



GREEN INTERNATIONAL AFFILIATES, INC.

239 LITTLETON ROAD, SUITE 3 WESTFORD, MA 01886

T: (978) 923-0400 | F: (978) 399-0033 | WWW.GREENINTL.COM

September 21, 2018

Ms. Maren Toohill
Planning Administrator/Permit Coordinator
Town of Littleton Planning Board
Shattuck Street Municipal Building
37 Shattuck Street, Room 303
Littleton, MA 01460

**Subject: Engineering Review Services of Site
Plan/Special Permit Application for
"151 Taylor Street"
Littleton Planning Department**

Dear Ms. Toohill:

Pursuant to our agreement with the Town of Littleton, Green International Affiliates, Inc. (Green) is submitting this letter report of the findings from our peer review of the Site Plan and Special Permit Application Package for 151 Taylor Street, Littleton, MA.

This peer review investigates the documentation for compliance with Chapter 173, Zoning Bylaw, Chapter 38. This review included an examination of the following documents:

- Plans titled "Proposed Distribution Center – 151 Taylor Street, Littleton, MA 01460" prepared by MetroWest Engineering, Inc., dated August 3, 2018 and containing eight (8) sheets;
- Application Package titled "151 Taylor – Application for Special permit and Site Plan Review 8-14-18," prepared by Nutter McClennen & Fish LLP and dated August 14, 2018.
- Memorandum titled "Transportation Impact Assessment – Proposed E-Commerce Distribution Facility – 151 Taylor Street Littleton, Massachusetts" prepared by Vanasse & Associates, Inc, dated August 13, 2018;

Green offers the following comments resulting from our review of the above documents as they pertain to the cited regulations. Please note that this peer review is not a complete review of the project design and does not relieve the Applicant and Engineer of meeting all requirements of local, state and federal regulations. The highlighted items below are items that we have deferred to or made a recommendation to the Planning Board.

Site Plan Review Comments:

1. Accessible parking space symbols are shown upside down within the space. A detail of the proposed signage is not shown. We respectfully defer to the Planning Board, whether a review of the proposed accessible parking space signage is needed.
2. Thickened bituminous concrete pavement is proposed within the loading area. The design of the pavement in this area is critical as it will be heavily used by large vehicles. The Applicant should provide back-up information/calculations for determining the pavement thickness. We recommend

using available publications from the Asphalt Institute or National Asphalt Pavement Association as resources for design.

3. The existing driveway connecting to Taylor Street appears to be in poor condition based on an onsite visual inspection. The addition of traffic loads from large trucks on a regular basis will further add to the deterioration of the pavement. The Applicant should consider reconstructing the driveway and providing heavy duty pavement. **We respectfully defer to the Planning Board for an opinion on this item.**
4. The Applicant has provided truck turning movements and modifications to the island on the access drive near driveway for 151 Taylor Street. The Applicant should verify the size of the truck used for the turning movement. We recommend the Applicant use a WB-67 for the design vehicle, as the buildings intended use will result in large vehicles accessing the site.
5. The Applicant should provide truck turning movements demonstrating that WB-67 movements meet the encroachment requirements of MassDOT PDDG Exhibit 6-15 onto and off of Taylor Street. It appears that WB-67 vehicles may need to encroach on opposing lanes to enter the site when heading southbound on Taylor Street under existing conditions. We recommend all 4 potential movements be submitted for review and modification to the driveway be proposed, if necessary.

Special Permit Submission Requirements Comments:

6. The following were either not included in the submittal or not shown on the plans, but are required by Page 3 of the Special Permit Application:
 - Construction limit line
 - Electric, telecom, and/or telephone utility lines
 - A block containing the following:
 - Gross Floor Area of each building
 - Trip generation of proposed uses
 - Master Signage Plan

Zoning Bylaw Comments:

7. § 173-18-C of the Zoning Bylaw states that major topographic changes be minimized. The proposed fill on the south side of the site for installation of the fire lane constitutes a major topographic change to that portion of the site. We understand that this fire lane was a specific request from the Littleton Fire Department, therefore we **respectfully defer to the Planning Board for a determination on this item.**
8. § 173-18-C of the Zoning Bylaw also states that removal of existing trees be minimized. A dense collection of trees exists between the building and Monarch Drive on the southeast side. While the plans do not indicate the removal of these trees, it is assumed based on the proposed fill indicated by the contours on the Grading Plan. Four new trees are proposed between the fire lane and Monarch Drive, which is not adequate to provide screening. **We respectfully defer to the Board to determine whether further analysis of this item is required as Monarch Drive is a private roadway.** Note: vegetation further south between Monarch Drive and I-495 is expected to remain.
9. Per § 173-18-D, the Planning Board shall determine if there is adequate access to each structure for fire and service equipment. A fire lane is shown and it is our understanding that the Applicant has

coordinated this directly with the Fire Department. **The Board may wish to seek formal approval from the fire and police departments.**

10. § 173-18-E indicates that adequate utility structures be provided. A new 8" water service is shown to connect to the existing water main within the main driveway off Taylor Street. This water service loops around the building and includes hydrants at the corners presumably to help the Fire Department in the event of a fire.
 - An 8" service is proposed, however, the size of the existing water service in the driveway is unlabeled. The Applicant should confirm that the existing service is 8" and label it on the plans.
 - It is typical for a building of this sort to have a fire service entering the building in addition to the domestic service. The Applicant should explain why there is no fire service proposed. The Siamese Fire Connection should not connect directly to the water main.
 - As there is only one water connection to the main, there is no way to back feed the system. Therefore, if there is a break in the service line at any point, the whole service would have to be isolated at the single valve located near the driveway. The Applicant should consider adding a new connection to the water main in Taylor Street and adding additional valves to enable isolation of different parts of the system to ensure adequate fire protection is always available. This would require coordination with the Littleton Water Department.
 - The Applicant should confirm that adequate water is available from the Town water main to service the proposed development both for regular operations and during a fire.
 - The Applicant should confirm that the existing water service valve to be reused is operational and in good condition.
 - The Applicant should minimize the use of 90-degree bends to minimize impacts of thrust forces within the pipe.
11. § 173-18-F discusses stormwater management requirements. It is our understanding that the project improvements shown have previously been reviewed by the Town of Littleton Conservation Commission and an Order of Conditions was issued. The Conservation Commission's review included the proposed stormwater management and soil erosion and sediment control measures for the site. Therefore, a review of these items is not included in this letter as we assume no changes have been made.
12. Per the Use Regulations Schedule included in § 173-26 of the Zoning Bylaw, a distribution center is allowed within Industrial A Zones provided that no maintenance or service of trucks is proposed as an accessory use if there are more than 4 trucks on the premises. The Applicant should confirm that this accessory use is not proposed.
13. Checking conformance with § 173-35, § 173-37, and § 173-39 and building height requirements in the Intensity Use Schedule requires review of architectural plans which is excluded from Green's scope of work.
14. The schedule of parking area requirements discussed in § 173-32.B.5 indicates that 1 parking space be provided for every 1.25 employees on the largest shift. The Applicant has included this equation in their calculations for parking spaces shown in the Zoning Table on the plans, however, they have misinterpreted it. The requirement is to provide less parking spaces than there are people, so for the 105 workers proposed, only 84 parking spaces are required and not 132 as stated on the plans. The Applicant may want to consider reducing the amount of parking spaces proposed.

Major Industrial Use Special Permit Comments:

15. § 173-88 of the Zoning Bylaws discusses the requirements for the special permit for major commercial and industrial uses. Within their application package narrative, the Applicant has provided acceptable responses to the decision considerations discussed in § 173-88.B. We respectfully defer to the Planning Board for a determination on the issuance of this special permit.

Aquifer and Water Resource District Special Permit Comments:

16. Per § 173-62.D.1, a complete list of all chemicals, pesticides, fuels, and other potentially toxic or hazardous materials to be used or stored on the premises, along with a description of protection and prevention measures, shall be provided when applying for a special permit. The Applicant should supply the complete list with the required information.
17. Per § 173-62.D.5, an analysis by a qualified engineer experienced in groundwater evaluation and/or geohydrology shall be provided when applying for a special permit. The Applicant should submit the analysis with the required information.
18. Per § 173-63.E, monitoring wells shall be constructed onsite; a monitoring schedule will be determined by the Planning Board in consultation with the Littleton Water Department. We recommend that the number and location of these monitoring wells be coordinated with the Town of Littleton Water Department.

Transportation Impact Assessment Comments:

19. The August 2018 Transportation Impact Assessment Memorandum (TIA) was prepared in a professional manner and followed the applicable standards of care; however, the study was not stamped and signed by a Professional Engineer in responsible charge for the preparation of the document as required pursuant to Massachusetts General Law. A letter should be provided by the Professional Engineer attesting to their oversight in preparing the document and providing their Massachusetts Professional Engineer Registration number and discipline.
20. The TIA reviewed traffic count data from MassDOT continuous count station 4091, located on Interstate 495 (I-495), to evaluate the potential for seasonal fluctuation of traffic volumes within the study area. However, no seasonal adjustment calculations were provided in the Attachments to the TIAS. As a result, we were not able to verify the seasonal adjustment factor used in the TIA.

It is noted that traffic volumes along I-495 are significantly impacted by the time of year/season due to factors that are likely not indicative of the project's study area. For example, traffic volumes along I-495 typically increase during the summer months as it is a vastly popular route for vacationers traveling to/from Cape Cod. As a result, the seasonal fluctuation of traffic volumes along I-495 may not be similar to those within the study area. In addition, it appears that the most recent calendar year with sufficient traffic volume data for all twelve months at count station 4091 is 2013. We suggest that the Applicant's Engineer verify the seasonal adjustment applied is consistent with the seasonal fluctuation of 2016 traffic volume data from MassDOT continuous count station 4172 along Route 2 in Acton, MA.

21. The TIA described that no crashes were reported at the study intersection during the latest available five-year period (2009-2013) of motor vehicle crash data from MassDOT. It is noted that at the time period when the TIA was submitted 2014 and 2015 motor vehicle crash data from MassDOT was available. However, it is noted that there were no reported crashes from 2014-2015 and we agree that this is not a high-crash location and concur with the conclusion of the safety analysis in the TIA.

22. The TIA did not provide traffic volume count stations or calculations for the annual background growth rate used in the TIA. As a result, we were not able to verify the annual background growth rate used in the TIA. However, we agree that the one percent (1%) annual background growth rate used for the future volume projections is a conservative assessment for the area.
23. We are in agreement with the methodology that was used to develop the anticipated traffic characteristics of the Project and trip distribution pattern (90% of site generated traffic will use the Route 2 / Taylor St intersection). The Applicant's Engineer used trip-generation statistics published by the Institute of Transportation Engineers (ITE)¹ for similar land uses as the proposed Project.
24. The Applicant's Engineer consulted with the Town of Littleton's Department of Public Works (DPW) and concluded that there are no plans to upgrade sections of both the Foster Street and Taylor Street corridors as part of the Town's 2018 Transportation Improvement Plan. The Applicant's Engineer should also consult with MassDOT and the Town in order to determine if there are any planned roadway improvement projects within the seven-year planning horizon that would impact traffic volumes, trip patterns or operating conditions.
25. The traffic volumes in the TIA used for the analysis at the Project site driveway consisted of traffic count data collected on separate days. The Taylor Street through traffic volumes at the intersection appear to be taken from the ATR data collected on Wednesday July 25, 2018 and the turning movements in and out of the existing site driveway were taken from a manual turning movement count collected on Tuesday August 7, 2018. This is not a traditional approach and it is generally preferred that traffic count data used for capacity analysis at an intersection be collected on the same day. However, we acknowledge that there is likely little variation between July and August traffic volumes and the traffic count data used for the capacity analysis at the study intersection is sufficient.

Exclusions:

As indicated in the Scope of Services, this peer review does not include the following:

- Review of the package for compliance with the town of Littleton Stormwater Management and Erosion Control Bylaw, and the Massachusetts Wetlands Protection Act;
- Review of the Special Permit Application Package for compliance with other Local, State or Federal codes, ordinances or laws not mandated by the Code of the Town of Littleton, Massachusetts, Chapter 173, Zoning Bylaw;
- Review of any previously approved plans, reports or applications for compliance with Local, State or Federal codes, ordinances or laws;
- Confirmation of any delineated resource areas;
- Review of landscape planting and site lighting photometrics;
- Review of septic system design;
- Review of the project during construction;
- Review of architectural plans;
- Structural review of retaining walls;

Some of the above comments include recommendations for the provision of additional drawing and document information. The updated information may result in the generation of additional comments

¹ *Trip Generation, 10th Edition*; Institute of Transportation Engineers; Washington, D.C.; 2017.

Ms. Maren Toohill
September 21, 2018

once received and reviewed. Should you have any questions regarding this peer review please do not hesitate to contact us.

Sincerely,

Green International Affiliates, Inc.



Courtney Semlow, P.E.
Project Manager

CS/ea

\\Fs1\Engineering\Projects\2015\15002\15002.040\DOCS\20180921_151 Taylor Street_Site Plan_Special Permit Peer Review.Docx