

DECEMBER 2, 2024

www.bscgroup.com

Newton Conservation Commission
Planning & Development Department
1000 Commonwealth Avenue
Newton, MA 02459

Re: Wetland and Engineer Peer Review
Toll Brothers - 40B Development - DEP File # 239-977
184-unit multi-family residential building
528 Boylston Street in Newton, Massachusetts

Dear Jennifer Steel, Ellen Menounos and Members of the Newton Conservation Commission:

BSC Group, Inc. (BSC) has reviewed the plans, stormwater report, NOI Application, and other materials related to the Notice of Intent (NOI) submission for the proposed 184-unit residential development with associated access, parking, and utilities at 528 Boylston Street in Newton, Massachusetts. Activities are proposed within Bordering Land Subject to Flooding (BLSF), Bordering Vegetated Wetland, Riverfront Area and 100-foot buffer zone to Bordering Vegetated Wetlands (BVW).

BSC provided our initial comments to the proposed Project in a letter to the Commission dated October 2, 2024. This letter provides our comments and recommendations to the information and materials (listed in the Documents Reviewed section below) provided in response to that letter.

In this report

- *under-lined italic* font denotes BSC's comments;
- **bold-face** font denotes Bohler's responses;
- **bold-face italic** font denotes BSC's recommendations;

An NOI was filed for this proposed Project under the Massachusetts Wetlands Protection Act (M.G.L. c.131 §40, the WPA) and its implementing regulations (310 CMR 10.00 et seq., the WPA Regulations) and the City of Newton Floodplain Ordinance and Compensatory Flood Storage Policy by Russell Rochestie, Toll Brothers, Inc. (the Applicant), represented by Timothy Hayes of Bohler Engineering MA, LLC (the Representative). Proposed work is described on WPA Form 3 – Notice of Intent as a 184-unit residential development with associated access, parking, and utilities. Activities are proposed within Bordering Land Subject to Flooding (BLSF), Bordering Vegetated Wetland, the Riverfront Area and the 100-foot buffer zone to Bordering Vegetated Wetlands (BVW) and Inland Bank (Bank).

Documents Reviewed

This supplemental peer review includes comments and recommendations to the information provided in response to our October 2, 2024. The materials provided by the application in response to our initial review includes the following:

- Supplemental Package 10/18/2024
 - Response to Comments Letter by Bohler, dated 10/18/2024
 - Draft Stormwater Pollution Prevention Plan (SWPPP) by Bohler, dated October 2024
 - Additional Test Pit Logs and Frimpter Calculation Memo by Bohler, dated October 17, 2024
 - Preliminary Construction Phasing Exhibits by Bohler, dated 10/18/2024
 - Footing Elevation to Bottom of Test Pit Comparison Exhibit by Bohler, dated 10/18/2024

- Phase 1 Environmental Site Assessment by Hillmann Consulting, dated 6/14/2022
- Supplemental Package 11/13/2024
 - Response to Comments Letter by Bohler, dated 11/8/2024
 - Revised Notice of Intent Plans by Bohler
 - Sheets: C-101, C-102, C-301, C-401, C-402, C-501, C-601, C-602, C-701, C-702, C-703, C-704, C-705, revision date 11/8/2024
 - Sheets: L-100, L-200, L-300, L-400, L-450, L-500, L-501, L-600, L-601, L-602, revision date 7/18/2024
- Drainage Report by Bohler, dated 11/8/2024

General Project Review Comments

The project has been reviewed and approved by the City of Newton Zoning Board of Appeals (ZBA) for a Comprehensive Permit pursuant to G.L. c. 40B, §§ 20-23. As part of that Decision, some waivers were granted for sections of local Zoning Ordinances and Revised Ordinances. However, the project was not waived from the requirements of the City's Stormwater Ordinance and must comply with it and the Massachusetts Stormwater Handbook (MSH) Standards (Condition #52), the Massachusetts Wetlands Protection (Conditions #54), and all conditions included in the Decision issued May 8, 2024 by the ZBA.

On September 11, 2024, a field visit was conducted with the Conservation Commission Agent, BSC Group, Project Team and abutters representative to review the site, resource areas, and the proposed development. Bohler, the applicants engineer, has revised the limits of the existing degraded Riverfront Area and revised the Riverfront Area calculations based on the findings and discussion on site at the site visit.

In consideration of the supplemental information provided by the applicant, we offer the following comments and questions on the supplemental package of revised materials listed above. These responses supplement, not replace, the comments and conclusions we provided in the October 2, 2024 letter.

Plan Comments

1. Landscape Plan (L-100, L-200, L-300, L-400, L-450, L-500, L-501, L-600, L-601, L-602) – *The revised sheets still have a revision date of 7/ 18/2024 but appear to have been updated to match the changes made to the civil plan set. BSC recommends that the Revision Box in the Title Block be updated.*

Regulatory Review Comments – Wetlands Protection Act and Floodplain Ordinance

The materials provided in the most recent submittal are compliant with the General Performance Standards for Riverfront Area (310 CMR 10.58(4)(a-d))¹, Previously Developed and Degraded Riverfront Area (310 CMR 10.58(5)(a-h)), Bordering Land Subject to Flooding (310 CMR 10.57(4)(a)(1-3) and the Floodplain/Watershed Protection Provisions (Newton Wetland Ordinance Sec. 22-22) with the exception of the relevant sections of 310 CMR 10.00 pertaining to stormwater compliance (10.58(4)(d)(b) and 10.58(5)(b)). The applicant should refer to the engineering review comments in the stormwater section for a complete response to stormwater management concerns.

Additionally, the Order of Conditions should include a continuing condition in the Certificate of Compliance for projects under 310 CMR 10.58(5)(f) or (g) prohibiting further alteration within the restoration or mitigation area, except as may be required to maintain the area in its restored or mitigated condition.

¹ Please note that although (c) and (d) are not applicable to this project, they have been met, per DEP NERO's guidance and the Newton Conservation Commissions policy, Riverfront Area projects are not to be segmented between 10.58(4)(c/d) and 10.58(5).

Engineering Review and Stormwater Report Comments

1. The Drainage Report includes sufficient information and calculations to demonstrate compliance with Stormwater Standard 1.

Bohler Response: No response required.

2. The Drainage Report includes calculations demonstrating reduction of peak runoff rates in accordance with Stormwater Standard 2 and reduction in runoff volumes in accordance with City of Newton Stormwater Management and Erosion Control Rules & Regulations (Rules & Regulations) Section 5B.6. We offer the following comments and questions that may impact these calculations:

- a. **Subcatchment EX-3 in the existing conditions HydroCAD computations discharges into the rear of properties on Hagen Road. While this discharge may ultimately flow to Paul Brook through the Newton drainage system, we believe that a new design point at Hagen Road would be appropriate to more accurately determine if Standard 2 is met at all off-site discharge points.**

Bohler Response: The HydroCAD model and supporting documentation within the enclosed Drain Report have been updated to reflect a more appropriate design point at the confluence of Paul Brook and the Hagen Road closed pipe connection located within Hagen Road.

BSC Conclusion: While we agree that the final design point at the confluence of Paul Brook and the Hagen Road closed pipe connection is an appropriate design point, we do still feel that it is appropriate to compare the pre- and post-development peak discharges at Hagen Road. This comparison would be between pre-development Subcatchment EX-3 and post-development Subcatchment PR6b. Comparing these two subcatchments shows a reduction in peak flow rates and volumes discharged towards Hagen Road for all storm events.

- b. With the additional design point referenced above, proposed conditions Subcatchment PR6 may need to be split into two subcatchment areas – one for the runoff collected and routed towards Paul Brook and one for the runoff that will continue to flow towards the rear of the properties on Hagen Road.

Bohler Response: Acknowledged. An updated drainage report, including revised HydroCAD, existing and proposed drainage maps, and revised site plans will be included in a forthcoming submission.

BSC Conclusion: Subcatchment PR6 has been revised to reflect the portion that flow towards Paul Brook (PR6a) and the portion that flows towards Hagen Road (PR6b). As stated above, comparing PR6b to pre-development subcatchment EX-3 shows a reduction in peak flow rates and volumes for all storm events.

- c. Portions of off-site topography are taken from sources other than the existing conditions survey for the site. We request the Applicant provide the source of this topography. Additionally, has the Applicant performed any on-site verification that this topography, which appears to pre-date the homes and road off Dudley Road, does generally match the source material?

Bohler Response: The off-site topography was obtained from The National Oceanic and Atmospheric Administration (NOAA)'s LiDAR data base and converted to City of Newton base. Several site visits have been conducted that are able to generally

verify that the shown topography matches the existing conditions of the homes off Dudley Road and other relevant areas.

BSC Conclusion: NOAA LiDAR is a commonly used data source for off-site topography, and we appreciate that the Applicant has performed site visits to verify the general accuracy of the data.

- d. **While it is a minor difference, the existing and proposed conditions area of HSG A and HSG D soils do not match. As soil types do not change after construction, these areas must be the same in both existing and proposed conditions.**

Bohler Response: Acknowledged. An updated drainage report, including revised HydroCAD with matching numbers for HSG A and HSG D for existing and proposed conditions, will be included in a forthcoming submission.

Acknowledged. The HydroCAD has been reviewed to ensure that the existing and proposed HSG A and HSG D match.

BSC Conclusion: The HydroCAD calculations have been revised so that areas for each soil type match pre- and post-development.

- e. **Proposed conditions Subcatchment PR1a contains unchanged areas of existing conditions Subcatchment EX-1. The time of concentration (Tc) for Subcatchment PR1a is 11.4 minutes while the Tc for Subcatchment EX-1 is 6.1 minutes. As the Tc flow path for Subcatchment PR1a is within Subcatchment EX-1, the flow path exists in Subcatchment EX-1. As Tc is the time for runoff to travel to the hydraulically most distant point, not necessarily the physically most distant, we believe that a Tc of 11.4 minutes is more appropriate for Subcatchment EX-1 and recommend the calculations be revised accordingly.**

Bohler Response: An updated drainage report, including revised HydroCAD and existing and proposed drainage maps with appropriate Tc's, and revised site plans will be included in a forthcoming submission.

BSC Conclusion: The Tc calculation for Subcatchment EX-1 has been revised appropriately.

- f. **Existing conditions Subcatchments EX-1 and EX-3 and proposed conditions Subcatchment PR6 include two segments of sheet flow in their Tc calculations. Use of multiple sheet flow segments is not typical in runoff calculations. We request the Applicant provide clarification on this.**

Bohler Response: Two sheet flow segments were utilized in Tc calculations for EX-1 and EX-3 due to significant grade change within the first 100 feet of flow.

BSC Recommendation: While there are no specific prohibitions against utilizing two sheet flow segments, typical practice tends towards utilizing only one. Using two sheet flow segments will result in longer Tc and, therefore, lower peak flow rates. While this results in a conservative calculation for existing flows, it may underestimate proposed flows. Therefore, we recommend utilizing only one sheet flow segment for all Tc calculations.

- g. **Existing conditions Subcatchment EX-4 and proposed conditions Subcatchment PR5 use a surface condition of "woods: dense underbrush" in its Tc calculation. According to the Massachusetts Supplement to TR-55, that surface condition should not be used in Massachusetts. We recommend the calculations be revised to use "woods: light underbrush".**

Bohler Response: Acknowledged. All Tcs for both existing and proposed conditions have been revised, with all “woods: dense underbrush” changed to “woods: light underbrush”. This change will be reflected in the updated Drainage Report submitted in a forthcoming submission.

BSC Conclusion: All uses of “woods: dense underbrush” have been removed and appropriately replaced with “woods: light underbrush”.

3. We offer the following comments and questions regarding the Project's compliance with Stormwater Standard 3 for infiltration to groundwater:

- h. The Drainage Report includes sufficient information and calculations demonstrating that the Project retains the runoff volume equivalent to 2-inches multiplied by the impervious surfaces on site per the City of Newton's Stormwater Management and Erosion Control Rules & Regulations Section 5C.3.a). This exceeds the recharge volume required by Stormwater Standard 3.

Bohler Response: No response required.

- i. Appropriate calculations have been provided demonstrating that each infiltration BMP drains within 72 hours as required.

Bohler Response: No response required.

- j. Soil test pits were performed by Bohler in December 2023. Per the City of Newton's Stormwater Management and Erosion Control Rules & Regulations Section 5B.5. requires that any soil tests conducted between June and February must also be accompanied by a determination of the seasonal high groundwater using the Frimpter Method. **No Frimpter Method analysis has been provided.**

Bohler Response: A narrative detailing the Frimpter Method calculations performed for test pits in which groundwater was encountered has been provided. The results are generally consistent with the previously identified elevation for seasonal high groundwater.

BSC Recommendation and Conclusion: Two versions of the Frimpter Method narrative were submitted – one with the updated Drainage Report and one under separate cover. The version submitted under separate cover appears to be more thorough in that it more clearly indicates which test pit (TP-7) is being analyzed. We recommend this version be submitted in the final Drainage Report. The Frimpter analysis was performed for one test pit. It is not clear from the City of Newton's Stormwater Management and Erosion Control Rules & Regulations Section 5B.5. if all test pits must be analyzed using the Frimpter method or if one is sufficient. It should be noted that if additional Frimpter analysis is required, this would also include the most recent test pits performed as these were performed in October. However, we concur with the analysis performed for TP-7 and agree that the Frimpter Method generally confirms the results of this test pit. We also agree that utilizing the observed redoximorphic features as the estimated seasonal high groundwater (ESHGW) is appropriate. Finally, we point out that, if the Frimpter calculated ESHGW were used at this location, Infiltration System 2P would still maintain greater than 4-feet of separation to ESHGW.

- k. Several soil test pits have been performed in the area around Subsurface Infiltration System (2P). Due to an existing home in the location of this proposed system, the Applicant has not yet performed test pits within the limits per the requirements of Standard 3. **The Applicant has indicated that additional test pits will be performed after demolition of the home as a condition of approval. Should the Commission**

agree to such a condition, we recommend a condition requiring these test pits to occur at the start of construction and that the soil information be submitted immediately upon completion. Should these test pits show soil or groundwater conditions conflicting with the current design assumptions, the Applicant may need to amend any Order of Conditions issued.

Bohler Response: Additional soil test pits were performed on 10/16 and have been included in this submission. Test pits within the footprint of the existing home will be performed prior to the start of construction.

BSC Conclusion: Additional test pits that confirm the previous assumptions regarding soils and ESHGW have been performed along the western edge of Infiltration System 2P. As the central and eastern portions of the proposed system are within areas that cannot be readily excavated at this time, our original recommendation regarding additional test pits as a condition of approval stands.

- i. *A groundwater mounding analysis has been performed for Subsurface Infiltration System (2P). While we concur with the methodology and inputs used for this analysis, it must be noted that the actual results of this analysis cannot be determined until after groundwater and soils information are confirmed through test pits as detailed above.*

Bohler Response: Additional soil test pits were performed on 10/16 and have been included in this submission. All systems will be located a minimum of 4-ft above the estimated seasonal high groundwater. Therefore, additional mounding analyses are not required.

BSC Conclusion: Despite not being required based on current information, an updated groundwater mounding analysis for Infiltration System 2P has been provided utilizing the discharge for the 100-year storm event. This analysis shows that the groundwater mound expected during this event would not reach the bottom of the system. Should the additional test pits proposed for this system (see comment above) show different results than previously performed test pits, this analysis may be required and may need to be revised.

- m. *Only one test pit (SH-TP-10) has been performed in the area of Subsurface Infiltration System (3P). This test pit is located southeast of the proposed system. The proposed system is approximately 100-feet long and there is an approximately 4-foot increase in surface elevation at the opposite end of the system. As such, we recommend at least one additional test pit be performed in the far end of the system to ensure that groundwater elevations used in design are appropriate.*

Bohler Response: Additional soil test pits were performed on 10/16 and have been included in this submission.

BSC Recommendation: Test pits TP-E and TP-F were performed in the area of Infiltration System 3P. While neither groundwater nor redoximorphic features were observed in either test pit, neither test pit reached a depth of at least 4-feet below the proposed bottom of the Infiltration System. TP-E extended to an elevation of approximately 127.8, which is only 0.2-feet below the proposed bottom of the System (128.0). TP-F extended to an elevation of 125.4, which is 2.6-feet below the proposed bottom of the System. As such, we believe that this test pit data is not sufficient to conclusively demonstrate that sufficient separation to ESHGW is maintained for this System.

- n. *One soil boring (SH-3) and one soil test pit (SH-TP-6) were performed in the area of Subsurface Infiltration System (4P). While no groundwater was observed in the boring,*

soil borings do not allow for observation of redoximorphic features if they exist. Additionally, the test pit was terminated due to refusal 4.8-feet below existing grade. As such, we recommend additional soil test pits be performed in this area to verify soil and groundwater information used in the design.

Bohler Response: Additional soil test pits were performed on 10/16 and have been included in this submission.

BSC Recommendation: *Test pit TP-C was performed in the area of Infiltration System 4P. This test pit was extended to elevation 138.8 without evidence of groundwater or ledge. Infiltration System 4P has been split into two separate systems with significantly different bottom elevations. However, it has continued to be modeled as one system in HydroCAD. With the significant difference in elevation between the systems (3.55-feet), we believe it is more appropriate to model these as separate systems. Additionally, while the bottom of the eastern system (4Pa) is based on the results of TP-C (ESHW = 138.8), the bottom of the western system (4Pb) is still based upon soil boring SH-3. In order to ensure that adequate separation to ESHGW is maintained, we recommend System 4Pb either be raised to match the elevation of System 4Pa or an additional test pit be performed within the limits of this system showing that ESHGW is as shown.*

4. We offer the following comments and questions regarding the Project's compliance with Stormwater Standard 4 for water quality:
 - o. The Drainage Report includes sufficient information and calculations to demonstrate compliance with the Total Suspended Solids (TSS) removal requirements in Rules & Regulations Section 5.C.3.b). The 90% TSS removal requirement exceeds the 80% TSS removal requirement of Stormwater Standard 4.

Bohler Response: No response required.

- p. The Drainage Report includes sufficient information and calculations to demonstrate compliance with the Total Phosphorous (TP) removal requirements in Rules & Regulations Section 5.C.3.c).

Bohler Response: No response required.

- q. The Applicant should provide details on how BMP Treatment Train #1 meets the 44% TSS removal requirement prior to discharge to an infiltration BMP.

Bohler Response: Treatment Train #1 has been revised so that all impervious area is directed to a water quality unit prior to discharge to an infiltration system. These changes will be reflected in the forthcoming submission, which will include a revised drainage report and revised site plans.

BSC Conclusion: Treatment Train #1 has been revised to demonstrate that all impervious areas are routed through water quality units prior to entering the infiltration systems, therefore, meeting the proposed TSS removal.

5. Stormwater Standards 5, 6, and 7 are not applicable to the Project.

Bohler Response: No response required.

6. Appropriate erosion and sediment controls and details conforming to Stormwater Standard 8 are included on the Project Plans. The Drainage Report indicates that a draft stormwater pollution prevention plan (SWPPP) for the Project will be submitted prior the commencement of construction. **We recommend the Commission require that this SWPPP be submitted sufficiently in advance of construction beginning to allow staff to review appropriately.**

Bohler Response: A revised SWPPP has been included as an attachment.

Additionally, the Commission requested information on the environmental soil conditions on the site. A Phase I Report has been included in the 10/18/24 Response to Comments and the below summary is an overview of soil handling requirements:

The earthwork contractor should limit off-site disposal of on-site soil to the extent practical by reusing excavated soil as fill above footings and below proposed paved areas. Excess soil that must be hauled off-site will need to be managed in accordance with local, state, and federal environmental regulations including the Massachusetts Contingency Plan (MCP) in 310 CMR 40. Excess soil which cannot be reused as fill on the site will need to be shipped off-site for disposal at a facility permitted to accept the soil based on environmental pre-characterization data obtained for the site.

BSC Conclusion: A SWPPP appropriate for coverage under the NPDES Construction General Permit for Massachusetts has been submitted. It should be noted that while BSC is in receipt of the Phase I report, but has not been retained to review such a report.

7. A Stormwater Operation and Maintenance Plan and Long-Term Pollution Prevention Plan meeting the requirements of Stormwater Standard 9 has been provided. We offer the following comments on these plans:
- r. ***We recommend that a requirement to remove grass clippings from the rain garden be added to the operation and maintenance (O&M) requirements.***

Bohler Response: Acknowledged. This requirement will be included in the forthcoming resubmission.

BSC Conclusion: Removal of grass clippings and appropriate disposal have been added as requirements to the O&M Plan.

- s. The Stormwater O&M Plan states that parking lots and roadways will be swept at least four (4) times per year while the Long-Term Pollution Prevention Plan (LTPPP) states sweeping will occur a minimum of twice per year. ***We recommend these plans be consistent.***

Bohler Response: Acknowledged. The O&M Plan and LTPPP plan will be updated in the forthcoming resubmission.

BSC Conclusion: Both roadways and parking lots are now required to be swept at least four (4) times per year in both the O&M Plan and the LTPPP.

- t. ***We recommend the O&M Plan be updated to prohibit sanding of the porous pavement as sand is likely to clog porous asphalt.***

Bohler Response: Acknowledged. This requirement will be included in the forthcoming resubmission.

BSC Conclusion: The use of sand on the porous asphalt has been prohibited in the O&M Plan.

- u. The LTPPP details snow removal and storage. ***Where will snow be stored on site?***

Bohler Response: Snow storage areas will be reflected in the revised site plans in the forthcoming resubmission.

BSC Recommendation: Proposed snow storage areas are shown on the revised Site Layout Plan. We recommend this plan, with snow storage areas clearly identified, be included with the final LTPPP. It should be noted that there are

limited areas for snow storage on site and we recommend that signs be installed prohibiting dumping of snow along areas where snow is not intended to be stored.

- v. The LTPPP details pet waste disposal. Will the Project include pet waste disposal bag dispensers for residents?

Bohler Response: The pet waste disposal station was for a prior iteration of the proposed plan that included a dog park which is no longer a part of the proposal. The revised report will correct the discrepancy.

BSC Recommendation: *While the waste disposal bag dispenser has been removed, we recommend one (or more) be provided if the facility will allow pets. This will help ensure residents appropriately pick up pet waste should they walk their pets on the property and help keep pet waste from impacting stormwater runoff. This requirement could be made a condition by the Commission.*

- w. The O&M Plan includes manufacturer's written instructions for all proprietary stormwater BMPs.

Bohler Response: No response required.

8. **An unsigned Illicit Discharge Compliance Statement has been submitted. This must be signed prior to the start of construction to comply with Stormwater Standard 10.**

Bohler Response: Acknowledged. An Illicit Discharge Compliance Statement will be submitted prior to construction.

BSC Conclusion: *This is a typical practice and can be made a condition of approval if the Commission desires.*

9. **Pipe sizing calculations demonstrating that piping can carry flows from the 100-year storm event have been provided.**

Bohler Response: No response required.

Possible Conditions

1. Mitigation Plan – **Lungwort (*Pulmonaria*) is not native and should be replaced with a native species.**
2. Mitigation Plan – **Few trees are proposed in the mitigation areas. Considering the dominance of mature Norway Maple trees which will continue to seed the area, BSC recommends increasing the diversity of tree species which will provide wildlife habitat and food sources and will facilitate long term regeneration of the resource areas by diversify the annual seed production.**
3. Landscape Plan – **The revised plan still has a revision date of 7/18/2024 and should be updated.**
4. Landscape Plan - **Honey Locust (*Gleditsia triacanthos*), White Fir (*Abies concolor*), Douglas-fir (*Seudotsuga menziesii*) are non-native species and should be excluded from Mitigation Areas and replaced with a similar number of native species. See Newton's Native Plant Guidelines.**
5. Landscaping Plan – **Tree removal and replacement should follow Newton Conservation Commission's Tree Replacement and Mitigation/Restoration Planting Consolidated Guidelines, dated 4/1/2023 which requires that "for each 1 inch of tree over 8" DBH removed, ½ caliper inch must be planted. Replacement trees must be 1-2 caliper inches." Based on the plan, 2,560 caliper inches are proposed to be removed and 1,058 caliper inches are proposed. "Based on the Guidelines, 1,280 caliper inches should be considered as the starting point for a mitigation planting plan.**
6. **An Illicit Discharge Compliance Statement will be submitted prior to construction.**
7. **The Order of Conditions should include a continuing condition in the Certificate of Compliance for projects under 310 CMR 10.58(5)(f) or (g) prohibiting further alteration**

within the restoration or mitigation area, except as may be required to maintain the area in its restored or mitigated condition.

Should you have any questions regarding our review and provided comments, please do not hesitate to contact me at (617) 896-4411 or asmith@bscgroup.com.

I look forward to participating in the upcoming public hearing before the Commission on Thursday, December 12, 2024.

Sincerely
BSC Group, Inc.



Amanda Smith
Project Manager

CC Paul Knapik
Dominic Rinaldi