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April 1, 2016

Mr. John Radcliffe
Chairman
New Bedford Conservation Commission
New Bedford City Hall
133 William Street
New Bedford, MA 02744

RE: Nitsch Project #9972
1861 Shawmut Avenue
Review Letter
New Bedford, MA

Dear Mr. Radcliffe:

This letter is in regard to the proposed A-1 Asphalt project located at 1861 Shawmut Avenue in New Bedford, Massachusetts. Nitsch Engineering has received and reviewed the following documents for compliance with the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Management Standards:

- Site Plans entitled "Plan of Site Improvements, Prepared for Anthony R. DeCosta, dba A-1 Asphalt Co., 1861 Shawmut Ave," prepared by Charon Associates, Inc., revised March 10, 2016;
- Notice of Intent for 1861 Shawmut Avenue; and
- Storm Drainage Report, dated February 25, 2016, prepared by Charon Associates, Inc.

We performed a site visit on March 30, 2016 with New Bedford Conservation Agent Sarah Porter. The site is an active soil and aggregate recycling facility with a gravel parking and equipment storage areas, staging area, and material stockpiles. Bordering vegetated wetlands are located along the southern and eastern property boundary. The Applicant intends to move the soil and aggregate stockpiles and operations away from the wetland boundary, restoring a 50-foot vegetated buffer. To minimize dust and tracking of soil offsite by trucks, the Applicant is proposing to convert the existing gravel driveway to a paved driveway with a stone sediment trap. Although there is a slight increase in impervious area requiring stormwater mitigation, the project is substantially an erosion control and buffer restoration project.

We reviewed this project with respect to the MassDEP Stormwater Management Standards, as provided below:

1. At the site visit, the Owner indicated that he would like to install a second basin on the west side of the driveway, closer to the stone sediment trap, and a channel along the edge of the driveway to convey the run-off to the basins. We agree that this approach would provide additional stormwater treatment and recommend that these items be added to the plans. The calculations should be revised as needed to encompass these changes.

2. Stormwater calculations were provided to demonstrate that the proposed basin on the west side of the driveway will mitigate run-off generated by the new paved driveway. Based on the HydroCAD file, the basin appears to be adequately sized to infiltrate up to the 100-year storm event, assuming that all of the run-off from the driveway is conveyed to the basin. We recommend reviewing the driveway grading to ensure that sufficient cross pitch is provided to direct flow to the basin.

3. Since the infiltration rate of the basin is greater than 2.4 inches/hour (sandy soils), MassDEP requires 44% pretreatment of stormwater run-off prior to discharge into the basin. The proposed sediment forebay provides 25% TSS removal. Nitsch Engineering recommends that the Applicant review options to increase the pretreatment removal efficiency. As noted above, the Owner suggested that a channel

may be added to the design. The combination of a grass channel and the sediment forebay would achieve the required 44% TSS removal.

4. In accordance with the MassDEP Stormwater Management Standards, sizing calculations should be provided for the proposed sediment forebay.

5. We recommend extending the stone sediment trap at the driveway entrance to be 50 feet and therefore be consistent with EPA recommendations (the length of two [2] dump trucks). A detail should be provided for the rock stone trap, including a geotextile fabric under a layer of aggregate at least 12 inches thick. The stones should be 3-6 inches in diameter, similar to MassDOT modified rockfill (M2.02.4).

6. The plans indicate that all stockpiles will be relocated outside of the 50-foot wetland buffer and that boulders will be installed to indicate the 50-foot wetland boundary. A minimum 10-foot grass strip and some sections of silt barrier are proposed for erosion control and sediment protection. We recommend that the plans include the following information to restore all disturbed areas within the 50-foot buffer zone:

   a. Removal of all stockpiles and debris;

   b. Restoration of all disturbed areas with plantings and conservation seed mix or erosion control mix to create a continuous 50-foot vegetated buffer along the entire wetland line; and

   c. A permanent erosion control barrier at the base of the stockpiles to prevent migration of material into the 50-foot buffer. The proposed silt barrier, a straw wattle, is a temporary, biodegradable measure that would require frequent inspections and maintenance.

7. The Applicant is proposing a 10-foot high earthen berm to reduce noise from the crushing and grading operation. It appears that the construction of the berm will create a low point at elevation 82 on the south side of the berm. The grading in this area should be reviewed to ensure a ponded area is not created.

8. Design information not provided for the existing retention basin. At the time of the site visit, the basin was holding standing water and appears to be located in areas with restrictive wetland soils.

   a. It appears that the basin grading provided on the plans is the design grading rather than surveyed topography. We recommend that an as-built survey be prepared.

   b. We recommend that the Applicant provide design calculations for the existing basin in the stormwater report to confirm that it is adequately sized for the contributing drainage area. If site conditions and contributing drainage area have changed since the basin was constructed, we recommend confirming that the basin size still meets the design intent.

   c. The existing basin does not appear to have an outlet control structure/pipe or emergency overflow spillway. We recommend that the Applicant consider providing a stabilized riprap overflow for large storm events.

9. Grading is not indicated for the drainage swale proposed on the south side of the property. This should be added to the plans to provide positive drainage towards the existing basin.

10. The plans appear to indicate tree removal within the 50-foot buffer to install the sediment forebay in the southern portion of the site. We recommend that the design be reconfigured to minimize tree clearing to the maximum extent possible.

11. The Operation and Maintenance (O&M) Plan should include maintenance activities and frequencies for all proposed erosion control and stormwater management practices, including the drainage swale and check dams, wet basin, infiltration basin, sediment forebays, vegetated filter strip (buffer restoration area), stone sediment trap, stockpile protection measures, and permanent erosion control barriers.

12. In accordance with the MassDEP Stormwater Management Standards, a MassDEP Stormwater Management Checklist, Illicit Discharge Compliance Statement, and Long-Term Pollution Prevention Plan should be provided in the Stormwater Report.

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

Very truly yours,

Nitsch Engineering, Inc.

Jennifer L. Johnson, PE, CPSWQ, LEED AP BD+C
Senior Project Engineer

Approved by:

for

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

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