DM ROMA
CONSULTING ENGINEERS

September 11, 2018

Renee Carter
Town of Naples
PO Box 1757
Naples, ME 04055

Re: Application for Site Plan Review
Causeway Marina Commercial Development, Naples, Maine
Causeway Boat Services, LLC – Applicant

Dear Renee:

On behalf of Causeway Boat Services, LLC we have prepared the enclosed plans and supporting information for Site Plan approval to expand their commercial facility located at 29 Casco Road in Naples. The Planning Board approved an initial phase of development in 2016, which has since been constructed and is currently utilized for retail sales display of new boats and minor boat maintenance activities.

The proposed expansion includes approximately 2 acres of additional impervious area that will initially consist entirely of gravel area, and is intended for a building in the near future. Approximately 2.7 acres of the remaining site area will be re-graded and established as lawn. We do not have plans developed for the building at this time, but we have accounted for the area that will be occupied by the building in our stormwater management design and Phosphorus Export calculations. A Stormwater Permit has been submitted to the Maine Department of Environmental Protection and the permit is still under review at the time of this application. Stormwater management and phosphorus control will be accomplished through the two existing infiltration basins that were constructed along Casco Road, and a new larger infiltration basin that will be constructed within the property.

Once you have reviewed the submission, please don't hesitate to contact us with any questions or comments.

Sincerely,

DM Roma Consulting Engineers

Dustin Roma

Dustin M. Roma, P.E.
President

Cc: Jesse Allen, Causeway Boat Services LLC

P.O. Box 1116, Windham, ME 04062 ○ (207) 310-0506 ○ dustin@dmroma.com

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: 9-11-18

Owner/Applicant Name: CAUSEWAY BOAT SERVICES, LLC

Mailing Address: 780 ROOSEVELT TRAIL, NAPLES, ME 04055

Telephone: 693 - 6832 Email: _____

Property Owner: SAME AS APPLICANT

Property Location: 29 CASCO ROAD Map & Lot: U05-010

Any easements, covenants, or deed restrictions related to the property? UNKNOWN

Zoning District: COMMERCIAL & RURAL Waivers requested: NONE

A list must be submitted for waivers

Name, address, & phone # of applicants engineer, land surveyor or planner:
DUSTIN ROMA, DM ROMA CONSULTING ENGINEERS, PO BOX 1116, WINDHAM, ME 04062, (207) 310 - 0506

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: 9-11-18 Signature: Dustin Roma

Fee Schedule:

Advertising: $50.00
Fee per abutter: $7.00
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
Modification of approved plan: $100.00
Commercial Initial permit: $100.00
Commercial Annual Renewal: $50.00
Aquatic Structure (non commercial): $50.00
Review Escrow: TBD

Applicants Total: $ 520.00

Please include 9 copies of all supporting documents, including a letter of intent, when submitting your application to the Town Secretary. Completed applications should be received 21 days before the meeting date.

A formal application for Site Plan Review shall contain at least the following exhibits and information:

A fully executed and signed copy of the application for Site Plan Review; and, **9 copies** of a site plan drawn at a scale sufficient to allow review of the items listed under Criteria and Standards, but not more than one hundred (100) feet to the inch for that portion of the total tract of land being proposed for development, and showing the following:

- Owner's name, address and signature.
- The Tax Map and Lot of all abutting property owners plus a description of the project, to be used by the Planning Board to notify the abutters by certified mail of the proposed project, proof of mailing receipts to be kept on file at the Town Office. Owners of abutting properties shall be those listed in the most recent tax records of the Town of Naples.
- Perimeter survey of the parcel made and certified by a registered land surveyor relating to reference points showing true north point, graphic scale, corner of parcel, date of survey and total acreage.
- Total area of any land within 500 feet of the proposed project which is owned by the applicant.
- Zoning classifications(s) of the property and the location of zoning district boundaries if the property is located in two or more zoning districts.
- Soil types and location of soil boundaries as certified by a registered engineer or certified soil scientist.
- The location of all building setbacks as required by the Town Ordinances.
- The location, size and character of all signs and exterior lighting.
- The lot area of the parcel, street frontage and the Town Ordinances requirements for minimum lot size and frontage.
- The location of all existing and proposed buildings (including size and height), driveways, sidewalks, parking spaces, loading areas, open spaces, large trees, open drainage courses, signs, exterior lighting, service areas, easements and landscaping.
- The location of all buildings within fifty (50) feet of the parcel to be developed and the location of intersecting roads or driveways within 200 feet of the parcel.
- Existing and proposed topography of the site at two (2) foot contour intervals if major changes to the existing topography are being proposed.
- All surface water features within 500 feet of the project boundaries, including perennial streams and wetlands.
- Location and dimensions of on-site pedestrian and vehicular access ways, parking areas, loading and unloading facilities, design of entrances and exits of vehicles to and from the site on to public streets, curb and sidewalk.
- Location of all wells and septic systems within 150 feet of the property boundary.
- Existing land cover and vegetation conditions.
- Drainage plan to describe the location and size of road culverts, road drainage ditches, phosphorus and runoff control measures and other similar features.
- If the site is not to be served by a public sewer line, then an on-site soils investigation report by a Department of Human Services licensed site evaluator shall be provided.
- A list of waivers of any town requirements or ordinance provisions requested.

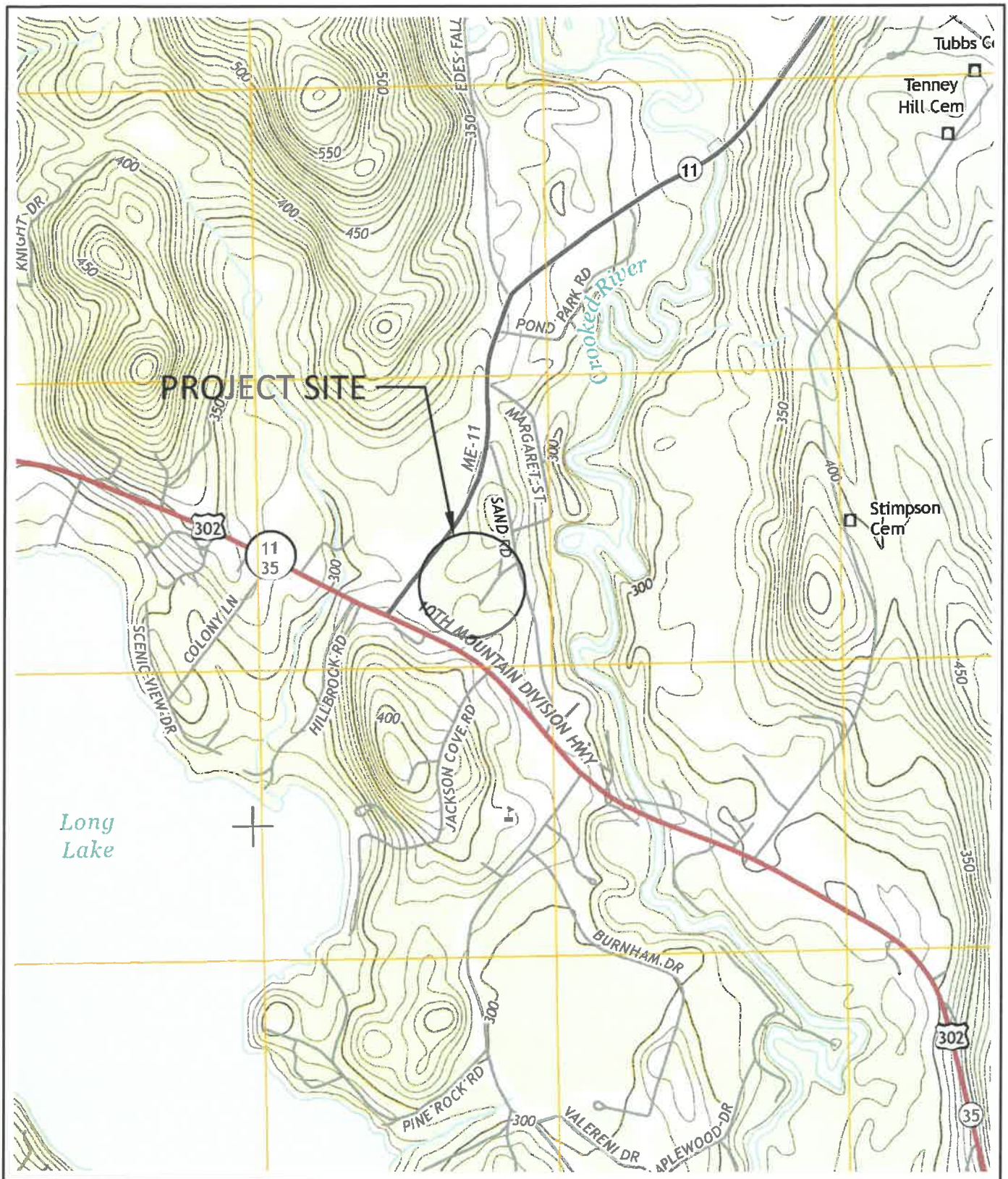
Please include 9 copies of all supporting documents, including a letter of intent, when submitting your application to the Town Secretary. Completed applications should be received 21 days before the meeting date.

- A statement from the Fire Chief that the property is accessible by present fire apparatus and detailing any additional on-site fire protection facilities required.
- A soil and erosion control plan approved by the Cumberland County Soil & Water Conservation District.
- Phosphorus Analysis.
- A utility plan showing provisions for water supply and waste water disposal including the size and location of all piping, holding tanks, leachfield, etc.
- Building plans showing plans of al floors and all elevations.
- Copies of any proposed or existing easements, covenants and deed restrictions.
- A description and design of proposed temporary and permanent signs, including location, size and lighting.
- Copies of all required s state approvals and permits, provided however, that the PlanningBoard may approve site plans subject to the influence of specific state licenses and permits in cases where it is not feasible for the applicant to obtain at the time of Site Plan Review.

The Planning Board may waive any of these requirements when the Board determines that the scale or nature of the project is of a size that makes the information unnecessary.

For a complete review of requirements for a Site Plan Review please refer to the Town of Naples Site Plan Review Ordinance which can be viewed at www.townofnaples.org.

Please include 9 copies of all supporting documents, including a letter of intent, when submitting your application to the Town Secretary. Completed applications should be received 21 days before the meeting date.



SITE LOCATION MAP

CAUSEWAY MARINA COMMERCIAL DEVELOPMENT
NAPLES, MAINE

FOR RECORD OWNER:
DANIEL ALLEN & JESSE ALLEN
780 ROOSEVELT TRAIL
NAPLES, ME 04055

SCALE: 1"=1500'
DATE: 07-13-2018
JOB NUMBER: 16060

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 310 - 0506

Doc#: 28669 Bk:34097 Ps: 205

SHORT FORM QUITCLAIM DEED
WITH COVENANT

Daniel R. Allen and Jesse D. Allen, of Naples, County of Cumberland, and State of Maine, for consideration paid, grant to **Causeway Boat Services, LLC** whose mailing address is 780 Roosevelt Trail, Naples, Maine, with Quitclaim Covenant, the premises located in the Town of Naples, County of Cumberland and State of Maine, as described on **Exhibit A** attached hereto and made a part hereof.

Meaning and intending to convey the same premises conveyed to Grantors Daniel R. Allen and Jesse D. Allen by deed dated October 27, 2016, from Bonnie L. Longley, duly appointed and acting Personal Representative of the Estate of Anthony J. Longley and recorded in the Cumberland County Registry of Deeds in Book 33559, Page 207.

WITNESS our hands and seals this 16th day of June, 2017.

Susan Maynard
WITNESS Susan Maynard

Daniel R. Allen

Jesse D. Allen

STATE OF MAINE
COUNTY OF CUMBERLAND, SS. June 16 2017

Then personally appeared the above-named Daniel R. Allen and Jesse D. Allen and acknowledged the foregoing instrument to be their free act and deed.

Before me, Susan Maynard

SEAL

Notary Public/Attorney at Law

Printed Name

SUSAN M. MAYNARD
NOTARY PUBLIC, STATE OF MAINE
MY COMMISSION EXPIRES MAY 19, 2021

Exhibit A

A certain lot or parcel of land, located on the southeasterly side of Route 11 in the Town of Naples, County of Cumberland, State of Maine, being bounded and described as follows:

Beginning at an iron pin on the southeasterly side of Route 11, said iron pin being at the northwesterly corner of land now or formerly of Gregory and Melissa Lord; thence along the southeasterly side of Route 11 South 54° 11' 07" West a distance of 259.90 feet to an iron pin; thence along land now or formerly of Linda and C. Wayne Flanigan South 30 ° 53' 08" East a distance of 209.92 feet to an iron pin; thence also along land of Flanigan South 60 ° 06' 10" West a distance of 80.56 feet to an iron pin; thence along land now or formerly of Anthony and Bonnie Longley on the following courses and distances: South 30 ° 53' 08" East a distance of 98.42 feet to an iron pin; thence South 54 ° 11' 07" West a distance of 50.0 feet to an iron pin; thence South 70 ° 41' 03" West a distance of 104.10 feet to an iron pin; thence South 51 ° 29' 25" West a distance of 20.71 feet to a point; thence South 37 ° 25' 18" West a distance of 25.03 feet to a point; thence South 25 ° 06' 26" West a distance of 51.45 feet along land of Anthony and Bonnie Longley and land now or formerly of Michael Katz and Margaret Gadomski to a point. Thence along land of Katz and Gadomski South 10 ° 10' 24" West a distance of 26.96 feet to an iron pin; thence along land now or formerly of Richard A. Pond South 43 ° 20' 59" East a distance of 357.0 feet to an iron pin; thence along land now or formerly of Charles Fox North 57 ° 20' 42" East a distance of 188.07 feet to an iron pin; thence also along land of Fox South 44 ° 05' 05" East a distance of 154.94 feet to an iron pin; thence along lane now or formerly of All Seasons Trust South 44 ° 54' 08" East a distance of 155.0 feet to an iron pin; thence also by land of All Seasons Trust South 56 ° 50' 55" West a distance of 289.33 feet to a point; thence along the northeasterly sideline of Route 302 by a curve to the West having a radius of 2198.60 feet a distance of 70.24 feet to a point; thence along land now or formerly of KCB, LLC partially marked by a rock wall North 51 ° 13' 32" East a distance of 722.61 feet to an iron pin; thence along land now or formerly of Wendy Jensen et al. North 11 ° 6' 04" West a distance of 154.0 feet to an iron pin; thence along land now or formerly of Eric and Kimberlee Merrill North 30 ° 24' 05" West a distance of 156.0 feet to a point; thence along land of said Merrill North 77 ° 27' 54" East a distance of 200.0 feet to an iron pin; thence along the westerly sideline of Sand Road North 00 ° 06' 09" East a distance of 83.69 feet to an iron pin; thence along land now or formerly of Curtis and Marian Merrill South 70 ° 11' 59" West a distance of 229.65 feet to an iron pin in a large boulder; thence also along land of C. & M. Merrill North 06 ° 54' 10" East a distance of 106.90 feet to an iron pin; thence along land now or formerly of Yvon and Gilmay Duquette North 33 ° 02' 29" West a distance of 309.87 feet to an iron pin; thence along land of Lord South 54 ° 11' 07" West a distance of 353.77 feet to an iron pin; thence also along land of Lord North 33 ° 02' 47" West a distance of 300.0 feet to the iron pin at the point of beginning.

Excepting from the above-described premises, the following conveyances:

1) Warranty Deed from Anthony J. Longley to John C. Kilday, III and Marie H. Kilday, dated May 2, 2006 and recorded in Cumberland County Registry of Deeds in Book 23922, Page 232;

2) Warranty Deed from Anthony J. Longley to Steven Rossiter and Cynthia Rossiter, dated March 7, 2006 and recorded in said Registry in Book 23741, Page 290; and

3) Warranty Deed from Anthony J. Longley to Longley Holding Company, LLC, dated May 22, 2006 and recorded in said Registry in Book 23998, Page 211.

Subject to easements of record.

Received
Recorded Register of Deeds
Jun 21,2017 09:34:31A
Cumberland County
Nancy A. Lane

DM ROMA
CONSULTING ENGINEERS

STORMWATER MANAGEMENT REPORT

CAUSEWAY MARINA COMMERCIAL DEVELOPMENT
CASCO ROAD
NAPLES, MAINE

A. Narrative

Daniel and Jesse Allen, the applicants, are proposing to further develop an 8.58±-acre parcel along Casco Road, (Route 11) in Naples. The project site is identified as Lot 10 on the Town of Naples Assessors Map U-05 and is located within two zoning districts: the project site is located predominantly within the Commercial Zoning District, with a portion of the site within the Rural Zoning District.

The project site was previously developed, adjacent to Casco Road, including a 3,000 square foot structure supporting the boat retail part of the facility, an improved gravel parking area and stormwater management facilities; namely two infiltration basins. Previously, the applicant has removed the trees from the majority of the property, but did not remove the stumps, avoiding ground disturbance.

The property owner/project applicant intends to further develop the site by constructing an additional 10,000 s.f. commercial structure (125' x 80') which will be utilized in the boat storage portion of the facility and expanding the gravel surface to allow for additional boat storage. The project intends to eliminate areas of unused gravel surfaces and accessways. Areas outside of this developed area will require the placement of loam and seed and/or allowing the natural woodland growth to re-establish.

An onsite wetland of special significance has been delineated by Longview Partners, LLC and is illustrated on the project plans. The project design incorporates removing all existing improvements within 75' of the wetland delineation, including existing gravel surfaces. Any disturbed wetland or buffer areas will be stabilized with either wetland seed mix or conservation seed mix respectively, placed over them prior to the completion of work. Upon completion of work and the re-seeding of disturbed wetland areas and associated buffers has been completed, no further land disturbance will occur. The intent is to allow the disturbed areas to stabilize and allow the natural seed bank the opportunity to re-populate the area with native vegetated cover.

Additionally, the project plans have incorporated the use of three infiltration basins (INF-1 & INF-2 were previously constructed, while INF-3 is proposed) to address the stormwater quality goals for the project.

B. Alterations to Land Cover

The site consists of the recent site improvements for the commercial space adjacent to Casco Road, as well as an on-site access road which was part of an original gravel/sand pit. In anticipation of the current proposed project, the applicant cleared the entire lot of trees. The recent clearing operation removed all trees on-site, however there was no ground disturbance as the tree removal operation did not remove the tree stumps.

Since the site consists of recent improvements, post 1997, the proposed project considers all previously constructed improvements under the jurisdiction of this permit. Upon the completion of construction, the project will consist of approximately 13,000± square feet of buildings (0.30± acres) of which 10,000 sf is associated with the proposed building, 3,000 sf associated with the existing on-site structure, and 101,928± square feet (2.34± acres) of gravel surfaces, for a total new impervious area of 114,928± square feet (2.64± acres). Additionally, the project intends to restore and re-establish vegetative cover on all disturbed areas including the abandoning of existing gravel access roads no longer ancillary to the proposed project site use. Areas associated with the commercial use as delineated on the design plans, loam and seed will be installed to provide vegetated cover and will be maintained as lawn. As a result, the project design proposes the addition of 118,447± square feet (2.72± acres) of new landscaped area, which cumulatively results in a total developed area of approximately 5.36± acres. Areas outside of this developed area will require the placement of loam and seed and/or allowing the natural woodland growth to re-establish.

The site is moderately to gently sloped, and drains to one of three discharge points: 1) the northwesterly portion of the site drains one of two existing infiltration basin adjacent to Casco Road, where it is discharged into the drainage swale in Casco Road and ultimately into the Brandy Pond; 2) a portion of the site discharges to low area at approximately the mid-point along the northeasterly property limits, where stormwater runoff is then conveyed overland on to the adjacent properties to the north and ultimately making its way to the Brandy Pond; 3) the southwesterly portion of the site drains to a wetland system at approximately the mid-point along the southerly property limits, which drains to Brandy Pond.

Ultimately, the stormwater runoff generated by the site is conveyed and discharged to the Brandy Pond which is classified by the MDEP as a Lake Most at Risk from New Development. 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 Watershed Maps and a Soils Map has been enclosed as Section 6 of the MDEP Stormwater Permit Application package.

As a result of the property being located within the watershed of a Lake Most at Risk from New Development and the new impervious surface totaling over 20,000 square feet, the proposed development must meet the Basic and Phosphorous Standards as indicated in the Chapter 500 Stormwater Management regulations.

C. 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 also meeting the Town's requirement to provide attenuation of the peak rates of runoff leaving the site.

D. Basic Standards

The project is required by the Town and the MDEP to provide permanent and temporary Erosion Control Best Management Practices. These methods are outlined in detail in the plan set.

E. Phosphorous Standard

The project design results in a proposed creation of less than 3 acres of impervious area (2.64± acres total project impervious area) and less than 20 acres of developed area (5.36± acres of total project developed area); therefore, the proposed project is required by the MDEP to meet the Phosphorous Standards outlined in the MDEP Chapter 500. Additionally, the Town of Naples Site Plan Ordinance requires that any project under Site Plan review that generates more than 40,000 square feet of non-vegetated area to meet the Phosphorous Standards outlined in the MDEP Chapter 500 Stormwater Management rules.

Based on our calculations, the project site's Project Phosphorous Budget (PPB) was determined to be 0.26068 lbs P/year. The calculations prepared for this standard indicated that the project's stormwater infrastructure effectively reduced the site's phosphorus export by approximately 84.32%; resulting in a total Post-Treatment Phosphorous Export (PPE) of 0.57 lbs P/year. As illustrated on Worksheet 4 of the Phosphorous Budget calculations, the total Post-Treatment Phosphorous Export (PPE) of 0.57 lbs P/year, and therefore requires 0.31 lbs P/year of additional treatment or compensation. These calculations can be found on the enclosed worksheets as Attachment 2 of this report.

This standard will be met by incorporating the construction of an additional infiltration basins into the proposed project's storm water management design. When paired with the two existing infiltration basins, the three (3) infiltration basins will, as indicated in the paragraph above, effectively reduce the project's total post-treatment phosphorous export to 0.57 lbs P/year, which is a reduction in 84.32% of the projects total pre-treatment phosphorous export.

The project design incorporated the sizing of the three (3) infiltration basins; the design goal was to effectively reduce the Treatment Factor (TF) for all the infiltration basins as much as possible. The stormwater treatment calculations indicate that the project's storm treatment design is estimated to provide a treatment factor (TF) of 0.17 for infiltration basins 1 & 2 (INF-1 & INF-2) and the proposed infiltration basin (INF-3) as designed will provide a treatment factor (TF) of 0.13. Calculations can be found on the Stormwater Treatment Plan and are included as Attachment 2 in this report.

The project design considered the location of existing neighboring septic systems and existing private wells within the vicinity of the proposed infiltration basin. To determine these locations, public records were reviewed and approximately mapped on the design plans. The available septic records have been included as Attachment 4 of this narrative. Based on field observations, public records and assumptions on engineering lot development, DM Roma estimates there are three (3) existing wells and three (3) existing septic systems within 300 ft of the proposed infiltration basin (INF-3). The nearest septic system is approximately 104± feet from the infiltration basin and existing well is approximately 115± feet from the infiltration basin which are associated with the residential development on Blueberry Pines Drive.

F. Flooding Standard

As previously stated the project will create less than 3 acres of impervious area (2.64± acres total project impervious area) and less than 20 acres of developed area (5.36± acres of total project developed area). Therefore, the proposed project is not required by the MDEP, to meet the Flooding Standard. While specifically not a part of this permit application, the project is also under the jurisdiction of the Town of Naples Zoning Ordinance, which requires the project to detain, retain or result in the infiltration of stormwater from the 24-hour storms of the 2-year, 10-year and 25-year frequencies such that the peak flows of stormwater from the project site do not exceed the peak flows of stormwater prior to undertaking the project. To maintain these rates, three (3) infiltration basins, sized to provide treatment requirements of the Phosphorous Standard, have been analyzed. Hydrology models indicate that the project's design will result in a decrease of peak stormwater runoff at all points of discharge when compared to pre-development sub-basin watershed models.

G. Maintenance of common facilities or property

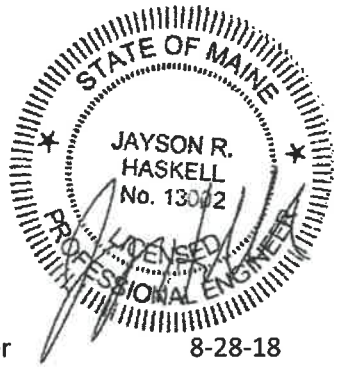
The applicant/owner will be responsible for the maintenance of the stormwater facilities. As part of the proposed project an Inspection, Maintenance and Housekeeping Plan for the project has been created and has been enclosed as Section 7 of the MDEP Stormwater Permit Application submittal package.

Prepared by:

DM ROMA CONSULTING ENGINEERS

J.P. Connolly
Senior Project Engineer

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



8-28-18

Worksheet 1 - PPB calculations

Project Name:		**CAUSEWAY MARINA**	
Lake Watershed:		**BRANDY POND**	
Town:		**NAPLES**	
Standard Calculations			
Watershed per acre phosphorus budget (Appendix C)	**PAPB**	0.038	lbs P/acre/year
Total acreage of development parcel:	**TA**	8.58	acres
NWI wetland acreage:	**WA**	1.72	acres
Steep slope acreage:	**SA**	0	acres
Project acreage: A = TA - (WA+ SA)	**A**	6.86	acres
Project Phosphorus Budget: PPB = P x A	**PPB**	0.26068	**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**	997	acres
Project acreage:	**A**	6.86	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**	N/A	
Project Phosphorus Budget			
If R < 0.5, PPB = [(FC x R)/2] + [FC/4]	**PPB**	N/A	**lbs P/year**
If R> 0.5, PPB = FC x R	**PPB**	N/A	**lbs P/year**

Worksheet 2

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: Causeway Marina **Development type:** Commercial Sheet # 1 of 1

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
PH1 GRAVEL / PAVE	1.11	1.25	1.3859	0.17	0.2356	Infiltration Basin 1 & 2
PH1 GRASS	0.23	0.2	0.0469	0.17	0.0080	Infiltration Basin 1 & 2
PH1 ROOF	0.07	0.5	0.0344	0.17	0.0059	Infiltration Basin 1 & 2
PH2 GRAVEL	1.24	1.25	1.5512	0.13	0.2017	Infiltration Basin 3
PH2 GRASS	2.26	0.2	0.4524	0.13	0.0588	Infiltration Basin 3
PH2 ROOF	0.23	0.5	0.1148	0.13	0.0149	Infiltration Basin 3
UNTREATED GRASS	0.22	0.2	0.0445	1	0.0445	Untreated
		Total Pre-PPE (lbs P/year)	3.6302	**Total PostPPE (lbs P/year)**	0.5693	

WORKSHEET 4 - PROJECT PHOSPHORUS EXPORT SUMMARY

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

Project Name:

Project Phosphorus Budget - Worksheet 1	**PPB**	0.26	lbs P/year
Total Pre-Treatment Phosphorus Export - Worksheet 2	**Pre-PPE**	3.63	lbs P/year
Total Post-Treatment Phosphorus Export - Worksheet 2	**Post-PPE**	0.57	lbs P/year
Total Phosphorus Mitigation Credit - Worksheet 3	**TMC**	0.00	lbs P/year
Project Phosphorus Export (Post-PPE - TMC)	**PPE**	0.57	lbs P/year

Is the Project Phosphorus Export ≤ the Project Phosphorus Budget? (PPE≤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	0.31 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)*	84.32 %

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	
If Project Export has been reduced by greater than 75%, $12,500 per pound minus $500 per 1% Project Export	**$2,420**

Infiltration Basin 1 & 2

Tributary Impervious Area=	57,655 sf	WS 1 & 2
Tributary Landscaped Area=	12,062 sf	WS 1 & 2

Water Quality Volume (WQV) Calculation

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

WQV (Required) = 5,207 cf

Stage Storage Volume

Elevation	Area (sf)	Storage (cf)
315	2,499	0
316	3,758	3,128
317	5,063	7,539
318	9,743	14,942

Outlet Elevation= 317.70

Storage Volume Provided = 12,117 cf > Required

Treatment Factor (Phosphorous Calculations)

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

TF = 0.17

Infiltration Basin 3

Tributary Impervious Area=	64,058 sf	WS 3
Tributary Landscaped Area=	98,529 sf	WS 3

Water Quality Volume (WQV) Calculation

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

WQV (Required) = 8,622 cf

Stage Storage Volume

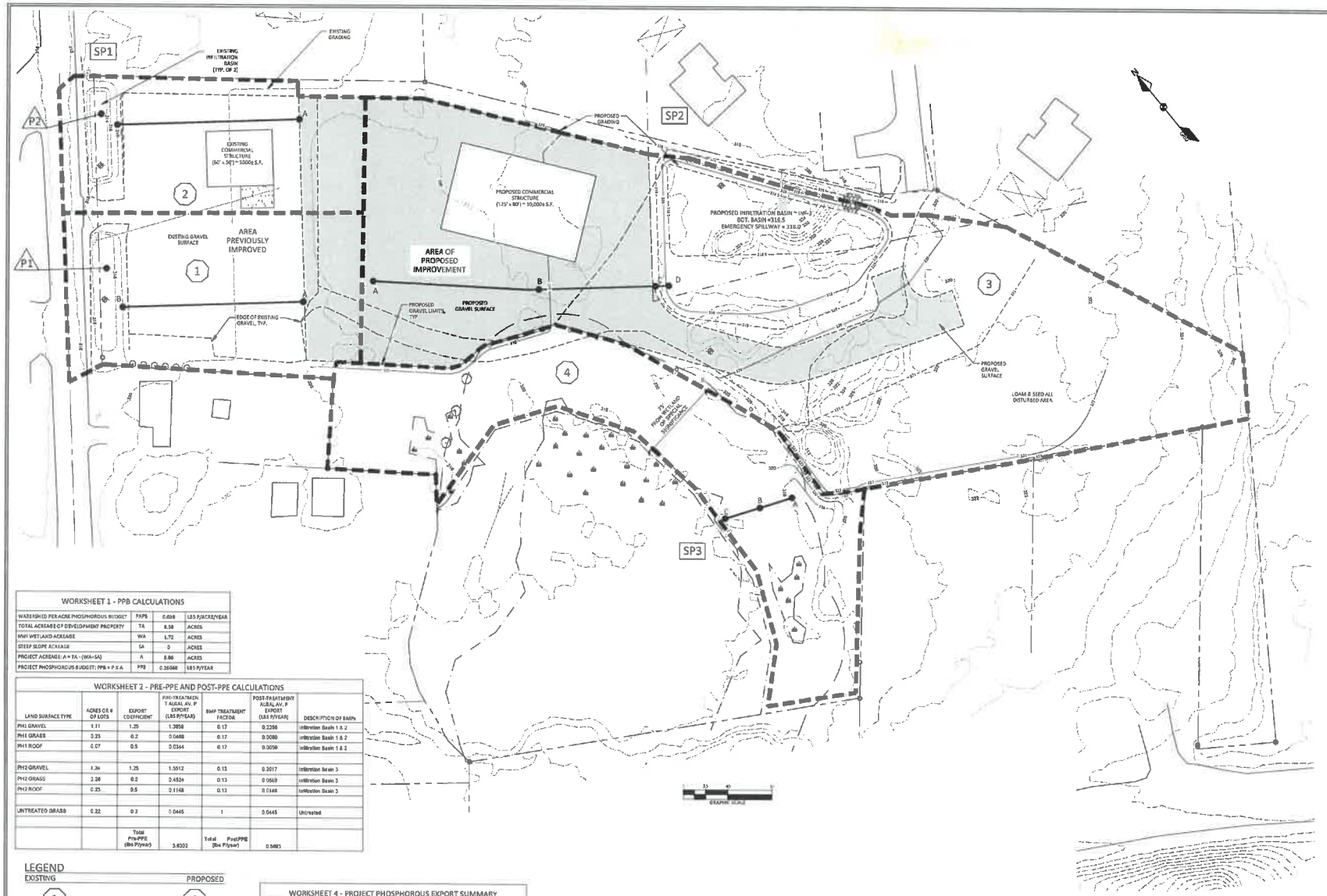
Elevation	Area (sf)	Storage (cf)
316.5	10,287	0
317	18,491	7,194
319	21,906	47,591

Outlet Elevation=	318.00
Storage Volume Provided =	27,393 cf > Required

Treatment Factor (Phosphorous Calculations)

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

TF = 0.13



WORKSHEET 1 - PPB CALCULATIONS			
WATERSHED PER ACRE PHOSPHORUS BUDGET	PAPB	0.030	LBS P/ACRE/YEAR
TOTAL ACREAGE OF DEVELOPMENT PROPERTY	TA	8.58	ACRES
MWI WETLAND ACREAGE	WA	1.72	ACRES
STEEP SLOPE ACREAGE	SA	0	ACRES
PROJECT ACREAGE: A = TA - (WA+SA)	A	6.86	ACRES
PROJECT PHOSPHORUS BUDGET: PPB = P X A	PPB	0.20580	LBS P/YEAR

WORKSHEET 2 - PRE-PPE AND POST-PPE CALCULATIONS

LAND SURFACE TYPE	ACRES OR # OF LOTS	EXPORT COEFFICIENT	PRE-TREATMENT ALBAL AV. P EXPORT (LBS P/YEAR)	BMP TREATMENT FACTOR	POST-TREATMENT ALBAL AV. P EXPORT (LBS P/YEAR)	DESCRIPTION OF BMPs
PH1 GRAVEL	1.11	1.25	1.3858	0.17	0.2356	Infiltration Basin 1 & 2
PH1 GRASS	0.23	0.2	0.0460	0.17	0.0080	Infiltration Basin 1 & 2
PH1 ROOF	0.07	0.5	0.0344	0.17	0.0059	Infiltration Basin 1 & 2
PH2 GRAVEL	1.24	1.25	1.5512	0.13	0.2017	Infiltration Basin 3
PH2 GRASS	2.28	0.2	0.4524	0.13	0.0589	Infiltration Basin 3
PH2 ROOF	0.23	0.5	0.1148	0.13	0.0149	Infiltration Basin 3
UNTREATED GRASS	0.22	0.2	0.0445	1	0.0445	Untreated
		Total Pre-PPE (lbs P/year)	3.8302	Total Post-PPE (lbs P/year)	0.5491	

LEGEND

EXISTING		PROPOSED
1	WATERSHED NO.	1
SP1	REACH/STUDY POINT	SP1
P1	POND	P1
	WATERSHED BOUNDARY	
A B	TIME OF CONCENTRATION	A B
	REACH PATH	
	SOIL BOUNDARY	

WORKSHEET 4 - PROJECT PHOSPHOROUS EXPORT SUMMARY

PROJECT PHOSPHOROUS BUDGET (WORKSHEET 1)	PPB	0.26	LBS P/YEAR
TOTAL PRE-TREATMENT PHOSPHOROUS EXPORT (WORKSHEET 2)	PRE-PPE	3.83	LBS P/YEAR
TOTAL POST-TREATMENT PHOSPHOROUS EXPORT (WORKSHEET 2)	POST-PPE	0.57	LBS P/YEAR
TOTAL PHOSPHOROUS MITIGATION CREDIT (WORKSHEET 3)	TMC	0.00	LBS P/YEAR
PROJECT PHOSPHOROUS EXPORT (POST-PPE + TMC)	PPE	0.57	LBS P/YEAR

IS THE PROJECT PHOSPHOROUS EXPORT ≤ THE PHOSPHOROUS BUDGET? (PPE≤PPB)	NO
THE AMOUNT OF PHOSPHOROUS THAT NEEDS FURTHER TREATMENT OR COMPENSATION	0.31 LBS P/YEAR
HAS PROJECT PHOSPHOROUS EXPORT BEEN SUFFICIENTLY REDUCED? (PRE-PPE - POST-PPE)/(PRE-PPE) ≥ 0.60	YES (84.33%)
COMPENSATION FEE	$2,430

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 116
WINDHAM, ME 04062
(207) 310-0606

NO.	DATE	BY	DESCRIPTION
A	8.28.18	DMRE	ISSUED FOR STORMWATER PERMIT REVISION

SUB-BASIN WATERSHED PLAN - DEVELOPED
CAUSEWAY MARINA COMMERCIAL DEVELOPMENT
NAPLES, MAINE
FOR RECORD OWNER:
DANIEL ALLEN & JESSE ALLEN
799 ROOSEVELT TRAIL
NAPLES, ME 04055

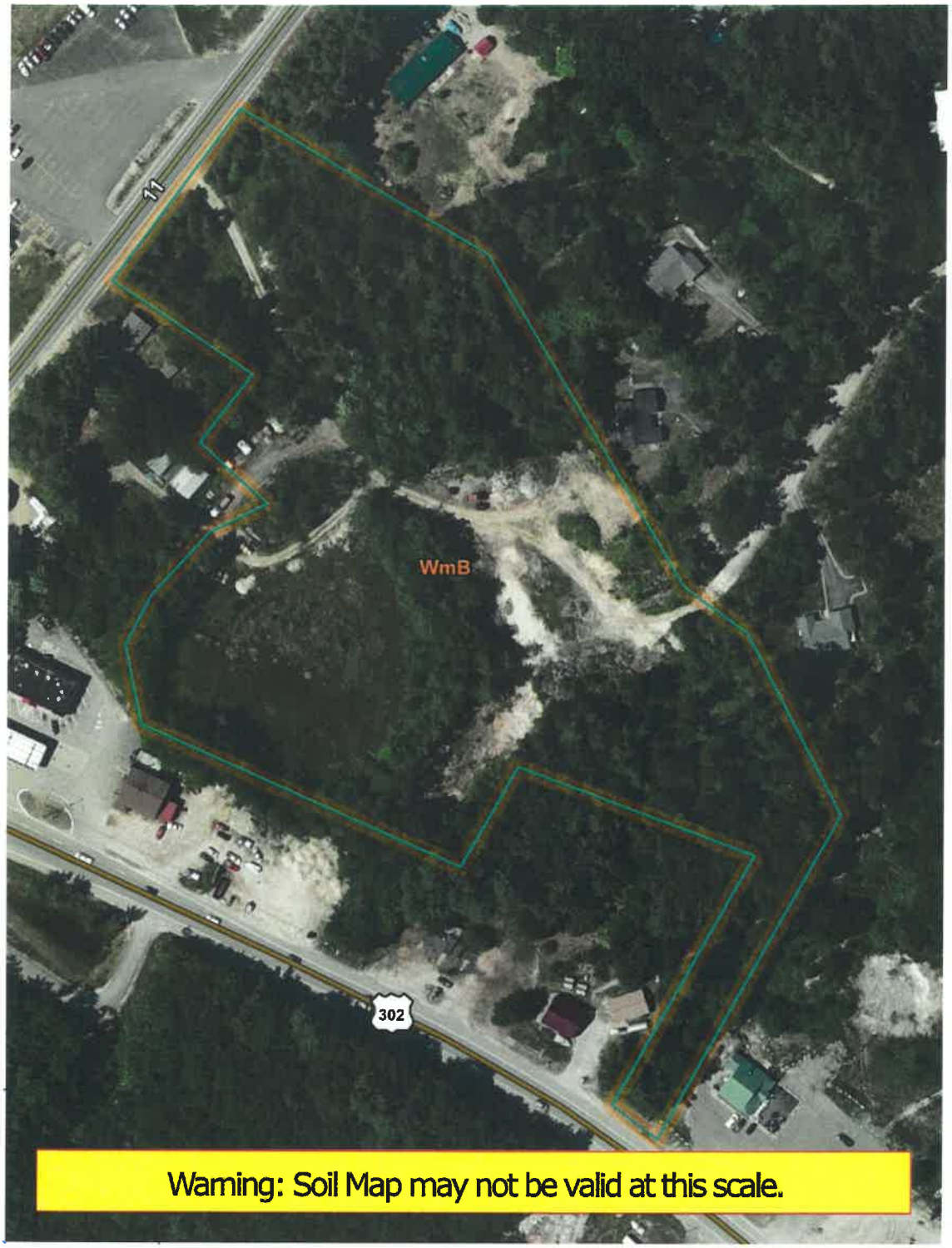
16060
JOB NUMBER:
1" = 40'
SCALE:
8-28-2018
DATE:
SHEET 2 OF 2
SW-2

70° 34' 35" W

70° 34' 21" W

43° 58' 1" N

43° 58' 1" N



43° 57' 47" N

43° 57' 47" N

70° 34' 35" W

70° 34' 21" W

Map Scale: 1:2,050 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 30 60 120 180

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
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 12, Sep 15, 2016

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

Date(s) aerial images were photographed: Jun 20, 2010—Jul 18, 2010

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

Map Unit Legend

Cumberland County and Part of Oxford County, Maine (ME005)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
WmB	Windsor loamy sand, 0 to 8 percent slopes	9.0	100.0%
Totals for Area of Interest		**9.0**	**100.0%**

Town, City, Plantation	Street, Road Subdivision	Owner's Name
NAPLES	**CASCO ROAD (ROUTE 11)**	**DM ROMA CONSULTING ENGINEERS**

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

Observation Hole **TP A** ■ Test Pit ☐ Boring

_____" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0				
10	**LOAMY SAND**	**FRIABLE**	**DARK YELLOWISH BROWN**	
20	**FINE & MEDIUM SANDS**		**LIGHT YELLOWISH BROWN**	
30				
40	**(FINE SAND @ 60")**	**(SOMEWHAT FIRM @ 60")**	**(LIGHT OLIVE BROWN @ 54" OLIVE @ 60")**	**(COMMON FAINT @54")**
50				

FOR WASTEWATER DISPOSAL

Soil Classification		Slope	Limiting Factor	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth
5 Profile	**B** Condition	____ %	**54** "	

FOR SOILS MAPPING

Soil Series Name:	Drainage Class:	Hydrologic Group:

Observation Hole **TP B** ■ Test Pit ☐ Boring

_____" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0				
10	**LOAMY SAND**	**FRIABLE**	**DARK YELLOWISH BROWN**	
20	**FINE & MEDIUM SANDS**		**LIGHT YELLOWISH BROWN**	
30				
40	**(FINE SAND @ 60")**	**(SOMEWHAT FIRM @ 60")**	**LIGHT OLIVE BROWN**	**COMMON FAINT**
50				

Soil Classification		Slope	Limiting Factor	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth
5 Profile	**C** Condition	____ %	**42** "	

Soil Series Name:	Drainage Class:	Hydrologic Group:

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

Observation Hole _____ ■ Test Pit ☐ Boring

_____" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0				
10				
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL

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

FOR SOILS MAPPING

Soil Series Name:	Drainage Class:	Hydrologic Group:

Observation Hole _____ ■ Test Pit ☐ Boring

_____" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0				
10				
20				
30				
40				
50				

STATE OF MAINE
JAMES LOGAN
#213
CERTIFIED SOIL SCIENTIST

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

Soil Series Name:	Drainage Class:	Hydrologic Group:

James Logan — **237/213** — **4/19/18**

Site Evaluator /Soil Scientist Signature — SE/CSS # — Date

JAMES LOGAN – LONGVIEW PARTNERS, LLC – 6 SECOND STREET – BUXTON, ME 04093 – longviewpartners213@gmail.com

August 28, 2018

DM ROMA
Consulting Engineers
PO BOX 1116
Windham, ME 04062

RE: Soil Evaluation for Infiltration Basin
Causeway Marina, Naples, Maine

Dear Mr. Roma:

On August 27th, 2018, two test pits were assessed on the subject parcel identified on the Town of Naples tax maps as Map U5, Lot 10 on Casco Road for proposed infiltration basins servicing Causeway Marina facilities. The test pits were evaluated by Alexander Finamore, LSE #391 .

Both test pits were located in previously constructed stormwater basins, dug to 40 inches in depth, and revealed fine sandy soil. Evidence of redoximorphic features was present in the top 24 inches, due to the current use as a stormwater retention area, but no evidence of a seasonal water table was found below this. Therefore, no seasonal water table was observed within 40 inches of the soil surface. Please find the soil profile description of the test pits attached. Therefore, no seasonal water table was observed within 40 inches of the soil surface.

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

Sincerely,

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

FORM F

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Causeway Marina Stormwater Basins	Causeway Marina	Naples

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-1 [X] Test Pit [ ] Boring

1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	BROWN	NONE OBSERVED
LOAMY FINE SAND		YELLOWISH BROWN	
FINE SAND		LIGHT YELLOWISH BROWN	COMMON, MEDIUM, DISTINCT
	LOOSE		
			NONE OBSERVED
		PALE YELLOW	
LIMIT OF EXCAVATION = 40"			

hydric / non-hydric	Slope %	Limiting factor	ground water / restrictive layer / bedrock
non-hydric	0	>40"	

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 5 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-2 [X] Test Pit [ ] Boring

1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
LOAMY SAND	FRIABLE	BROWN	NONE OBSERVED
FINE SAND		PALE YELLOW	
			COMMON, MEDIUM, DISTINCT
	LOOSE		
		LIGHT YELLOWISH BROWN	NONE OBSERVED
		PALE YELLOW	
LIMIT OF EXCAVATION = 40"			

hydric / non-hydric	Slope %	Limiting factor	ground water / restrictive layer / bedrock
non-hydric	0	>40"	

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 5 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: [ ] Test Pit [ ] Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling

hydric / non-hydric	Slope %	Limiting factor	ground water / restrictive layer / bedrock
non-hydric			

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: Profile | Soil Condition

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: [X] Test Pit [X] Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling

hydric / non-hydric	Slope %	Limiting factor	ground water / restrictive layer / bedrock
non-hydric			

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: Profile | Soil Condition

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature: Alexander A. Finamore	Date: 8/27/18
	name printed/typed: Alexander A. Finamore	Lic.#: 391

DM ROMA
CONSULTING ENGINEERS

INSPECTION, MAINTENANCE, AND HOUSEKEEPING PLAN

CAUSEWAY MARINA COMMERCIAL DEVELOPMENT
CASCO ROAD (RT. 11)
NAPLES, MAINE

Responsible Party

Owner: Daniel & Jesse Allen
780 Roosevelt Trail
Naples, Maine 04055

The owners are responsible for the maintenance of all stormwater management structures and related site components and the keeping of a maintenance log book with service records until such time that a homeowner's association is created. 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 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. **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 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 MDEP 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 MDEP'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 measures must be maintained by the owner in effective operating condition. A person with knowledge of erosion and stormwater control, including the standards and conditions of the permit, shall conduct the inspections. 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. Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable. If the ditch has a riprap lining, replace riprap on areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged. 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. **Culverts:** Inspect culverts 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 culvert's inlet and outlet.

   D. **Infiltration Basins:** Basins should be inspected semi-annually and following major storm events for the first year and every six months thereafter. The basin should drain within 48 hours following a one-inch storm and if a larger storm fills the system to overflow, it shall drain within 36 to 60 hours. 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. **Regular Maintenance:** Clear accumulations of winter sand along roadway 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.

F. **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 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.

MAINTENANCE LOG

CAUSEWAY MARINA COMMERCIAL DEVELOPMENT
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 producing 1" of rain in two hours.			
	Inspect for erosion or slumping & repair			
	Mowed at least annually.			
Culverts	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.			
Inifltration Basins	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.			
Regular Maintenance	Clear accumulation of winter sand in paved areas annually.			

PHOTO 1 – EXISTING GRAVEL LOT

PHOTO 2 – EXISTING BUILDING

PHOTO 3 – EXISTING GRAVEL ROAD AND AREA THAT WILL BE CONVERTED TO GRAVEL LOT

PHOTO 4 – EXISTING GRAVEL ROAD AND LOOKING TOWARDS LARGE WETLAND AREA