

February 14, 2019

Norfolk Zoning Board of Appeals  
Mr. Christopher Wider, Chairman  
1 Liberty Lane  
Norfolk, MA 02056

**Re: 40B – Civil Peer Review  
The Enclave at Norfolk  
Village Green  
Norfolk, Massachusetts**

Dear Chairman Wider:

The following letter includes comments generated during our review of the latest applicant submittal for the above-referenced project (Project). The latest submittal proposes 40 age-restricted units on individual lots with individual septic systems. The development will consist of 20 buildings as units will be constructed as duplexes with the property line extending along the common wall. The following is a list of specific documents reviewed:

- *Preliminary Plan for Comprehensive Permit proposed “The Enclave at Norfolk” (Rev. 11)* by Bohler Engineering dated January 25, 2019 (Rev. 11) hereinafter referred to as “Project Plans”.
- *Stormwater Drainage Analysis for Proposed The Enclave at Norfolk* by Bohler Engineering dated June 13, 2017 (Revised January 25, 2019) hereinafter referred to as “Drainage Analysis”.
- Truck Turn Exhibits by Bohler Engineering dated January 25, 2019.
- Cover letter addressed to Chairman Wider listing the resubmission materials by Bohler Engineering dated January 25, 2019.

## Comments

The materials submitted were professionally done, well organized and easily readable and included information needed to support the ZBA’s review. The following are specific comments generated during our review. Comments are generally grouped by submittal and overlapping comments are only mentioned once.

### Project Plans

1. We request the applicant clarify if Road A is proposed as a subdivision road intended to eventually be accepted by the Town as a public way. If so we recommend the pavement section be modified to include at least a 3-inch binder course.
2. We understand the intent of providing a 30-foot wide main entry road is to provide adequate space for emergency vehicles and larger trucks. Based on the roadway geometry and the turning plans provided it appears a consistent 24-foot wide travel way may be wide enough to accommodate the intended movements. We recommend the applicant consider reducing the roadway width to a standard 24-foot dimension if allowed by the Fire Chief. If the 30-foot width is maintained, we recommend extending the transition zone to 50 feet.
3. We recommend relocating the proposed paver speed table to Sta. 2+90 to provide better visibility for entering traffic and providing detectable warning panels at the curb line.

4. The plans indicate several proposed walls with “design by others” and it is unclear how the wall proposed along the west side of the entry road can be constructed in the location shown without impacting the abutting parcel. We recommend wall designs be provided on the Final Plans.
5. A photometric plan has not been provided but the only street lighting proposed consists of single lamp posts at each building (20 total) which are not expected to be a significant source of light and as such we do not require additional information.
6. Individual septic systems are proposed for each unit and will require a permit from the Norfolk Board of Health pursuant to requirements of 310 CMR 15.00 (Title 5). The conceptual locations shown on the plans appear to consider applicable design requirements and are suitable for the purposes of preliminary plan review under the comprehensive permit. The required Board of Health review under 310 CMR 15 will ensure systems are constructed per applicable requirements.
7. We recommend the hydrant located opposite Unit #1 be located at least five feet from the edge of travel way and that hydrant locations be approved by the Fire Chief.
8. We recommend the applicant confirm that underground storage of propane is acceptable to the Fire Chief and consider options for surface markers noting location of tanks.
9. The Landscape Plans and details are very detailed and indicate appropriate levels of landscaping. However, we recommend the applicant propose plantings or other improvements acceptable to homeowners opposite the site entrance to reduce impact of headlight glare from exiting traffic and to show those improvements on the Final Plans.
10. We recommend the Planning Board endorsement block be removed from the plans.

#### Stormwater Report/Drainage Design

The Project will require detailed review by the Norfolk Conservation Commission for compliance with Massachusetts Wetlands Protection Act Regulations (310 CMR 10.00) which will include thorough review of potential stormwater impacts. The following comments are offered in consideration of this review.

11. Final Plans should include defined drainage easements providing access for maintenance of all stormwater basins and associated drainage infrastructure.
12. Temporary sedimentation basins used during construction should not be proposed in locations of future infiltration systems.
13. We request test pit data be provided in the Final Plans for Infiltration Basin 2. A test pit has been completed approximately 130 feet northeast of the basin, however a test pit is required within the basin location to confirm soil conditions per Massachusetts Stormwater Handbook, Volume 2, Chapter 2, page 88.
14. Test pit data from Appendix 3B show DT-12 did not provide enough information to confirm ground water elevation or soil conditions at the proposed location of subsurface infiltration basin (UG1). The test pit reaches an approximate elevation of 188, and the bottom of stone is proposed at elevation 187. We request additional test pit data be provided on the Final Plans to confirm ground water separation and soil conditions.
15. It is imperative proposed driveways for Units 36-40 are constructed with a lip and berm to prevent flow from the roadway from entering the driveways and discharging to incorrect subcatchment areas.
16. HydroCAD analysis includes a 24-inch x 24-inch horizontal grate at elevation 194.03 for Underground Basin 1 (UG1) suggesting CB1 is used as the proposed system overflow. This is a reasonable approach given the lack of available discharge options however we recommend the applicant confirm the location and condition of downstream drainage infrastructure that will be used in the case of an overflow of UG1.
17. We recommend the applicant provide one-foot of freeboard in the proposed UG1 infiltration basin.
18. Applicant has used 8.27 inches/hour for exfiltration rates in the HydroCAD analysis for all three infiltration basins (PD1, PD2, and UG1). However, test pits DT-13 and DT-14 show sandy loam at the proposed bottom of Infiltration Basin 1 (PD1), and test pit DT-18 shows sandy loam at the

proposed bottom of Infiltration Basin 2 (PD2). Exfiltration rates for PD1 and PD2 should be changed to 2.41 inches/hour in the HydroCAD analysis, and recharge volume calculations should be updated accordingly. Drawdown calculations will also need to be updated in the Drainage Analysis due to the changes in the recharge volume calculations.

19. Channel flow should be considered in time of concentration (Tc) calculations for Subcatchment P1A since runoff is entering a defined swale. Similarly, sheet flow is considered in the analysis after discharge from check dams for Subcatchment P1B, we would consider this flow to remain as shallow concentrated/channelized flow after overtopping the check dams in the proposed defined swale section.
20. Project is located within priority habitat as mapped in MassGIS. The applicant should confirm if they are actively working with Massachusetts Division of Fisheries and Wildlife regarding the proposed development.
21. Drawdown calculations for Infiltration Basin 2 (PD2) are labeled as PD1 in Appendix 6A.
22. We recommend the Applicant include a MADEP Stormwater Report checklist in the Stormwater Report.
23. The Project will require coverage under the NPDES General Permit for Discharges from Construction Activities (CGP) which requires preparation of a site-specific Stormwater Pollution Prevention Plan (SWPPP). The Applicant should provide proof of coverage under the CGP prior to starting any land clearing activities.
24. The checklist provided states the site is covered by National Pollutant Discharge Elimination System (NPDES) Multi-Sector General Permit (MSGP), however, we do not believe the NPDES MSGP applies, please confirm.
25. Temporary sedimentation basins used during construction should not be proposed in locations of future infiltration systems.

#### Septic System

The design of on-site wastewater disposal systems (septic system) will be reviewed in detail by the Norfolk Board of Health for compliance with Massachusetts Title 5 regulations (310 CMR 15.00). The Project will need to demonstrate compliance with Title 5 prior to the release of any individual building permits. The following are general comments generated to assess the viability of the system as shown or to inform future design.

26. We request the Applicant provide available test pit data and assumptions used for system sizing as part of the Final Plan submittal.

#### Water System

27. Information documenting available pressure and capacity in the water system to serve the Project. The proposed density is similar to that evaluated earlier and no additional information is required unless otherwise requested by the Fire Chief
28. We recommend all curb stops be located outside the travel way and set at a consistent offset from the road.
29. We recommend installation of a three-way gate valve assembly at new valve cut-in at Village Green Street.

#### Roadway/Traffic Comments

30. We recommend the Applicant conduct a conditions summary of Cleveland Street and Village Green Street prior to commencement of construction activities and repair any damage or degradation of roadway surfaces resulting from access during construction.

The information submitted substantially responds to prior comments and most of the comments above can be addressed in a written response agreeing to incorporate requested changes into Final Plans.

We are happy to discuss any of our comments at your request. Please don't hesitate to contact us with any questions, or if you require additional information.

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Very truly yours,



Sean P. Reardon, P.E.,  
Vice President

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