

**NARRATIVE IN SUPPORT OF
PROPOSED INTERMODAL TERMINAL AND RAILROAD SPUR AT
FRADE'S DISPOSAL FACILITY
781 CHURCH STREET
NEW BEDFORD, MA**

**PREPARED FOR:
FRADE'S DISPOSAL, INC.
781 CHURCH STREET
NEW BEDFORD, MA**

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JUNE 23, 2022

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1.0 INTRODUCTION

It is proposed to construct an intermodal terminal with a railroad spur that will produce a loading siding at the existing Frade's Disposal facility at 781 Church Street, New Bedford, MA. The spur will require crossing Bordering Vegetated Wetlands (BVW), thereby, requiring a Notice of Intent with the New Bedford Conservation Commission. This narrative has been prepared in support of that petition.

2.0 EXISTING CONDITIONS

The Site is a 47-acre parcel comprised from Assessors Map 125-1, Lot 10 and Assessors Map 129, Lots 38, 41, 42, 52, 53 and 55. It is bordered on the west by Route 140. It is bordered on the east by the Penn Central Railroad operating as the Massachusetts Coastal Railway system. It is bordered on the south by undeveloped woodland. The upland areas range from elevation 87 to elevation 116 feet above sea level. The wetland along the main rail line is at elevation 86 to 88.

The upland soils are classified as Paxton extremely stony fine sandy loam and Woodbridge extremely stony fine sandy loam which are Hydrologic Group C. The wetlands are classified as Whitman extremely stony fine sandy loam which is Hydrologic Group D. Typically, the upper layers of this soil consist of 1-inch of matted organic material over 5 inches of black muck. The next layer consists of gray fine sandy loam 15 inches thick. It is underlain by light olive gray, firm mottled fine sandy loam and silt loam to a depth of 60 inches or more.

Included with this in mapping are areas of soils that are fine sandy loam, very fine sandy loam, loamy sand, or loamy coarse sand throughout. Also included are areas of Ridgebury and Scarborough soils that occupy similar positions on the landscape and areas where stones and boulders cover more than 15 percent of the surface. Included areas make up about 20 percent of the unit.

The permeability of this Whitman soil is moderate or moderately rapid in the surface layer and subsoil, and slow or very slow in the substratum. Available water capacity is moderate.

The Site has been operated as a solid waste transfer station and processing area for decades. There is a significant amount of bordering vegetated wetlands between the Mass Coastal Rail and the Frades Disposal processing operation.

In early March and April, David Gordon and Hugh Webb, wetland scientists, flagged the edges of the bordering vegetated wetlands with sequentially numbered plastic ribbons. Subsequently a Prime Engineering survey crew located the flags. The wetland field data sheets are presented in Appendix A.

Twelve of the forty-seven acres of the Site are cleared. The remaining acreage is mature woodlands.

The southern third of the site slopes westerly and then southerly, so runoff from the existing buildings and the land to the south flows southwesterly. The area north of the existing buildings flows northerly to an existing intermittent brook that flows to the northwest end of the site.

3.0 BASIS FOR THE RAIL SPUR

The Massachusetts Department of Environmental Protection years ago determined that solid waste landfills were a significant cause of groundwater pollution and initiated a campaign to close the vast majority of in-state landfills. The landfill closure campaign was combined with a major thrust to increase recycling. The result of both campaigns was a massive amount of trash trucks on the state's highways hauling the trash out-of-state and the recyclables to recycling facilities. The truck hauling is inefficient and not environmentally sound. Rail transport, on the other hand, is more efficient and more environmentally friendly.

The proposed rail siding will provide an opportunity to efficiently load rail cars with trash and with recyclable material, and subsequently haul the material by rail to recycling facilities and to out-of-state disposal facilities. It will also allow other local products such as milled lumber to be loaded and shipped.

4.0 WETLAND REGULATION PERFORMANCE STANDARDS

The Massachusetts Wetland Regulations require that wetland impacts be avoided, if at all possible. If wetland impacts are unavoidable, the standards require that the impacts be minimized. In this case, the wetland impacts cannot be avoided because the BVW occurs along almost the entire rail frontage. In order to assure safe operation of the rail system, the Massachusetts Coastal Rail system has stringent design standards with regards to angles of departure from the main line, maximum allowed degrees of curvature, avoidance of reverse curves, minimum and maximum grades, etc. Adherence to these standards resulted in crossing the wetlands at the narrowest allowable point with the least amount of wetland impact. The proposed wetland crossing exceeds 5,000 square feet of impact to the Bordering Vegetated Wetland; however, this may be permitted under the provisions of 310 CMR 10.53 (3)(e) as a limited project with a roadbed of minimum legal and practical width where reasonable means of access to the upland is not otherwise available. The access to the main rail line is a key component of the intermodal terminal where truck cargo is being converted to rail cargo.

5.0 PROPOSED IMPROVEMENTS

In localized areas where the rail will be significantly higher than the wetlands, it is proposed to drive steel H-piles into the geotechnically sound glacial fill 9 feet on either side of the centerline of the proposed spur, and then, insert steel sheathing between the webs of the H-piles. The top 20 inches of the soil will be excavated and placed in the previously prepared wetland replication area. The 40 inches of soil below the 20 inches initially excavated, will either be blended with more granular material and compacted in one-foot lifts under the rail spur or, if deemed too silty, moved to an upland area away from the wetlands. The railroad ballast shown on the site plans, will then be installed prior to the placement of the ties and rails.

In most locations, the rail improvement will be 13 feet wide comprised of a series of 9-foot-long rail ties bordered on both sides by a 2-foot width of sloping ballast as shown on the site plans.

The proposed rail sidings will result in approximately 2 ¼ acres of upland trees to be cleared at the south end, and 2 ½ acres of primarily upland trees to be cleared at the north end, with minimal to no clearing in the central section of the proposed rail siding. There will be a minor amount of fill in the northern end of the sidings, minimum to slight earth cutting in the central section of the sidings, and 5 feet to 10 feet of earth cut at the southern end of the proposed siding.

The rails and ties will be supported by a 12-inch depth of gravel overlain by a minimum 8-inch depth of crushed stone ballast, so rainfall will typically infiltrate through the ballast to the native soil below resulting in no increase in runoff compared to existing conditions.

At station X of the proposed spur, there will be a crossing of an intermittent stream.

6.0 WETLAND REPLICATION

As shown on the plans, prior to any wetland impacts, a wetland replication area twice the size of the proposed wetland impact will be excavated and graded. When the upper wetland soils at the rail spur site are excavated, they will be brought directly to the replication area blended with an equal volume of imported organic soil and spread without compaction at a level grade. The excavator's bucket teeth will be dragged across the level surface in order to form a microtopography. The shrub and tree plantings will be installed by hand labor. Even though it is expected that the native soil will have embedded in it a large stock of wetland plant seeds, the wetland replication area will be seeded with a wetland seed mix.

7.0 STORMWATER

7.1 STORMWATER COLLECTION SYSTEM

To route water to the replication area, the stormwater collection system will be in the form of overland flow. Water from rail sidings will be routed to the stormwater Best Management Practices (BMPs) through overland flow and swales.

7.2 STORMWATER MANAGEMENT FACILITIES

Current MassDEP standards require that the peak runoff rate after development is not more than peak runoff rate prior to development for 2 and 10-year 24-hour storm events. Additionally, it is required that the stormwater management system be evaluated for 100-year storm projections.

Hydrologic modeling has been conducted for the design of the ponds to determine appropriate sizing and outflow characteristics. HydroCAD Version 7.10 was utilized to perform this hydrologic and hydraulic modeling. The 2, 10, 25, and 100-year design storms were evaluated. The hydrologic and hydraulic modeling established that the stormwater management system will effectively attenuate the full range of design storms. That is, the peak rate of flow after development will be less than or equal to existing conditions. The drainage summary provided

with this document tabulates the projected decrease of peak runoff rates when the site is subjected to the design storm events. The complete hydrologic and hydraulic computational output is presented in Appendix A.

The rain gardens will be constructed with check dams.

7.3 WATER QUALITY CONSIDERATIONS AND STORMWATER STANDARDS

MassDEP issued Stormwater Management standards. The goal is to improve water quality and address water quantity problems, which are sometimes caused by development projects, by the implementation of performance standards for stormwater management. The project was designed to meet the primary standards established in the manual. The following sections describe how each of these standards will be achieved on this project by incorporating Best Management Practices into the design. Standards 1 through 10 are described below.

7.3.1 UNTREATED STORMWATER (STANDARD 1)

Standard 1 of the MassDEP Stormwater Policy requires that no new stormwater conveyance, such as storm drain outfalls, discharge untreated stormwater directly to wetlands or waterways of the Commonwealth. Flows from woods, fields, and other undeveloped areas are considered uncontaminated, however, runoff from paved road and parking lot surfaces must receive treatment prior to discharge.

The project does not propose any new untreated stormwater discharges. No stormwater outlets which discharge directly to wetland resource areas are proposed without being treated first. The vegetated swale with check dams and rain gardens has been strategically designed to allow for treated stormwater from the proposed development.

7.3.2 POST DEVELOPMENT DISCHARGE RATES (STANDARD 2)

Standard 2 of the MassDEP Stormwater Policy prescribes that stormwater management systems be implemented in order to ensure that post-development peak rates of discharge do not exceed existing rates of runoff for standard 2 year and 10-year 24-hour design storms. In addition, the pre- and post-peak rates for the 100-year storm must be evaluated to assure that there will not be increased off-site flooding.

The soils in the wetlands are hydrologic Group D with water at the surface for the majority of the year, so there is no significant infiltration except for in the hot summer months. Therefore, most of the rainfall ends up as runoff rather than infiltration. The proposed rails and ties will be impervious but they will be surrounded by crushed stone. There will be a 9-inch wide by 9-foot-long tie separated by a 12-inch gap to the next tie with 2 feet of ballast beyond each end of the tie. As a result, each tie will have a 13-foot wide by 1.75-foot-long bed of crushed stone that is at least 8 inches deep. The void volume will be:

$$(13' \text{ wide}) (1.75' \text{ long}) (.67' \text{ deep}) (.40 \text{ void}) = 6.1 \text{ CF storage}$$

The 2-year design storm (3.2-inch rainfall) can be stored in its entirety in this void space. As

opposed to the 100 percent runoff that presently occurs, the vast majority of storms will be stored providing an opportunity for the rainfall to infiltrate, thereby recharging the groundwater.

7.3.3 RECHARGE TO GROUNDWATER (STANDARD 3)

Standard 3 of the MassDEP Stormwater Policy prescribes that the stormwater runoff volume to be recharged to groundwater should be determined using existing soil characteristics. According to the Bristol County Soil Survey, this soil onsite is categorized as;

- Paxton, Whitman and Woodbridge extremely stony, fine, sandy loam. These are in hydrologic soil group C and D.

For C and D soils, infiltration needs to be provided to the maximum extent practicable. Due to the high-water table and relative impermeable soils, it was determined not to be practicable to provide subsurface infiltrators. Therefore, Standard 3 is met.

7.3.4 REMOVAL OF 80% OF TOTAL SUSPENDED SOLIDS (STANDARD 4)

Standard 4 of the MassDEP Stormwater Policy requires removal of 80% of total suspended solids before discharge of stormwater. This standard is met because no additional pavement area is proposed.

7.3.5 USES WITH HIGHER POTENTIAL POLLUTANT LOADS (STANDARD 5)

Standard 5 of the MassDEP Stormwater Policy requires that stormwater discharges with higher potential pollutant loads, such as gas stations, be provided with specific BMPs. This site is not classified as a LUHPPLS, therefore Standard 5 does not apply.

7.3.6 STORMWATER DISCHARGES TO CRITICAL AREAS (STANDARD 6)

Standard 6 of the MassDEP Stormwater Policy seeks to protect critical areas. Critical areas are specifically designated Outstanding Resource Waters such as shell fish beds, swimming beaches, cold water fisheries and recharge areas for public water supplies. This site is not in an area as defined by the Stormwater Standards as a Critical Area. Therefore, Standard 6 does not apply.

7.3.7 REDEVELOPMENT OR PREVIOUSLY DEVELOPED SITES (STANDARD 7)

Standard 7 of the MassDEP Stormwater Policy applies to sites which have been previously developed and are being re-developed. Diminished performance of BMPs is allowed in these areas. This site qualifies as re-development; however, the design was able to meet the primary MassDEP requirements. Therefore, this standard is met.

7.3.8 EROSION AND SEDIMENT CONTROL (STANDARD 8)

Standard 8 of the MassDEP Stormwater Policy requires that erosion and sediment control measures be designed. Please refer to the Erosion Plan in Appendix B. Further, a NPDES SWPPP will be prepared prior to construction because the project area is greater than 1 acre.

7.3.9 OPERATIONS AND MAINTENANCE PLANS (STANDARD 9)

Standard 9 of the MassDEP Stormwater Policy prescribes the adoption of a formal operation and maintenance plan to ensure that the stormwater management systems function properly as designed. Appendix D presents the Operation and Maintenance Plan, so Standard 9 is met.

7.3.10 PROHIBITION OF ILLICIT DISCHARGES (STANDARD 10)

Standard 10 prohibits illicit discharges. Appendix E addresses the non-existence of illicit discharges.

APPENDIX A
WETLAND FIELD DATA SHEETS

MassDEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant:

Prepared by: **Ecosystem Solutions**

Project Location: **Church St. New Bedford**

DEP File #:

Check all that apply:

- Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- Method other than dominance test used (attach additional information)

Section I.

Observation Plot Number:

U

Transect #: **A28**

Date: **4/27/2022**

	Common Name	Scientific Name	Percent Cover	Percent Dominance	Dominant Plant?	Wetland Indicator Plant?	Wetland Indicator Category
Ground	Wild-lily-of-the-valley	<i>Maianthemum canadense</i>	10.5	33	YES	NO	FAC-
	American starflower	<i>Trientalis borealis*</i>	10.5	33	YES	YES	FAC
	Pennsylvania sedge	<i>Carex pensylvanica</i>	10.5	33	YES	NO	NI
Shrub	Coast pepper-bush*	<i>Clethra alnifolia</i>	85.5	89	YES	YES	FAC+
	American holly	<i>Ilex opaca</i>	10.5	11	NO	NO	FACU+
Vine	Common greenbrier*	<i>Smilax rotundifolia</i>	63	100	YES	YES	FAC
Tree	Eastern white pine	<i>Pinus strobus</i>	63	67	YES	NO	FACU
	White oak	<i>Quercus alba</i>	20.5	22	YES	NO	FACU-
	Red maple*	<i>Acer rubrum</i>	10.5	11	NO	YES	FAC

FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk

Vegetation conclusion:

Number of dominant wetland indicator plants:

3

Number of dominant non-wetland indicator plants:

4

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants?

NO

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent

Upland @ A28

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? **Yes**

Title/date:

Bristol County South, 1981

Map number:

Accessed via Web Soil Survey

Soil type mapped:

312B/WtB- Woodbridge estfsl, 0-8%

Hydric soil inclusions:

Ridgebury

Are field observations consistent with soil survey? Yes

Remarks:

2. Soil Description

Horizon	Depth	Color	Redox
A	0-2	10YR 2/2 (fsl)	-
E	2-4	10YR 4/1 (sl)	-
Bh	4-6	10YR 3/3 (sl)	-
Bw	6-12	10YR 5/6 (sl)	-
C	12-20	10YR 5/4 (ls)	-

Remarks:

3. Other:

Conclusion: Is soil hydric? **No**

Other Indicators of Hydrology: (check all that apply & describe)

- Site Inundated:
- Depth to free water in observation hole:
- Depth to soil saturation in observation hole:
- Water marks:
- Drift lines:
- Sediment Deposits:
- Drainage patterns in BVW:
- Oxidized rhizospheres:
- Water-stained leaves:
- Recorded Data (streams, lake, or tidal gauge; aerial photo):
- Other:

Vegetation & Hydrology Conclusion

	YES	NO
Number of wetland indicator plants ≥ # of non-wetland indicator plants	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wetland hydrology present		
Hydric soil	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other indicators of hydrology	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Sample location is in a BVW

NO

MassDEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant:

Prepared by: **Ecosystem Solutions**

Project Location: **Church St. New Bedford**

DEP File #:

Check all that apply:

- Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- Method other than dominance test used (attach additional information)

Section I.

Observation Plot Number:

U

Transect #: **A28**

Date: **4/27/2022**

	Common Name	Scientific Name	Percent Cover	Percent Dominance	Dominant Plant?	Wetland Indicator Plant?	Wetland Indicator Category
Ground	Bog blackberry*	<i>Rubus hispidoides</i>	10.5	100	YES	YES	FACW
Shrub	Coast pepper-bush*	<i>Clethra alnifolia</i>	98	83	YES	YES	FAC+
	Highbush blueberry*	<i>Vaccinium corymbosum</i>	20.5	17	NO	YES	FACW-
Vine	Common greenbrier*	<i>Smilax rotundifolia</i>	85.5	100	YES	YES	FAC
Tree	Red maple*	<i>Acer rubrum</i>	85.5	73	YES	YES	FAC
	White oak	<i>Quercus alba</i>	20.5	18	NO	NO	FACU-
	Eastern white pine	<i>Pinus strobus</i>	10.5	9	NO	NO	FACU

FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk

Vegetation conclusion:

Number of dominant wetland indicator plants:

4

Number of dominant non-wetland indicator plants:

0

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants?

YES

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent

Wetland @ A28

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site?

Yes

Title/date:

Bristol County South, 1981

Map number:

Accessed via Web Soil Survey

Soil type mapped:

73A/WhA- Whitman estfsl, 0-3%

Hydric soil inclusions:

Ridgebury, Scarborough, Swansea

Are field observations consistent with soil survey? Yes

Remarks:

2. Soil Description

Horizon	Depth	Color	Redox
A	0-3	10YR 2/1 (fsl)	-
E	3-5	10YR 5/1 (sl)	7.5YR 4/6
Bw	5-8	10YR 5/4 (sl)	7.5YR 4/6
C	8-20	2.5Y 5/4 (ls)	2.5Y 6/2 (depletions)

Remarks:

3. Other:

Conclusion: Is soil hydric? **Yes**

Other Indicators of Hydrology: (check all that apply & describe)

- Site Inundated:
- Depth to free water in observation hole: **12"**
- Depth to soil saturation in observation hole: **8"**
- Water marks:
- Drift lines:
- Sediment Deposits:
- Drainage patterns in BVW:
- Oxidized rhizospheres:
- Water-stained leaves:
- Recorded Data (streams, lake, or tidal gauge; aerial photo):
- Other:

Vegetation & Hydrology Conclusion

	YES	NO
Number of wetland indicator plants ≥ # of non-wetland indicator plants	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Wetland hydrology present		
Hydric soil	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other indicators of hydrology	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Sample location is in a BVW

YES

MassDEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant:

Prepared by: **Ecosystem Solutions**

Project Location: **Church St. New Bedford**

DEP File #:

Check all that apply:

- Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- Method other than dominance test used (attach additional information)

Section I.

Observation Plot Number: **U**

Transect #: **B49**

Date: **4/27/2022**

	Common Name	Scientific Name	Percent Cover	Percent Dominance	Dominant Plant?	Wetland Indicator Plant?	Wetland Indicator Category
Ground	Wild-lily-of-the-valley	<i>Maianthemum canadense</i>	10.5	100	YES	NO	FAC-
Shrub	Coast pepper-bush*	<i>Clethra alnifolia</i>	98	90	YES	YES	FAC+
	American holly	<i>Ilex opaca</i>	10.5	10	NO	NO	FACU+
Vine	Common greenbrier*	<i>Smilax rotundifolia</i>	20.5	100	YES	YES	FAC
Tree	White oak	<i>Quercus alba</i>	63	44	YES	NO	FACU-
	Red maple*	<i>Acer rubrum</i>	38	27	YES	YES	FAC
	American holly	<i>Ilex opaca</i>	20.5	14	NO	NO	FACU+
	Northern red oak	<i>Quercus rubra</i>	10.5	7	NO	NO	FACU-
	Eastern white pine	<i>Pinus strobus</i>	10.5	7	NO	NO	FACU

FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk

Vegetation conclusion:

Number of dominant wetland indicator plants:

3

Number of dominant non-wetland indicator plants:

2

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants?

YES

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent

Upland @ B49

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? **Yes**

Title/date: **Bristol County South, 1981**

Map number: **Accessed via Web Soil Survey**

Soil type mapped: **312B/WtB- Woodbridge estfsl, 0-8%**

Hydric soil inclusions: **Ridgebury**

Are field observations consistent with soil survey? Yes

Remarks:

2. Soil Description

Horizon	Depth	Color	Redox
A	0-2	10YR 2/2 (fsl)	-
E	2-4	10YR 4/1 (sl)	-
Bh	4-6	10YR 3/3 (sl)	-
Bw	6-12	10YR 5/6 (sl)	-
C	12-20	10YR 5/4 (ls)	-

Remarks:

3. Other:

Conclusion: Is soil hydric? **No**

Other Indicators of Hydrology: (check all that apply & describe)

- Site Inundated:
- Depth to free water in observation hole:
- Depth to soil saturation in observation hole:
- Water marks:
- Drift lines:
- Sediment Deposits:
- Drainage patterns in BVW:
- Oxidized rhizospheres:
- Water-stained leaves:
- Recorded Data (streams, lake, or tidal gauge; aerial photo):
- Other:

Vegetation & Hydrology Conclusion

	YES	NO
Number of wetland indicator plants ≥ # of non-wetland indicator plants	<input type="checkbox"/>	<input type="checkbox"/>
Wetland hydrology present		
Hydric soil	<input type="checkbox"/>	<input type="checkbox"/>
Other indicators of hydrology	<input type="checkbox"/>	<input type="checkbox"/>

Sample location is in a BVW

MassDEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant:

Prepared by: **Ecosystem Solutions**

Project Location: **Church St. New Bedford**

DEP File #:

Check all that apply:

- Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- Method other than dominance test used (attach additional information)

Section I.

Observation Plot Number:

W

Transect #: **B49**

Date: **4/27/2022**

	Common Name	Scientific Name	Percent Cover	Percent Dominance	Dominant Plant?	Wetland Indicator Plant?	Wetland Indicator Category
Ground	Cinnamon fern*	<i>Osmunda cinnamomea</i>	38	100	YES	YES	FACW
Shrub	Coast pepper-bush*	<i>Clethra alnifolia</i>	98	83	YES	YES	FAC+
	Highbush blueberry*	<i>Vaccinium corymbosum</i>	20.5	17	NO	YES	FACW-
Vine	Common greenbrier*	<i>Smilax rotundifolia</i>	63	100	YES	YES	FAC
Tree	Red maple*	<i>Acer rubrum</i>	63	75	YES	YES	FAC
	Eastern white pine	<i>Pinus strobus</i>	10.5	13	NO	NO	FACU
	White oak	<i>Quercus alba</i>	10.5	13	NO	NO	FACU-

FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk

Vegetation conclusion:

Number of dominant wetland indicator plants:

4

Number of dominant non-wetland indicator plants:

0

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants?

YES

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent

Wetland @ B49

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? **Yes**

Title/date:

Bristol County South, 1981

Map number:

Accessed via Web Soil Survey

Soil type mapped:

73A/WhA- Whitman estfsl, 0-3%

Hydric soil inclusions:

Ridgebury, Scarborough, Swansea

Are field observations consistent with soil survey? Yes

Remarks:

2. Soil Description

Horizon	Depth	Color	Redox
Oa	0-4	2.5Y 2.5/1	-
C	4-14	2.5Y 6/3 (Is)	7.5YR 4/6
Cg	14-18	10YR 5/1 (Is)	-
Cr	18+	Refusal	-

Remarks:

3. Other:

Conclusion: Is soil hydric? **Yes**

Other Indicators of Hydrology: (check all that apply & describe)

- Site Inundated:
- Depth to free water in observation hole: **12"**
- Depth to soil saturation in observation hole: **9"**
- Water marks:
- Drift lines:
- Sediment Deposits:
- Drainage patterns in BVW:
- Oxidized rhizospheres:
- Water-stained leaves:
- Recorded Data (streams, lake, or tidal gauge; aerial photo):
- Other:

Vegetation & Hydrology Conclusion

	YES	NO
Number of wetland indicator plants ≥ # of non-wetland indicator plants	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Wetland hydrology present		
Hydric soil	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other indicators of hydrology	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Sample location is in a BVW

Yes

MassDEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant:

Prepared by: **Ecosystem Solutions**

Project Location: **Church St. New Bedford**

DEP File #:

Check all that apply:

- Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- Method other than dominance test used (attach additional information)

Section I.

Observation Plot Number: **U**

Transect #: **F15**

Date: **4/27/2022**

	Common Name	Scientific Name	Percent Cover	Percent Dominance	Dominant Plant?	Wetland Indicator Plant?	Wetland Indicator Category
Ground	Pennsylvania sedge	<i>Carex pensylvanica</i>	20.5	100	YES	NO	NI
Shrub	Coast pepper-bush*	<i>Clethra alnifolia</i>	63	55	YES	YES	FAC+
	Highbush blueberry*	<i>Vaccinium corymbosum</i>	20.5	18	NO	YES	FACW-
	Eastern white pine	<i>Pinus strobus</i>	20.5	18	NO	NO	FACU
	American holly	<i>Ilex opaca</i>	10.5	9	NO	NO	FACU+
Vine	Common greenbrier*	<i>Smilax rotundifolia</i>	63	100	YES	YES	FAC
Tree	Red maple*	<i>Acer rubrum</i>	38	65	YES	YES	FAC
	Northern red oak	<i>Quercus rubra</i>	20.5	35	YES	NO	FACU-

FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk

Vegetation conclusion:

Number of dominant wetland indicator plants:

3

Number of dominant non-wetland indicator plants:

2

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants?

YES

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent

Upland @ F15

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site?

Yes

Title/date:

Bristol County South, 1981

Map number:

Accessed via Web Soil Survey

Soil type mapped:

73A/WhA- Whitman estfsl, 0-3%

Hydric soil inclusions:

Ridgebury, Scarborough, Swansea

Are field observations consistent with soil survey? Yes

Remarks:

2. Soil Description

Horizon	Depth	Color	Redox

Remarks:

3. Other:

Conclusion: Is soil hydric? **No**

Other Indicators of Hydrology: (check all that apply & describe)

- Site Inundated:
- Depth to free water in observation hole:
- Depth to soil saturation in observation hole:
- Water marks:
- Drift lines:
- Sediment Deposits:
- Drainage patterns in BVW:
- Oxidized rhizospheres:
- Water-stained leaves:
- Recorded Data (streams, lake, or tidal gauge; aerial photo):
- Other:

Vegetation & Hydrology Conclusion

	YES	NO
Number of wetland indicator plants ≥ # of non-wetland indicator plants	<input type="checkbox"/>	<input type="checkbox"/>
Wetland hydrology present		
Hydric soil	<input type="checkbox"/>	<input type="checkbox"/>
Other indicators of hydrology	<input type="checkbox"/>	<input type="checkbox"/>

Sample location is in a BVW

MassDEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant:

Prepared by: **Ecosystem Solutions**

Project Location: **Church St. New Bedford**

DEP File #:

Check all that apply:

- Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- Method other than dominance test used (attach additional information)

Section I.

Observation Plot Number: **W**

Transect #: **F15**

Date: **4/27/2022**

	Common Name	Scientific Name	Percent Cover	Percent Dominance	Dominant Plant?	Wetland Indicator Plant?	Wetland Indicator Category
Ground	Sphagnum moss*	<i>Sphagnum spp.</i>	10.5	100	YES	YES	OBL
Shrub	Coast pepper-bush*	<i>Clethra alnifolia</i>	85.5	64	YES	YES	FAC+
	Highbush blueberry*	<i>Vaccinium corymbosum</i>	38	28	YES	YES	FACW-
	Eastern white pine	<i>Pinus strobus</i>	10.5	8	NO	NO	FACU
Vine	Common greenbrier*	<i>Smilax rotundifolia</i>	85.5	69	YES	YES	FAC
	Poison ivy*	<i>Toxicodendron radicans</i>	38	31	YES	YES	FAC
Tree	Red maple*	<i>Acer rubrum</i>	98	76	YES	YES	FAC
	Eastern white pine	<i>Pinus strobus</i>	20.5	16	NO	NO	FACU
	Sassafras	<i>Sassafras albidum</i>	10.5	8	NO	NO	FACU-

FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk

Vegetation conclusion:

Number of dominant wetland indicator plants: **6**

Number of dominant non-wetland indicator plants: **0**

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants?

YES

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent

Wetland @ F15

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? **Yes**

Title/date:

Bristol County South, 1981

Map number:

Accessed via Web Soil Survey

Soil type mapped:

73A/WhA- Whitman estfsl, 0-3%

Hydric soil inclusions:

Ridgebury, Scarborough, Swansea

Are field observations consistent with soil survey? Yes

Remarks:

2. Soil Description

Horizon	Depth	Color	Redox
^C	0-10	10YR 3/1 (gsl)	-
Oab	10-20	2.5Y 2.5/1	-

Remarks:

3. Other:

Conclusion: Is soil hydric? **Yes**

Other Indicators of Hydrology: (check all that apply & describe)

- Site Inundated:
- Depth to free water in observation hole:
- Depth to soil saturation in observation hole:
- Water marks:
- Drift lines:
- Sediment Deposits:
- Drainage patterns in BVW:
- Oxidized rhizospheres:
- Water-stained leaves:
- Recorded Data (streams, lake, or tidal gauge; aerial photo):
- Other:

Vegetation & Hydrology Conclusion

	YES	NO
Number of wetland indicator plants ≥ # of non-wetland indicator plants	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Wetland hydrology present		
Hydric soil	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other indicators of hydrology	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Sample location is in a BVW

YES

APPENDIX B
EROSION AND SEDIMENT CONTROL

Erosion and Sediment Controls

Soil erosion is the process by which the surface of the land is worn away by the action of wind, water, ice, and gravity. Natural or geologic erosion is a factor in creating the topographic features of the earth as we know it today. Except for some cases of shoreline and stream channel erosion, natural erosion occurs at a very slow and uniform rate. Accelerated erosion occurs when the surface of the land is disturbed and vegetation is removed by either natural forces or man's activities. Exposed, unprotected soil is then subject to rapid erosion by the action of wind or water. The erosive action of water can be separated into two categories: raindrop erosion which is the result of the vertical force of falling water; and sheet, rill, and gully erosion which are the result of the horizontal force of flowing water. Both forces detach and move soil particles.

During construction, the contractor is directed to comply with the precautionary measures provided in the contract documents, and to conduct his construction activities in such a manner as to prevent damage or impairment to the environment. It shall be the contractor's responsibility not to undertake at any time, in any particular area, more than that magnitude of work which can be safely and adequately controlled by the forces at his disposal. Failure on the part of the contractor to cooperate with the responsible person to regulate the works set forth in the contract documents to successful completion, shall constitute grounds for suspension of construction activities of the contract. An emphasis shall be made to control erosion before it occurs. Upon completion of the project, no soil shall be left exposed (bare) in any of the construction areas of the site.

Erosion and Sediment Control Plan

To address the above issues, an Erosion and Sedimentation Control Plan has been developed which describes the potential for erosion and sedimentation problems on the project and explains and illustrates the measures which are to be taken to control those issues. The plan is implemented by the project contractor(s) based on requirements shown on the construction drawings and technical specification, as well as requirements detailed in permits which become part of the contract between the owner and contractor.

Erosion and Sediment Control Techniques

Erosion and sedimentation controls shall be employed to minimize erosion and transport of sediment into on-site and adjacent resource areas during the earthwork and construction phases of the project. The major erosion control techniques proposed include hay bale barriers, silt fence barriers, inlet sediment traps, a stabilized construction entrance, and erosion control matting. A detailed description of each technique is discussed below.

Temporary Erosion Control Measures

During construction activities, the following measures shall be employed to minimize the potential impacts to wetland and water resources within the project area from siltation and sedimentation. The erosion control measures are shown on the site plans.

Preservation of Natural Vegetation

Natural vegetation shall be preserved on site where possible. This measure will prevent erosion by providing continuous anchoring of the soil.

Drainage Swale Hay Bale Check Dams

Hay bales shall also be placed across construction ditches during construction to limit the transport of sediment into drainage systems and waterways.

Silt Fences

Silt fences shall be placed at the limits of work where the slope is less than two percent. Typically, they shall be installed adjacent to resource areas, where soil will be exposed due to construction related activities, as depicted on the plans. The fence shall be placed in a sturdy, upright position and supported/anchored to withstand the forces of the elements and the circumstances of construction activities. The fence shall be installed in a manner that shall prevent runoff from passing over, under or around the fence (i.e. all of the runoff will pass through the fence). They shall be attached to posts (either steel or wood) in sufficient number to support the fence. The posts shall typically be placed 4 to 8 feet apart. It shall be the construction contractor's responsibility to maintain the fence in a functional condition throughout the duration of construction activities. The contractor shall also remove any large accumulations of sediment in a timely manner and dispose the material appropriately.

Hay Bales

Hay bales shall be placed, in conjunction with silt fences, at the limit of work on steep slopes only. Steep slopes for this project are those which are greater than two percent. The hay bales shall be staked with metal or wood stakes to anchor them to the ground. The contractor shall be responsible for maintaining the hay bales in good condition and replacing them as necessary. Bales that deteriorate and are no longer intact or that become plugged with sediment shall be removed and disposed. They shall be replaced with new hay bales installed as described above.

Erosion and Sediment Control - Maintenance

The general contractor shall have primary responsibility for implementing temporary and permanent controls described in the plan and shall be responsible for assuring contractor compliance with contract documents including all erosion and sediment control measures.

1. The on-site contractor shall inspect sediment and erosion control structures weekly and after each rainfall event greater than ½ inch. Records of the inspections shall be prepared and maintained on site by the contractor (Attachment 1).
2. Silt shall be removed from behind barriers if greater than 6 inches deep or as needed to ensure the stability of the control device.
3. Damaged or deteriorated items shall be repaired or replaced immediately after identification.

4. The underside of hay bales shall be kept in close contact with the earth and reset as necessary.

Once construction in a particular area has been completed and the areas have been stabilized, these temporary devices shall be removed.

ATTACHMENT 1

INSPECTION AND MAINTENANCE REPORT FORM

**STORMWATER POLLUTION PREVENTION PLAN
WEEKLY INSPECTION AND MAINTENANCE REPORT FORM**

Inspector: _____ **Title** _____ **Date:** _____

Specific Site Location: _____

STABILIZATION MEASURES

AREA	INSTALLED? (Yes/No)	CONDITION OF STABILIZATION MEASURE
Silt Fences		
Haybales		
Stabilization for Stockpiles		
Seeding and Planting		
Geotextile Fabrics		

STABILIZATION REQUIRED:

TO BE PERFORMED BY: _____ **ON OR**

BEFORE: _____

Make note of the date and location of the following:

- The start of grading activities
- Temporary or permanent cease of grading activities
- Implementation of temporary stabilization
- Implementation of final stabilization

**STORMWATER POLLUTION PREVENTION PLAN
WEEKLY INSPECTION AND MAINTENANCE REPORT FORM
Continued**

Weather information for the period since the last inspection (or since commencement of construction activity if the first inspection) including a best estimate of the beginning of each storm event, duration of each storm event, approximate amount of rainfall for each storm event (in inches), and whether any discharges occurred;

Weather information and a description of any discharges occurring at the time of the inspection;

Form A-III

**STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
INSPECTION CHECKLIST - TO BE COMPLETED BY CONTRACTOR**

Inspected By: _____, **Title** _____ **Date:** _____

YES	NO	DOES NOT APPLY	ITEM
			Are the BMPs called for on the SWPPP installed in the proper location and according to the specification of the SWPPP?
			Are all operational stormwater inlets protected from sediment flow?
			Do any erosion/siltation control measure require repair or clean-out to maintain adequate function? If yes, indicate which ones.
			Are on-site construction traffic routes, parking, and storage of equipment and supplies restricted to areas specifically designated for those uses?
			Are the locations of temporary soil stockpiles or construction materials in approved areas?
			Do any seeded or landscaped areas require maintenance irrigation, fertilization, seeding or mulching?
			Is there any evidence that sediment is leaving the site?
			Is there any evidence of erosion on cut or fill slopes?
			Is there any evidence of sediment, debris, or mud on public roads at intersections with site access roads?
			Notes:
Action to be Taken:			

Note: See Page 13, Part 4 (Inspections) of the General Permit (Attachment "L") for additional inspection report requirements.

ATTACHMENT C
CHECKLIST FOR STORMWATER REPORT



Checklist for Stormwater Report

A. Introduction

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the [Massachusetts Stormwater Handbook](#). The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.¹ This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8²
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

¹ The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

² For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.



Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

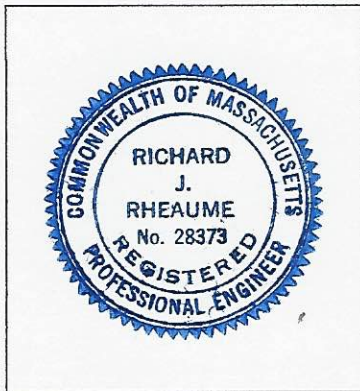
Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



Richard J. Rheaume 6/23/2022
Signature and Date

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

- New development
- Redevelopment
- Mix of New Development and Redevelopment



Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- No disturbance to any Wetland Resource Areas
- Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- Reduced Impervious Area (Redevelopment Only)
- Minimizing disturbance to existing trees and shrubs
- LID Site Design Credit Requested:
 - Credit 1
 - Credit 2
 - Credit 3
- Use of "country drainage" versus curb and gutter conveyance and pipe
- Bioretention Cells (includes Rain Gardens)
- Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- Treebox Filter
- Water Quality Swale
- Grass Channel
- Green Roof
- Other (describe): _____

Standard 1: No New Untreated Discharges

- No new untreated discharges
- Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.



Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

- Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.
- Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.
- Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

- Soil Analysis provided.
- Required Recharge Volume calculation provided.
- Required Recharge volume reduced through use of the LID site Design Credits.
- Sizing the infiltration, BMPs is based on the following method: Check the method used.
 - Static
 - Simple Dynamic
 - Dynamic Field¹
- Runoff from all impervious areas at the site discharging to the infiltration BMP.
- Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.
- Recharge BMPs have been sized to infiltrate the Required Recharge Volume.
- Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:
 - Site is comprised solely of C and D soils and/or bedrock at the land surface
 - M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
 - Solid Waste Landfill pursuant to 310 CMR 19.000
 - Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.
- Calculations showing that the infiltration BMPs will drain in 72 hours are provided.
- Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

¹ 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.



Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

- The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.
- Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
 - Provisions for storing materials and waste products inside or under cover;
 - Vehicle washing controls;
 - Requirements for routine inspections and maintenance of stormwater BMPs;
 - Spill prevention and response plans;
 - Provisions for maintenance of lawns, gardens, and other landscaped areas;
 - Requirements for storage and use of fertilizers, herbicides, and pesticides;
 - Pet waste management provisions;
 - Provisions for operation and management of septic systems;
 - Provisions for solid waste management;
 - Snow disposal and plowing plans relative to Wetland Resource Areas;
 - Winter Road Salt and/or Sand Use and Storage restrictions;
 - Street sweeping schedules;
 - Provisions for prevention of illicit discharges to the stormwater management system;
 - Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
 - Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
 - List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.
- A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.
 - Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:
 - is within the Zone II or Interim Wellhead Protection Area
 - is near or to other critical areas
 - is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
 - involves runoff from land uses with higher potential pollutant loads.
 - The Required Water Quality Volume is reduced through use of the LID site Design Credits.
 - Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.



Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

- The BMP is sized (and calculations provided) based on:
 - The ½" or 1" Water Quality Volume or
 - The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.
- The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.
- A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

- The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.
- The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted **prior to** the discharge of stormwater to the post-construction stormwater BMPs.
- The NPDES Multi-Sector General Permit does **not** cover the land use.
- LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.
- All exposure has been eliminated.
- All exposure has **not** been eliminated and all BMPs selected are on MassDEP LUHPPL list.
- The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

- The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.
- Critical areas and BMPs are identified in the Stormwater Report.



Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

- The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:
 - Limited Project
 - Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
 - Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
 - Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
 - Bike Path and/or Foot Path
 - Redevelopment Project
- Redevelopment portion of mix of new and redevelopment.
- Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.
- The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
 - Construction Period Operation and Maintenance Plan;
 - Names of Persons or Entity Responsible for Plan Compliance;
 - Construction Period Pollution Prevention Measures;
 - Erosion and Sedimentation Control Plan Drawings;
 - Detail drawings and specifications for erosion control BMPs, including sizing calculations;
 - Vegetation Planning;
 - Site Development Plan;
 - Construction Sequencing Plan;
 - Sequencing of Erosion and Sedimentation Controls;
 - Operation and Maintenance of Erosion and Sedimentation Controls;
 - Inspection Schedule;
 - Maintenance Schedule;
 - Inspection and Maintenance Log Form.
- A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.



Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

- The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has **not** been included in the Stormwater Report but will be submitted **before** land disturbance begins.
- The project is **not** covered by a NPDES Construction General Permit.
- The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.
- The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

- The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:
 - Name of the stormwater management system owners;
 - Party responsible for operation and maintenance;
 - Schedule for implementation of routine and non-routine maintenance tasks;
 - Plan showing the location of all stormwater BMPs maintenance access areas;
 - Description and delineation of public safety features;
 - Estimated operation and maintenance budget; and
 - Operation and Maintenance Log Form.
- The responsible party is **not** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:
 - A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
 - A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

- The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;
- An Illicit Discharge Compliance Statement is attached;
- NO Illicit Discharge Compliance Statement is attached but will be submitted **prior to** the discharge of any stormwater to post-construction BMPs.

ATTACHMENT D
PERMANENT OPERATOIN AND MAINTENANCE PLAN

**PERMANENT STORMWATER SYSTEM
OPERATION AND MAINTENANCE PROGRAM
FRADES INTERMODAL TERMINAL
781 CHURCH STREET
NEW BEDFORD, MA**

PREPARED FOR:

**FRADES DISPOSAL, INC.
781 CHURCH STREET
NEW BEDFORD, MA**

PREPARED BY:

**PRIME ENGINEERING, INC.
P.O. BOX 1088
LAKEVILLE, MA**

JUNE 23, 2022

1.0 INTRODUCTION

Frades Disposal facility located at 781 Church Street, New Bedford, proposes to construct an intermodal terminal at a proposed rail siding off the Mass Coastal Rail at the existing facility. The site is an approximately 47-acre parcel of land referenced as Map 125-1, Lot 10 and Map 129, Lots 38, 41, 42, 52, 53 and 55. It is bordered on the north and west by Route 140. It is bordered on the east by the Mass Coastal Rail, and is bordered on the south by undeveloped woodland. Throughout the remainder of this report, Frades Disposal, Inc. and the intermodal terminal will be referred to as “The Project.”

2.0 RESPONSIBLE PARTY

Responsible Party: Richard Frades, President
Frades Disposal, Inc.
781 Church Street
New Bedford, MA 02745
508-995-9121

3.0 SOURCE CONTROL MEASURES

The most effective means of providing clean runoff is to prevent pollutants from coming into contact with stormwater in the first place. This involves the following:

- Keeping fertilizers, stockpiles, etc. covered at all times. All such products shall be stored off-site.
- Landscaping, fertilization and other grounds maintenance, if necessary, shall be performed by personnel who are trained to maintain the grounds.
- Periodic removal of windblown debris and litter from the site.

4.0 MAINTENANCE OF STORM SYSTEM

This section presents the periodic maintenance that must be completed:

- The swales and rain gardens shall be inspected annually. A bi-annual report signed by a MA licensed professional engineer shall be provided to the New Bedford Conservation Commission.

5.0 SPILL PREVENTION AND RESPONSE PLAN

The project consists of a rail spur and siding that will not emit any significant pollutants. The only potential source of pollution is the wind-blown litter which will be controlled with fencing and weekly cleanup. The responsible party shall train maintenance personnel in the proper handling and cleanup of spilled hazardous substances or oil. No spilled hazardous substances or oil shall be allowed to come in contact with stormwater discharges. If such contact occurs, the stormwater discharge shall be contained on site until appropriate measures, in compliance with state and federal regulations, are taken to dispose such contaminated stormwater. The responsible party shall train personnel in spill prevention and cleanup procedures.

In order to prevent or minimize the potential for a spill of hazardous substances or oil to come into contact with stormwater, the following steps shall be implemented:

- A spill control and containment kit (containing, for example, absorbent materials, rags, gloves, plastic and metal trash containers, etc.) is maintained on-site.
- Manufacturer's recommended methods for spill cleanup shall be known and maintenance personnel shall be trained regarding these procedures and the location of the information and cleanup supplies.
- The Responsible Party shall ensure that hazardous waste discovered or generated at the site is disposed properly by a licensed hazardous material disposal company. The Responsible Party shall not exceed hazardous waste storage requirements mandated by the EPA or state and local authorities.

In the event of a spill of hazardous substances or oil, the following procedures must be followed:

- All measures must be taken to contain and abate the spill and to prevent discharge of the hazardous substance or oil to stormwater or off-site.
- For spills of less than a quarter gallon of material, proceed with source control and containment, clean-up with absorbent materials or other applicable means, unless an imminent hazard or other circumstances dictate that the spill should be treated by a professional emergency response contractor.
- For spills greater than a quarter gallon of material, immediately contact Richard J. Rheaume, L.S.P., Prime Engineering, Inc., P.O. Box 1088, Lakeville, MA 02347 at (508) 947-0050. Provide information on the type of material spilled, the location of the spill, the quantity spilled, the time of the spill and proceed with the prevention, containment and/or clean-up.
- Spills of amounts that exceed reportable quantities of certain substances specifically mentioned in federal regulations 40 CFR 110, 40 CFR 117, 40 CFR 302 must be immediately reported to the EPA National Response Center by telephone at (800) 242-8802.

The Responsible Party shall be the spill prevention and response coordinator. She/he shall designate the individuals who shall receive spill prevention and response training. These individuals shall each become responsible for a particular phase of prevention and response. The names of these personnel should be posted in the material storage area and in the property office.

Any spill that occurs shall be documented on a Spill Report form that is enclosed as Attachment 1.

6 SNOW AND ICE REMOVAL

Snow and ice shall be removed primarily by mechanical equipment. Salt and sand shall only be applied when the safety of the personnel is at stake.

ATTACHMENT 1
BLANK SPILL REPORT

SPILL REPORT

SITE ADDRESS: _____

NAME OF PERSON COMPLETING THIS FORM: _____

DATE: _____

TYPE OF MATERIAL: _____ QUANTITY: _____

DESCRIPTION OF RELEASE: _____

CIRCUMSTANCES LEADING TO RELEASE: _____

LOCATION OF SPILL: _____

RESPONSE ACTIONS: _____

PERSONNEL: _____

ATTACH DOCUMENTATION OF NOTIFICATIONS AND CORRECTIVE MEASURES
IMPLEMENTED TO PREVENT REOCCURRENCE

(COPY AS NEEDED)

ATTACHMENT E
ILLICIT DISCHARGE STATEMENT

INTERIM ILLICIT DISCHARGE STATEMENT

1.0 INTRODUCTION

The following is an Interim Illicit Discharge Statement based on existing conditions and design conditions. Once construction is complete, a final illicit discharge statement shall be issued to the New Bedford Conservation Commission based on as-built conditions.

2.0 EXISTING CONDITIONS

The existing facility is a warehouse and waste handling facility. There are no known illicit connections in this area. No sources of illicit discharges were uncovered when this system was recently surveyed. Based on this investigation, to the best of my knowledge, there are no current illicit discharges to the storm drainage system. If during construction, an illicit discharge is discovered, it shall be removed immediately.

3.0 PROPOSED DESIGN

The proposed design calls for a standard stormwater collection system. There are no points in the proposed storm drainage system where illicit discharges are likely to occur.

Certain types of discharges are allowable under the U.S. Environmental Protection Agency Construction General Permit and it is the intent of the site's Long Term Pollution Prevention Plan to allow such discharges. These types of discharges shall be allowed under the conditions that no pollutants shall be allowed to come in contact with the water prior to or after its discharge. The control measures which have been outlined in the Long Term Pollution Prevention Plan shall be strictly followed to ensure that no contamination of these non-stormwater discharges takes place.

I hereby certify that the preceding is accurate.

A handwritten signature in cursive script that reads "Richard J. Rheume".

Richard J. Rheume, P.E., LSP
Prime Engineering, Inc.