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To: Community Development
City of Methuen

From: Stephen J. Gagnon, PWM 
Engineering Department Administrator

Subject: 23 Hampstead Street
Definitive Subdivision Plan

As requested, I have reviewed the Definitive Subdivision application, plan set and Stormwater Management Report, prepared by Millennium Engineering Inc., dated October 4, 2021, and October 5, 2021, respectively. Based on my review of the above, I have the following comments to offer:

1. The intended final ownership of the subdivision should be identified, i.e., City or Homeowners Association.
2. The cover sheet of the plan set requests the following waivers from the Subdivision Rules and Regulations:
 - a. Section 4.2.2.8 - Dead end streets.
 - b. Section 5.7.1 - Sidewalks.
 - c. Section 5.6.1 - Looped water main.
 - d. Section 5.6.1 - 8" diameter water main.

I suggest in exchange for waivers a. and b. the Developer provide an additional inch of pavement thickness to the roadway, to increase its longevity and ultimately reduce future costs to the residents.

I do not recommend waiver c. be granted. This waiver is contrary to the MassDEP Water Distribution regulations the city must follow. Annually, MassDEP completes a detailed audit of the City's water distribution system. Each year our score is adversely impacted due to dead end water mains. The proposed water main could be easily looped to Applewood Ln. or Stoneybrook Rd., preventing the

creation of a new dead-end water main and eliminating an existing dead end main.

Waived d. cannot be granted, as DEP requires every water main which service a fire hydrant to be a minimum of 8" diameter.

3. Section 4.2.2.4 of the Subdivision Rules and Regulations requires roadway centerline offsets to be a minimum of 125'. The proposed roadway is offset only 110' from the private way known as Old Hampstead Street.
4. Section 4.2.4.3 of the Subdivision Rules and Regulations requires a minimum length of 75' to be substantially level approaching an intersection. Approximately 25' has been provided.
5. An analysis of the sight distance, at the intersection of the proposed road and Hampstead Street, should be provided.
6. The proposed roadway will bisect the existing sidewalk on Hampstead Street. ADA/ABB compliant wheelchair ramps must be provided at each side of the proposed roadway.
7. Subdrains should be provided along the roadway where the cut profile exceeds one foot.
8. It is not clear if the existing water mains in Hampstead Street are labeled correctly on the plan set. Regardless of the representation, the water connection for the subdivision must be made to the 12" diameter water main.
9. The plan should be revised to depict three gates at each connection to a water main.
10. The proposed sewer service connections are depicted as 4" diameter on sheet 6 of the plan set. The plan should be revised to depict 6" diameter sewer service connections.
11. The plan set depicts approximately 125' of the roadway draining uncontrolled onto Hampstead Street. Catch basins should be provided to collect the stormwater before it reaches Hampstead Street.
12. The proposed route maintenance vehicles are to access the infiltration basin should be identified on the plan set.
13. An underdrain should be provided in the infiltration basin so it can be dewatered for maintenance.

14. The plan depicts the infiltration chamber outlet pipe discharging directly to Hampstead St. This is not acceptable as it will cause icing of the roadway and sidewalk in cold weather.
15. In the profile view, the pipes entering DMH-1 from CB-1 & CB-2 are lower than the pipe exiting DMH-1. The plan should be revised accordingly.
16. The elevation of the flared end section on the infiltration pond outlet pipe does not agree in the plan set and the Stormwater Management Report.
17. The Stormwater Management Report indicates Subcatchment P1B will flow overland before discharging directly into the infiltration chambers. The plan should be revised to provide pretreatment for the overland flow.
18. The plan depicts an existing 12" CMP entering the subject property from a catch basin on Hampstead Street. This pipe should be investigated, and its source determined.
19. The soil logs provided in the Stormwater Management Report should be revised to provide an elevation for ESHGW and refusal.
20. The Operation and Maintenance Plan provided exceeds the ability of the Methuen DPW, should the Applicant wish the subdivision to be accepted by the city.
21. Under the heading of Infiltration Chambers, the Operation and Maintenance Plan states the Condo Association is the responsible party. Is this correct or a typographical error?
22. The Applicant should consider installing a landscaped island in the cul-de-sac to reduce pavement costs and reduce impervious area and stormwater runoff.
23. The plan depicts proposed grading adjacent to the east property line of Lot 4. A detail of this grading should be provided.

The Project Engineer should address these issues in writing.