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September 03, 2021
VIA EMAIL

Ipswich Planning Board
Town Hall
25 Green Street
Ipswich, MA 01938

RE: 57 & 59 Mitchell Road – Site Plan Review Application
3rd Drainage and Stormwater Management Review (Task 3)

Mr. Ethan Parsons and Planning Board Members:

As requested, I have continued a drainage and stormwater management review of the above referenced project. In response to the 2nd (Task 2) Review dated July 23, 2021, the following supplemental and/or revised plans and documents were received from and prepared by Graham Associates, Inc. of Ipswich, MA (unless otherwise noted).

- Correspondence from Graham Associates to the Ipswich Planning Board, dated August 19, 2021, regarding written response to the 2nd review.
- “Permit Plan prepared for C&J Realty Trust...” consisting of four (4) sheets, all dated March 8, 2021, and revised to August 19, 2021.
- “Stormwater Management Report...” dated March 8, 2021, and revised to August 19, 2021, including attachments for a Long Term Pollution Prevention Plan, a Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan, a Post Construction Operation and Maintenance Plan, and an Illicit Discharge Statement.

After review of the supplemental/revised plans and documents, all of the stormwater management, drainage, and DEP stormwater items identified in the 2nd Review have been resolved to my satisfaction with one noted exception as follows:

1. The submitted groundwater mounding analysis (performed for infiltration basin 2) is inadequate and should be rerun utilizing a more appropriate time increment (i.e., the duration of the infiltration period). The submitted calculation utilizes a time increment of approximately 30 minutes, which is too short. A revised analysis should be provided utilizing a time increment that is more representative of the total time that the infiltration pond will be exfiltrating runoff. A commonly utilized time increment is 24 hours, which is reflective of the design storm duration. In addition, the analysis should demonstrate that the groundwater mound will not rise to the level of the infiltration basin bottom.

Additional Planning Board Considerations: The following items were included in the 2nd Review and are restated for the convenience of the Board as they relate to quality assurance and long term care of the drainage and stormwater management infrastructure.

1. To confirm soil and groundwater conditions at the site, additional soil testing should be conducted at Infiltration Basin IB2 prior to the start of construction. MA DEP Stormwater Handbook requires three soils tests to be conducted within each infiltration basin proposed whereas only one has been provided. In addition, a soil permeability test should be conducted to confirm the accuracy of the infiltration rate assumed in the calculations. An engineering report summarizing the findings of these tests should be submitted to the Planning Board. No objection is offered to the Applicant's request that this requirement be addressed as a condition of approval (should an approval be granted by the Planning Board).
2. To ensure that construction of the stormwater management system is conducted in accordance with the design, an as-built plan of the completed project should be submitted to the Planning Board along with a report from the engineer of record indicating whether or not construction complies with the design intent. The as-built plan and engineering report should also be appended to the final version of the 'Post-Construction Operation and Maintenance Plan' prepared for the stormwater management system, for the property owner's future use and reference.
3. The following documents should be incorporated as part of any Planning Board approval:
 - a. The 'Long-Term Pollution Prevention Plan.'
 - b. The 'Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan.'
 - c. The 'Post-Construction Operation and Maintenance Plan.'

Please feel free to contact me if you have any questions or require any additional clarification of the above comments and opinions.

Very truly yours,

R.E. Puff

Robert E. Puff, Jr., PE

cc: Larry Graham, PE (via email)