

133 Keyes Road
Concord, MA 01742

**DATE: July 30, 2021****MEMORANDUM**

TO: Elizabeth Hughes, Town Planner
COPY: Alan Cathcart, Director of Public Works
VIA: Steve Dookran, PE, Town Engineer
FROM: Justin Richardson, PE, Assistant Town Engineer
SUBJECT: 250 Old Bedford Road: Site Plan Review

CPW Engineering Division has reviewed the Site Plan Application, dated March 31, 2021, and supplemental plans and calculations prepared by Stamski and McNary, Inc. and provided comments dated April 26, 2021 (seen in regular text and dated). Stamski and McNary, Inc. has provided a response letter to Engineering's comments dated June 29, 2021 (seen in italics and dated). Also included with the response were revised plans and documents dated June 22, 2021, June 24, 2021, and June 29, 2021. Stamski and McNary emailed to the Engineering Division updated information on 7/14/2021 related to the July 7, 2021 comment letter. The Engineering Division offers the following in bold and dated: Engineering Division Comments - April 26, 2021

1. The exit driveway location on Old Bedford Road is too close to the intersection of Virginia Road. Movements from this driveway will have an impact to the operations of the intersection for which the applicant has determined a reduction in the level of service. The driveway should be moved immediately adjacent to the 50-foot buffer zone line. This item should be coordinated with the Natural Resources Commission. (4/26/2021)
 - *The exit driveway location has been shifted west as much possible, increasing the distance from the intersection at Virginia Road and Old Bedford Road to 94 feet. (6/29/2021)*
 - **Comment has been addressed. (7/7/2021)**

2. Is there a conflict between the two corner parking spaces and the dumpster pad?
 - *An SU-30 turning analysis has been provided to show a garbage truck entering and exiting without conflict to any parked vehicle. (6/29/2021)*
 - **The access is still very tight, but the addition of the island adjacent to the dumpster pad on the west should prevent vehicle from blocking access. Comment has been addressed. (7/7/2021)**

3. The applicant should explore moving the entrance driveway on Virginia Road east where the 4 parking spaces are located. This does not appear to reduce the number of parking spaces. Existing UP1 may need to be moved as a result of this change. The applicant should also explore angled parking spaces, which could reduce the drive aisle and thus create less impervious area.
 - *Locating the entrance driveway in the location of the existing utility pole was explored initially, however, due to the work, permits, and time required to move the pole, the applicant decided to explore alternative layouts to avoid having to relocate the existing utility pole. Angled parking was also initially explored and 45° angle did not provide a sufficient number of spaces; 60° did not leave sufficient room for a*

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walkway, nor entrance landing; similarly, 75° did not leave sufficient room for a walkway. Additionally, all angled parking layouts would require the relocation of the existing utility pole. Perpendicular parking spaces provided the most efficient layout, allowed for sufficient room for a walkway and entrance landing and will not require the relocation of the utility pole. (6/29/2021)

- **Comment has been addressed. (7/7/2021)**

4. The parking space closest to Virginia Road on the Northeast side of the lot is too close to the property line and a car backing out of the space will obstruct the sidewalk and Virginia Road depending on the size of the vehicle. This requirement, stated in the Off-street Parking, Loading, and Design Standards in section 7.7.3.4 of Concord's Zoning Bylaw, states that "In no case shall parking or loading spaces be so located as to require the backing or maneuvering of a vehicle onto the sidewalk or onto a public way in order to enter or leave the space."
 - *The exit driveway was shifted enough to allow for an additional parallel parking space which allowed for the removal of the parking space closest to Virginia Road without decreasing the number of spaces in the parking lot. There is no longer a conflict when backing out of the first space closest to the entrance drive and Virginia Road. A turning analysis has been provided in the revised plan set. (6/29/2021)*
 - **The passenger vehicle turning analysis on sheet #7 show a vehicle backing straight out of the space. Most vehicles cut the wheel as they back out and this appears to make the car crossing into the right of way. The Garbage Truck Turning Analysis on the same sheet shows that the garbage truck crossing into the right of way to back out. This comment has not been addressed. (7/7/2021)**
 - **The "Garbage Truck Sketch" emailed to the Engineering Division on 7/14/2021 by Stamski and McNary now shows the Garbage Truck not entering the Virginia Road Right of Way. Comment has been addressed. (7/30/2021)**
5. The drive aisle width at the southwest edge of the 8-foot wide handicap parking access isle appears to be approximately 14.9 feet. This drive aisle width does not meet the Town's Design Standards in section 7.7.3.1 of Concord's Zoning Bylaw. Cars parking in the designated drop-off and pick-up area will also exacerbate this pinch point.
 - *The critical dimension of a 24-foot maneuvering isle has been provided for all spaces where a vehicle is allowed to be parked. The handicap accessible isle is not intended for vehicle parking and is intended as a safe means of exiting a handicap vehicle to provide any person sufficient room to exit the vehicle. Parking in the handicap accessible isle is strictly prohibited. A turning analysis has been provided to demonstrate a vehicle passing without conflict when there are vehicles in queue. (6/29/2021)*

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- **The Pick-up & Drop-Off Queue Analysis shows the bypassing vehicle entering the handicap parking access isle. This width does not appear to be adequate for a bypass lane and an one-way parking lot isle as it is depicted. (7/7/2021)**
 - **The “Passing Lane Sketch” emailed to the Engineering Division on 7/14/2021 now shows the bypass car not entering the handicap parking access aisle. The Concord Planning Division informed the Engineering Division on 7/28/2021 that “The Building Commissioner has reviewed the plans and determined that the required 24-foot drive aisle width is required for the parking and maneuvering of vehicles. The portion of the drive aisle that is 14.9 feet is located behind to the striped handicapped parking loading area and not used for vehicle maneuvering. Section 7.7.3.1 requires this area to be a minimum of 12 feet wide.” Therefore the comment is addressed. (7/30/2021)**

- 6. Virginia Road and Old Bedford Road both have Sloped Granite Curbing. The plans call for Vertical Granite Curb, but at the two driveway locations, sloped granite curbing should be used along the street edge to match the existing streetscape.
 - *A label has been added to Sheet 5 of the plan set to indicate sloped granite curbing where curbing is proposed along the existing street edge to match existing streetscape. (6/29/2021)*
 - **Comment has been addressed. (7/7/2021)**

- 7. Applicant to provide an easement to Town for portion of sidewalk at east corner of property.
 - *A sidewalk easement for the existing sidewalk on the property has been provided and is shown on the revised plan(6/29/2021)*
 - **Comment has been addressed. (7/7/2021)**

- 8. Would the applicant be willing to construct ADA access ramps at the intersection of Virginia Road and Old Bedford Road to make the area more accessible?
 - *The applicant is willing to work with the Town collaboratively to improve the existing cross walks at the intersection of Virginia Road and Old Bedford Road.*
 - **The collaboration is appreciated. (7/7/2021)**

- 9. A note should be added to the grading plan to “maintain gutter line with minimum 3-inch rise” at the pavement intersection of the driveways and Old Bedford Road and Virginia Road. This will prevent roadway runoff from flowing into the private drainage system. No existing contours are shown in the roadways so it is difficult to determine the direction of roadway drainage flow.

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- *A label has been added to Sheet 3 of the plan set to state, "Maintain Gutter line at exit/entrance w/ minimum 3-inch rise".*
 - **Comment has been addressed. (7/7/2021)**

- 10. A detail of the level spreader should be in the plans. Also, a calculation should be performed to determine the size of the lever spreader. The height of water exiting the level spreader should be determined for the appropriate storm events, including overland flow entering the level spreader. The level spreader is located inside a created swale so additional stormwater, including sediment and debris will enter the spreader and could cause it to malfunction.
 - *A detail of the level spreader had been provided on the initial plans, however, additional details have been provided to indicate Pyramat HPTRM in lieu of crushed stone. The Level Spreader detail has been updated to indicate the proposed material. Level Spreader Sizing Calculations have been provided in the revised Stormwater Report and include the overland flow to the level spreader to ensure proper sizing.*
 - **Comment has been addressed. (7/7/2021)**

- 11. The solid dots on the bends of the overflow pipe from the infiltration system are not labeled. Are these cleanouts before the bends?
 - *The solid dots indicate cleanouts, labels have been provided on the revised plan.*
 - **Comment has been addressed. (7/7/2021)**

- 12. The Proposed Trench Drain-1 is capturing runoff from a significant area of the parking lot and the flow does not pass through a deep sump and hood similar to Trench Drain-2. The O&M Plan states that debris should be removed from it 4 times per year, but where will the sediment be collected? Recommend addition of a deep sump and hood for ease of maintenance and to increase the TSS/oil removal prior to the CDS unit.
 - *An additional deep sump, hooded drain manhole (DMH-1) has been provided in between trench drain 1 and DMH-2 to provide addition TSS/oil removal.*
 - **Comment has been addressed. (7/7/2021)**

- 13. Per the CONCORD PUBLIC WORKS DESIGN & CONSTRUCTION STANDARDS & DETAILS Section 2.2.4.E, Infiltration Bed 2 should have an overflow. Please revise the plans to show an overflow.
 - *An emergency overflow for storms in excess of the 100-year storm has been provided for infiltration bed 2 which discharges to the proposed level spreader.*
 - **An over flow pipe from Bed 2 appears to be added, but it meets and inflow pipe at an angled, wye connection. This connection is not detailed on sheet 6. It is recommended that at least a cleanout be provided at this intersection and a detail of the connection be provided. (7/7/2021)**
 - **A detail of this connection can be a condition of approval. (7/30/2021)**

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14. In the Drainage Report on page 21 entitled "Worksheet2, Runoff curve number and runoff" the table at the bottom of the page does not include the 25 year storm event. This occurs on multiple pages in the report. Please update the report.
 - *All TR55 worksheets have been updated to include the runoff calculation for the 25-year storm*
 - **Comment has been addressed. (7/7/2021)**

15. In the Drainage Report on page 65 entitled "Hydrograph Report " for subcatchment P-2 for the 2-year storm event the time span for the Hydrograph needs to be increased to ensure that its peak is at 12.5± hours.
 - *The 2-year storm event time span for subcatchment P-2 has been expanded.*
 - **Comment has been addressed. (7/7/2021)**

16. The TSS removal sheet should include the full treatment train including Catch Basin and CDS units. The system exceeds the minimum 80% removal.
 - *The TSS removal worksheets have been updated to provide the full treatment train for runoff.*
 - **Comment has been addressed. (7/7/2021)**

17. A Right of Way (ROW) permit is required for the work being performed on Virginia Road and Old Bedford Road.
 - *A Right of Way (ROW) permit shall be obtained prior to performing work within the ROW of Virginia Road and Old Bedford Road.*
 - **Comment has been addressed. (7/7/2021)**

18. Work inside the right of way shall comply with CONCORD PUBLIC WORKS DESIGN & CONSTRUCTION STANDARDS & DETAILS.
 - *Work inside the ROW will be done in accordance with Concord Public Works Design & Construction Standards & Details. The construction details within the plan set reflect the Town's standards.*
 - **Comment has been addressed. (7/7/2021)**

19. The Operation and Maintenance Inspection Logs shall be submitted to the Engineering Division Annually.
 - *A note has been added to the "Drainage System Operation and Maintenance Plan" on Sheet 8 of the plan set to state that inspection logs shall be submitted to the Engineering Division annually.*
 - **Comment has been addressed. (7/7/2021)**

20. The Engineering Divisions reserves the right to comment on future submittals related to any new or previously submitted information provided to the Town for review. Additionally, the

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Engineering Division will wait to comment on the Traffic Study until an outside consultant has performed the Peer Review of the Traffic Study.

- *No response needed.*
- **Comment has been addressed. (7/7/2021)**

Engineering Division Comments - July 7, 2021

- 21. The Typical Trench Drain Trench Detail on sheet #6 has text overstrikes and is difficult to read. Please revise the detail.**
 - **The detail edit can be a condition of approval. (7/30/2021)**
- 22. On sheet #7 in the Pick-Up & Drop-Off Queue layout, how will the drop-off area be designated and will signage be provided because of the merging vehicles in this area.**
 - **The Concord Planning Division informed the Engineering Division on 7/28/2021 that "Signage will be required with the location and sign being approved prior to issuance of occupancy and then verified in the field." This is an acceptable condition of approval. (7/30/2021)**
- 23. On sheet #7 in the Pick-Up & Drop-Off Queue layout, how will no parking in the ADA Crosswalk to the building be enforced?**
 - **The Concord Planning Division informed the Engineering Division on 7/28/2021 that "Signage will be required with the location and sign being approved prior to issuance of occupancy and then verified in the field." This is an acceptable condition of approval. (7/30/2021)**