

Mr. Matthew D'Agostino, Chair
Zoning Board of Appeals
City of Methuen
41 Pleasant Street
Methuen, MA 01844

September 28, 2021

Re: YWCA Residences at Ingalls Court, Methuen, MA
Civil Engineering Peer Review

Dear Mr. D'Agostino and Members of the Zoning Board:

On behalf of the City of Methuen, TEC, Inc. has reviewed documents as part of the civil engineering peer review for the proposed YWCA Residences project located at 10 Ingalls Court, Lot 1. The project consists of constructing 96 affordable rental units for seniors to replace the existing building on existing Lot 1 (proposed Lot A) of the Nevins Nursing and Rehab Center facility. The project will include the subdivision of existing Lot 2 into proposed Lots B&C to allow for the proposed residential building to be constructed in two phases.

TEC reviewed the following documents for conformance with the City of Methuen's Zoning Bylaw, Massachusetts Stormwater Standards, industry standards and best management practices:

- *Comprehensive Permit Application, YWCA Residence at Ingalls Court, 10 Ingalls Court, Methuen, MA 01844*, prepared by Mead, Talerman & Costa, LLC, dated August 18, 2021
- *Site Plan for YWCA Residents at Ingalls Court in Methuen, MA*, prepared by Millennium Engineering, dated June 30, 2021
- *YWCA Residences at Ingalls Court, Ingalls Court Methuen, MA*, prepared by Icon Architecture, dated July 12, 2021

Upon review of the documents and plans, TEC has compiled the following comments for the Board's consideration:

List of Waivers

1. Section 10.0 of the Application Letter outlines the request for waivers from local Regulations of the City. In general, TEC recommends against granting of blanket waivers. TEC recommends that a detailed list of waivers be provided with narrative explanation of why the regulation cannot be met.

Site Plan Review

2. TEC recommends that a formal Approval Not Required (ANR) Plan be prepared for review. The ANR Plan should outline zoning compliance for all new/adjusted parcels.
3. The Existing Conditions Plan should provide additional information on Lot 2.
4. The Zoning Summary on the Cover Sheet shows that the lot line adjustments will cause Lot C to be further out of compliance with respect to Lot Coverage. The existing lot coverage is shown as

41.3%, and the proposed lot coverage is 49.7%. It is unclear if zoning relief would be required for Lot C under this condition.

5. The full extent of the access/egress easements across Lot 2 (to Broadway) should be documented on the Existing Conditions Plan.
6. The Existing Conditions Plan should be revised to locate mature trees (>8" diameter) within the City of Methuen's right of way, within buffers to abutting parcels, and within the Riverfront Area.
7. A portion of land on site, adjacent to the Spicket River, is within the 100-year floodplain, according to the City of Methuen's MIMAP GIS database. The limits of the 100-year floodplain should be shown on the Existing Conditions Plan.
8. The Existing Conditions Plan should show the 200-foot Riverfront Area as well as buffer zones to wetland resource areas.
9. TEC recommends the inclusion of a Demolition Plan in the plan set to clearly identify buildings, paved areas, utilities, etc. that will be removed as part of the project. Being a phased construction project, the Demolition Plan should show the work within each phase. In proximity to the existing building on Lot 1, there are several utilities that may conflict with future work including the water, sewer, and electrical services to the building.
10. The Site Plan set should provide a parking count and table in accordance with the City of Methuen's Zoning Ordinance, Section VIII – Parking and Loading Requirements. Additionally, the plans should show proposed accessible parking spaces and parking space dimensions.
11. It appears that a portion of the parking spaces intended for the Phase 1 building are located on Lot C. It is unclear if this is allowed under the Zoning Ordinance or if this impacts conformance with the parking requirements for Lot C.
12. The Applicant should coordinate with the City of Methuen's Fire Department for site access, preferred locations and sign requirements for fire lanes within the site (if needed) and confirmation of hydrant quantity and locations.
13. The Site Plans should include all traffic signage and pavement markings to be installed as part of the project within the Site Plans. A sign summary shall also be included which depicts the sign legend, sign size, and sign lettering dimensions in compliance with the Manual on Uniform Traffic Control Devices (MUTCD).
14. The Grading and Utility Plan should be revised to incorporate additional grading information. There are large areas of the plan that do not provide any proposed grading information, including:
 - Within areas of proposed pavement on Lot B
 - Within walkways/sidewalks on Lot B
 - Retaining Walls on Lot B
 - West of the Phase 2 Building
 - West of the Phase 1 Building
 - Within walkways/sidewalks on Lot A

15. Detailed utility plans should be provided to show that the sewer system will function appropriately. Sewer manhole invert elevations should be provided to confirm functionality of the system.
16. The Utilities Plan should show locations for all proposed utilities including electric, telephone and cable, if proposed. The Utilities Plan should also show where proposed utility lines will tie into existing infrastructure on Granite Street or elsewhere if applicable.
17. The Graphic Scale on Sheets 2-4 indicate a scale of 1" = 40' and the Graphic Scale for the remaining sheets show a 1" = 50' scale. The size of all site layout sheets appears to be the same scale upon measurement throughout the plan set. The applicant should verify the scale on all plans and revise if necessary.
18. The Site Plans should include a legend with abbreviations for all applicable sheets within the set.
19. The Site Plans should designate an area for loading/deliveries. It is unclear if a centralized mail/delivery area will be used as part of the project.
20. The Site Plans should provide the 'Final Floor' elevations and door locations for the proposed Phase 1 and Phase 2 buildings.
21. The Applicant should provide a legend for the hatched areas within the proposed landscaped areas either within the Site Plan set or the Architectural Plans.
22. The Site Plans should include snow storage areas that are clear of drive aisles and parking spots on site.
23. Given the increased usage of electric vehicles in Massachusetts, TEC suggests providing electric vehicle charging stations.
24. The project is located within 100-feet of wetland resource areas and will require permitting with the City of Methuen's Conservation Commission and Massachusetts Department of Environmental Protection for approval.
25. The project shows a proposed building, expansion of existing pavement, and expansion of a rip rap pad within the 200-foot Riverfront Area. TEC recommends that the Site Plans be reconfigured to avoid and minimize impacts to this jurisdictional resource area.

Stormwater Management Review

26. The Applicant should provide a stormwater report to document conformance with the Massachusetts Stormwater Standards.
27. The proposed drainage system should include the length, classification, type and diameter of each drainpipe.
28. A hydraulic analysis should be provided as backup for pipe sizing. The pipe sizing should be designed to meet the flows of a 10-year design storm at a minimum.

29. The Grading and Drainage Plan should provide rim and invert elevations for the proposed outlet control structures, Stormtech systems, gutter down spouts and the proposed CDS unit.
30. The project is proposing a combination of deep sump hooded catch basins, a water quality unit and subsurface infiltration basin to capture, treat, and recharge stormwater.
31. Rip rap sizing calculations should be provided for the drainage outfall near Wetland Flag C-4 in accordance with Standard 1 of the Massachusetts Stormwater Standards.
32. Drainage maps depicting pre-development and post-development conditions along with HydroCAD analysis should be included to determine if the project meets Standard 2 of the MA Stormwater Standards.
33. More detailed information is required to determine if the project meets Standard 3 of the MA Stormwater Standards. TEC requests the following:
 - Test pits within each infiltration basin (1 test pit per 5,000 square feet of infiltration area)
 - HydroCAD Pond Volume tables
 - Detailed design of each outlet control structure
34. TSS removal calculations **for each treatment train** should be provided with the Stormwater report to verify that Standard 4 of the Massachusetts Stormwater Standards is met.
35. Detailed calculations should be provided for each Water Quality Unit using the “Standard Method to Convert Required Water Quality Volume to a Discharge Rate for Sizing Flow Based Manufactured Proprietary Stormwater Treatment Practices” published by Massachusetts Department of Environmental Protection.
36. The project will disturb over an acre of land and therefore will require the development of a Stormwater Pollution Prevention Plan prior to the start of land disturbance. The information provided should meet the requirements for Standard 8 of the MA Stormwater Standards.
37. In conformance with Standard 8 of the Massachusetts Stormwater Standards, the Site Plan set should include a detailed erosion control plans for each phase of construction. These plans should show a stabilized construction exit/entrance, silt fences, compost filter tubes, silt sacks and all other erosion controls proposed.
38. An Operations & Maintenance Plan should be provided to ensure that stormwater management system function as designed on site and to meet the requirements of Standard 9 of the Massachusetts Stormwater Standards.
39. An illicit discharges statement should be provided with a Stormwater report to meet the requirements of Standard 10 of the Massachusetts Stormwater Standards.
40. A Stormwater Report Checklist should be stamped by a Professional Engineer in the State of Massachusetts to be included in the Stormwater Report.

41. In several areas of the plan, it appears that trees are being proposed near the subsurface infiltration basins. TEC does not recommend any tree plantings in vicinity to these underground structures which are vital to the performance of the stormwater system.

Please do not hesitate to contact us directly if you have any questions concerning our comments at 978-794-1792. Thank you for your consideration.

Sincerely,
TEC, Inc.
"The **Engineering Corporation**"

A handwritten signature in blue ink, appearing to read "Peter F. Ellison".

Peter F. Ellison, PE
Director of Strategic Land Planning