Nitsch Engineering
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2 Center Plaza, Suite 430
Boston, MA 02108-1928
T: 617-338-0063
F: 617-338-6472
www.nitscheng.com

November 1, 2019

Mr. Craig Dixon
Chairman
New Bedford Conservation Commission
New Bedford City Hall
133 William Street
New Bedford, MA 02744

RE: Nitsch Project #9972
100 Duchaine Boulevard
Rail Spur Notice of Intent Review
New Bedford, MA

Dear Mr. Dixon:

This letter is regarding the Notice of Intent submitted for the Parallel Products rail spur and redevelopment project located at 100 Duchaine Boulevard. Nitsch Engineering received and reviewed the following documents:

- Plans entitled "Site Plan, 100 Duchaine Boulevard, Assessors Map 133 Lot 67 and Map 134 Lots 5 and 462, New Bedford, Massachusetts," prepared by Farland Corporation, revised September 13, 2019; and

- Notice of Intent – Site Plan, Assessors Map 134 Lot 5, 100 Duchaine Boulevard, New Bedford, MA, 02745, prepared by Farland Corporation, dated October 2, 2019, including:

    - Letter of project review, prepared by LEC, dated October 3, 2019, and
    - Stormwater Report, prepared by Farland Corp, dated October 2, 2019.

The Project includes the following proposed improvements: (1) Construction of a rail spur extending from the existing rail line located at the northeast corner of the parcel to the existing building located in the central portion of the parcel, (2) Construction of two (2) bunker buildings with roof-mounted solar arrays located on the north and east sides of the existing building, (3) Construction of two (2) new photovoltaic canopies located south of the existing building, (4) Construction of a new photovoltaic canopy on the north side of the building over the new rail tracks, and (5) Construction of a large stormwater wetland that will be located on the north side of the existing building and new rail spur. There are jurisdictional wetland resource areas located throughout the parcel and the new rail spur requires the crossing of a perennial stream and filling of Bordering Vegetated Wetlands.

As requested, Nitsch Engineering is providing comments based on our review of the Project against the Massachusetts Stream Crossing Standards and the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Management Standards. We also reviewed the intended limit of work and the impacts within the wetland resource areas. As noted here within, additional information will need to be submitted by the Applicant to confirm the Project's conformance to the Standards noted above. The comments below are general in nature to request the supplemental information needed for a more comprehensive review of the project.

General Comments

1. We understand that the proposed rail spur is intended to deliver materials to and from the recycling facility. However, the plans show four (4) tracks located adjacent to the building. We are looking for additional clarification of the proposed railway layout and intended use. Will trains be stored and/or maintained on-site?

2. We recommend that the materials be added to the Layout Plans to clarify the extents of the proposed cover types, including the gravel, concrete, and asphalt.

3. A detail showing the proposed cross section for the rail spur including any underdrainage should be added to the Detail Sheets.

4. The project includes the construction of photovoltaic canopies in multiple areas. Some of these canopies are proposed over existing vegetated areas, including an existing stormwater basin on the south side of the building.

    a. Additional information and details on the types of canopies proposed are needed to fully understand the intent. Please clarify the type of canopy and level of imperviousness.
    b. We are also looking for clarification on what the intent is for the existing vegetated areas that will be covered. Even if the canopies have some openings, it seems unlikely that the vegetation will survive, and the stormwater basin will no longer function as intended. We recommend that the Applicant evaluate alternative locations for the canopy over existing paved areas.

5. The limits of the wetland resource areas (Bank, BVW, and Riverfront Area), all associated buffers, and the project limit of work line should be shown on all plans. The linetypes specific to the resource areas should also be added to the Legend to clarify the resource area delineation and boundaries.

6. The Erosion Control and Demolition Plan indicates that the existing fuel pump will be relocated. The new location should be indicated on the plan set. Note that fueling areas are considered a Land Use with Higher Potential Pollutant Load by the MassDEP Stormwater Standards and treatment should be provided accordingly.

Massachusetts Stream Crossing Standards

7. The Notice of Intent narrative indicates that the proposed stream crossing will meet the Stream Crossing Standards, however more detailed information is needed to verify the Standards are being met. The Applicant should confirm the proposed crossing dimensions as compared to the bankfull width, the hydraulic opening, the openness ratio, the embedded depth, and the substrate material. Based on the configuration of the culvert and Bank flags provided on the plans, it does not appear that the Stream Crossing Standard for the width of the crossing (1.2 x bankfull width) is being met.

8. The Project includes the construction of a stream crossing for the new rail spur in the location of an existing rail bridge. The existing crossing is a full span with concrete abutments, while the new crossing is a 3-sided box culvert with a significantly smaller opening. This has the potential to impact the hydraulic function of the stream, as well as impact the movement of wildlife through the crossing. The Applicant should provide hydraulic calculations to verify the adequacy of the hydraulic opening in conveying the 10- and 25-year design storms. These calculations should also compare the depth and velocity of the flow through the existing and proposed crossing, as required by the Stream Crossing Standards.

9. Additional detail is needed to clarify the intended stream substrate materials within and around the proposed culvert. A scour analysis should be performed to confirm the necessary depth, length/width, and material size for the anti-scour measures. The current limit of work shown on the plan does not include any area for installation of anti-scour measures at the upstream and downstream culvert openings.

MassDEP Stormwater Management Standards

10. The limit of work should be provided on the existing and proposed conditions subcatchment plans and the extents of stormwater analysis and HydroCAD modeling should include all proposed work at a minimum. If work is proposed within existing stormwater basins, the basin and it's contributing drainage area should be included in the HydroCAD model. The design points for each subcatchment should also be shown on the Plans for clarity.

11. The HydroCAD model within the Stormwater Report indicates a Hydrologic Soil Group (HSG) assumption of "A" soils. This is inconsistent with other language in the report that indicates "C" soils. The three test pits provided in the Details indicate fill but do not describe texture so they cannot be used to determine the HSG without additional information. The HSG assumption should be revisited based on all available information and should be made consistent throughout the Stormwater Report, including the HydroCAD model and recharge calculations.

12. The vegetation assumptions within the HydroCAD model – fair vs. good condition – should be consistent between the existing and proposed conditions, or the Applicant should provide justification for the difference.

13. The Applicant is currently proposing to use a constructed stormwater wetland to provide stormwater detention, treatment and groundwater recharge. We agree that a stormwater wetland would provide excellent treatment and is a good fit for the context of the site as it is surrounded by wetlands;however, constructed stormwater wetlands are always wet because they contain a low-level permanent pool and, therefore, do not provide groundwater recharge. The basin currently modeled in the proposed conditions HydroCAD includes 8.27 inches per hour of infiltration. The Applicant should revisit the intended design and function of the stormwater wetland to ensure it aligns with the MassDEP Stormwater Handbook. This would include lowering the elevation of the bottom within a portion of the wetland to create a permanent pool and removing the infiltration assumption. Additional detail on the low and high marsh areas should also be provided to confirm it meets the guidance in the Handbook.

14. The sediment forebay sizing calculations provided by the Applicant indicate that the forebay provides 0.25 inches per impervious acre, while the Stormwater Management Standards require a minimum of 0.1 inches per impervious acre. While the Applicant is currently exceeding the required volume, there may be potential to reduce the footprint of the riprap silt trap and sediment forebay. As the basin is proposed within an existing wooded area and buffer zone, optimizing the footprint of the sediment forebay and constructed wetland to reduce vegetative clearing is recommended.

15. The Operation and Maintenance Plan should include the proposed stormwater best management practices, including the constructed stormwater wetland and sediment forebay.

Impacts to Wetland Resource Areas

16. The Notice of Intent indicates that the project will permanently impact 4,936 sf of Bordering Vegetated Wetland, 60 feet of Bank, 504 feet of Land Under Water, and 2,110 feet of Riverfront Area. As noted previously, the limits of the wetland resource areas (Bank, BVW, and Riverfront Area), all associated buffers, and the project limit of work line should be shown on all plans so that these impacts can be confirmed. Preliminary takeoffs by Nitsch indicate that the wetland impacts may exceed 5,000 square feet, so confirmation by the Applicant in terms of the location and quantities of fill area is needed.

17. The proposed wetland replication area is to be located within an existing cleared area that currently serves as a stormwater management facility. The Applicant should clarify if this basin is still actively providing stormwater management and how this function will be replaced elsewhere.

18. Additional detail is needed for the wetland replication area and surrounding wetland. The proposed grades for the wetland replication area should mirror the grades in the surrounding wetland. However, based on the topographic detail provided on Sheet 14, this cannot be confirmed. It is unclear if the replication area will be hydrologically connected to the surrounding wetland. Additionally, the square footage of the wetland replication area should only include the lower elevations where the wetland conditions will be replicated, and not the sideslopes going down to the replication area.

19. The Applicant is proposing two wetland crossings to maintain the hydraulic connection between the wetlands once the raised berm for the rail spur is constructed. Are these crossings also intended to provide a habitat connection? If so, are they adequately sized for that purpose?

If you have any questions, please call us at 617-338-0063.

Very truly yours,

Nitsch Engineering, Inc.

Jennifer Johnson, PE, CFM, CPSWQ, LEED AP
Project Manager

JLJ/mma

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