

May 20, 2021

Kathleen Colwell
Planning Division Director
City of Methuen
41 Pleasant Street, Suite 217
Methuen, Massachusetts 01844

SUBJECT: TEC Peer Review
125 Merrimack Street
Wan Yan, LLC

Dear Ms. Colwell and Members of the Community Development Board:

Greenman-Pedersen, Inc. (GPI) is in receipt of a letter from TEC, Inc. (TEC) dated May 7, 2021 containing review comments pertinent to the above referenced site plan application. Those comments, followed by our responses in **bold**, are provided below.

Site Plans

1. It is noted that the Applicant shall apply for a Special Permit with the Zoning Board of Appeals under the Table of Use Regulations of a proposed Restaurant in a BH Zone.
A Special Permit to allow restaurant use was granted by the Methuen Zoning Board of Appeals on February 24, 2021. This is noted in Note 14 on Sheet 4.
2. It is noted that the proposed land alterations within the 100-foot buffer zone will require a Notice of Intent to be filed with the City of Methuen's Conservation Commission and Massachusetts Department of Environmental Protection.
A Notice of Intent has been filed with the Methuen Conservation Commission.
3. The Applicant should coordinate with the City of Methuen Fire Department on truck accessibility and potential additional fire hydrant locations.
The City of Methuen Fire Department has reviewed the plans and as stated in the attached email from Matt Tulley, finds no access issues.
4. The Applicant should provide a vehicular circulation plan which shows that a City of Methuen ladder fire truck can adequately enter, exit, and circulate the site in the event of emergency and ensure designated fire lanes are clearly depicted.
A turning movement plan showing City of Methuen ladder truck access through the site has been prepared and accompanies this response.
5. The project, as designed, appears to meet the zoning requirements listed within Section VI of the City of Methuen Zoning Ordinance (Frontage, Setbacks, Lot Coverage).
Comment acknowledged.
6. The site is proposed to include 95 parking spaces. Per City zoning ordinances, the development only requires 47 parking spaces. The parking supply provided by the Applicant is more than sufficient to support the expected demand of the site.
Comment acknowledged.

7. It is noted that the Applicant intends on filling in excess of 15 feet in elevation to support the proposed parking increase. The Applicant should provide cut/fill calculations and a short narrative to describe if the volume of cut and fill has been minimized per Section 12.3.C.(1).
A cut/fill analysis has been performed and a net fill of 14,000 cu. yd. will be required for this project. The rear parking area has been designed at a 5% slope with a 2:1 slope off the back of the parking area to reduce the amount of fill to the greatest extent possible. The existing topography creates a significant hardship for the applicant that cannot be overcome by any other means. Despite the amount of earthwork involved, the project has been designed to comply with the local wetland buffer requirements. Further, a new closed drainage system will provide complete treatment and peak flow mitigation of the stormwater. Finally, despite the extent of site grading proposed, there will be no change to the stormwater runoff patterns in the area and no adverse impact to the abutting properties.
8. It is noted that the Applicant intends on clearing a significant section of wooded area on the site. The Applicant should identify and locate trees greater than 6 inches in diameter within the proposed area to be cleared and provide a short narrative to describe if the number of these trees removed has been minimized per Section 12.3.C.(1).
We have not located individual trees within the wooded portion of the property, but it is safe to say that with approximately ¾ acre of tree clearing, a fair number of those trees will be greater than 6" in diameter. As stated above, the site has been designed to limit the extent of grading (and therefore tree clearing) to the greatest extent possible. No clearing within the 50' no-disturb wetland buffer is proposed and overall, approximately 1.2 acres, or 40%, of the site will be left undisturbed.
9. It is noted that the proposed retaining walls are in some areas upwards of 12 feet in height. The retaining walls should be designed by a Licensed Massachusetts Professional Engineer.
Comment acknowledged. We have added a 'Typical Redi-Rock Retaining Wall Section' detail to Sheet 11, which notes this requirement.
10. TEC recommends that a designated limit of grading and limit of clearing be depicted on all sheets, specifically around the proposed retaining walls.
The proposed tree line (limit of clearing and grading) has been added to all sheets as requested.
11. TEC recommends that a designated limit of work, erosion control measures, and wetland buffers be shown on Sheet 3 – Demolition Plan.
The limit of work, erosion control measures, and wetland buffers have been added to this sheet as requested.
12. The limits of 6" loam and hydroseed should be shown clearly within a limit of work line.
We have clarified the notation for 6" loam and hydroseed to specify all disturbed areas within the limit of work.
13. The Applicant should provide a detail for the proposed 'Erosion Control Barrier (Silt Fence and Hay Bales)'.
A detail for Silt Fence and Hay Bales has been added to Sheet 11.
14. The Applicant should clarify on the curbing material 'BCC' on Sheet 4.
BCC – Bituminous Concrete Curb – has been added to the legend on Sheet 4.
15. The Applicant should provide clarification on the location of flow from proposed DMH-2 on Sheet 5.
The connection from DMH-3 to the underground infiltration system has been clarified on Sheet 5.

16. The Applicant should provide rip rap/outlet protection sizing calculations, and provide a statement confirming down-gradient erosion will not occur along the slope between the outlet and wetlands.
Rip-rap calculations confirming non-erosive velocity of the stormwater discharge are included in Appendix G of the Stormwater Management Report.
17. The Applicant should provide clarification on fall prevention measures at the top of the proposed retaining walls, and provide a detail if such measures are proposed.
The plans have been revised to depict a guardrail along the edge of pavement where adjacent to the retaining walls and slopes in excess of 3:1 and a 4' high chain link fence along the top of the retaining wall for fall protection. A detail for the guardrail can be found on Sheet 9 and a detail for the chain link fence has been added to Sheet 9.
18. The Applicant should confirm on the Site Plans that the sight distance triangles are adequate in both directions from the Merrimack Street driveway. The Site Plans should indicate the areas within those sight triangles where vegetation and signage are to be removed or kept low.
As requested, the sight line triangles have been added to the Site Plan. The sight distance calculations are based on the posted speed limit of the roadway. The calculations are attached to this letter. As shown, there is no vegetation or signage within the sight line triangles that would have to be removed.
19. The Applicant should provide a vehicular circulation plan which shows that a garbage truck (front-loading) can adequately circulate the site and access the dumpster enclosures. Note that the truck should maintain the same directional flow during pick-up as traditional vehicles.
A turning movement plan showing trash truck access through the site has been prepared and accompanies this response. Please note that trash pickup normally happens before the restaurant opens at 11:00 AM.
20. The internal sidewalk provides connection to the pedestrian network along Merrimack Street which is under control of the Massachusetts Department of Transportation (MassDOT). The site plan does not show modifications to the pedestrian curb ramp with exception to the transition down and no modifications to the driveway entrance within the State Highway Layout (SHLO). At a minimum, the Applicant should revise the site plans to reconstruct the ramp to meet Architectural Access Board (AAB) standards.
The plans have been revised to specify the reconstruction of the curb ramps on both sides of the access driveway to MassDOT standards. MassDOT standard details have been added on Detail Sheet 12.
21. Sheet 9 of the Site Plans depicts an accessible parking ramp construction details with 6' transition length dimensions. Although a 1:12 max note is provided, this does not guarantee a 6' transition. The notation of 6' should be removed. In addition, a maximum of 7.5% should be described for the ramp (approx. 1:13) in order to allow a construction tolerance below the AAB maximum of 1:12 (8.33%). The tolerance should be noted on the plans.
We have revised the detail on Sheet 9 to specify a ramp slope of 7.5% with a $\pm 0.5\%$ tolerance and replaced the 6' dimension with a notation stating 6" rise max., which is the limit beyond which handrails are required.
22. Notation should be given on all sidewalk related construction details for a maximum cross-slope of 1.5% with a $\pm 0.5\%$ tolerance.
We have revised the detail on Sheet 9 to specify a cross slope of 1.5% with a $\pm 0.5\%$ tolerance.

Trip Generation Letter

23. The change-in-use and modification of driveways will require further permitting with the MassDOT in the form of a Permit to Access State Highway. The Applicant should provide information related to the coordination with MassDOT and an update on state permitting.
The Applicant has submitted an Application for Permit to Access State Highway to the MassDOT District 4 Office with the project information on April 15, 2021. Comments are due back from MassDOT around May 21, 2021.

24. The Trip Generation Letter assesses new traffic from the restaurant based on building square footage as opposed to number of seats. TEC reviewed trip generation estimates for the land use utilizing number of seats instead of square footage and found that for the given size of the restaurant, the estimates provided by the Applicant are more conservative (higher) using square footage as opposed to number of seats. TEC therefore concurs with the methodology.
Comment acknowledged.

25. The Trip Generation Letter provides a summary of the existing and proposed estimates of site generated traffic; including, credit for pass-by trips. TEC agrees with the methodology as presented by GPI. The trip generation for the site, as presented, is expected to decrease during the peak hours with the change in use. TEC concurs with this assessment. Whereas the letter denotes that the daily traffic will increase; TEC notes that this may not be the case depending on the hours of operations as the data provided typically assumes the restaurant's included in the data set at open during breakfast and mid-morning hours. Note the site plan states that the hours of operations will start at 11 AM for the earliest day.
Comment acknowledged.

26. Based on the negligible impact of the proposed development on the surrounding traffic and roadways; especially during the given peak periods, TEC concurs that no specific off-site mitigation is warranted.
Comment acknowledged.

If you have any questions or need additional information, please free to contact me by phone at 603-374-7912 or by email to djordan@gpinet.com.

Sincerely,
Greenman Pedersen, Inc.



David R. Jordan, P.E., L.L.S., LEED AP
Senior Project Manager

Enc.

Cc: TEC, Inc.

From: Colwell, Kathleen B. <KBColwell@ci.methuen.ma.us>
Sent: Tuesday, May 11, 2021 2:58 PM
To: David Jordan
Cc: Peter Ellison
Subject: FW: 125 Merrimack St

See email below-you can contact Matt Tully

However the Fire Dept. did not have any specific issues with the plan but we have typically required truck turning radius plans. I did not send this email to Peter but have copied him on this now.

Kathleen Bradley Colwell
Planning Division Director
City of Methuen
41 Pleasant Street, Suite 217
Methuen, MA 01844
978-983-8560
Mobile# 978-802-6816

Methuen City Hall is open by appointment only
Monday - Thursday 8:00 AM - 4:30 PM and Friday 8:00 AM to noon.

From: Tulley, Matthew J. <MTulley@ci.methuen.ma.us>
Sent: Thursday, April 22, 2021 10:00 AM
To: Colwell, Kathleen B. <KBColwell@ci.methuen.ma.us>
Subject: 125 Merrimack St

Kathleen,

We do not see any Fire Department access issues with these plans and except the project to follow the correct Building and Fire codes. We will review the Tier I and II applications as they are submitted.

Thanks,

Matt Tulley

AASHTO Recommended Sight Distance Summary (Passenger Vehicles)

LOCATION: Merrimack Street at Site Driveway

Side Street Direction: WB
 Number of Lanes on Mainline = 4
 Median Width (Feet) = 0

STOPPING SIGHT DISTANCE

Mainline Direction: NB
 85th Percentile Speed (V) = 35 MPH
 Grade (G) = -2.0%
 Apply Grade Adjustment Yes
 Brake Reaction Time (T) = 2.5 seconds
 Deceleration Rate (A) = 11.2 ft/s²
 SSD = 1.47 V * T + 1.075 V²/A = 254 FT

SSD =	255 FT
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Mainline Direction: SB
 85th Percentile Speed (V) = 35 MPH
 Grade (G) = 2.0%
 Apply Grade Adjustment Yes
 Brake Reaction Time (T) = 2.5 seconds
 Deceleration Rate (A) = 11.2 ft/s²
 SSD = 1.47 V * T + 1.075 V²/A = 240 FT

SSD =	240 FT
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INTERSECTION SIGHT DISTANCE

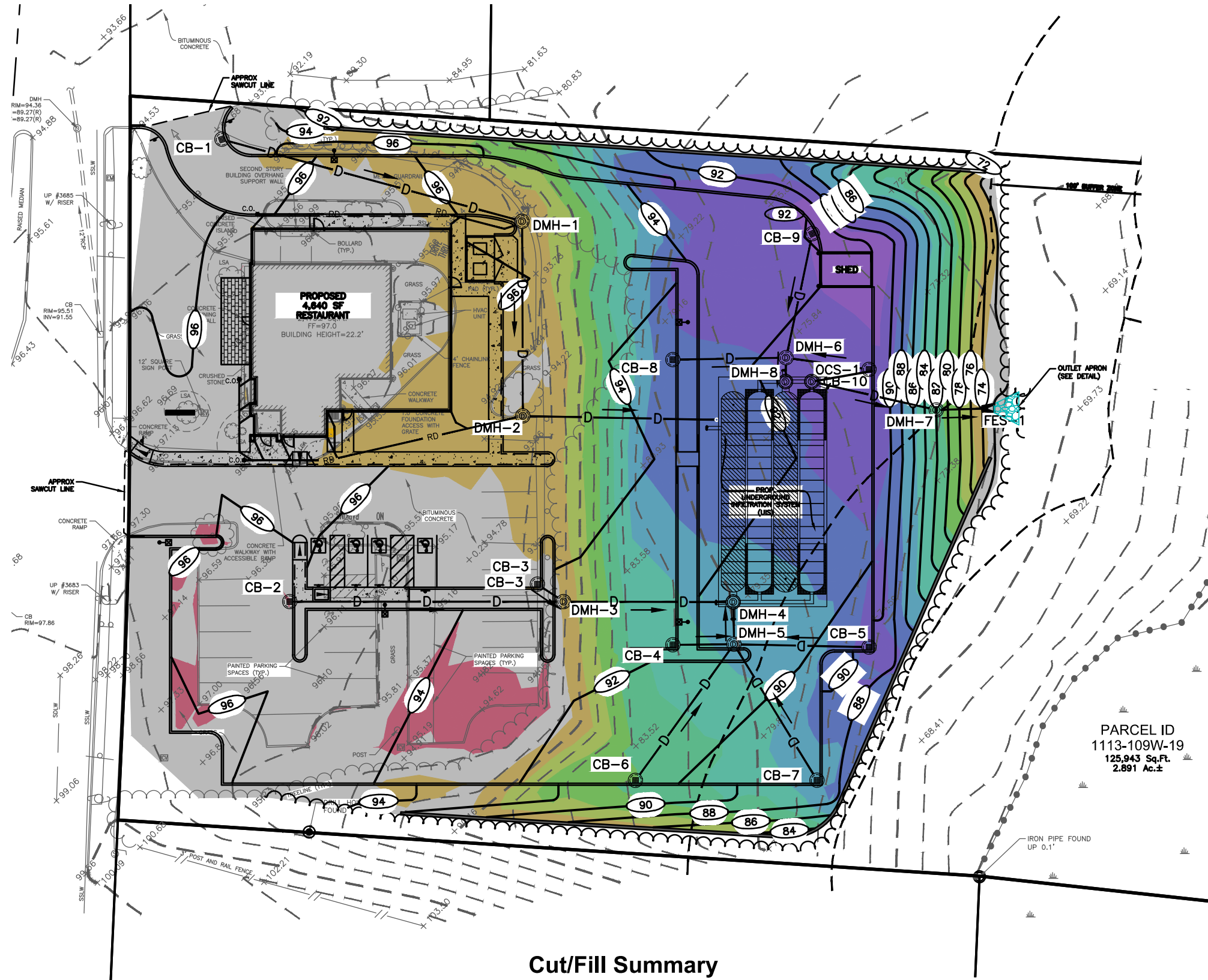
RIGHT TURN FROM STOP: South of Driveway
 Posted Speed (V) = 35 MPH
 Minor Street Approach Grade (G) = 0.0%
 Apply Grade Adjustment No
 Time Gap (t_g) = 6.5 seconds
 ISD (Right Turn from Stop) = 1.47 * t_g * V = 335 FT

ISD (Right Turn from Stop) =	335 FT
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LEFT TURN FROM STOP: North of Driveway
 Posted Speed (V) = 35 MPH
 Minor Street Approach Grade (G) = 0.0%
 Apply Grade Adjustment No
 Time Gap (t_g) = 8.5 seconds
 ISD (Left Turn from Stop) = 1.47 * t_g * V = 438 FT

ISD (Left Turn from Stop) =	440 FT
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F:\Projects\NEX-2020159 - Methuen, MA - Wan Yan, LLC (Huang)\CAD Files\20159 SP VOLUME.dwg GD 5/20/21 4:13pm sbonfanti



NOTE: THE PROPOSED UNDERGROUND INFILTRATION SYSTEM TOTALS 750 CY

Elevations Table			
Number	Minimum Elevation	Maximum Elevation	Color
1	-3.000	-1.000	
2	-1.000	1.000	
3	1.000	3.000	
4	3.000	5.000	
5	5.000	7.000	
6	7.000	9.000	
7	9.000	11.000	
8	11.000	13.000	
9	13.000	15.000	
10	15.000	17.000	
11	17.000	19.000	

Cut/Fill Summary

Name	Cut Factor	Fill Factor	2d Area	Cut	Fill	Net
VOLUME	1.000	1.000	1.535 acres	270.4 Cu. Yd.	13762.7 Cu. Yd.	13492.3 Cu. Yd.<Fill>
Totals			1.535 acres	270.4 Cu. Yd.	13762.7 Cu. Yd.	13492.3 Cu. Yd.<Fill>

CUT/FILL SUMMARY
125 MERRIMACK STREET
METHUEN, MASSACHUSETTS

Engineering
Design
Planning
Construction Management
GPI
603.893.0720
Greenman-Pedersen, Inc.
44 Stiles Road, Suite One
Salem, NH 03079

DRAWN BY: SJB
PROJECT #: NEX-2020159
DATE: 5/20/21
REV.:
FIGURE
CF-1