



January 26, 2009

Mr. John Radcliffe, Chairman
New Bedford Conservation Commission
133 William Street – Rm 304
New Bedford, MA 02740

RE: Response Letter
50 Duchaine Boulevard
New Bedford, Massachusetts

Dear Mr. Radcliffe,

On behalf of the applicant, Parallel Products of New England, please find revised Site Plans and Stormwater Report enclosed with this letter. Revisions have been made in response to the comment letter prepared by Nitsch Engineering dated January 13, 2016 in regards to their review of the Site Plans. Our responses to the comments provided by Nitsch Engineering are provided on the following pages.

We trust the attachments noted above and included herewith will provide the necessary documentation to address their comments. If you should have any questions, please feel free to contact us.

Very Truly Yours,

Thompson Farland, Inc.

Christian A. Farland

Christian A. Farland, P.E., LEED AP
Principal Engineer and President

cc: File, Client

www.FarlandCorp.com

(Main Office) 398 County Street, New Bedford, MA 02740 • P.508.717.3480 • F.508.717.3481

Nitsch Engineering Comments

Comment #1:

The existing conditions survey and proposed site plans are missing utility and grading information, including structure inverts, pipe sizes, and spot grades. Also, the copy of the Stormwater Report that we received was missing Exhibit H-Drawdown Calculations, Exhibit I-Water Quality Volume Calculations, Exhibit J-TSS Removal Calculations, Exhibit K-Sediment Forebay Sizing Calculations, and Exhibit L-Operation and Maintenance Plan. Therefore, we were not able to review this information for compliance with the MassDEP Stormwater Management Standards. Once these are submitted, we will review them and may issue additional related comments.

RE: Existing stormwater utility information including structure inverts and pipe inverts were not collected during survey because the majority of the existing closed conduit drainage system is proposed to remain unaltered by the proposed construction. Where overflow devices from Infiltration Basins 3 and 4 have been proposed to tie into the existing manholes, pipe sizes and slopes are designed to match the existing culverts at these locations. Flow to these basin overflow outlets is less than the amount of flow within the existing pipes at these locations. Additional existing spot grades have been provided.

Comment #2:

Based on a site visit and conversation with the Conservation Agent, Sarah Porter, 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. To confirm that the proposed flow directed towards the area is the same or less than the existing flow, the existing and proposed conditions HydroCAD model should be revised to model the wetland area as a Design Point rather than a Pond.

RE: The existing stormwater basin at the southernmost portion of the site has been delineated as a jurisdictional wetland resource area. We agree that the required water quality treatment and recharge must occur prior to discharge to the area. The proposed design does not account for any water quality volume or recharge volume within the basin. We feel that peak rate attenuation is not required prior to discharge to the basin wetland resource area. The basin, although a wetland resource area, is contained entirely on-site and effectively provides peak rate attenuation prior to stormwater reaching the down-gradient property boundary.

Comment #3:

The existing site contains a stormwater management system consisting of a closed drainage system and six stormwater basins surrounding the building:

- *At the northeast corner of the existing building;*
- *North of the existing building that appears to connect to the depression at the northeast corner;*

www.FarlandCorp.com

- Along the retaining stone wall located near the northwest site entrance;
- West of the existing building;
- At the southwest corner of the existing building; and
- At the southeast corner of the existing building.

The existing conditions HydroCAD model only includes the jurisdictional wetland area discussed in Comment #2. The existing conditions HydroCAD model should be revised to include the detention and infiltration that occurs in all of the existing stormwater basins. This will significantly impact the existing condition calculations and therefore the proposed mitigation strategies. Infiltration rates used for the existing conditions calculations should be consistent with the proposed conditions calculations.

RE: The existing depressions located around the building have been incorporated into the existing model. Additional topographic information was incorporated into the existing conditions at the wooded portions of the depressions at the southeast corner of the building and at the west side of the building, where previous survey was incomplete. Infiltration rates used for existing conditions have been selected based on the Rawls Rates at the location and soil depth where recharge will occur. Under existing conditions, stormwater recharge will occur in the sandy loam topsoil and subsoil horizons. Under proposed conditions, these soil horizons will be removed at the location of the proposed infiltration basins, and recharge will occur in the underlying C layer, comprised of sand.

Comment #4:

The Applicant indicates that portions of the proposed project are considered a redevelopment under the MassDEP Stormwater Management Standards since the building and site access driveway is existing. Under Standard 7, redevelopment projects are defined as, "Development, rehabilitation, expansion and phased projects on previously developed sites, provided the redevelopment results in no net increase in impervious area." Since the project results in a 4.6-acre increase in impervious area and there are substantial changes proposed to the site and stormwater management system, a vast majority of the site is considered a new development and should be designed to meet all of MassDEP Stormwater Management Standards. The existing site driveway that is to remain could be considered a redeveloped area; however, the Applicant should confirm that the same level of treatment is being provided in the proposed condition as the existing condition.

RE: Stormwater runoff from those areas of the site where new impervious areas have been proposed will be managed by stormwater systems which have been designed to comply fully with all Stormwater Management Standards. Portions of the existing impervious area proposed to remain, including the northern portions of the existing site driveway, will also be captured by the proposed stormwater basins, designed to fully comply with Stormwater Management Standards. Runoff from the existing roof area and the southern portion of the existing site driveway will remain unchanged, providing the same level of treatment in existing conditions and proposed conditions.

Comment #5:

As noted in the Stormwater Report, the NRCS Soils map classifies the onsite soils as mostly Hydrologic Soil Group (HSG) "A," with HSG B/D and A/D around the site perimeter. The NRCS Report clarifies that when a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Because the areas within the project limit of work are upland areas, rather than wetland areas, we recommend using HSG A and B rather than D for the hydrologic model and recharge calculations.

RE: Calculations have been revised to use the recommended HSG A and B for the hydrologic model and recharge calculations.

Comment #6:

The detail provided on Sheet 6 for Beehive Catch Basin does not appear to show a beehive-style (domed) grate. Please confirm the design intent.

RE: The detail provided on Sheet 6 has been revised to show a beehive-style grate.

Comment #7:

The site plans indicate that stormwater from the trench drains on the north side of the building are to be pumped up to Infiltration Basins 1B and 2A. Details for this system are not provided on the plans, including pump sizing and structure inverts, and the pumps are not modeled in HydroCAD.

RE: Additional detail has been provided on the plans, including pump sizes and structure inverts, and the pumps have been modeled in HydroCAD. Pumps and pump chamber have been designed to accommodate the 10-year storm event. Runoff from larger storm events will surcharge the trench grates, with some ponding occurring against the loading docks.

Comment #8:

In the proposed conditions HydroCAD model, the time of concentration for subcatchment PR-1A (proposed parking lot) is listed as 15 minutes. We recommend that this be revised as 6 minutes, consistent with standard engineering practice for paved areas.

RE: The time of concentration has been revised to 6 minutes as recommended.

Comment #9:

The infiltration basin labels on the plans are not the same as the proposed conditions HydroCAD model. These should be revised for consistency.

RE: Basin labels have been revised accordingly.

Comment #10:

The relationship and HydroCAD routing between infiltration basins 1A and 1B should be reviewed. The two basins are joined by two culverts which effectively enables them to act as one basin. The Applicant should review this condition and confirm that the HydroCAD model is consistent with the design intent. This condition is also present at the two basins labelled as “Infiltration Basin-2A” in the northwest corner of the site.

RE: A Dynamic SI method has been utilized for HydroCAD calculations, which allows the routing to respond to ongoing tailwater changes in the model. Where the outlet pipes from Basin 1B (and Basin 1D) are slightly elevated above the bottom of the basin, modeling the basins separately allows a small amount of infiltration to occur prior to discharge to Basin 1A (and Basin 1C).

Comment #11:

Details should be provided for the sediment forebay, overflow berms, curb cuts, flared end sections, and riprap aprons.

RE: Sediment forebay, emergency overflow, curb opening, flared end, and riprap apron details have been provided.

Comment #12:

With the exception of Infiltration Basin 5, the proposed infiltration basins do not appear to provide the 1 foot of freeboard in the 100-year storm that is required by MassDEP.

RE: Due to the high estimated seasonal high groundwater elevations encountered throughout the site, all proposed infiltration basins are designed with a maximum depth of two feet, except for Infiltration Basin 5, which is three feet deep. A minimum freeboard of ½ foot has been provided on all basins. Given the shallow basin depth, we feel that any fluctuation in the calculated brimful storm elevations due to design uncertainty would not impinge upon the structural integrity of the basin.

Comment #13:

The Applicant indicates that a NPDES Multi-Sector General Permit covers the land use, which means that the project is considered a Land Use with Higher Potential Pollutant Loads (LUHPPL) under Standard 5 of the MassDEP Stormwater Management Standards. Standard 5 requires the following for LUHPPL sites:

- *A detailed source control and pollution prevention plan;*
- *Water quality volume for 1-inch times the total impervious area;*
- *Pretreatment requirements to address the potential for higher pollutant loads of oil and grease by an oil grit separator, a sand filter, organic filter, filtering bioretention area, or equivalent; and*
- *44% TSS removal prior to discharge to an infiltration device.*

The Applicant should provide documentation that demonstrates compliance with these requirements. A Long Term Pollution Prevention Plan was provided as Attachment M and does

www.FarlandCorp.com

appear to meet the requirements of Standards 4 and 8. We suggest adding further direction to the spill management section that clarifies what should be used to cover the catch basins cuts during spills.

RE: The Long Term Pollution Prevention Plan provided as Attachment M is intended to serve as the detailed source and pollution prevention plan. It is also noted that a SWPPP, which includes a detailed source pollution and pollution prevention plan, is a requirement of the Multi-Sector General Permit. Water quality volume has been calculated for 1-inch times the total impervious area. The land use is not a high-intensity-use parking lot, gas station, fleet storage area, or vehicle service and equipment cleaning area which would have the potential to generate runoff with high concentrations of oil and grease. 44% TSS removal has been achieved prior to all discharges to infiltration devices.

Comment #14:

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 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 Commission include a Condition, if the project is approved, that requires the SWPPP be submitted for review prior to the start of construction.

RE: Agreed.