

March 26, 2021

04-15-2021 Applicant Responses provide in RED text

Devens Enterprise Commission
c/o Mr. Neil Angus, AICP CEP, LEED AP
Environmental Planner
33 Andrews Parkway
Devens, MA 01434

RE: Nitsch Project #9419
King Street Properties
33 Jackson Road
Traffic Review Comments
Devens, MA

Dear Mr. Angus:

Nitsch Engineering has received copies of the Application For Level 2 – Unified Permit and associated Site Plans for the proposed Biomanufacturing Facility at 33 Jackson Road in Devens, Massachusetts, dated March 4, 2021, prepared by Highpoint Engineering, Inc. This letter summarizes our review of the traffic elements of those documents, particularly the Access and Circulation section of the application; the Traffic Impact and Access Study (TIAS), dated March 2021, prepared by VHB; and the traffic elements of the Site Plans.

Based on Nitsch Engineering’s review of the submitted documents, we have determined that the traffic study and method of analysis comply with industry practices and current transportation engineering standards in addressing the following key elements:

- Existing Conditions;
- Traffic Counts;
- Crash Analysis;
- 7-Year Build Horizon;
- Annual Background Growth Rate;
- Traffic Generated by Other Developments;
- Site-Generated Trips;
- HCM Capacity Analysis with delay, Level of Service (LOS), v/c ratios, and 50th and 95th percentile queues;
- Sight Distance Evaluation; and
- Transportation Demand Management.

However, based on Nitsch Engineering’s review of the documents, we offer the following comments for consideration:

1. Clarify throughout the document that the proposed primary access driveway location, the reconstructed curb cut, is at what is currently St. Barbara Street (e.g., in the Executive Summary, Site Access, and Conclusion sections, and label it as Primary Site Driveway on Figures 9-11, either in addition to or instead of St. Barbara Street, as appropriate).
 - **Applicant Response:** Noted. The report will be updated to clarify the “Primary Access Driveway” is located at St. Barbara Street.
2. The intersection for the primary driveway in Table 7 is oddly named. We suggest “Jackson Road at St. Barbara Street (33 Jackson Road Driveway)/American Superconductor Driveway.” We recommend the same for Table 9.
 - **Applicant Response:** Noted. The report will be updated as suggested.
3. Clarify that traffic volumes at all intersections, not just the one counted in 2020, were grown by 1% to bring them from 2020 to 2021 Existing Conditions.

- Applicant Response: Correct. All intersection volumes were grown by 1%. This will be clarified in the report.
4. Under Trip Distribution and Assignment, it states that site traffic was assigned an 80%/20% split between the primary and secondary driveways. But the Site Access section, on the same page, says that you assumed 90% of the total site traffic would use the primary driveway location. The distribution of trips in Figure 9 and the Trip Distribution figure in the appendix supports a 90%/10% assignment. Please correct the information in the Trip Distribution and Assignment section.
 - Applicant Response: Noted. The traffic study assumed a 90%/10% split. This will be updated in the report.
 5. The last paragraph of the Unsignalized Intersection Capacity Analyses section (p. 37) refers to the primary site driveway to the Project, but it means the 45 Jackson Road/Building 1 driveway (the secondary driveway for this Project). Please fix.
 - Applicant Response: Noted. This will be updated in the report.
 6. In the second paragraph of Site Access Improvements (p. 45), the wrong pages are referenced for the Sight Distance Evaluation, which is on pages 38-40. Please fix.
 - Applicant Response: Noted. Page number reference removed and section heading is used as referenced.
 7. In the second paragraph of Site Access Improvements (p. 45), Figure 2 is referenced for the driveway connections to Jackson Road. However, it is Figure 3 that shows those driveways. Furthermore, the driveways should be labeled in Figure 3. Please fix the reference and add the driveway labels.
 - Applicant Response: Noted. This will be updated in the report and the associated figure (Figure 3).
 8. The signal warrant analysis in the appendix indicates the 2003 MUTCD was used. Please use the 2009 MUTCD (with 2012 revisions) instead.
 - Applicant Response: Noted. The warrant references will be updated in the report.
 9. The Executive Summary says "Creation of separate through/left and channelized right-turn lanes exiting both the site driveways," but Site Access Improvements section indicates these separate lanes for only the primary driveway, and no new analysis for the secondary (45 Jackson) driveway is provided. The Conceptual Plan in the Appendix agrees with the Executive Summary, that both driveways have separate lanes. Please include an analysis of the 45 Jackson Road driveway with all proposed mitigations, including any additional approach lanes on the driveway, if proposed, and the northbound left-turn lane on Jackson Road.
 - Applicant Response: Noted. Analysis for the 45 Jackson Road driveway will be updated based on the approved conceptual improvements to Jackson Road.
 10. Table 9 and the Synchro output sheets for the Mitigation scenario indicate that the 33 Jackson Road driveway was set up to have an *exclusive left-turn* lane and a *shared through/right-turn* lane, which is inconsistent with the narrative of a creating separate *through/left* and *channelized right-turn* lanes and the Conceptual Plan in the appendix. The concept plan further shows a southbound left-turn lane, which is not reflected in the Synchro analysis or Table 9. Please fix, and please discuss the addition of the southbound left-turn lane.
 - Applicant Response: Noted. The mitigation analysis will be updated based on the proposed off-site improvements which is expected to be consistent with the plans included in the report. A short southbound left-turn lane on Jackson Road into the American Superconductor site is proposed to allow for the safe movement for left-turns off of Jackson Road into the site.

driveway. In lieu of prohibiting the movement, the design allows for left turns to exit the through movement along Jackson Road so that drivers will be able to identify gaps in the traffic stream from which they can turn into the driveway. Conversely, not providing a complimentary left-turn lane would create sight-line issues along Jackson Road for left-turning drivers (as their sight line for on-coming northbound though vehicles would be inhibited by a northbound left-turning vehicle). Additionally, the provision of the left-turn lane would allow drivers to have to cross only two lanes of traffic and not three.

11. In the Proposed Off-Site Mitigation section, on page 48, it states “During the weekday evening peak hour, the Patton Road westbound left-turn movement and the Jackson Road southbound approach would both return to the LOS experienced under the 2028 No Build Conditions.” However, Table 10 indicates that the westbound left-turn movement would improve to LOS D where it was LOS E under no-build conditions, so it is actually an improvement over No Build Conditions. Please fix the statement in the Proposed Off-Site Mitigation section.
 - Applicant Response: Noted. Report will be updated.
12. The first sentence of the Conclusion section refers to this project as the first phase. Please correct it to second phase.
 - Applicant Response: Noted. Report will be updated.
13. Check that the “Count Adjustment Factors” appendix divider is placed correctly in the document.
 - Applicant Response: Noted. Report will be updated.
14. For the Synchro output sheets in the appendix, please rename Intersection 5 so that it refers to the “45 Jackson Road” driveway or “Secondary” site driveway, instead of “Site Driveway,” for clarity.
 - Applicant Response: Noted. Analysis will be updated to reflect 45 Jackson Road driveway.
15. For the Synchro output sheets in the appendix for the evening peak hour under mitigation, please indicate that it is the Mitigation scenario.
 - Applicant Response: Noted. Appendix will be updated to identify mitigation section.
16. The Access and Circulation section of the Application For Level 2 – Unified Permit indicates that the Lot 1 Unified Permit covers the construction of two curb cuts located off Jackson Road. However, the TIAS describes only the primary access driveway for 45 Jackson Road as being permitted under the previous phase. Please clarify whether the primary access driveway for 33 Jackson Road (reconstructed curb cut at the present-day St. Barbara Street) has been permitted yet.
 - Applicant Response: Both driveways along Jackson Road (33 Jackson Road and 45 Jackson Road) were studied and considered in the Level 2 - Unified Permitting of Lot 1. At the time, the present-day St. Barbara Street driveway was considered the ‘secondary’ driveway providing access to the 45 Jackson Road site. While the driveway was analyzed in the Lot 1 TIAS, no capacity modifications to the driveway were needed for permitting of the Lot 1 site. The Level 2 - Unified Permit application for Lot 3 (the project covered by this 33 Jackson Road TIAS) is seeking to make modifications to the prior Unified Permit which are illustrated in the conceptual access designs included in the TIAS. So while the Unified Permit for Lot 1 covers the current day St Barbara Street driveway, this proposal is seeking to alter the driveway from what was previously reviewed and approved.

We recommend that the Applicant review these comments and make appropriate revisions or additions prior to Devens Enterprise Commission approval of the traffic study.

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We are available to discuss this review in person with the Applicant. If the Commission has any questions, please call.

Very truly yours,

Nitsch Engineering, Inc.

Approved By:

Adina Alpert, PE, PTOE, ENV SP
Senior Project Engineer

Fayssal Hussein, PE, PTOE, LEED GA
VP-Transportation

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VHB

Approved By:

Adam Pritchard
Transportation Consultant

Robert Nagi, PE
Principal