

May 27, 2021

Mr. Dennis Audette  
Chairman  
New Bedford Conservation Commission  
New Bedford City Hall  
133 William Street  
New Bedford, MA 02744

RE: Nitsch Project #9972  
Panagakos Development  
Phillips Road  
Stormwater Review  
New Bedford, MA

Dear Mr. Audette:

This letter is regarding the stormwater review associated with the Notice of Intent (NOI) submitted for the proposed commercial building development located at the corner of Theodore Rice Boulevard and Phillips Road. Nitsch Engineering received and reviewed the following documents:

- Plans entitled "Assessor's Map 136 – Lot 468, Phillips Road, New Bedford, Massachusetts," prepared by SITEC, dated March 26, 2021; and
- Stormwater Report entitled "Drainage Report – Proposed Commercial Building, Phillips Road, New Bedford, MA," prepared by SITEC, dated March 2021.

The project involves the construction of a new 3,500-square foot commercial building located on a corner lot abutting Theodore Rice Boulevard and Phillips Road, identified as Assessor's Map 136 – Lot 468. The site is currently a vacant wooded lot. A bordering vegetated wetland is located on the western edge of the parcel with most of the site located within the 100-foot buffer zone. The project includes the construction of a new commercial building, 31-space parking lot, site retaining walls, loading area, site utilities, and stormwater management system.

As requested, Nitsch Engineering is providing comments based on our review of the project against the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Management Standards. We also reviewed the intended limit of work and the impacts within the 25-foot wetland resource area buffer zone.

## **GENERAL COMMENTS**

1. The southeast corner of the lot near the loading delivery area appears to have contours that are not labeled. Please label these contours.
2. All impervious areas to drain towards the proposed inlets.
3. Add inverts to roof drains exiting the building.
4. Rename the proposed inlets so that there is a CB#1 and a CB#2.
5. Label all drainage pipe sizes.
6. The TSS removal summary table located under Stormwater Standard No.4 – Water Quality Volume and the TSS Removal Calculation Worksheet in the Drainage Report includes deep sump catch basins. Deep sump catch basins are not proposed for the project. The Applicant shall update the report to remove reference to the deep sump catch basins.

7. The southernmost CB outlet pipe has a pipe slope of 27%. Nitsch Engineering recommends lowering the invert out of the Stormceptor structure to reduce the pipe slope and discharge velocity to prevent downstream erosion.
8. The HydroCAD model shows the stormwater infiltration system has an 8-inch outlet pipe with an invert of 91.20 feet, which is consistent with the plans. Per the "Cultec Contactor 330xLHD Typical Cross Section Detail" the top of chamber is 91.54 feet. The invert for the outlet pipe appears to be too high to work with the proposed system and header configuration. Nitsch Engineering recommends lowering the invert out of the system as necessary and maintaining a minimum 1% pipe slope to the discharge point or provide a manhole structure to allow for the crown of the outlet pipe to be higher than the top of chamber elevation. The infiltration system outlet pipe elevation shall also be checked to confirm a minimum of 2 feet of cover is provided.
9. All work shall be outside the 25-foot wetland buffer zone, including the retaining wall and discharge points. Per the "Flared End W/ Riprap Detail" the riprap shall have a minimum length of approximately 12 feet. The riprap on the plans is shown to be approximately 4.5 feet to avoid the 25-foot wetland buffer zone, which contrasts from the detail. Nitsch Engineering recommends updating the detail to reflect the plan or relocating the discharge points to meet the 12-foot requirement per the detail. If the former option is chosen, please explain how slope stabilization in this area is adequate to prevent erosion.

## **MASSDEP STORMWATER MANAGEMENT STANDARDS**

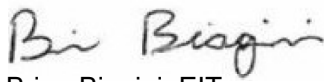
10. The MassDEP Stormwater Management Standards require that Applicants consider environmentally sensitive site design and low impact development (LID) techniques to manage stormwater. These should include reducing impervious surfaces, disconnecting flow paths, treating stormwater at its source, using decentralized systems, maximizing open space, minimizing disturbance, protecting natural features and processes, and enhancing wildlife habitat. There appears to be opportunities to consider additional LID techniques within the proposed project site. These may include considering making the parking lot one-way to reduce pavement widths and use of vegetated areas and natural processes to provide stormwater treatment (i.e., rain gardens, bioretention, bioswales, or tree filters). These types of systems may offset the need for catch basins and proprietary water quality structures and will reduce the size of the subsurface infiltration system.
11. The Applicant shall provide a stamped and signed Stormwater Report Certification and Checklist per the Stormwater Management Standards.
12. The Applicant should provide an Illicit Discharge Compliance Statement as required per Standard 10 in the Checklist for Stormwater Report.
13. Page 2 of the drainage report states that the 25-year storm was analyzed, but it does not appear that it was accounted for in the HydroCAD calculations. Nitsch Engineering recommends including the 25-year storm in the HydroCAD calculations or updating the text so that it is consistent with the calculations.
14. The Applicant shall provide calculations for the required recharge volume and the recharge volume provided. Additionally, the Applicant shall provide drawdown calculations confirming that the infiltration system will drain completely within 72 hours.

15. The Drainage Report appears to use the Natural Resources Conservation Service (NRCS) Web Soil survey to obtain soil information for the HydroCAD model. The stormwater infiltration system appears to be within soil type 260A – Sudbury Fine Sandy Loam per the Proposed Conditions Drainage Plan which is a Hydrologic Soil Group B. Per the Massachusetts Stormwater Handbook, the infiltration rate for this type of soil is 1.02 inches per hour. The HydroCAD model appears to use an infiltration rate of 8.27 inches per hour which is indicative of a Hydrologic Soil Group A – sand soil. Nitsch Engineering recommends updating the infiltration rate to reflect Sandy Loam, or conduct test pits by a licensed soil evaluator showing that sand is present in the proposed stormwater infiltration area or perform field infiltration testing.
16. The Applicant calculates the Water Quality Volume using 0.5 inches of runoff. Per Oliver Geographic Information System (GIS), the site appears to be within an Outstanding Resource Water. The Massachusetts Stormwater Standards require project sites within Outstanding Resource Water areas to calculate Water Quality Volume using 1-inch of runoff times the total impervious area of the post-development project site. The Applicant shall update the calculations to use 1-inch of runoff.
17. The Applicant shall confirm that there is a 2-foot separation between the bottom of the Stormwater Infiltration system and the seasonal high groundwater table, per the Massachusetts Stormwater Handbook.

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

Very truly yours,

**Nitsch Engineering, Inc.**



Brian Biagini, EIT  
Senior Project Designer



Joshua Soares, PE  
Project Manager

BJB/jms/ajc