

STAFF REVIEW COMMITTEE
Minor Development Review
DRAFT Findings of Fact
March 16, 2016

Project Location: 111 Orion Street, Brunswick, ME
Tax Map: Map 40, Lot 45
Zoning District: Business and Technology Industries (R-B&TI) Zoning District
Case Number: 16-007
Applicant: New England Tent and Awning

Authorized Representatives: David S. Norton
111 Orion Street
Brunswick, ME 04011

Staff reviewed the application and has determined it is complete.

PROJECT SUMMARY

Staff review is based on the Minor Development Review application for New England Tent and Awning, submitted on February 26, 2016, and subsequent plans received as recently as March 22, 2016. New England Tent & Awning is a company that provides a tent and awning equipment rental service, and manufactures awnings. The proposed activity includes constructing a 50-foot wide by 60-foot long building for tent washing, and equipment to hang and dry tents; and various site improvements including landscaping, access walkways, and a new drywell for stormwater management.

The application includes a project narrative, and a set of plans including: floor plans, site plans, and elevation plans. The plans for the proposed activity are listed below:

1. Drawing 1 entitled, “Stormwater Control Site Plan and Detail” prepared by Wright-Pierce, dated March 15, 2016 and revised on March 22, 2016;
2. Drawing 2 entitled, “Erosion Control Notes and Details” prepared by Wright-Pierce and dated February 25, 2016;
3. Drawing 1 of 2 entitled, “Subdivision Plan Brunswick Landing Subdivision – Phase II” prepared by Wright-Pierce and dated December 4, 2015;
4. Drawing 2 of 2 entitled, “Subdivision Plan Brunswick Landing Subdivision – Phase II” prepared by Wright-Pierce and dated December 4, 2015;
5. Existing conditions plan entitled “Plan of Existing Conditions Survey made for New England Tent and Awning” prepared by Titcomb Associates and dated February 17, 2016;
6. Drawing 1 entitled, “Murox High Performance Bldg.” prepared by Ernest A. Ray and dated January 13, 2016, and revised on February 2, 2016;
7. Landscaping plan entitled, “Planting Plan: New England Tent and Awning” prepared by Mohr & Seregin, Landscape Architects, Inc. and dated February 23, 2016.

Review Standards from Section 411 of the Town of Brunswick Zoning Ordinance

411.1 Ordinance Provisions

The property is located in the Business and Technology Industries (R-B&TI) Zoning District. The proposed development complies with all applicable provisions and requirements for the R-B&TI Zoning District. *The Committee finds that the provisions of Section 411.1 are satisfied.*

411.2 Preservation of Natural Features

The project site is an existing developed area with limited natural features. The applicant identified areas of existing vegetated land, including all trees greater than 10 inches within the project vicinity. Five (5) trees over 10-inches in diameter will be removed during construction. Existing natural features outside of the developed area will be avoided during construction. The proposed development maximizes the preservation of natural features of the landscape, and does not occur within or cause harm to any land which is not suitable for development. *The Committee finds that the provisions of Section 411.2 are satisfied.*

411.3 Surface Waters, Wetlands and Marine Resources

The proposed activity is located in the watershed of an urban impaired stream identified by the Department of Environmental Protection (DEP), specifically, Mare Brook. The activity is not located in direct proximity to any surface waters, wetlands, or marine resources. The proposed activity is not expected to adversely affect wetlands or waterbodies within the urban impaired stream watershed. *The Committee finds that the provisions of Section 411.3 are satisfied.*

411.4 Flood Hazard Areas

The development activity does not occur within a FEMA flood hazard area and therefore minimizes any risk of flooding. *The Committee finds that the provisions of Section 411.4 are satisfied.*

411.5 Stormwater Management

The project is located within the watershed of an urban impaired stream identified by the Department of Environmental Protection (DEP), specifically, Mare Brook. Stormwater from the proposed development will be directed to a new drywell to treat stormwater from the roof of the proposed 3,000 square foot building. The proposed drywell, and associated, "Stormwater Management Plan & Inspection, Maintenance & Housekeeping Plan" (Stormwater Plan) was designed by Professional Engineer, Jan Wiegman of Wright-Pierce. The Stormwater Plan must be implemented by a qualified inspector, and a log summarizing an inspection of the drywell, and any corrective action taken during construction or after construction is provided to the satisfaction of the Department of Planning and Development within seven (7) days of an inspection.

Staff reviewed the application, and determined that the proposed drywell is designed to achieve the recommended treatment for stormwater quantity and quality described in the

Maine Stormwater Best Management Practices Manual: Chapter 6, Volume III, BMP Technical Design Manual. Engineering calculations were not reviewed by staff. The revised proposal is depicted on plans prepared by Wright-Pierce entitled, “Stormwater Control Site Plan and Detail” dated and revised on March 22, 2016, and as described in the, “Stormwater Management Plan & Inspection, Maintenance & Housekeeping Plan” prepared by Wright-Pierce and revised on March 22, 2016. *The Committee finds that the provisions of Section 411.5 are satisfied provided that the, “Stormwater Management Plan & Inspection, Maintenance & Housekeeping Plan” prepared by Wright-Pierce is implemented by a qualified inspector as determined by the Town Engineer; and within seven (7) days of an inspection of the drywell, a log summarizing the inspection, and any corrective action taken during construction, or after construction is provided to the satisfaction of the Department of Planning and Development;*

411.6 Groundwater

The proposed drywell is designed in accordance with the DEP’s BMP manual to provide stormwater treatment and avoid negative impacts to groundwater. As described in Section 411.5, the proposed drywell will provide the necessary three (3) feet of separation to seasonal groundwater table.

Pursuant to DEP Rule, 06-096 Chapter 543, “Rules to Control the Subsurface Discharge of Pollutants” the proposed drywell may be considered a Class V well that requires inventory by the DEP. Any inventory information regarding the proposed drywell that is submitted to the DEP; and any changes required by the DEP to protect groundwater must immediately be disclosed to the Department of Planning and Development. The proposed development will not, alone or in conjunction with existing activities adversely affect the quality or quantity of groundwater. *The Committee finds that the provisions of Section 411.6 are satisfied, provided any required inventory information submitted to the DEP, and any changes required by the DEP to protect groundwater must immediately be disclosed to the Department of Planning and Development.*

411.7 Erosion and Sedimentation Control

The proposed development has been designed to incorporate several of the Best Management Practices outlined in the Maine Erosion and Sediment Control BMPs published by the Maine DEP. Specific provisions for erosion control features have been provided on the plan. The proposed development will not cause unreasonable soil erosion or reduction in the land’s capacity to hold water so that a dangerous or unhealthy situation results. *The Committee finds that the provisions of Section 411.7 are satisfied.*

411.8 Sewage Disposal

The applicant submitted a letter from Thomas Brubaker of the Midcoast Regional Redevelopment Authority (MRRRA) dated February 17, 2016 that indicates the proposed development can be served by sanitary sewer that is provided by MRRRA. *The Committee finds that the provisions of Section 411.8 are satisfied.*

411.9 Water Supply

A statement from the Deputy Fire Chief, Jeff Emerson is provided in email correspondence dated February 24, 2016 that indicates that the existing water supply and hydrant locations are sufficient for the proposed development. The applicant submitted a letter from Thomas Brubaker of the Midcoast Regional Redevelopment Authority (MRRA) dated February 17, 2016 that indicates the proposed development has a water source that is adequate to serve the proposed development. Therefore, the proposed development will have no adverse impact on existing water supplies. *The Committee finds that the provisions of Section 411.9 are satisfied.*

411.10 Aesthetic, Cultural and Natural Values

The proposed project does not affect applicable aesthetic, cultural and natural values pursuant to the Zoning Ordinance. Therefore, the project will not have an undue adverse effect on the scenic or natural beauty of the area, historic sites, or significant wildlife habitats identified by the DEP or the Town of Brunswick, or rare and irreplaceable natural areas or any public rights for physical or visual access to the shoreline. *The Committee finds that the provisions of Section 411.10 are satisfied.*

411.11 Community Impact

Municipal resources are available to service the project, and on-site or off-site impacts associated with the development of the project will be mitigated. *The Committee finds that the provisions of Section 411.11 are satisfied.*

411.12 Traffic

A letter from Robert J Rocheleau of the Midcoast Regional Redevelopment Authority (MRRA) dated February 11, 2016 details the existing traffic flow into a shared driveway located on the eastern side of Orion Street; and the future access from Commerce Drive which is approved as part of the Phase II Brunswick Landing subdivision that is not yet constructed. The proposed activity does not include modifications to traffic in and out of the facility and therefore will not cause unreasonable public road congestion or unsafe conditions with respect to the use of existing public roads. *The Committee finds that the provisions of Section 411.12 are satisfied.*

411.13 Pedestrian and Bicycle Access and Safety

The proposal is designed to accommodate bicyclists and pedestrians, and addresses issues of bicycle and pedestrian access, safety and circulation both within the site and to points outside of the site. The proposal was reviewed by Brunswick's Bicycle and Pedestrian Advisory Committee (BBPAC) on March 17, 2016. The BBPAC had no concerns regarding pedestrian and bicycle access and safety; and recommended that a bicycle rack be provided. No modifications to the site plan are proposed as a result of the BBPAC review. *The Committee finds that the provisions of Section 411.13 are satisfied.*

411.14 Development Patterns

The proposed development is respectful of Brunswick's historic development pattern within the growth area and will have no adverse impact on residential areas. *The Committee finds that the provisions of Section 411.14 are satisfied.*

411.15 Architectural Compatibility

The proposed building was reviewed and approved by the Design Review Committee (DRC) of the Midcoast Regional Redevelopment Authority (MRRRA). Documentation of DRC approval is described in a letter from Robert Rocheleau of MRRRA that is dated February 9, 2016. The proposed building floor plans and profiles are included in the application. The proposed development is compatible with its surroundings in terms of its size, scale, mass and design. *The Committee finds that the provisions of Section 411.15 are satisfied.*

411.16 Municipal Solid Waste Disposal

Based on the information provided, the proposed development will not cause an unreasonable burden on the municipality's ability to dispose of solid waste, if municipal services are to be utilized. *The Committee finds that the provisions of Section 411.16 are satisfied.*

411.17 Recreation Needs

The proposed project is not a residential development and is therefore not subject to Section 411.17. *The Committee finds that the provisions of Section 411.17 are not applicable.*

411.18 Access for Persons with Disabilities

The project was reviewed and by the State of Maine's Office of State Fire Marshall and was found to be exempt review. *The Committee finds that the provisions of Section 411.18 are satisfied.*

411.19 Financial Capacity and Maintenance

The proposed development is an expansion of an existing business located at Lot 45 on Brunswick Landing. The proposal includes an inspection and maintenance plan for the proposed stormwater management system, and the proposed landscaping plan. The developer has demonstrated adequate financial and technical capacity to complete the project, and that once it is completed, the project is expected to have adequate resources to maintain itself. *The Committee finds that the provisions of Section 411.19 are satisfied.*

411.20 Noise and Dust The proposed development must not contribute to unreasonable noise and dust, both during construction and after the development has been completed. The applicant submitted an Erosion and Sedimentation Control Plan to be utilized during construction. Erosion and sedimentation controls may serve to control any unreasonable dust if encountered during construction. Noise associated with construction must be limited by operating within the standard hours of construction in accordance with Section 524.1. *The Committee finds that the provisions of Section 411.20 are satisfied.*

411.21 Right, Title and Interest

The applicant submitted evidence of sufficient right, title and interest in the subject property. *The Committee finds that the provisions of Section 411.21 are satisfied.*

411.22 Payment of Application Fees

The Minor Project Development Review fees are paid in the full amount. *The Committee finds that the provisions of Section 411.22 are satisfied.*

DRAFT MOTIONS
CASE #16-007

Motion 1: That the Final Plan is deemed complete.

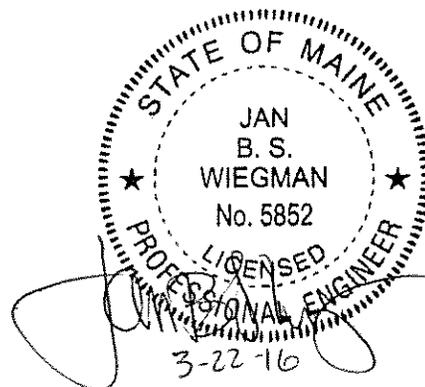
Motion 2: That the Final Plan is approved with the following conditions:

1. That the Board's review and approval does hereby refer to these findings of fact, the plans and materials submitted by the applicant and the written and oral comments of the applicant, his representatives, reviewing officials, and members of the public as reflected in the public record. Any changes to the approved plan not called for in these conditions of approval or otherwise approved by the Director of Planning and Development as a minor modification shall require a review and approval in accordance with the Brunswick Zoning Ordinance.
2. That the, "Stormwater Management Plan & Inspection, Maintenance & Housekeeping Plan" prepared by Wright-Pierce is implemented by a qualified inspector as determined by the Town Engineer;
3. That within seven (7) days of an inspection of the drywell, a log summarizing the inspection, and any corrective action taken during construction, or after construction is provided to the satisfaction of the Department of Planning and Development;
4. That prior to issuance of a building permit any required inventory information submitted to the DEP, and any changes required by the DEP to protect groundwater must immediately be disclosed to the Department of Planning and Development.

**STORMWATER MANAGEMENT PLAN
&
INSPECTION, MAINTENANCE & HOUSEKEEPING
PLAN**

**New England Tent & Awning
Proposed Tent Washing Facility
111 Orion Street, Brunswick Landing
Brunswick, Maine**

Revised March 21, 2016



Prepared By:

**Wright-Pierce
99 Main Street
Topsham, Maine 04086**

**Section 411.5C
STORMWATER MANAGEMENT PLAN**

**New England Tent & Awning
Proposed Tent Washing Facility
111 Orion Street, Brunswick Landing
Brunswick, Maine**

REVISED MARCH 21, 2016

1.1 INTRODUCTION

This Stormwater Management Plan has been prepared to address the stormwater runoff impacts for stormwater quality associated with the proposed development of the tent washing facility.

2.1 EXISTING CONDITIONS

The property proposed for development is shown as Lot 45 on a plan entitled "Subdivision Plan, Brunswick Landing Subdivision - Phase II, Brunswick Landing, Brunswick, Cumberland County, Maine", dated December 4, 2015, revised through December 2015, by Wright-Pierce, recorded in Cumberland County Registry of Deeds in Plan Book 215, Page 508 ("Subdivision Plan"), and is occupied by an existing building, lawn areas and pavement, all located on the easterly side of Orion Street at Brunswick Landing.

The topography of the portion of the site proposed for development is an area of lawn that is relatively flat with intermittent and shallow undulations and generally slopes from Orion Street easterly across the site.

Stormwater generated at the portion of the property proposed for development, generally travels from Orion Street easterly across and off the property onto a shared paved driveway on land currently owned by Midcoast Regional Redevelopment Authority ("MRRA"), said land being shown as Lot 47 on the Subdivision Plan, and then continuing southerly along the easterly edge of the paved driveway and across a paved parking area to a meadow area and other land of MRRA.

In the lawn areas of the site there is no evidence of standing water, and it appears that the majority of stormwater flows in those areas infiltrate down through the soils prior to reaching the paved areas.

2.1.1 Land Cover

The undeveloped portion of the project site is occupied by lawn and five overstory trees.

2.1.2 Site Topography

(See Section 2.1, above)

2.1.3 Surface Water Features

There are no streams on or adjacent to the site. The site is not tributary to any lakes that are impaired or threatened by phosphorous, however it is located in the watershed of Mare Brook an Urban Impaired Stream as defined by Maine DEP.

According to the “Urban Impaired Stream Standard” of Chapter 500, “Section 4. Stormwater Standards, E. Urban Impaired Stream Standard”, a project is required to meet the urban impaired stream standard “...if the project is located in the direct watershed of an urban impaired stream (“UIS”) and requires a Site Law permit or permit modification”. As the proposed project does not require a Site Law permit or permit modification, it is not required to meet the UIS standard.

2.1.4 Soils

Soils on the Brunswick Landing Subdivision site are shown on the map entitled “Figure 2-5, Soils of NAS Brunswick, Brunswick, Maine”, prepared by Ecology & Environment, Inc. included in Appendix F, Ecological Communities and Wetland Resources Report, of the Final Environmental Impact Statement for the Disposal and Reuse of Naval Air Station Brunswick, Maine, dated November 2010, published by the U.S. Department of the Navy, (EIS) (Soils Map).

Figure 2-5 has been modified by Wright-Pierce to show the location of the project site and to highlight the pertinent soil types and is attached hereto.

3.1 PROPOSED CONDITIONS

The proposed project consists of adding a standalone 3,000 square foot tent washing building and approximately 143 square feet of access paving. The proposed structure will serve to provide storage and space for washing and drying the company's tents and other rental items.

The new building and paved areas will occupy areas currently occupied as lawn.

In order to provide stormwater quantity and quality treatment of runoff from the new roof surface a Dry Well Roof Runoff Infiltration BMP ("BMP") will be installed along the southerly side of the new building. The BMP will consist of a 48-foot long by 6.6-foot wide by 5-foot deep trench filled with small clean stones. The roof of the proposed building will slope from west to east, and roof runoff will be collected by a gutter system along the easterly side of the building and directed into the BMP. The runoff will be stored in the dry well and will eventually infiltrate down into the underlying soils. As stated in the DEP "Stormwater Design Manual" for Dry Wells, "...most runoff pollutants will become bound to the soil under the well while the water percolates to the groundwater table".

In addition to controlling the quality of the stormwater runoff from the roof, the BMP has been designed to control stormwater quantity as well. The proposed Dry Well BMP has been sized to store and infiltrate the volume of runoff expected from the roof for the 25-year, 24-hour storm event.

3.1.1 Alteration to Drainage Characteristics

The existing drainage characteristics of the site will be modified slightly to allow for the incorporation of the stormwater BMP into the site design to provide water quality and quantity control.

3.1.2 Alteration to Land Cover

The existing land cover, consisting mainly of lawn with five overstory trees, will be altered to the extent necessary to provide the proper site for the project. Land cover outside of the project site will be preserved in its current state.

3.1.3 Downstream Waterbodies

Surface runoff from the development is tributary to Mare Brook located several thousand feet southerly of the project site.

4.1 REGULATORY REQUIREMENTS

4.1.1 Town of Brunswick

The proposed project has been classified by the Town as a Minor Development and as such shall be reviewed by the Staff Review Committee and shall be subject to approval by the Town of Brunswick Planning Staff. According to the Town of Brunswick Zoning Ordinance, “Subsection 411.5, Storm Water Management” of “Section 411, Review Standards”, “...The proposed development shall satisfy the recommended storm water quality standards described in Storm Water Management for Maine: Best Management Practices, published by the State of Maine Department of Environmental Protection, November, 1995, as amended.”

This Stormwater Management Plan has been developed to meet the applicable stormwater standards of the Town of Brunswick.

4.1.2 Maine Department of Environmental Protection (MDEP)

The proposed project does not meet any thresholds for review under the State’s Stormwater Management Law.

4.2 WATER QUALITY TREATMENT

4.2.1 General Considerations

Stormwater quality treatment for the project will be provided by the proposed BMP. The proposed BMP is a Dry Well Roof Runoff Infiltration BMP. The BMP will be used to treat and infiltrate the runoff from the roof of the new building.

For this project, the BMP will be treating only runoff from the new roof area and no runoff from landscaped areas. Thus, for water quality treatment purposes, the BMP is required to store 250 cubic feet (3,000 s.f. x 1") of runoff volume ("Water Quality Volume"). As stated previously, the BMP has been over-sized in order to retain runoff from the large 25-year storm event and will have the capacity to easily store the required water quality volume. The downspout will have a relief opening to discharge larger storm flows to the surface.

4.2.2 BMP Design Considerations

The Dry Well BMP was designed and sized in accordance with the following considerations set forth in Chapter 6, Infiltration BMPs, Section 6.2.1 Dry Well of MDEP Volume III. BMP Technical Design Manual:

Treatment Volume - A Dry Well BMP must retain a runoff volume equal to 1.0 inch times the subcatchment's impervious area plus 0.4 inch times the subcatchment's landscaped developed area and infiltrate this volume into the ground.

For this project, the BMP will be treating only runoff from the new roof area and no runoff from landscaped areas. Thus, for water quality treatment purposes, the BMP is required to store 250 cubic feet (3,000 s.f. x 1") of runoff volume ("Water Quality Volume"). As stated previously, the BMP has been over-sized in order to retain runoff from the large 25-year storm event and will have the capacity to easily store the required water quality volume. The 25-year storm event produces an estimated 5.5 inches of rainfall over a 24-hour period which results in a total volume of runoff from the roof of approximately 1,300 cf over the storm event. The infiltration trench has been designed to store 634 cf of runoff from the roof which is adequate to store the entire 25-

year storm event considering that the stored runoff is infiltrating down through the Dry Well BMP into the soil at a calculated rate of 2.41-inches per hour. The depth to ground water has been noted in a nearby observation well adjacent to the proposed road where the depth of the ground water was at elevation 48.2 feet with a relatively flat grade between the well location and the site of the proposed Dry Well BMP. The bottom of the proposed dry well infiltration trench is at elevation 51.6 feet, and will provide slightly more than the required 3 feet of separation above the ground water elevation.

5.1 CONCLUSIONS

By incorporating the proposed Dry Well BMP presented in this report into the project's stormwater management system, runoff from the roof of the proposed building will receive treatment that exceeds the requirements of "Subsection 411.5, Storm Water Management" of "Section 411, Review Standards" of the Town of Brunswick Zoning Ordinance.

5.2 MAINTENANCE & PROTECTION OF STORMWATER SYSTEM

Long-term responsibilities for maintenance and protection of the project's stormwater drainage system, stormwater treatment systems, landscaped and paved areas and permanent erosion control measures will be assumed by the applicant. A Maintenance Plan has been developed for the project and the components of the plan are detailed in the attached "Section 411.5C1, "Inspection, Maintenance, and Housekeeping Plan".

Section 411.5C1
INSPECTION, MAINTENANCE, AND HOUSEKEEPING PLAN

New England Tent & Awning
Proposed Tent Washing Facility
111 Orion Street, Brunswick Landing
Brunswick, Maine

Introduction

The following plan outlines the anticipated inspection and maintenance procedures for the erosion and sedimentation control BMPs as well as stormwater management devices for the project site. Also, this plan outlines several housekeeping requirements that shall be followed during and after construction. These procedures should be followed in order to ensure the intended function of the designed measures and to prevent unreasonable adverse impacts to the surrounding environment.

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

During Construction

1. **Inspection:** During the construction process, it is the Contractor’s responsibility to comply with the inspection and maintenance procedures outlined in this Plan. These responsibilities include inspecting 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 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 any applicable permits, shall conduct the inspections.
2. **Maintenance:** All measures shall be maintained in an effective operating condition until disturbed areas are permanently stabilized. If Best Management Practices (BMPs) need to be maintained or modified, additional BMPs are necessary, or other corrective action is needed, implementation must be completed within 7 calendar days and prior to any storm event (rainfall).
3. **Documentation:** A log summarizing the inspections and any corrective action taken must be maintained on-site. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of erosion and sedimentation controls, material storage areas, and vehicle access points to the site. Major observations must include BMPs that need

maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and locations where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, a notation shall be entered in the log describing the corrective action taken and when it was taken. The log must be made accessible to the appropriate regulatory agency upon request.

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

A. Sediment Barriers:

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

B. Stabilized Construction Entrances/Exits:

- The exit shall be maintained in a condition that will prevent tracking of sediment onto public rights-of-way.
- When the control pad becomes ineffective, the stone shall be removed along with the collected soil material. The entrance should then be reconstructed.
- Areas that have received mud-tracking or sediment deposits shall be swept or washed. Washing shall be done on an area stabilized with aggregate, which drains into an approved sediment-trapping device (not into storm drains, ditches, or waterways).

C. Temporary Seed and Mulch:

- Mulched areas should be inspected after rain events to check for rill erosion.
- If less than 90% of the soil surface is covered by mulch, additional mulch shall be applied in bare areas.
- In applications where seeding and mulch have been applied in conjunction with erosion control blankets, the blankets must be inspected after rain events for dislocation or undercutting.
- Mulch shall continue to be reapplied until 95% of the soil surface has established temporary vegetative cover.

After Construction

1. **Inspection:** After construction, it is the responsibility of the owner or assigned heirs to comply with the inspection and maintenance procedures outlined in this section. All measures must be maintained in effective operating condition. A person with knowledge of erosion and stormwater control, including the standards and conditions in all applicable permits, shall conduct the inspections.
2. **Specific Inspection and Maintenance Tasks:** The following is a list of permanent erosion control and stormwater management measures and the inspection and maintenance tasks to be performed after construction.
 - A. **Vegetated Areas:**
 - a. Inspect vegetated areas, particularly slopes and embankments, early in the growing season or after heavy rains to identify active or potential erosion problems.
 - b. Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows.
 - B. **Winter Sanding:** Pervious surfaces and pavement, whether asphalt, concrete or paving stones, have the potential to become impervious if not properly maintained. The following need to be planned for and be met:
 - a. Sweep, vacuum and/or pressure wash pavement twice annually at a minimum.
 - b. Limit salt use for deicing and do not use sand.
 - c. Remove leaves and organic debris in the fall.
 - d. Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader or other acceptable method.
 - C. **Dry Well Infiltration BMP:** Preventive maintenance is vital for the long-term effectiveness of an infiltration system. Since infiltration is less conspicuous than most BMPs, it is easy to overlook during maintenance inspections. The following criteria apply to all infiltration systems:
 - a. Fertilization of the area over the infiltration bed should be avoided unless absolutely necessary to establish vegetation.
 - a. Snow removed from any on-site or off-site areas may not be stored over an infiltration area.
 - b. Inspect the infiltration system several times in the first year of operation and at

least annually thereafter. Conduct the inspections after large storms to check for surface ponding at the inlet that may indicate clogging. Water levels in the observation well should be recorded over several days after the storm to ensure that the system drains within 72 hours after filling.

- c. The observation well pipe should be used to measure the accumulation of sediment and to determine how quickly the system drains after a storm.
 - d. Gutter Cleaning: Remove any leaves, seeds, and other debris from the roof's gutters every spring and every fall. A coarse screen or grate should be installed at the head of each downspout leading to the dry well. Replace the screen or grate if it is broken.
 - e. Rehabilitation: Clogging of a dry well is likely to occur at the bottom of the well. Relieve this clogging by excavating away the turf and soil over the well; removing the existing stone and perforated pipe; and rebuilding the dry well. Dig out the soil at the bottom of the dry well and replace it with a six-inch layer of clean sand. The old stone in the dry well can be reused if it is washed prior to reinstalling it in the well. To minimize the eventual cost of rehabilitation, the dry well should be located in a lawn area as close as possible to the ground surface.
3. **Duration of Maintenance:** Perform maintenance as described and required for any associated permits unless and until the system is formally accepted by a municipality or quasi-municipal district, or is placed under the jurisdiction of a legally created association that will be responsible for the maintenance of the system.

Housekeeping

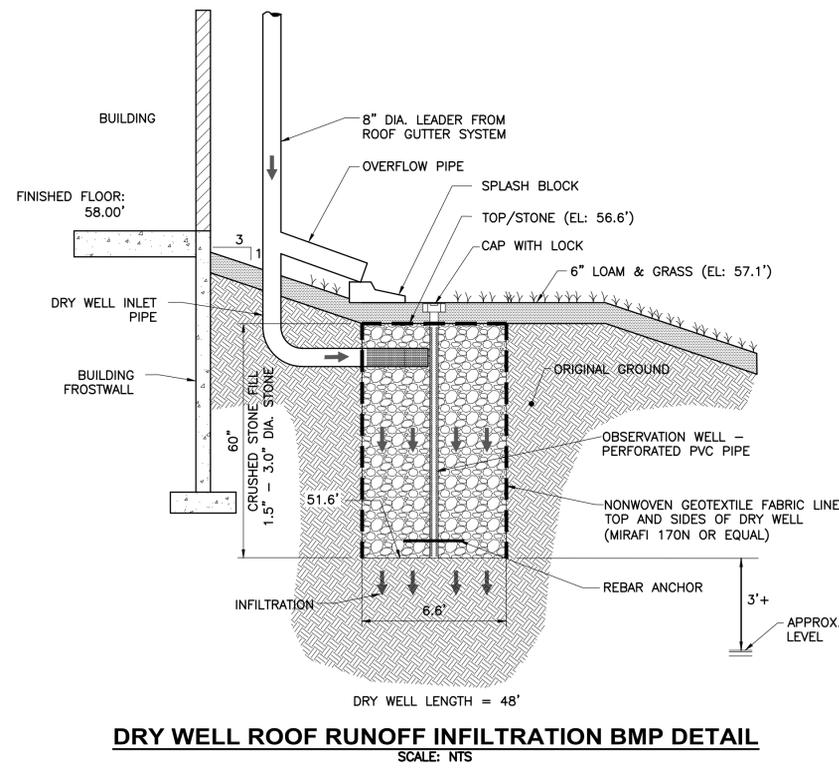
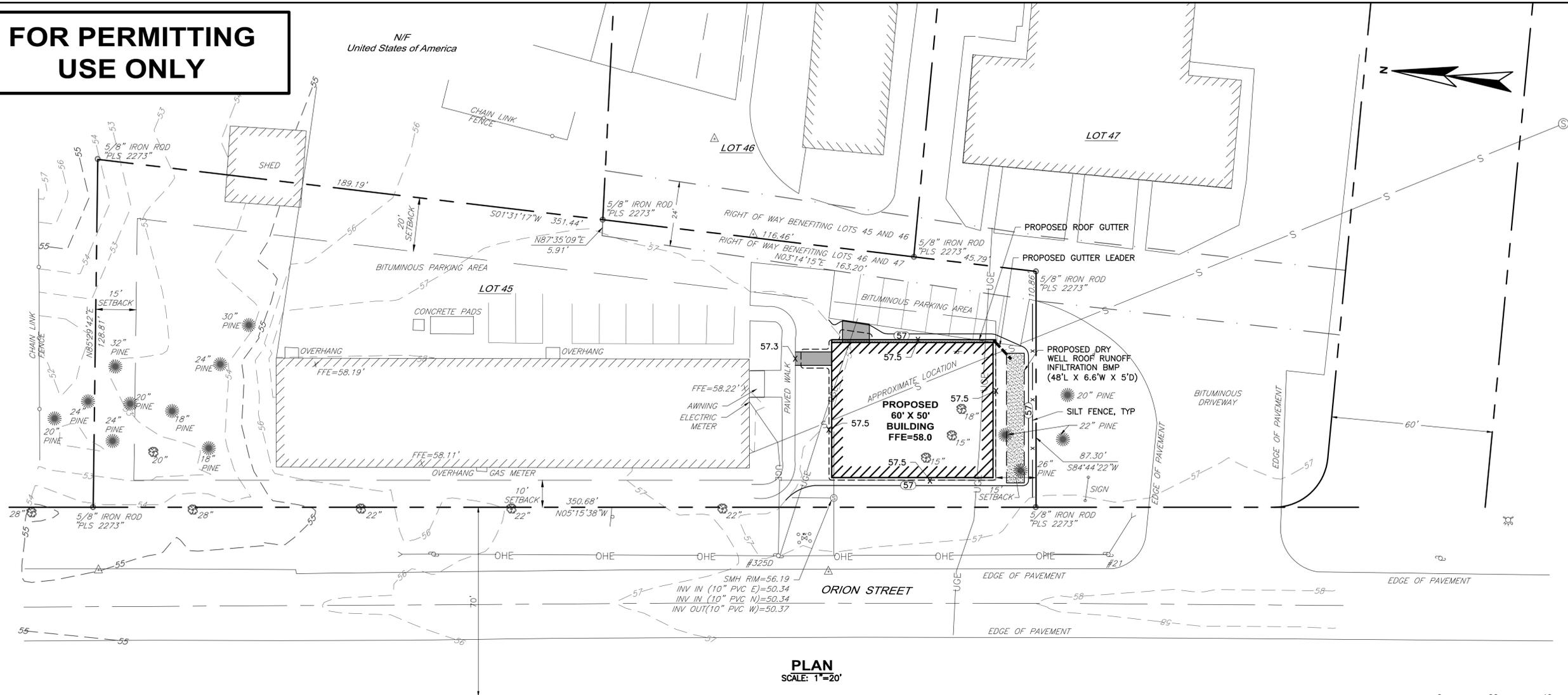
The following general performance standards apply to the proposed project both during and after construction.

- A. Spill prevention: Controls must be used to prevent pollutants from being discharged from materials and equipment on-site, including storage practices to minimize exposure of the materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation.
- B. 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.
- C. Fugitive sediment and dust: Actions must be taken to insure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control.

- D. Debris and other materials: Litter, construction debris, and chemicals exposed to stormwater must be prevented from becoming a pollutant source.

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

**FOR PERMITTING
USE ONLY**



PLAN NOTES:

- THIS EXISTING SITE CONDITIONS SHOWN ON THIS PLAN ARE BASED EXCLUSIVELY ON PLAN REFERENCE 1. THE PROPOSED BUILDING LOCATION WAS SET BY OTHERS AND THE SITE GRADING AND THE STORMWATER TREATMENT BEST MANAGEMENT PRACTICES INFILTRATION SYSTEM WERE PREPARED BY WRIGHT-PIERCE.
- THIS SITE PLAN IS ORIENTED TO GRID NORTH, NORTH AMERICAN DATUM OF 1983 (NAD83), MAINE STATE PLANE COORDINATE SYSTEM, EAST ZONE, AS SET FORTH ON PLAN REFERENCE 1.
- AS NOTED ON PLAN REFERENCE 1, ELEVATIONS SHOWN ARE BASED ON NAVD88 DATUM AS DERIVED FROM GPS OBSERVATIONS.
- THE PROPERTY INVOLVED IN THIS CONSTRUCTION PROJECT IS OWNED BY NEW ENGLAND TENT & AWNING, 111 ORION STREET, BRUNSWICK, MAINE 04011, AND IS SHOWN, IN PART, AS LOT #81 ON TOWN OF BRUNSWICK ASSESSORS MAP #40. THE PROPERTY IS ALSO SHOWN AS LOT #45 ON PLAN REFERENCE 2.

PLAN REFERENCES:

- "PLAN OF EXISTING CONDITIONS SURVEY, ORION STREET, BRUNSWICK, MAINE, MADE FOR NEW ENGLAND TENT & AWNING, ORION STREET, BRUNSWICK, MAINE", DATED FEBRUARY 17, 2016 BY TITCOMB ASSOCIATES.
- "SUBDIVISION PLAN, BRUNSWICK LANDING SUBDIVISION - PHASE II, BRUNSWICK LANDING, BRUNSWICK, CUMBERLAND COUNTY, MAINE", DATED DECEMBER 4, 2015, REVISED THROUGH DECEMBER 2015, BY WRIGHT-PIERCE, RECORDED IN CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 215, PAGE 508.

CIVIL ABBREVIATIONS

&	AND
Ø	DIAMETER
#	NUMBER
APP'D	APPROVED
BLDG	BUILDING
CB	CATCH BASIN
CEN	CENTER
CI	CAST IRON
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
CONC	CONCRETE
COR	CORNER
DEMO	DEMOLITION
DMH	DRAIN MANHOLE
DI	DUCTILE IRON
DR	DRAIN
DWG	DRAWING
EL	ELEVATION
EMH	ELECTRIC MANHOLE
FM	FORCE MAIN
FT	FEET
G	GAS
HYD	HYDRANT
INV	INVERT
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
N	NORTH
N/A	NOT AVAILABLE/APPLICABLE
NTS	NOT TO SCALE
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
REQ'D	REQUIRED
S	SLOPE, SEWER
SD	STORM DRAIN
SF	SQUARE FEET
SMH	SANITARY SEWER MANHOLE
STA	STATION
TBM	TEMPORARY BENCH MARK
TOS	TOP OF STRUCTURE
TYP	TYPICAL
UD	UNDERDRAIN
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRIC
W/	WITH
&	AND
Ø	DIAMETER
#	NUMBER
APP'D	APPROVED
BLDG	BUILDING
CB	CATCH BASIN
CEN	CENTER
CI	CAST IRON
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
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TOS	TOP OF STRUCTURE
TYP	TYPICAL
UD	UNDERDRAIN
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRIC
W/	WITH

LEGEND

EXISTING	PROPOSED	EXISTING	PROPOSED
---	---	□	EMH
---	---	○	TMH
---	---	⊗	TELEPHONE MANHOLE
---	---	⊗	GATE VALVE
---	---	⊗	CURB STOP
---	---	⊗	YARD HYDRANT
---	---	⊗	HYDRANT
---	---	⊗	UTILITY POLE
---	---	⊗	UTILITY POLE W/ GUY
---	---	⊗	UTILITY POLE W/ LIGHT
---	---	⊗	LIGHT POLE
---	---	⊗	BOLLARD
---	---	⊗	FLAGPOLE
---	---	⊗	CONIFEROUS TREE
---	---	⊗	DECIDUOUS TREE
---	---	⊗	SHRUB
---	---	---	EDGE OF WATER
---	---	---	STREAM
---	---	---	EDGE OF WETLANDS
---	---	---	FLOODPLAIN
---	---	---	WETLANDS
---	---	---	DRAINAGE FLOW
---	---	---	DRAINAGE SWALE
---	---	---	PAVEMENT MARKINGS
---	---	---	SIGN
---	---	---	MAILBOX
---	---	---	TEMPORARY BENCH MARK
---	---	---	TEST PIT
---	---	---	TEST BORING
---	---	---	TEST PROBE
---	---	---	MONITORING WELL
---	---	---	LIMIT OF WORK
---	---	---	SILT FENCE
---	---	---	RIPRAP
---	---	---	RAILROAD
---	---	---	MATCHLINE
---	---	---	ROCK OUTCROP

ISSUED FOR PERMITTING
NO. 1
SUBMISSIONS/REVISIONS

DESIGNED BY: MRL
DATE: 3-1-16

CHECKED BY: MRL
DATE: 3-1-16

APPROVED BY: MRL
DATE: 3-1-16

PROJECT NO: 120090

DRY WELL ROOF RUNOFF INFILTRATION BMP DETAIL

111 ORION ST. BRUNSWICK LANDING, BRUNSWICK, ME
LOT 45 - BRUNSWICK LANDING SUBDIVISION - PHASE II
BRUNSWICK, CUMBERLAND COUNTY, MAINE

STORMWATER CONTROL SITE PLAN AND DETAIL

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