



Professional Services  
Corporation, PC

## Memorandum

**Date** June 15, 2022  
**To** Ken Murphy, Inspector of Buildings  
**From** Thomas C. Houston, PE, AICP  
**Project** Chase Estates, 230 Sandwich Road, Bourne, MA  
**Subject** MGL Ch. 40B Modification Comprehensive Permit no. 08-18  
Finalization of Engineering Peer Review

Professional Services Corporation, PC (PSC) completed our most recent peer review on May 9, 2022 and preliminary responses to comments were provided in Outback Engineering's letter of May 17, 2022 and Attorney Hoyt's letter of May 18, 2022.

Based on discussions with Mr. Pavlik of Outback Engineering on June 14, 2022, I believe it helpful to clarify requirements for finalizing the engineering peer review process.

Goal. The goal is to provide the Zoning Board of Appeals with a final peer review report that can serve as the basis for a Decision. In order to conclude our review, the final peer review report must be based on evaluation of revised plans and a revised stormwater report. Specifically, additional engineering design and analysis is required to advance the peer review process.

Final Submission. Final revised plans, stormwater report, and calculations must be provided prior to proceeding with our second engineer peer review. To facilitate provision of responses, we provide the guidance below.

Submission Deadline. We need a minimum of 5 days to complete our second peer review memorandum/evaluation of responses. Our goal is to submit our second peer review report to Mr. Murphy and the Zoning Board no later than the Friday before the scheduled meeting. Therefore, the deadline for the Final Submission for the meeting of July 20<sup>th</sup> is noon on July 8<sup>th</sup>. I realize this schedule is challenging and that date may not be feasible.

Geotechnical. Review of the slope stabilization, cut-and fill issues, and erosion are specifically excluded from our scope of services. The site presents complex issues of structural stability and control of erosion. Substantial cuts and fills are proposed and finished grade in locations is substantially below the depth of available test pits. Some structures are constructed above finished grade requiring structural fill. Two structures area to be demolished and the foundation of one structure serves to retail an existing slope. We therefore recommend that as a Condition of

Ten Lincoln Road  
Suite 201  
Foxboro, MA 02035-1387  
Tel. 508.543.4243  
Fax 508.543.7711

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Approval, a foundation and earthwork design report be prepared by a Massachusetts Geotechnical Engineer addressing slope stability, sequence of construction, and foundation design. This report must be based on soil borings which extend below future finished grade. We anticipate that the geotechnical design will be compatible with the current plans, therefore the foundation and earthwork design report can be provided post Decision but prior to construction.

### **COMMENTS**

The Applicant's Team has provided preliminary responses to comments; however, no additional engineering design or analysis was provided to substantiate the comments or address the issues raised in our comments.

Based on review of the Preliminary responses from Attorney Hoyt and Outback Engineering, we offer the following guidance which references the comment numbers in our May 9<sup>th</sup> engineering peer review memorandum.

- 1.-3. The Zoning Board of Appeals must evaluate project impacts and the traffic impact assessment does not address summer conditions. The site's access drive begins at an unsignalized intersection with Sandwich Road. As with any unsignalized intersection, through traffic on the main street is not delayed while all delay is experienced by traffic entering and exiting the site. The delay experienced by project residents will be significant during summer conditions. With high traffic volumes such as those experienced on Sandwich Road, there is also a safety issue as drivers may accept gaps which are too short. Therefore, we recommend that the traffic impact assessment be updated to encompass summer conditions.
4. We requested four test pits. It should be possible to excavate these in one or two days. The soil conditions do appear to be consistent; however, so much is dependent on the results of these test pits it does not seem prudent to defer. Particularly, as the Board may close the hearing after receiving our final report, the window could be as short as 11 days.
- 5.-7. Provide test pits and recalculate if necessary.
8. Provide a response.
9. For Leach Pit 2, you could provide a small pipe to an area drain near the edge of pavement with a rim grade below the catchbasin rim grade of 119.8. For Leach Pit 1, the cross-connection pipe to the basin would be submerged when the basin is full and thus is not feasible.
- 10.-11. We acknowledge that the bottom of the infiltration BMPs are relatively deep which helps to limit compaction.



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12. As a minimum, prevent all runoff discharge to the leach pits during construction. For the open infiltration basin, you could consider temporarily limiting excavation to one foot above finished grade and remove the last foot of native soil along with accumulated silt after the site is stable.
13. Resolved by the Applicant's preliminary response.
14. We continue to recommend providing two additional catchbasins.
15. Resolved by the Applicant's preliminary response.
- 16.-21. Provide a response. When final plans are referenced, these plans should be included in the "Final Submission" as defined above.
22. The number of visitor parking spaces is shown differently on different sheets. Ensure that 8 parking spaces are consistently shown.
23. We maintain our recommendation for "No Parking." However, the opinion of police and fire officials with responsibility for first responses should be considered.
- 24.-29. Provide a response. When final plans are referenced, these plans should be included in the "Final Submission" as defined above.
30. Resolved by the Applicant's preliminary response.
- 31.-32. Provide a response. When final plans are referenced, these plans should be included in the "Final Submission" as defined above.