GORRILL PALMER

707 Sable Oaks Drive, Suite 30
South Portland, Maine 04106
207.772.2515

March 1, 2022

Ms. Erin Zwirko, Director of Planning & Development
Town of Yarmouth
200 Main Street
Yarmouth, ME 04096

Subject: North Yarmouth Academy
Travis Roy Arenal Expansion
Final Site Plan Submission

Dear Erin,

On behalf of North Yarmouth Academy (NYA), Gorrill Palmer and the design team is pleased to submit a Site Plan application for review by the Yarmouth Planning Board. This submission builds on our prior submission and addresses what we believe to be the remaining items that were identified in the Planning Board Report for the February 23, 2022 Planning Board meeting, and comments received from the Board at the February 23 meeting.

We look forward to reviewing this information with the Planning Board on March 23, 2022. In the interim, please contact me with any questions. My email is whaskell@gorrillpalmer.com.

The following items were identified in the Planning Board Report or at the February 23, 2022 Planning Board meeting.

1. Sidewalk/ramp changes at Route 1 entrance – We have revised the sidewalk and ramps at the main entrance to align with recommendations from the Town Engineer. See revised plans.
2. Bike rack capacity – We have revised the bike rack capacity to 11 which exceeds 2 spaces per 20 parking spaces. The bike rack has also been relocated. See revised plans.
3. Crosswalk to Clayton's – We have added a crosswalk to the path from the Clayton's Parking Lot to the new sidewalk along the frontage of the arena. This will allow for better pedestrian access between the two parking areas. See revised plans. Additionally, the shared parking agreement between NYA and Clayton's is attached for the Town's review. The agreement is renewed annually, unless one party gives notice to terminate. The rights may be assigned with the other parties consent. NYA will consent to the transfer of the agreement to the new owner of Clayton's upon the same terms.
4. Water use/sewer flows – We have attached water use calculations based on flow rates from the Maine Subsurface rules. As shown, we have provided estimates for arena usage during a full day of use, including estimated maximum usage for hockey and fitness center, and maximum numbers of spectators and employees. These maximum numbers are not experienced, except on rare occasions. As shown, the calculated peak water use/sewer flows generally exceed what the actual water use records show for 2020 and 2021. As noted previously, we don't expect an increase in these numbers due to the arena expansion. Note that a significant amount of the

water use comes from ice making and maintenance activities. Additionally, the new locker rooms and restroom facilities will incorporate low flow fixtures, which should reduce domestic water use.

5. EV Charging – We have added 3 potential future EV charging locations at the southerly end of the arena. Underground conduit for future electrical needs will be added at this location to allow for future installation of EV chargers. NYA would prefer to purchase and install the chargers at a later date, in hopes of obtaining better pricing and/or grant funding to assist with the cost.
6. Fire Hydrant – We have striped the existing parking space in front of the fire hydrant as a no parking zone and will install a new no parking sign at this location. This change reduces the total site parking count to 93 spaces.
7. Stormwater – The Town Engineer requested that we look at the possibility of retaining additional stormwater flow under the NYA turf field to help reduce the peak flows to the town skating pond. Based on our stormwater modeling we have concerns with restricting the stormwater flows further as it increases the ponding under the field by another 3 to 4 inches.
8. Stormwater operation and maintenance – We have highlighted and revised several areas of the O&M Manual to reiterate requirements for restricting sand/salt use on the pervious pavers. See attached manual.
9. Snow storage – we have added areas for snow storage on the site plan. See revised plans.
10. Wetlands – The Town Engineer requested that we clear out existing rubbish and debris in the wetland area on the easterly side of the existing arena. We have added a note to the site plan to address this concern.
11. Soils/USTs – The Town Engineer noted a reference in the Summit Geotechnical Report to underground storage tanks. To the best of our knowledge, there are no existing USTs located on the NYA property. We believe they were referring to underground propane tanks at the north end of the arena that are no longer in use and will be removed.
12. Landscaping Plan – Three Princeton Elms relocated to avoid conflict with existing storm water system.
13. Architecture – Renderings further developed to address questions and concerns expressed in planning board hearing of February 23, 2022. Changes in landscaping, curbing, sidewalks, building mounted lighting and bicycle storage documented.
14. Waivers – As noted previously, we have requested three waivers, as follows:
    - Traffic Analysis – We are not anticipating an increase and traffic and request a waiver to complete a traffic study for the project.
    - Parking – We have requested a waiver parking count and parking space size. Based on shared parking arrangements and other parking spaces on the campus we believe the parking count exceeds the required number of parking spaces. The parking lot was designed for 9’ wide by 18’ long parking spaces rather than the 9’ x 19’ spaces required by ordinance.
    - Building – Waiver requested from the Architectural Standard 5.c.iv limiting the single glass pane size to 20 square feet.

Sincerely,
Gorrill Palmer

William C. Haskell, PE, CPESC
Principal

Enc.
Plan revision of March 01, 2022
Claytons Café – Signed Agreement
Water Demand Documentation
Storm Water O&M Manual

Copy: Austin Smith (SA); Tim Hebert (Hebert Construction); Ben Jackson (NYA)

WCH/jwa/U:\2048.04_Hebert_NYA Travis Roy Addition Design & Permitting\P Applications\Local\Fina Site Plan Application March 2022\2022-03-01 Zwirko.doc

LEASE AGREEMENT

THIS AGREEMENT made this 22nd day of July, 2015, by and between Martha David LLC of Yarmouth, in the County of Cumberland and State of Maine (hereinafter referred to as "Landlord") and North Yarmouth Academy in the town of Yarmouth, County of Cumberland and State of Maine, (hereinafter referred to as "Tenant").

The Landlord, for and in consideration of the covenants herein specified to be performed by the Tenant, hereby leases to Tenant and the Tenant hereby leases from the Landlord the premises described below, on the terms and conditions herein.

I. DESCRIPTION OF THE PREMISES

The leased premises consist of 12parking spaces located on real estate owned by Landlord and more particularly described in a deed recorded in the Cumberland County Registry of Deeds at Book 21343, Page 185. Said parking spaces are depicted on the attached Exhibit A.

II. CONDUCT OF BUSINESS BY TENANT

Tenant shall use the leased premises solely for the purpose of parking for events at Tenant's adjoining real estate which is more particularly described in a deed recorded in the Cumberland County Registry of Deeds at Book 3064, Page 498. Tenant operates an ice arena on Tenant's real estate and there are times, principally at night or on weekends, when Tenant's parking isn't adequate and it is at only those times when Tenant's employees, guests or invitees may use the parking spaces. Tenant will not use or permit the use of the leased premises at any other times, without prior notice and consent of Landlord. Landlord reserves the right to post signs indicating allowed times of usage by Tenant's customers.

Tenant shall keep premises free of trash and maintain the premises in good condition. Landlord is responsible for any paving or paving repair necessary.

III. TERM OF THE LEASE

The term of this Lease shall commence on July 22, 2015, and end on June 30, 2016. This Lease will automatically renew for successive one (1) year terms unless either party gives written notice of its intent not to renew this Lease at least within thirty (30) days prior to the end of the lease term. When written notice is given, the Lease shall terminate thirty (30) days after the notice is given. It is specifically agreed that the parties to this Lease may agree to modify it at any time.

IV. RENT AND SECURITY DEPOSIT

It is agreed that the Tenant shall not pay any rent or security deposit to the Landlord. However, Tenant agrees to allow Landlord's employees, guests and invitees to park on Tenant's property pursuant to the terms of a Lease being executed simultaneously with this Lease.

V. ASSIGNMENT AND SUBLEASE

The Lease, with all of the included rights and duties, may not be assigned by Tenant without Landlord's written approval. Such consent may be based on terms and conditions which Landlord may establish and Tenant shall in any event remain fully and directly responsible to Landlord for all obligations of the Tenant in this Lease.

VI. DEFAULT

Tenant shall have breached this Lease and shall be considered in default hereunder if:

a. If Tenant shall become bankrupt or insolvent, or file any debtor proceeding or have taken against Tenant in any court pursuant to any statute either of the United States or any state, a petition in bankruptcy or insolvency or for the reorganization or for the appointment of a receiver or trustee of all or a portion of Tenant's property or if Tenant makes an assignment for the benefit of creditors or if Tenant shall abandon said premises or allow this Lease to be taken under any writ of execution;

b. Tenant fails to comply with the terms of this Lease or the Lease by which Tenant is allowing Landlord's employees, guests or invitees to park on Tenant's adjacent property. In the event of default or if Tenant fails to perform any other covenant in this Lease Agreement Landlord must give, written notice of said breach and Tenant shall then have fifteen (15) days after receiving said notice to cure the breach.

In the event that Tenant becomes in default hereunder then Landlord may elect to terminate this Lease without giving Tenant any further notice. In the event of a dispute about the Lease which does not involve a default, the parties agree to engage in mediation to try to resolve their differences prior to terminating the lease.

VII. NOTICES

Any notice, demand, request or other instrument which may be or are required to be given under this Lease shall be given in person or sent certified mail, return receipt requested and (a) shall be addressed to Landlord at 447 US 1, Yarmouth, ME 04096Yarmouth, Maine or at such other address as Landlord may designate by written notice, and (b) to Tenant at 148 Main Street, Yarmouth, Maine 04096 or at such other address as Tenant may designate by written notice.

VIII. LEASE SUPERIOR OR SUBORDINATE TO MORTGAGE

It is agreed that the rights and interest of the Tenant under this Lease shall be subject and subordinate to any mortgages that may hereafter be placed upon the subject premises and to any and all advances to be made thereunder, and to the interest thereon, and all renewals, modifications, replacements and extensions thereof, if the mortgagee named in said mortgages shall elect by written notice delivered to the Tenant to subject and subordinate the rights and interests of the Tenant under this Lease to the lien of its mortgages. It is further agreed that Tenant shall execute and deliver whatever instruments may be required for such purposes and in the event that Tenant fails to do so within ten (10) days after demand in writing, the Tenant does hereby make, constitute and irrevocably appoint Landlord as its attorney in fact and in its name, place and stead so to do.

IX. PUBLIC LIABILITY INSURANCE

Tenant agrees to include Landlord as an additional insured under its public liability insurance policy.

X. SUCCESSORS AND ASSIGNS

Time is an essential part of this Agreement. The Covenants and Agreements of Landlord and Tenant shall terminate when either party sells or otherwise transfers the property which is subject to this Lease and this Lease shall be construed according to the laws of the State of Maine.

IN WITNESS WHEREOF, the Landlord and the Tenant have executed this Lease Agreement on the date and year set forth in the first paragraph of this Agreement.

MARTHA DAVID LLC

Witness

By , its duly authorized

NORTH YARMOUTH ACADEMY

Witness

William Clark, COO
By , its duly authorized

February 25, 2022

Project: **North Yarmouth Academy**
Travis Roy Arena Water Usage

Task:

Determine average daily water use from Yarmouth Water District Billing Data.

Reference:

1. Water Meter Reading

2. Water Supply and Pollution Control, Third Edition, By Clark, Viessman & Hammer, Chapter 4, Section 5

Assumptions:

Assumptions made are stated with each calculation.

Reference 2 indicates that "maximum daily use can be considered to be about 180% of the average daily use."

Travis Roy Arena	Meter Reading Date	Usage (100 Cu. Ft.)	Number of Days	Average Daily Usage (Cu. Ft.)	Average Daily Usage (Gallons/Day)
	6/21/2021-9/17-2021	370	88	420	3145
	3/18/2021-6/21/2021	70	95	74	551
	12/21/2020-3/18/2021	220	87	253	1891
	9/17/2020-12/21/2020	170	95	179	1339
	6/17/2020-9/17/2020	314	92	341	2553
	3/18/2020-6/17/2020	40	90	44	332
				Average water use	1635

February 25, 2022

Project: **North Yarmouth Academy**
Travis Roy Arena Water Demand Existing Conditions

Task:

Determine average daily water demand and wastewater generation for the Travis Roy Arena in Yarmouth, Maine based on Maine Subsurface Wastewater Disposal Rules design flows.

Reference: 1. Maine Subsurface Wastewater Disposal Rules (August 2015) for design flows (Code)

2. Water Supply and Pollution Control, Third Edition, By Clark, Viessman & Hammer, Chapter 4, Section 5

Assumptions: Assumptions made are stated with each calculation.

Reference 2 indicates that "maximum daily use can be considered to be about 180% of the average daily use."

Travis Roy Arena

Assumptions:		
	368	seats/standing
	560	participants/day (inc. 60 Fitness Center)
	3	employees

From Reference 1 Table 4C for "Gyms, not associated with schools":
Reasonable assumption since this facility is used by school, hockey organizations, some public use

3	gpd per spectator	
10	gpd per participant	
12	gpd per employee	
Peak wastewater flow	6740	gpd
Average wastewater flow	3750	gpd

Peak Wastewater Generation per Code:	**6740**	**gpd**
Average Wastewater Generation per Code:	**3750**	**gpd**
Peak Wastewater Generation from water records:	**2943**	**gpd**
Average Wastewater Generation from water records:	**1635**	**gpd**
Maximum Wastewater Generation from water records:	**3145**	**gpd**

February 25, 2022

Project: **North Yarmouth Academy**
Travis Roy Arena Water Demand Proposed Conditions

Task:

Determine average daily water demand and wastewater generation for the Travis Roy Arena in Yarmouth, Maine based on Maine Subsurface Wastewater Disposal Rules design flows.

Reference: 1. Maine Subsurface Wastewater Disposal Rules (August 2015) for design flows (Code)

2. Water Supply and Pollution Control, Third Edition, By Clark, Viessman & Hammer, Chapter 4, Section 5

Assumptions: Assumptions made are stated with each calculation.
No change in usage from existing conditions.

Reference 2 indicates that "maximum daily use can be considered to be about 180% of the average daily use."

Travis Roy Arena

Assumptions:		
	368	seats/standing
	560	participants/day (inc. 60 Fitness Center)
	3	employees

Reasonable assumption since this facility is used by school, hockey organizations, some public use

3	gpd per spectator	
10	gpd per participant	
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Peak wastewater flow	6740	gpd
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Peak Wastewater Generation per Code:	**6740**	**gpd**
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Peak Wastewater Generation from water records:	**2943**	**gpd**
Average Wastewater Generation from water records:	**1635**	**gpd**
Maximum Wastewater Generation from water records:	**3145**	**gpd**

NORTH YARMOUTH ACADEMY
TRAVIS ROY ARENA
YARMOUTH, MAINE

STORMWATER MANAGEMENT SYSTEM
OPERATION AND MAINTENANCE MANUAL FOR
STORMWATER FACILITIES

Prepared for

NORTH YARMOUTH ACADEMY
148 Main Street
Yarmouth, ME 04096

Prepared by

Gorrill Palmer
707 Sable Oaks Drive – Suite 30
South Portland, Maine 04106
207.772.2515

March 2022

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APPENDICES

Appendix A – Summary Checklist for Inspection and Maintenance

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Appendix C – Stormwater Management Report and Permits for Project

I. INTRODUCTION

Runoff from developed areas may contain a number of contaminants especially when emanating from rooftops, pavement or lawn areas. This runoff can contain a significant amount of non-point contaminants, which can have an adverse impact on the receiving waters.

The effectiveness of ponds and other components of the system are dependent on their upkeep and maintenance to assure they meet their design function over an extended period of years. It is critical that the stormwater management facilities are inspected on a regularly scheduled basis, and that maintenance is performed on an as needed basis. It must also be recognized that the effectiveness of these facilities, and their maintenance requirements, are related to the stormwater drainage facilities that transport the flow to the ponds or treatment measures. Thus, maintenance should be directed to the total system.

The purpose of this document is to define in detail the inspection and maintenance requirements deemed necessary to assure that the stormwater management facilities function as intended on a long-term basis for the Travis Roy Arena. This Operations and Maintenance Manual is specific to the existing and proposed stormwater measures utilized to execute a successful stormwater management plan. Subsequent sections identify individual maintenance items; give a brief commentary of the function and need of the item, a description of the work required, and a suggested frequency of accomplishment. While the suggested programs and schedules must be adapted to specific projects, the material presented should provide guidance for a successful long-term program.

A. Guidelines Overview

A summary of the individual components of stormwater management facilities for this project has been prepared. The format used in the summary is as follows:

Preface: A general description of what function/benefit the element is intended to provide. This is a short summary and not intended to provide the design basis, which can be found in other sources.

Inspection: This section provides the inspection requirements for the individual component.

Maintenance: The section provides general information on the routine maintenance requirements of this element.

Frequency: This section outlines the best judgment of the designer on the system to the frequency of maintenance.

Comments: This section provides any particular comment on the site-specific features of this element. This is a summary only. The owner/operator should review the design drawings and documents carefully to understand the particular elements of the project. The end of this section should allow the owner/operator to make notes on the specific program. This may include the selected maintenance procedure, cross-references to applicable design drawings, etc.

A list of the individual inspection/maintenance elements is provided in the table of contents. The guidelines are proposed for initial use with adjustments made as appropriate based upon specific project experience.

This report includes the Operation and Maintenance requirements for any potential BMP identified in the Stormwater Management Report for this project.

B. Responsible Party

The responsible party for operation and maintenance of the stormwater and other site infrastructure will be the Applicant (North Yarmouth Academy) or their agents or assigns.

II. PROJECT OVERVIEW

Key permits issued (or applied for) on the project include:

- Town of Yarmouth Site Plan Approval
- MaineDEP After the Fact Site Location of Development Permit

A copy of the permits and Stormwater Management Report should be appended to this manual as Appendix C. The Owner/Operator of the stormwater management system should review these permits for a general description and background of the project, as well as any specific permit conditions or requirements of the project.

The applicant has retained Gorrill Palmer for civil engineering for the development project. Gorrill Palmer has prepared the design for the stormwater management facilities and may be contacted at:

Gorrill Palmer
707 Sable Oaks Drive – Suite 30
South Portland, Maine 04106
207.772.2515

The applicable plans and design documents which apply to the project are:

1. Civil Site Plans Prepared by Gorrill Palmer
2. The Erosion Control/Sedimentation Control Plan for the project
3. The Stormwater Management Plan for the project

A copy of these documents should be retained with this manual.

The proposed design includes inlets, stormwater conveyance lines, and pervious pavers.

The key receiving water for this project is the Royal River that is located northeast of the project site.

The manual is intended for general guidance; however, any substituted deviations from the manual should be reviewed with respect to provisions of Appendix C.

III. STANDARD INSPECTION/MAINTENANCE DESCRIPTIONS

The following narratives describe the inspection/maintenance provisions for the Stormwater Management system. Proper O&M is necessary to make sure the system will provide its intended purpose of conveying runoff, removing a substantial amount of the suspended solids, and other contaminants in the stormwater runoff.

A. Stormwater Inlets

Preface: The success of any stormwater facility relies on the ability to intercept stormwater runoff at the design locations. Stormwater inlets include catch basins, open culverts, and field inlets. Inlets exist throughout the Ice Arena property.

Inspection: The inspection of inlet points will need to be coordinated with other maintenance items, these include:

- Building maintenance areas
- Grounds maintenance

The key elements of the inspection are to assure the inlet entry point is clear of debris and will allow the intended water entry.

Maintenance: The key maintenance is the removal of any blockage which restricts the entry of stormwater to the inlet. The removed material should be taken out of the area of the inlet and placed where it will not reenter the runoff collection system. Snow should be removed from inlets and porous pavement in parking lots. Sand and salt shall not be applied to porous pavers. Grass clippings and leaves should be bagged and removed particularly near the yard inlets near the buildings.

Frequency: All inlets should be inspected on a quarterly basis, and after/during significant storm events i.e. >1" rainfall).

Maintenance Personnel: The maintenance personnel will perform the normal maintenance/ inspections of the inlets and tributary drainage system.

Comments: Maintenance of inlets is critical on this project.

B. Tributary Drainage System

Preface: Stormwater from most of the project will be directed through a conveyance (tributary) system which transports the flow and ultimately to the Royal River. This conveyance system will be principally overland flow discharging to piped drain systems. Most of the sediment carried by the drainage system is intended to be trapped in structures. Maintenance of this system can play a major role in the long-term maintenance costs and the effectiveness of the onsite systems. The primary pretreatment measure for the site will be through deep sumped catch basins.

Inspection: The tributary drainage system should be periodically inspected to assure that it is operating as intended, and that the carrying capacity has not been diminished by accumulations of debris and sediment or other hydraulic impediments. On piped systems, the inlets must be inspected to ensure the rims are set at the proper elevation to optimize flow entry and are not clogged with debris.

The level of sediment in the sumps should be checked to assure their effectiveness. Pipelines connecting the inlets should be checked to determine if siltation is occurring. This will be most critical on drain lines laid at minimal slopes. This can usually be accomplished by a light and mirror procedure.

Maintenance: Maintenance of the storm drainage system must assure that it continues to serve its design function on a long-term basis, and that its operation does not transport excessive sediments to any downstream treatment device or the receiving waters. Elevations on the rim of catch basins should be adjusted as needed to assure optimal water entry. Depending on the frost susceptibility of the soil, the rims may become elevated over time causing flow to circumvent the inlet. If a temporary filter bag has been designated for the inlet during construction, silt or other deleterious materials, can significantly reduce capacity and the bags should be removed with the sediment and replaced during construction. Catch basin cleaning would normally be accomplished with vacuum trucks contracted as a maintenance service for the Development. The removed material must be disposed of at an approved site for such materials.

If sediment in the pipeline is observed, it should be removed. This may be accomplished by hydraulic flushing, or by mechanical means. If hydraulic flushing is used the downstream conditions should be analyzed.

Frequency: The tributary drainage system should be inspected on an annual basis. Adjustment of inlet rim elevations should be on an as needed basis. Cleaning catch basin sumps and pipelines will depend on the rate of accumulation.

C. Roof Line Drip Edge Filter

Preface: The roof line drip edge filters collect stormwater runoff from the roof areas before passing it through a treatment section and allowing infiltration.

Inspection/Monitoring: The drip edge filters should be inspected regularly to ensure that the surface is not clogged, and that runoff can pass freely through the stone and filter section.

Maintenance: Any debris should be removed from the reservoir surface. If the drip edge area is holding water in excess of 48-72 hours, corrective action is needed. Weeding and collection of leaves and debris should be performed on a regular basis.

Frequency: The roof drip edge filter should be inspected semi-annually and maintained as necessary.

Maintenance/Inspection Responsibility: The Owner or an outside agent is responsible for inspection and maintenance of the drip edge areas.

Comments: Proper maintenance is critical for the drip edge filters as they play a large role in the overall stormwater management plan for the development.

D. Pervious Pavers

Preface: The pervious pavers collect stormwater runoff from the surface before passing it through a treatment section and discharging into a closed drainage system.

Inspection/Monitoring: The pavers should be inspected regularly to ensure that the surface is not clogged, and that runoff can pass freely through the pervious section. The pervious pavers must be inspected for integrity and to ensure rutting or deformation of the surface is minimized.

Maintenance: Any debris should be removed from the paver surface. Winter sand and salt shall not be applied to porous pavement systems. If the pervious paver area is holding water in excess of 48-72 hours, corrective action is needed. To correct a standing water problem, the following remedial actions are recommended.

1. Vacuum any sediment or debris from the paver surface on a semi-annual basis. The vacuuming shall be by a regenerative air vacuum sweeper. Mechanical and traditional vacuum sweepers are not acceptable.
2. Ensure the underdrain system or outlet pipe orifice is not clogged with any silt or other materials.
3. Ensure that the pervious pavers can pass water freely or drain quickly while handling large amounts of water. If infiltration is diminished, remove pavers and clean or replace reservoir stone.

Frequency: The pervious pavers should be inspected and vacuumed semi-annually and maintained as necessary.

Maintenance/Inspection Responsibility: The Owner or an outside agent is responsible for inspection and maintenance of the pervious paver areas.

Comments: Proper maintenance is critical for the pervious pavers as it plays a large role in the overall stormwater management plan for the development. Plowing, with the plow blade raised up to 1 inch to avoid damaging pavers, shall be performed as necessary to maintain vehicular traffic safety. **As a condition of permit approval, salt and sand use for snow and ice control is prohibited at the pavers and for areas that contribute runoff to the pavers.**

E. Ditches, Swales, and Other Open Stormwater Channels

Inspect 2 times per year (preferably in Spring and Fall) to ensure they are working in their intended fashion and that they are free of sediment and debris. Remove any obstructions to flow, including accumulated sediments and debris and vegetated growth. Repair any erosion of the ditch lining. Vegetated ditches will 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. Correct any erosion of the channel's bottom or side slopes. The facilities shall be inspected after major storms and any identified deficiencies shall be corrected.

F. Roadways and Parking Surfaces

Clear accumulations of winter sand in parking lots and along roadways at least once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader. Repair potholes and other roadway obstructions and hazards. Plowing and sanding of paved areas shall be performed as necessary to maintain vehicular traffic safety.

G. Litter

Litter should be removed as a matter of course by workers and as part of the ground's maintenance contract.

IV. PROGRAM ADMINISTRATION

A. General

A reliable administrative structure must be established to assure implementation of the maintenance programs described in the foregoing section. Key factors that must be considered in establishing a responsive administrative structure include:

1. Administrative body must be responsible for long-term operation and maintenance of the facilities. (Maintenance continues for the lifespan of the development in accordance with this document)

2. Administrative body must have the financial resources to accomplish the inspection and maintenance program over the life of the facility.

3. The administrative body must have a responsible administrator to manage the inspection and maintenance programs.

4. The administrative body must have the staff to accomplish the inspection and maintenance programs or must have authority to contract for the required services.

5. The administrative body must have a management information system sufficient to file, retain, and retrieve all inspection and maintenance records associated with the inspection and maintenance programs.

6. A qualified post construction inspector shall be retained by the Owner. The Inspector's duties shall include preparing schedules for the Owner's maintenance, summarizing the results of this maintenance and preparing an annual report on the operation, maintenance, and repair of the stormwater system which must be copied to the Town of Yarmouth. (The Owner shall be responsible for retaining a separate entity to perform maintenance which cannot be performed by the management of building and property grounds.) This person shall also participate in troubleshooting of the stormwater management system if a problem develops.

If any of the above criteria cannot be met by the entity assigned inspection and maintenance responsibilities, it is likely that the system will fail to meet its water quality objectives at some point during its life. While each of the above criteria may be met by a variety of formats, it is critical to clearly establish the assigned administrative body in a responsible and sustainable manner.

7. The Owner shall comply with the Town of Yarmouth's Chapter 330 Post Construction Stormwater Management ordinance, including annual certification to the Town Manager.

B. Record Keeping

Records of all inspections and maintenance work accomplished must be kept and maintained to document facility operations. These records should be filed and retained for a minimum 5-year time span. The filing system should be capable of ready retrieval of data for periodic reviews by appropriate regulatory bodies. Where possible, copies of such records should also be filed with the designated primary regulatory agency for their review for compliance with permit conditions. Typical inspection and maintenance record forms are attached hereto as Appendix B.

Beyond the initial 5-year time span of the original approval and maintenance plan, the stormwater management system will need to be recertified through the Maine Department of Environmental Protection every 5 years to confirm that there is conformance with the original permit documents. This process will ensure all systems function properly over time. This document will remain valid throughout any subsequent recertification processes.

C. <u>Contract Services</u>

In some instances, or at specific times, the Maintenance Personnel may not have the staff to conduct the required inspection and/or maintenance programs as outlined in this document. In such cases, the work should be accomplished on a contractual basis with a firm or organization that has the staff and equipment to accomplish the required work.

The service contract for inspection and maintenance should be formal, well written legal document which clearly defines the services to be provided, the contractual conditions that will apply, and detailed payment schedules. Liability insurance should be required in all contracts.

APPENDIX A

Summary Checklist
Inspection and Maintenance

Stormwater Management System Maintenance Program Summary Checklist						
Item	**Commentary**	**Frequency**				
		Monthly	**Quarterly**	**Semi-Annual**	**Annual**	**Long Term**
Stormwater Inlets	Stormwater inlets allow flow entry from a surface swale to a piped system. Entry may or may not be equipped with a bar rack. Inspect entry for debris accumulation. Remove debris to allow unimpeded entry. Lawn clippings and leaves should be removed from yard areas.		X		X Clearing	
Tributary Drainage System	Inspect to assure that the carrying capacity has not been diminished by debris, sediment or other hydraulic impediments.				X	
Roof Line Drip Edge Filters	Remove debris from surface of reservoir layer. Weed overgrown areas as necessary. Snow storage is prohibited on the drip edge filter.			X		
Pervious Pavers	Inspect after major storm events ensure the pavers are not plugged with debris. Vacuum semi-annually. The vacuuming shall be by a regenerative air vacuum sweeper. Mechanical and traditional vacuum sweepers are not acceptable. The use of salt or sand for snow and ice control is prohibited over the pavers. Plowing, with the plow blade raised up to 1 inch to avoid damaging pavers, shall be performed as necessary to maintain vehicular traffic safety.			X		
Ditches Swales and Other open Stormwater Channels	Inspect to ensure the ditch is not eroding or blocked by debris.			X		
Roadways and Parking Surfaces	Remove accumulated sand.				X	
Litter	Litter should be removed daily.					

APPENDIX B

Sample Inspection Logs

TRAVIS ROY ARENA
YARMOUTH, MAINE

STORMWATER MANAGEMENT
SAMPLE STORMWATER INSPECTION & MAINTENANCE LOG

This log is intended to accompany the Operation and Maintenance Manual for Stormwater Management and Related Facilities. All stormwater BMPs shall be maintained in effective operating condition. A person with knowledge of erosion and stormwater control, including the standards and conditions of the DEP Stormwater Permit and the Town of Yarmouth's Post Construction Stormwater Management Monitoring Ordinance, shall conduct inspections of the facilities as described in the O&M Manual and on this form, and identified deficiencies must be corrected. This log shall be kept on file for a minimum of five (5) years.

A. General Information			
Project Name:		**Inspection Date:**	
Parcel/Lot:		**Current Weather:**	
BMP Owner:		**Date/Amount Last Precip.:**	
Owner Mailing Address:		**Inspection Company:**	
Owner Phone #:		**Inspection Co. Mailing Address:**	
Owner Email:		**Inspector Name:**	
		Inspector Phone #:	
		Inspector Email:	

B. Stormwater Inlets (Catchbasins)	**Observations**
Frequency: Annually in the spring	
Accumulated sediments from inflow channels and pipes between basins have been removed and legally disposed of	☐ Yes ☐ No ☐ NA
Floating debris and large sediment particles have been removed from inlets.	☐ Yes ☐ No ☐ NA
Stormwater Inlet Notes:	

C. Tributary Drainage System	**Observations**
Frequency: Annually spring or late fall and after heavy rains	
Remove and legally dispose of sediments	☐ Yes ☐ No ☐ NA
Remove floatables and other objects	☐ Yes ☐ No ☐ NA
Check for overgrown vegetation impeding flow	☐ Yes ☐ No ☐ NA
Check pipelines for siltation and clogging	☐ Yes ☐ No ☐ NA
Repair any slumping side slopes or erosion	☐ Yes ☐ No ☐ NA
Replace any riprap on areas where any underlying fabric or underlying gravel is exposed.	☐ Yes ☐ No ☐ NA
Tributary Drainage System Notes:	

D. Roof Line Drip Edge Filters	Observations
Frequency: Semi-Annually	
Clear debris from reservoir surface area	☐ Yes ☐ No ☐ NA
Check that the underdrain system is functioning properly.	☐ Yes ☐ No ☐ NA
Check for signs of clogging, or water not draining within 48-72 hours	☐ Yes ☐ No ☐ NA
Roff Line Drip Edge Filter Notes:	

E. Pervious Pavers	Observations
Frequency: Semi-Annually	
Vacuum any sediment and debris from paver surface.	☐ Yes ☐ No ☐ NA
Check that the underdrain system is functioning properly.	☐ Yes ☐ No ☐ NA
Check for ponding or signs that pavers are clogged and don't convey runoff to soil filter.	☐ Yes ☐ No ☐ NA
Pervious Paver Notes:	

F. Ditches, Swales, and Other Open Stormwater Channels	Observations
Frequency: Semi Annually spring and late fall and after heavy rains	
Remove and legally dispose of sediments	☐ Yes ☐ No ☐ NA
Remove floatables and other objects	☐ Yes ☐ No ☐ NA
Check for overgrown vegetation impeding flow.	☐ Yes ☐ No ☐ NA
Mow to control growth and maintain flow capacity.	☐ Yes ☐ No ☐ NA
Repair any slumping side slopes or erosion	☐ Yes ☐ No ☐ NA
Replace any riprap on areas where any underlying fabric or underlying gravel is exposed.	☐ Yes ☐ No ☐ NA
Ditches Swales and Other Channel Notes:	

G. Roadways and Parking Surfaces	Observations
Frequency: Annually preferably in spring	
Remove and legally dispose of accumulated winter sand	☐ Yes ☐ No ☐ NA
Repair potholes and other roadway obstructions and hazards.	☐ Yes ☐ No ☐ NA
Roadways and Parking Surfaces Notes:	

APPENDIX C

Stormwater Management Report and Permits for Project