

1 Introduction

Fuss & O'Neill has prepared the enclosed Special Permit on behalf of Bristol Community College (BCC) for the construction of a wind training facility. The project is located at 198 Herman Melville Boulevard, New Bedford, Massachusetts and is identified by the City of New Bedford Assessor as Map 66, Parcel 153 owned by the City of New Bedford Harbord Development Commission and Map 66, Parcel 153a leased to Seaward Resources Inc Lessee. The site is currently used by Packaging Products Corporation as a warehouse.

Copies of the Special Permit Application and Fee are included in *Appendix A*. The Certified Abutters List is included as *Appendix B*. The Notice of Lease from the Bristol County Registry of Deeds is included as *Appendix C*. A copy of the Building Permit Rejection Packet is included as *Appendix D*.

The proposed facility includes the renovation of the existing building resulting in an approximately 39,580 square feet of floor area. The existing parking lot will be renovated to include landscaped islands. Site access will remain the same as existing conditions utilizing driveways on both Herman Melville Boulevard and Hervy Tichon Avenue. The stormwater management system, existing utilities, and site lighting will be upgraded as required for the proposed development. Existing Conditions Photographs are included as *Appendix E*. A Photometrics Plan and Site Lighting Fixtures are included as *Appendix F*. Permitting Plans depicting the proposed project are included as *Appendix G*.

The proposed project has been designed in accordance with the City of New Bedford Comprehensive Zoning By Laws (Bylaw) and Stormwater Rules and Regulations.

The following sections describe the project in further detail and indicate how the project conforms with the City's requirements. Where applicable, the specific requirements have been listed in *italics* followed by a statement of how the project conforms to the specific requirement.

1.1 Application Fees

The following Application Fee is required for the project:

- \$700.00 for the special permit in accordance with the Planning Board(Acting as SPGA)

A copy of the check for the above fee is included in *Appendix A*.

A check for this amount will be submitted directly to the City of New Bedford under separate cover.

2 Zoning ByLaw Conformance

The site is located in the Waterfront Industrial District (WI) district. Per the *Table of Principal Use Regulations* in *Appendix A* of the Bylaws, the project is classified as "Use of land or structures for educational purposes on land owned or leased by the commonwealth or any of its agencies, subdivisions

or bodies politic or by a religions sect or denomination, or by a nonprofit educational corporation”, and is a permitted use.

The following sections detail the projects conformance with the Bylaw. Where applicable, the requirement of the Bylaw is noted in *italics* with a statement on how the project conforms immediately following.

2.1 Section 2700 – Dimensional Regulations

A zoning table conforming to *Appendix B Table of Dimensional Requirements* of the Bylaws is included on sheet GI-002 in the Permitting Plans as *Appendix G*.

2.2 Section 3100 – Parking and Loading

A parking table is shown on sheet GI-002 in the Permitting Plans as *Appendix G*. The total number of parking spaces proposed is less than the requirements for “...facilities primarily for the education and instruction of persons sixteen (16) yrs. of age and older...” as set forth in *Appendix C Table of Parking and Loading Requirements* of the Bylaws. As a result, the project requires a Special Permit from the Planning Board.

The facility is anticipated to have a maximum of four sessions with 12 students and one instructor in each session at a time (i.e., a maximum of 48 students and 4 instructors). Two additional employees will report to this facility on a regular basis. As such, it is anticipated that the maximum number of people that will be at the facility at one time is 54 (48 students + 4 instructors + 2 employees = 54 people). 56 parking spaces are proposed as shown on the Permitting Plans as *Appendix G*. Therefore, the number of parking spaces provided is in excess of one per person.

The drive aisles are a minimum of twenty-two (22) feet and the parking spaces are a minimum of nine (9) feet by twenty (20) feet as shown on sheet CS-101 of the Permitting Plans as *Appendix G*.

2.3 Section 3200 – Sign Regulations

There is an existing ground mounted, illuminated sign near the intersection of Herman Melville Boulevard and Hervey Tichon Avenue. The existing sign will be resurfaced.

2.4 Section 3300 – Screening and Landscaping

Screening and landscaping is not proposed as part of this project.

2.5 Section 4400 – Flood Hazard Overlay District (FHOD)

Federal Emergency management Agency (FEMA) mapping shows that the site lies within Zone X, Area with Reduced Flood Risk due to Levee, as depicted on FEMA Flood Insurance Rate Map 25005C0393G effective date 7/16/2014.

2.6 Section 4600 – Working Waterfront Overlay District

- A. There shall be a Working Waterfront Overlay District, comprising the waterfront area between Gifford Street and Interstate Route I-195. A fish fillet or fish processing plant shall only be allowed in Industrial "B" Zones that are located within the Working Waterfront Overlay District.*

The proposed use is water dependent. A Chapter 91 Waterways Licensure Application has been submitted to the Massachusetts Department of Environmental Protection.

2.7 Section 5300 – Special Permits

A special permit is being requested for a reduction in parking.

2.8 Section 5400 – Site Plan Review

2.8.1 Section 5440 – Preparation of Plans

- A. Applicants are invited to submit a pre-application sketch of the proposed project to the Planning Department and are encourage to schedule a pre-submission meeting with the Planning Department. Site Plans shall be submitted on 24-inch by 36-inch sheets. Plans shall be prepared by a Registered Professional Engineer, Registered Land Surveyor, Architect, or Landscape Architect, as appropriate. Dimensions and scales shall be adequate to determine that all requirements are met and to make a complete analysis and evaluation of the proposal. All plans shall have a minimum scale of 1"=40'.*

A pre-submission meeting with the Planning Department has occurred. Permitting Plans on 24-inch by 36-inch sheet at appropriate scales and prepared by licensed professional engineer are included as *Appendix G*.

2.8.2 Section 5450 – Contents of Plan

- A. 5451. Plan sheets prepared at a scale of one inch equals forty (40) feet or such other scale as may be approved by the Planning Board. The plans are as follows:*

Permitting Plans of varying scale, generally at 1"=20', are included as *Appendix G*.

- B. 5451.a. *Site layout, which shall contain the boundaries of the lot(s) in the proposed development, proposed structures, general circulation plan for vehicles and pedestrians, drive-thru windows, curb cut locations, parking, fences, walls, walks, outdoor lighting including proposed fixtures, loading facilities, solid waste storage locations, and areas for snow storage after plowing. The first sheet in this plan shall be a locus plan, at a scale of one inch equals one hundred (100) feet, showing the entire project and its relation to existing areas, buildings and roads for a distance of one thousand (1,000) feet from the project boundaries or other such distance as may be approved or required by the Planning Board.*

A Site Layout Plan and a Context Map are included as sheet CS-101 and GI-100, respectively, which are included in the Permitting Plans as *Appendix G*.

- C. 5451.b. *Topography and drainage plan, which shall contain the existing and proposed final topography at two-foot intervals and plans for handling stormwater runoff drainage.*

A Grading, Drainage, and Utility Plan is included as sheet CG-101 of the Permitting Plans included as *Appendix G*.

- D. 5451.c. *Utility plan, which shall include all facilities for refuse and sewerage disposal or storage of all these wastes, the location of all hydrants, fire alarm and firefighting facilities on and adjacent to the site, all proposed recreational facilities and open space areas, and all wetlands including floodplain areas.*

A Grading, Drainage, and Utility Plan is included as sheet CG-101 of the Permitting Plans included as *Appendix G*.

- E. 5451.d. *Architectural plan, which shall include the ground floor plan, proposed exterior building materials, treatments and colors and architectural elevations of all proposed buildings and a color rendering where necessary to determine the proposal's affect on the visual environment.*

Architectural floor plans and elevations are included as sheets A1.1-A1.2 and A2.1-A2.2 of the Permitting Plans included as *Appendix G*.

- F. 5451.e. *Landscaping plan, showing the limits of work, existing tree lines as well as those tree lines to remain, and all proposed landscape features and improvements including screening, planting areas with size and type of stock for each shrub or tree, and including proposed erosion control measures during construction.*

Landscaping is not proposed as part of this project.

- G. 5451.f. *Lighting plan showing the location and orientation of all existing and proposed exterior lighting, including building and ground lighting. The plan shall note the height, initial foot-candle readings on the ground and the types of fixtures to be used.*

A Photometrics Plan and Site Lighting Fixtures are included as *Appendix F*.

- H. 5452. *The site plan shall be accompanied by a written statement indicating the estimated time required to complete the proposed project and any and all phases thereof. There shall be submitted a written estimate, showing in detail the costs of all site improvements planned.*

The total construction cost is estimated to be approximately \$7,500,000.00. The construction is anticipated to start in April of 2022 and take approximately 9 months to complete.

- I. 5453. *A written summary of the contemplated project shall be submitted with the site plan indicating, where appropriate, the number of dwelling units to be built and the acreage in residential use, the evidence of compliance with parking and off-street loading requirements, the forms of ownership contemplated for all property and a summary of the provisions of any ownership or maintenance thereof, identification of all land that will become common or public land, and any other evidence necessary to indicate compliance with this Ordinance.*

No dwelling units are proposed and the site is not located in a residential zone. As previously mentioned in this report, a special permit is being requested for the reduction in required parking spaces. Bristol Community College Foundation, Inc. is in current ownership of the site and Bristol Community College will be responsible for site maintenance. No land on site will become common or public land. The Notice of Lease is included as *Appendix C*.

- J. 5454. *The site plan shall be accompanied by drainage calculations by a registered professional engineer as well as wetland delineations, if applicable. Storm drainage design must conform to City of New Bedford subdivision regulations.*

A Stormwater Management Report is included as *Appendix H*.

- K. 5455. *The Planning Board may require a DIS as set forth in Section 5300, above.*

Acknowledged.

- L. 5456. *Certification that the proposal is in compliance with the provisions, if applicable, of the Americans with Disabilities Act and the Massachusetts Architectural Barriers Board.*

The building is provided with an accessible route from the accessible parking spaces to the building as depicted on the Grading, Drainage, and Utility Plan, sheet CG-101. The Permitting Plans are included as *Appendix G*.

3 Stormwater Rules and Regulations Conformance

3.1 Section 2.5 – SMP Application Management Plans & Submittals

- A. 2.5.1.B – *The Stormwater Management Plan shall fully describe the project in drawings, narrative, and calculations. It shall include:*
- a. *Contact Information. The name, address, and telephone number of all persons having a legal interest in the property and the tax reference number and parcel number of the property or properties affected*

The aforementioned information has been included on the cover sheet of the Stormwater Management Report included as *Appendix H*.

b. A locus map

A locus map is included as Figure 1 of the Stormwater Management Report included as *Appendix H*.

c. Existing site plan

A Boundary & Topographic Survey is included in the Permitting Plans as *Appendix G*.

d. The existing zoning, and land use at the site

The existing zone and land use has been included in the Stormwater Management Report included as *Appendix H*.

e. The proposed land use

The proposed land use has been included in the Stormwater Management Report included as *Appendix H*.

f. The location(s) of existing and proposed easements

There are no known easements on the site. There are no proposed easements.

g. The location of existing and proposed utilities

Existing and proposed utilities are shown on sheet CG-101 of the Permitting Plans included as *Appendix G*.

h. The site's existing and proposed topography with contours at two-foot intervals

Existing and proposed topography is shown on sheet CG-101 of the Permitting Plans included as *Appendix G*.

i. The existing site hydrology

A Pre-Development Watershed Map and a Pre-Development Watershed Analysis are included in the Stormwater Management Report included as *Appendix H*.

j. A description and delineation of existing stormwater conveyances, impoundments, wetlands, drinking water resource areas, shell-fish areas, swimming beaches or other critical environmental resource areas, on or adjacent to the site or into which stormwater flows

The aforementioned information is included in the Stormwater Management Report included as *Appendix H*.

k. A delineation of 100-year floodplains, if applicable

A FEMA flood insurance rate map is included in the Stormwater Management Report as *Appendix H*.

l. Estimated seasonal high groundwater elevation in areas to be used for stormwater retention, detention, or infiltration

Test Pits were performed by Fuss & O'Neill on December 7, 2021. Test Pit Logs are included in the Stormwater Management Report as *Appendix H*.

m. The existing and proposed vegetation and ground surfaces with runoff coefficients for each

A Pre- and Post-Development Watershed Analysis summarizing existing and proposed ground surfaces with runoff coefficients are included in the Stormwater Management Report as *Appendix H*.

n. A drainage area map showing pre- and post-development drainage area boundaries and stormwater flow paths, including municipal drainage system flows

Pre- and Post-Development Watershed Maps are included in the Stormwater Management Report as *Appendix H*.

o. A recharge area analysis as described in Section 3.2 – Post-Development Stormwater Management Criteria that calculates pre- and post-project annual groundwater recharge rates on the parcel

BMP sizing calculations are included in the Stormwater Management Report as *Appendix H*.

p. A description and drawings of all components of the proposed stormwater management system including:

i. Locations, cross sections (at intervals of no more than every 50 feet), and profiles of all brooks, streams, drainage swales and their method of stabilization

There are no brooks, streams, or drainage swales on the site.

ii. All measures being used for the detention, retention or infiltration of water

Stormwater management components are shown on sheet CG-101 of the Permitting Plans and included in the Stormwater Management Report which are included as *Appendix G & H*, respectively.

iii. Description of non-structural BMPs

A description of non-structural BMPs is included in the Stormwater Management Report as *Appendix H*.

- iv. All measures being used for the protection of water quality and wetland resource areas*

There are no wetland resource areas on site. A Stormwater Management Report is included as *Appendix H*.

- v. The structural details for all components of the proposed drainage systems and stormwater management facilities*

Stormwater management details are included in the Permitting Plans as *Appendix G*.

- vi. Notes on drawings specifying materials to be used, construction specifications, and expected hydrology with supporting calculations*

Construction details are included in the Permitting Plans as *Appendix G*. Hydrologic calculations are included in the Stormwater Management Report as *Appendix H*.

- vii. Proposed site plan including location of buildings or other structures, impervious surfaces, and drainage facilities, if applicable*

The proposed site improvements are included in the Permitting Plans as *Appendix G*.

- viii. Any other information requested by the Stormwater Authority*

Acknowledged.

- q. Hydrologic and hydraulic design calculations using the Soil Conservation Service (SCS) Method for the pre-development and post-development conditions for the two, 10-year, and 100-year design storms, as described in Section 3.2 – Post-Development Stormwater Management Criteria. Such calculations shall include:*

- i. Description of the design storm frequency, intensity and duration*

A Pre- and Post-Development Watershed Analysis summarizing the design storm are included in the Stormwater Management Report as *Appendix H*.

- ii. Time of concentration*

Time of concentrations for all watersheds is the minimum allowable time of 5 minutes.

- iii. Soil Runoff Curve Number (RCN) based on land use and soil hydrologic group*

Curve number calculations are included in the Pre- and Post-Development Watershed Analysis in the Stormwater Management Report as *Appendix H*.

iv. Peak runoff rates and total runoff volumes for each watershed area

Peak runoff rates and total runoff volumes are included in the Pre- and Post-Development Watershed Analysis in the Stormwater Management Report as *Appendix H*.

v. Information on construction measures used to maintain the infiltration capacity of the soil where any kind of infiltration is proposed

Construction details are included in the Permitting Plans as *Appendix G*. A Long Term Operation & Maintenance plan for the stormwater system is included in the Stormwater Management Report as *Appendix H*.

vi. Infiltration rates, where applicable

The 1982 Rawls Rate for loamy sand was used as an infiltration rate in the infiltration basin.

vii. Culvert capacities, where applicable

Storm sewer pipe capacities are included in the Storm Sewer Analysis included in the Stormwater Management Report as *Appendix H*.

viii. Flow velocities

Flow velocities are included in the Storm Sewer Analysis included in the Stormwater Management Report as *Appendix H*.

ix. Data on the increase in rate and volume of runoff for the specified design storms

Peak runoff rates and total runoff volumes are included in the Pre- and Post-Development Watershed Analysis in the Stormwater Management Report as *Appendix H*.

x. Documentation of sources for all computation methods and field test results

Methodology is included in the Stormwater Management Report as *Appendix H*.

r. Post-development downstream analysis if deemed necessary by the Stormwater Authority

Acknowledged.

s. Soils information from test pits performed at the location of proposed stormwater management facilities, including but not limited to soil descriptions, depth to seasonal high groundwater, depth to bedrock, and

infiltration rates. Soils information will be based on site test pits logged by a Massachusetts Registered Soil Evaluator, or a Massachusetts Registered Professional Engineer

Test Pits were performed by Fuss & O'Neill on December 7, 2021. Test Pit Logs are included in the Stormwater Management Report as *Appendix H*.

- t. Landscaping plan describing the woody and herbaceous vegetation stabilization and management techniques to be used within and adjacent to the stormwater practice*

No landscaping is being proposed as part of this project.

- B. 2.5.1.C – The “Checklist for Stormwater Management Plan” as provided herein shall be submitted with the Stormwater Management Plan at the time of filing to ensure a complete application.*

We were unable to locate the “Checklist for Stormwater Management Plan”.

- C. 2.5.2 – Erosion and Sediment Control Plan. The Erosion and Sediment Control (ESC) Plan shall be designed to ensure compliance with the SMP and these Stormwater Rules and Regulations and to ensure that the City’s MS4 Permit with EPA and the Massachusetts Surface Water Quality Standards (314 CMR 4.00) are met during construction. The ESC Plan shall show the location of and describe the structural and non-structural BMPs to be used on the site to stabilize and contain runoff from exposed areas and to minimize or eliminate onsite erosion and sedimentation during construction. It also shall include controls for other wastes on construction sites such as demolition debris, litter, vehicle wash out, chemicals, and sanitary wastes. The ESC Plan shall describe the routine inspection and maintenance procedures for these BMPs. The procedures shall clearly define who is responsible for site inspections as well as who has authority to implement enforcement procedures.*

An erosion and sediment control plan is included in the Permitting Plans as *Appendix G*.

- D. 2.5.3 – Operation and Maintenance Plan Contents. An Operation and Maintenance Plan (O&M Plan) is required at the time of application for Final Plan approval. The O&M Plan shall be designed to ensure compliance with the SMP and these Stormwater Rules and Regulations and to ensure that the Massachusetts Surface Water Quality Standards are met in all seasons and throughout the life of the system. The O&M Plan shall remain on file with the Stormwater Authority. The contents of the O&M Plan shall be an ongoing requirement. The O&M Plan shall include:*
 - a. The name(s) of the owner(s) for all components of the system*

The name of the owner is included in the Long Term Operation & Maintenance Plan which is included in the Stormwater Management Report as *Appendix H*.

- b. A map showing the location of the systems and facilities including, but not limited to, catch basins, manholes/ access lids, drain pipes, and stormwater devices*

A BMP location map is included in the Long Term Operation & Maintenance Plan which is included in the Stormwater Management Report as *Appendix H*.

- c. Maintenance Agreements that specifies:*

- a. The names and addresses for the person(s) responsible for operation and maintenance*
- b. The person(s) responsible for financing maintenance and emergency repairs*
- c. An inspection and maintenance schedule for all temporary erosion and sediment control practices and permanent stormwater management facilities, including routine and non-routine maintenance tasks to be performed*
- d. A list of easements with the purpose and location of each*
- e. A copy of the most recent deed for all properties on which a drainage easement will be necessary*
- f. The signature(s) of the owner(s)*

This information is included in the Long Term Operation & Maintenance Plan which is included in the Stormwater Management Report as *Appendix H*. There are no known easements on the site.

- d. Drainage Easement(s)*
 - a. Executed drainage easements shall be provided by the property owner(s) as necessary for:*
 - i. Access for facility inspections and maintenance*
 - ii. Preservation of stormwater runoff conveyance, infiltration, and treatment areas and facilities, including flood routes for the 100-year storm event*
 - iii. Direct maintenance access by heavy equipment to structures requiring regular maintenance*
 - b. The purpose of each easement shall be specified in the Maintenance Agreement signed by the property owner*
 - c. Drainage easements are required for all areas used for off-site stormwater control*
 - d. The owner of record shall record drainage easements with the Bristol County Registry of Deeds and supply such recorded copy to Stormwater Authority prior to issuance of a Certificate of Completion*

Acknowledged. We will work with the City to determine if easements are required.

- e. Changes to the Operation and Maintenance Plans:*
 - a. The owner(s) of the stormwater management system must notify the Stormwater Authority in writing of changes in ownership or assignment of financial responsibility*
 - b. The maintenance schedule in the Maintenance Agreement may be amended to achieve the purposes of these Stormwater Rules and Regulations by mutual agreement of the Stormwater Authority and the Responsible Parties. Amendments must be in writing and signed by all Responsible Parties. Responsible Parties shall include owner(s), persons with financial responsibility, and persons with operational responsibility*

Acknowledged.

3.2 Section 3 – SMP Performance Standards

- A. *Section 3.1 – Construction Stormwater Management Criteria. At a minimum, the Erosion and Sediment Control (ESC) Plan shall comply with the performance standards of the most recent version of the Massachusetts Erosion and Sedimentation Control Guidelines for Urban and Suburban Areas: A Guide for Planners, Designers, and Municipal Officials published by the Massachusetts Executive Office of Energy and Environmental Affairs (EEA), as well as the following:*
- a. *Measures shall be taken to control erosion within the project area*
 - b. *The removal of existing trees and ground cover shall be kept at a minimum*
 - c. *Perimeter barriers, such as straw bales and silt fences, shall be installed along the downslope property edges*
 - d. *Site stabilization procedures shall be employed to minimize the loss of soil*
 - e. *Soil stockpiles shall be stabilized by seeding or mulching if they will remain for more than seven calendar days*
 - f. *Wetland areas and surface waters shall be protected from sedimentation*
 - g. *Sediment in runoff water shall be trapped and retained within the project area. All temporary sediment trapping devices shall be designed to retain one inch of runoff from the contributing drainage area*
 - h. *All construction stormwater conveyance channels shall be designed to avoid unstabilized areas on the site and to reduce erosion. Minimize erosion through the use of erosion controls and velocity dissipation devices, such as check dams or sediment traps, within and along the length of any conveyance channel and at any outlet to provide a non-erosive flow velocity*
 - i. *Sediment basins shall provide storage for either the calculated runoff volume from a two year, 24-hour storm, or 3,600 cubic feet per acre drained. Sediment basins shall have side slopes composed of earthen embankments with side slopes no greater than 3:1 (horizontal:vertical). No structural retaining walls are permitted to confine a sediment basin*
 - j. *Linear projects involving concrete, masonry, or paved sidewalks shall include a grass/vegetated ribbon where ADA compatible pathway widths can be met without restriction. The ribbon width shall be determined in accordance with the City of New Bedford - Construction Standards and Specifications. The Stormwater Authority, at its discretion, may waive or eliminate the need for grass/vegetated ribbons in favor of recharging alternatives based on local conditions and circumstances*

The erosion and sediment control plan has been designed in conformance with the *Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas*. Erosion and sediment controls and notes are included on sheets GI-002 and CP-101 of the Permitting Plans included as *Appendix G*. Due to the urban setting, a sediment basin is not proposed for this project.

- B. *Section 3.2 – Post-Development Stormwater Management Criteria. At a minimum, all projects shall comply with the performance standards of the most recent version of Massachusetts Stormwater Management Standards (MASWMS). Additionally, the following general performance criteria shall be applicable to all Stormwater Management Plans, unless otherwise provided for in these Stormwater Rules and Regulations:*

The stormwater management system has been designed in accordance with the Massachusetts Stormwater Handbook.

- a. *Stormwater Management Basins – All stormwater management basins, including detention, retention, and sedimentation basins, shall have side slopes composed of earthen embankments with side slopes no greater than 3:1 (horizontal:vertical). No structural retaining walls are permitted to confine a stormwater management basin*

Sediment forebays and infiltration basin have been designed with slopes no greater than 3:1.

- b. *Site Planning Process – The site planning process shall be documents and shall include the following steps:*
- i. *Identify and map critical environmental areas*
 - ii. *Delineate potential building envelopes avoiding environmental resource areas and appropriate buffers*
 - iii. *Develop methods to minimize impervious cover and to protect and preserve open space*

Critical environmental areas have been identified in the Stormwater Management Report . A decrease in impervious area on the site is proposed when compared to existing conditions.

- c. *Untreated Discharges – All stormwater runoff generated from land development and land use conversion activities shall be treated to the maximum extent practicable, and as approved by the Stormwater Authority, prior to discharge to a wetland, local water body, municipal drainage system, or a right-of-way (ROW)*

The stormwater runoff is treated to the maximum extent practicable as discussed in the Stormwater Management Report as *Appendix H*.

- d. *Site Design Criteria - Low Impact Development (LID) site planning and design strategies must be used to the maximum extent practicable for new development and redevelopment to promote recharge, reduce runoff volumes, and minimize reliance on structural stormwater management measures. Use of LID design strategies must be formally documented in the Stormwater Management Plan as described in Sec.2.5 – SMP Application Management Plans and Submittals of these Rules and Regulations. Acceptable LID design strategies include, but are not limited to:*
- i. *Bioretention areas, including stormwater planters and tree box filters*
 - ii. *Dry wells*
 - iii. *Grassed channels*
 - iv. *Green roofs*
 - v. *Leaching catch basins*
 - vi. *Porous pavements, including porous asphalt, permeable pavers and pervious concrete*
 - vii. *Rain barrels/ cisterns*
 - viii. *Rain gardens*
 - ix. *Vegetated filter strips*
 - x. *Water quality swales*

LID components, including sediment forebays, pretreatment stone filter strip, and infiltration basin, are proposed as part of the stormwater management system.

- e. *Channel Protection – Protection of channels from bank and bed erosion and degradation shall be provided by controlling the peak discharge rate from the two year storm event to the pre-development rate as required by the MASWMS*

Channels are not present on the site.

- f. *Overbank Flood Protection - Downstream overbank flood and property protection shall be provided by attenuating the post-development peak discharge rate to the pre-development rate for the 10-year, 24-hour return frequency storm event as required by the MASWMS*

Peak runoff rates and total runoff volumes are included in the Pre- and Post-Development Watershed Analysis in the Stormwater Management Report as *Appendix H*.

- g. *Extreme Flooding Protection - Extreme flooding and public safety protection shall be provided by controlling and safely conveying the 100-year, 24-hour return frequency storm event such that flooding is not exacerbated*

Peak runoff rates and total runoff volumes, including that of the 100-year storm, are included in the Pre- and Post-Development Watershed Analysis in the Stormwater Management Report as *Appendix H*.

- h. *Recharge:*
 - i. *Annual groundwater recharge rates shall be maintained, by promoting infiltration and recharge through the use of structural and non-structural methods. At a minimum, annual recharge from the post development site shall equal the annual recharge from pre-development site conditions*
 - ii. *The stormwater runoff volume to be recharged to groundwater should be determined using the methods prescribed in the latest version of MASWMS. The recharge requirements shall apply to all activities within the jurisdiction of these Rules and Regulations except as noted, and unless specifically waived by the Stormwater Authority. The recharge criterion is not recommended for any portion of a site designated as a stormwater hotspot. In addition, the Stormwater Authority may relax or eliminate the recharge requirement at its discretion, if the site is situated on unsuitable soils, is demonstrated to be too restrictive, or is in a redevelopment area with documentation of prior contaminated soil*

Groundwater recharge is provided in the infiltration basin. BMP sizing calculations are included in the Stormwater Management Report as *Appendix H*.

- i. *Structural Practices for Water Quality*
 - i. *All structural Stormwater Management facilities shall be selected and designed using the appropriate criteria from the most recent version of the MASWMS*
 - ii. *For other structural stormwater controls not included in the MASWMS, or for which pollutant removal rates have not been provided, the effectiveness and pollutant removal of the structural control must be documented through prior studies, literature reviews, or other means*

and receive approval from the Stormwater Authority before being included in the design of a Stormwater Management system

- iii. *Structural best management practices (BMPs) must be designed to remove the prescribed average annual post development total suspended solids (TSS) percentage, as described in Section 3.2.14. It is presumed that a BMP complies with this performance goal if it is:*
 - 1. *Sized to capture the prescribed water quality volume*
 - 2. *Designed according to the specific performance criteria outlines in the MASWMS*
 - 3. *Constructed properly*
 - 4. *Maintained regularly*

BMP sizing and TSS removal calculations are include in the Stormwater Management Report as *Appendix H*.

- j. *Water Quality Volume – The prescribed water quality volume required in the sizing of a structural stormwater practice shall be 0.50 inches $\times$ the total impervious area of the drainage area and 1.0 inches $\times$ the total impervious area of the drainage area in critical areas, as specified in the MASWMS*

Water quality calculations are included in the Stormwater Management Report as *Appendix H*.

- k. *Sensitive Areas - Stormwater discharges to critical areas with sensitive resources (i.e., shellfish beds, vernal pools, swimming beaches, aquifer recharge areas, water supply reservoirs) may be subject to additional criteria, or may need to utilize or restrict certain stormwater management practices at the discretion of the Stormwater Authority. The Stormwater Authority may designate sensitive areas and specific criteria for these areas after conducting a public hearing in accordance with the provisions of Section 1.4 - Revisions of the Rules and Regulations*

The site is not within any known sensitive areas.

- l. *Hotspots - Stormwater discharges from land uses or activities with higher potential pollutant loadings, known as “hotspots,” as defined in the most recent version of the MASWMS, require the use of specific Stormwater Management BMPs, as specified in the most recent version of the MASWMS. The use of infiltration practices without pre-treatment is prohibited*

The land use does not have a higher potential pollutant load.

- m. *Redevelopment – Redevelopment projects are presumed to meet the specified stormwater requirements described in the Stormwater Rules and Regulations of the City of New Bedford if one of the following criteria is met:*
 - i. *The total impervious cover is reduced by 40% from existing conditions;*
 - ii. *Where site conditions prevent the reduction in impervious cover, stormwater practices are implemented to provide stormwater controls for at least 40% of the site’s impervious area; or*
 - iii. *When a combination of impervious area reduction and implementation of stormwater management practices is used for redevelopment projects, the combination of impervious area reduction and the area controlled by a stormwater management practice is equal to or exceeds 40%.*

The improvements result in a decrease in impervious area on the site. Stormwater controls are provided for 40% of the site's impervious area. Supporting calculations and additional information are provided in the Stormwater Management Report as *Appendix H*.

n. On-Site Stormwater Retainage/TSS Removal:

- i. For development projects that result in total earth disturbance equal to or greater than one acre (or activities that are part of a larger common plan of development disturbing greater than one acre), the following on-site retainage and TSS removal requirements shall be met:*
 - 1. Retain the volume of runoff equivalent to, or greater than, one (1.0) inch multiplied by the total post-construction impervious surface area on the site, and/or*
 - 2. Remove 90% of the average annual TSS generated from the total post-construction impervious area on the site, and remove 60% of the average annual load of Total Phosphorus (TP) generated from the total post-construction impervious surface area on the site. Pollutant removal shall be calculated consistent with EPA Region 1's BMP Performance Extrapolation Tool or other BMP performance evaluation tool provided by EPA Region 1, where available*

The project is considered redevelopment.

- ii. For redevelopment projects that result in total earth disturbance equal to or greater than one acre (or activities that are part of a larger common plan of development disturbing greater than one acre), the following on-site retainage and TSS removal requirements shall be met:*
 - 1. Retain the volume of runoff equivalent to, or greater than, 0.80 inch multiplied by the total post-construction impervious surface area on the site, and/or*
 - 2. Remove 80% of the average annual TSS generated from the total post-construction impervious area on the site, and remove 50% of the average annual load of Total Phosphorus (TP) generated from the total postconstruction impervious surface area on the site. Pollutant removal shall be calculated consistent with EPA Region 1's BMP Performance Extrapolation Tool or other BMP performance evaluation tool provided by EPA Region 1, where available*

The project results in less than one acre of total earth disturbance. The on-site area of mill and overlay was excluded from this calculation as it does not meet the definition of "land disturbance" as defined in the City of New Bedford Stormwater Rules and Regulations.

- iii. For projects disturbing less than one acre, provide TSS removal for development and redevelopment projects in accordance with the guidance provided from the most recent version of the MASWMS*

The stormwater management system has been designed in conformance with the Massachusetts Stormwater Handbook. Supporting calculations and additional information are provided in the Stormwater Management Report as *Appendix H*.

3.3 Section 6 – SMP Inspections

A. Section 6.2 – Post Development Inspection and Maintenance

a. Maintenance Responsibility:

- i. The Owner of stormwater management facilities and practices included in the Stormwater Management Plan is responsible for conducting ongoing inspections to document maintenance and repair needs and ensure compliance with the requirements of the Maintenance Agreement in the O&M Plan, and these Stormwater Rules and Regulations*
- ii. The owner of the property on which work has been done pursuant to these Stormwater Rules and Regulations for private stormwater management facilities, or any other person or agent in control of such property, shall maintain in good condition and promptly repair and restore all grade surfaces, walls, drains, dams and structures, vegetation, erosion and sedimentation controls, and other protective devices. Such repairs or restoration and maintenance shall be in accordance with the approved plans*

A Long Term Operation & Maintenance Plan is included in the Stormwater Management Report as *Appendix H*.

b. Maintenance Inspections:

- i. All stormwater management facilities must undergo inspections to document maintenance and repair needs and ensure compliance with the requirements of these Stormwater Rules and Regulations, as specified in the Maintenance Agreement in the O&M Plan described in Section 2.5.3 Operation and Maintenance Plan Contents of these Rules and Regulation*
- ii. At a minimum, inspections shall occur during the first year of operation and at least once every two (2) years thereafter, or more frequently as deemed necessary. In addition, a Maintenance Agreement between the owner and the Department of Public Infrastructure shall be executed for privately-owned stormwater management systems that specifies the Responsible Party for conducting long-term inspections and provides evidence to the Stormwater Authority that sufficient financial resources have been set aside for this purpose*
- iii. Inspection reports shall be submitted to and maintained by the Stormwater Authority for all stormwater management systems within one (1) month following an inspection. Inspection reports for stormwater management systems shall include:*
 - 1. The date of inspection*
 - 2. Name of inspector*
 - 3. The condition of (as applicable):*
 - a. Pre-treatment devices*
 - b. Vegetation or filter media*
 - c. Fences or other safety devices*
 - d. Spillways, valves, or other control structures*
 - e. Embankments, slopes, and safety benches*
 - f. Reservoir or treatment areas*
 - g. Inlet and outlet channels and structures*
 - h. Underground drainage*

- i. Sediment and debris accumulation in storage and forebay areas (including catch basins)*
 - j. Any non-structural practices*
 - k. Any other item that could affect the proper function of the stormwater management system*
4. *Description of the need for maintenance*

A Long Term Operation & Maintenance Plan is included in the Stormwater Management Report as *Appendix H*. Inspection logs, provided in the Long Term Operation & Maintenance Plan, will be submitted to the Stormwater Authority within one month following inspection.