs,	Volume=	2.176 af, At	ten= 0%,	Lag= 0.2 min
Primary	=	25.1 cfs @	12.15 hrs,	Volume=	2.176 af		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs Peak Elev= 299.39' @ 12.15 hrs Surf.Area= 220 sf Storage= 227 cf Flood Elev= 300.00' Surf.Area= 335 sf Storage= 397 cf

Plug-Flow detention time= 0.3 min calculated for 2.176 af (100% of inflow) Center-of-Mass det. time= 0.2 min (819.5 - 819.3)

 Type III 24-hr
 25-YR Rainfall=6.20"

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Volume	Inv	ert Avail.Sto	orage Storage	e Description	
#1	297.	00' 3	97 cf Custor	n Stage Data (P	rismatic)Listed below (Recalc)
Elevatio (fee	on et)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
297.0	00	28	0	0	
298.0	00	68	48	48	
299.0	00	147	108	156	
300.0	00	335	241	397	
Device	Routing	Invert	Outlet Devic	es	
#1	Primary	297.00'	36.0" Roun	d Culvert	
			L= 230.0' C Inlet / Outlet n= 0.013 Cc	PP, projecting, n Invert= 297.00' / prrugated PE, sm	o headwall, Ke= 0.900 282.50' S= 0.0630 '/' Cc= 0.900 ooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=25.0 cfs @ 12.15 hrs HW=299.39' TW=280.25' (Dynamic Tailwater) **1=Culvert** (Inlet Controls 25.0 cfs @ 4.15 fps)

#### Summary for Pond 12P: Low Point w/ 36" Culvert

Inflow Area	a =	6.297 ac, 20	0.68% Impe	rvious,	Inflow Dep	oth =	3.81"	for	25-Y	'R event	
Inflow	=	23.4 cfs @	12.15 hrs,	Volume	)=	2.001	af				
Outflow	=	23.2 cfs @	12.16 hrs,	Volume	=	2.001	af, At	ten=	1%,	Lag= 0.8	8 min
Primary	=	23.2 cfs @	12.16 hrs,	Volume	)=	2.001	af			-	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs Peak Elev= 300.30'@ 12.16 hrs Surf.Area= 547 sf Storage= 448 cf Flood Elev= 300.75' Surf.Area= 808 sf Storage= 753 cf

Plug-Flow detention time= 0.4 min calculated for 2.000 af (100% of inflow) Center-of-Mass det. time= 0.3 min (820.8 - 820.5)

Volume	Inv	ert Avail.St	orage	Storage	Description	
#1	297.	00'	973 cf	Custom	Stage Data (Pr	rismatic)Listed below (Recalc)
Elevatio	on	Surf.Area	Inc	.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubi	c-feet)	(cubic-feet)	
297.0	00	0		0	0	
298.0	00	36		18	18	
299.0	00	87		62	80	
300.0	00	374		231	310	
301.0	00	952		663	973	
Device	Routing	Inver	t Outl	et Devices	6	
#1	Primary	297.75	' 36.0	" Round	Culvert	
			L= 3	39.0' CPF	, projecting, no	headwall, Ke= 0.900
			Inlet	t / Outlet Ir	nvert= 297.75' /	297.50' S= 0.0064 '/' Cc= 0.900
			n= 0	).013 Cori	rugated PE, smo	ooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=23.2 cfs @ 12.16 hrs HW=300.30' TW=299.39' (Dynamic Tailwater) **1=Culvert** (Inlet Controls 23.2 cfs @ 3.63 fps)

## Summary for Pond 20P: Level Spreader

Inflow Area	a =	0.332 ac, 44	4.19% Imperv	ious, Inflow De	pth = 4.49"	for 25-Y	'R event
Inflow	=	1.7 cfs @	12.09 hrs, V	olume=	0.124 af		
Outflow	=	1.6 cfs @	12.09 hrs, V	olume=	0.083 af, Att	en= 6%,	Lag= 0.4 min
Primary	=	1.6 cfs @	12.09 hrs, V	olume=	0.083 af		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs Peak Elev= 339.09' @ 12.22 hrs Surf.Area= 1,329 sf Storage= 1,911 cf

Plug-Flow detention time= 168.0 min calculated for 0.083 af (67% of inflow) Center-of-Mass det. time= 71.3 min (870.7 - 799.4)

Volume	Inv	ert Avai	I.Storage	Storage [	Description	
#1	337.	00'	3,404 cf	Custom	Stage Data (Pi	rismatic)Listed below (Recalc)
Elevatio (fee	on et)	Surf.Area (sɑ-ft)	Inc (cubi	.Store c-feet)	Cum.Store (cubic-feet)	
337.0	00	550	(	0	0	
338.0	00	888		719	719	
339.0	00	1,271		1,080	1,799	
340.0	00	1,939		1,605	3,404	
Device	Routing	In	vert Outl	et Devices		
#1	Primary	339	.00' 50.0	long x 1	0.0' breadth B	road-Crested Rectangular Weir
	-		Hea	d (feet) 0.	20 0.40 0.60	0.80 1.00 1.20 1.40 1.60
			Coe	f. (English)	2.49 2.56 2.	70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.4 cfs @ 12.09 hrs HW=339.06' TW=339.03' (Dynamic Tailwater) **1=Broad-Crested Rectangular Weir** (Weir Controls 1.4 cfs @ 0.49 fps)

## Summary for Link POA-1: On-Site Stream

Inflow Area	a =	19.248 ac, 12	2.73% Impe	ervious, I	Inflow Depth =	3.7	1" for 25-	YR eve	nt
Inflow	=	51.2 cfs @	12.18 hrs,	Volume	= 5.944	l af			
Primary	=	51.2 cfs @	12.18 hrs,	Volume	= 5.944	l af,	Atten= 0%,	Lag= (	0.0 min

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

#### Summary for Link POA-2: Wetland near S. Waterboro Rd. Frontage

Inflow A	rea =	2.585 ac,	6.17% Impervious,	Inflow Depth = $3.0$	5" for 25-YR event
Inflow	=	7.3 cfs @	12.19 hrs, Volum	e= 0.658 af	
Primary	=	7.3 cfs @	12.19 hrs, Volum	e= 0.658 af,	Atten= 0%, Lag= 0.0 min

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

<b>21092 Proposed Conditions</b> Prepared by Sebago Technics, Inc. HydroCAD® 10.00-24 s/n 01856 © 2018 Hydr	Type III 24-hr 2-YR Rainfall=3.30" Printed 5/8/2023 roCAD Software Solutions LLC Page 18
Time span=0.00 Runoff by SCS TI Reach routing by Dyn-Stor-In	0-60.00 hrs, dt=0.01 hrs, 6001 points R-20 method, UH=SCS, Weighted-CN d method - Pond routing by Dyn-Stor-Ind method
Subcatchment10.0S: lower R.O.W.	Runoff Area=20,882 sf 41.17% Impervious Runoff Depth=1.77" Tc=6.0 min CN=84 Runoff=1.0 cfs 0.071 af
Subcatchment10.1S: upper R.O.W.	Runoff Area=24,933 sf 41.51% Impervious Runoff Depth=1.77" Tc=6.0 min CN=84 Runoff=1.2 cfs 0.084 af
Subcatchment10.2S: House Lot 8	Runoff Area=55,214 sf 12.69% Impervious Runoff Depth=1.28" Flow Length=310' Tc=14.8 min CN=77 Runoff=1.4 cfs 0.136 af
Subcatchment10.3S: Front Wetlands,	Runoff Area=88,533 sf 2.38% Impervious Runoff Depth=1.28" Flow Length=150' Tc=8.5 min CN=77 Runoff=2.7 cfs 0.217 af
Subcatchment10.4S: Middle Wetlands &	Runoff Area=88,945 sf 0.00% Impervious Runoff Depth=1.22" Flow Length=210' Tc=11.1 min CN=76 Runoff=2.4 cfs 0.208 af
Subcatchment10.5S: Back Wetlands &	Runoff Area=94,882 sf 0.00% Impervious Runoff Depth=1.28" Flow Length=170' Tc=8.0 min CN=77 Runoff=3.0 cfs 0.233 af
Subcatchment10.6S: Front Lower House	Runoff Area=67,506 sf 20.00% Impervious Runoff Depth=1.41" Flow Length=250' Tc=8.5 min CN=79 Runoff=2.3 cfs 0.182 af
Subcatchment10.7S: Back Lower House	Runoff Area=91,615 sf 20.52% Impervious Runoff Depth=1.41" Flow Length=250' Tc=13.9 min CN=79 Runoff=2.7 cfs 0.248 af
Subcatchment10.8S: Back of Site	Runoff Area=56,577 sf 0.00% Impervious Runoff Depth=0.89" Flow Length=770' Tc=13.3 min CN=70 Runoff=1.0 cfs 0.096 af
Subcatchment10.9S: Upper House Lots	Runoff Area=249,351 sf 18.60% Impervious Runoff Depth=1.35" Flow Length=555' Tc=11.2 min CN=78 Runoff=7.5 cfs 0.643 af
Subcatchment20.0S: Private Road	Runoff Area=14,450 sf 44.19% Impervious Runoff Depth=1.84" Tc=6.0 min CN=85 Runoff=0.7 cfs 0.051 af
Subcatchment20.1S: Wooded Area	Runoff Area=98,160 sf 0.57% Impervious Runoff Depth=0.94" Flow Length=540' Tc=12.8 min CN=71 Runoff=1.8 cfs 0.176 af
Reach 10.0R: Reach to Stream n=0.100 L	Avg. Flow Depth=0.15' Max Vel=1.30 fps Inflow=2.3 cfs 0.182 af =105.0' S=0.1095 '/' Capacity=74.9 cfs Outflow=2.3 cfs 0.182 af
Reach 10.1R: Wet Pond Overflow to n=0.100 L	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af =190.0' S=0.0632 '/' Capacity=56.9 cfs Outflow=0.0 cfs 0.000 af
Reach 10.2R: Level Spreader to Wetland n=0.400	Avg. Flow Depth=0.23' Max Vel=0.54 fps Inflow=5.8 cfs 0.933 af L=30.0' S=0.1667 '/' Capacity=22.4 cfs Outflow=5.8 cfs 0.933 af
Reach 10.3R: Wetland Flow to Stream n=0.100	Avg. Flow Depth=0.48' Max Vel=0.82 fps Inflow=5.8 cfs 0.933 af L=85.0' S=0.0118 '/' Capacity=24.5 cfs Outflow=5.8 cfs 0.933 af

21092 Proposed Conditions	Type III 24-hr 2-YR Rainfall	Type III 24-hr 2-YR Rainfall=3.30"			
Prepared by Sebago Technics, Inc.	Printed 5/8	8/2023			
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Reach 10.4R: Reach to Stream Avg. Fl n=0.100 L=175.0'	ow Depth=0.19' Max Vel=1.16 fps Inflow=2.7 cfs 0 S=0.0686 '/' Capacity=59.3 cfs Outflow=2.6 cfs 0	.248 af .248 af			
Reach 10.5R: Reach to Stream Avg. Fl n=0.100 L=175.0'	ow Depth=0.09' Max Vel=0.92 fps Inflow=1.0 cfs 0. S=0.1029 '/' Capacity=72.6 cfs Outflow=0.9 cfs 0.1	.096 af .096 af			
Reach 20R: Wooded Buffer Sheet Flow Avg. Flow n=0.400 L=90.0	ow Depth=0.01' Max Vel=0.05 fps Inflow=0.0 cfs 0. ' S=0.0889 '/' Capacity=1.2 cfs Outflow=0.0 cfs 0.	.010 af .010 af			
Pond 10P: Wet Pond (WP-1) Peak Primary=5.8 cfs 0.933	Elev=279.04' Storage=11,191 cf Inflow=10.4 cfs 0. af Secondary=0.0 cfs 0.000 af Outflow=5.8 cfs 0.9	.933 af 933 af			
Pond 11P: Low Point w/ 36" Culvert 36.0" Round Culver	Peak Elev=298.31' Storage=73 cf Inflow=9.1 cfs 0. t n=0.013 L=230.0' S=0.0630 '/' Outflow=9.1 cfs 0.	.797 af .797 af			
Pond 12P: Low Point w/ 36" Culvert 36.0" Round Culve	Peak Elev=299.09' Storage=88 cf Inflow=8.4 cfs 0. ert n=0.013 L=39.0' S=0.0064 '/' Outflow=8.4 cfs 0.	.727 af .727 af			
Pond 20P: Level Spreader Pe	eak Elev=339.01' Storage=1,809 cf Inflow=0.7 cfs 0. Outflow=0.0 cfs 0.	.051 af .010 af			
Link POA-1: On-Site Stream	Inflow=15.0 cfs_2. Primary=15.0 cfs_2.	.117 af .117 af			
Link POA-2: Wetland near S. Waterboro Rd. Fror	ntage Inflow=1.8 cfs 0. Primary=1.8 cfs 0.	.186 af .186 af			
Total Runoff Area = 21 833 ac	unoff Volume = 2 345 af Average Runoff Dent	h = 1.20			

Total Runoff Area = 21.833 acRunoff Volume = 2.345 afAverage Runoff Depth = 1.29"88.05% Pervious = 19.223 ac11.95% Impervious = 2.610 ac

<b>21092 Proposed Conditions</b> Prepared by Sebago Technics, Inc. HydroCAD® 10.00-24 s/n 01856 © 2018 Hydr	Type III 24-hr	10-YR Rainfall=4.90" Printed 5/8/2023 Page 20						
Time span=0.00 Runoff by SCS TF Reach routing by Dyn-Stor-In	Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points Runoff by SCS TR-20 method, UH=SCS, Weighted-CN Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method							
Subcatchment10.0S: lower R.O.W.	Runoff Area=20,882 sf 41.17% Impervio Tc=6.0 min CN=84	ous Runoff Depth=3.18" Runoff=1.8 cfs 0.127 af						
Subcatchment10.1S: upper R.O.W.	Runoff Area=24,933 sf 41.51% Impervio Tc=6.0 min CN=84	ous Runoff Depth=3.18" Runoff=2.1 cfs 0.152 af						
Subcatchment10.2S: House Lot 8	Runoff Area=55,214 sf 12.69% Impervio Flow Length=310' Tc=14.8 min CN=77	ous Runoff Depth=2.54" Runoff=2.9 cfs 0.268 af						
Subcatchment10.3S: Front Wetlands,	Runoff Area=88,533 sf 2.38% Impervio Flow Length=150' Tc=8.5 min CN=77	ous Runoff Depth=2.54" Runoff=5.5 cfs 0.430 af						
Subcatchment10.4S: Middle Wetlands &	Runoff Area=88,945 sf 0.00% Impervio Flow Length=210' Tc=11.1 min CN=76	ous Runoff Depth=2.45" Runoff=4.9 cfs 0.417 af						
Subcatchment10.5S: Back Wetlands &	Runoff Area=94,882 sf 0.00% Impervic Flow Length=170' Tc=8.0 min CN=77	ous Runoff Depth=2.54" Runoff=6.0 cfs 0.461 af						
Subcatchment10.6S: Front Lower House	Runoff Area=67,506 sf 20.00% Impervic Flow Length=250' Tc=8.5 min CN=79	ous Runoff Depth=2.72" Runoff=4.5 cfs 0.351 af						
Subcatchment10.7S: Back Lower House	Runoff Area=91,615 sf 20.52% Impervio Flow Length=250' Tc=13.9 min CN=79	ous Runoff Depth=2.72" Runoff=5.2 cfs 0.476 af						
Subcatchment10.8S: Back of Site	Runoff Area=56,577 sf 0.00% Impervio Flow Length=770' Tc=13.3 min CN=70	ous Runoff Depth=1.96" Runoff=2.3 cfs 0.212 af						
Subcatchment10.9S: Upper House Lots	Runoff Area=249,351 sf 18.60% Impervic Flow Length=555' Tc=11.2 min CN=78 F	ous Runoff Depth=2.63" Runoff=14.8 cfs 1.253 af						
Subcatchment20.0S: Private Road	Runoff Area=14,450 sf 44.19% Impervio Tc=6.0 min CN=85	ous Runoff Depth=3.28" Runoff=1.3 cfs 0.091 af						
Subcatchment20.1S: Wooded Area	Runoff Area=98,160 sf 0.57% Impervio Flow Length=540' Tc=12.8 min CN=71	ous Runoff Depth=2.04" Runoff=4.2 cfs 0.383 af						
Reach 10.0R: Reach to Stream n=0.100 L	Avg. Flow Depth=0.23' Max Vel=1.63 fps =105.0' S=0.1095 '/' Capacity=74.9 cfs	Inflow=4.5 cfs 0.351 af Outflow=4.5 cfs 0.351 af						
Reach 10.1R: Wet Pond Overflow to n=0.100 L	Avg. Flow Depth=0.00' Max Vel=0.00 fps =190.0' S=0.0632 '/' Capacity=56.9 cfs	Inflow=0.0 cfs 0.000 af Outflow=0.0 cfs 0.000 af						
Reach 10.2R: Level Spreader to Wetland Annual n=0.400 L	Avg. Flow Depth=0.35' Max Vel=0.72 fps =30.0' S=0.1667 '/' Capacity=22.4 cfs O	Inflow=12.3 cfs 1.800 af utflow=12.3 cfs 1.800 af						
Reach 10.3R: Wetland Flow to Stream n=0.100 L	Avg. Flow Depth=0.71' Max Vel=1.01 fps =85.0' S=0.0118 '/' Capacity=24.5 cfs O	Inflow=12.3 cfs 1.800 af utflow=12.2 cfs 1.800 af						

21092 Proposed Conditions Prepared by Sebago Technics Inc		Type III 24-hr	<i>10-YR Rainfa</i> Printed	all=4.90" 5/8/2023
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Reach 10.4R: Reach to Stream n=0.100 L=	Avg. Flow Depth=0.28'	Max Vel=1.45 fps	Inflow=5.2 cfs	0.476 af
	175.0' S=0.0686 '/' (	Capacity=59.3 cfs 0	Dutflow=5.1 cfs	0.476 af
Reach 10.5R: Reach to Stream n=0.100 L=	Avg. Flow Depth=0.15'	Max Vel=1.26 fps	Inflow=2.3 cfs	0.212 af
	175.0' S=0.1029 '/' (	Capacity=72.6 cfs 0	Dutflow=2.3 cfs	0.212 af
Reach 20R: Wooded Buffer Sheet Flow n=0.400	Avg. Flow Depth=0.05'	Max Vel=0.14 fps	Inflow=0.6 cfs	0.049 af
	L=90.0' S=0.0889 '/'	Capacity=1.2 cfs	Dutflow=0.3 cfs	0.049 af
Pond 10P: Wet Pond (WP-1)	Peak Elev=280.17' \$	Storage=19,569 cf	Inflow=20.5 cfs	1.800 af
Primary=12.3 cfs	1.800 af Secondary=	0.0 cfs  0.000 af   O	utflow=12.3 cfs	1.800 af
Pond 11P: Low Point w/ 36" Culvert	Peak Elev=298.92	2' Storage=144 cf	Inflow=17.8 cfs	1.532 af
36.0" Round C	Culvert_n=0.013_L=230	).0' S=0.0630 '/' O	utflow=17.8 cfs	1.532 af
Pond 12P: Low Point w/ 36" Culvert	Peak Elev=299.74	4' Storage=222 cf	Inflow=16.5 cfs	1.405 af
36.0" Round	Culvert_n=0.013_L=39	9.0' S=0.0064 '/' O	utflow=16.4 cfs	1.405 af
Pond 20P: Level Spreader	Peak Elev=339.05	' Storage=1,859 cf	Inflow=1.3 cfs Outflow=0.6 cfs	0.091 af 0.049 af
Link POA-1: On-Site Stream		Р	Inflow=34.6 cfs rimary=34.6 cfs	4.147 af 4.147 af
Link POA-2: Wetland near S. Waterboro Ro	I. Frontage	I	Inflow=4.2 cfs Primary=4.2 cfs	0.433 af 0.433 af
Total Runoff Area = 21.833 8	ac Runoff Volume	= 4.622 af Avera	ige Runoff De	pth = 2.54"
8	8.05% Pervious = 1	9.223 ac 11.95%	⁄₀ Impervious	= 2.610 ac

## 25-Year Plug Flow Analysis

## **21092 Proposed Conditions**

Type III 24-hr 25-YR Rainfall=6.20"Printed 5/8/2023HydroCAD Software Solutions LLCPage 22

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## Summary for Pond 10P: Wet Pond (WP-1)

Inflow Area = 8	8.044 ac, 20.64% Impervious, Inflow I	Depth = 3.82" for 25-YR event				
Inflow = 2	29.0 cfs @ 12.16 hrs, Volume=	2.562 af				
Outflow = 2	26.2 cfs @ 12.21 hrs, Volume=	1.972 af, Atten= 9%, Lag= 3.2 min				
Primary =	0.0 cfs @ 0.00 hrs, Volume=	0.000 af				
Secondary = 2	26.2 cfs @ 12.21 hrs, Volume=	1.972 af				
Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs Starting Elev= 277.00' Surf.Area= 6,286 sf Storage= 0 cf Peak Elev= 281.49'@ 12.22 hrs Surf.Area= 12,588 sf Storage= 31,056 cf Berm Elev= 282.50' Plug-Flow detention time= 132.9 min calculated for 1.971 af (77% of inflow)						

Volume	Inver	t Avail.Sto	orage Stora	age Description	
#1	271.00	'	0 cf <b>PPV</b>	(Prismatic)Listed	below (Recalc)
			11,0	15 cf Overall x 0.0	% Voids
#2	277.00	41,2	09 cf STO	<b>RAGE (Prismatic)</b>	Listed below (Recalc)
		41,2	09 cf Tota	I Available Storage	
				-	
Elevatio	on S	urf.Area	Inc.Store	e Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet	) (cubic-feet)	
271.0	00	675	(	) 0	
272.0	00	1,024	850	) 850	
273.0	00	1,397	1,211	l 2,060	
274.0	00	1,796	1,597	7 3,657	
275.0	00	2,220	2,008	3 5,665	
276.0	00	2,669	2,445	5 8,109	
277.0	)0	3,143	2,906	5 11,015	
Elovatio		urf Aroo	Inc Store	Cum Store	
	лі С s+)	(ca ft)	(cubic feet	(cubic feet)	
	, () ) ()	2 1 1 2			
277.0	0	3,143	1 5 1 0	) U D 1 5 1 0	
270.0	0	0,092	4,010	5 4,010	
279.0	0	7 842	7 340	18 223	
200.0	00	8 902	8 372	26 505	
282.0		10 019	9.46	20,050	
282.5	50	10,598	5 154	41 209	
202.0		10,000	0,10		
Device	Routing	Invert	Outlet Dev	vices	
#1	Primary	274.00'	18.0" Ro	und Culvert X 0.00	
	2		L= 55.0'	CPP, square edge	headwall, Ke= 0.500
			Inlet / Out	let Invert= 274.00' /	273.50' S= 0.0091 '/' Cc= 0.900
			n= 0.013	Corrugated PE, sm	ooth interior, Flow Area= 1.77 sf
#2	Device 1	274.50'	1.5" Vert.	Underdrain Orific	<b>e</b> C= 0.600
#3	Device 2	277.00'	<b>5.000 in/hr Exfiltration through Gravel Bench over Surface</b>		ugh Gravel Bench over Surface area from 277.00
			Excluded	Surface area = 6,28	36 sf
#4	Device 1	278.00'	20.0" W x	12.0" H Vert. Orif	ice in structure wall C= 0.600
#5	Device 1	280.00'	2.5" x 2.5	" Horiz. OCS Grat	e X 6.00 columns

21092 Proposed Conditions				Type III 24-hr 25-YR Rainfall=6.20		
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#6	Secondary	280.90'	X 6 rows C= 0.600 in 24.0" x 24 Limited to weir flow at low head <b>25.0' long x 20.0' breadth Bro</b> Head (feet) 0.20 0.40 0.60 0	4.0" Grate (39% open area) ls <b>oad-Crested Rectangular (</b> .80 1.00 1.20 1.40 1.60	Weir	

Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.63

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=271.00' TW=273.00' (Dynamic Tailwater) 1=Culvert (Controls 0.0 cfs) 2=Underdrain Orifice (Controls 0.0 cfs) 3=Exfiltration through Gravel Bench(Controls 0.0 cfs)

-4=Orifice in structure wall (Controls 0.0 cfs)

-5=OCS Grate (Controls 0.0 cfs)

Secondary OutFlow Max=26.1 cfs @ 12.21 hrs HW=281.49' TW=281.17' (Dynamic Tailwater) **G=Broad-Crested Rectangular Weir** (Weir Controls 26.1 cfs @ 1.78 fps)

#### **100-Year Plug Flow Analysis**

#### **21092 Proposed Conditions**

Type III 24-hr 100-YR Rainfall=8.10" Prepared by Sebago Technics, Inc. Printed 5/8/2023 HydroCAD® 10.00-24 s/n 01856 © 2018 HydroCAD Software Solutions LLC Page 24

## Summary for Pond 10P: Wet Pond (WP-1)

Inflow Area =	8.044 ac, 20	0.64% Impe	rvious, Infle	ow Depth =	5.56" f	or 100-	YR event
Inflow =	43.2 cfs @	12.15 hrs,	Volume=	3.725	af		
Outflow =	39.0 cfs @	12.20 hrs,	Volume=	3.135	af, Atter	ו= 10%,	Lag= 2.8 min
Primary =	0.0 cfs @	0.00 hrs,	Volume=	0.000	af		•
Secondary =	39.0 cfs @	12.20 hrs,	Volume=	3.135	af		
Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs							
Starting Elev= 277.00' Surf.Area= 6,286 sf Storage= 0 cf							
Deals Elay - 201 701	0 10 00 hm	Curf Area	- 10 00E of	Storage (	22 000 of		

Peak Elev= 281.70'@ 12.20 hrs Surf.Area= 12,825 sf Storage= 33,080 cf Berm Elev= 282.50' Plug-Flow detention time= 105.2 min calculated for 3.134 af (84% of inflow) Center-of-Mass det. time= 38.9 min (849.2 - 810.3)

Volume	Inve	rt Avail.St	orage Stor	age Description		
#1	271.0	)'	0 cf PPV	(Prismatic)Listed below (Recalc)		
			11,C	11,015 cf Overall x 0.0% Voids		
#2	277.0	D' 41,2	209 cf STC	RAGE (Prismatic)Listed below (Recalc)		
		41,2	209 cf Tota	I Available Storage		
<b>F</b> laviatia			la a Otan	Ourse Others		
Elevatio	DN 3	Surr.Area	Inc.Stor	e Cum.Store		
	el)	(sq-it)	(cubic-leel			
2/1.0	00	675	05	0		
272.0	00	1,024	85	850		
273.0	00	1,397	1,21	2,060		
274.0	00	1,796	1,59	3,657		
275.0	00	2,220	2,00	5,665		
276.0	00	2,669	2,44	8,109		
277.0	00	3,143	2,90	5 11,015		
Elevatio	on s	Surf.Area	Inc.Stor	e Cum.Store		
(fee	et)	(sq-ft)	(cubic-feet	) (cubic-feet)		
277.0	00	3,143		0 0		
278.0	00	5,892	4,51	3 4,518		
279.0	00	6,838	6,36	5 10,883		
280.0	00	7,842	7,34	) 18,223		
281.0	00	8,902	8,37	2 26,595		
282.0	00	10,019	9,46	36,055		
282.5	50	10,598	5,15	41,209		
Device	Routina	Invert	Outlet De	vices		
#1	Primary	274 00	18.0" Ro	und Culvert X 0 00		
"	1 minary	214.00	I = 55.0'	CPP square edge beadwall Ke= 0.500		
			Inlet / Out	let Invert= 274 00' / 273 50' S= 0 0091 '/'	$C_{c} = 0.900$	
			n = 0.013	Corrugated PE smooth interior Flow Area	= 1 77 sf	
#2	Device 1	274 50	1.5" Vert	Underdrain Orifice C= 0 600		
#3	Device 2	277 00	5.000 in/l	r Exfiltration through Gravel Bench over	Surface area from 277.00'	
	201100 L	211.00	Excluded	Surface area = $6.286$ sf		
#4	Device 1	278.00	20.0" W >	12.0" H Vert. Orifice in structure wall C	= 0.600	
#5	Device 1	280.00	2.5" x 2.5	" Horiz. OCS Grate X 6.00 columns		

<b>21092</b> Prepare	Proposed C ed by Sebago	onditions	Type III 24-hr	100-YR Rainfall=8.10" Printed 5/8/2023	
HydroCA	AD® 10.00-24 s/	<u>n 01856 © 2</u>	s LLC	Page 25	
#6	Secondary	280.90'	X 6 rows C= 0.600 in 24.0" x 24 Limited to weir flow at low head <b>25.0' long x 20.0' breadth Bro</b> Head (feet) 0.20 0.40 0.60 0. Coef. (English) 2.68 2.70 2.70	I.0" Grate (39% s bad-Crested Re 80 1.00 1.20 ) 2.64 2.63 2.6	open area) e <b>ctangular Weir</b> 1.40 1.60 54 2.64 2.63

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=271.00' TW=273.00' (Dynamic Tailwater) 1=Culvert (Controls 0.0 cfs) 2=Underdrain Orifice (Controls 0.0 cfs) 3=Exfiltration through Gravel Bench (Controls 0.0 cfs)

-4=Orifice in structure wall (Controls 0.0 cfs)

-5=OCS Grate (Controls 0.0 cfs)

Secondary OutFlow Max=38.8 cfs @ 12.20 hrs HW=281.70' TW=281.33' (Dynamic Tailwater) **G=Broad-Crested Rectangular Weir** (Weir Controls 38.8 cfs @ 1.95 fps)

#### Wet Pond Orifice Sizing

#### **21092 Proposed Conditions**

Starting Elevation set	to 278.00 (CPV),	No Inflow
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re Solutions LLC		Page 26

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## Summary for Pond 10P: Wet Pond (WP-1)

Inflow	=	0.0 cfs @	0.00 hrs, Volume=	0.000 af
Outflow	=	0.1 cfs @	0.00 hrs, Volume=	0.104 af, Atten= 0%, Lag= 0.0 min
Primary	=	0.1 cfs @	0.00 hrs, Volume=	0.104 af
Secondary	=	0.0 cfs @	0.00 hrs, Volume=	0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs Starting Elev= 278.00' Surf.Area= 9,035 sf Storage= 4,518 cf Peak Elev= 278.00' @ 0.00 hrs Surf.Area= 9,035 sf Storage= 4,518 cf

Plug-Flow detention time= (not calculated: no plugs found) Center-of-Mass det. time= (not calculated: no inflow)

Volume	Inver	t Avail.Sto	orage S	Storage	Description	
#1	271.00	)'	0 cf <b>F</b>	PPV (P	rismatic)Listed b	pelow (Recalc)
			1	11,015	cf Overall x 0.0%	% Voids
#2	277.00	)' 41,2	209 cf S	STORA	GE (Prismatic)	isted below (Recalc)
		41,2	209 cf T	Fotal Av	vailable Storage	
					C C	
Elevatio	on S	Surf.Area	Inc.S	Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-f	feet)	(cubic-feet)	
271.0	00	675		0	0	
272.0	00	1,024		850	850	
273.0	00	1,397	1,	,211	2,060	
274.0	00	1,796	1,	,597	3,657	
275.0	00	2,220	2,	,008	5,665	
276.0	00	2,669	2	,445	8,109	
277.0	00	3,143	2	,906	11,015	
Elevatio	on S	Surf.Area	Inc.S	Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-f	feet)	(cubic-feet)	
277.0	00	3,143		0	0	
278.0	00	5,892	4	,518	4,518	
279.0	00	6,838	6	,365	10,883	
280.0	00	7,842	7,	,340	18,223	
281.0	00	8,902	8,	,372	26,595	
282.0	00	10,019	9	,461	36,055	
282.5	50	10,598	5	,154	41,209	
Device	Routing	Invert	Outlet		es	
#1	Primary	274.00'	18.0"	Round	d Culvert	
	5		L= 55.	.0' CP	P, square edge h	neadwall, Ke= 0.500
			Inlet /	Outlet	Invert= 274.00' /	273.50' S= 0.0091 '/' Cc= 0.900
			n= 0.0	13 Co	rrugated PE, smo	ooth interior, Flow Area= 1.77 sf
#2	Device 1	274.50'	1.5" V	/ert. Ur	derdrain Orifice	e C= 0.600
#3	Device 2	277.00'	5.000	in/hr E	xfiltration throu	igh Gravel Bench over Surface area from 277.00
			Excluc	ded Sui	rface area = 6,28	6 sf
#4	Device 1	278.00'	20.0"	W x 12	.0" H Vert. Orifi	ce in structure wall C= 0.600
#5	Device 1	280.00'	2.5" x	2.5" H	oriz. OCS Grate	e X 6.00 columns
			X 6 rov	ws C=	0.600 in 24.0" x 2	24.0" Grate (39% open area)

## Wet Pond Orifice Sizing

21092 Proposed Conditions	Starting Elevation set to 278.00 (CPV),	No Inflow
Prepared by Sebago Technics, Inc.	Printed	5/8/2023
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			Limited to weir flow at low heads
#6	Secondary	280.90'	25.0' long x 20.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.1 cfs @ 0.00 hrs HW=278.00' TW=273.00' (Dynamic Tailwater) 1=Culvert (Passes 0.1 cfs of 15.3 cfs potential flow)

**2=Underdrain Orifice** (Orifice Controls 0.1 cfs @ 8.93 fps) **3=Exfiltration through Gravel Bench**(Passes 0.1 cfs of 0.3 cfs potential flow)

-4=Orifice in structure wall (Controls 0.0 cfs)

-5=OCS Grate (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=278.00' TW=280.50' (Dynamic Tailwater) **G=Broad-Crested Rectangular Weir**(Controls 0.0 cfs)



## Pond 10P: Wet Pond (WP-1)

# **Appendix 3**

## Inspection, Maintenance and Housekeeping Plan



#### INSPECTION, MAINTENANCE, AND HOUSEKEEPING PLAN

For: Brookview Estates Subdivision Lyman, Maine

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

#### Introduction

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

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

#### **During Construction**

- 1. **Inspection:** During the construction process, it is the Contractor's responsibility to comply with the inspection and maintenance procedures outlined in this section. These responsibilities include inspecting disturbed and impervious areas, erosion control measures, materials storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. These areas shall be inspected at least once a week as well as before and after a storm event (0.5" of rainfall), and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control, including the standards and conditions in any applicable permits, shall conduct the inspections.
- 2. **Maintenance:** All measures shall be maintained in an effective operating condition until areas are permanently stabilized. If Best Management Practices (BMPs) need to be maintained or modified, additional BMPs are necessary, or other corrective action is needed, implementation must be completed within 7 calendar days and prior to any storm event (0.5" of rainfall).
- 3. **Documentation:** A log summarizing the inspections and any corrective action taken must be maintained on-site. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of erosion and sedimentation controls, material storage areas, and vehicle access points to the site. Major observations must include BMPs that need maintenance, BMPs that failed

to operate as designed or proved inadequate for a particular location, and locations where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken. The log must be made accessible to the appropriate regulatory agency upon request. The permittee shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

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

## A. <u>Sediment Barriers:</u>

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

## B. <u>Riprap Materials:</u>

- Once a riprap installation has been completed, it should require very little maintenance. It shall, however, be inspected periodically to determine if high flows have caused scour beneath the riprap or dislodged any of the stone.
- C. <u>Erosion Control Blankets:</u>
  - Inspect these reinforced areas semi-annually and after significant rainfall events for slumping, sliding, seepage, and scour. Pay close attention to unreinforced areas adjacent to the erosion control blankets, which may experience accelerated erosion.
  - Review all applicable inspection and maintenance procedures recommended by the specific blanket manufacturer. These tasks shall be included in addition to the requirements of this plan.

## D. <u>Stabilized Construction Entrances/Exits:</u>

- The exit shall be maintained in a condition that will prevent tracking of sediment onto public rights-of-way.
- When the control pad becomes ineffective, the stone shall be removed along with the collected soil material. The entrance should then be reconstructed.
- Areas that have received mud-tracking or sediment deposits shall be swept or washed. Washing shall be done on an area stabilized with aggregate, which drains

into an approved sediment-trapping device (not into storm drains, ditches, or waterways).

- E. <u>Temporary Seed and Mulch:</u>
  - Mulched areas should be inspected after rain events to check for rill erosion.
  - If less than 90% of the soil surface is covered by mulch, additional mulch shall be applied in bare areas.
  - In applications where seeding and mulch have been applied in conjunction with erosion control blankets, the blankets must be inspected after rain events for dislocation or undercutting.
  - Mulch shall continue to be reapplied until 95% of the soil surface has established temporary vegetative cover.
- F. <u>Stabilized Temporary Drainage Swales:</u>
  - Sediment accumulation in the swale shall be removed once the cross section of the swale is reduced by 25%.
  - The swales shall be inspected after rainfall events. Any evidence of sloughing of the side slopes or channel erosion shall be repaired and corrective action should be taken to prevent reoccurrence of the problem.
  - In addition to the stabilized lining of the channel (i.e. erosion control blankets), stone check dams may be needed to further reduce channel velocity.
- 5. **Housekeeping:** The following general performance standards apply to the proposed project.
  - A. <u>Spill prevention</u>: Controls must be used to prevent pollutants from being discharged from materials on-site, including storage practices to minimize exposure of the materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation.
  - B. <u>Groundwater protection</u>: During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors, accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials.
  - C. <u>Fugitive sediment and dust</u>: Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control.
  - D. <u>Debris and other materials</u>: Litter, construction debris, and chemicals exposed to stormwater must be prevented from becoming a pollutant source.
  - E. <u>Trench or foundation dewatering</u>: Trench dewatering is the removal of water from trenches, foundations, cofferdams, ponds, and other areas within the construction area

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

#### Post-Construction

- 1. **Inspection:** After construction, it is the responsibility of the owner or assigned heirs to comply with the inspection and maintenance procedures outlined in this section. All measures must be maintained in effective operating condition. The owner shall inspect and maintain the BMPs, including but not limited to any parking areas, catch basins, drainage swales, detention basins and ponds, pipes and related structures, in accordance with all municipal and state inspection, cleaning and maintenance requirements of the approved post-construction stormwater management plan.
- 2. **Specific Inspection and Maintenance Tasks:** The following is a list of permanent erosion control and stormwater management measures and the inspection and maintenance tasks to be performed after construction. If the BMP requires maintenance, repair or replacement to function as intended by the approved post-construction stormwater management plan, the owner or operator of the BMP shall take corrective action(s) to address the deficiency or deficiencies as soon as possible after the deficiency is discovered and shall provide a record of the deficiency and corrective action(s) to the local municipality in the annual report.

#### A. <u>Vegetated Areas:</u>

- Inspect vegetated areas, particularly slopes and embankments, early in the growing season or after heavy rains (>0.5") to identify active or potential erosion problems.
- Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows.
- B. <u>Ditches, Swales and Other Open Channels:</u>
  - Inspect ditches, swales, level spreaders and other open stormwater channels in the spring, in the late fall, and after heavy rains to remove any obstructions to flow. Remove accumulated sediments and debris, remove woody vegetative growth that could obstruct flow, and repair any erosion of the ditch lining.
  - Vegetated ditches must be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity.
  - Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable.
  - If the ditch has a riprap lining, replace riprap in areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged.

## C. <u>Culverts:</u>

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

## D. <u>Removal of Winter Sand:</u>

- Clear accumulations of winter sand in parking lots and along roadways at least once a year, preferably in the spring.
- Accumulations on pavement may be removed by pavement sweeping.
- Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader or other acceptable method.
- E. <u>Wet Pond:</u>
  - An Inspection of the wet pond should be conducted after first major storm to ensure proper functioning. Thereafter, the wet pond should be inspected twice annually.
  - Debris and sediment buildup shall be removed as needed. Any bare area or erosion rills shall be repaired as needed.
  - See inspection log within Attachment 1 of this document for the inspection requirements of this BMP.
- F. Level Spreaders
  - The level spreader pool should be inspected after rainfall events for sediment accumulation and debris that may reduce its capacity. Sediment and debris buildup should be removed once the volume of the pool has been reduced by 25%. The level berm must be constructed so that flows slowly seep across the berm as sheet flow to the receiving downstream drainage way. Repair or reconstruction of the berm is required when flow from the spreader becomes channelized.
- G. Forested Buffer Areas
  - Remove dead wood and debris with minimal disturbance. Monitor for bypass and channelization; repair as it is occurring and remove sediment build-up to assure sheet flow conditions. Replant trees and bushes if needed. Perform monitoring on a semi-annual basis.
  - Harvesting and Weeding: Harvesting and pruning of excessive growth will need to be done occasionally. Weeding to control unwanted or invasive plants may also be necessary.

#### 3. Documentation:

- A. The owner or operator of a BMP or a qualified post-construction stormwater inspector hired by that person, shall, as required by the local municipality, provide a completed and signed certification on a form provided by the local municipality, certifying that the person has inspected the BMP(s) and that they are adequately maintained and functioning as intended by the approved post-construction stormwater management plan, or that they required maintenance or repair, including the record of the deficiency and corrective action(s) taken.
- B. A log summarizing the inspections and any corrective action taken must be maintained. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of controls. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and locations where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken. The log must be made accessible to the appropriate regulatory agency upon request. A sample "Stormwater Inspection and Maintenance Form" has been included as Attachment 1 of this Inspection, Maintenance, and Housekeeping Plan.
- **4. Duration of Maintenance:** Perform maintenance as described and required for any associated permits unless and until the system is formally accepted by a municipality or quasi-municipal district, or is placed under the jurisdiction of a legally created association that will be responsible for the maintenance of the system.
## ATTACHMENT 1 – STORMWATER INSPECTION AND MAINTENANCE LOG

## Brookview Estates Subdivision Lyman, Maine

This log is intended to accompany the Inspection, Maintenance, and Housekeeping Plan for the Brookview Estates Subdivision in Lyman, Maine. The following items shall be checked, cleaned, and maintained on a regular basis as specified in the Maintenance Plan and as described in the sections below. This log shall be kept on file for a minimum of five (5) years and shall be available for review by the Town of Lyman and the Maine DEP. Qualified personnel familiar with the drainage systems and soils shall perform all inspections. A copy of the construction and post-construction maintenance logs are provided.

#### **General Site**

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

# Wetpond

	INSPECTION MAINTEN	ANCE AND HOUSEKEEPING FORM	
General Information			
Project Name:		Inspection Date:	
Project Location:		Current Weather:	
		Date / Amount Last Precip:	
BMP Owner:		Company conducting inspection:	
Owner Mailing Address:		Company Mailing Address	
Owner Phone #:		Company Phone #:	
Owner Email:		Inspector Name:	
		Inspector Email:	
	1		
	Suggested Maintenance (recm'd		
BMP Element	frequency)	Observations	Inspection Notes/Recommended Action
Forebay/Dry Detention	Sediment/Debric Removal (Annually)		
Folia	Inspect for bare areas or rill erosion		
	(Annually)		
Outlet Control Structure	Sediment Depth (Annually)		
	Flootables (Debris (Appuelly)		
	Outlet Control Structure Orifice(s)		
	(Annually)		
Inlet Pipe	Sediment/Debris Removal (Annually)		
Diashawaa Dias			
Discharge Pipe	Review for signs of erosion (Twice		
Emergency Spillway	Annually)		
	Review for signs of discharge (>1" rain, twice annually)		
	Review for signs of erosion (Twice		
Embankments	Annually)		
Gravel Bench	Remove debris/leaf litter (Annually)		
	Review for signs of significant ponding		
	bench layer to be replaced when water		
	ponds above the permanent pool elevation longer than 72 hours.		
Additional Notes/Observation	ons:		

### **Forested Buffer**

	INSPECTION MAINTE	NANCE AND HOUSEKEEPING FORM	
General Information			
Project Name:		Inspection Date:	
Project Location:		Current Weather:	
		Date / Amount Last Precip:	
BMP Owner:		Company conducting inspection:	
Owner Mailing Address:		Company Mailing Address	
Owner Phone #:		Company Phone #:	
Owner Email:		Inspector Name:	
		Inspector Email:	
	Suggested Maintenance (recm'd		
BMP Element	frequency)	Observations	Inspection Notes/Recommended Action
Forebay/Pretreatment	Sediment/Debris Removal (Annually)		
	Inspect for bare areas or rill erosion (Annually)		
Level Spreaders	Sediment Depth (Annually)		
	Check for evidence of channelized flow (monthly)		
	Mow/Remove excessive vegetative growth (semi annually)		
Forested Buffers	Remove dead/fallen tree limbs (monthly)		
	Check for evidence of channelized flow (monthly)		
Additional Notes/Observati	ions:		

# ATTACHMENT 2 – FORESTED STORMWATER BUFFER DEED RESTRICTIONS

### Forested buffer, no disturbance

### DECLARATION OF RESTRICTIONS

### (Forested Buffer, No Disturbance)

THIS DECLARATION OF RESTRICTION	DNS is made this	day of	, 20,
by,,			,
(name)	(street	address)	
,,	County, Maine,	, (herein referre	ed to as the
(city or town) (county)	(zip	p code)	
"Declarant", pursuant to a permit received	from the Maine Departm	ent of Environmental	Protection under
the Stormwater Management Law, t	o preserve a buffer	area on a parcel	of land near
,,			· ·
(road name)	(known feature and/or	town)	
WHEREAS, the Declarant holds title to ce	rtain real property situate	ed in	, Maine
		(town)	
described in a deed from	to		, dated
(name)		(name of Declarant)	
, 20, and recorded	d in Book Page _	at the	County
Registry of Deeds, herein referred to as the	e "property"; and		

WHEREAS, Declarant desires to place certain restrictions, under the terms and conditions herein, over a portion of said real property (hereinafter referred to as the "Restricted Buffer") described as follows: (Note: Insert description of restricted buffer location here)

WHEREAS, pursuant to the Stormwater Management Law, 38 M.R.S. Section 420-D and Chapter 500 of rules promulgated by the Maine Board of Environmental Protection ("Stormwater Management Rules"), Declarant has agreed to impose certain restrictions on the Restricted Buffer Area as more particularly set forth herein and has agreed that these restrictions may be enforced by the Maine Department of Environmental Protection or any successor (hereinafter the "MDEP"),

NOW, THEREFORE, the Declarant hereby declares that the Restricted Buffer Area is and shall forever be held, transferred, sold, conveyed, occupied and maintained subject to the conditions and restrictions set forth herein. The Restrictions shall run with the Restricted Buffer Area and shall be binding on all parties having any right, title or interest in and to the Restricted Buffer Area, or any portion thereof, and their heirs, personal representatives, successors, and assigns. Any present or future owner or occupant of the Restricted Buffer Area or any portion thereof, by the acceptance of a deed of conveyance of all or part of the Covenant Area or an instrument conveying any interest therein, whether or not the deed or instrument shall so express, shall be deemed to have accepted the Restricted Buffer Area subject to the Restrictions and shall agree to

be bound by, to comply with and to be subject to each and every one of the Restrictions hereinafter set forth.

- 1. **Restrictions on Restricted Buffer Area**. Unless the owner of the Restricted Buffer Area, or any successors or assigns, obtains the prior written approval of the MDEP, the Restricted Buffer Area must remain undeveloped in perpetuity. To maintain the ability of the Restricted Buffer Area to filter and absorb stormwater, and to maintain compliance with the Stormwater Management Law and the permit issued thereunder to the Declarant, the use of the Restricted Buffer Area is hereinafter limited as follows.
  - a. No soil, loam, peat, sand, gravel, concrete, rock or other mineral substance, refuse, trash, vehicle bodies or parts, rubbish, debris, junk waste, pollutants or other fill material will be placed, stored or dumped on the Restricted Buffer Area, nor shall the topography of the area be altered or manipulated in any way;
  - b. No trees may be cut or sprayed with biocides except for the normal maintenance of dead, windblown or damaged trees and for pruning of tree branches below a height of 12 feet provided two thirds of the tree's canopy is maintained;
  - c. No undergrowth, ground cover vegetation, leaf litter, organic duff layer or mineral soil may be disturbed except that one winding path, that is no wider than six feet and that does not provide a downhill channel for runoff, is allowed through the area;
  - d. No building or other temporary or permanent structure may be constructed, placed or permitted to remain on the Restricted Buffer Area, except for a sign, utility pole or fence (whether constructed of wood, steel or other materials) and appurtenant equipment such as guys and guy anchors;
  - e. No trucks, cars, dirt bikes, ATVs, bulldozers, backhoes, or other motorized vehicles or mechanical equipment may be permitted on the Restricted Buffer Area;
  - f. Any level lip spreader directing flow to the Restricted Buffer Area must be regularly inspected and adequately maintained to preserve the function of the level spreader.

Any activity on or use of the Restricted Buffer Area inconsistent with the purpose of these Restrictions is prohibited. Any future alterations or changes in use of the Restricted Buffer Area must receive prior approval in writing from the MDEP. The MDEP may approve such alterations and changes in use if such alterations and uses do not impede the stormwater control and treatment capability of the Restricted Buffer Area or if adequate and appropriate alternative means of stormwater control and treatment are provided.

- 2. Enforcement. The MDEP may enforce any of the Restrictions set forth in Section 1 above.
- 3. **Binding Effect**. The restrictions set forth herein shall be binding on any present or future owner of the Restricted Buffer Area. If the Restricted Buffer Area is at any time owned by more than one owner, each owner shall be bound by the foregoing restrictions to the extent that any of the Restricted Buffer Area is included within such owner's property.
- 4. **Amendment**. Any provision contained in this Declaration may be amended or revoked only by the recording of a written instrument or instruments specifying the amendment or the revocation signed by the owner or owners of the Restricted Buffer Area and by the MDEP.

- 5. Effective Provisions of Declaration. Each provision of this Declaration, and any agreement, promise, covenant and undertaking to comply with each provision of this Declaration, shall be deemed a land use restriction running with the land as a burden and upon the title to the Restricted Buffer Area.
- 6. **Severability**. Invalidity or unenforceability of any provision of this Declaration in whole or in part shall not affect the validity or enforceability of any other provision or any valid and enforceable part of a provision of this Declaration.
- 7. **Governing Law**. This Declaration shall be governed by and interpreted in accordance with the laws of the State of Maine.

(NAME)

STATE OF MAINE, \_\_\_\_\_County, dated \_\_\_\_\_, 20\_.

Personally appeared before me the above named \_\_\_\_\_\_, who swore to the truth of the foregoing to the best of (his/her) knowledge, information and belief and acknowledged the foregoing instrument to be (his/her) free act and deed.

Notary Public

# **Appendix 4**

**Subsurface Investigations** 



NRCS Soil Survey Map, 21092\_.aprx

#### SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Proje	ect Name: BROCK ROAD SI	JBDIVISION	Applicant Name:	ASON PROPERTY SERV	ICES.	LLC	Project Location (municipality): LYMAN		
	Exploration Symbol:	SOIL DESCRIPTION AN	D CLASSIFICATION Test Pit	Boring		Exploration Symbol:	SOIL DESCRIPTION A	ND CLASSIFICATION Test Pit	Boring
0	1-2	Depth of Organic Horizon Above Consistence	Mineral Soil Color	Redox		Texture	Depth of Organic Horizon Abov Consistence	Mineral Soil Color	Redox
2	SANDY	FRIABLE	10YR 3/3		-	1 2 <b>SANDY</b>	FRIABLE	10YR 3/3	
3 4	LOAM		DARK BROWN		_	3 <b>LOAM</b>		DARK BROWN	
(s)					(s)	6			
Inche					Inche	8			
aCE (	LOAMY		10YR 5/6		ACE (	9 LOAMY 10 FINE		10YR 5/6 DARK YELLOWISH	
	FINE SAND		YELLOWISH		URF,	12 SAND		BROWN	
5 7/OS			BROWN		5 710 S 717	8		2.5Y 6/6 OLIVE	
20 S 782			2.5Y.6/6		RAL S	20		YELLOW	
			OLIVE			26			
NO7	GRAVELLY	FIRM	2.5Y 5/4	FEW, FINE, AND	NO7	GRAVELLY	FIRM	2 5Y 5/4	FEW, FINE, AND
H BE	SANDY			FAINT	H BE	SANDY			FAINT
DEPT			BROWN		DEPT			BROWN	
40					4	10			
50					5	50			
		LIMIT OF EXC	AVATION = 55"		6	55 50		CAVATION = 55"	
0	hydric	Slope %	Limiting factor	ground water		hydric	Slope %	Limiting factor	ground water
-  -		8-15	<u></u>	<ul> <li>restrictive layer</li> <li>bedrock</li> </ul>	-		<u>8-15</u>	26"	<ul> <li>restrictive layer</li> <li>bedrock</li> </ul>
L.S.S.	Soli Series / priase name.	BECKET	Drainage Class	Hydrologic Group	L.S.S.	Son Series / priase name	BECKET	Drainage Class	Hydrologic Group
L.S.E.	Soil Classification:	3 Profile	 Drainage Condition		L.S.E.	Soil Classification:	<u>3</u> Profile	<u>C</u> Drainage Condition	
	Exploration Symbol:	SOIL DESCRIPTION AND TP-3	Test Pit	Boring		Exploration Symbol:	SOIL DESCRIPTION A TP-4	Test Pit	Boring
		Depth of Organic Horizon Above	Mineral Soil	Redox			Depth of Organic Horizon Abov	re Mineral Soil	Pedox
1	SANDY	EDIADI E	10VB 3/3	Nedox	=		EDIADIE	10XB 3/3	NONE
3	LOAM	TRADEL	DARK		-	3 LOAM		DARK	OBSERVED
			BROWN		=	5		BROWN	
ches)					ches)	7			
<u>"</u> "			YELLOWISH		- (h	9			
10 12 12			BROWN		IRFA(			DARK	
14 15 110						14 SAND		BROWN	
18 AT SC			2.5Y 5/6		AL SC	18			
24			LIGHT OLIVE BROWN		I I.	22			
M MO	GRAVELLY	FIRM	2.5Y 5/4	FEW, FINE, AND	M MC	GRAVELLY SANDY	FIRM	2.5Y 5/3 LIGHT	
BEL(	SANDY LOAM		LIGHT	FAINT	BEL(	DOAM		OLIVE BROWN	
EPTH			BROWN		EPTH				
40						60			
50					4	50	LIMIT OF EX	CAVATION = 48"	
55 60		LIMIT OF EXC	AVATION = 55"		-	50			
-	hydric	Slope %	Limiting factor	ground water		hydric	Slope %	Limiting factor	ground water
•	non-hydric	8-15	24"	<ul> <li>restrictive layer</li> <li>bedrock</li> </ul>	•	non-hydric	8-15		<ul> <li>restrictive layer</li> <li>bedrock</li> </ul>
L.S.S.	Soil Series / phase name:	BECKET	 Drainage Class	 Hydrologic Group	L.S.S.	Soil Series / phase name	BECKET	 Drainage Class	C
L.S.E.	Soil Classification:		  Drainage Condition		L.S.E.	Soil Classification:		C	
<i>`</i>		FIOIlle	Dramage Condition			1	FIGINE		
					_			TEOFM	1111
Profe	ssional Endorsement	s (as applicable)					10	Channess and	NATIN
		$\bigcirc$	. /	)	C	Date:		GARY	
L.3.3.	signature:	the	K. 2	/	_ [	12/15/22	≣./	M.	, \ <b>≣</b>
		Com M F.	llorton		L	ic.#:		NO 355	1.5
<u> </u>	name printed/typed:		nerton		-+	402	<b>=</b> *	10.000	*
L.S.E.	312	f)	A J	/		Date: 12/15/22	111	CENSED	8
<u> </u>	signature:	- A	11			ic.#:		EEVALUA	inne
	name printed/typed: Gary M. Fullerton					355	affix professional seal		

Sebago Technics, Inc.

21092

Project Name

#### SOIL PROFILE/CLASSIFICATION INFORMATION

Project Location (municipality):

Detailed Description of Subsurface Conditions at Project Site

Applicant Name:

BROCK ROAD SUBDIVISION NASON PROPERTY SERVICES, LLC LYMAN SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring Exploration Symbol: TP-5 Test Pit Exploration Symbol: TP-6 Test Pit Boring 1-2 " Depth of Organic Horizon Above Mineral Soil " Depth of Organic Horizon Above Mineral Soil Consistence Consistence Texture Texture Color Redox Color Redox NONE NONE SANDY FRIABLE 10YR 3/4 SANDY FRIABLE 10YR 3/3 OBSERVED LOAM DARK LOAM DARK OBSERVED YELLOWISH BROWN BROWN (Inches) Inches 10YR 4/6 DARK SURFACE E C E 10 YELLOWISH BROWN 12 SUR 12 10YR 4/6 14 2.5Y 5/6 16 16 DARK SOIL LIGHT OLIVE YELLOWISH 18 18 BROWN 2.5Y 5/6 BROWN 20 ERAL BELOW MINERAL GRAVELLY SANDY FIRM 2.5Y 5/3 LIGHT OLIVE LIGHT OLIVE ŝ BROWN 26 LOAM BROWN GRAVELLY FIRM 2.5Y 5/3 30 30 Ш SANDY LIGHT OLIVE DEPTH LOAM BROWN W 40 40 41 LIMIT OF EXCAVATION = 48' 50 50 LIMIT OF EXCAVATION = 52 60 60 Slope % Limiting factor ground water Slope % Limiting factor ground water hydric hydric non-hydric restrictive layer non-hydric restrictive layer 8-15 20" 8-15 26" bedrock bedrock Soil Series / phase name BECKET WD С Soil Series / phase name: BECKET WD С .s.s ..s.s Drainage Class Hydrologic Group Drainage Class Hydrologic Group Soil Classification 3 С Soil Classification: 3 С .S.E S.E. Profile Profile Drainage Condition Drainage Condition SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Exploration Symbol: TP-7 Test Pit Boring Exploration Symbol: TP-8 Test Pit Boring 1-2\_" Depth of Organic Horizon Above Mineral Soil Depth of Organic Horizon Above Mineral Soil Texture Consistence Color Redox Texture Consistence Color Redox SANDY FRIABLE 2.5Y 3/3 SANDY FRIABLE 10YR 3/3 LOAM DARK LOAM DARK OLIVE BROWN BROWN (Inches) Inches) LOAMY LOAMY 10YR 4/6 10YR 4/6 FINE DARK FINE DARK SURFACE YELLOWISH YELLOWISH SAND SAND BROWN BROWN 12 12 SOIL 201 18 18 20 20 ERAL MINERAL SANDY COMMON. MEDIUM. 2.5Y 5/6 AND DISTINCT 24 LOAM LIGHT ş OLIVE COMMON, MEDIUM, LOWI SANDY 2.5Y 5/4 28 BROWN LIGHT AND DISTINCT LOAN 30 30 BEL ШШ GRAVELLY FIRM OLIVE DEPTH GRAVELLY FIRM BROWN SANDY SANDY LOAM ш LOAM 40 41 48 LIMIT OF EXCAVATION = 48 50 50 5 LIMIT OF EXCAVATION = 52 60 6 hydric Slope % Limiting factor ground water hydric Slope % Limiting factor ground water non-hydric restrictive layer non-hydric restrictive layer 24" 18" 8-15 8-15 bedrock bedrock SKERRY Soil Series / phase name MWD С Soil Series / phase name: SKERRY MWD D .s.s ..s.s. Drainage Class Hydrologic Group Drainage Class Hydrologic Group Soil Classification: 3 С Soil Classification: 3 С .S.E. .S.E Profile Profile Profile Drainage Condition Drainage Condition Drainage Condition Professional Endorsements (as applicable) Date L.S.S 12/15/22 signature Lic.#: Gary M. Fullerton 462 ame printed/typed Date L.S.E 12/15/22 signatur Lic.#: Gary M. Fullerton 355 affix professional seal name printed/typed:

21092

Sebago Technics, Inc.

Project Name:

#### SOIL PROFILE/CLASSIFICATION INFORMATION

Project Location (municipality):

Detailed Description of Subsurface Conditions at Project Sites

Applicant Name:

	BROCK ROAD SUBDIVISION NASON PROPERTY S				1013,1	-LO			
	I	SOIL DESCRIPTION ANI				1	SOIL DESCRIPTION AN	ID CLASSIFICATION	
	Exploration Symbol:	TP-9	Test Pit	Boring		Exploration Symbol:	TP-10	Test Pit	Boring
	<u>1-2</u>	Depth of Organic Horizon Above	Mineral Soil	Podor		<u>1-2</u>	_ Depth of Organic Horizon Above	e Mineral Soil	Podox
<u>0</u>	Texture	Consistence	Color	Redox	- 0	Texture	Consistence	COIOF	Redux
2	GRAVELLY	FRIABLE	10YR 4/6	NONE	2	GRAVELLY	FRIABLE	2.5Y 5/6	NONE
	LOAMY FINE		DARK YELLOWISH	OBSERVED				LIGHT	OBSERVED
5	SAND		BROWN		5	LOAM		BROWN	
(se)					(Se				
- uche					- r				
					10 1				
10 -10					EAC				
12 14					LAN 12				
16					5 TIC				
US _18					S _18				
ERA.			2.5Y 5/6		ERA 22				
INF -			LIGHT OLIVE		- WINE		EIDM	2 EV E/2	
MA -			Вкоти		I MO		11130	LIGHT	
	GRAVELLY	FIRM	2.5Y 5/3					OLIVE	
1 <u>2</u> –	LOAM		BROWN		E -			BROWN	
Щ	-				E D				
<mark>ا ر</mark>				+					+
40					40				
50		LIMIT OF EXC	AVATION = 48"		50				
60					60			AVATION = 52"	
L	la adata	01	1.1			he add a	01	1 too Maria and	
	nydric non-hvdric	Slope %	Limiting factor	<ul> <li>ground water</li> <li>restrictive laver</li> </ul>		nydric non-hvdric	Slope %	Limiting factor	<ul> <li>ground water</li> <li>restrictive laver</li> </ul>
<b></b> •	,	<u>8-15</u>		bedrock	<b></b>	,	<u>3-8</u>		bedrock
L.S.S.	Soil Series / phase name:	BECKET		<u> </u>	L.S.S.	Soil Series / phase name:	BECKET	WD	<u> </u>
	Soil Classification:	3	C Drainage Class	Hydrologic Group		Soil Classification:	3	C Drainage Class	Hydrologic Group
L.S.É.		Profile	Drainage Condition		L.S.E.		Profile	Drainage Condition	
	E	SOIL DESCRIPTION ANI		Dering		Employed an Ormalia	SOIL DESCRIPTION AN		Darian
	Exploration Symbol:	IP-11	lest Pit	Boring		Exploration Symbol:	<u></u>	lest Pit	
	1-2	Consistence	Mineral Soil	Redox	0	1-2	Depth of Organic Horizon Above Consistence	Mineral Soil	Redox
1					1				
_2	SANDY	FRIABLE	10YR 3/4				FRIABLE	10YR 4/6	
4	WITH		YELLOWISH		4	SAND		YELLOWISH	
_5	STONES		BROWN		5	WITH		BROWN	
seu 7					set 7	STUNES			
[µC]					(Incl				
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47 P			BROWN		AL 5				AND DISTINCT
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W					1W / 26				
- [ð		FIRM	2.5Y 5/3		- FO	SANDY	FIRM	2.57.5/3	
BE			OLIVE		BE	LOAM		LIGHT	
1 <u>4</u> –			BROWN		E –	WITH		OLIVE	
出 —					<u>н</u> —	STORES		BROWN	
40					40				
50					50		<u> </u>		
54							LIMIT OF EXC	AVATION = 50"	_
60			AVATION - 54		60				+
•	hydric	Slope %	Limiting factor	ground water		hydric	Slope %	Limiting factor	ground water
	non-nydric	8-15	12"	<ul> <li>restrictive layer</li> <li>bedrock</li> </ul>		non-nydric	8-15	15"	<ul> <li>restrictive layer</li> <li>bedrock</li> </ul>
L.S.S	Soil Series / phase name:	WESTBURY	SPD	D	L.S.S	Soil Series / phase name:	WESTBURY	SPD	<b>D</b>
	0.11.01	•	Drainage Class	Hydrologic Group		0.11.01		Drainage Class	Hydrologic Group
L.S.E.	Soil Classification:	 Profile	D Drainage Condition		L.S.E.	Soil Classification:	3 Profile	C Drainage Condition	
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					Li	c.#:		NO 255	
	name printed/typed:	Gary M. Fu	llerton			462	=*	NO. 355	1*3
		$\cap$	. /	)		ate:		1 Longo	
L.S.E.		11	A J	/		12/15/22	11.	RENSE	O
	signature:	CAR	12.1		<u> </u>		111	EEVALUA	inth.
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	name printed/typed: Gary M. Fullerton					355	affix professional soal		

Project Name:

#### SOIL PROFILE/CLASSIFICATION INFORMATION

Project Location (municipality):

Detailed Description of Subsurface Conditions at Project Sites

Applicant Name:

	BROCK ROAD SUBDIVISION		N/	ASON PROPERTY SERV	CES, I	LLC		LYMAN	
		SOIL DESCRIPTION AND	D CLASSIFICATION				SOIL DESCRIPTION AN	D CLASSIFICATION	
	Exploration Symbol:	TP-13	Test Pit	Boring		Exploration Symbol:	TP-14	Test Pit	Boring
_	1-2_ ₀ Texture	Depth of Organic Horizon Above Consistence	e Mineral Soil Color	Redox		Texture	Depth of Organic Horizon Above	Mineral Soil Color	Redox
	2 LOAMY	FRIABLE	10YR 4/6		2	LOAMY	FRIABLE	10YR 4/6	
-	3 FINE 4 SAND		DARK YELLOWISH			FINE SAND		DARK YELLOWISH	
	5		BROWN		5	UNIT OF IT		BROWN	
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ns -	4				NS 14				
-  - 20/1	8				10S	5			
7 - <sup>2</sup>	10				JA2				
L E	GRAVELLY		2.5Y 5/6		_ NE				
N -	SAND				NN-				
- 10 - 10 - 10	10		BROWN		073				
H - H					H B				
	16				EP]				
<sup>'</sup> -	10			COMMON, MEDIUM.	7	GRAVELLY SAND		2.5Y 5/4 LIGHT OLIVE	AND DISTINCT
				AND DISTINCT	48			BROWN	
5	i0 i5					WITH STONES	FIRM	2.5Y 5/3 LIGHT OLIVE	
6	10	LIMIT OF EXC	AVATION = 55"		55	5		BROWN	
•	hydric	Slope %	Limiting factor	<ul> <li>ground water</li> </ul>		l hydric	Slope %	Limiting factor	<ul> <li>ground water</li> </ul>
•	non-hydric	0-3	36"	<ul> <li>restrictive layer</li> <li>bedrock</li> </ul>	•	non-hydric	0-3	36"	<ul> <li>restrictive layer</li> <li>bedrock</li> </ul>
L.S.S.	Soil Series / phase name:	CROGHAN	 Drainage Class	A Hydrologic Group	L.S.S.	Soil Series / phase name	SKERRY	MWD Drainage Class	 Hydrologic Group
L.S.E.	Soil Classification:	<b>5</b> Profile	 Drainage Condition		L.S.E.	Soil Classification:	 Profile	C Drainage Condition	
	Exploration Symbol:	SOIL DESCRIPTION AND	D CLASSIFICATION	Boring		Exploration Symbol:	SOIL DESCRIPTION AN	D CLASSIFICATION	Boring
	1-2	" Depth of Organic Horizon Above	Mineral Soil	Doning		1-2	" Depth of Organic Horizon Above	Mineral Soil	
_	• Texture	Consistence	Color	Redox		Texture	Consistence	Color	Redox
		FRIABLE	10YR 3/4			SANDY LOAM	FRIABLE	10YR 4/6	
-	3 LOAM		YELLOWISH		4	5 2		YELLOWISH	
	5		BROWN		5	5		BROWN	
hes)	7				ches)	5 7			
<u>–</u>	8				(Inc				
ACE	0				ACE	0			
В -	2			COMMON. MEDIUM.		2			
1 2	6			AND DISTINCT	S 7/C				
1 SC 1		CEMENTED	7.5YR 3/4 DARK		OS 18	5 8			AND DISTINCT
ERA 	SAND		BROWN		ERA 				
NW -					NIN -				
MO 2	18				MO 28				
BEL	SANDY	FIRM	2.5Y 5/3		BEL	GRAVELLY	CEMENTED	7.5YR 3/4	
E -			LIGHT OLIVE		HTH -	COARSE		DARK	
<u>اط</u> _	WITH STONES	LIMIT OF EXC	AVATION = 36"		E E	SAND		BROWN	
_4	10				40				
5	10				50	SANDY LOAM		2.5Y 5/3	
6	10				55	WITH STONES	FIRM	BROWN	
-	hydric	Slope %	Limiting factor	ground water	-	hydric	LIMIT OF EXC	AVATION = 55"	ground water
•	non-hydric	3-8	10"	<ul> <li>ground water</li> <li>restrictive layer</li> </ul>		non-hydric	3-8	15"	<ul> <li>restrictive layer</li> </ul>
	Soil Series / phase name:	WESTBURY	SPD	D bedrock		Soil Series / phase name	WESTBURY	SPD	D bedrock
L.S.S.			Drainage Class	Hydrologic Group	L.S.S.			Drainage Class	Hydrologic Group
L.S.E.	Soil Classification:	<u>3</u> Profile	D Drainage Condition		L.S.E.	Soil Classification:	3 Profile	C Drainage Condition	
		1 Tomo	Brainago contaition		L,				
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	name printed/typed:	Gary M. Fu	llerton			462	三*	NO. 355	<b>!</b> ★≣
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	nome printed to medi	Garv M. Fu	llerton			355	offix profocological	//////////////////////////////////////	11
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#### SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name: Applicant Name: BROCK ROAD SUBDIVISION NASON PROPERTY SE					/ICFS	110	Project Location (m	unicipality):	
	Exploration Symbol:	SOIL DESCRIPTION AN	D CLASSIFICATION Test Pit	Boring		Exploration Symbol:	SOIL DESCRIPTION A	ND CLASSIFICATION Test Pit	Boring
	1-2 Texture	Depth of Organic Horizon Above Consistence	Mineral Soil Color	Redox		• Texture	Depth of Organic Horizon Abov Consistence	Mineral Soil	Redox
1 2	SANDY	FRIABLE	10YR 4/6		-	1 2 <b>SANDY</b>	FRIABLE	10YR 3/3	
4	LOAM		DARK YELLOWISH		-	3 LOAM 4		DARK BROWN	
ss)  " "			BROWN		(Se	6			
(Inche					(Inche	8		10YR 4/6	
=ACE					=ACE	9		YELLOWISH	
					SUR	12		BROWN	
					NOS .	18			
ERAL		EIDM	2 EV E/2		I I	20			
		FINM	LIGHT		VIW N		FIRM	2.57.5/4	
			BROWN		107 <u>3</u> ELOI	30		LIGHT	AND DISTINCT
HLL 34				COMMON, MEDIUM,	HTH I	34		BROWN 2 5X 5/3	
Щ — Ш —	GRAVELLY				- DE				
	LOAM				-	48 LOAM		BROWN CAVATION = 48"	
52			AVATION = 52"		-	60			
	hydric.	Slope %	Limiting factor	n ground water	-	bydric	Slope %	Limiting factor	ground water
•	non-hydric	<u>3-8</u>		restrictive layer     bedrock	•	non-hydric	3-8	24"	<ul> <li>restrictive layer</li> <li>bedrock</li> </ul>
L.S.S.	Soil Series / phase name:	SKERRY	_MWD_ Drainage Class	D	L.S.S.	Soil Series / phase name	SKERRY	MWD Drainage Class	
L.S.E.	Soil Classification:	3_	C		L.S.E.	Soil Classification:		C	
	Exploration Symbol:	SOIL DESCRIPTION ANI		Boring		Exploration Symbol:	SOIL DESCRIPTION A	ND CLASSIFICATION	Boring
	1-2	Depth of Organic Horizon Above	Mineral Soil			1-2	P-20	Mineral Soil	
1	Texture	Consistence	Color	Redox	-	Texture	Consistence	Color	Redox
3	SANDY LOAM	FRIABLE	10YR 3/3 DARK		-	2 SANDY 3 LOAM	FRIABLE	10YR 3/3 DARK	
			BROWN		-	4		BROWN	
ches)					ches)	6			
"" "					- I Ц	9		40/5 4/0	
					URFA(	10		DARK YELLOWISH	
<sup>±</sup>   <sup>±</sup>			BROWN		011 5	15		2 EV 5/4	
18 20 S 7F2			2.5Y 5/4	COMMON, MEDIUM,	S'AL S	20		LIGHT	AND DISTINCT
MINEF			OLIVE		MINEF			BROWN	
LOW					TOW I				
38 H					TH BE				
DEP1	GRAVELLY SANDY	FIRM	2.5Y 5/3 LIGHT		DEPT	36			
40	LOAM		OLIVE BROWN		-	40 GRAVELLY SANDY	FIRM	2.5Y 5/3 LIGHT	
50						50 LOAM		OLIVE BROWN	
60		LIMIT OF EXC	AVATION = 52"			60		CAVATION = 52"	
•	hydric non-hydric	Slope % 	Limiting factor	ground water     restrictive layer     bedrock	•	hydric non-hydric	Slope %	Limiting factor	ground water     restrictive layer     bedrock
L.S.S.	Soil Series / phase name:	WESTBURY	 Drainage Class	 Hydrologic Group	L.S.S.	Soil Series / phase name	WESTBURY	<b>SPD</b> Drainage Class	<b>D</b> Hydrologic Group
L.S.E.	Soil Classification:	 Profile	 Drainage Condition		L.S.E.	Soil Classification:	 Profile	C Drainage Condition	
									11.
								ATE OF MA	NE
L.S.S	essional Endorsement		1 /1	)	[	Date:		GARY	
	signature:	Chy	19. 2			12/15/22	1	FULLERTO	N
	name printed/typed:	Garv M. Fu	llerton		ľ	462	≣*	NO. 355	/* <u>=</u>
L.S.E		$\int$	r D			Date: 12/15/22		LICENSED	8
<u> </u>	signature:	8				_ic.#:	- 11	EEVALUA	inne
	name printed/typed: Gary M. Fullerton					355	affix professional seal		

#### SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Site

Project Name Applicant Name: Project Location (municipality): BROCK ROAD SUBDIVISION NASON PROPERTY SERVICES, LLC LYMAN SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Exploration Symbol: TP-21 Test Pit Boring Exploration Symbol: TP-22 Test Pit Boring 1-2 " Depth of Organic Horizon Abo ve Mineral Soil Depth of Organic Horizon Above Mineral Soil Consistence Consistence Color Redox Texture Texture Color Redox SANDY FRIABLE 10YR 4/6 SANDY FRIABLE 10YR 4/6 \_ LOAM DARK LOAM DARK \_\_\_\_3 YELLOWISH YELLOWISH BROWN (Inches) 
 DEPTH BELOW MINERAL SOIL SURFACE (inches)

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 | SOIL SURFACE 14 COMMON, MEDIUM, AND DISTINCT 16 2.5Y 5/4 COMMON. MEDIUM. 2.5Y 5/4 LIGHT 18 AND DISTINCT LIGHT OL IVE DEPTH BELOW MINERAL. OLIVE BROWN BROWN 30 FIRM SANDY 2.5Y 5/3 LIGHT LOAM 36 WITH STONES SANDY FIRM 2.5Y 5/3 BROWN LOAM WITH STONES LIGHT BROWN 120 120 LIMIT OF EXCAVATION = 120 LIMIT OF EXCAVATION = 120 ground water ground water hydric Slope % Limiting facto hydric Slope % Limiting facto non-hydric restrictive layer non-hydric restrictive layer 8-15 14" 8-15 12" bedrock bedrock Soil Series / phase name: WESTBURY SPD D Soil Series / phase name: WESTBURY SPD D ..s.s L.S.S Drainage Class Hydrologic Group Drainage Class Hydrologic Group Soil Classification: 3 D Soil Classification: 3 D ..S.E L.S.E Profile Profile Drainage Condition
SOIL DESCRIPTION AND CLASSIFICATION Profile Drainage Condition SOIL DESCRIPTION AND CLASSIFICATION Exploration Symbol: Test Pit Boring Exploration Symbol: Test Pit Boring Depth of Organic Horizon Above Mineral Soil Depth of Organic Horizon Above Mineral Soil Consistence Texture Color Redøx Texture Consistence Color Redox \_ \_\_\_\_\_6 (Inches) (Inches) SURFACE 12 SOIL BELOW MINERAL 20 BELOW 30 30 DEPTH L DEPTH 40 4 50 50 60 \_\_\_\_60 hydric Slope % Limiting factor ground water hydri Slope % Limiting factor ground water non nydric restrictive layer non-hydric restrictive layer bedrock bedrock Søll Series / phase name: Soil Series / phase name .s.s L.S.S Drainage Class Hydrologic Group Drainage Class Hydrologic Group Soil Classification: Soil Classification: .s⁄ŧ ..sÆ Profile Profile Drainage Condition ofile Drainage Condition Drainage Condition Professional Endorsements (as applicable) Date L.S.S 12/15/22 sianature Lic.#: Gary M. Fullerton 462 ame printed/typed Date L.S.E 12/15/22 signature Lic.#: Gary M. Fullerton 355 affix professional coal name printed/typed:

21092

Sebago Technics, Inc.

# **Appendix 5**

**Stormwater Management Plans** 

# EXISTING CONDITIONS LEGEND



TIME OF CONCENTRATION REACH SUBCATCHMENT LABEL

SUBCATCHMENT BOUNDARY

REACH

POINT OF ANALYSIS

STORMWATER TREATMENT/DETENTION POND

SOILS BOUNDARY

# SOIL TYPES

SYMBOL	SLOPE	HSG	DRAINAGE CLASS
BcB	3-8%	С	WELL DRAINED
BeC	8-15%	С	WELL DRAINED
SkA	0-3%	С	MODERATELY WELL DRAINED
SrB	0-8%	C/D	MODERATELY WELL DRAINED
WeB	3-8%	D	SOMEWHAT POORLY DRAINED

NOTES: 1. SOIL DELINEATIONS AND HYDROLOGIC SOIL GROUPS SHOWN ARE BASED ON THE COMBINATION OF TEST PIT DATA AND THE CLASS 'D' MEDIUM INTENSITY SOIL SURVEY OF YORK COUNTY MAINE, PUBLISHED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE (USDA) AND NATURAL RESOURCES CONSERVATION SERVICE, LATEST REVISION. SEE THE FULL STORMWATER REPORT FOR MORE INFORMATION.

Tc PATHS NOT SHOWN ARE ASSUMED TO HAVE A MINIMUM VALUE OF 6 MINUTES BASED ON TR-55 STANDARDS.

STORMWATER PEAK DISCHARGE SUMMARY TABLE							
POINT OF	2-YEAF	RSTORM	10-YEAF	R STORM	25-YEAR STORM		
ANALYSIS	PRE (CFS)	POST (CFS)	PRE (CFS)	POST (CFS)	PRE (CFS)	POST (CFS)	
POA-1	15.3	15.0	35.1	34.6	52.9	51.2	
POA-2	2.1	1.8	4.8	4.2	7.4	7.3	





# PROPOSED CONDITIONS LEGEND



\_

HSG #

SUBCATCHMENT BOUNDARY TIME OF CONCENTRATION

REACH

SUBCATCHMENT LABEL

REACH

POINT OF ANALYSIS

STORMWATER TREATMENT/DETENTION POND

SOILS BOUNDARY

# SOIL TYPES

SYMBOL	SLOPE	HSG	DRAINAGE CLASS
BcB	3-8%	С	WELL DRAINED
BeC	8-15%	С	WELL DRAINED
SkA	0-3%	С	MODERATELY WELL DRAINED
SrB	0-8%	C/D	MODERATELY WELL DRAINED
WeB	3-8%	D	SOMEWHAT POORLY DRAINED

NOTES: 1. SOIL DELINEATIONS AND HYDROLOGIC SOIL GROUPS SHOWN ARE BASED ON THE COMBINATION OF TEST PIT DATA AND THE CLASS 'D' MEDIUM INTENSITY SOIL SURVEY OF YORK COUNTY MAINE, PUBLISHED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE (USDA) AND NATURAL RESOURCES CONSERVATION SERVICE, LATEST REVISION. SEE THE FULL STORMWATER REPORT FOR MORE INFORMATION.

Tc PATHS NOT SHOWN ARE ASSUMED TO HAVE A MINIMUM VALUE OF 6 MINUTES BASED ON TR-55 STANDARDS.

STORMWATER PEAK DISCHARGE SUMMARY TABLE								
POINT OF	2-YEAF	RSTORM	10-YEAF	R STORM	25-YEAR STORM			
ANALYSIS	PRE (CFS)	POST (CFS)	PRE (CFS)	POST (CFS)	PRE (CFS)	POST (CFS)		
POA-1	15.3	15.0	35.1	34.6	52.9	51.2		
POA-2	2.1	1.8	4.8	4.2	7.4	7.3		
POA-1         15.3         15.0         35.1         34.6         52.9         51.2           POA-2         2.1         1.8         4.8         4.2         7.4         7.3								



