

August 6, 2021

Town of Belmont Planning Board
Attn. Mr. Ara Yogurtian
Office of Community Development
Homer Municipal Building
19 Moore Street, 2nd Floor
Belmont, Massachusetts 02478

RE: Olmsted Road – McLean Hospital Zone 3, Stormwater Peer Review

Dear Planning Board Members:

BSC Group, Inc. (BSC) has completed our peer review of the stormwater management design relative to the Site Plan Application for a proposed residential development to be located within McLean Hospital Zone 3 at a site located on Olmsted Road in Belmont, Massachusetts. The project site is approximately 12.8 acres in size. The project involves the construction of fourteen townhouses, multifamily apartment buildings with associated driveways, parking areas, utility improvements and landscaping.

BASIS OF REVIEW

As part of our peer review, BSC reviewed the following documents:

- *Design and Site Plan Approval Application Package – The Residence at Bel Mont*, prepared by Northland Residential Corporation, dated April 16, 2021.
- *Stormwater Report, The Residences at Bel Mont, Olmsted Drive, Belmont, MA*, Vanasse Hangen Brustlin, Inc. (VHB), dated April 16, 2021.
- *Plan Set, The Residences at Bel Mont, Olmsted Drive, Belmont, MA*, prepared by Vanasse Hangen Brustlin, Inc. (VHB), dated April 16, 2021.

REVIEW CRITERIA

BSC's review of the above listed material was conducted utilizing the following standards and regulations:

- Town of Belmont Zoning By-Law,
- Town of Belmont Stormwater Management and Erosion Control By-Law, Article 34,
- Town of Belmont Stormwater Management and Erosion Control Rules and Regulations,
- Massachusetts Department of Environmental Protection (DEP) Massachusetts Stormwater Handbook (the Handbook).

REVIEW COMMENTS

1. BSC is in receipt of several comments from abutters regarding stormwater on the site and existing flooding issues. Of specific concern are abutter statements that the existing conditions as shown on the design plans does not match the actual conditions on site. The plans indicate that existing conditions are from *Existing Conditions Plan*

Engineers

Environmental
Scientists

Custom Software
Developers

Landscape
Architects

Planners

Surveyors



of Land dated May 27, 2016, prepared by VHB. Have any efforts been made to verify the site conditions match the 2016 survey? Has any site work occurred since the 2016 survey that may have altered the existing conditions and effected stormwater?

2. Near the intersection of Olmstead Drive and Driveway #1, there appear to be two existing catch basins connected to a drain manhole with an outlet pipe that does not appear to connect to a drainage system or discharge anywhere. We request the Applicant clarify the condition of this stormwater system and if it needs to be revised in anyway due to the proposed Project.
3. We request the Applicant clarify the connection to the existing stormwater management system in Olmstead Drive west of Building 7 and any revisions to the existing stormwater system required to make this connection while maintaining functionality of the existing system.
4. The Applicant should justify modeling the site as all Hydrologic Soil Type A. NRCS classifies the site soils with Hydrologic Soil Group A and D as indicated on Figure 2, Existing Drainage Conditions Plan and Figure 3, Proposed Drainage Conditions Plan.
5. Test borings were conducted in April 2000 and have been used by the Applicant to establish soil type and groundwater elevation. It is unclear if any of these boring locations are within the infiltration areas shown on the Grading and Drainage Plans. It is recommended that these boring locations be added to the plans. Additionally, soil evaluations should be conducted at the location of all proposed infiltration BMP's to confirm soil texture classification and estimated seasonal high groundwater in accordance with the Handbook. The Stormwater Report states an assumed infiltration rate of 1.02 in/hr, consistent with HSG B soil sandy loam, which should be confirmed on-site for each proposed infiltration BMP. The Applicant is proposing additional test pits within BMP areas be conducted prior to construction. We recommend that these test pits be performed prior to approval by the Board due to the significant revisions to the stormwater management systems that could be required if actual soil and groundwater conditions differ significantly from assumed conditions.
6. Table 3, Peak Discharge Rates, Design Point 3 to Intermittent Steam, shows that the existing and proposed discharge rates for the 25-year rainfall match at 1.6 cfs. However, the existing HydroCAD Summary for Design Point 3 shows a peak flow of 1.58 cfs and the proposed HydroCAD summary for Design Point 3 shows a peak flow of 1.61 cfs. The proposed runoff rates for this storm should be revised such that the proposed discharge rate does not exceed the existing discharge rate for Standard 2 of the Mass DEP Stormwater Management Standards.
7. In order to confirm recharge volumes provided, the Applicant should provide stage-area-storage tables from HydroCAD with lowest outlet elevation identified.
8. As not all runoff is directed to infiltration BMP's, an adjusted required recharge volume must be provided in accordance with Volume 3, Chapter 1 of the Handbook.
9. Per the Handbook, infiltration trenches shall be located a minimum distance of 20 feet from building foundations. The proposed infiltration trenches for Buildings 7, 8, 9 appear to be within this setback.
10. The TSS removal calculation worksheet provided for Drainage Areas PR-1, PR-6 and PR-7 states that the proposed water quality units will achieve a TSS removal rating of 90%. This is a significant increase in TSS removal compared to the Water Quality Unit provided for Drainage Areas PR-5 and PR-7. Justification should be provided for



the TSS removal rates stated.

11. The TSS removal calculation worksheet provided for Drainage Area PR-5 and PR-7 states pre-treatment as deep sump hooded catch basin to water quality unit prior to infiltration. However, surface parking area runoff to Infiltration System-1 and 3 is routed by catch basins only.
12. For the Phosphorous Removal Calculations provided in Appendix F, Phosphorous Loading, the hydrologic soil type for the pervious surfaces is shown as HSG B. However, hydrologic modeling for the site uses a HSG rating of A. Justification should be given for the assigned different soil groups.
13. The bottom elevation of infiltration trench 4P is set at 169.00 and groundwater in this location is assumed to be elevation 167.00. This separation to groundwater is less than 4 feet and a mounding analysis is required in accordance with Volume 3, Chapter 1 of the Handbook.
14. The Long-Term Pollution Prevention Plan references an “attached Snow Storage Plan” which is not provided. We recommend snow storage areas be shown on the Project’s site plans as well as an attachment to the Long-Term Pollution Prevention Plan.
15. We recommend dimensions for stone rip-rap protection at flared end sections be added to the applicable detail.
16. The information provided on the Outlet Structure Chart for the *Outlet Control Structure with Weir (OCS)* detail on Sheet C9.03 does not match the information in HydroCAD for Inf-1 and Inf-2. The detail should be updated to match the design.
17. Per Town of Belmont Stormwater Management and Erosion Control Rules and Regulations, Impact on Streams, Wetlands or Storm Sewers (Bylaw Section F.4(d)), *If the discharge is to the MS4, the Stormwater Management and Erosion Control Plan must include a certification that the discharge meets Massachusetts Surface Water Quality Standards and any applicable approved Total Maximum Daily Load (TMDL) waste load allocation is included in the Report.* Certification should be provided per the Town Rules and Regulations.

Upon receipt of any additional information requested above and any responses to comments from the Applicant, BSC Group will update this letter report for the Board. Please feel free to contact me at (617) 896-4386 or drinaldi@bscgroup.com should you have any questions on the information in this report.

Sincerely,
BSC Group, Inc.

Dominic Rinaldi, P.E., LEED AP BD+C
Senior Associate

cc: Mike Santos, BSC
Chris Thomas, BSC