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March 6, 2017

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

RE: Nitsch Project #9972
50 Duchaine Boulevard
Review Letter
New Bedford, MA

Dear Mr. Dixon:

This letter is in regards to the proposed NStar Energy Company project located at 50 Duchaine Boulevard in New Bedford, Massachusetts. Nitsch Engineering has received and reviewed the following revised documents for compliance with the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Management Standards:

- Site Plans for 50 Duchaine Boulevard (sheets 3a, 5, 5a, 7, and 8) prepared by Farland Corp., dated November 18, 2016, no revision date; and
- Cover letter, responses to comments, and supplemental calculations dated February 17, 2017.

With regards to the revised materials, we have the following and remaining comments on MassDEP Stormwater Management Standards:

1. As discussed during the Parallel Products project review, the existing wet area located at the southernmost portion of the site is considered a jurisdictional wetland resource area under the Wetlands Protection Act. Therefore, all proposed stormwater treatment, recharge, and peak flow mitigation must occur prior to discharging into the area. Currently, the peak flow directed towards this wetland (referenced as "Existing Detention Basin" in HydroCAD) is higher in the proposed condition than the existing condition. Therefore, Standard 2 of the MassDEP Stormwater Management Standards is not being met. The response indicated that there was a reduction in flows to the wetland. However, review of the calculations shows that there is a reduction in flows being discharged from the wetlands and not to the wetlands.

2. In the proposed conditions HydroCAD model, the time of concentration for subcatchment S-10 (proposed parking lot) is listed as 16 minutes. We recommend that this be revised to 6 minutes, consistent with the MassDEP stormwater handbook and standard engineering practice for paved areas. The Applicant's engineer has indicated that this change has been made to the HydroCAD calculations. However, those calculations were not submitted for review.

3. The Applicant is using the Dynamic Storage Indication (Dyn-Stor-Ind) pond routing for the proposed conditions. While Nitsch Engineering agrees that the method is appropriate for the proposed conditions, we would request that the model messages and error report be included in the HydroCAD output to confirm that there are no HydroCAD issues created by using the Dyn-Stor-Ind routing setting. The model output appears to indicate that the time step has been increased by 3. It is unclear why this is necessary. The Applicant's engineer has indicated that this change has been made to the HydroCAD calculations. However, those calculations were not submitted for review.

4. Large portions of the proposed project site, including drainage areas S-3, S-4, S-6, S-7, and S-9 discharge to jurisdictional wetland resource areas with minimal treatment or peak flow mitigation. These areas include new impervious roadway and parking areas and should be designed in

compliance with the water quality treatment requirements of Standard 4. The Applicant's engineer has indicated that they would replace the most downstream manhole with a water quality unit to provide treatment. We recommend they add the water quality units to the plans and provide the appropriate sizing information.

5. MassDEP Stormwater Management Standard 8 requires the preparation of a construction period erosion and sediment control plan for project sites greater than 1 acre. Since the project is greater than 1 acre, it also requires a National Pollutant Discharge Elimination System (NPDES) Construction General Permit and the preparation of a Stormwater Pollution Prevention Plan (SWPPP). MassDEP allows the preparation of a single document that fulfills both of these requirements. Nitsch Engineering recommends that the Conservation Commission include a Condition, if the project is approved, that requires the SWPPP be submitted for review prior to the start of construction.

6. The Applicant's engineer has provided additional supporting information with regards to the stormwater management design as requested in our previous letter. With regards to the water quality volume calculations, we disagree with the Applicant's approach. The Applicant's engineer has provided the entire recharge volume that exists in the sump of the detention basins as the water quality volume. The water quality volume is typically calculated as the amount of volume provided prior to discharge to the infiltrative area of the detention basin. Therefore, the sediment forebays should be designed to hold the water quality volume.

7. Closed drainage calculations were provided. However, a number of pipe segments show surcharging during the 10-year storm. Typically, pipes are sized so there is no surcharge during the 10-year storm.

8. The Stormwater Management Guidelines require that a foot of freeboard exist between the top of berm and the 100-year storm elevation. Two basins, Detention Basins #1 and #3, show 6 inches of freeboard during the 100-year storm.

We appreciate the opportunity to review this project for the Conservation Commission. Please contact us with any questions.

Very truly yours,

Nitsch Engineering, Inc.

Scott D. Turner, PE, AICP, LEED AP ND
Director of Planning

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