Vanasse & Associates inc
Transportation Engineers & Planners

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Ref: 8441

January 19, 2021

Mr. Gregory T. Federspiel
Town Administrator
Town of Manchester-by-the-Sea
10 Central Street
Manchester-by-the-Sea, MA 01944-1399

Re: Response to Traffic Impacts Peer Review Initial Findings Letter
Sanctuary at Manchester-by-the-Sea
Manchester-by-the-Sea, Massachusetts

Dear Mr. Federspiel:

Vanasse & Associates, Inc. (VAI) is providing responses to the comments that were raised in the January 11, 2021 *Traffic Impacts Peer Review Initial Findings Letter* prepared by Stantec Consulting, Inc. (Stantec) in reference to their review of the September 2020 *Transportation Impact Assessment* (the "September 2020 TIA") prepared by VAI in support of the proposed Sanctuary at Manchester-by-the-Sea multifamily residential community to be located off School Street in Manchester-by-the-Sea, Massachusetts (hereafter referred to as the "Project"). Listed below are each of the comments pertaining to the September 2020 TIA identified in the subject letter followed by our response on behalf of the Applicant. Responses to the remaining comments will be provided by others under separate cover.

**1.3 – Review study methodology, trip generation, and trip distribution assumptions**

**Comment:** *To summarize, the methods used to calculate trip generation and trip distribution reported in the TIA are reasonable and acceptable, and are based on typical traffic engineering methodologies.*

**Response:** No response required.

**1.4 – Review Study Area and existing volumes**

**Comment:** *From the site visit and our review of historical traffic volumes in Manchester, we conclude that the TIA Study Area identified and the number of intersections it includes is reasonable and acceptable from a traffic analysis perspective.*

*In accordance with MassDOT guidelines, the TIA authors increased actual Study Area traffic volumes counted during July 2020 by 30% to evaluate 'existing' traffic volumes. This was done to account for known pandemic traffic decreases. Also, MBTS, a beach community, has July traffic volumes that are normally 14% higher than average annual conditions. We therefore conclude the 'existing' traffic volumes reported in the TIA are conservative, being up to 44% higher than the likely 'average annual' volumes.*

**Response:** No response required.

**1.5 - Review accident analysis**

**Comment:** *Crash analysis information as reported in the TIA is acceptable. Consistent with MassDOT guidelines, the TIA evaluated a 5-year period for crash analyses between 2013 and 2017, the most recent available period for crash analysis. None of the Study Area intersections had historic crash rates exceeding average crash rates at similar unsignalized intersections either statewide or within MassDOT District 4, which includes Manchester by the Sea.*

**Response:** No response required.

**1.6 - Review background traffic growth**

**Comment:** *According to the TIA, background traffic growth to account for unspecific traffic growth sources was increased by 1% per year between the pandemic-adjusted 'existing' 2020 traffic volumes and the year 2027 for the No-Build and Build analyses. The TIA indicates that historical traffic growth rate was approximately 0.63%. Therefore the 1% used is conservative. The future traffic volumes analyzed were set to an aggregate growth rate of 7.2% for adjusted background traffic between 2020 and 2027 corrected for pandemic-related traffic reductions. As indicated in the TIA, Manchester's Town Planner confirms that no known developments are projected within the project impact area.3 This is a reasonable assumption for background traffic growth.*

**Response:** No response required.

**1.7 - Review and evaluate level of service (LOS) analyses**

**Comment:** *Our review of existing (2020), No-Build (2027) and Build (2027) indicates the LOS analysis sheets for all time periods were done acceptably.*

*The TIA analysis of 'existing' year 2020 conditions found that all traffic movements through two of the three evaluated intersections are operating acceptably during AM and PM peak hours. With existing volumes increased to reflect non-pandemic conditions, the TIA projects that only the eastbound left and through movement of the Route 128 NB off-ramp to School Street operates with congestion (LOS F) during the afternoon peak hour only. It finds that all the remaining traffic movements at the three intersections in the Study Area will operate at acceptable LOS A-D operations during 'existing' pandemic-corrected AM and PM peak hours. These findings are reasonable.*

*However, the TIA estimates that by the year 2027, left and through ramp traffic approaching School Street at both Route 128 Exit 15 NB and SB ramp terminals will experience congestion LOS E or F during the AM and PM peak hours. By adding approximately 25 vehicles to the Route 128 NB off-ramp's left turn demand, traffic from the Sanctuary at MBTS will degrade one of the 2027 No-Build traffic movements from LOS E to LOS F. The TIA also finds that peak hour traffic operations will be similar with or without traffic generated by the Sanctuary at MBTS. These findings are reasonable and acceptable.*

*The analysis shows that motor vehicle traffic at the future site driveway with School Street and School Street at Atwater Street should operate at acceptable levels of service A-D during the site-Build AM and PM peak hours. These findings are reasonable and acceptable.*

**Response:** No response required.

**1.8 - Assess the adequacy of proposed traffic mitigation measures**

**Comment:** *The TIA proposes preparing a study such that it will suffice for the Town to apply for MassDOT funding for the future construction of operational and safety improvements at the Route 128 Exit 15 interchange, with conceptual design features. This is an acceptable mitigation measure. In addition to signalization of the ramps, we recommend that VAI's recommended study of Exit 15 not only consider signalization, but the potential for roundabout configurations at both ramp termini. If future congestion and crashes indicate countermeasures are needed, two roundabouts may overall, be less expensive than signalization. They may also produce better operational and safety results based on the projected volumes as presented in the TIA. Roundabouts especially benefit left turning movements from the ramps because they are made as circular right turns. Also, if MBTS at some point constructs a sidewalk on the east side or both sides of School Street to the north of the interchange, roundabouts provide good opportunities for incorporating sidewalks and low-speed yielding conflicts without the need to signalize the crossings.*

**Response:** As requested, the improvement alternatives to be evaluated for the Route 128 off-ramp intersections with School Street will include an assessment of roundabout control of both ramp intersections.

**Comment:** *While the TIA did not address this issue specifically, we checked whether future volumes of left turns into the site would warrant the installation of a left turn lane on School Street with full site development. We conclude that minimum left lane warrants on the northbound approach to the future site driveway intersection are not met. Nonetheless, it may be beneficial, if feasible, to consider a minor shoulder widening in the northbound direction of School Street to create an opportunity for a right lane bypass without encroaching on the unpaved shoulder. If done, it should conform to MassDOT design guidance. With School Street design speeds of 40+ mph at the site driveway, a bypass lane could represent a future safety benefit by reducing the potential for rear-end collisions in when the site generated vehicles are waiting to turn left. This is optional consideration, as we recognize that even a modest shoulder widening potentially has adverse environmental drawbacks that must be considered along with its potential safety benefits.*

**Response:** The Applicant is willing to design the requested widening/turning lane, in consultation with the Town's Traffic Consultant, and will make a financial contribution to perform the work; however, review and approval of the proposed work will be the responsibility of the Town as the owner of the roadway given that a separate Notice of Intent filing is required with the Manchester-by-the-Sea Conservation Commission as the proposed work would occur within the existing riverfront area.

**Comment:** *Even if it is not possible to construct an ADA-compliant sidewalk on one side of the site driveway, observations indicate there is an unpaved, non-ADA compliant, shoulder on both sides of School Street that could be used by pedestrians. MBTS does not have existing plans to construct a sidewalk on one or both sides of School Street north of Exit 15. While not the Applicant's responsibility, at some time in the future, provision of a sidewalk on one or both sides School Street to Exit 15 would be advantageous for existing and site generated pedestrian and bicycle connectivity and for accommodating future transit shuttle stops on School Street, whether year-round or seasonal.*

**Response:** No response required.

**Comment:** *MBTS has the following safety requirements in its Subdivision Rules and Regulations as they pertain to site access:*

- *Maximum cul-de-sac length of 500 feet "unless a greater length is deemed desirable by the topography or other local conditions";*
- *Two means of access for any road serving more than 10 dwelling units;*
- *For roads serving more than 120 units, a paved width of 34 feet and maximum grade of 6% is required;*
- *Minimum sight distance of at least 100 feet from the centerline;*
- *Minimum centerline radii of 150 feet; and*
- *A sidewalk is required.*

*The Sanctuary at MBTS site plan, as proposed, has several features not in conformance with all of the above safety guidelines. These features should be addressed to the maximum extent possible.*

*We recognize that the 40B legislation does not require the Applicant to conform to Manchester's cul-de-sac guidelines. However, the vast majority of communities within the Commonwealth of Massachusetts cite maximum lengths at 500-600 feet. Given the long cul-de-sac length, coupled with the proposed site driveway's horizontal and vertical curvature, the Applicant should provide two effective accesses to serve this site in a safe and efficient manner, even if one of those accesses, while maintained during all seasons, is gated and used only during emergency conditions.*

*An AutoTurn® or similar truck turning envelope analysis should be presented along the entire driveway system using the largest emergency or other moving/delivery vehicles expected to service the site. The requested AutoTurn® or similar analysis will be used to determine whether the proposed driveway may require widening on curved sections to accommodate simultaneous turning vehicles without encroachment on the opposing vehicle travel lane. The design speed of the driveway appears to be 10-15 MPH, given its horizontal and vertical curvature. Is a speed limit proposed to address the horizontal and vertical curvature of the site driveway? A required speed limit for both directions and speed feedback sign are appropriate along with edge speed reduction markings in the downhill direction.*

*We question whether there is a need to install a raised median for more than the first hundred feet of roadway. An undivided 34' roadway, such as required by*

*Manchester's Subdivision access guidelines is less likely to become blocked than a median-divided 34' edge-to-edge roadway.*

**Response:** The Applicant has been and will continue to coordinate with the Town and its peer review consultant on possible enhancements to the entrance road and access onto School Street. The plans have been reviewed with the Fire Chief and the access configuration was found to be acceptable with consideration that the building will include an automatic sprinkler system and conform to all current building and fire protection codes. The Fire Chief reiterated his support for the proposed project design at the January 16, 2021 Board of Selectmen meeting during which he said he has "no concern whatsoever about the project's proposed access". Revised Site Plans with the requested AutoTurn® analysis will be provided by others under separate cover.

**Comment:** *Where perpendicular parking is proposed, the drive aisle behind the parking should be a minimum of 23-feet in order to facilitate parking maneuvers.*

*This statement is acceptable. However, several of the parking spaces within the proposed parking garage have backing, side clearance, and circulation continuity issues. Refer to the site plan parking layout circulation features discussion further on in this letter.*

**Response:** Revised Site Plans with refinements to the parking layout will be provided by others under separate cover.

**Comment:** *We concur with the following TIA recommendations:*

*Vehicles exiting the Project site should be placed under STOP-sign control with a marked STOP-line provided.*

- *All signs and pavement markings to be installed within the Project site should conform to the applicable standards of the Manual on Uniform Traffic Control Devices (MUTCD).*
- *Americans with Disabilities Act (ADA) compliant wheelchair ramps should be provided at all pedestrian crossings that are to be constructed or modified as a part of the Project.*
- *Signs and landscaping to be installed as a part of the Project within the sight triangle areas of the Project site driveway should be designed and maintained so as not to restrict lines of sight.*
- *Snow windrows within sight triangle areas of the Project site driveway should be promptly removed where such accumulations would impede sight lines.*
- *Consideration should be given to providing accommodations for electric vehicle charging for residents of the Project.*

**Response:** No response required.

Site Driveway at School Street – Sight Distance

**Comment:** *The TIA found acceptable sight lines at the future intersection of the Sanctuary at MBTS driveway with School Street. Our on-site observations confirmed the acceptability of the sight line information as presented in the TIA.*

*TIA estimates of the required minimum stopping and intersection sight distances between 360 and 500 feet are acceptable and are exceeded in both directions of School Street for greater than a 45 mile per hour speed of approaching traffic.*

**Response:** No response required.

Transportation Demand Management

**Comment:** *The TIA cites that the MBTA provides commuter rail service to MBTS and that the service is a 7-minute drive from the site. It is unclear how the potential shuttle transit stop shown on the site plan adjacent to the end of the cul-de-sac will work to help alleviate site demands on the downtown parking supply or access to the MBTA commuter rail station.*

*The TIA recommends:*

- *Information regarding public transportation services, maps, schedules and fare information will be posted in a central location and/or otherwise made available to residents;*
- *A "welcome packet" will be provided to new residents detailing available public transportation services, bicycle and walking alternatives, and commuter options available;*
- *Pedestrian accommodations will be incorporated into the Project and consist of sidewalks and ADA compliant wheelchair ramps at all pedestrian crossings that are to be constructed or modified as a part of the Project;*
- *Work-at-home workspaces will be provided to support telecommuting by residents of the Project;*
- *An internal mail room will be provided within the building; and*
- *Bicycle parking will be provided consisting of both an exterior bicycle rack located proximate to the building entrance and weather protected bicycle parking within the proposed parking garage.*

*Without the appropriate supporting infrastructure, reasonable off-site bicycle or pedestrian access between the Town Center and the site will be problematic. Bicycle and pedestrian flow will be unfriendly due to the curved and relatively steep driveway access coupled with the absence of paved walking or biking infrastructure off-site on the relatively high-speed segment of School Street in front of the site.*

*Access to an Old School Street Manchester Essex Conservation Trust (MECT) trail just west of the site is not discussed in the TIA. MECT has nearby trails emanating from the Old School Street layout that should be discussed for possible site connectivity. Maps of MECT trails indicate that existing informal trails may actually exist on the development site. The post-development status of these connections should*

*be addressed to enhance pedestrian and bike access to the Town's trail system and to determine how the site development affects them.*

**Response:** The Applicant is amenable to provide walking trail connectivity from the proposed development to the abutting trail network. However, the Manchester Essex Conservation Trust has communicated unequivocally on the record that it does not want any connections to its trail network from the proposed site. As such, no trails will be represented on future plan sets until directed otherwise by the MECT.

**1.9 - Check the adequacy of the site plan circulation features**

**Response:** Responses will be provided by others under separate cover.

We trust that this information is responsive to the comments that were raised in the January 11, 2021 *Traffic Impacts Peer Review Initial Findings Letter* prepared by Stantec pertaining to the September 2020 TIA. If you should have any questions or would like to discuss our responses in more detail, please feel free to contact me.

Sincerely,

VANASSE & ASSOCIATES, INC.

Jeffrey S. Dirk

Jeffrey S. Dirk, P.E., PTOE, FITE
Managing partner

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