

CITY OF NEWTON
ENGINEERING DIVISION

MEMORANDUM

To: Alderman Ted Hess-Mahan, Land Use Committee Chairman

From: John Daghlian, Associate City Engineer

Re: Special Permit – 22-25 Beecher Terrace

Date: June 5, 2013

CC: Lou Taverna, PE City Engineer
Linda Finucane, Associate City Clerk
Alexandria Ananth, Sr. Planner
Fred Russell, Director of Utilities
Ted Jerdee, Superintendent of Utilities

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

Proposed 5 Units
22 & 26 Beecher Terrace
Newton, MA
Prepared by: Greater Boston Surveying & Engineering
Dated: March 25, 2013

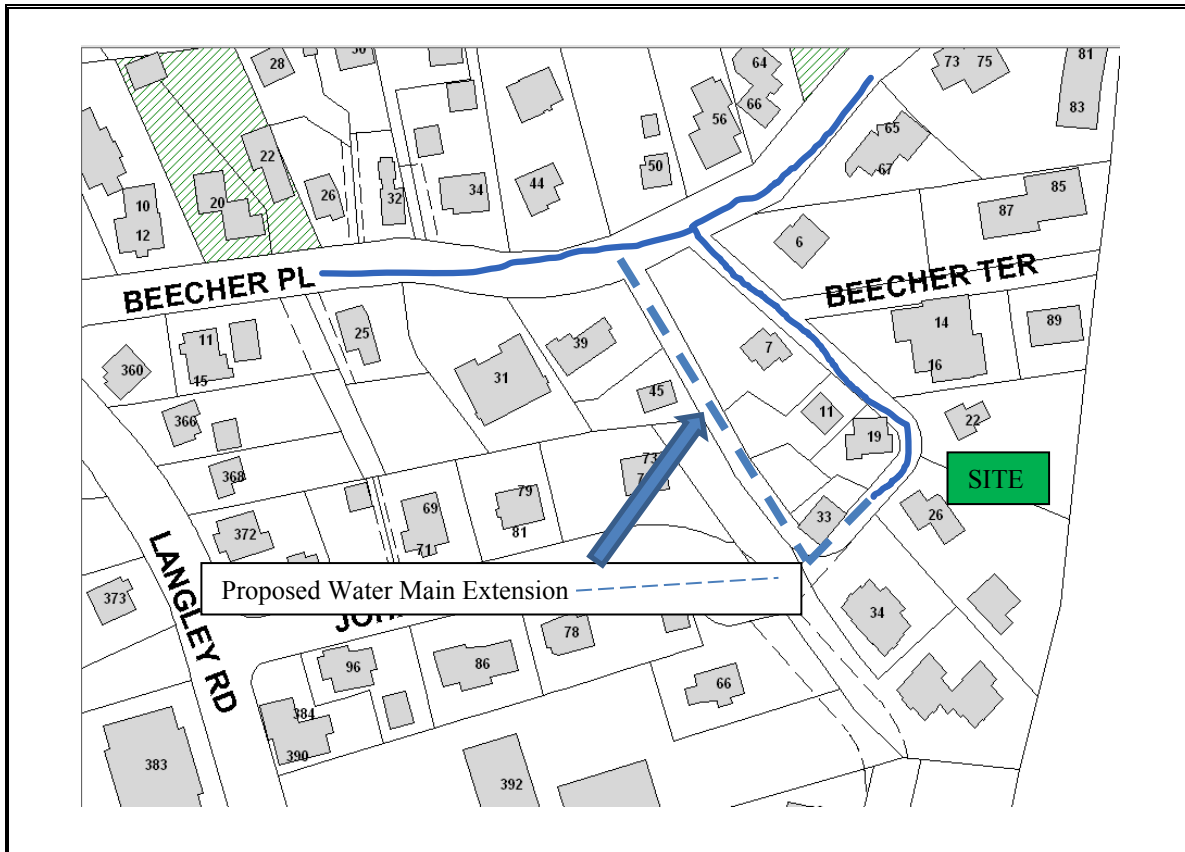
Executive Summary:

The proposed 5 unit development is situated on two separate lots, if this Special Permit is approved, an Approval Not Required (ANR) Plan must be submitted to the Board of Survey combining the two lots into one lot under *Subdivision Control Law Massachusetts General Law Chapter 41 Sec. 81-P*.

A retaining wall greater than 4' is proposed parallel to the southern property line, however; no indication of the wall height is referenced. Walls over 4' will need a safety fence.

As a Public benefit, the two concrete aprons that are totally destroyed at the Beecher Place & Beecher Terrace intersections should be replaced, and Beecher Terrace should be repaved. The proposed 10" CLDI pipe is not acceptable because the existing main in Beecher Place is only 6" main. However, the Director of Utilities has indicated that the main in Beecher Terrace is a dead end main and should ideally be looped back to Beecher

Place along the southerly leg of Beecher Terrace; this will be a water quality and quantity improvement and a public benefit. (See below).



Finally, the plans submitted are not to correct scale this need to be corrected, furthermore; the plans are not very clear.

Drainage:

1. The engineer of record shows on site drainage improvements, however; no calculations or drainage report received at the time of this review. On site soil testing is required for the evaluation of the proposed drainage system. Test pits and percolation test(s) are required within 20-feet of each system, to verify groundwater elevations, and soil types.

2. There is a proposed overflow pipe directing overflow stormwater towards the abutting property to the east towards Chestnut Hill Condominiums; this is not acceptable since the flow condition is being altered from the existing condition as [sheet flow] to the proposed condition as a [point source] discharge. To remedy this situation the flared end section should be directed to an underground diffuser comprised of a perforated pipe embedded in washed crushed stone and filter fabric, and having an impervious barrier on the downstream side of the system.
3. The proposed overflow pipe from the driveway at unit # 1 to the catch basin in Beecher Terrace is not permitted. The engineer of record needs to demonstrate why the overflow is warranted and why the runoff from the site cannot be completely contained on-site.
4. A drainage analysis needs to be performed based on the City of Newton's 100-year storm event of 6-inches over a 24-hour period. All runoff from impervious areas need to be infiltrated on site, for the project. The design of the proposed on site drainage system needs to comply with the MassDEP Stormwater Regulations and City Ordinances.
5. When a connection to the City's drainage system is proposed, prior to approval of the Building Permit a Closed Circuit Television (CCTV) inspection shall be performed and witnessed by the Engineering Division, the applicant shall retain a contractor that specializes in CCTV inspection. The applicant shall contact the Engineering Division 48 hours in advance to schedule an appointment. At the end of the inspection the video or CD shall be given to the inspector. Furthermore, upon completion of the connection to the drainage system a Post – Construction video inspection shall also take place and witnessed as described above. This is required regardless of the connection point, the intent is to ensure that there are no downstream blockages or damaged pipe so that the contractor of record is not held accountable for preexisting conditions.
6. A hydraulic capacity of the downstream drainage system needs to be evaluated and submitted to the Engineering Division. This study needs demonstrate that there will be no impact to the municipal drainage system, nor private or public property.
7. The proposed dry well details need to specify “**crushed washed stone**”. The elevation of the bottom of the stone, bottom of the pipe and depth to groundwater table need to be labeled. A detail is needed with filter fabric - 3” layer of peastone on top of the system, and then covered over with filter fabric.
8. An Operations and Maintenance (O&M) plan for Stormwater Management Facilities needs to drafted and submitted for review. Once approved the O&M must be adopted by applicant, incorporated into the deeds and Homeowners Association documentation; and recorded at the Middlesex Registry of Deeds. A copy of the recording instrument shall be submitted to the Engineering Division.

9. In order to properly inspect and maintain the on-site drainage systems, \$10,000.00 should be provided to the Homeowners Association specifically earmarked for this purpose.

10. It is imperative to note that the ownership, operation, and maintenance of the proposed drainage system and all apparentness including but not limited to the drywells, catch basins, and pipes are the sole responsibility of the Homeowners Association.

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.

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. A detailed profile is needed which shows the existing water main, proposed water service(s), sewer main and proposed sewer service(s) with the slopes and inverts labeled to ensure that there are no conflicts between the sewer services and the water service. The minimum slope for a service is 2.0%, with a maximum of 10%. Pipe material shall be 6" diameter SDR 35 PVC pipe within 10' of the dwelling then 4" pipe per Massachusetts State Plumbing Code. In order to verify the slopes and inverts of the proposed service connection, two manholes of the existing sanitary sewer system need to be identified on the plan with rim & invert elevations. The crown of the service connection & the sewer main need to match.

2. The existing water & sewer services to the building shall be cut and capped at the main and be completely removed from the site and properly back filled. The Engineering Division must inspect this work; failure to having this work inspected may result in the delay of issuance of the Utility Connection Permit.
3. Use City of Newton Details in lieu of the details submitted.
4. 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.
5. All new sewer service and/or structures shall be pressure tested or video taped 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.***
6. 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.***
7. The sewer brought onto the site shall be considered a sewer service and NOT a main extension.

Water:

1. If the units are to have fire suppression systems, then a Fire Flow test(s) is required. 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. Per order of the Utilities Director, all the services need to be tapped on the new main prior to the on-site fire hydrant.

3. For water quality issues a fire hydrant should be located at the end of the proposed water main. This hydrant will be utilized for flushing out the main as required.
4. 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.
5. The hydrant detail needs additional dimensions please use the City's Standard detail in pdf form from the website.
6. 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. As of January 1, 2009, 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 is 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. *This note must be incorporated onto the site plan.*

7. If a Certificate of Occupancy is requested prior to all site work being completed, the applicant will be required to post a Certified Bank Check in the amount to cover the remaining work. The City Engineer shall determine the value of the uncompleted work. *This note must be incorporated onto the site plan.*

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.