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Millis, MA 02054

May 29, 2019

Medway Zoning Board  
Town Hall  
155 Village Street  
Medway, MA 02053

Ref: 39 Main Street  
40B Site Plan Review  
Tetra Tech Review

Dear Members of the Board:

I am writing to respond to comments from the Tetra Tech dated May 13, 2019. Please find enclosed the following:

- One full-size and one 11x17 copy of a revised site plan.
- One full-size and one 11x17 copy of a fire truck turning movement exhibit.

We offer the following responses to Tetra Tech's comments for the Board's consideration:

***SITE DESIGN:***

1. *Comment: The applicant should provide a survey of the property stamped by a licensed professional surveyor in the state of Massachusetts.*

**Response:** We will provide this on the next revision.

2. *Comment: Retaining walls on western, southeastern and northeastern sides of the site are proposed to be greater than four feet in height and will require structural design. The design should also include provisions for installation of the proposed guardrail.*

**Response:** Structural design of retaining walls is a construction-stage design consideration and will depend on which wall system the contractor uses. The site contractor will provide structural designs as required by the Building Code, including any guardrail systems, at the time of construction.



3. *Comment: A four-foot retaining wall is proposed along the western side of the building adjacent to a sidewalk. We recommend the applicant provide detail of proposed fence or other means of fall protection for pedestrians utilizing the sidewalk in this area.*

**Response:** The detail on sheet C-10 has been revised to depict a fence. Fence materials for this location have not yet been determined and will be provided to the Building Department at the time of construction. The Applicant has no objections to this being a condition of the Comprehensive Permit.

4. *Comment: The applicant has proposed a boulevard entrance with two 16-foot lanes used for entrance and exit. NFPA requires 20-foot minimum lane width. We recommend the applicant confirm with Medway Fire chief regarding lane width and ensure Medway Fire Apparatus can navigate through the site and shall provide plans of proposed swept path of emergency vehicle(s) as required by the Fire Chief.*

**Response:** The applicant has met with the Fire Department on several occasions, most recently on May 21<sup>st</sup>. The Fire Department has indicated to us that the proposed design is satisfactory. A fire truck turning movement plan is attached. The corner roundings on at the intersection of the boulevard driveway and parking areas were increased to 25' radius to facilitate truck movements.

5. *Comment: Proposed snow storage does not appear to be sufficient. Furthermore, snow storage is proposed along the building faces which may cause impacts to proposed light poles, sidewalk and landscaping. We anticipate the need for off-site removal of snow in a majority of snow events.*

**Response:** A separate snow storage plan has been included in the revised site plan. It is recognized that off-site removal may be required for significant storms events. This plan will be refined further as the landscape plan is modified and will be updated again on a subsequent revision.

6. *Comment: The Plans do not provide detail of proposed dumpsters or refuse loading locations. These locations should be shown on the Plans and should be adequately screened from public view.*

**Response:** There are no proposed dumpsters. All refuse management will be internal to the building.

7. *Comment: Gates have not been shown on the Plans at the proposed fire lane to limit access to emergency vehicles only. A detail of the proposed gate(s) should also be shown with provisions for fire department access.*

**Response:** The fire department requested a single gate approximately 60 feet back from the street. This has been added to sheet C-4 along with a detail on sheet C-10.



8. *Comment: Light spill exists along the northern, western and southern property boundaries. We recommend the applicant provide shielding to all light fixtures to ensure light trespass does not occur on abutting properties.*

**Response:** The lighting plan has been revised. Light spillage is still proposed into Main Street for safety purposes as there are no street lights in proximity to the proposed driveway.

9. *Comment: We recommend wider sidewalks along parking areas to ensure bumper overhang does not impede travel on the sidewalk.*

**Response:** The Applicant is willing to widen the sidewalks around the building from 5.5' to 6.5' (including the integrated concrete curb). The site plan has been revised accordingly.

10. *Comment: The proposed landscaping plan does not provide plant schedule. We recommend a schedule be provided to determine type and number of plants proposed. Proposed play area has also been relocated based on the Site Plans and the landscaping should show revised location. Snow storage areas should be included on the landscape plans and commentary on how proposed landscaping will be protected by snow plowing operations in designated areas.*

**Response:** The Applicant will submit an updated schematic landscaping plan that includes a representative list of plantings. Final Plans will be submitted as part of the building permit application.

**WATER:**

11. *Comment: The applicant has not provided analysis of the existing water system and whether it can support the proposed development. Documentation should be provided demonstrating adequate supply and pressure is available to serve the Project without compromising service to surrounding properties.*

**Response:** A fire flow test has been conducted (attached) indicating adequate pressure and flows to the site. We have, however, discussed water system capacity with DPS. The Town has a consultant who has already modelled the Town's water system. If the town has a concern about capacity in the area, DPS indicated that this consultant can add the proposed use into the model to assess impacts.

12. *Comment: The applicant has not proposed any hydrants at the site. Additionally, a dedicated fire service to the building has not been proposed. We recommend the Applicant provide confirmation of review of the Plans by Medway Fire Chief and their acceptance of the design.*



**Response:** The site plans have been revised to depict two fire hydrants on the site. We have met with the Fire Department who has indicated that these locations are satisfactory. They have requested that the Applicant provide a hydrant maintenance plan prior to occupancy to ensure the appropriate maintenance of these private hydrants. The Applicant would agree to that as a condition of the Comprehensive Permit.

13. *Comment: We recommend the applicant provide clarification of proposed water service to the building. One gate valve is provided at the tee fitting to feed both legs of the building. If water is required to be turned off for any reason, the entire building would need to be shut down. Additionally, metering the two connections may be an issue.*

**Response:** Based on discussion with Medway DPS, the water service (domestic and fire) design has been revised to provide separate lines as depicted on the revised site plan.

14. *Comment: An irrigation well has not been provided on the Plans. Municipal water supply shall not be utilized to irrigate the site.*

**Response:** The precise location and quantity of irrigation wells will not be determined until the construction phase when the site irrigation system is designed. However, two prospective well locations have been added to sheet C-8 along with Utility Note 3.

**SEWER:**

15. *Comment: The applicant has not provided analysis of the existing sewer system and whether it can support the proposed development. The project is expected to generate a maximum daily flow rate of approximately 35,530 gpd (323 bedrooms @ 110 gpd/bedroom) based on MA Title V design flow rates. Documentation should be provided demonstrating adequate capacity exists within the municipal sewer system downstream of the project connection.*

**Response:** We have discussed the question of sewer pipeline capacity with the Medway DPS who has indicated that we are in close proximity to a main interceptor and that there are no known sewer capacity issues in this area.

16. *Comment: We recommend the applicant provide pipe flow calculations for proposed sewer. Proposed sewer is sloped at approximately 0.5% throughout the site and calculations should be provided to confirm the pipes will maintain a minimum two feet per second velocity to ensure pipe is actively cleaned and to prevent settlement of solids.*

**Response:** The pipeline slope exceeds minimum recommended slopes for a pipeline of this size but we will investigate this comment further in a subsequent submittal.



17. *Comment: Information should be provided documenting the anticipated connection fees and describing any proposed inflow/infiltration (I/I) mitigation measures or related fees to be paid by the Project.*

**Response:** All financial obligations and fee payments have already been established by the development agreement between the Town and the Applicant.

**TRAFFIC:**

18. *Comment: The TIA states that the study area generally includes sufficient roadway widths to support shared bicycle-vehicle travel. However, the shoulders along Main Street narrow at some points reducing the available travel widths. Tetra Tech recommends that the Applicant review the feasibility of providing continuous bicycle accommodations through the study area.*

**Response:** Refer to responses by Vanasse & Associates, Inc. dated May 14, 2019.

19. *Comment: The TIA identifies an existing commuter rail shuttle operated by the Greater Attleboro Taunton Regional Transit Authority (GATRA) that provides service among Medway Middle School, the Medway Post Office and the Norfolk Commuter Rail Station operated by the Massachusetts Bay Transportation Authority (MBTA) during peak commuting periods. Tetra Tech recommends that the Applicant work with GATRA to discuss the feasibility of extending the shuttle service to the site to reduce the number of vehicle trips in and out of the site.*

**Response:** Refer to responses by Vanasse & Associates, Inc. dated May 14, 2019.

20. *Comment: The crash analysis has generally been prepared in accordance with industry standards and includes an evaluation of data from the MassDOT crash database for the study intersections for the five-year period between 2012 and 2016. However, the MassDOT crash data was not provided in the Appendix. It is recommended that the Applicant provide the crash data to Tetra Tech for review.*

**Response:** Refer to responses by Vanasse & Associates, Inc. dated May 14, 2019.

21. *Comment: The Applicant has proposed to facilitate the completion of a Road Safety Audit (RSA) at the Main Street/Medway Commons/Walgreens driveway to identify potential safety improvements. The Applicant's commitment to the preparation of the RSA should be more specific. Tetra Tech recommends that the Applicant either prepare the RSA or fund the completion of the RSA.*

**Response:** Refer to responses by Vanasse & Associates, Inc. dated May 14, 2019.

22. *Comment: Traffic generated by the project was based on trip rates published in ITE's Trip Generation for Land Use Code (LUC) 221 – Multifamily Housing (Mid-Rise) applied to 190 units. The site program evaluated in the TIA is expected to generate approximately 1,034 daily trips on a weekday (64 vph during the morning peak hour and 82 vph during the evening peak hour). Tetra Tech generally agrees with the trip generation methodology but notes discrepancies in the calculation (Tetra Tech calculated*



68 trips during the morning peak hour and 84 trips during the evening peak hour). However, these discrepancies are minor and not expected to materially change the project's impacts identified in the TIA.

**Response:** Refer to responses by Vanasse & Associates, Inc. dated May 14, 2019.

23. *Comment: The TIA utilized HCM 2000 methodology for the signalized intersections and HCM2010 methodology for the unsignalized intersections using Synchro version 10 software. Tetra Tech generally agrees with the methodology used in the TIA but notes some discrepancies with some of the data inputs used in the analysis (i.e., lost time adjustments). However, given that the Main Street/Holliston Street is currently being improved by MassDOT and that the Applicant has already offered to facilitate the RSA for the Main Street/Medway Commons intersection, Tetra Tech does not believe it would be beneficial to update the capacity analyses.*

**Response:** Refer to responses by Vanasse & Associates, Inc. dated May 14, 2019..

24. *Comment: The main site driveway location analyzed in the November 2018 TIA was located approximately 100 feet west of Lee Lane. Based on the March 26, 2019 site plans, the driveway location is now proposed approximately 200 feet west of Lee Lane. It is recommended that the Applicant provide updated stopping sight distance (SSD) and intersection distance analyses (ISD) including the preparation of sight distance plans and profiles SSD and ISD for the main site driveway to ensure that adequate sight distance can be provided. The Applicant should provide the updated SSD and ISD calculations accounting for roadway grades. If minimum AASHTO SSD and ISD criteria are not satisfied, mitigation should be proposed, where possible, to enhance sight lines.*

**Response:** Refer to responses by Vanasse & Associates, Inc. dated May 14, 2019. Sight triangles as determined by the traffic consultant have been added to sheet C-4.

25. *Comment: The March 26, 2019 plan set indicates a total proposed parking supply of 304 spaces which exceeds the Town zoning requirement of 1.5 spaces per unit.*

**Response:** Refer to responses by Vanasse & Associates, Inc. dated May 14, 2019.

26. *Comment: The TIA recommends that the access ways serving the site be at least 24-feet wide for two-way traffic flow and 20-feet wide for one-way traffic flow/fire lanes consistent with NFPA®1. Tetra Tech notes that the March 26, 2019 site plans do not meet these criteria. Tetra Tech recommends that the Applicant review the proposed grades of the driveways serving the site and conduct an AutoTurn analysis of the site layout to ensure that the largest emergency vehicle used by the Medway Fire Department can adequately maneuver in and around the site. The Applicant should also review the proposed site plan with the Medway Fire Department to ensure they are satisfied with the proposed site access and circulation.*

**Response:** Refer to responses by Vanasse & Associates, Inc. dated May 14, 2019.



27. *Comment: The Applicant shows a proposed bus stop along the southerly side of Main Street approximately 100 feet west of Lee Lane. Tetra Tech agrees with the provision of a designated bus stop but recommends that the Applicant confirm the bus stop location with the Medway School Department.*

**Response:** Refer to responses by Vanasse & Associates, Inc. dated May 14, 2019.

28. *Comment: The Applicant should specify how the proposed easterly driveway (labeled in the March 26, 2019 site plans as "Fire Lane") will be restricted to emergency vehicle use only to ensure that non-emergency vehicles will not use this driveway. Proper signage, pavement markings and infrastructure (i.e., removable bollards) should be considered.*

**Response:** Refer to responses by Vanasse & Associates, Inc. dated May 14, 2019. Note that further consultation with the Fire Department confirmed that they will only require one gate as shown on the revised site plan.

29. *Comment: The Applicant should consider installing Stop bars and Stop signs along the parking lot approaches to the main site driveway (on-site internal intersection) in accordance with the Manual on Uniform Traffic Control Devices (MUTCD).*

**Response:** Refer to responses by Vanasse & Associates, Inc. dated May 14, 2019. Stop lines and stop signs have been added to the revised site plan.

30. *Comment: The TIA recommends that marked crosswalks with the Americans with Disabilities Act (ADA) compliant wheelchair ramps be provided at all pedestrian crossings. Tetra Tech agrees with this recommendation and recommends that the Applicant review any areas where on-site roadway grades, including the site driveways, consist of grades that exceed ADA standards. If so, the Applicant should discuss the feasibility of providing ADA-compliant sidewalks or alternative travel paths that satisfy ADA standards.*

**Response:** Refer to responses by Vanasse & Associates, Inc. dated May 14, 2019. Note that sidewalks along driveways are allowed to exceed 5% running slope in locations where the existing ground grade exceeds 5% (521 CMR 22.3.1). This condition exists in a few locations on the site.

31. *Comment: The TIA recommends that a central mailing system be provided. Should a central mailing system be implemented outside of the proposed residential building, Tetra Tech recommends that the Applicant consider providing designated parking for mail delivery vehicles and motorists picking up/dropping off mail.*

**Response:** Refer to responses by Vanasse & Associates, Inc. dated May 14, 2019.





32. *Comment: Tetra Tech recommends that the Applicant implement a rectangular rapid flashing beacon (RRFB) at the proposed crosswalk across Main Street to enhance pedestrian safety at this location by providing greater warning for motorists along Main Street of the midblock crosswalk.*

**Response:** Refer to responses by Vanasse & Associates, Inc. dated May 14, 2019.

**GENERAL COMMENTS:**

33. *Comment: We do not recommend using cement concrete curb as it is prone to damage by snow plows and generally wears down at a higher rate than bituminous Cape Cod berm or vertical granite curb due to use of salt, harsh winters and freeze/thaw cycles.*

**Response:** The concrete walkways around the building will have integrated concrete curbing. However, the Applicant would be agreeable to replacing other proposed curbing with cape cod berm as a condition of the Comprehensive Permit. Vertical granite curbing is cost prohibitive for a project of this nature.

34. *Comment: Project is located within jurisdiction to the Massachusetts Wetlands protection Act and will require a Notice of Intent (NOI) be filed for review.*

**Response:** An Notice of Intent has been filed with the Conservation Commission.

Do not hesitate to contact me if you have any questions or comments.

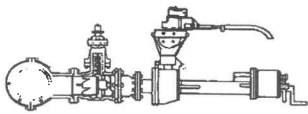
Sincerely,

LEGACY ENGINEERING LLC

Daniel J. Merrikin P.E.  
President

cc: File





# John Hoadley and Sons, Inc.

- Water Works Specialist -

672 Union Street  
Rockland, MA. 02370  
T: (781) 878-8098  
F: (781) 878-5298

## FLOW TEST REPORT

Town of: Medway, MA

Name of Applicant: Merrikin Engineering Phone Number: 508-376-8883  
Address: 730 Main Street Suite 2C City: Millis State: MA  
Date: 10/30/2018 Time of Test: 10:00AM  
Location of Test: 39 Main Street , Medway, MA

Distance between Hydrant # 1 and Hydrant # 2 is 430 feet.  
Elevation of Hydrant # 1                      Elevation of Hydrant # 2                       
Coefficient:                      Size of Main : 8" Flow 6" Static

Hydrant # 1 Static: 78 PSI Residual: 74 PSI  
Location: 2 Lee Ln  
Manufacture/ Type of Hydrant : Mueller Size: 4 1/4 " Year: 1959  
Flow Hydrant # 2 Static: 78 PSI Residual: 70 PSI  
Location: Across street from Thunder Hill Rd  
Manufacture/ Type of Hydrant : Mueller Size: 4 1/4" Year: 1964  
Pitot Tube 1410 GPM Time Flow: 1 Minute  
Flow

Test Conducted by: Bob Coyle & Jim Malone

Inspector or Witness of Flow Test : Paul (Signature on file)



KAREN AVE.  
(PUBLIC-50' WIDE)

OWNER  
NOTWEN REALTY TRUST  
33 FRUIT STREET  
NORFOLK, MA 02056

APPLICANT  
STRATEGIC LAND VENTURES  
257 HILLSIDE AVENUE  
NEEDHAM, MA 02494

MAP AND PARCEL  
MAP 41  
PARCEL 35 & 35-1

ZONING DISTRICT  
AGRICULTURAL RESIDENTIAL 1  
GROUNDWATER PROTECTION  
(PORTION OF SITE)



PLAN SCALE: 1"=40'



ORIGINAL PLAN PREPARED BY MERRIKING ENGINEERING, LLP

PLAN DATE: OCTOBER 11, 2018

PLAN DATE: OCTOBER 11, 2018	REVISION	DATE	BY
	REVISEMENTS PER TOWN COMMENTS	2018-11-30	D.J.M.
	UPDATES FOR COMP. PERMIT APPLICATION	2019-03-10	D.J.M.
	UPDATES FOR CONSERVATION APPLICATION	2019-03-26	D.J.M.
	REVISEMENTS PER TOWN COMMENTS	2019-05-24	D.J.M.

39 MAIN STREET  
FIRE ACCESS EXHIBIT  
PLAN OF LAND  
IN  
MEDWAY, MA

730 MAIN STREET  
SUITE 2C  
MILLIS, MA 02054  
508-376-8883(o)

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