

CITY OF NEWTON  
Department of Public Works  
ENGINEERING DIVISION

MEMORANDUM

To: Council Rick Lipof, Land Use Committee Chairman

From: John Daghlian, Associate City Engineer

Re: Special Permit – 41 Washington Street

Date: February 22, 2021

CC: Barney Heath, Director of Planning  
Jennifer Caira, Chief Planner  
Lou Taverna, PE City Engineer  
Nadia Khan, Committee Clerk  
Neil Cronin, Sr. Planner

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In reference to the above site, I have the following comments for a plan entitled:

*Site Plan of Land in Newton, MA  
41 Washington Street  
Prepared by Everett M. Brooks Company  
Dated: July 16, 2020  
Revised: 2/4/2021*

Executive Summary:

This application entails the creation of a rear lot subdivision from an existing lot comprising of 25,902 square feet [0.594 acre]; by creating a second lot, the configuration of lot #1 with the existing dwelling will be (13,964 sq. ft) and the rear new lot #2 will have (12,000 sq. ft). The existing site has approximately 107-feet of frontage along Washington Street, and has residential homes on the north, west, and south boundaries. If the special permit is approved an Approval Not Required (ANR) plan will be needed in accordance to Massachusetts General Laws Chapter 41 Section 81P requiring the single lot being subdivided into two lots, the creating of an ANR should be part of the Board Order requirement.

Access for the rear lot will be via a proposed 20-foot-wide driveway & utility easement that is proposed along the southern property line through the front parcel.

### Drainage:

New soil evaluations were performed on December 14, 2020 by a licensed soil evaluator, two test pits (TP) were observed and shown on the site plan. TP elevations were missed labeled. One TP at the low point of the property at elevation 106' had mottles observed between (3.4 - 5.4') and weep groundwater at 4.5 ft. The second TP at elevation 114.1 had mottles observed at (3.8-5') and groundwater at 4.7 ft. As the test pit was conducted on December 14<sup>th</sup> it is likely that the seasonal high groundwater table (SHGWT) during the Spring months would be higher; therefore, based on the neighborhood concerns regarding flooding issues, should this application be approved I will require additional soil testing during the spring season prior to applying for a Building Permit to confirm the SHGWT before the plans are finalized for construction.

The proposed site [lot 2] has a high point elevation of 117-feet at the northeast corner and slopes towards the southwest to a low point of 106-feet. The site is heavily vegetated with trees, grass and wild brush. The front & northern portion of the new roof is collected by a gutter system and directed to the new catch basin & proposed pump chamber within the driveway that discharges to the City's drainage system in Washington Street. The runoff from the south & rear side of the new dwelling's roof is directed to an onsite infiltration system. Based on the 30 minutes per inch percolation rate, the engineer needs to submit a calculation to determine how long it will take for system #1 to be completely drained, the DEP mandates a maximum of 72 hours. The proposed infiltration system is also connected to the proposed overflow connection.

Additionally, a shallow interceptor drain is proposed near the low point of the property at the south-west corner. While this is a good proposal, ideally it should be extended 30 feet towards the north (parallel to the eastern property line) to intercept surface water from the regraded area. This interceptor drain should have an impervious barrier along its downstream wall and ideally connected to the proposed overflow connection. The design has a pump system for overflow water to be connected to the City drain system (which the DPW does allow based on certain conditions); I am recommending that the pump station be relocated to accommodate the water collected from the interceptor to be added to the pump discharge. Detailed pump design including pump performance curves, pump sizing calculations, alarms and a power backup generator will be required.

*Pre & Post* watershed maps are needed to confirm the design assumptions.

An Operations and Maintenance (O&M) plan for Stormwater Management Facilities needs to be drafted and submitted for review. Once approved the O&M must be adopted by applicant, incorporated into the deeds; and recorded at the Middlesex Registry of Deeds. A copy of the recording instrument shall be submitted to the Engineering Division.

It is imperative to note that the ownership, operation, and maintenance of the proposed drainage system and all appurtenances including but not limited to the drywells, catch basins, and pipes are the sole responsibility of the property owner(s).

Hydraulic calculations of the on-site pipe network will be needed. As well as capacity calculation of the City drainage system for the overflow connection. Pre & post Closed

Circuit Television (CCTV) inspection of the City's drainage system will be required for the overflow connection.

Site Improvements:

The new lot will have a single-family dwelling serviced by municipal utilities extend through a utility easement towards Washington Street. Once the new driveway and utilities have been installed the sidewalk and aprons should be updated to current standards.

Two retaining walls are proposed one is near the driveway of the new dwelling, which is needed to provide a flat driveway area, this wall will need a *non-climbable* fence along the top of the wall as the wall is over 3-feet high. The second is near the new interior property line between the existing lot and new lot, tis wall appears to be for landscape purposes only 2 feet in height.

Construction Management:

1. A construction management plan is needed for this project. At a minimum, it must address the following: staging site for construction equipment, construction materials, parking of construction worker's vehicles, phasing of the project with anticipated completion dates and milestones, safety precautions, emergency contact personnel of contractor. It shall also address any anticipated dewatering during construction, site safety & stability, and impact to abutting properties.
2. Stabilized driveway entrances are needed during construction which will provide a tire wash and mud removal to ensure City streets are kept clean.

Environmental:

1. Has a 21E investigation & report been performed on the site, if so copies of the report should be submitted the Newton Board of Health and the Engineering Division.
2. Are there any existing underground oil or fuel tanks, are they to be removed, if they have been evidence should be submitted to the Newton Fire Department, and Newton Board of Health.

Sewer:

1. With the exception of natural gas service(s), all utility trenches with the right of way shall be backfilled with Control Density Fill (CDF) Excavatable Type I-E, detail is available in the City of Newton Construction Standards Detail Book.

2. All new sewer service and/or structures shall be pressure tested or videotaped after final installation is complete. Method of final inspection shall be determined solely by the construction inspector from the City Engineering Division. All sewer manholes shall be vacuum tested in accordance to the City's Construction Standards & Specifications. The sewer service will NOT be accepted until one of the two methods stated above is completed. All testing MUST be witnessed by a representative of the Engineering Division. A Certificate of Occupancy will not be recommended until this test is completed and a written report is received by the City Engineer. *This note must be added to the final approved plans.*
3. All sewer manholes shall be vacuum tested in accordance to the City's Construction Standards & Specifications. The sewer service will NOT be accepted until one of the two methods stated above is completed. All testing MUST be witnessed by a representative of the Engineering Division. A Certificate of Occupancy will not be recommended until this test is completed and a written report is received by the City Engineer.

Water:

1. Fire flow testing is required for the proposed fire suppression system. The applicant must coordinate this test with both the Newton Fire Department and the Utilities Division; representatives of each department shall witness the testing, test results shall be submitted in a write report. Hydraulic calculation shall be submitted to the Newton Fire Department for approval.
2. All water connections shall be chlorinated & pressure tested in accordance to AWWA and the City of Newton Construction Standards and Specifications prior to opening the connection to existing pipes.
3. Approval of the final configuration of the water service(s) shall be determined by the Utilities Division, the engineer of record should submit a plan to the Director of Utilities for approval

General:

1. All trench excavation contractors shall comply with Massachusetts General Laws Chapter 82A, Trench Excavation Safety Requirements, to protect the general public from unauthorized access to unattended trenches. Trench Excavation Permit required. This applies to all trenches on public and private property. *This note shall be incorporated onto the plans*

2. All tree removal shall comply with the City's Tree Ordinance.
3. The contractor is responsible for contacting the Engineering Division and scheduling an appointment 48 hours prior to the date when the utilities will be made available for an inspection of water services, sewer service, and drainage system installation. The utility in question shall be fully exposed for the inspector to view; backfilling shall only take place when the City's Inspector has given their approval. *This note should be incorporated onto the plans*
4. The applicant will have to apply for Street Opening, Sidewalk Crossing, and Utilities Connecting permits with the Department of Public Works prior to any construction. *This note must be incorporated onto the site plan.*
5. The applicant will have to apply for a Building Permits with the Department of Inspectional Service prior to any construction.
6. Prior to Occupancy Permit being issued, an As-Built Plan shall be submitted to the Engineering Division in both digital format and in hard copy. The plan should show all utilities and final grades, any easements and final grading, improvements and limits of restoration work. The plan shall also include profiles of the various new utilities, indicating rim & invert elevations, slopes of pipes, pipe material, and swing ties from permanent building corners. ***This note must be incorporated onto the final contract plans.***
7. All site work including trench restoration must be completed before a Certificate of Occupancy is issued. *This note must be incorporated onto the site plan.*
8. If any changes from the original approved design plan that are required due to unforeseen site conditions, the engineer of record shall submit a revised design & stamped and submitted for review and approval prior to continuing construction.

Note: If the plans are updated it is the responsibility of the Applicant to provide all City Departments [Conservation Commission, ISD, and Engineering] involved in the permitting and approval process with complete and consistent plans.

If you have any questions or concerns please feel free to contact me @ 617-796-1023.