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 – #157 Langley Road

Date: June 21, 2022

CC: Barney Heath, Director of Planning
Jennifer Caira, Deputy Director
Katie Whewell, Chief Planner
Lou Taverna, PE City Engineer
Jennifer Breslouf, Committee Clerk
Michael Gleba, Sr. Planner

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

157 Langley Road
Proposed Plan
Prepared by: Spruhan Engineering, PC
Dated: 5/9/2022

Executive Summary:

The permit entails the demolition of an existing single-family dwelling and the construction of a 3-family unit on a 14,600 square foot [0.33 acre] lot located at the intersection of Langley Road (along the north) & Knowles Street to the west. The site has a high point at elevation 183-feet at the northeastern corner of the property and slopes towards the west (Knowles Street). The site is bound to the south & east by residential homes. The lot is serviced by two driveways one from Langley Road & the second off Knowles Street. The existing stone walls along the frontage of both streets will be renovated. A proposed retaining wall is located near the southeast property line and curves towards Knowles Street is very closely located to the neighbor's property line at #16-18 Knowles Street, I recommend moving the wall inward a minimum of 0ne foot to avoid any encroachment & construction issues. The retaining wall varies in height of

0.90 feet at the beginning and varies in height to 2.9 feet at the highest point midway along this common property line. The retaining wall will help facilitate two garages under the units and on grade parking for two stalls.

The site currently has no on-site infiltration system, the engineer of record has designed a stormwater collection and infiltration system to meet the City's 100-year storm event by collecting the runoff from roof & driveway areas and infiltrating into 3-separate leaching fields. The design also incorporates proposed sump pumps and overflow connections into the City's Strom Drainage system. Prior to final approval of the stormwater system the engineer of record must demonstrate adequate capacity in the City Drainage system. Pre & Post construction Closed Circuit Television [CCTV] inspection will be required of the City drainage system. The two infiltration fields along the southwestern property line need to have impervious barriers along their perimeter to prevent breakout. An additional test pit within 25 feet of system #1 is required. System #1 has a bottom of stone elevation at 169.5-ft, the estimated seasonal high groundwater is at elevation 171.0-ft, therefore 1.5 feet of the system is underwater, this is unacceptable.

The drainage report did not include any calculation for phosphors reduction as required by the City's Stormwater Ordinance.

The design did not include an Operations & Maintenance system for the design intent, it needs to incorporate a minimum of inspection periods, inspection ports, cleaning of catch basins, drain manholes, driveway sweeping intervals and the infiltration fields. Additionally, snow storage areas need to be identified. The O&M plan once approved must be recorded at the Middlesex Registry of Deeds and adopted by the Homeowners Association for long-term maintenance of the drainage system. Proof of the recording must be submitted to the DPW.

New municipal utilities are proposed for the 3-unit development.

The sidewalk along Langley Road has a non-conforming ADA pedestrian curb cut (a.k.a. HP ramp) is along with the one at the intersection of Knowles Street must be updated and a sidewalk must be extended along the Knowles Street frontage to connect to the neighboring sidewalks.

Any sidewalks closed during construction shall have detoured pedestrian routes approved by the Engineering Inspector in accordance with the DPW Construction Zone Access Checklist.

Construction Management:

1. A construction management plan is needed for this project. At a minimum, it must address the following: staging site for construction materials and equipment, parking for construction workers vehicles, phasing of the project with anticipated completion dates

and milestones, safety precautions, emergency contact personnel of the general contractor. It shall also address anticipated dewatering during construction, site safety & stability, siltation & dust control and noise impact to abutters.

2. The stabilized driveway construction entrance is needed off Knowles Street that needs to be shown on the site plan that will be required for the duration of the construction which will provide a truck wash to prevent tracking of mud and silt onto City streets.

3. Catch basins within and downstream of the construction zone will be required to have siltation control installed for the duration of the project and must be identified on the site plan.

Drainage:

1. On site soil testing that will include test pit(s) within 25 -feet of each proposed system and percolation test(s) must be schedule and witnessed by a representative of the Engineering Division. Soil logs shall be submitted on the site plan or drainage report and shall be certified by a Massachusetts Licensed Soil Evaluator and/or Professional Civil Engineer.

2. 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, trench drains, and pipe(s) are the sole responsibility of the property owner(s).

3. Prior to final approval of the overflow connection, the engineer of record needs to submit hydraulic calculation to ensure that there is adequate capacity in the City's drainpipe in Knowles Street from the point of connection to the next downstream manhole. Additionally, a Closed-Circuit Television (CCTV) inspection will be required for Pre & Post Construction and must be witnessed by the Engineering Division, video copies shall be provided for review.

Environmental:

1. Has a 21E Investigation and report been performed on the site, if so, copies of the report should be submitted to the Newton Board of Health and Engineering Division.

2. Are there any existing underground oil or fuel tanks? Have they been removed, if they have been, evidence of the proper removal should be submitted to the Newton Fire Department and the Board of Health.

Sanitary Sewer & Domestic Water Service(s):

1. Existing water and sewer services to building(s) shall cut and capped at the respective mains and completely removed from the main(s) and its entire length and properly backfilled. The Engineering Division must inspect and approve this work, failure to having this work inspected will result in delay of issuance of the new Utility Connection or issuance of a Certificate of Occupancy.

2. All new sewer service(s) shall be pressure tested in accordance with the City Construction Specifications & Standards and inspected via Closed Circuit Television CCTV inspection after installation is completed. A copy of the video inspection and written report shall be submitted to the City Engineer or his representative. The sewer service will NOT be accepted until the two methods of inspection are completed AND witnessed by a representative of the Engineering Division. A Certificate of Occupancy will not be recommended until these tests are completed to the satisfaction of the City Engineer.

3. All sanitary sewer manhole(s) shall be vacuum tested in accordance with the City's Construction Standards & Specifications, the sewer service and manhole will NOT be accepted until the manhole(s) pass the testing requirements. 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 to the satisfaction of the City Engineer and a written report of the test results is submitted to the City Engineer.

4. With the exception of natural gas service(s), all utility trenches within the right of way shall be backfilled with Control Density Fill (CDF) Excavatable Type I-E up to within 18-inches of the asphalt binder level, after which Dense Grade Gravel compacted to 95 % Proctor Testing shall be placed over the CDF. Details of this requirement is the Engineering Division website "Standard Construction Details".

5. Fire Flow testing is required for the proposed fire suppression system. The applicant must coordinate the fire flow test with both the Newton Fire Department and the Utilities Division, representative of each department shall witness the testing. Test results shall be submitted in a written report along with hydraulic calculations that demonstrate the required size of the fire suppression system, these calculations shall be

submitted to the Newton Fire Department for approval, and copies give to the Engineering Division.

6. All water services shall be chlorinated, and pressure tested in accordance with the AWWA and the City Construction Standards & Specifications prior to coming online. These tests MUST be witnessed by a representative of the Engineering Division.

7. Approval of the final configurations of the water service(s) shall be determined by the Utilities Division, the engineer of record shall submit a plan to the Director of Utilities for approval.

General:

1. 5 Year Moratorium – if at time of construction the roadway is under a 5-year moratorium, the roadway must be milled and paved gutter-to-gutter for a distance of 25 feet in each direction from the outermost trenches.

2. All trench excavation shall comply with Massachusetts General Law Chapter 82A, Trench Excavation Safety Requirements, and OSHA Standards to protect the general public from unauthorized access to unattended trenches or excavations. Trench Excavation Permit is required prior to any construction. This applies to all trenches on public and private property. *This note shall be incorporated onto the final plans.*

3. All tree removal shall comply with the City's Tree Ordinance.

4. The contractor of record 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 services 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 Engineer's Inspector has given their approval. *This note shall be incorporated onto the final plans.*

5. The applicant shall apply for a Building Permit with the Inspectional Services Department prior to ANY construction.

6. Before requesting a Certificate of Occupancy, an As Built plan shall be submitted to the Engineering Division in both digital and paper format. The plan shall show all utilities and final grades, any easements and improvements and limits of restoration. The plan shall include profiles of the various new utilities including but not limited to rim & invert

elevations (City of Newton Datum), slopes of pipes, pipe materials, and swing ties from permanent building corners. The as built shall be stamped by both a Massachusetts Registered Professional Engineer and Registered Professional Land Surveyor. Once the as built plan is received the Engineering Division shall perform a final site inspection and then make a determination to issue a Certificate of Occupancy. *This note shall be incorporated onto the final plans.*

7. All site work including trench restoration, sidewalk, curb, apron, and loam border (where applicable) shall be completed before a Certificate of Occupancy is issued. *This note shall be incorporated onto the final plans.*

8. The contractor of record shall contact the Newton Police Department 48-hours in advanced and arrange for Police Detail to help residents and commuters navigate around the construction zone.

9. If any changes from the final approved design plan that are required due to unforeseen site conditions, the contractor of record shall contact the design engineer of record and submit revised design and stamped full scale plans for review and approval prior to continuing with construction.

10. *The engineer of record shall add the following attestation to the plans when applying for a building permit:*

    I certify that the construction so shown was inspected prior to backfill and that all work conforms with the Approved Plan and meets or exceeds the City of Newton Construction Standards.

    _____

    Signature

Note: If the plans are updated it is the responsibility of the applicant to provide all City Departments [ISD, Conservation Commission, Planning 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 at 617-796-1023.