

August 6, 2018

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

RE: Nitsch Project #9972  
Tarkiln Hill Road &  
Kings Highway Improvements  
New Bedford, MA

Dear Mr. Dixon:

This letter is in regard to the proposed road and drainage improvements along Tarkiln Hill Road and Kings Highway in New Bedford, Massachusetts. Nitsch Engineering has reviewed the following revised documents for compliance with the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Management Standards:

- Response to comments letter prepared by the Department of Public Infrastructure, dated August 2, 2018;
- Appendix "D" Drainage Calculations – Revised July 2018;
- Storm and Sanitary Sewer Analysis for piping between existing drain manhole 160 and headwall 471;
- Plan entitled "Notice of Intent Submission Plan, Tarkiln Hill Road, Proposed Drainage Plan," (sheet 5) prepared by City of New Bedford Department of Public Infrastructure, revised through August 2, 2018;
- Plans entitled "New Bedford Kings Highway Improvements, sheets 75-80," prepared by CDM Smith, no date;
- Plans depicting boring locations, no date;
- Plans entitled "New Bedford Kings Highway Improvements, sheet 82," prepared by CDM Smith, no date;
- Report entitled "Operation and Maintenance Plan and Long-Term Pollution Prevention Plan, Kings Highway Improvements, Kings Highway, New Bedford, MA," no date;
- Boring logs, prepared by Jacobs, dated April 11, 2018;
- Boring logs, prepared by CDM Smith, dated April 26, 2018; and
- Plan entitled "Figure 2, Boring Location Plan, Culvert at Tarkiln Hill Road, New Bedford, Mainline," prepared by Jacobs Engineering, no date.

The proposed project was submitted in two components designed by two different entities. Road Improvement plans, which include geometric alterations as well as stormwater management improvements, were designed and prepared by CDM Smith. The Stormwater Report was also prepared by CDM Smith. Offsite stormwater improvements and wetlands alterations and mitigation were designed by the New Bedford Department of Public Infrastructure. Not all of the plans and supporting information submitted for the first review was submitted for the second and third review. A conference call was held on August 1<sup>st</sup> to discuss the comments.

Below are our comments on the proposed project, regarding stormwater management only:

1. The project meets the definition of a redevelopment project as defined by Standard 7 of the Standards.
2. Sizing calculations were provided for the proposed 4-foot x 3-foot box culvert which demonstrate that the culvert is sized appropriately. Drainage calculations were submitted depicting flows to existing and proposed structures, pipe lengths, flows, as well as information regarding the proposed Best Management Practices (BMPs). Generally, these calculations appear to be fine although there is not

enough information to understand whether the proposed piping system is sized correctly. There are no comparisons between piping capacity and calculated flows to each pipe. The response to comments letter states that there is some surcharging of proposed piping during the 10-year storm. In some cases, the hydraulic grade line is less than 12 inches below the rims of catch basins. The Applicant has stated that due to the highly urbanized nature of the project site, as well as subsurface constraints, that the proposed piping system will experience surcharging and there are no options to alleviate that condition. This was discussed during the August 1<sup>st</sup> conference call.

3. The bioretention basins treat less than one (1) acre out of the six (6) acres within the project area. Some level of treatment is provided for an additional 24 acres outside of the project area. This level of treatment includes either street sweeping, deep sump catch basins, or a combination of the two which provides far less than 80% Total Suspended Solids removal rate. Therefore, water quality treatment provided on this project is limited to a very small percentage of the project area. The proposed system, by virtue of installing new catch basins with hoods and sumps, will represent an improvement to the existing system and provide additional water quality benefits. The Applicant states in the response to comments letter that other water quality systems, such as structural water quality systems or below grade storage, are not feasible.
4. The project includes a net increase of 29,800 square feet of impervious surface. This increase results in an increase in peak flows to the existing wetland NBS(3) for all storm events. The Standards indicate that additional impervious surface must be treated as new development and meet Standard 2 regarding increase in peak flows. The Applicant's response indicates that this is to be expected and has requested a waiver from meeting this Standard.
5. We recommend the plans that were prepared by DPI and CDM be more closely coordinated. For example, we recommend that the plans and numbering of structures be coordinated for clarity. It is unclear where the limit of work for each 'project' begins and ends. The Applicant has stated that DPI has revised their plans to cross reference CDM plans. However, a revised set of plans has not been submitted by DPI, with the exception of sheet 5.

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

Very truly yours,

**Nitsch Engineering, Inc.**



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

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