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October 17, 2023

Richard Benevento  
Zoning Board of Appeals  
Town of Middleton  
195 N Main Street  
Middleton, MA 01949

Re: 10 Boston Street, Middleton, MA  
40B Comprehensive Permit Application  
Response to Civil Engineering and Traffic Engineering Peer Review #1

Dear Mr. Benevento:

Hancock Associates is pleased to offer the following correspondence in response to the Peer Review memorandum from TEC dated October 12, 2023.

## **Civil Engineering Site Plan Review**

1. Plans as submitted are labeled as "Preliminary", and in the opinion of TEC, do not provide sufficient detail to determine adequacy of the site and stormwater design.

**Response: 760 CMR 56.05 requires the submission of preliminary site development plan. We believe we have fully complied with the regulatory provisions but understand TEC's call for additional details as outlined in their memorandum. We commit to work with The Board as the process continues to provide the additional details and information requested.**

2. A waiver has been requested for the requirements of Section 9.5 of the Middleton Zoning Bylaws, "Site Plan Review". The plans as submitted do not meet the following requirements:
  - a) Plans shall be submitted on twenty-four-by-thirty-six-inches sheets whereas the plans currently are thirty-by-forty-two-inches. TEC defers to the Board.

**Response: We feel the larger sheets allow for ease of review at an appropriate scale without having to break the site into separate sheets.**

- b) Plans should provide a locus plan at a scale of one-inch equals to 100 feet, showing the entire project and its relation to existing areas, buildings, and roads for a distance of 1,000 feet from the project boundaries.

**Response: A 100 scale locus plan will be provided.**

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- c) Plans should indicate snow storage areas.

**Response: Snow storage area will be added to the plan.**

3. A waiver for maximum building height is requested. The allowable height is 35ft (3 stories) – the applicant’s proposed building height is 42ft (3 stories). TEC defers to the Board.
4. Per the MA Stormwater BMP Handbook, a minimum of (2) test pits should be conducted within the footprint of each subsurface infiltration system. Several test pits are shown on the plans, however none appear to have been conducted within the footprint of the (2) proposed infiltration systems. Additional test pits in the footprint of the proposed infiltration systems should be conducted to confirm soil classification, infiltration rate, and estimated seasonal high groundwater elevation.

**Response: Extensive testing has been performed throughout the site. Hancock is confident suitable soils exist within the proposed infiltration areas. We would ask that the Board consider additional testing be required as a condition of approval and performed prior to the submittal of the building permit application.**

5. (8) test pit locations are indicated on the plans. It appears that test pit results are only provided for (4) test pits. The locations of (2) of the test pits for which results are provided are not indicated on the plans.

**Response: The plans and logs will be updated to address these differences.**

6. The Applicant should provide turning templates showing the ability of fire apparatus to access, circulate, and egress the site through the circulation pattern without leaving the paved surface. This includes a Town of Middleton fire apparatus. The Applicant should coordinate with the Town of Middleton Fire Department for preferred locations of fire lanes (if needed), confirmation of hydrant locations, and sign requirements for fire lanes within the site. TEC defers to local police and fire.

**Response: We have produced a Swept Path Analysis and shared it with the Middleton Fire Department. This plan is attached to complete the Zoning Board record.**

7. The site layout plans indicate trash will be stored inside the building and trash pickup access will be through the south side of the building from the adjacent parking lot of “Lot 3”. Grading of this access should be confirmed as it appears the first 20’ of the access path will be greater than 20% until the parking lot is regraded/reconstructed on “Lot 3”. The Applicant should provide turning templates showing the ability of dump trucks to access, circulate, and egress the site through the circulation pattern without leaving the paved surface while accessing the location of the trash room. Adequate access for trash removal should be incorporated into the development of “Lot 2”. Should the refuse truck need to

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access the trash room from Lot 3 as depicted, and common ownership of "Lot 2" and Lot "3" ceases, a cross-access easement may need to be in place to conduct this business.

**Response: Hancock will review grading and truck maneuvering to the trash area and revise the plan as necessary.**

8. The plan set does not include any construction details.

**Response: 760 CMR 56.05 does not require the submission of construction details. As committed above, Hancock will advance plan details as we move through the process adding necessary details to the plan set for review.**

9. No construction period erosion and sediment controls are indicated on the plans.

**Response: 760 CMR 56.05 does not require the submission of erosion and sediment control plans. As committed above, Hancock will advance plan details as we move through the process adding this information to the plan set for review.**

10. No drainage conveyance structure inverts are indicated. No drainage conveyance pipe size, material, length, or slope are indicated. Assuming a minimum of 36" from rim to invert for proposed catch basins to the west of the proposed infiltration systems indicate a potential backflow condition (inverts of catch basins approximately elevation 101.2, 101.5; bottom of chambers elevation 101.5).

**Response: We feel this level of detail is beyond the submission requirements. As committed above, Hancock will advance plan details as we move through the process adding this information to the plan set for review.**

11. The plan set does not provide for details regarding proposed retaining walls. A DMH is proposed in between the retaining walls and detail on the walls should be provided to ensure constructability.

**Response: Due to changes with the building plan and site plan, the eastern walkway/stairway and associated retaining walls are being eliminated. Revised plans reflecting this change will be provided.**

12. Infiltration system construction details should be provided. Isolator row details should be provided. Infiltration system inlet manholes and manifold details should be provided. The outlet control structure call outs indicate weir elevation but do not indicate orifice size and elevation as included in the HydroCAD model. Outlet control structure details should be provided.

**Response: We feel this level of detail is beyond the submission requirements. As committed above, Hancock will advance plan details as we move through the process adding this information to the plan set for review.**

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13. Plans indicate a minimum offset from infiltration system to subsurface soil absorption system of 25', assumed to be taken from Title 5 for the setback from SAS to dry wells. Per the MA Stormwater BMP handbook, the offset from infiltration BMPs (basins and trenches) to soil absorption systems is 50'. TEC defers to MassDEP as to the superseding regulation. TEC defers to the local Health Department and MassDEP on septic system design.

**Response: We feel the requirements of Title 5 prevail as ensuring the proper function of a subsurface sewage disposal system is of a higher regard to environmental and health protection. Title 5 requires the design systems exceeding 2,000 gallons per day consider groundwater mounding which would include the potential for interaction between the stormwater system and the subsurface sewage disposal system. We see this analysis happening as we finish the Zoning Board process prior to submission to the Board of Health.**

14. Per the standard Stormtech construction details, a minimum of 18" is required from the top of the chambers to the bottom of pavement for adequate structural integrity under parking areas. The current proposed design indicates approximately 16" from the top of the chambers of infiltration system "1P" to the top of pavement along the western side of the system.

**Response: The plans will be revised to meet the 18-inch cover requirement.**

15. The applicant proposes connecting the new drainage system to the existing drainage network on "Lot 3" via a proposed utility easement. The existing drainage network on Lot "3" is connected to the existing drainage system within MassDOT jurisdiction on South Main Street (Route 114). A DOT Access Permit may be required for the expanded drainage connection. TEC suggests the applicant and DPW engage MassDOT regarding the proposed expanded drainage system interconnection.

**Response: We understand the need for a MassDOT access permit which will require submission of drainage calculations to their satisfaction. We are controlling post development rates to pre-development rates.**

16. Proposed lighting is indicated on the provided landscape plans, however no photometrics are provided to ensure no light spillage/pollution and conformance with local regulations.

**Response: A photometric plan will be supplied to the Board by the Landscape Architect by mid-November. We hope this will provide sufficient time for peer review before the December meeting at which landscaping is scheduled to be reviewed.**

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17. Lighting plan shows proposed light pole within infiltration system "1P", details on how that would be constructed should be provided.

**Response: The system can be interrupted with the use of intermittent end caps. Details will be provided to the Board with the next plan submission.**

18. The landscape plan shows a proposed tree within infiltration system "2P." There is also a proposed tree at the southwest corner of the site that is proximate to a proposed area drain and pipe connection.

**Response: The tree locations will be adjusted to avoid the infiltration system by the Landscape Architect by mid-November. We hope this will provide sufficient time for peer review before the December meeting at which landscaping is scheduled to be reviewed..**

19. The landscape plan proposes plantings within the Boston Street right-of-way adjacent to the proposed entry sign. With regards to ownership of on-going landscape maintenance, TEC suggests proposed landscaping remain outside the public right-of-way.

**Response: The planting locations will be adjusted to have all planting within the lot.**

20. Is a cross-access easement to be established between the subdivided lots to allow for residential traffic to utilize the South Main Street parking areas and driveway?

**Response: Cross easements will be established upon presentation of a recordable subdivision plan to the Zoning Board later in the process.**

21. The Applicant should verify the location of bus stops for resident children with the local school district and ensure the location is easily accessible by a school bus.

**Response: The bus stop for resident children with the local school district is located less than 200 feet to the west of the site at the intersection of Boston Street and Pleasant Street. The bus stop is serviced by Route # 8 for the Middleton Elementary Schools and Route # 24 for the Masconomet Middle and High Schools."**

22. The Applicant shall provide a dedicated plan for all traffic signage and pavement markings to be installed as part of the project. A sign summary shall also be

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included which depicts the sign legend, sign size, and sign lettering dimensions in compliance with the *Manual on Uniform Traffic Control Devices (MUTCD)*.

- a) This includes the placement of a stop sign and stop lines along the site driveways at its intersection with Boston Street and South Main Street.
- b) This includes placement of a stop sign and stop lines along the Boston Street Driveway and its intersection with the main drive aisle leading to Lot 3's surface parking.
- c) The Applicant should provide standard details and/or notes that denote the height of traffic signage on-site. Note that the height of some signage will be different than others.

**Response: Final plans will include all signage noted above.**

23. The proposed site provides for 102 off-street parking spaces. The land use is identified in Bylaw Section 5.1.2. The site would require 120 parking spaces to satisfy the Bylaw. The Applicant has noted a need for relief from parking spaces with 1.7 spaces per unit.
  - a) Parking demand calculations published by the Institute of Transportation Engineers (ITE) in the most recent industry standard *Parking Generation, 5th Edition* for Land Use Code (LUC) 221 – Multifamily Housing Mid-Rise denote an average peak parking demand of seventy-nine (45) parking spaces needed for sixty (60) units or sixty-eight (68) parking spaces for ninety (90) bedrooms. Parking demand calculations also note an 85th percentile peak parking demand of eighty-nine (89) parking spaces needed for sixty (60) units or seventy-eight (78) parking spaces for ninety (90) bedrooms. Even under the most limited parking demand combination from the ITE publication would suggest the Applicant's parking spot count would be sufficient to meet demand.

**Response: We concur with TEC's finding that adequate parking has been provided.**

24. Dimensions are provided for a typical parking space on-site in compliance with the Bylaw. In addition, dimensions for the accessible spaces on-site are in compliance with 521 CMR 23.4.1. The Applicant should revise the plans to show accessible signage at the head of each accessible parking space with the associated 'Van Accessible' plaque.

**Response: Final plans will include the signage noted above.**

25. The plans should be revised to depict both intersection sight distance and stopping sight distance measurements for both directions at Boston Street and South Main Street. Intersection sight distance measurements should be taken from a point 14.5-feet from the proposed edge of travel way on each mainline roadway. The

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sheet should denote all areas of clear view and resulting from the sight lines both on the public ROW and land under the control of the Applicant.

**Response: Sight distances noted in the Vanasse Associates TIA will be added to the plan as noted with the next plan submission.**

26. Concrete sidewalks are provided along Boston Street opposite the site frontage. A proposed sidewalk is shown on-site connecting from the building frontage out to Boston Street and terminating. The location is not ideal for a crosswalk to allow connection to the sidewalk along the northerly side of the roadway. The Applicant should provide a pedestrian connection along the southerly side of Boston Road connecting to the intersection with South Main Street.

**Response: Plans will be revised to show a sidewalk along Boston Street. Although not a subject of this application, it is expected that redevelopment of the adjacent commercial property will include extending the sidewalk along the south side of Boston Street, connecting to the existing sidewalks along South Main Street.**

27. The Applicant should provide standard details for all accessible ramp types and crosswalks.

**Response: Final plans will include these details.**

28. The plan does not show electric vehicle charging stations on-site. The Applicant should clarify if spaces on-site will be constructed as EV-compatible or EV-ready.

**Response: Building permit application plans will comply with the then-applicable building code requirements for EV spaces.**

29. The Applicant shall define the location of resident bicycle storage including weather-protection and security.

**Response: Outdoor, open-air bike racks will be added to the plans and submitted to the Zoning Board with the next plan submission.**

## **MassDEP Stormwater Standards**

30. Standard 1 (Untreated discharges): No new stormwater conveyance may discharge untreated stormwater directly to or cause erosion in wetlands or water of the Commonwealth.

Standard appears to be met. All stormwater runoff from the site is proposed to be discharged to an existing drainage network within South Main Street. See Standard 4 regarding water quality treatment.

**Response: We concur with TEC that the standard is met.**



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31. Standard 2 (Peak rate control and flood prevention): Stormwater management systems must be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. This Standard may be waived for land subject to coastal storm flowage.

TEC provides the following comments in relation to Standard 2:

- a) The existing watershed analysis map indicates (3) analysis points. The proposed watershed analysis indicates (1) analysis point. The majority of the site runoff has been redirected towards the South Main Street drainage network analysis point, however, there appears to still be a small area of the post development condition which drains towards Boston Street. The watershed maps and analysis should be revised to incorporate the Boston Street analysis point. All (3) analysis points should be indicated in the Stormwater Report discharge rate table. It appears peak flows will likely still be met.

**Response: The watershed maps and analysis will be revised to reflect three analysis points in the post-development condition.**

- b) The HydroCAD analysis indicates the proposed pipe network to an existing drainage manhole will be constructed within 12" reinforced concrete pipe. The outlet of the existing drainage manhole appears to be an 8" cast iron pipe. The analysis should include the existing pipe to ensure the reduction in flow capacity of the 8" pipe will not negatively impact or cause backflow of the proposed stormwater management system for the development.

**Response: The analysis will be revised to reflect the 8-inch outlet pipe. The current analysis demonstrates no increase in flow to this pipe in the post-development condition.**

- c) The plans do not indicate size, material, length, slope, or inverts of the proposed pipe network. Some pipes are included in the HydroCAD analysis. All proposed pipes should be modeled to ensure adequate size and flow capacities for the site. TEC recommends adding all structures and pipes to the HydroCAD model.

**Response: This information will be added to the plans and submitted to the Zoning Board with the next plan submission.**

- d) The HydroCAD model and the plan call outs indicate a total of 192 chambers in infiltration system "1P". It appears there are 191 chambers as (1) chamber appears to have been removed for the inlet of the CB in the northeast corner of the proposed parking area. TEC recommends this CB



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be directed the system manifold DMH in the northeast corner of the system, allowing for 192 total chambers.

**Response: The plans will be revised as noted.**

32. Standard 3 (Recharge to Ground water): Loss of annual recharge to ground water shall be eliminated or minimized through the use of infiltration measures, including environmentally sensitive site design, low impact development techniques, best management practices, and good operation and maintenance. At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from the pre-development conditions based on soil type. This Standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts' Stormwater Handbook.

TEC provides the following comments in relation to Standard 3:

- a) Per the plan call out for infiltration system "1P", the bottom of the system is 2' above seasonal high groundwater. The system is also used proposed for peak flow attenuation for storms greater than and equal to the 10-year storm, therefore a mounding analysis should be provided.

**Response: A mounding analysis will be provided prior to completion of final plans.**

- b) As mentioned prior, additional test pits should be conducted within the footprint of infiltration systems.

**Response: Extensive testing has been performed throughout the site. Hancock is confident suitable soils exist within the proposed infiltration areas. We would ask that the Board consider additional testing be required as a condition of approval and performed prior to the submittal of Final Plan.**

- c) The checklist indicates that runoff from all impervious areas at the site discharges to infiltration BMPs. There are areas (sidewalks to the north, east, and south of the building; a portion of the driveway draining to Boston Street) which are not conveyed to the proposed infiltration systems. The checklist should be revised.

**Response: The recharge calculations will be revised to include capture adjustment for this small area.**

- d) It appears that required recharge volumes are met.

**Response: We concur with TEC' s finding.**

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33. Standard 4 (80% TSS removal): Stormwater management systems must be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS).

TEC provides the following comments in relation to Standard 4:

- a) It appears that required water quality volumes are met for the (2) infiltration systems.

**Response: We concur with TEC' s finding.**

- b) As mentioned prior, there is a portion of the proposed driveway which discharges to Boston Street. This runoff is not captured and therefore is untreated. The water quality analysis should provide calculations showing that the site averages the required 80% TSS removal for all impervious areas requiring treatment.

**Response: We will provide a weighted average of TSS removal of the site to account for this de minimus area that is untreated.**

- c) The proposed parking area catch basin located in the southwest corner of the site is proposed as an inline structure. Per the Stormwater BMP Handbook, all deep sump catch basins should be off-line structures.

**Response: We will revise the plan to correct this issue and provide to the Board with the next plan submission.**

- d) A Long-Term Pollution Prevention Plan should be provided per the stormwater checklist.

**Response: A Long-Term Pollution Prevention Plan will be provided with the Final Plans.**

34. Standard 5 (Higher Potential Pollutant Loads): For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable.

Standard does not apply to this proposed project. The checklist should be revised as it indicates the EPA NPDES MSGP covers the land use.

**Response: We concur with TEC's finding.**

35. Standard 6 (Critical Areas): Stormwater discharges to a Zone II or Interim Wellhead Protection Area of a public water supply and stormwater discharges near or any other critical area require the use of the specific source control and pollution

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prevention measures and the specific stormwater best management practices determined by the Department to be suitable for managing discharges to such area, as provided in the Massachusetts Stormwater Handbook. A discharge is near a critical area if there is a strong likelihood of a significant impact occurring to said area, taking into account site-specific factors. Stormwater discharges to Outstanding Resource Waters or Special Resource Waters shall be set back from the receiving water and receive the highest and best practical method of treatment. A "stormwater discharge," as defined in 314 CMR 3.04(2)(a)1. or (b), to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00 and 314 CMR 4.00. Stormwater discharges to Zone I or Zone A are prohibited unless essential to the operation of the public water supply.

Standard does not apply to this proposed project.

**Response: We concur with TEC's finding.**

36. Standard 7 (Redevelopment). A redevelopment project is required to meet Standards 1-6 only to the maximum extent practicable. Remaining standards shall be met, and the project shall improve existing conditions.

Standard does not apply to this proposed project.

**Response: We concur with TEC's finding.**

37. Standard 8 (Erosion, Sediment Control): A plan to control construction-related impacts, including erosion sedimentation and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention plan), must be developed, and implemented.

TEC provides the following comments in relation to the Standard 8:

- a) No construction period pollution prevention and erosion and sediment control plan is provided with information as required per the stormwater checklist. The plan should also include any additional information as required by the Middleton local stormwater management regulations.

**Response: A SWPPP Plan will be added to the plan set and provided to the Board with the next plan submission.**

- b) No construction period controls are indicated on the plans.

**Response: A SWPPP Plan with details will be added to the plan set and provided to the Board with the next plan submission.**

- c) The project will be required to obtain coverage under the EPA NPDES CGP as it will disturb over an acre. This will require the development of a SWPPP

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as indicated on the stormwater checklist. If the project were to be approved, TEC recommends this be added as a condition of approval.

**Response: We concur with TEC's finding.**

38. Standard 9 (Operation and Maintenance): A long-term operation and maintenance plan must be developed and implemented to ensure that stormwater management systems function as designed.

Standard appears to be met. The operation and maintenance plan should be revised to indicate that local police and fire will also be notified of any potential spills per the Middleton local stormwater management regulations. Based on the Massachusetts Stormwater Handbook the operation and maintenance plan should include mosquito control for subsurface infiltration systems.

**Response: The O & M will be revised as noted.**

39. Standard 10 (Illicit Discharges): All illicit discharges to the stormwater management system are prohibited.

Standard appears to be met. Measures for the prevention of illicit discharges are provided within the Long-Term Operation and Maintenance Plan. No illicit discharge compliance statement is provided, and the report indicates one will be provided prior to discharge of stormwater to post construction BMPs. If the project were to be approved, TEC recommends this be added as a condition of approval.

**Response: We concur with TEC's suggestion.**

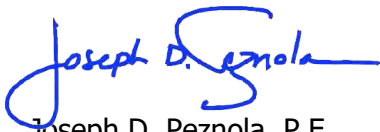
Responses to the Traffic Impact Assessment comments will be provided by VAI under separate cover prior to the November 16<sup>th</sup> meeting of the ZBA.

We look forward to working with TEC and the Board as the process continues.

Sincerely,

Hancock Associates

Acting On Behalf of Villebridge Acquisitions LLC



Joseph D. Peznola, P.E.

Director of Engineering