

TOWN OF NAPLES PLANNING BOARD APPLICATION

P.O. Box 1757, Naples, Maine 04055
Phone: (207) 693-6364 / Fax: (207) 693-3667
www.townofnaples.org

Major Site Plan Review Application

Date: 1-28-2022

Owner/Applicant Name: ATLAS HOLDINGS, LLC (DBA GREAT NORTHERN DOCKS)

Mailing Address: 1114 ROOSEVELT TRAIL, NAPLES, ME 04055

Telephone: (207) 693 - 3770 Email: SAM@GREATNORTHERNDOCKS.COM

Property Owner: ATLAS HOLDINGS, LLC

Property Location: 1114 ROOSEVELT TRAIL Map & Lot: MAP U-33, LOT 13

Any easements, covenants, or deed restrictions related to the property? NONE KNOWN

Zoning District: COMMERCIAL Waivers requested: NONE


A list must be submitted for waivers

Name, address, & phone # of applicants engineer, land surveyor or planner: _____

DUSTIN ROMA, PE DM ROMA CONSULTING ENGINEERS (207) 310 - 0506

PO BOX 1116, WINDHAM, ME 04062 DUSTIN@DMROMA.COM

The undersigned, being the applicant, owner or legally authorized representatives, states that all information contained in this application is true and correct to the best of his/her knowledge and hereby does submit the information for review by the Town and in accordance with applicable ordinances, statues, and regulation of the Town, State and Federal governments.

Date: 1-28-2022 Signature: 

All applications will be reviewed by a town-contracted planner to ensure all information necessary is provided. After your submission, we will contact you with the total price and the date that your application will be reviewed by the Planning Board.

Fee Schedule:

Advertising: \$50.00 Aquatic Structure (non-commercial): \$50.00

Fee per abutter: \$10.00

Under 1,000 sq. ft. gross floor area: \$300.00

1,000 – 10,000 sq. ft. gross floor area: \$400.00

Over 10,000 sq. ft. gross floor area: \$400.00

**Plus \$25.00 for each 1,000 sq. ft. over 10,000

Development without building: \$400.00

Review Escrow: \$2,000.00

Modification of approved plan: \$100.00

Commercial Annual Renewal: \$50.00

Applicants Total: \$ _____

Please include one hard copy, and one digital copy of all supporting documents, including a letter of intent when submitting your application. After it is reviewed by a town-contracted planner, 9 final copies will be needed before your hearing date is scheduled.

TOWN OF NAPLES
Planning Board Checklist of Submitted Materials
For
SITE PLAN REVIEW

| Preliminary Application | | Submitted by Applicant | Not Applicable | Applicant Request to be waived | Rcvd. By PB | Waived by PB |
|--------------------------------|---|------------------------|----------------|--------------------------------|-------------|--------------|
| Required | | | | | | |
| | Letter of Intent | X | | | | |
| | Application form | X | | | | |
| | Fees | X | | | | |
| | List of any waivers requested | NONE | | | | |
| | 8 copies of plans | X | | | | |
| Final Application | | X | | | | |
| | Site Plan (drawn at a scale sufficient to review items in section 6 of the ordinance but not more than 100 feet to the inch and showing: | X | | | | |
| | Owners name, address and signature | X | | | | |
| | Perimeter survey of parcel made and certified by a registered land surveyor | X | | | | |
| | Total area of any land within 500 feet of the proposed project which is owned by the applicant | X | | | | |
| | Zoning classifications of the property and location of zoning district boundaries if the property is located in two or more zoning districts | X | | | | |
| | Soil types and location of soil boundaries as certified by a registered engineer or certified soil scientist | X | | | | |
| | Location of all building setbacks as required by town ordinances | X | | | | |
| | Location, size and character of all signs in exterior lighting | X | | | | |
| | Lots area of the parcel, street frontage and minimum lot size and frontage | X | | | | |
| | Location of all existing and proposed buildings, driveways, sidewalks, parking spaces, loading areas, open spaces, large trees, open drainage courses, signs, exterior lighting, service areas, easements and landscaping | X | | | | |
| | Location of all buildings within 50 feet of the parcel and the location of intersecting roads are driveways within 200 feet of the parcel | X | | | | |
| | Existing and proposed topography of the site at 2 foot print to war intervals if major changes to the existing topography are being proposed | X | | | | |
| | All surface water features within 500 feet of the project boundaries including perennial streams and wetlands | X | | | | |
| | Location and dimensions of on-site pedestrian and vehicle or vehicle dealer | X | | | | |

| | | | | | | |
|---|--|---|--|--|--|--|
| | access ways, parking areas, loading and unloading facilities, design of entrances and exits of vehicles to and from the site on to public streets, curve and sidewalks | X | | | | |
| | Location of all Wells and septic systems within 150 feet of the property boundary | X | | | | |
| | Existing land cover and vegetation conditions | X | | | | |
| | Drainage plan to describe the location and size of road culprits, road drainage, ditches, phosphorus and run off control measures and other similar features | X | | | | |
| | On-site soil and investigation report by a DHS licensed site evaluator | X | | | | |
| | Statement from the Fire Chief that the property is accessible by present fire apparatus and detailing any additional on-site fire protection facilities required | X | | | | |
| Soil and erosion control plan app approved by the Cumberland County soil and water conservation District show when | | | | | | |
| | Existing and proposed method of handling storm water runoff | X | | | | |
| | Direction and flow of the run off through the use of air rose | X | | | | |
| | Location, location and size of all catch basins, dry wells, drainage ditches, Swales, retention basins and storm sewers | X | | | | |
| | Engineering calculation used to determine drainage requirements based upon a 25 year storm frequency, if the project will significantly alter the existing patterns due to such factors such as the amount of new impervious surfaces being proposed | X | | | | |
| | Phosphorus and analysis; required if the proposed project is within the Shoreland zone or the non-vegetative areas exceed 40,000 ft. ² . If required, the analysis of prosperous loading shall utilize the methods contained in the latest revised edition of the manual underlying phosphorus control and Lake watersheds and underline, published by the main DTP, and shall require third-party review | X | | | | |
| | A utility plan showing provisions for the water supply and wasteland disposal, including the size and location of all piping, holding tanks, leach field, etc. | X | | | | |
| | Building plan showing all of the floors and elevations | X | | | | |
| | Evidence of applicants right and or title to the property, and copies of any proposed or existing easements, convey ends and deed restrictions | X | | | | |
| | Description and he sign a proposed temporary and permanent signs, including location, size and lighting | X | | | | |
| | Copies of all required state approvals and permits | X | | | | |

Any of the requirements may be waived by the planning board if it is deemed that because of the special circumstances of the site as long as the burden is upon the applicant and would not adversely affect a building landowners and the general health, safety and welfare of the town. Please note any request for waivers will be requested as part of the application process, and any waivers that are granted must be listed on the final plan.

DECISION

Based upon the applicant's presentation and the application materials and supporting documents submitted by the applicant, the Planning Board approved/denies the application for Major Site Plan approval.

Approval with conditions:

The application is approved, subject to the meeting the following conditions:

A. Standard conditions of approval:

1. This approval is limited to development only as described and shown on the plans and documents presented.
2. The project must comply at all times with all applicable federal, state and local approval to which it is subject.
3. Copies of all required State permits and/or letters of approval (DOT, Fire Marshall, DEP, etc.) shall be submitted to the Naples Code Enforcement Officer prior to completion of project.
4. Any required stormwater and phosphorus controls shown on the site plan must be inspected by a licensed engineer or other certified individual and a signed statement that the controls were installed as presented in the plans is to be provided to the Naples CEO prior to the building being placed in service.
5. For amendment to previously approved site plan, all previously conditions of approval, if any, shall remain in force unless explicitly changed by the Planning Board.

B. Project- Specific Conditions of Approval:

Naples Planning Board Chairman

Date:

Specific conditions of approval for this project are enumerated in Appendix I.

September 27, 2021

Re: Naples and Bridgton properties

Atlas Holdings LLC is the owner of the following two properties:

- 1114 Roosevelt Trail, Naples, Maine – Tax Map U-33, Lot 13
- 0 Portland Road, Bridgton, Maine – Tax Map 6, Lots 28 & 30

Atlas Holdings LLC has retained the services of DM Roma Consulting Engineers to act as authorized agent to apply for land use permits associated with development of these two parcels of land.

Sincerely,

A handwritten signature in cursive script that reads "Sam Merriam".

Sam Merriam

Atlas Holdings, LLC

AFFIDAVIT OF SOLE MEMBER AND MANAGER

The undersigned, Samuel A. Merriam, hereby states as follows:

1. I am the sole member, sole manager, and registered agent of **Atlas Holdings LLC**, formerly known as **1114 Roosevelt Trail, LLC**, a Maine limited liability company.
2. On or about June 22, 2018, 1114 Roosevelt Trail, LLC, took title to certain real property in Naples, Cumberland County, Maine, by deed recorded in the Cumberland County Registry of Deeds at Book 34962, Page 48.
3. On or about October 5, 2018, I caused a Certificate of Amendment to be filed with the Maine Secretary of State changing the name of 1114 Roosevelt Trail, LLC, to Atlas Holdings LLC, a true and accurate copy of which Certificate of Amendment is attached hereto.
4. This affidavit is recorded in the Cumberland Registry of Deeds to provide notice of the name change of the LLC in the land records of Cumberland County, Maine.

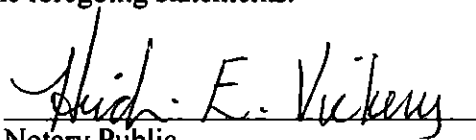
Dated: November 28, 2018



Samuel A. Merriam

STATE OF MAINE
CUMBERLAND, ss.

Personally appeared before me this 28 day of November, 2018, the above named Samuel A. Merriam and made oath as to the truth of the foregoing statements.



Notary Public

Print name: HEIDI E. VICKERY
Notary Public, Maine
Date commission expires: My Commission Expires February 16, 2023

SEAL

Received
Recorded Register of Deeds
Dec 10, 2018 09:12:02A
Cumberland County
Nancy A. Lane

After recording return to:
Michael W. Macleod-Ball, Esq.
Bergen & Parkinson, LLC
62 Portland Road, Suite 25
Kennebunk, ME 04043

3
RM

Space Above This Line For Recording Data

QUITCLAIM DEED WITH COVENANT

DLN: 1001840031196

KNOW ALL PERSONS BY THESE PRESENTS, that **FREMONT A. MERRIAM** and **NORMA B. MERRIAM**, FOR CONSIDERATION PAID, hereby grants to **1114 ROOSEVELT TRAIL, LLC**, a Maine limited liability company, with a mailing address of 1114 Roosevelt Trail, Naples, ME 04055, with QUITCLAIM COVENANTS, a certain lot or parcel of land, together with any improvements thereon and all rights appurtenant thereto, commonly known and designated as 1114 Roosevelt Trail, located in the Town of Naples, Cumberland County, Maine; being more particularly described as follows:

SEE EXHIBIT A ATTACHED HERETO AND
INCORPORATED HEREIN BY REFERENCE

IN WITNESS WHEREOF, Fremont A. Merriam and Norma B. Merriam have hereunder set their hands and seals as of this ___ day of June, 2018.

Lauryn J. Lenoir
Witness

Fremont A. Merriam
Fremont A. Merriam

Lauryn J. Lenoir
Witness

Norma B. Merriam
Norma B. Merriam

STATE OF MAINE
York County, ss.

June 22, 2018

Personally appeared the above-named Fremont A. Merriam and Norma B. Merriam and acknowledged the foregoing instrument to be their free act and deed.

Before me,
Jenifer J. Damon
Attorney at Law/Notary Public

SEAL

JENIFER J. DAMON
Notary Public, Maine
My Commission Expires May 2, 2019

MAINE REAL ESTATE TAX PAID

EXHIBIT A

Three separate lots or parcels of land located along Route 302 in the Town of Naples, County of Cumberland and State of Maine, being bounded and described as follows:

PARCEL I

Beginning on the westerly side of the road leading from Naples to Bridgton, known as State Highway No. 302, at the common corner of the parcel of land herein conveyed and a parcel of land formerly owned by Edward E. Jewett, formerly owned by Edith Leavitt, and now or formerly owned by the Town of Naples;

Thence running in a westerly direction by the said Town of Naples land to land formerly owned by Cyrus M. Lamb now or formerly owned by Mainard Chaplin;

Thence northerly by said Chaplin land;

Thence easterly by said Chaplin land;

Thence southerly by land formerly of B.F. Graffam, formerly of Weston Dunn, now or formerly owned by Paul Clancey;

Thence easterly by said Clancey land to the said Naples-Bridgton Road; and

Thence southerly by said road to the point of beginning.

EXCEPTING from the property outlined above those lots or parcels of land as conveyed by the grantor herein by deed dated March 8, 1993 and recorded in the Cumberland County Registry in Book 10585, Page 263 and another parcel of land conveyed by deed dated November 26, 2002 and recorded in the Cumberland County Registry of Deeds in Book 18500, Page 327.

Meaning and intending to convey and hereby conveying the same premises as described in Quitclaim Deed with Covenant from Fremont A. Merriam and Norma B. Merriam to Fremont A. Merriam and Norma B. Merriam dated June 15, 2006 and recorded in Cumberland County Registry of Deeds in Book 24610, Page 66.

PARCEL II

Beginning and commencing at an iron pin at the common corner and property of the grantor herein, the grantees herein and property now or formerly of M. Chaplin. Said point of beginning and commencement being depicted on Plan of Naples Dugout prepared by Sawyer Engineering and Surveying, Inc., dated January, 1992, revised April 8, 1992 and recorded in the Cumberland County Registry of Deeds In Plan Book 192, Page 111. Thence, North 36° 51' 30" West, 162.5 feet, along land now or formerly of M. Chaplin, to an iron pin, and for a corner. Thence, North 54° 24' 55" East, 60.4 feet, along land now or formerly of H. Sargent, to a point, and for a corner. Thence, South 36° 51' 30" East, 162.5 feet, and along other land of the grantor

herein, to a point, and land of Fremont and Norma Merriam. Thence, North 55° 17' 40" East, 60.4 feet to an iron pin and the point of beginning and commencement.

Said parcel containing 9,807 square feet, more or less.

Also conveying to the Grantors herein an easement and right of way in perpetuity to place, construct, repair and maintain water and/or sewer line[s], conduit[s] or pipe[s] [this also may be used as access for the purpose of maintaining property and structures] under, over and across a ten foot wide strip/swath of land running along the entire southerly most border of my property; this common border, and my southern boundary is described [and depicted on Plan recorded in Plan Book 192, Page 111] as a line running south 55° 42' 35" West, from the Westerly edge of state Route 302 to the edge of a parcel acquired by the Grantor herein, from the Grantees herein, by deed of even or near even date. This easement and right of way, however, is not to interfere with or obstruct or disturb any existing utility systems or buildings or structures.

Meaning and intending to convey and hereby conveying the same premises as described in Warranty Deed from Nancy L. Lipinski to Fremont A. Merriam and Norma B. Merriam dated June 15, March 8, 1993 and recorded in Cumberland County Registry of Deeds in Book 10585, Page 257.

PARCEL III

Beginning at an iron pin which is North 41° 32' 45" West a distance of one hundred thirty-one and fifty hundredths (131.50) feet from the southwesterly corner of land now or formerly of Naples Dugout;

Thence by land now or formerly of Fremont Merriam, et al South 55° 17' 40" West a distance of eighty-six and forty hundredths (86.40) feet to a point;

Thence North 36° 51' 30" West, also by land of said Merriam a distance of sixty-six and seventy-two hundredths (66.72) feet to a point;

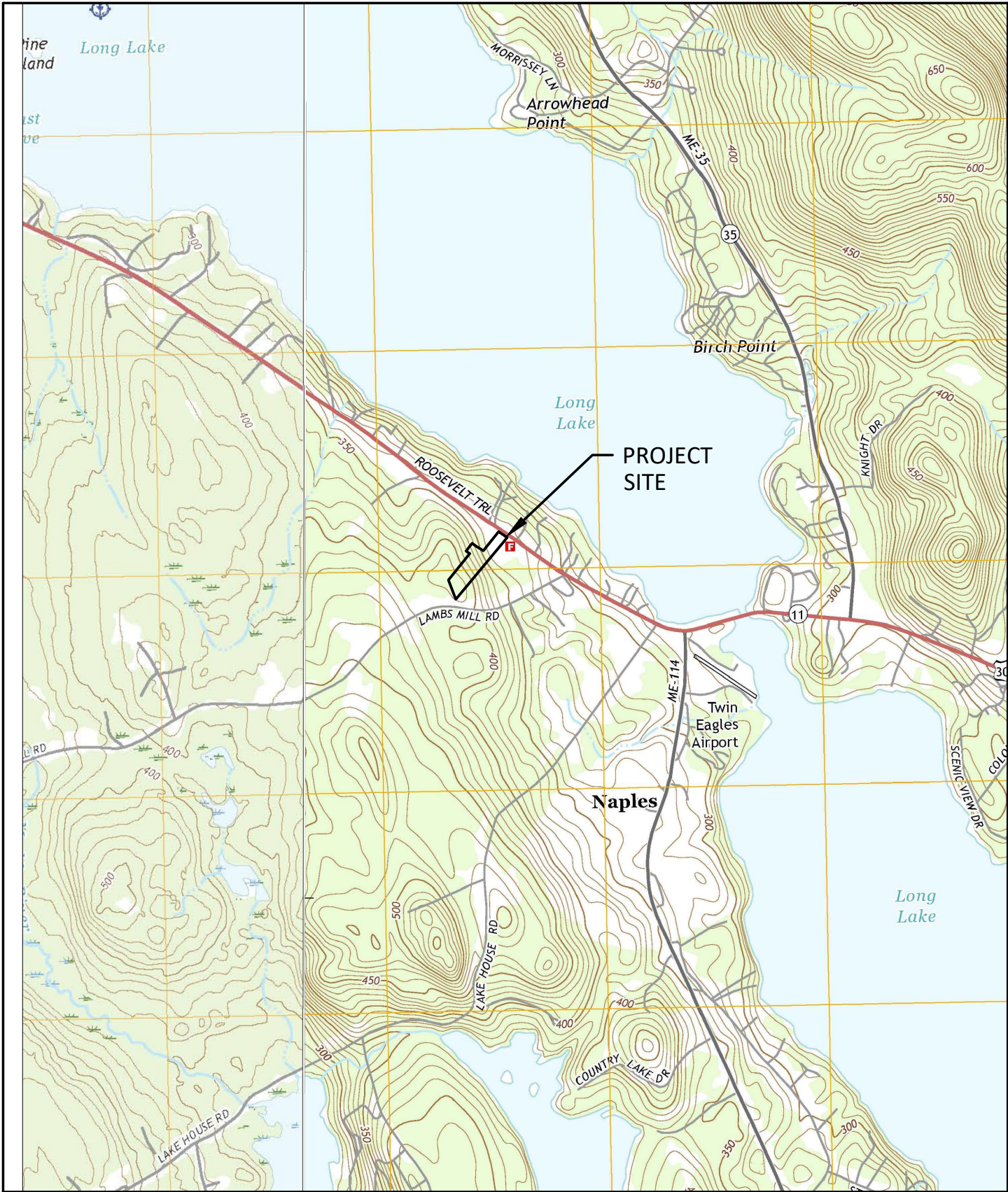
Thence by said remaining land of Naples Dugout North 55° 17' 40" East a distance of eighty-six and forty hundredths (86.40) feet to an iron pin;

Thence also by said remaining land of Naples Dugout South 36° 51' 30" East a distance of sixty-six and seventy-two hundredths (66.72) feet to the iron pin at the point of beginning.

The above described parcel contains 0.13 acres.

Meaning and intending to convey and hereby conveying the same premises as described in Warranty Deed from Nancy L. Lipinski to Fremont A. Merriam and Norma B. Merriam dated June 15, March 8, 1993 and recorded in Cumberland County Registry of Deeds in Book 18500, Page 329.

Received
Recorded Register of Deeds
Jul 02, 2018 12:18:59P
Cumberland County
Nancy A. Lane



SITE LOCATION MAP

GREAT NORTHERN DOCKS
 NAPLES, MAINE
 FOR RECORD OWNER:
 ATLAS HOLDINGS, LLC
 1114 ROOSEVELT TRAIL
 NAPLES, MAINE, 04055

USGS QUADRANGLES
 NAPLES
 NORTH SEBAGO

SCALE: 1"=2,000'
 DATE: 9-17-2021
 JOB NUMBER: 16063

DM ROMA
 CONSULTING ENGINEERS

P.O. BOX 1116
 WINDHAM, ME 04062
 (207) 310 - 0506



MAINE

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

Corporate Name Search

Information Summary

[Subscriber activity report](#)

This record contains information from the CEC database and is accurate as of: Mon Sep 13 2021 09:47:24. Please print or save for your records.

| Legal Name | Charter Number | Filing Type | Status |
|--------------------|----------------|--------------------------------------|---------------|
| ATLAS HOLDINGS LLC | 20182461DC | LIMITED LIABILITY COMPANY (DOMESTIC) | GOOD STANDING |

| Filing Date | Expiration Date | Jurisdiction |
|-------------|-----------------|--------------|
| 11/13/2017 | N/A | MAINE |

| Other Names | (A=Assumed ; F=Former) |
|---------------------------|------------------------|
| 1114 ROOSEVELT TRAIL, LLC | F |

Clerk/Registered Agent

MICHAEL W. MACLEOD-BALL
BERGEN & PARKINSON, LLC
62 PORTLAND ROAD, SUITE 25
KENNEBUNK, ME 04043

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List of Filings

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Obtain additional information:

Certificate of Existence ([more info](#))

[Short Form without amendments](#)
(\$30.00)

[Long Form with amendments](#)
(\$30.00)

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September 24, 2021



DM ROMA
Consulting Engineers
PO BOX 1116
Windham, ME 04062

**RE: Soil Evaluation for Stormwater Basins and Wetland Evaluation
Great Northern Docks, Naples, Maine**

Dear Mr. Roma:

On September 22, 2021, four test pits were assessed on the subject parcel identified on the Town of Naples tax maps as Map U33, Lot 13 on Roosevelt Trail for proposed stormwater basins servicing proposed Great Northern Docks facilities. The test pits were evaluated by Alexander Finamore, LSE #391 .

All four test pits were located in a forested setting, dug to 48 inches in depth, and revealed coarse loamy sand soils with cobbles. There was no evidence of a seasonal water table, restrictive layer, or bedrock within any of the test pits. Please find the soil profile description of the test pits attached.

The entire site was also surveyed for the presence of wetlands. The site consisted of a hardwood forest on an undulating sideslope. The site was dominated by upland forested vegetation including red oak (*Quercus rubra*), white pine (*Pinus strobus*), american beech (*Fagus grandifolia*), red maple (*Acer rubrum*), bracken fern (*Pteridium aquilinum*), lowbush blueberry (*Vaccinium angustifolium*), and teaberry (*Gaultheria procumbens*). Soils throughout the site revealed deep well drained glacial tills. This is consistent with the USDA Cumberland County Soil survey which maps the site as containing the Hermon soil series, which are somewhat excessively drained. No evidence of wetland hydrology was observed onsite. Army Corps Wetland Delineation forms can be provided upon request documenting upland conditions.

If you have any questions, please feel free to email me at: mainelysoils@gmail.com or call 207-650-4313.

Sincerely,

A handwritten signature in black ink, appearing to read "Alex Finamore", written in a cursive style.

Alexander A. Finamore, LSE #391
Owner - Mainely Soils, LLC



January 27, 2022

Town of Naples Planning Board
15 Village Green Ln
Naples, ME 04055

RE: 1114 Roosevelt Trail, Naples, ME

Ladies and Gentlemen,

At the request of Dawn Merriam and Great Northern Docks, I write this letter to provide to you my opinion on the financial capacity of Great Northern Docks.

I spoke with Dawn about the plans and scope of the project in some detail recently. Great Northern Docks maintains a comprehensive banking relationship with Norway Savings Bank so I am familiar with the company and its finances.

Based on my banking relationship with Great Northern Docks the information discussed with Dawn about the project, it is my opinion that Great Northern Docks has the financial capacity to complete this project.

Sincerely,

A handwritten signature in blue ink, appearing to read "Brian C. Desjardins", with a long horizontal flourish extending to the right.

Brian C. Desjardins
Regional Vice President
Commercial Lending

BCD/tbm

Naples Fire Department
P.O. Box 1757
1100 Roosevelt Trail
Naples, Maine 04055

Tel. (207) 693-6852
Fax (207) 693-3667



Justin Cox
Fire Chief
jcox@townofnaples.org

Jeffery Lake
Assistant Chief
jlake@townofnaples.org

Nov 9, 2021

Subject: Great Northern Docks

To whom it may concern,

I have reviewed the site plans that were presented to me by DM Roma Consulting Engineers for the expansion of a storage lot for Great Northern Docks. I see no issues with access for fire or medical emergencies. Winter maintenance will need to be maintained for our access. I ask that Great Northern reach out to me when they have installed a Knox box at the gated location off of Lambs Mills RD for key placement.

Please contact me with any questions.

Respectfully submitted,

Chief Cox



DEPARTMENT ORDER

IN THE MATTER OF

ATLAS HOLDINGS, LLC) STORMWATER MANAGEMENT LAW
Naples, Cumberland County)
GREAT NORTHERN DOCKS)
L-29378-NJ-A-N (approval)) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of 38 M.R.S. § 420-D, and Chapters 500 and 502 (06-096 C.M.R. ch.500 and 502, last amended August 12, 2015) and Chapter 501 (06-096 C.M.R. Ch. 501, last amended May 22, 2016) of the Department’s Regulations, the Department of Environmental Protection has considered the application of ATLAS HOLDINGS, LLC with the supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

A. Summary: Prior to 1975, the landowner at the time constructed four buildings and associated drives to serve a hardware store and lumber yard, which included 1.40-acres of developed area, of which 1.28-acres is impervious area. In 2010, the applicant constructed a gravel laydown area and access road to the west side of the property. In 2019, the applicant constructed a second gravel laydown area for additional storage to support the applicant’s business. The development from 2010 to 2019 created 0.97-acres of development area, of which, 0.56-acres is impervious area. Now, the applicant proposes to construct a stormwater management system for a third laydown area and driveway connection. The proposed project will create 2.74-acres of developed area, of which 1.14-acres is impervious area. Upon completion of the proposed project, the site will consist of 5.10-acres of developed area and 2.94-acres of impervious area. The project is indicated on a set of plans the first of which is entitled, “Greater Northern Docks Facility Expansion,” prepared by DM Roma Consulting Engineers and dated September 27, 2021, with a latest revision date on any of the sheets of January 5, 2022. The project site is located off Roosevelt Trail in the Town of Naples.

In addition, the applicant submitted a Notice of Intent (NOI #73422) to comply with the requirements of the Maine Construction General permit. NOI #73422 was accepted by the Department on October 6, 2021.

B. Current Use of the Site: The site of the proposed project is a 6.14-acre parcel that contains four commercial buildings, two gravel laydown areas, and associated infrastructure. The remainder of the site is forested. The parcel is identified as Lot 13 of Map U-33 of the Town of Naples tax maps. The site is further identified in in the Cumberland County Registry of Deeds on Page 48 of Book 34962.

2. STORMWATER STANDARDS:

The proposed project includes approximately 2.74 acres of developed area of which 1.14 acres is impervious area. It lies within the watershed of Long Lake, a lake most at risk from new development. The applicant submitted a stormwater management plan based on the Basic and Phosphorus Standards contained in Department Rules, Chapter 500. The proposed stormwater management system consists of four lined, underdrained soil filters (USFs).

A. Basic Standards:

(1) Erosion and Sedimentation Control: The applicant submitted an Erosion and Sedimentation Control Plan that is based on the performance standards contained in Appendix A of Chapter 500 and the Best Management Practices outlined in the Maine Erosion and Sediment Control BMPs, which were developed by the Department.

Based on the application, erosion control details will be provided in the final construction plans and the erosion control narrative will be included in the project specifications to be provided to the construction contractor.

(2) Inspection and Maintenance: The applicant submitted a maintenance plan that addresses both short-term (construction) and long-term (post-construction) maintenance requirements. The maintenance plan is based on the standards contained in Appendix B of Chapter 500. The applicant will be responsible for the maintenance of all common facilities including the stormwater management system.

Storm sewer grit and sediment materials removed from stormwater control structures during maintenance activities must be disposed of in compliance with the Maine Solid Waste Management Rules.

(3) Housekeeping: The proposed project will comply with the performance standards outlined in Appendix C of Chapter 500.

Based on the applicants submittal of the erosion and sedimentation control plan and the maintenance plan, the Department finds that the proposed project meets the Basic Standards contained in Chapter 500, § 4(B) provided that grit and sediment materials removed from the stormwater management structures during maintenance activities are disposed of in compliance with Maine Solid Waste Management Rules, as outlined above.

B. Phosphorus Standards:

The proposed project is located in the watershed of Long Lake, therefore stormwater runoff from the project site must meet the phosphorus standard outlined in Chapter 500, § 4(D). The applicant's phosphorus control plan was designed using methodology developed by the Department and outlined in, "Phosphorus Control in Lake Watersheds:

A Technical Guide for Evaluating new Development.” The stormwater management plan and structures described in D1-D2, G1 and WM2 entitled, “Greater Northern Docks Facility Expansion,” with a latest revision date on any of the sheets of January 5, 2022, were prepared, signed and stamped by a licensed engineer.

For the proposed project, the Permitted Phosphorus Export to Long Lake is 0.18 pounds of phosphorus per year. The applicant’s plan proposes to remove phosphorus from the project’s stormwater runoff by utilizing four USFs, as shown on the set of plans referenced previously in this section. Based on the applicant’s model, the predicted phosphorus export to Long Lake for the project site is 0.99 pounds of phosphorus per year. The proposed stormwater treatment will not be able to reduce the export of phosphorus in the stormwater runoff below the maximum permitted phosphorus export for the site.

The applicant indicated that the project is unable to meet the phosphorus standards at a reasonable cost and due to site constraints cannot utilize additional, conventional on-site phosphorus control measures. Therefore, the applicant is addressing the remaining reduction requirements of Chapter 500 through the payment of a compensation fee. Based on the calculations provided, the proposed stormwater management system for this site will provide a phosphorus treatment and removal rate of approximately 62.01 percent. To compensate for the excess phosphorus export of 0.82 pounds per year, the applicant will submit a payment of \$19,045 to the Lakes Environmental Association to be utilized in the Long Lake watershed. Prior to construction, the applicant must provide a receipt for this payment to the Department for review.

Based on the submission provided by the applicant and the Department’s review, the stormwater management system proposed by the applicant is designed in accordance with the Chapter 500 Phosphorus Standards.

A design engineer or other qualified professional must oversee the construction of the stormwater control structures to confirm that they are installed in accordance with the details and notes specified on the approved plans. Within 30 days from completion of the entire system, or if the project takes more than one year to complete, at least once per year, the applicant must submit a log of inspection reports that contains a list of the items inspected, photographs taken, and other relevant information to the Department for review. And within six months of completion of the development, the applicant must submit as-built drawings for stormwater control structures, including the stormwater BMPs, to the BLR for review.

Given the nature of the proposed project and its proximity to a Lake Most at Risk, the applicant must retain the services of a third party inspector in accordance with the Special Condition for Third Party Inspection Program, which is attached to this Order.

Based on the stormwater system’s design and the Department’s review, the Department finds that the applicant has made adequate provision to ensure that the proposed project will meet the Basic and Phosphorus Standards contained in Chapter 500 provided that

grit and sediment materials removed from the stormwater management structures during maintenance activities are disposed of in compliance with Maine Solid Waste Management Rules, prior to the start of construction, the applicant retains the services of a third party inspector, the applicant pays the phosphorus compensation fee, construction of the stormwater management structures are overseen and inspected, and as-built drawings are submitted, all as described above.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S. § 420-D, and Chapters 500, 501 and 502 of the Department's Regulations:

A. The applicant has made adequate provision to ensure that the proposed project will meet the Chapter 500 Basic Standards for: (1) erosion and sediment control; (2) inspection and maintenance; (3) housekeeping; and (4) grading and construction activity provided that grit and sediment materials removed from the stormwater management structures during maintenance activities are disposed of in compliance with Maine Solid Waste Management Rules as outlined in Finding 2A.

B. The applicant has made adequate provision to ensure that the proposed project will meet the Chapter 500 Phosphorus Standards provided that the applicant retains the services of a third-party inspector, pays the phosphorus compensation fee prior to the start of construction, as-built drawings are sent to the Department for review, and construction of the stormwater management structures is overseen, documented, recorded, and submitted as outlined in Finding 2B.

THEREFORE, the Department APPROVES the above noted application of ATLAS HOLDINGS, LLC to construct a stormwater management system as described above in Naples, Maine, SUBJECT TO THE FOLLOWING CONDITIONS, and all applicable standards and regulations:

1. The Standard Conditions of Approval, a copy attached.
2. In addition to any specific erosion control measures described in this order, the applicant shall take all necessary actions to ensure that its activities or those of its agents do not result in noticeable erosion of soils or fugitive dust emissions on the site during the construction and operation of the project covered by this approval.
3. Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

4. Storm sewer grit and sediment materials removed from stormwater control structures shall be disposed of in compliance with the Maine Solid Waste Management Rules.
5. Prior to the start of construction, the applicant shall provide the Department a payment receipt for the phosphorus compensation fee in the amount of \$19,045 to the Lakes Environmental Association.
6. The applicant shall retain the design engineer or other qualified professional to oversee the construction of the stormwater management structures according to the details and notes specified on the approved plans.
7. Within 30 days of completion of the entire system or if the project takes more than one year to complete, at least once per year, the applicant shall submit a log of inspection reports detailing the items inspected, photographs taken, and dates of each inspection to the BLR for review.
8. The applicant shall submit copies of as-built drawings for the stormwater management system within six months of completion of construction to the Department for review.
9. The applicant shall retain the services of a third-party inspector in accordance with the Special Condition for Third Party Inspection Program, which is attached to this Order.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES.

DONE AND DATED IN AUGUSTA, MAINE, THIS 18TH DAY OF JANUARY, 2022.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: 
For: Melanie Loyzim, Commissioner

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES.

KG/L29378AN/ATS#88174

FILED
January 19th, 2022
State of Maine
Board of Environmental Protection

STORMWATER STANDARD CONDITIONS

STRICT CONFORMANCE WITH THE STANDARD AND SPECIAL CONDITIONS OF THIS APPROVAL IS NECESSARY FOR THE PROJECT TO MEET THE STATUTORY CRITERIA FOR APPROVAL

Standard conditions of approval. Unless otherwise specifically stated in the approval, a department approval is subject to the following standard conditions pursuant to Chapter 500 Stormwater Management Law.

- (1) Approval of variations from plans. The granting of this approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the permittee. Any variation from these plans, proposals, and supporting documents must be reviewed and approved by the department prior to implementation. Any variation undertaken without approval of the department is in violation of 38 M.R.S. §420-D(8) and is subject to penalties under 38 M.R.S. §349.
- (2) Compliance with all terms and conditions of approval. The applicant shall submit all reports and information requested by the department demonstrating that the applicant has complied or will comply with all terms and conditions of this approval. All preconstruction terms and conditions must be met before construction begins.
- (3) Advertising. Advertising relating to matters included in this application may not refer to this approval unless it notes that the approval has been granted WITH CONDITIONS, and indicates where copies of those conditions may be obtained.
- (4) Transfer of project. Unless otherwise provided in this approval, the applicant may not sell, lease, assign, or otherwise transfer the project or any portion thereof without written approval by the department where the purpose or consequence of the transfer is to transfer any of the obligations of the developer as incorporated in this approval. Such approval may only be granted if the applicant or transferee demonstrates to the department that the transferee agrees to comply with conditions of this approval and the proposals and plans contained in the application and supporting documents submitted by the applicant. Approval of a transfer of the permit must be applied for no later than two weeks after any transfer of property subject to the license.
- (5) Time frame for approvals. If the construction or operation of the activity is not begun within four years, this approval shall lapse and the applicant shall reapply to the department for a new approval. The applicant may not begin construction or operation of the project until a new approval is granted. A reapplication for approval may include information submitted in the initial application by reference. This approval, if construction is begun within the four-year time frame, is valid for seven years. If construction is not completed within the seven-year time frame, the applicant must reapply for, and receive, approval prior to continuing construction.
- (6) Certification. Contracts must specify that "all work is to comply with the conditions of the Stormwater Permit." Work done by a contractor or subcontractor pursuant to this approval may not begin before the contractor and any subcontractors have been shown a copy of this approval with the conditions by the permittee, and the permittee and each contractor and subcontractor has certified, on a form provided by the department, that the approval and conditions have been received and read, and that the work will be carried out in accordance with the approval and conditions. Completed certification forms must be forwarded to the department.

- (7) Maintenance. The components of the stormwater management system must be adequately maintained to ensure that the system operates as designed, and as approved by the Department. If maintenance responsibility is to be transferred from the permittee to another entity, a transfer request must be filed with the Department which includes the name and contact information for the person or entity responsible for this maintenance. The form must be signed by the responsible person or agent of the responsible entity.
- (8) Recertification requirement. Within three months of the expiration of each five-year interval from the date of issuance of the permit, the permittee shall certify the following to the department.
- (a) All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas.
 - (b) All aspects of the stormwater control system are operating as approved, have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the system, or portions of the system, as necessary.
 - (c) The stormwater maintenance plan for the site is being implemented as approved by the Department, and the maintenance log is being maintained.
 - (d) All proprietary systems have been maintained according to the manufacturer's recommendations. Where required by the Department, the permittee shall execute a 5-year maintenance contract with a qualified professional for the coming 5-year interval. The maintenance contract must include provisions for routine inspections, cleaning and general maintenance.
 - (e) The Department may waive some or all of these recertification requirements on a case-by-case basis for permittees subject to the Department's Multi-Sector General Permit ("MSGP") and/or Maine Pollutant Discharge Elimination System ("MEPDES") programs where it is demonstrated that these programs are providing stormwater control that is at least as effective as required pursuant to this Chapter.
- (9) Transfer of property subject to the license. If any portion of the property subject to the license containing areas of flow or areas that are flooded are transferred to a new property owner, restrictive covenants protecting these areas must be included in any deeds or leases, and recorded at the appropriate county registry of deeds. Also, in all transfers of such areas and areas containing parts of the stormwater management system, deed restrictions must be included making the property transfer subject to all applicable terms and conditions of the permit. These terms and conditions must be incorporated by specific and prominent reference to the permit in the deed. All transfers must include in the restrictions the requirement that any subsequent transfer must specifically include the same restrictions unless their removal or modification is approved by the Department. These restrictions must be written to be enforceable by the Department, and must reference the permit number.
- (10) Severability. The invalidity or unenforceability of any provision, or part thereof, of this permit shall not affect the remainder of the provision or any other provisions. This permit shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.



STORMWATER MANAGEMENT REPORT

GREAT NORTHERN DOCKS 1114 ROOSEVELT TRAIL NAPLES, MAINE

A. Narrative

Atlas Holdings, LLC, the applicant, is proposing to expand an existing commercial site used by Great Northern Docks, located at 1114 Roosevelt Trail in Naples, Maine. The 6.14-acre parcel is better identified as Lot 13 on the Town of Naples Assessor's Map U33 and is located in the Commercial Zoning District. The site currently contains commercial buildings with associated parking, driveway and storage laydown areas. The remaining portions of the property are undeveloped woodlands.

The proposed design intends to construct gravel laydown areas for storage and access associated with the Great Northern Docks' current manufacturing process. Dock parts will be stored in these locations to be relocated upon sale.

In general, the property drains northeasterly toward the existing facility and to Roosevelt Trail. Stormwater is then collected in a closed drainage system and eventually discharges to Long Lake. Long Lake is defined as a Lake Watershed Most at Risk from Development by the Maine Department of Environmental Protection (MDEP) as indicated in Chapter 502.

B. Existing Conditions

It is our understanding that the existing commercial facility was utilized as a hardware store and lumber yard prior to Great Northern Docks. The area associated with the previous use contains approximately 55,861 square feet (1.28 acres) of impervious surface and approximately 60,886 square feet (1.40 acres) of total developed area. Based on an aerial image acquired in 1960, this area in existence for over 60 years. The first gravel laydown area and access road (Gravel Laydown Area 1 on the plans) to the rear of the existing shop building was expanded in 2010-2011. Further up the slope, a second laydown area, Gravel Laydown Area 2, was constructed in 2019-2020 for additional storage. The land development from 2010 to 2020 resulted in approximately 24,496 square feet (0.56 acres) of additional impervious surface and approximately 42,200 square feet (0.97 acres) of additional developed area. Since the existing commercial buildings and paved parking and driveways were constructed prior to 1975, this area will not be utilized in determining stormwater related permitting with the MDEP. The two gravel laydown areas that were built more recently, will be included in determining the permit requirements.

The developed portions of the site are relatively flat (1-3%) with the undeveloped portions being relatively steep with slopes ranging from 10% to over 50%. Soils on the property were determined utilizing the Medium Intensity Soil Maps for Cumberland County, Maine published by the Natural Resources Conservation Service. The soils boundaries and hydrologic soils group (HSG) designations are indicated on the Post Development Watershed Map within the design plan set and a Soils Map has been included in Section 6 of the Stormwater Permit submission. Test pits were also excavated in the location of the proposed BMPs. The test pit logs are included as Attachment 2 BMP Sizing Calculations of this report.

C. Alterations to Land Cover

Based on the proposed site design, the construction of the third laydown area and driveway connection will generate an additional 49,750± square feet (1.14 acres) of new impervious surface and an additional 119,170± square feet (2.74 acres) of new developed area. As part of this construction, approximately 2,153± square feet (0.05 acres) of the previously constructed gravel driveway connecting the two gravel laydown areas will be removed and revegetated but will still be accounted for as Developed Area. Upon completion of the project, the entire site will consist of approximately 127,954± square feet (2.94 acres) of impervious surface and approximately 222,256± square feet (5.10 acres) of total developed area.

Since the original site's impervious area associated with the commercial buildings and paved parking was constructed before 1997, the associated impervious and developed area is exempt from MDEP Chapter 500 regulations. The total impervious and developed area subject to MDEP Chapter 500 Stormwater rules is approximately 72,093± square feet (1.66 acres) of total impervious area and approximately 161,370± square feet (3.70 acres) of total developed area. These areas include the two existing laydown areas and the current site development proposal.

As this project will generate over 20,000 square feet of new impervious area after 1997 and is located within a Lake Watershed Most at Risk from Development, the stormwater infrastructure will need to be designed to meet the Basic and Phosphorous Standards of the Chapter 500 Stormwater Management rules.

D. Methodology and Modeling Assumptions

The proposed stormwater management system has been designed utilizing Best Management Practices to maintain existing drainage patterns while providing stormwater quality improvement measures. The goal of the storm drainage system design is to remove potential stormwater pollutants from runoff generated by the development while providing attenuation of the peak rates of runoff leaving the site. The method utilized to predict the surface water runoff rates in this analysis is a computer program entitled HydroCAD, which is based on the same methods that were originally developed by the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service, and utilized in the TR-20 modeling program. Peak rates of runoff are forecasted based upon land use, hydrologic soil conditions, vegetative cover, contributing watershed area, time of concentration, rainfall data, storage volumes of detention basins and the hydraulic capacity of structures. The computer model predicts the amount of runoff as a function of time, with the ability to include the attenuation effect due to dams, lakes, large wetlands, floodplains and constructed stormwater management basins. The input data for rainfalls with statistical recurrence frequencies of 2-, 10- and 25 years was obtained from Appendix H of the MDEP, Chapter 500 Stormwater Management, last revised in 2015. The National Weather Service developed four synthetic storm types to simulate rainfall patterns around the country. For analysis in Cumberland County, Maine, the type III rainfall pattern with a 24-hour duration is appropriate.

E. Basic Standards

The project has been designed to provide permanent and temporary Erosion Control Best Management Practices in accordance with the MDEP Chapter 500 Basic Standards. These methods are outlined in detail in the plan set.

F. Phosphorous Standard

Phosphorous Export Calculations were prepared to indicate compliance with the MDEP Chapter 500 Phosphorous Standard. To reduce the property's phosphorous export, the stormwater infrastructure includes the construction of four (4) underdrained filter basins.

The calculations, included as Attachment 3 of this report, were prepared to illustrate that the project design, in conjunction with the use of the proposed stormwater BMP's, meets this standard. The entire parcel's Phosphorous Budget has been calculated to be 0.18 lbs/year. The proposed site's pre-treatment phosphorous export is 2.62 lbs/year and with the use of the underdrained filter basins, two of which were designed in series to provide a higher phosphorous removal efficiency, the post-treatment phosphorous export is 0.99 lbs/year, reducing the phosphorous export by 60.36%. Since the project results in a deficiency in phosphorous removal, to meet the Phosphorous Standard a mitigation fee will be paid in the amount of \$19,045. The calculations related to the Phosphorous Standard and the BMP sizing calculations have been included in this report as Attachment 1 and Attachment 2 respectively.

G. Flood Control and Pipe Sizing

The project site is not required by the MDEP to demonstrate compliance with the Flooding Standards of Chapter 500, but will be adequately addressed through the Town of Naples Planning Board review. The drainage infrastructure has been designed to generally maintain the existing drainage patterns leaving the property. To demonstrate that the proposed storm drains are adequately sized to convey the tributary watersheds, a HydroCAD model was prepared. The pipes have been designed to safely convey the 25-year storm event.

The watershed maps showing pre-development and post-development drainage patterns are included in the plan set and the storm drain sizing computations performed with the HydroCAD software program are included as Attachment 3 of this report.


H. Maintenance of common facilities or property

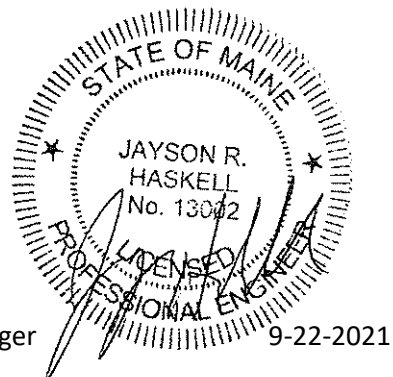
The applicant will be responsible for the maintenance of the stormwater facilities. An Inspection, Maintenance and Housekeeping Plan has been prepared for the project and has been included in Section 7 of the Stormwater Permit Application.

Prepared by:

DM ROMA CONSULTING ENGINEERS


J.P. Connolly
Senior Project Engineer


Jayson R. Haskell P.E.
Southern Maine Regional Manager



ATTACHMENT 1

PHOSPHOROUS STANDARD CALCULATIONS

Worksheet 1 - PPB calculations

Project Name: GREAT NORTHERN DOCKS

Lake Watershed: LONG LAKE

Town: NAPLES

Standard Calculations

| | | | |
|---|-------------|---------|-------------------|
| Watershed per acre phosphorus budget (Appendix C) | PAPB | 0.029 | lbs P/acre/year |
| Total acreage of development parcel: | TA | 6.14 | acres |
| NWI wetland acreage: | WA | 0 | acres |
| Steep slope acreage: | SA | 0 | acres |
| Project acreage: $A = TA - (WA + SA)$ | A | 6.14 | acres |
| Project Phosphorus Budget: $PPB = P \times A$ | PPB | 0.17806 | lbs P/year |

Small Watershed Adjustment

If Project Acreage (A) is greater than the threshold acreage for the small watershed threshold (SWT, from pertinent lake and town info in the table in Appendix C), calculate an alternative PPB using the analysis below and use this value if it is less than the the Standard Calculation PPB.

| | | | |
|--|------------|--|------------|
| Small Watershed Threshold (Appendix C): | SWT | | acres |
| Project acreage: | A | | acres |
| Allowable increase in town's share of annual phosphorus load to lake (Appendix C): | FC | | lbs P/year |
| Area available for development (Appendix C): | AAD | | acres |
| Ratio of A to AAD ($R=A/AAD$) | R | | |

Project Phosphorus Budget

| | | | |
|---|------------|--|-------------------|
| If $R < 0.5$, $PPB = [(FC \times R)/2] + [FC/4]$ | PPB | | lbs P/year |
| If $R > 0.5$, $PPB = FC \times R$ | PPB | | lbs P/year |

Pre-PPE and Post-PPE Calculations

Calculate phosphorus export from development for before and after treatment
 Use as many sheets as needed for each development type (commercial, roads, residential lots, etc.)

Project name: GREAT NORTHERN DOCKS **Development type:** COMMERCIAL Sheet #

| Land Surface Type or Lot #(s) with description | Acres or # of lots | Export Coefficient from Table 3.1 Table 3.2 | Pre- treatment Algal Av. P Export (lbs P/year) | Treatment Factor for BMP(s) from Chapter 6 | Post- treatment Algal Av. P Export (lbs P/year) | Description of BMPs |
|--|--------------------------|---|--|--|---|------------------------------------|
| Road/Driveway | 0.07 | 1.75 | 0.1225 | 0.137 | 0.0167825 | To Filter Basin-1 & Filter Basin-3 |
| Parking/Laydown | 0.23 | 1.25 | 0.2875 | 0.137 | 0.0393875 | To Filter Basin-1 & Filter Basin-3 |
| Grass A | 0.38 | 0.2 | 0.076 | 0.137 | 0.010412 | To Filter Basin-1 & Filter Basin-3 |
| Road/Driveway | 0.03 | 1.75 | 0.0525 | 0.137 | 0.0071925 | To Filter Basin-2 & Filter Basin-3 |
| Parking/Laydown | 0.43 | 1.25 | 0.5375 | 0.137 | 0.0736375 | To Filter Basin-2 & Filter Basin-3 |
| Grass A | 0.17 | 0.2 | 0.034 | 0.137 | 0.004658 | To Filter Basin-2 & Filter Basin-3 |
| Parking/Laydown | 0.24 | 1.25 | 0.3 | 0.3 | 0.09 | To Filter Basin-3 |
| Grass A | 0.24 | 0.2 | 0.048 | 0.3 | 0.0144 | To Filter Basin-3 |
| Road/Driveway | 0.11 | 1.75 | 0.1925 | 0.25 | 0.048125 | To Filter Basin-4 |
| Parking/Laydown | 0.19 | 1.25 | 0.2375 | 0.25 | 0.059375 | To Filter Basin-4 |
| Grass A | 0.66 | 0.2 | 0.132 | 0.25 | 0.033 | To Filter Basin-4 |
| Road Untreated | 0.08 | 1.75 | 0.14 | 1 | 0.14 | Untreated |
| Parking/Laydown Untreated | 0.27 | 1.25 | 0.3375 | 1 | 0.3375 | Untreated |
| Grass Untreated | 0.6 | 0.2 | 0.12 | 1 | 0.12 | Untreated |
| | | Total Pre-PPE (lbs P/year) | 2.6175 | Total PostPPE (lbs P/year) | 0.99447 | |

WORKSHEET 4 - PROJECT PHOSPHORUS EXPORT SUMMARY

Summarizing the project's algal available phosphorus export (PPE)

Project Name: Great Northern Docks - Naples, ME

| | | | |
|---|-----------------|------|------------|
| Project Phosphorus Budget - Worksheet 1 | PPB | 0.18 | lbs P/year |
| Total Pre-Treatment Phosphorus Export - Worksheet 2 | Pre-PPE | 2.62 | lbs P/year |
| Total Post-Treatment Phosphorus Export - Worksheet 2 | Post-PPE | 0.99 | lbs P/year |
| Total Phosphorus Mitigation Credit - Worksheet 3 | TMC | 0.00 | lbs P/year |
| Project Phosphorus Export (Post-PPE - TMC) | PPE | 0.99 | lbs P/year |

Is the Project Phosphorus Export \leq the Project Phosphorus Budget? (PPE \leq PPB)

*If YES, PPE is less than or equal to PPB and the project meets its phosphorus budget.
If NO, PPE is greater than PPB, more reduction in phosphorus export is required or the payment of a compensation fee may be an option*

NO

The amount of phosphorus that needs further treatment or compensation

0.82 lbs P/year

Has Project Phosphorus Export been sufficiently reduced?

Is (Pre-PPE - Post-PPE)/Pre-PPE greater than 0.60?

*If YES, in some watersheds the compensation fee is an available option.
If NO, more treatment must be provided. PPE must be further reduced.*

YES

*The post-treatment phosphorus export must be less than 40% of the pre-treatment export (Post-PPE < 0.4*Pre-PPE)*

62.01 %

If the project is located in a watershed that is eligible for a compensation fee (or is a residential subdivision with buffers), a compensation fee may be appropriate as follows:

If Project Export has been reduced by greater than 60% and less than 75%, \$25,000 per pound minus \$833 per 1% Percent Export

\$19,045

If Project Export has been reduced by greater than 75%, \$12,500 per pound minus \$500 per 1% Project Export

ATTACHMENT 2

BMP SIZING CALCULATIONS

Filter Basin FB-1

Tributary Impervious Area= 13,356 sf (WS-31 Impervious Area)
Tributary Landscaped Area= 16,453 sf (WS-31 Landscaped Area)

Water Quality Volume (WQV) Calculation

WQV (Required) = 1.0"xImpervious Area + 0.4"xLandscaped Area

WQV (Required) = 1,661 cf

Stage Storage Volume

| Elevation | Area (sf) | Storage (cf) |
|-----------|-----------|--------------|
| 403.7 | 1,400 | 0 |
| 404 | 1,590 | 448 |
| 406 | 2,987 | 4,952 |

Outlet Elevation = 405.20
Storage Volume Provided = 2,812 cf > Required

Filter Bottom Calculation

Filter Area (Required) = 5%Impervious Area + 2%Landscaped Area

Filter Area Required = 997 sf

Filter Area Provided = 1,400 sf > Required

Treatment Factor (Phosphorous Calculations)

TF = 0.4 (L-Required / L-Provided)

TF = 0.24

TF (min) = 0.25

Filter Basin FB-2

Tributary Impervious Area= 20,035 sf (WS-32 Impervious Area)
Tributary Landscaped Area= 7,584 sf (WS-32 Landscaped Area)

Water Quality Volume (WQV) Calculation

WQV (Required) = 1.0"xImpervious Area + 0.4"xLandscaped Area

WQV (Required) = 1,922 cf

Stage Storage Volume

| Elevation | Area (sf) | Storage (cf) |
|-----------|-----------|--------------|
| 403.7 | 1,614 | 0 |
| 404 | 1,984 | 539 |
| 406 | 3,477 | 5,930 |

Outlet Elevation = 405.20
Storage Volume Provided = 3,412 cf > Required

Filter Bottom Calculation

Filter Area (Required) = 5%Impervious Area + 2%Landscaped Area

Filter Area Required = 1,153 sf

Filter Area Provided = 1,614 sf > Required

Treatment Factor (Phosphorous Calculations)

TF = 0.4 (L-Required / L-Provided)

TF = 0.225

TF (min) = 0.25

Filter Basin FB-3

Tributary Impervious Area= 43,944 sf (WS-31, 32 & 33 Impervious Area)
Tributary Landscaped Area= 34,581 sf (WS-31, 32 & 33 Landscaped Area)

Water Quality Volume (WQV) Calculation

WQV (Required) = 1.0"xImpervious Area + 0.4"xLandscaped Area

WQV (Required) = 4,815 cf

Stage Storage Volume

| Elevation | Area (sf) | Storage (cf) |
|-----------|-----------|--------------|
| 400 | 2,979 | 0 |
| 401 | 4,830 | 3,867 |
| 402 | 5,910 | 9,228 |

Outlet Elevation = 401.50
Storage Volume Provided = 6,412 cf > Required

Filter Bottom Calculation

Filter Area (Required) = 5%xImpervious Area + 2%xLandscaped Area

Filter Area Required = 2,889 sf

Filter Area Provided = 2,979 sf > Required

Treatment Factor (Phosphorous Calculations)

TF = 0.4 (L-Required / L-Provided)

TF = 0.300

Combined Treatment Factor for WS-10

TF = Most Efficient BMP TF x Less Efficient BMP TF ¹/₂

Combined Treatment Factor = 0.137

Combined Treatment Factor for WS-11

TF = Most Efficient BMP TF x Less Efficient BMP TF ¹/₂

Combined Treatment Factor = 0.137

Filter Basin FB-4

Tributary Impervious Area= 13,201 sf (WS-13 Impervious Area)
Tributary Landscaped Area= 28,497 sf (WS-13 Landscaped Area)

Water Quality Volume (WQV) Calculation

WQV (Required) = 1.0"xImpervious Area + 0.4"xLandscaped Area

WQV (Required) = 2,050 cf

Stage Storage Volume

| Elevation | Area (sf) | Storage (cf) |
|-----------|-----------|--------------|
| 370.5 | 1,528 | 0 |
| 371 | 2,290 | 948 |
| 372 | 3,531 | 3,836 |

Outlet Elevation = 372.00
Storage Volume Provided = 3,836 cf > Required

Filter Bottom Calculation

Filter Area (Required) = 5%xImpervious Area + 2%xLandscaped Area

Filter Area Required = 1,230 sf

Filter Area Provided = 1,528 sf > Required

Treatment Factor (Phosphorous Calculations)

TF = 0.4 (L-Required / L-Provided)

TF = 0.214

TF (min) = 0.25

DRAW DOWN TIME - FB1

16063-POST

Type III 24-hr FB1 - WQ Event Rainfall=4.71"

Prepared by {enter your company name here}

Printed 9/20/2021

HydroCAD® 10.00-26 s/n 09237 © 2020 HydroCAD Software Solutions LLC

Hydrograph for Pond FB1:

| Time (hours) | Inflow (cfs) | Storage (cubic-feet) | Elevation (feet) | Outflow (cfs) | Primary (cfs) | Secondary (cfs) |
|--------------|--------------|----------------------|------------------|---------------|---------------|-----------------|
| 0.00 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |
| 4.50 | 0.01 | 0 | 403.70 | 0.01 | 0.01 | 0.00 |
| 9.00 | 0.04 | 2 | 403.70 | 0.04 | 0.04 | 0.00 |
| 13.50 | 0.12 | 2,523 | 405.08 | 0.04 | 0.04 | 0.00 |
| 18.00 | 0.03 | 2,794 | 405.19 | 0.04 | 0.04 | 0.00 |
| 22.50 | 0.02 | 2,525 | 405.08 | 0.04 | 0.04 | 0.00 |
| 27.00 | 0.00 | 2,008 | 404.84 | 0.04 | 0.04 | 0.00 |
| 31.50 | 0.00 | 1,396 | 404.54 | 0.04 | 0.04 | 0.00 |
| 36.00 | 0.00 | 815 | 404.22 | 0.03 | 0.03 | 0.00 |
| 40.50 | 0.00 | 269 | 403.88 | 0.03 | 0.03 | 0.00 |
| 45.00 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |
| 49.50 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |
| 54.00 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |
| 58.50 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |
| 63.00 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |
| 67.50 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |
| 72.00 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |
| 76.50 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |
| 81.00 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |
| 85.50 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |
| 90.00 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |
| 94.50 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |

BASIN PEAK (HR)= 18
BASIN EMPTY (HR) = 45
45-18= 27 HR TO DRAIN

SPILLWAY RUN - FB1

16063-POST

Type III 24-hr 25-YEAR Rainfall=5.40"

Prepared by {enter your company name here}

Printed 9/20/2021

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Summary for Pond FB1:

Inflow Area = 1.030 ac, 0.00% Impervious, Inflow Depth = 1.59" for 25-YEAR event
Inflow = 0.95 cfs @ 12.37 hrs, Volume= 0.137 af
Outflow = 0.62 cfs @ 12.69 hrs, Volume= 0.072 af, Atten= 35%, Lag= 19.5 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Secondary = 0.62 cfs @ 12.69 hrs, Volume= 0.072 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.03 hrs, dt= 0.09 hrs

Peak Elev= 405.28' @ 12.69 hrs Surf.Area= 2,436 sf Storage= 3,011 cf

Plug-Flow detention time= 269.4 min calculated for 0.072 af (53% of inflow)
Center-of-Mass det. time= 136.8 min (937.0 - 800.3)

| Volume | Invert | Avail.Storage | Storage Description | | |
|------------------|-------------------|---------------|--|------------------------|------------------|
| #1 | 403.70' | 4,952 cf | Custom Stage Data (Irregular) Listed below (Recalc) | | |
| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
| 403.70 | 1,400 | 208.3 | 0 | 0 | 1,400 |
| 404.00 | 1,590 | 214.0 | 448 | 448 | 1,602 |
| 406.00 | 2,987 | 251.7 | 4,504 | 4,952 | 3,074 |

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|---------|---|
| #1 | Primary | 400.93' | 0.9" Vert. 7/8" Orifice X 0.00 C= 0.600 |
| #2 | Device 1 | 401.43' | 4.0" Round Culvert L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 401.43' / 400.93' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf |
| #3 | Device 2 | 401.53' | 4.0" Vert. Orifice/Grate C= 0.600 |
| #4 | Device 3 | 403.70' | 2.410 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 396.00' |
| #5 | Secondary | 405.20' | 10.0' long x 13.0' 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) 2.60 2.64 2.70 2.66 2.65 2.66 2.65 2.63 |

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=403.70' TW=400.00' (Dynamic Tailwater)

- ↑ 1=7/8" Orifice (Controls 0.00 cfs)
- ↑ 2=Culvert (Passes 0.00 cfs of 0.49 cfs potential flow)
- ↑ 3=Orifice/Grate (Passes 0.00 cfs of 0.59 cfs potential flow)
- ↑ 4=Exfiltration (Passes 0.00 cfs of 0.08 cfs potential flow)

Secondary OutFlow Max=0.62 cfs @ 12.69 hrs HW=405.28' TW=400.92' (Dynamic Tailwater)

- ↑ 5=Broad-Crested Rectangular Weir (Weir Controls 0.62 cfs @ 0.75 fps)

PEAK ELEVATION DURING SPILLWAY RUN = 405.28'
TOP OF BERM ELEV.=406.5 = 1.22' FREEBOARD >1'

DRAW DOWN TIME - FB2

16063-POST

Type III 24-hr FB2 - WQ Event Rainfall=3.81"

Prepared by {enter your company name here}

Printed 9/20/2021

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Hydrograph for Pond FB2:

| Time (hours) | Inflow (cfs) | Storage (cubic-feet) | Elevation (feet) | Outflow (cfs) | Primary (cfs) | Secondary (cfs) |
|--------------|--------------|----------------------|------------------|---------------|---------------|-----------------|
| 0.00 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |
| 4.50 | 0.01 | 0 | 403.70 | 0.01 | 0.01 | 0.00 |
| 9.00 | 0.05 | 17 | 403.71 | 0.04 | 0.04 | 0.00 |
| 13.50 | 0.11 | 3,181 | 405.12 | 0.04 | 0.04 | 0.00 |
| 18.00 | 0.03 | 3,385 | 405.19 | 0.04 | 0.04 | 0.00 |
| 22.50 | 0.02 | 3,105 | 405.09 | 0.04 | 0.04 | 0.00 |
| 27.00 | 0.00 | 2,561 | 404.89 | 0.04 | 0.04 | 0.00 |
| 31.50 | 0.00 | 1,943 | 404.64 | 0.04 | 0.04 | 0.00 |
| 36.00 | 0.00 | 1,348 | 404.38 | 0.04 | 0.04 | 0.00 |
| 40.50 | 0.00 | 780 | 404.12 | 0.03 | 0.03 | 0.00 |
| 45.00 | 0.00 | 239 | 403.84 | 0.03 | 0.03 | 0.00 |
| 49.50 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |
| 54.00 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |
| 58.50 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |
| 63.00 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |
| 67.50 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |
| 72.00 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |
| 76.50 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |
| 81.00 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |
| 85.50 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |
| 90.00 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |
| 94.50 | 0.00 | 0 | 403.70 | 0.00 | 0.00 | 0.00 |

BASIN PEAK (HR)= 18
BASIN EMPTY (HR) = 49.5
49.5-18= 31.5 HR TO DRAIN

SPILLWAY RUN - FB2

16063-POST

Type III 24-hr 25-YEAR Rainfall=5.40"

Prepared by {enter your company name here}

Printed 9/20/2021

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Summary for Pond FB2:

Inflow Area = 0.634 ac, 0.00% Impervious, Inflow Depth = 3.66" for 25-YEAR event
Inflow = 2.23 cfs @ 12.08 hrs, Volume= 0.193 af
Outflow = 1.78 cfs @ 12.19 hrs, Volume= 0.115 af, Atten= 20%, Lag= 6.5 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Secondary = 1.78 cfs @ 12.19 hrs, Volume= 0.115 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.03 hrs, dt= 0.09 hrs

Peak Elev= 405.37' @ 2.19 hrs Surf.Area= 2,963 sf Storage= 3,907 cf

Plug-Flow detention time= 219.2 min calculated for 0.115 af (59% of inflow)

Center-of-Mass det. time= 109.2 min (874.6 - 765.5)

| Volume | Invert | Avail.Storage | Storage Description | | |
|------------------|-------------------|---------------|--|------------------------|------------------|
| #1 | 403.70' | 5,930 cf | Custom Stage Data (Irregular) Listed below (Recalc) | | |
| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
| 403.70 | 1,614 | 172.3 | 0 | 0 | 1,614 |
| 404.00 | 1,984 | 214.4 | 539 | 539 | 2,911 |
| 406.00 | 3,477 | 268.0 | 5,392 | 5,930 | 5,024 |

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|---------|---|
| #1 | Primary | 400.73' | 0.9" Vert. 7/8" Drill Hole in end cap X 0.00 C= 0.600 |
| #2 | Device 1 | 401.43' | 4.0" Round Culvert L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 401.43' / 400.83' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf |
| #3 | Device 2 | 401.53' | 4.0" Vert. Orifice/Grate C= 0.600 |
| #4 | Device 3 | 403.70' | 2.410 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 396.00' |
| #5 | Secondary | 405.20' | 10.0' long x 13.0' 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) 2.60 2.64 2.70 2.66 2.65 2.66 2.65 2.63 |

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=403.70' TW=400.00' (Dynamic Tailwater)

- ↑ 1=7/8" Drill Hole in end cap (Controls 0.00 cfs)
- ↑ 2=Culvert (Passes 0.00 cfs of 0.47 cfs potential flow)
- ↑ 3=Orifice/Grate (Passes 0.00 cfs of 0.59 cfs potential flow)
- ↑ 4=Exfiltration (Passes 0.00 cfs of 0.09 cfs potential flow)

Secondary OutFlow Max=1.58 cfs @ 12.19 hrs HW=405.35' TW=400.52' (Dynamic Tailwater)

- ↑ 5=Broad-Crested Rectangular Weir (Weir Controls 1.58 cfs @ 1.02 fps)

PEAK ELEVATION DURING SPILLWAY RUN = 405.37'
TOP OF BERM ELEV.=406.5 = 1.13' FREEBOARD >1'

DRAW DOWN TIME - FB3

16063-POST

Type III 24-hr FB3 - WQ Event Rainfall=5.30"

Prepared by {enter your company name here}

Printed 9/20/2021

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Hydrograph for Pond FB3:

| Time (hours) | Inflow (cfs) | Storage (cubic-feet) | Elevation (feet) | Outflow (cfs) | Primary (cfs) | Secondary (cfs) |
|--------------|--------------|----------------------|------------------|---------------|---------------|-----------------|
| 0.00 | 0.00 | 0 | 400.00 | 0.00 | 0.00 | 0.00 |
| 4.50 | 0.04 | 0 | 400.00 | 0.04 | 0.04 | 0.00 |
| 9.00 | 0.11 | 185 | 400.06 | 0.07 | 0.07 | 0.00 |
| 13.50 | 0.41 | 4,690 | 401.17 | 0.08 | 0.08 | 0.00 |
| 18.00 | 0.12 | 6,479 | 401.51 | 0.12 | 0.09 | 0.04 |
| 22.50 | 0.10 | 6,444 | 401.51 | 0.10 | 0.09 | 0.01 |
| 27.00 | 0.08 | 6,357 | 401.49 | 0.09 | 0.09 | 0.00 |
| 31.50 | 0.08 | 6,206 | 401.46 | 0.09 | 0.09 | 0.00 |
| 36.00 | 0.07 | 6,013 | 401.42 | 0.09 | 0.09 | 0.00 |
| 40.50 | 0.07 | 5,775 | 401.38 | 0.09 | 0.09 | 0.00 |
| 45.00 | 0.03 | 5,310 | 401.29 | 0.08 | 0.08 | 0.00 |
| 49.50 | 0.00 | 4,349 | 401.10 | 0.08 | 0.08 | 0.00 |
| 54.00 | 0.00 | 3,039 | 400.82 | 0.08 | 0.08 | 0.00 |
| 58.50 | 0.00 | 1,786 | 400.52 | 0.08 | 0.08 | 0.00 |
| 63.00 | 0.00 | 600 | 400.19 | 0.07 | 0.07 | 0.00 |
| 67.50 | 0.00 | 0 | 400.00 | 0.00 | 0.00 | 0.00 |
| 72.00 | 0.00 | 0 | 400.00 | 0.00 | 0.00 | 0.00 |
| 76.50 | 0.00 | 0 | 400.00 | 0.00 | 0.00 | 0.00 |
| 81.00 | 0.00 | 0 | 400.00 | 0.00 | 0.00 | 0.00 |
| 85.50 | 0.00 | 0 | 400.00 | 0.00 | 0.00 | 0.00 |
| 90.00 | 0.00 | 0 | 400.00 | 0.00 | 0.00 | 0.00 |
| 94.50 | 0.00 | 0 | 400.00 | 0.00 | 0.00 | 0.00 |

BASIN PEAK (HR)= 22.5
BASIN EMPTY (HR) = 63
67.5-22.5= 45 HR TO DRAIN

SPILLWAY RUN - FB3

16063-POST

Type III 24-hr 25-YEAR Rainfall=5.40"

Prepared by {enter your company name here}

Printed 9/20/2021

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Summary for Pond FB3:

Inflow Area = 2.335 ac, 0.00% Impervious, Inflow Depth = 2.24" for 25-YEAR event
 Inflow = 1.56 cfs @ 12.33 hrs, Volume= 0.436 af
 Outflow = 0.43 cfs @ 13.49 hrs, Volume= 0.289 af, Atten= 72%, Lag= 69.6 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Secondary = 0.43 cfs @ 13.49 hrs, Volume= 0.289 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.03 hrs, dt= 0.09 hrs

Peak Elev= 401.56' @ 13.49 hrs Surf.Area= 5,426 sf Storage= 6,756 cf

Plug-Flow detention time= 726.9 min calculated for 0.289 af (66% of inflow)
Center-of-Mass det. time= 314.2 min (1,533.9 - 1,219.7)

| Volume | Invert | Avail.Storage | Storage Description | | |
|------------------|-------------------|---------------|--|------------------------|------------------|
| #1 | 400.00' | 9,228 cf | Custom Stage Data (Irregular) Listed below (Recalc) | | |
| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
| 400.00 | 2,978 | 306.9 | 0 | 0 | 2,978 |
| 401.00 | 4,830 | 348.2 | 3,867 | 3,867 | 5,156 |
| 402.00 | 5,910 | 369.0 | 5,361 | 9,228 | 6,396 |

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|---------|--|
| #1 | Primary | 397.55' | 1.3" Vert. 1 1/4" Orifice in culvert outlet X 0.00 C= 0.600 |
| #2 | Device 1 | 397.83' | 4.0" Round Culvert L= 26.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 397.83' / 397.55' S= 0.0108 1' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf |
| #3 | Device 2 | 397.80' | 4.0" Vert. Orifice/Grate C= 0.600 |
| #4 | Device 3 | 400.00' | 2.410 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 396.00' |
| #5 | Secondary | 401.50' | 10.0' long x 21.6' 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=0.00 cfs @ 0.00 hrs HW=400.00' TW=397.55' (Dynamic Tailwater)

- ↑ 1=1 1/4" Orifice in culvert outlet (Controls 0.00 cfs)
- ↑ 2=Culvert (Passes 0.00 cfs of 0.45 cfs potential flow)
- ↑ 3=Orifice/Grate (Passes 0.00 cfs of 0.60 cfs potential flow)
- ↑ 4=Exfiltration (Passes 0.00 cfs of 0.17 cfs potential flow)

Secondary OutFlow Max=0.43 cfs @ 13.49 hrs HW=401.56' TW=397.72' (Dynamic Tailwater)

- ↑ 5=Broad-Crested Rectangular Weir (Weir Controls 0.43 cfs @ 0.68 fps)

**PEAK ELEVATION DURING SPILLWAY RUN = 401.56'
TOP OF BERM ELEV.=402.6 = 1.04' FREEBOARD >1'**

DRAW DOWN TIME - FB4

16063-POST

Type III 24-hr FB4 - WQ Event Rainfall=5.33"

Prepared by {enter your company name here}

Printed 9/20/2021

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Hydrograph for Pond FB4:

| Time (hours) | Inflow (cfs) | Storage (cubic-feet) | Elevation (feet) | Outflow (cfs) | Primary (cfs) | Secondary (cfs) |
|--------------|--------------|----------------------|------------------|---------------|---------------|-----------------|
| 0.00 | 0.00 | 0 | 370.50 | 0.00 | 0.00 | 0.00 |
| 4.50 | 0.01 | 0 | 370.50 | 0.01 | 0.01 | 0.00 |
| 9.00 | 0.05 | 5 | 370.50 | 0.04 | 0.04 | 0.00 |
| 13.50 | 0.14 | 3,012 | 371.78 | 0.04 | 0.04 | 0.00 |
| 18.00 | 0.04 | 3,574 | 371.95 | 0.04 | 0.04 | 0.00 |
| 22.50 | 0.03 | 3,396 | 371.89 | 0.04 | 0.04 | 0.00 |
| 27.00 | 0.00 | 2,863 | 371.73 | 0.04 | 0.04 | 0.00 |
| 31.50 | 0.00 | 2,185 | 371.50 | 0.04 | 0.04 | 0.00 |
| 36.00 | 0.00 | 1,515 | 371.25 | 0.04 | 0.04 | 0.00 |
| 40.50 | 0.00 | 853 | 370.96 | 0.04 | 0.04 | 0.00 |
| 45.00 | 0.00 | 201 | 370.63 | 0.04 | 0.04 | 0.00 |
| 49.50 | 0.00 | 0 | 370.50 | 0.00 | 0.00 | 0.00 |
| 54.00 | 0.00 | 0 | 370.50 | 0.00 | 0.00 | 0.00 |
| 58.50 | 0.00 | 0 | 370.50 | 0.00 | 0.00 | 0.00 |
| 63.00 | 0.00 | 0 | 370.50 | 0.00 | 0.00 | 0.00 |
| 67.50 | 0.00 | 0 | 370.50 | 0.00 | 0.00 | 0.00 |
| 72.00 | 0.00 | 0 | 370.50 | 0.00 | 0.00 | 0.00 |
| 76.50 | 0.00 | 0 | 370.50 | 0.00 | 0.00 | 0.00 |
| 81.00 | 0.00 | 0 | 370.50 | 0.00 | 0.00 | 0.00 |
| 85.50 | 0.00 | 0 | 370.50 | 0.00 | 0.00 | 0.00 |
| 90.00 | 0.00 | 0 | 370.50 | 0.00 | 0.00 | 0.00 |
| 94.50 | 0.00 | 0 | 370.50 | 0.00 | 0.00 | 0.00 |

BASIN PEAK (HR)= 18
BASIN EMPTY (HR) = 49.5
49.5-18= 31.5 HR TO DRAIN

SPILLWAY RUN - FB4

16063-POST

Type III 24-hr 25-YEAR Rainfall=5.40"

Prepared by {enter your company name here}

Printed 9/20/2021

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Summary for Pond FB4:

Inflow Area = 0.957 ac, 0.00% Impervious, Inflow Depth = 1.76" for 25-YEAR event
 Inflow = 1.03 cfs @ 12.29 hrs, Volume= 0.140 af
 Outflow = 0.17 cfs @ 13.27 hrs, Volume= 0.054 af, Atten= 84%, Lag= 58.6 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Secondary = 0.17 cfs @ 13.27 hrs, Volume= 0.054 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.03 hrs, dt= 0.09 hrs

Peak Elev= 372.04' @ 13.27 hrs Surf.Area= 3,506 sf Storage= 3,876 cf

Plug-Flow detention time= 372.4 min calculated for 0.054 af (39% of inflow)
Center-of-Mass det. time= 208.7 min (1,009.1 - 800.4)

| Volume | Invert | Avail.Storage | Storage Description | | | |
|------------------|-------------------|---------------|--|------------------------|------------------|--|
| #1 | 370.50' | 7,854 cf | Custom Stage Data (Irregular) Listed below (Recalc) | | | |
| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) | |
| 370.50 | 1,529 | 291.9 | 0 | 0 | 1,529 | |
| 371.00 | 2,223 | 383.2 | 933 | 933 | 6,437 | |
| 372.00 | 3,463 | 427.8 | 2,820 | 3,753 | 9,344 | |
| 373.00 | 4,775 | 446.6 | 4,101 | 7,854 | 10,723 | |

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|---------|---|
| #1 | Primary | 361.00' | 0.7" Vert. 3/4" Drill hole in end cap X 0.00 C= 0.600 |
| #2 | Device 1 | 368.33' | 4.0" Round Culvert L= 55.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 368.33' / 361.00' S= 0.1333 ' S= 0.1333 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf |
| #3 | Device 2 | 368.33' | 4.0" Vert. Orifice/Grate C= 0.600 |
| #4 | Device 3 | 370.50' | 2.410 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 364.00' |
| #5 | Secondary | 372.00' | 10.0' long x 11.2' 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) 2.54 2.59 2.70 2.68 2.67 2.68 2.66 2.64 |

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=370.50' TW=0.00' (Dynamic Tailwater)

- ↑ 1=3/4" Drill hole in end cap (Controls 0.00 cfs)
- ↑ 2=Culvert (Passes 0.00 cfs of 0.59 cfs potential flow)
- ↑ 3=Orifice/Grate (Passes 0.00 cfs of 0.59 cfs potential flow)
- ↑ 4=Exfiltration (Passes 0.00 cfs of 0.09 cfs potential flow)

Secondary OutFlow Max=0.17 cfs @ 13.27 hrs HW=372.04' TW=0.00' (Dynamic Tailwater)

- ↑ 5=Broad-Crested Rectangular Weir (Weir Controls 0.17 cfs @ 0.48 fps)

PEAK ELEVATION DURING SPILLWAY RUN = 372.04'
TOP OF BERM ELEV.=373.05 = 1.01' FREEBOARD >1'

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

| | | |
|--|--|---|
| Project Name: Great Northern Docks Stormwater Basins | Applicant Name: Great Northern Docks | Project Location (municipality): Naples |
|--|--|---|

| SOIL DESCRIPTION AND CLASSIFICATION | | | | |
|---|----------------|-------------------------|---|--|
| Exploration Symbol: TP-1 <input checked="" type="checkbox"/> Test Pit <input type="checkbox"/> Boring | | | | |
| 1 * Depth of Organic Horizon Above Mineral Soil | | | | |
| Texture | Consistency | Color | Mottling | |
| LOAM | FRIABLE | BROWN | NONE OBSERVED | |
| SANDY LOAM W/ STONES | | YELLOWISH BROWN | | |
| | | LIGHT YELLOWISH BROWN | | |
| LOAMY SAND W/ COBBLES | | PALE YELLOW | | |
| GRAVELLY SAND W/ COBBLES | LOOSE | | | |
| LIMIT OF EXCAVATION = 48" | | | | |
| <input type="checkbox"/> hydric <input checked="" type="checkbox"/> non-hydric | Slope % 0-3 | Limiting factor >48" | <input type="checkbox"/> ground water restrictive layer <input type="checkbox"/> bedrock | |

| | | | |
|--------|---------------------------|----------------|---------------------|
| C.S.S. | Soil Series / phase name: | Drainage Class | Hydrologic Group |
| L.S.E. | Soil Classification: | 4 Profile | B Soil Condition |

| SOIL DESCRIPTION AND CLASSIFICATION | | | | |
|---|----------------|-------------------------|---|--|
| Exploration Symbol: TP-2 <input checked="" type="checkbox"/> Test Pit <input type="checkbox"/> Boring | | | | |
| * Depth of Organic Horizon Above Mineral Soil | | | | |
| Texture | Consistency | Color | Mottling | |
| LOAM | FRIABLE | BROWN | NONE OBSERVED | |
| SANDY LOAM W/ STONES | | YELLOWISH BROWN | | |
| | | LIGHT YELLOWISH BROWN | | |
| LOAMY SAND W/ COBBLES | | PALE YELLOW | | |
| GRAVELLY SAND W/ COBBLES | LOOSE | | | |
| LIMIT OF EXCAVATION = 48" | | | | |
| <input checked="" type="checkbox"/> hydric <input type="checkbox"/> non-hydric | Slope % 0-3 | Limiting factor >48" | <input type="checkbox"/> ground water restrictive layer <input type="checkbox"/> bedrock | |


| | | | |
|--------|---------------------------|----------------|---------------------|
| C.S.S. | Soil Series / phase name: | Drainage Class | Hydrologic Group |
| L.S.E. | Soil Classification: | 4 Profile | B Soil Condition |

| SOIL DESCRIPTION AND CLASSIFICATION | | | | |
|---|----------------|-------------------------|---|--|
| Exploration Symbol: TP-3 <input checked="" type="checkbox"/> Test Pit <input type="checkbox"/> Boring | | | | |
| * Depth of Organic Horizon Above Mineral Soil | | | | |
| Texture | Consistency | Color | Mottling | |
| LOAM | FRIABLE | BROWN | NONE OBSERVED | |
| SANDY LOAM W/ STONES | | YELLOWISH BROWN | | |
| | | LIGHT YELLOWISH BROWN | | |
| LOAMY SAND W/ COBBLES | | | | |
| GRAVELLY SAND W/ COBBLES | LOOSE | PALE YELLOW | | |
| LIMIT OF EXCAVATION = 48" | | | | |
| <input checked="" type="checkbox"/> hydric <input type="checkbox"/> non-hydric | Slope % 5-8 | Limiting factor >48" | <input type="checkbox"/> ground water restrictive layer <input type="checkbox"/> bedrock | |

| | | | |
|--------|---------------------------|----------------|---------------------|
| C.S.S. | Soil Series / phase name: | Drainage Class | Hydrologic Group |
| L.S.E. | Soil Classification: | 4 Profile | B Soil Condition |

| SOIL DESCRIPTION AND CLASSIFICATION | | | | |
|---|---------------|-------------------------|---|--|
| Exploration Symbol: TP-4 <input checked="" type="checkbox"/> Test Pit <input type="checkbox"/> Boring | | | | |
| * Depth of Organic Horizon Above Mineral Soil | | | | |
| Texture | Consistency | Color | Mottling | |
| LOAM | FRIABLE | BROWN | NONE OBSERVED | |
| SANDY LOAM W/ STONES | | YELLOWISH BROWN | | |
| | | LIGHT YELLOWISH BROWN | | |
| LOAMY SAND W/ COBBLES | | | | |
| GRAVELLY SAND W/ COBBLES | LOOSE | PALE YELLOW | | |
| LIMIT OF EXCAVATION = 48" | | | | |
| <input type="checkbox"/> hydric <input checked="" type="checkbox"/> non-hydric | Slope % 15 | Limiting factor >48" | <input type="checkbox"/> ground water restrictive layer <input type="checkbox"/> bedrock | |

| | | | |
|--------|---------------------------|----------------|---------------------|
| C.S.S. | Soil Series / phase name: | Drainage Class | Hydrologic Group |
| L.S.E. | Soil Classification: | 4 Profile | B Soil Condition |

| Professional Endorsements (as applicable) | | | |
|---|--|---------------|--|
| C.S.S. | signature: | Date: | |
| | name printed/typed: | Lic.#: | |
| L.S.E. | signature:  | Date: 9/22/21 | |
| | name printed/typed: Alexander A. Finamore | Lic.#: 391 | |

ATTACHMENT 3

PIPE SIZING CALCULATIONS

16063-POST

Type III 24-hr 25-YEAR Rainfall=5.40"

Prepared by {enter your company name here}

Printed 9/20/2021

HydroCAD® 10.00-26 s/n 09237 © 2020 HydroCAD Software Solutions LLC

Summary for Pond CLV1: culvert

Inflow Area = 0.957 ac, 0.00% Impervious, Inflow Depth = 1.76" for 25-YEAR event
 Inflow = 1.03 cfs @ 12.29 hrs, Volume= 0.140 af
 Outflow = 1.03 cfs @ 12.29 hrs, Volume= 0.140 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.03 cfs @ 12.29 hrs, Volume= 0.140 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.03 hrs, dt= 0.09 hrs
 Peak Elev= 373.12' @ 12.29 hrs
 Flood Elev= 374.00'

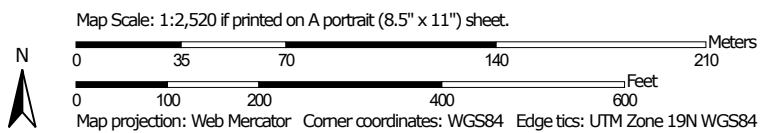
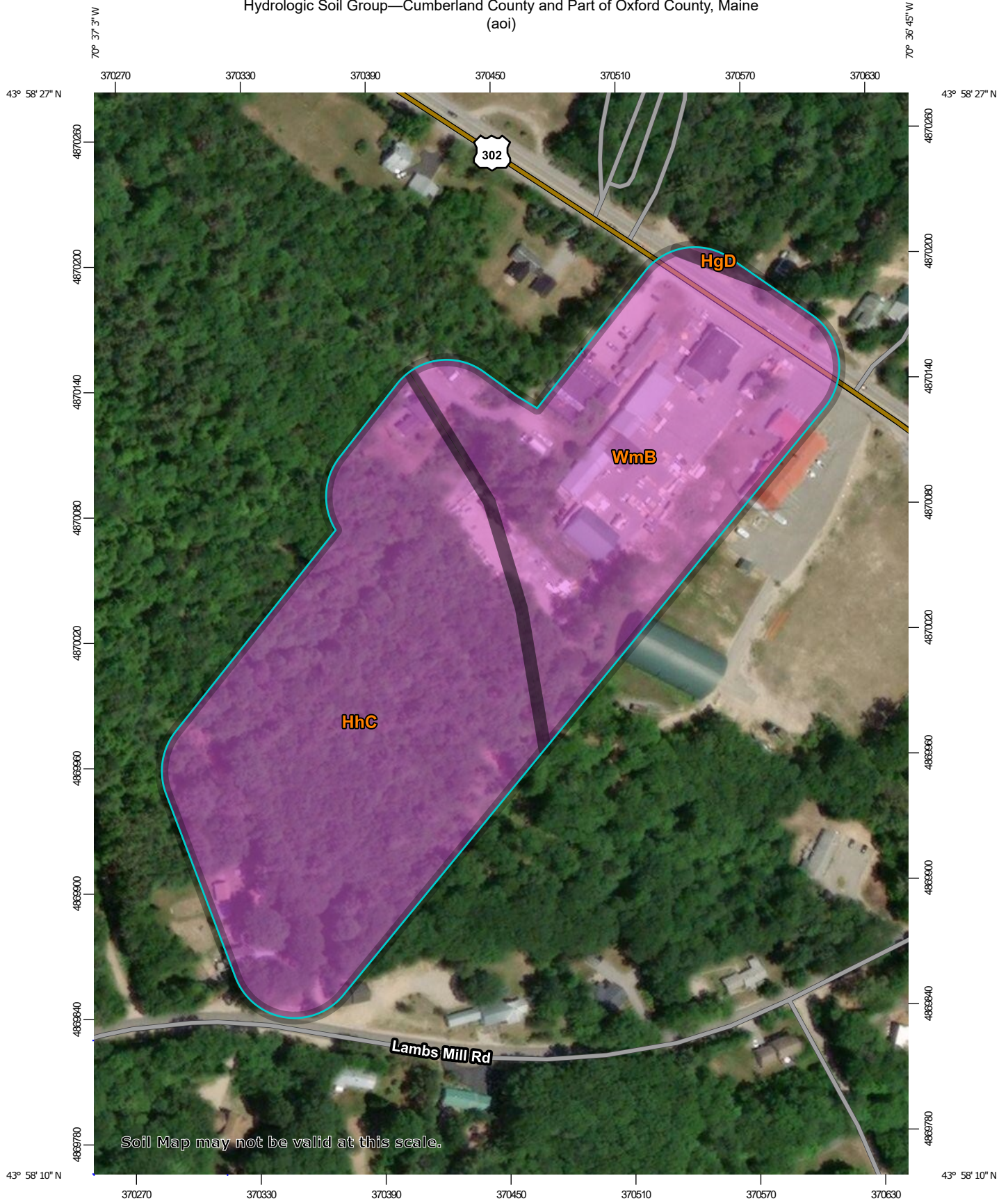
| Device | Routing | Invert | Outlet Devices |
|--------|---------|---------|--|
| #1 | Primary | 372.60' | 12.0" Round Culvert L= 26.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 372.60' / 372.08' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf |

Primary OutFlow Max=1.01 cfs @ 12.29 hrs HW=373.12' TW=371.23' (Dynamic Tailwater)
 ↑**1=Culvert** (Inlet Controls 1.01 cfs @ 2.45 fps)

SECTION 6


SOIL MAP

Hydrologic Soil Group—Cumberland County and Part of Oxford County, Maine
(aoi)



MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines


 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points






 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available


Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
 Survey Area Data: Version 15, Sep 6, 2018

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

Date(s) aerial images were photographed: Sep 5, 2013—Oct 22, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

| Map unit symbol | Map unit name | Rating | Acres in AOI | Percent of AOI |
|------------------------------------|---|--------|--------------|----------------|
| HgD | Hermon sandy loam, 15 to 25 percent slopes | A | 0.0 | 0.3% |
| HhC | Hermon sandy loam, 8 to 15 percent slopes, very stony | A | 7.9 | 58.8% |
| WmB | Windsor loamy sand, 0 to 8 percent slopes | A | 5.5 | 40.9% |
| Totals for Area of Interest | | | 13.5 | 100.0% |

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

SECTION 7

INSPECTION, MAINTENANCE AND HOUSEKEEPING PLAN



INSPECTION, MAINTENANCE, AND HOUSEKEEPING PLAN

(Prepared by Jayson Haskell, PE #13002)

GREAT NORTHERN DOCKS
1114 ROOSEVELT TRAIL
NAPLES, MAINE

Responsible Party

Owner: Atlas Holdings, LLC
1114 Roosevelt Trail
Naples, Maine 04055

The owner/applicant is responsible for the maintenance of all stormwater management structures and related site components and the keeping of a maintenance log book with service records. Records of all inspections and maintenance work performed must be kept on file with the owner and retained for a minimum of five years. The maintenance log will be made available to the Town and Maine Department of Environmental Protection (MDEP) upon request. At a minimum, the maintenance of stormwater management systems will be performed on the prescribed schedule.

The procedures outlined in this plan are provided as a general overview of the anticipated practices to be utilized on this site. In some instances, additional measures may be required due to unexpected conditions. *The Maine Erosion and Sedimentation Control BMP and Stormwater Management for Maine: Best Management Practices* Manuals published by the MDEP should be referenced for additional information.

During Construction

- 1. Inspection and Corrective Action:** It is the contractor's responsibility to comply with the inspection and maintenance procedures outlined in this section. Inspection shall occur on all disturbed and impervious areas, erosion control measures, material 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 24 hours before and after a storm event generating more than 0.5 inch of rainfall over a 24-hour period and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct the inspections.
- 2. Maintenance:** Erosion controls shall be maintained in effective operating condition until areas are permanently stabilized. If best management practices (BMPs) need to be

repaired, the repair work should be initiated upon discovery of the problem but no later than the end of the next workday. If BMPs need to be maintained or modified, additional BMPs are necessary, or other corrective action is needed, implementation must be completed within seven calendar days and prior to any rainfall event.

3. **Construction vehicles and equipment:** Construction vehicles and equipment shall not be driven or stored within the stormwater basins. To ensure the basins function as designed perpetually, prohibiting vehicles and equipment from these areas will limit the risk of inhibiting the function of the basins due to compaction.
4. **Snow Storage:** The proposed underdrained filter basins shall not be utilized for snow storage. Snow storage areas shall be located away from the basins, and in areas that will not direct snow melt runoff into one of the basins on site.
5. **Documentation:** A report 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 the major observations about the operation and maintenance of erosion and sedimentation controls, materials storage areas, and vehicle access points to the parcel. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and location(s) 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 MDEP and Town staff, and a copy must be provided upon request. The owner shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

Housekeeping

1. **Spill prevention:** Controls must be used to prevent pollutants from construction and waste materials on site to enter stormwater, which includes storage practices to minimize exposure of the materials to stormwater. The site contractor or operator must develop, and implement as necessary, appropriate spill prevention, containment, and response planning measures.
2. **Groundwater protection:** During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials. Any project proposing infiltration of stormwater must provide adequate pre-treatment of stormwater prior to discharge of stormwater to the infiltration area, or provide for

treatment within the infiltration area, in order to prevent the accumulation of fines, reduction in infiltration rate, and consequent flooding and destabilization.

- 3. Fugitive sediment and dust:** Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control, but other water additives may be considered as needed. A stabilized construction entrance (SCE) should be included to minimize tracking of mud and sediment. If off-site tracking occurs, public roads should be swept immediately and no less than once a week and prior to significant storm events. Operations during dry months, that experience fugitive dust problems, should wet down unpaved access roads once a week or more frequently as needed with a water additive to suppress fugitive sediment and dust.
- 4. Debris and other materials:** Minimize the exposure of construction debris, building and landscaping materials, trash, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials to precipitation and stormwater runoff. These materials must be prevented from becoming a pollutant source.
- 5. Excavation de-watering:** Excavation de-watering is the removal of water from trenches, foundations, coffer dams, 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 removed from the ponded area, either through gravity or pumping, 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 by the Department.
- 6. Authorized Non-stormwater discharges:** Identify and prevent contamination by non-stormwater discharges. Where allowed non-stormwater discharges exist, they must be identified and steps should be taken to ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Authorized non-stormwater discharges are:
 - (a) Discharges from firefighting activity;
 - (b) Fire hydrant flushings;
 - (c) Vehicle washwater if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage and transmission washing is prohibited);
 - (d) Dust control runoff in accordance with permit conditions and Appendix (C)(3);
 - (e) Routine external building washdown, not including surface paint removal, that does not involve detergents;
 - (f) Pavement washwater (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material had been removed) if detergents are not used;
 - (g) Uncontaminated air conditioning or compressor condensate;
 - (h) Uncontaminated groundwater or spring water;
 - (i) Foundation or footer drain-water where flows are not contaminated;

- (j) Uncontaminated excavation dewatering (see requirements in Appendix C(5));
- (k) Potable water sources including waterline flushings; and
- (l) Landscape irrigation.

- 7. Unauthorized non-stormwater discharges:** Approval from the Town does not authorize a discharge that is mixed with a source of non-stormwater, other than those discharges in compliance with Section 6 above. Specifically, the Town's approval does not authorize discharges of the following:
- (a) Wastewater from the washout or cleanout of concrete, stucco, paint, form release oils, curing compounds or other construction materials;
 - (b) Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance;
 - (c) Soaps, solvents, or detergents used in vehicle and equipment washing; and
 - (d) Toxic or hazardous substances from a spill or other release.

Post Construction

- 1. Inspection and Corrective Action:** All stormwater measures must be maintained by the owner in effective operating condition. A qualified third-party inspector hired by the owner shall at least annually inspect the stormwater management facilities. This person should have knowledge of erosion and stormwater control including the standards and conditions of the site's approvals. The inspector shall be certified through the MDEP to inspect the stormwater infrastructure. The following areas, facilities, and measures must be inspected, and identified deficiencies must be corrected. Areas, facilities, and measures other than those listed below may also require inspection on a specific site.
- A. Vegetated Areas:** Inspect vegetated areas, particularly slopes and embankments, early in the growing season or after heavy rains to identify active or potential erosion problems. Replant bare areas or areas with sparse growth. Where rill is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows.
 - B. Ditches, Swales, and Open Channels:** Inspect ditches, swales, and other open channels in the spring, late fall, and after heavy rains to remove any obstructions to flow, remove accumulated sediments and debris, control 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. Repair any slumping side slopes as soon as practicable. The channel must receive adequate routine maintenance to maintain capacity and prevent or correct any erosion of the channel's bottom or side slopes.
 - C. Storm Drains:** Inspect storm drains in the spring, late fall, and after heavy rains to remove any obstructions to flow; remove accumulated sediments and debris at the

inlet, at the outlet, and within the conduit; and to repair any erosion damage at the storm drain's outlet.

- D. Underdrained Filter Basin:** The filter basins are not intended to function as snow storage areas. Inspector to verify that winter plowing operations are not dumping or pushing snow into the basins. The basins shall also not be used for vehicle or heavy equipment storage. Basin should be inspected after several major storm events (0.5 inches rainfall over 24 hours) to determine drawdown time during the first year. Basins to be inspected every six months thereafter with at least one inspection after a major storm event.

The basin should drain dry within 24 to 48 hours following a one-inch storm. If ponding exceeds 48 hours, the top of the filter bed must be rototilled to reestablish the soil's filtration capacity. If water ponds on the surface of the bed for more than 72 hours, the top several inches of the filter shall be replaced with fresh material. Inspect for debris and sediment build up in the forebay and basin and remove as needed. Mowing of the basin can only occur semi-annually to a height of no less than 6 inches utilizing a hand-held string trimmer or push-mower. Any bare areas or erosion rills shall be repaired with new filter media or sandy loam then seeded and mulched. The basin should also be inspected annually for destabilization of side slopes, embankment settling and other signs of structural failure.

- E. Emergency Spillway:** Spillways should be inspected semi-annually and following major storm events for the first year and every six months thereafter to remove any obstructions to flow. Any woody vegetation growing through riprap lining must be removed. Replace riprap on areas where any underlying filter fabric is showing through the stone or where stones have been dislodged.
- F. Regular Maintenance:** Clear accumulations of winter sand along roadway and parking areas once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along pavement shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader.
- G. Documentation:** Keep a log (report) summarizing inspections, maintenance, and any corrective actions taken. The log must include the date on which each inspection or maintenance task was performed, a description of the inspection findings or maintenance completed, and the name of the inspector or maintenance personnel performing the task. If a maintenance task requires the clean-out of any sediments or debris, indicate where the sediment and debris was disposed after removal. The log must be made accessible to Town and MDEP staff upon request. The permittee shall retain a copy of the log for a period of at least five years from the completion of permanent stabilization. Attached is a sample log.

Re-certification

Submit a certification of the following to the MDEP within three months of the expiration of each five-year interval from the date of issuance of the permit.

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

Municipalities with separate storm sewer systems regulated under the Maine Pollutant Discharge Elimination System (MPDES) Program may report on all regulated systems under their control as part of their required annual reporting in lieu of separate certification of each system. Municipalities not regulated by the MPDES Program, but that are responsible for maintenance of permitted stormwater systems, may report on multiple stormwater systems in one report.

Duration of Maintenance

Perform maintenance as described.

INSPECTION AND MAINTENANCE LOG – GENERAL INSPECTION

GREAT NORTHERN DOCKS 1114 ROOSEVELT TRAIL NAPLES, MAINE

The following stormwater management and erosion control items shall be inspected and maintained as prescribed in the Maintenance Plan with recommended frequencies as identified below. The owner is responsible for keeping this maintenance log on file for a minimum of five years and shall provide a copy to the Town and MDEP upon request. Inspections are to be performed by a qualified third-party inspector and all corrective actions shall be performed by personnel familiar with stormwater management systems and erosion controls.

| Maintenance Item | Maintenance Event | Date Performed | Responsible Personnel | Comments |
|---|--|----------------|-----------------------|----------|
| Vegetated Areas | Inspect slopes and embankments early in Spring. | | | |
| Ditches, swales and other open channels | Inspect after major rainfall event. | | | |
| | Inspect for erosion or slumping and repair | | | |
| | Mowed at least annually | | | |
| Storm Drains | Inspect semiannually and after major rainfall. | | | |
| | Repair erosion at inlet or outlet of pipe. | | | |
| | Repair displaced riprap. | | | |
| | Clean accumulated sediment in culverts when >20% full. | | | |
| Regular Maintenance | Clear accumulation of winter sand in paved areas annually. | | | |

INSPECTION AND MAINTENANCE LOG – UNDERDRAINED FILTER BASIN

**GREAT NORTHERN DOCKS
1114 ROOSEVELT TRAIL
NAPLES, MAINE**

The following stormwater management and erosion control items shall be inspected and maintained as prescribed in the Maintenance Plan with recommended frequencies as identified below. The owner is responsible for keeping this maintenance log on file for a minimum of five years and shall provide a copy to the Town and MDEP upon request. Inspections are to be performed by a qualified third-party inspector and all corrective actions shall be performed by personnel familiar with stormwater management systems and erosion controls.

| Maintenance Item | Maintenance Event | Date Performed | Responsible Personnel | Comments |
|---------------------------|---|----------------|-----------------------|----------|
| Underdrained Filter Basin | Check after each rainfall event to ensure that pond drains within 24-48 hours. | | | |
| | Replace top several inches of filter if pond does not drain within 72 hours. | | | |
| | Mow grass no more than twice a year to no less than 6 inches in height. | | | |
| | Inspect semi-annually for erosion or sediment accumulation and repair as necessary. | | | |
| | Inspector to verify basin not utilized for snow storage | | | |
| | Inspector to verify basin not utilized for vehicle or heavy equipment storage. | | | |
| Emergency Spillway | Inspect and remove obstructions as necessary. | | | |
| | Remove woody vegetation. | | | |
| | Replace riprap as necessary. | | | |