TETRA TECH

April 10, 2020

Applicant responses in red below. May 2, 2020

Mr. John Lee, Chairman
135 School Street
Walpole, MA 02081
United States

Re: Cedar Crossing Apartments and Cedar Edge Condominiums
Comprehensive Permit (40B) Peer Review
Walpole, Massachusetts

Dear Mr. Chairman:

Tetra Tech (TT) has reviewed specific submittal materials for the above-referenced Project to assist the Town of Walpole Zoning Board of Appeals (Board) in its Comprehensive Permit review of the proposed Cedar Crossing and Cedar Edge developments. The following letter provides comments generated during our review of Applicant submittals and generally focuses on substantive concerns that speak to issues whose eventual resolution may substantially impact Project design or could otherwise result in potentially unsafe conditions or unanticipated impacts.

The comments below are intended to guide discussion as well as inform development of the revised plans and we expect to provide more detailed comments as the design and discussion advances. Our review is based on materials received from the Board comprising the following pertinent documents:

- A Comprehensive Permit Application package prepared by 55 SS LLC.
- A plan (Site Plans) set titled "Site Plan for Proposed Multifamily Development, 51-53-55 Summer Street, Walpole, MA", dated January 10, 2020, prepared by Howard Stein Hudson (HSH).
- An architectural plan set dated January 7, 2020, prepared by Maugel Architects, Inc. (MAI).
- A Stormwater Management Report (Stormwater Report) dated January 10, 2020, prepared by HSH.
- A Traffic Impact Assessment (TIA) titled “Traffic Impact and Access Study, Proposed Residential Development, 55 Summer Street, Walpole, MA” dated January 6, 2020, prepared by Bayside Engineering (BSE).
- A memorandum assessing the proposed pedestrian volumes associated with the Project, dated March 10, 2020, prepared by BSE.
- Comment letters from Town Boards, Commissions and Departments.

The Plans and accompanying materials were reviewed for good engineering practice, overall site plan efficiency, stormwater, utilities, traffic and public safety. In general, the plans and supporting materials were well prepared and we appreciate the clarity and completeness of documents provided. Our initial comments are provided below.

Site Plans

The Site Plans were well organized, clear, readable and professionally done. They show a proposed project that is relatively dense but does consider the natural and topographic constraints of the site. Our principal concern is that the proposed density provides almost no common/bulk recreation space and leaves almost no additional space to accommodate unanticipated needs or unaddressed design requirements.

Infrastructure Northeast
Marlborough Technology Park 100 Nickerson Road, Marlborough, MA 01752
Tel 508.786.2200 Fax 508.786.2201 tetratech.com

The Site Plans provide a good introduction to the Project and its various components and shows the Project is placed in consideration of limiting impacts to wetland resource areas. In general, the layout reflects the natural and physical constraints at the site but leaves very little un-assigned space to guaranty compliance with stormwater performance criteria, accommodate more robust emergency access, address wetland mitigation or other similar demands that are likely to present as design and discussion develops. The following specific comments are offered to identify areas where additional information is required, or changes are requested to address questions or support further review.

1. For the purposes of clarity and coordination we request future submittals include proposed street names on all sheets and that those names be coordinated with the Walpole Building Department to confirm acceptability prior to the next submission. All street names have been revised to A, B, C, D etc. for the permit plans and will be coordinated with the Building Department and the Fire Department prior to final name selections. The street names (A, B, C etc.) have been added to all revised sheets for ease of review.

2. Similarly, we request unit numbers be added and included on all sheets. All unit numbers have been added to the revised plan set.

3. Please clarify if any of the proposed development is intended to become the responsibility of the town or its departments. For example, will the project seek public acceptance of the roads or utility infrastructure by the town. The proposed development will consist of private ways and will not seek acceptance by the town.

4. The Project's common boundary with the commuter rail presents a significant safety concern particularly given the lack of alternate open space on the site. We recommend the Project include fencing or other suitable measures to preclude access to the railroad tracks from the site. Additionally, consideration should be given to limiting development along the boundary with the railroad track to allow for greater separation. The Applicant has added a six (6) foot tall black chain link fence along the eastern boundary of the proposed developed areas of the project, only eliminating sections within the two vernal pools and wetlands to minimize impact at these resource areas.

5. The Project includes almost 300 units with only a single means of access whose connection to the local street network is located within 50 feet of a commuter rail crossing. While there are no known prohibitions to locating a side street so close to the crossing, we recommend the applicant consider the potential of relocating the connection further away from the crossing. We also recommend the applicant provide a statement or similar confirming the proposed design meets Federal Highway Design Guidelines for At-Grade Intersections Near Highway-Railroad Grade Crossings, and in particular, Chapter 4 – Channelization with regard to prevention of motorists from driving around crossing gates. Bypassing gates is a concern given the proximity of the site drive and orientation to the crossing gates.

   Bayside reviewed the *Federal Highway Design Guidelines for At-Grade Intersections Near Highway-Railroad Grade Crossings* [1]*(Guidelines)*. This document focused primarily on the interconnection and coordination of traffic signals and railroad signals where a signalized intersection existed in close

proximity to a railroad crossing. In this instance, there are no signalized intersections in close proximity to the railroad, so the guidelines do not apply.

The Guidelines also discuss potential channelization at railroad crossings. Key factors in the design and consideration of channelization (islands) includes the type of design vehicle, the cross-section of the roadway approaches, traffic volumes (both vehicle and train), vehicle and train speeds, type and location of traffic control devices and available right-of-way, and terrain. The Guidelines go on to say *"If significant numbers of motorists are observed driving around crossing gates at a railroad grade crossing or a safety problem has been demonstrated through an accident study, an engineering analysis should be performed to determine whether a channelization might be an appropriate measure to reduce the problem."*

Currently, there are gates that come down when the commuter rail train approaches Summer Street. These gates block both eastbound and westbound traffic flow on Summer Street. There are also secondary gates that come down and block the sidewalks that exist at the crossing on either side of Summer Street. To understand railroad crossing operations, from November 6th through November 12th, 2019, the actual delays and queues created by the railroad crossing were video recorded during the weekday morning and weekday evening peak periods. These results are summarized in Table 5 of the TIAS.

As shown in Table 5, during the weekday morning peak period (7:00 to 9:00 AM), the average queue length in the westbound direction was two (2) vehicles and the time it took for this vehicle queue to clear was ten (10) seconds. Similarly, the average queue length in the eastbound direction was five (5) vehicles and the time it took for this vehicle queue to clear was fifteen (15) seconds.

During the weekday evening peak period (4:00 to 6:30 PM), the average queue length in the westbound direction was eight (8) vehicles and the time it took for this vehicle queue to clear was twenty-six (26) seconds. Similarly, the average queue length in the eastbound direction was three (3) vehicles and the time it took for this vehicle queue to clear was eleven (11) seconds. It should also be noted that there were no cars observed trying to get around the gates on the video over a week of recording. There is no reason to believe cars turning left from the Cedars would be more likely to go around the gates than the traffic traveling east or westbound on Summer Street.

Based on the traffic volume and delay data collected to date, operationally, there is not a problem with the existing railroad and Summer Street crossing. A recent search of the MassDOT crash database also shows no reported crashes at the railroad crossing on Summer Street. At the time of the preparation of the TIAS, no safety deficiencies at the crossing were identified. The safety of the crossing is an MBTA/Keolis responsibility and what has been provided in terms of crossing protection is standard and considered safe.

[1] *Federal Highway Design Guidelines for At-Grade Intersections Near Highway-Railroad Grade Crossings;* Texas Department of Transportation and U.S. Department of Transportation, Federal Highway Administration; Austin, TX; November 2000.

6. Several locations within the development do not provide convenient access for emergency vehicles and require fire trucks and larger emergency vehicles to back up which is not typical for new developments. We recommend the applicant coordinate with Walpole Fire Department to determine requirements for access and make every possible accommodation. In addition, the Fire Truck Turning Plan shows several locations where the fire truck travels over the curb which should be fixed in future submittals The fire truck turning plan has been provided in 1"=40' sheets in the revised plan set for ease of review. Two locations within the development, Road D and Road B require a fire truck to back

up. Road D has been designed at less than 150 ft in length and accommodates one (1), four-unit townhome building and Road B has been designed with a "T" turnaround at 150 ft and accommodates only three (3), 4-unit townhome buildings. Both Roads B and D meet NFPA standards.

7. The 16-foot entry boulevard lane widths do not meet minimum 20-foot widths required by National Fire Protection (NFPA) Standards. Reduction to required minimum lane widths requires approval from the Authority Having Jurisdiction (AHJ) who in this case is the Walpole Fire Chief. We recommend the Board require the applicant to document the Fire Chief's approval of the proposed lane widths prior to completing its review. The Boulevard design meets the NFPA standard. Please see Fire Department Review letter for the approval and reference (sec 18.2.3.4.1.1) to the NFPA Standards and the acceptance of the boulevard and roadway widths within the design.

8. The proposed layout and density leave very little available space for snow storage and snow storage areas identified on the plans are in areas where we would typically expect landscaping or similar site amenities. The lack of practical snow storage area is a function of overall site density combined with restrictions for placing snow in wetlands or stormwater basins. We recommend limiting snow storage near light posts and fire hydrants due to risk of damaging structures. Significant areas for snow storage exist throughout the development adjacent to roads and within open spaces adjacent to the development and between structures, not within wetland areas, and adjacent to the railroad.

9. The Garden Area proposed on Partridge Lane is a great idea but should include a clearly designated area for management of refuse to prevent disposal of refuse in wetlands or the 25' no disturbance zone. We encourage providing similar areas for community gardens elsewhere on the site. The detail of the community garden area has not been designed but the design will include signage documenting rules and requirements of the space, including providing specified areas for refuse. This area will be professionally managed by property management company.

10. The proposed connecting road between Spruce Lane and Partridge Lane near Building 3 is only 20 feet wide which is not a suitable width for two-way circulation particularly considering the constrained shoulder width at the stream crossing. We recommend this be addressed in future submittals as this roadway section provides a significant benefit for emergency access and general site circulation. This section of the roadway is intended to be signed one way from the west to the east (from single family homes to apartments) to allow for emergency and school bus traffic throughout the development.

11. Spruce Lane and Partridge Lane intersect with Red Tail Drive within 50 feet of each other. Typically, 150' of separation between intersections is required to ensure proper/safe operation. We recommend future submittals either consolidate Partridge and Spruce prior to connecting at Red Tail or provide additional separation between intersections. The proposed layout is not a subdivision road and will be used only as an internal access road (driveway) and limited to traffic within the development. Stop bars and stop signage, along with proper sight distance has been provided at both Road C and E where it intersects with Road A. See revised plans.

12. The proposed housing units and parking are located very close to the roadways. We recommend the applicant consider incorporating raised crosswalks (speed tables) as a means of regulating travel speeds through the development. Travel speeds throughout the development will be posted at 15 mph and speed tables incorporated in areas specified by our Traffic Engineer. See revised plans.

13. Does the proposed geometry of Balsam Lane cul-de-sacs preclude incorporation of a center island? The geometry does not preclude the inclusion of a center island, but the Fire Department has requested that no islands be used to limit any potential obstructions to emergency vehicles.
14. We recommend considering adding a median break and crosswalk at the mail area. We also recommend a median break or alternate solution that allows vehicles leaving the five single family homes near Summer Street and travelling deeper into the development to do so without having to turn around at Summer Street. The revised plan set includes a crosswalk and sidewalk at Road B, along Road A to access the mail structure.
15. We recommend the applicant consider a slightly thicker roadway pavement section including at least 4.5 inches of bituminous concrete given the scale of development, density and anticipated traffic volumes. This is not a public way. The revised plan shows 2.5 inches of binder and 1.5 inches of topcoat. This specification is standard for developments of this type.
16. Only one dumpster pad has been proposed at the northern portion of the project adjacent to the proposed dog park. Additional locations for trash and recycling may be required to ensure proper capacity is provided at apartment buildings and townhouses. The proposal calls for a compactor area near the dog park. All trash and recycling from the rental units and clubhouse will be directed to this area. The 60 single family homes will have separate curbside pickup which will be managed by condominium association.
17. Future plans should show the location of proposed guardrails to ensure adequate space is provided for its installation. Guardrails have been added to the plan set and will be designed by a structural engineer in coordination with the retaining walls.
18. We request the applicant provide a Construction Phasing Plan showing the anticipated sequence of construction and identifying proposed locations and sizes of construction staging and stockpile areas. The Applicant will provide a phasing sequence and Phasing Plan during the creation of construction drawings and the formation of the Stormwater Pollution Prevention Plan.

Grading and Drainage Plans

The grading shown on the plans is understandable and complete. Plans show appropriate grade transition slopes and walls in locations where likely required. The following are comments specific to the grading and drainage plans.

19. The plans show several stormwater basins immediately adjacent to proposed homes, in some cases mere feet from doors and walkways. In our opinion the plans show an extremely aggressive layout that provides almost no flexibility and does not incorporate adequate means to access and maintain the systems as required. We recommend the applicant consider maintaining at least a 50-foot offset between the high-water line of a stormwater basins and forebays and an occupied structure. At a minimum, the design should show space required to meet requirements of the stormwater standards including maintenance access and separation from wetlands and surface waters. Stormwater basins have been adjusted to shift the locations away from the units to the maximum extent practicable. Basins have been designed to infiltrate and have been kept shallow to allow for quick exfiltration. Areas adjacent to units will dry quickly after smaller storm events and will generally be usable. Stormwater standards require access to sediment forebay and infiltration to allow for proper maintenance. The stormwater design incorporates a 15 ft access berms and drawdown devices in

each infiltration pond. The stormwater basins and access to them will be managed by HOA or Condominium Association in concert with the provided Stormwater Operation and Maintenance Plan.

20. Several ponds appear to have inaccurate labels. Please review and correct on future submittals and make sure labeling is consistent with that used in stormwater report and supporting analysis. The pond labels have been updated in the revised Site Plan and Supplemental Data Report to be consistent with the stormwater report and analysis.
21. Please include 100-year water surface elevation on pond and forebay labels. The 100-year water surface elevation has been added to the labels of all ponds within the pond details on the revised Site Plan sheets.
22. Please locate all test pits on the grading and drainage plans. Test pit locations have been added to the revised Grading and Drainage Plan sheets. The test pit data is located within the Detail Sheets.
23. There is a component of off-site flow that originates from the west of Balsam Lane and flows through the homes toward Balsam Lane. Please note accommodations needed to manage off site flow and ensure that flow is considered in stormwater modeling. Similar consideration is required for properties and infrastructure adjacent to the railroad. Offsite flows have been considered and are shown within the Pre and Post Development Maps for the subject site.
24. We recommend identifying the proposed locations of flared ends and rip rap downstream of flared ends. Flared end sections and rip rap areas have been updated to be shown on the Grading and Drainage Plans.
25. We recommend adding outlet control structure OCS elevation data (i.e. rim, orifices, etc.) into Grading and Drainage Plan sheets. A detail depicting each OCS should be provided to assess constructability and consistency with the Stormwater Report. This information has now been included in both the Grading and Drainage Plans and within the Details showing each Stormwater Infiltration Basin.
26. Please note datum reference on any plans where elevations are shown, also show benchmark references where possible. The datum and benchmark have been shown within the Existing Conditions survey.
27. Please add top of wall elevations to the Grading and Drainage Plans. Top and bottom of wall elevations have been added to the revised Site Plan set.

Stormwater Report

As mentioned in earlier sections, the proposed design provides very little if any operational or design flexibility due to the proposed density. Our principal concern at this stage of review is that the design, as shown, may not meet applicable performance standards principally due to lack of required separation from groundwater and resulting changes may impact unit viability. The best example of the limited space can be seen in the proposed stormwater basin 5 off Balsam Lane whose forebay is located on the opposite side of the street wedged between two homes and whose infiltration basin extends to the back door of several homes. Since the design is so tight, close review of the supporting stormwater analysis is required to confirm safety and viability of the proposed system. The following comments identify our general areas of concern and should be addressed in future submittals or responses.

28. Many of the proposed basins appear to be located within 50 feet of a wetland contrary to guidance included in the stormwater standards. We typically recommend 50 feet of separation be provided between the edge of wetlands and the edge of submergence during the 100-year storm event. All proposed basins have been modified to provide a distance from the inside of the top of berm to the nearest wetland flag of 50 ft or greater.

29. Please document if the Project qualifies as a Land Use with Higher Potential Pollutant Load (LHUPPL) based on parking count and trip generation and if so modify stormwater design to comply with applicable performance standard. Based upon the trip generation associated with the parking lots within the project does not qualify as a LUHPPL.

30. The HydroCAD model is setup well but includes multiple and repeated warnings and oscillations signifying underlying issues. Future analysis should be free of similar warnings and oscillation errors. The HydroCAD analysis has been updated to include significant detail and is free of errors and carry only insignificant oscillations.

31. Provide pre- and post- development drainage figures to confirm analysis areas and incorporate off site flows as needed. Pre and Post Development Maps have been included in the revised Supplemental Data Report.

32. The *static* method for calculating recharge was used and therefore exfiltration in the HydroCAD model shall be limited to “constant velocity”. Conductivity to groundwater is used only when the *dynamic* field method is utilized to provide required recharge. Model should be edited to utilize constant exfiltration rates as directed in the stormwater standards. The revised and more detailed HydroCAD model has been revised to constant velocity.

33. Stormwater reports require a Long-Term Pollution Prevention Plan. (Standard 4). Please provide if available. A typical Long-Term Prevention Plan has been included in the Appendix of the revised Supplemental Data Report.

34. Provide TSS removal spreadsheets for the 44% required pre-treatment and the overall treatment for each treatment train to confirm proper TSS removal prior to each infiltration bmp. 44% required prior to discharge to the infiltration basins due to rapidly infiltrating soils at the site, test pits will confirm soils at each basin location once they are shown on the plans. (Standard 4) TSS removal worksheets have been provided in the Appendix of the revised Supplemental Data Report.

35. Provide forebay sizing calculations. (Standard 4) Forebay sizing calculations have been included in the revised Supplemental Data Report.

36. Provide monitoring wells at each infiltration basin location. Monitoring wells have been added to each infiltration basin per the requirements of the Massachusetts Stormwater Management Handbook.

37. Provide one foot of freeboard in the infiltration basins. All infiltration basins have been revised to provide for 1 ft of freeboard in the 100-year storm event.

38. Provide detail of drip edge drains. A typical detail of the drip edge drains have been added to the revised Site Plan set.

39. Provide forebay for Basin #4. A forebay has been added to Basin #4 in the revised Site Plan set.

40. Provide pipe/culvert/grate sizing calculations to confirm capacity. Sizing calculations have been provided in the HydroCAD model.

Utility Plans and Water and Sewer Impacts

The utility plans provide a comprehensive representation of the range of utilities and connections likely required and generally maintain required offsets between water and sewer infrastructure. The following are comments specific to the utility plans.

41. The plans suggest the development will be served by multiple interconnected sewer force mains. We strongly discourage this approach due to reliability and maintenance issues as well as the potential for hydrogen sulfide production which can result in deterioration of the town's downstream collection infrastructure. Given the size of the development we recommend the applicant consider expanding the reach of the gravity collection system so that all proposed residences connect to a gravity collection system and that force mains be limited to no more than 1,000 feet or otherwise incorporate structures to off gas hydrogen sulfide prior to connection with the municipal infrastructure. Based on existing site topography, proposed site grading, presence of sensitive receptors, and the location of the municipal sewer connection, the revised plans show gravity sewer mains have been provided to the maximum extent practicable while limiting the number of pump stations required. The configuration of the sewage lift station force main piping is consistent with design strategies used for low pressure sewage collection systems, which are widely used throughout New England and the United States. A distinct advantage to configuring the force mains in this manner is that it reduces the overall length of force main required, therefore, reducing the sewage's detention time in the force main system. Further, this configuration will facilitate multiple fill cycles within the force main each day which will prevent the stagnant conditions that cause the formation of hydrogen sulfide gas. In addition, the extensive use of inert pipe materials such as PVC pipe will mitigate sulfide attack deterioration in the collection system. To further mitigate any potential issues, there will be at least three (3) air release manholes along the force main route to expel air/gas and reduce hydrogen sulfide concentrations. Lastly, the force main will be connected to a segment of gravity sewer of a sufficient size and slope to prevent agitation of the sewage prior to the connection to the municipal sewer.

42. The development will result in a significant new demand on municipal water and sewer infrastructure. We recommend the applicant provide the Board a memorandum or similar documentation by a licensed Massachusetts engineer proving the Project can be served adequately without impacts to existing or proposed infrastructure or its users. At a minimum the documentation should describe and quantify proposed demand, describe existing infrastructure serving thee site, provide calculations demonstrating available capacity/service and clearly describe any improvements that may be needed to town infrastructure to serve the project. The town is obligated to supply sewer and water to the project and is responsible for ensuring sewer and water infrastructure is adequate beyond the immediate vicinity of the site. The recently approved HPP which was drafted by the town states "there is sufficient capacity in the water and sewer systems to accommodate growth". Applicant's engineer will provide information describing project's connections to sewer and water infrastructure in the public way immediately adjacent to the site which will be shared with the ZBA.

43. We recommend showing proposed valves throughout the proposed water main network to review for proper isolation of water mains in case of a break or necessary maintenance. We have updated the

plans to show valves at intersections of mains throughout the project per the request of the Walpole Water Department.

44. We recommend the applicant consider consolidating some the individual services prior to connection to the street to eliminate the density and number of utility connections. This will be considered by the Applicant and will be explored further as the project evolves and construction details are created.

45. Gas services are shown at the front of most buildings. We recommend relocating gas services to the side of the homes where they are less visible. Gas services have been relocated to the sides of all single-family homes within the revised Site Plan set.

46. Applicant should confirm acceptability of hydrant spacing and locations with Fire Department. The hydrant locations were developed with the input of the Fire Department and additional hydrants have been added per their most recent review letter dated February 20, 2020.

Wetlands and Erosion Control

Wetlands have been determined following review by the Walpole Conservation Commission and provide a reliable representation of wetland related site encumbrances. The following are comments specific to wetlands and erosion control.

47. The Project proposes several wetland impacts and what appear to be wetland fills likely requiring mitigation at a 2:1 ratio. The plans should identify wetland mitigation areas and incorporate grading necessary to insure viability. Adequate offsets should be maintained between wetland mitigation areas and adjacent development. 310 CMR 10.55 (4) b. 1. Calls for, “replacement area to be created equal to that of the area that will be lost.” The revised plans show wetland replication areas to compensate for the two wetland crossings at a ratio of 1.5:1, which exceeds the regulatory requirement.

48. The project will alter more than 75% of the upland area adjacent to vernal pools. Species which use vernal pools for breeding rely on the adjacent upland for habitat and a significant portion of upland adjacent to vernal pools must be maintained in order to maintain the viability of overall vernal pool species habitat. We recommend the applicant provide a narrative documenting how proposed impacts to habitat meet applicable performance criteria and adequately protect the vernal pools and associated upland habitat. Vernal Pool Habitat is defined as the VP and adjacent habitat within 100 horizontal feet within a regulated resource area (310 CMR 10.57 (2) (a) 6.). No vernal pool habitat is being altered.

49. Locations of straw wattle on the Erosion Control and Demolition Plan appear to have gaps that could potentially allow sediment and untreated runoff to flow into wetlands (see location adjacent to large ledge outcropping, and at wetland crossing locations). It appears straw wattles terminate at locations of retaining walls and other infrastructure that will be constructed several phases after initial site clearing and land disturbance. Where proposed land disturbance is upstream of existing wetlands, we recommend having the straw wattle shown as a continuous stretch to ensure sediment-laden water does not travel between sections and impact downstream wetlands and vernal pools. We also suggest more robust perimeter controls, similar to standard measures required by the Walpole Conservation Commission given the extent of wetlands on the site and the totality of upgradient impact. Erosion controls have been adjusted on the revised Site Plan set to not provide for gaps in coverage and altered to provide for a 12” compost sock backed by a silt fence.

50. Limit of cleaning adjacent to n/f TS Land Trust LLC TR (87 Summer Street) is nearly on top of property line, recommend moving clearing limit away from property line to increase screening from construction activities and to ensure trees located outside of the applicant's control remain unharmed. Additional screening plantings have been proposed along the property line to provide coverage along the property line at an elevation that will provide the capacity to screen the proposed development. These additional plantings will be coordinated with the abutters. All limits of clearing and property lines will be marked prior to construction to ensure no off-site trees are harmed by the proposed development.

51. The Project will require coverage under the United States Environmental protection Agency (US EPA) National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges from Construction Activities (CGP) and appurtenant SWPPP, a template for the permit coverage has been included in the Stormwater Report. We recommend a condition requiring the Applicant provide proof of coverage under the permit prior to start of construction. The Applicant is required to file the NPDES Permit prior to construction. The Applicant agrees with this as a condition of approval.

52. Proposed material storage areas, equipment storage/fueling locations, etc. should be shown on the SWPPP plan. Much of the site is included in buffer zone to adjacent resource areas and we anticipate Walpole Conservation Commission will require these areas be located outside of the buffer zone. These items will be located within the Stormwater Pollution Prevention Plan to be prepared as the project evolves and during the NPDES filing.

Traffic

Tetra Tech has reviewed the Bayside Engineering, January 6, 2020 TIA for conformance with standard professional practices in the state of Massachusetts for the preparation of traffic impact studies for projects of similar size and nature. The following traffic study elements have been reviewed and generally conform to industry standards:

- Study area intersections evaluated
- Time periods evaluated (weekday peak commuter periods from 7AM to 9AM and 4PM to 6PM)
- Study intersection turning movement count (TMC) data
- Seasonal adjustments
- Consideration of public transportation services in the area
- Crash analysis based on Massachusetts Department of Transportation (MassDOT) crash data
- General background traffic growth rate
- Project trip generation, distribution and assignment

Tetra Tech offers the following comments on the traffic study:

53. Site Tetra Tech recommends that the Applicant provide the horizontal sight triangles for both stopping sight distance (SSD) and intersection sight distance (ISD) on the site plans at all proposed site intersections and at Summer Street. The revised Site Plan set had been revised to provide for sight triangles to be located at all nine (9) intersections within the development and at Summer Street.

54. The project causes a degradation in Level of Service from LOS C to LOS E during the evening peak hour at the intersection of Summer Street at Neponset Street. The additional traffic due to the project on the Neponset Street NB approach causes the degradation and an increase in queue length from

130 to 247 feet. A queue length of 247 feet would spill back through the Washington Street/Washington Street Extension intersection with Neponset Street. The applicant should identify potential mitigation measures to address the project impacts at this location. See Bayside engineering traffic clarification memo dated April 23, 2020 which in part states "It should be noted that the intersection of Summer Street and Neponset Street is a four-way, STOP controlled intersection and the software package used for the analysis (Synchro) does not allow for the model to be calibrated based on actual intersection operations. As noted in Table 1, the actual observed delays are approximately two-thirds lower than what the capacity model indicated. Therefore, under Build conditions, where the capacity analysis model indicates the Neponset Street approach will operate at LOS E with a calculated delay of approximately 39 seconds, actual delays will be lower and result in a better level of service".

55. The site plans do not reflect the latest conditions along Summer Street adjacent to the site driveway (new gates for the railroad crossing are not shown). The plans should be updated to include the newly updated rail crossing. The revised Site Plan set has been modified to show the additional detail at the railroad crossing.

56. The site plans do not appear to show a sidewalk along the east side of the site driveway connecting to Summer Street. A crosswalk should be provided across the site driveway to connect pedestrians from the west side of the site (where there is a sidewalk proposed) to the east side and the sidewalk that connects to the newly reconstructed sidewalk to the east of the railroad crossing. Wheelchair ramps should also be provided at both corners of the site driveway. The revised Site Plan set includes a crosswalk and connection to the existing sidewalk on the north side of Summer Street. ADA compliant wheelchair ramps have been included.

57. We recommend a turn lane warrant analysis be performed for Summer Street at the site driveway to confirm left turns waiting to enter the site will not impact through traffic. A left-turn lane warrant was performed for the intersection of Summer Street and the proposed site driveway according to the procedures in the Massachusetts Department of Transportation's Project Development and Design Guide (PDDG). An exclusive left-turn lane on Summer Street is not warranted. The warrant analysis worksheet is attached.

58. The 3/10/20 Bayside memo projects 46 new students from the residential development at the Boyden School on Washington Street, which is approximately ¼ mile from the development. The majority of those students could be expected to be "walkers" to school. Bayside notes that the sidewalks have adequate capacity to handle the additional pedestrian traffic that could be generated by the proposed development. Sidewalk conditions along the entire walk to school route should be evaluated to confirm that the sidewalks are adequate. Crosswalks and detectable warning panels should be confirmed for the proposed walk to school route. Crossing guard locations should be considered. . Crossing guards, if needed, are the responsibility of the town, not the responsibility of the developer or future homeowners except by way of paying taxes as property owners in Walpole. The Applicant's traffic consultant's memo dated March 10, 2020 shows that the existing crosswalks function at a high level. The crosswalks and sidewalks are existing infrastructure deemed safe enough by the town to service the existing neighborhood and therefore not the responsibility of the Applicant. However, in the context of receiving a permit acceptable to the applicant without resorting to an appeal, the

Applicant will agree to provide funding (not construct) for the construction of a side walk east of the site on the north side of Summer Street along with an accessible cross walk across Neponset Street. See attached Sidewalk plan dated April 10, 2020.

Contamination History

The property located east of 55 Walpole Street (subject project) is the former Bird Machine Company (BMC) which has a long history of industrial activity from the 1830s until 2004. Most buildings have been demolished and heavy industrial activities are no longer conducted on site.

Based on a review of MassDEPs Reportable Release Lookup database for the subject property, the BMC site has a long history of releases and on-going "remediation" activities are being monitored and managed under the supervision of a Massachusetts Licensed Site Professional and required project reporting and documentation appears to be in order. Release and remediation histories are linked to the site's primary Release Tracking Number (RTN) 4-3-24222

Current remediation activities do not include active remediation measures but rather consist of monitoring the natural attention of contaminants whose status was recently summarized in a Phase V Status & Remedial Monitoring Report dated February 19, 2020. Groundwater on the former BMC site is reportedly discharging to the Neponset River or associated wetlands, and contaminant plumes are described as generally stable or contracting. Based on the location of the subject property, it does not appear that groundwater from the former BMC site would migrate to the subject property.

There are several other sites with release tracking numbers to the north of the subject property; however, releases at these other sites are not expected to impact the subject parcel based on the distance from the subject property and the presence of Cedar Swamp. Other reported releases in proximity of the subject property are of limited volume and/or environmental impact, and no reportable releases were identified on the subject property. We do not require additional information from the applicant related to contamination history adjacent to the site.

These comments are offered as guides for use during the Town's review and additional comments are likely to be generated as additional or revised documentation is submitted. If you have any questions or comments, please feel free to contact us at (508) 786-2200.

Very truly yours,

Sean P. Reardon, P.E.
Vice President

Steven M. Bouley, P.E.
Senior Project Engineer

P:\309329\143-309329-20001\DOCS\CEDAR CROSSING REVIEW LETTER (2020-04-10).DOCX