

2817.00

January 26, 2024

Mr. Bart McDonough
Director of Planning and Community Development
Town Hall, Town of Newmarket
186 Main Street
Newmarket, NH 03857

**Re: Railroad Street Mixed-Use Development
Design Review Engineering Services
Newmarket, New Hampshire**

Site Information:

Tax Map/Lot#:	Map U-3 Lot 138A and U-4 Lot 16
Address:	3 Railroad Street
Zoning District:	M2A
Applicant:	CC Railroad Street Newmarket, LLC
Design Engineer:	Horizons Engineering

Review No. 1

Site Plan Drawings Received:

- Site Plan Approval Drawings dated January 2023, prepared by Horizons Engineering

Dear Mr. McDonough:

Underwood Engineers (UE) has reviewed the above information with regard to the Town of Newmarket's regulations and standard engineering practices. We offer the following for consideration.

General / Administrative

1. The name of the Applicant listed on the application form does not match the name listed on the plans or the project narrative.
2. The following information is missing from the plan set:
 - a. Survey plan with stamp by an LLS
 - b. Lot merger plan
 - c. Legend
 - d. Demolition /Site Preparation plan
 - e. Truck turning movements for emergency vehicles, e.g. fire trucks

- f. Existing drainage, water, and sewer information for the existing utilities in Railroad Street (pipes, sizes, materials, inverts, locations of the nearest water valves on each side of the proposed connection point)
- g. Sewer design calculations
- h. Stormwater O&M Plan
- i. Temporary easement lines or agreement documentation for grading work proposed on abutting properties.

Cover Sheet

- 3. Required permits/approvals should be listed, such as NHDES Sewer Connection Permit and EPA CGP.

Existing Conditions Plans

- 4. **Utilities:** Show and label the existing water main, sewer main and structures, as well as drainage pipes and structures.
- 5. **Encroachments:** Encroachments onto parcel U-4, Lot 16 from abutting lots are shown on the plan. The encroaching structures and fences should be noted/labeled.
- 6. **Legend:** Provide a legend.
- 7. **Labels:** Add a label to the rectangle shown at the northern end of the railroad tracks.

Site Plan

- 8. **Site Entrance:** The entrance should be revised to a 90-degree angle, or as close as practicable, with Railroad Street
- 9. **Curbing:** All curbing shall be granite per Town regulations.
- 10. **Sidewalk Tip-Down:** The sidewalk tip-down does not contain truncated dometop panels.
- 11. **Aisle Widths:** Newmarket regulations require the parking aisles to be 25' in width.
- 12. **Parking Layout:** It appears that improvements to the parking area/layout to improve pedestrian safety and traffic circulation are possible. Town regulations, referred to below, can be found in the Site Plan regulations, Section 3.02.
 - a. Backing/turning areas must be provided at the ends of aisle per Town regulations.
 - b. ADA parking spaces are required to be 20' in length.
 - c. Will there be dedicated parking spaces for the office employees/visitors? If so, depict and label the signage.
- 13. **Snow Storage:** The area for snow storage appears to be insufficient. Add a note that snow removal may be necessary once snow storage capacity is reached.
- 14. **Truck Movements:** Provide a plan showing turning movements within the site of fire trucks, moving trucks, and delivery trucks.
- 15. **Pads:** Show the location(s) of transformer, emergency generator, and HVAC pads, as applicable.



- 16. Bike Racks:** It is noted the racks are on a grassed/landscaped area, rather than concrete or pavement.
- 17. Sign:** Show the location of the development sign, if applicable, including any UGE runs if the sign is to be illuminated.
- 18. Water and Sewer Services:** UE is deferring review of the services until information on the existing utilities is provided.
- 19. Fire Hydrant:** Coordinate location of hydrant if required by the Newmarket Fire Chief and show on the plan.
- 20. Other Utilities:** If the electrical service will be underground, depict on the plan.
- 21. Railroad Tracks:** It is noted that only half of the railroad tracks run along or within the property line. The previous proposal for this site proposed removal of the tracks along with remediation of the soil. We see the note regarding the potential of the soil to be hazardous material, but do not see anything about removal of the ties and rails. Confirm the project intent and note the need for a temporary easement for the work.
- 22. General Notes:**
 - a. As noted above, the name of the Applicant listed in Note 1 does not match the name on the application form.
 - b. Note 7 lists the sizes of the actual lots, not the minimum lot sizes required per the zoning ordinance.
 - c. Note 12 indicates an overall reduction of impervious area, which is contradicted by the drainage study.
 - d. Confirm General note 19 is still applicable to this application.
- 23. Construction Phasing Notes:** Phase 1 includes only building construction and earthwork in the vicinity of the new building. Address how the stormwater will be managed and treated during Phase 1 since the underground system will not yet be in place. If a temporary stormwater basin will be constructed, indicate the size and location.

Grading and Drainage Plan

- 24. Erosion Control:**
 - a. A note should be added to the plan indicating the erosion control is the minimum shown and additional BMPs may be added per the required SWPPP.
 - b. Add a note directing the Contractor to refer to the Concrete Washout Area detail on the detail sheet.
 - c. Show location(s) of a construction entrance(s).
- 25. Dewatering:** A perched water table is indicated in the test pit logs. Add a note directing the Contractor how/where to discharge when dewatering during construction.
- 26. Barriers:** Add a safety barrier to the southwest corner of the parking lot along the 2:1 slope.
- 27. Drainage Pipes:**



- a. Label the proposed drainage pipes at the site entrance.
 - b. Label the invert out of the roof drain and the infiltration system overflow.
- 28. Offsite Grading:** Grading (and Rip-Rap) is proposed beyond the property lines in several locations. The grading along Railroad Street is required for construction of the sidewalk. Grading on the abutting property requires an agreement or easement with the abutting landowner, as noted above. Grading in the ROW of South Main Street is minor, however UE notes that the 42 contours behind and off the northeast building corner are not in agreement.
- 29. Discharge Locations:** It is noted drainage outlet pipes are directed offsite in three locations in three different directions.
- a. CB-03: No invert is provided for the discharge pipe exiting CB-03. Given the slope of the existing ground at the pipe outlet, grading will be necessary to construct the rip-rap outlet protection as shown.
 - b. No invert or grading information is provided for the rip-rap outlet protection off the northeast corner of the proposed building. UE notes that this outlet discharges into the railroad corridor to a low area in the railroad corridor. This discharge should be reviewed relative to the discharge currently generated from the existing building to the same area in the RR corridor.

Detail Sheets

- 30. Sidewalk Detail:** Revise to include granite curbing.
- 31. Remove** the cape cod berm detail.
- 32. Pavement Depth:** The project proposes 3” of total pavement, both in the proposed parking lot as well as the trench patches. UE recommends that the pavement thickness be increased to 4”, minimally the patches within the Town’s roadway should be 4” (2.5”/1.5”).

Stormwater Modeling and Management

- 33. Pollutant Removals:** Provide more information regarding post-development pollutant removal, including removals per each BMP in each area.
- 34. Pre- and Post-Plans:** Show Tc flowpaths within each subcatchment.
- 35. Cover Types:** Subcatchment 10 lists 900 SF of woods. Please confirm the location of the woods area.
- 36. Precipitation:** Cite the source of the precipitation numbers used.
- 37. Pipe Sizes:** Include pipe sizing calculations for the discharge pipes out of CB-3 and CB-4.
- 38. Modeling:**
 - a. The project site’s soils are identified as Hydraulic Soil Groups B, however the designation as 699 Urban Fills, supported by test pits 1 & 2, bring the Soil Group B designation into question. Please reconcile the drainage report narrative and model as appropriate.



- b. Add a Point of Analysis at the existing tie-in catch basin in Railroad Street.
- 39. Infiltration Practice.** Based on Test Pits 1 and 2, the native site material does not appear to be a good candidate for infiltration. Test Pit 3 is in fill material and appears considerably more favorable to the proposed infiltration practice. The depths and limits of the fill material should be evaluated further to ensure the proposed infiltration practice is sustainable.
- 40. Municipal Storm Connection:** A connection to the Town drainage system is proposed from CB-4. Some of the area flowing into the catch basin is on the site, and some is within the Town ROW. Per Town regulations, a waiver request is required, including a demonstration of why onsite management is not attainable/feasible.
- 41. PTAP Database: This project requires registration with the PTAP Database,** the Applicant is requested to enter project related stormwater tracking information contained in the site plan application documents using the Great Bay Pollution Tracking and Accounting Program (PTAP) database (www.unh.edu/unhsc/ptapp) and submit the information with the resubmitted response to comments.

A written response is required to facilitate future reviews. Please contact us if you have any questions.

Very truly yours,

UNDERWOOD ENGINEERS, INC.

Allison Rees, P.E. (NH)
Project Manager



Robert Saunders, P.E. (NH, ME, VT)
Senior Project Engineer

cc: Rick Malasky, DPW Director/Fire Chief
Sean Greig, Environmental Services Director
Lyndsay Butler, P.E., Town Engineer

