

2975.00

September 11, 2023

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

Re: *Elderly Housing Site Plan Review*
Design Review Engineering Services
Newmarket, New Hampshire

Site Information:

Tax Map/Lot#: Map U-4, Lot 69
Address: 242 South Main Street
Zoning District: R2
Applicant: Lemieux Builders, Inc.
Design Engineer: Beals Associates

Review No. 2

Drawings Received:

- Site Plan Approval Drawings revised August 2023 prepared by Beals Associates
- Architectural plans revised August 31, 2023 prepared by Lassel Architects

Dear Mr. McDonough:

Underwood Engineers 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. Site Layout Intent:** We recognize the intent of the current proposed layout appears to be avoidance and minimization and cost minimization. While we applaud minimization of disturbance area, we encourage striking a balance between disturbance minimization and providing sufficient space for functionality within the site layout.

BA Beals Response: We feel the site layout facilitates sufficient space for functionality while minimizing disturbed area and preserving local wetland buffers. As the anticipated vehicle travel speed within the parking area would be 5mph+/-, there seems to be no need for sidewalks and or painted pedestrian crossings, etc.

Response: Response received; we defer the comment to the Planning Board.

- 2. Route 152 Crosswalk:** As discussed at the TRC meeting the Town would prefer the crosswalk across Route 152 to be moved to the south of the school driveway. The intent expressed was the elimination of sidewalk along Route 152. UE notes that there will be a tip-down and limited sidewalk within the Route 152 ROW. Responsibility and maintenance of the proposed “public” section of sidewalk should be clarified.

BA Beals Response: The cross-walk location has been revised as discussed, and a new one added within the school driveway as needed.

Response: No exceptions taken

Cover Sheet

- 3.** A plan set date should be listed.

BA Beals Response: The date has been added as suggested.

Response: No exception taken

- 4.** Required permits/approvals should be listed, if applicable.

BA Beals Response: This information has been added to cover.

Response: No exception taken

Existing Conditions Plans

- 5. Utilities:** Show and label the existing water main.

BA Beals Response: The existing watermain is now shown per DPW records and labelled

Response: UE notes the requested information has been added to the site plans, However the Existing Conditions plan is still missing the water main locations.

Site Plan

- 6. Site Entrance:** The entrance should be revised to a 90-degree angle, or as close as practicable, with Route 152.



BA Beals Response: The driveway entrance has been revised as requested. The pavement angle from Route 152 is 89° to on the westerly side and 85° on the easterly side of the entrance drive. Based on the curvature of the existing road, this is the best that can be arranged and well within the allowed 15° departure from perpendicular.

Response: Response received, no exceptions taken.

7. **Aisle Widths:** Town of Newmarket regulations require the parking aisles to be 25' in width.

BA Beals Response: The aisles have been revised to 25' wide.

Response: No exceptions taken

8. **Parking Layout:** We feel improvements can be made to the layout of the parking area to improve pedestrian safety and traffic circulation. Town regulations referred to below can be found in the Site Plan regulations, Section 3.02.

- a. We suggest adding a striped lane between parking spaces in front of the southerly main door to more remote parking spots for first responder access, pedestrians walking, mail delivery, and for package deliveries.

BA Beals Response: A striped area has been added in conjunction with handicap stalls at the southerly door as requested.

Response: No exception taken

- b. We recommend consideration of an alternate parking layout to allow all residents to access their cars via sidewalks rather than walking within travel lanes and behind other cars.

BA Beals Response: The design is adequate for the proposed use (please refer to response to #1).

Response: Our original comment still stands as we remain concerned with the safety of the residents, however we defer the comment to the Planning Board.

- c. Backing/turning areas must be provided at both dead ends per Town regulations.



BA Beals Response: With a 25' aisle there is adequate room for a vehicle to back out of the parking stalls per the regulations. Based on this no additional turn-out areas are necessary.

Response: Response reviewed; UE defers further discussion to the Planning Board.

- d. ADA parking spaces are required to be 20' in length.

BA Beals Response: A waiver has been requested to the ADA required 18'.

Response: Response received; UE defers further discussion to the Planning Board.

- e. Two locations show ADA spaces adjacent to each other without a striped access aisle, this is non-compliant with ADA guidelines and Town regulation.

BA Beals Response: This has been revised.

Response: No exception taken

- f. Confirm the requirements for designated ADA Van spaces and access aisles when multiple spaces are provided.

BA Beals Response: The van accessible spaces meet ADA specifications and requirements.

Response: No further comment

- g. Consideration should be given to moving two of the handicap parking spaces to the main door area.

BA Beals Response: See previous response to comment "a."

Response: No exceptions taken



- h. Headlights will shine directly into the windows of first floor apartments. Please consider alternative layouts or screening options between the two uses.

BA Beals Response: This is at the developer's discretion.

Response: Response received; UE defers further discussion to the Planning Board.

- i. Outside of the minimum number of required spaces, the layout only offers two additional spaces for use to accommodate visitors, facility/maintenance staff, office staff, etc. In light of sub comment (e) above, two spaces may be required to become striped access for adjacent ADA.

BA Beals Response: See previous response to comment "a."

Response: Response received; UE defers further discussion to the Planning Board.

- j. We recommend consideration be given to posting "No Parking" signs along Route 152, if permissible by the NHDOT, to deter overflow parking along the roadway.

BA Beals Response: This would be up to the Board of Selectmen as detailed at the TRC hearing.

Response: Response received; UE defers further consideration to the Town of Newmarket as appropriate.

- 9. **Dumpster Location:** The location of the dumpster is inconvenient for both residents and trash collectors. Provide a plan showing turning movements for trash trucks. If the dumpster remains in its current location, a sidewalk should extend to that area.

BA Beals Response: The design is adequate with the proposed use, a truck turning path has been depicted on the plans, and no sidewalk will be proposed internally.

Response: Our original comment still stands, the distance between the building and the dumpster is relatively far given the users.



The turning movements shown do not appear to be for a front-loading trash collection truck accessing the dumpster coral head on, as is common with many private commercial trash collection trucks.

- 10. Truck Movements:** Provide a plan showing turning movements within the site of fire trucks, moving trucks, and delivery trucks.

BA Beals Response: A truck turning path has been added. The fire chief indicated at TRC that fire truck in emergency response will pull into the drive, access the newly proposed hydrant and back out onto Route 152.

Response: No exception taken

- 11. Rear Building Access:** No landing or steps are shown at the rear mechanical area door.

BA Beals Response: Steps have been provided with a break in the stone drip edge.

Response: No exception taken

- 12. Pads:** Show the location of transformer, emergency generator, and HVAC pads, as applicable.

BA Beals Response: The proposed transformer, generator and underground propane tank locations have been added. HVAC will be internal to the building as reviewed at the TRC hearing.

Response: It is unclear how the propane tank will be accessed for filling.

Grading and Drainage Plan

- 13. Erosion Control:** Silt fence should be moved further from the building and parking areas in order to allow construction vehicles and builders enough room to access those areas.

BA Beals Response: The silt fencing has been so revised.

Response: No exceptions taken

- 14. Contours:** Due to the flat nature of the site, we recommend providing 1' contours (existing and proposed) for clarity.



BA Beals Response: Additional spot grades were added for site data. 1' contours would render the plan unduly cluttered & we feel with the added spot grades (proposed and existing), the design intent is clear.

Response: Response reviewed; the additional spot grades clarify the intent.

15. Building Access: It appears steps or a ramp may be warranted at the rear mechanical area door.

BA Beals Response: See previous response to comment #11.

Response: No exceptions taken

16. Curbing: Spot grades at the front of the building indicate curbing. Please show the offset for the curb line and label.

BA Beals Response: The curb line has been added.

Response: No exceptions taken

17. Snow Storage: Snow storage (labeled on the site plan) is proposed on all of the stormwater management features. Snow storage areas should be separate areas not located within or in obstruction to stormwater features.

BA Beals Response: Snow storage labels have been removed from those areas.

Response: Response reviewed; However UE recommends that signage or physical barriers be added so that snow is not inadvertently plowed into the stormwater areas.

18. Stone Drip Edge:

- a. The drip edge should be broken at the rear mechanical room door area.
- b. Provide proposed spot grades at multiple locations along the drip edge to ensure the finished grade of the drip edge is such that the 1' of separation between the bottom of the stone and the ESHWT is achieved.

BA Beals Response: The drip edge has been gapped at the mech. room entry, and spot grades added as requested.



Response: Response reviewed; No exception taken.

19. Roof Runoff: Show the location of gutter downspouts on the front side of the building.

BA Beals Response: Please refer to updated architectural plans.

Response: Please coordinate with comment response 28 below concerning downspouts.

Utilities and Lighting Plan

20. Hydrant at Entrance: The site should be equipped with a hydrant; UE understands that the Fire Department has suggested it be near the entrance driveway. Coordinate as required.

BA Beals Response: A hydrant has been added near the entrance per Newmarket Fire.

Response: Response reviewed; UE defers further coordination to the fire department.

21. Water/Fire Service: Label material of the pipe.

BA Beals Response: Service has been revised and labeled.

Response: No exceptions taken

22. Water/Fire Service: UE recommends that the 2" domestic service be taken off the 4" fire line outside of the building rather than inside as proposed, however we will defer the final layout to the Fire Department.

BA Beals Response: Water service has been revised as suggested.

Response: No exceptions taken

23. Sewer Service: Label the material, slope, and inverts of the pipe.

BA Beals Response: Pipe material and min. slope added. Elevations to be coordinated after existing SMH 65 is verified.

Response: Response reviewed; No exception taken.



- 24. Clean-Out:** At a minimum, a sewer clean-out should be installed at the ROW line. UE understands that the Newmarket Sewer Department has requested that a manhole be installed in lieu of a PVC clean-out. Please amend the plan and include a sewer manhole detail in the plan set and amend the Sewer Service Detail as required.

BA Beals Response: A SMH has been added as requested.

Response: Response reviewed; Please relocate SMH to be on the ROW line rather than within the ROW.

- 25. Pads:** Per 13 above, show conduit runs to transformers, generators and HVAC as appropriate.

BA Beals Response: Conduit runs have been added to the plans.

Response: No exception taken.

- 26. Lighting:** Will a building mounted light be located at the rear mechanical room door?

BA Beals Response: An entry door security light is now proposed.

Response: No exception taken.

Stormwater Modeling and Management

- 27. Pollutant Removals:** The stormwater narrative indicates a removal efficiency table in the appendices, but none was found. Please provide.

BA Beals Response: The removal efficiency table is provided herewith in the revised drainage analysis appendix III.

Response: Response received; UE reserves the option to review the suitability of the removal efficient once the HydroCAD model is corrected per comment 31 below.

- 28. Subcatchments:** Post subcatchment 1B includes the entire roof. The architectural drawings show a peaked roof, with the front of the roof sloping toward the



sidewalk/parking area. Please clarify how the runoff from the front half of the roof will be conveyed to the stone drip edge.

BA Beals Response: Please see the revised architectural plans

Response: While the architectural plans have been updated to show gutters and downspouts, it remains unclear how the runoff from the front half of the roof will be conveyed to the stone drip edge. Please clarify.

- 29. Sed Ponds:** As modelled, the Sed Pond nodes, 1CP and 1DP, have storage capacity and offer attenuation, which as the basin fills with sediment is reduced. The sed ponds, below the top of the weirs, should be eliminated from the modelling or the model should presume that they are already full of water (sediment).

BA Beals Response: A starting elevation set at the top of the riprap weir has been applied to each respective sediment forebay as requested.

Response: Response received; Coordination with Comment 31 is requested.

- 30. Freeboard:** Neither BioRetention Pond exhibits 1' of freeboard in larger storm events as required by NHDES.

BA Beals Response: NHDES does not enforce a 1' freeboard, simply that the ponds don't overtop under a 50-YR storm evaluation. These ponds do not overtop during a 100-YR storm event. The design is adequate and appropriate.

Response: Response noted. UE can not speak as to the regularity in which the 1' freeboard for stormwater basins is enforced only that it is part of the guidelines for *New Hampshire Stormwater Manual – Volume 2 Post Construction Best Management Practices Section and Design, December 2008.*

- 31. Hydraulic Coupling:** In several model runs, the peak water elevation in the BioRetention Ponds exceed that of Sed Ponds immediately upstream of them. As graded, the two features will be “one” at elevations greater than the top of weir.

BA Beals Response: This is not uncommon in larger storm events, particularly when the starting elevation of the sediment forebays is concurrent with the overflow weir elevation. This is not an issue, nor does it compromise the designed function of the ponds.



Response: UE disagrees that water elevation of the BioRetention Pond and SedPond immediately upstream of it, will act independently as the model is predicting nor will this occur in practice if constructed as proposed. The ponds can be modelled in HydroCAD as one node (as opposed to two separate nodes) and this discrepancy will be eliminated from the model runs.

- 32. Landscaping Conflicts:** A number of plantings are within the stormwater features. Please confirm and adjust accordingly.

BA Beals Response: Landscape plantings have been removed from the treatment areas. One elm in the forebay in the parking island. Elms are tolerant of wetland conditions and are perfect plants for a retention area, and, in this case the tree in the island marks the island and will be visual warning to older residents not to back into that area.

Response: No further comment

- 33. 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.

BA Beals Response: The PTAPP filing is attached as requested.

Response: Response reviewed; UE reserves the option to review the PTAP once the HydroCAD model is corrected per comment 31 above.

New Comments

- 34. Property Lines:** The proposed property lines for the existing house differ between the Subdivision Plan and the site plans. Coordination is needed.
- 35. Setback Lines:** Setback lines on both parcels should be revised to reflect the current proposed property lines on all sheets.



Page 12 of 12
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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
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