



July 9, 2019

Ms. Maria Morelli  
Senior Planner  
Planning and Community Development Department  
Town of Brookline  
333 Washington Street, 3<sup>rd</sup> Floor  
Brookline, MA 02445

RE: Supplemental Technical Review  
Proposed Mixed-Use Development  
1299 Beacon Street, Brookline MA

Dear Ms. Morelli:

The purpose of this letter is to provide an update, including newly received information and a summary of proposed project conditions, regarding the above-referenced development application. This letter was provided pursuant to the request of the Town of Brookline.

## Background

In April and May, 2019, Fuss & O'Neill performed a geotechnical peer review and provided testimony to the Brookline Zoning Board of Appeals (ZBA) in reference to the proposed development of the 1299 Beacon Street property (hereafter, the Site). During that peer review, Fuss & O'Neill identified multiple topics of concern, including questions of public safety in connection with the scale of the proposed project and certain activities, including loading and transport of displaced soil, which might affect the public way.

Following our testimony of May 1, 2019, Fuss & O'Neill has received and reviewed additional documents and plans associated with the proposed redevelopment of the Site. The submittals were prepared by GEI Consultants, Hass Construction Company, and others on behalf of the Applicant (Brighton Allston Properties, LLC).

In addition, Fuss & O'Neill's reviewer met with Town personnel and the Applicant's representatives on July 1, 2019 to review a draft Construction Management Plan (CMP), developed by Hass Construction Company in response to Fuss & O'Neill's comments.

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The objective of this letter is to present a summary of the project conditions as presented by the Applicant, and to identify general conditions which would serve the public interest if the project moves forward, based on representations prepared by the Applicant and design team.

## Building Program

We understand that the current building program includes an eight-and-ten story building with its primary entrance and frontage on Sewall Avenue, facing south. The building's two-story underground parking garage will be constructed on approximately 99% of the property footprint while the building would be set back from the Sewall Avenue frontage to allow for loading and traffic circulation. We note that the design has been scaled back from an original plan of nine-and-eleven stories, with four levels of parking.

The following building program was described by the Applicant in the July 1, 2019 CMP meeting:

- The proposed foundation installation method remains generally similar, in that the Applicant proposes a secant pile perimeter wall for both excavation support and permanent foundation walls.
- After the secant piles are installed, the Applicant proposes to excavate to foundation depth and install a foundation system. Cuttings from the excavation would be disposed off-site at a location(s) to be determined, based on an ongoing environmental testing program.
- While earlier geotechnical documentation focused primarily on a mat-slab foundation, a footing system is being considered for the building foundation, with a maximum depth of approximately 25 feet below grade. The footings would support a slab at a finished depth of approximately 22 feet below grade. The proposed footings would not intersect the seasonal high groundwater table which was reported by GEI at approximately 26 feet below grade, based on supplemental gauging data collected by GEI, and dewatering would only be used to clear rainwater or other surface inflows during the work.
- Rock excavation or removal is not anticipated based on the soil profile, which consists primarily of a combination of urban fill material and interbedded sand and clay.

The project as proposed has an estimated construction duration of two years, and an estimated start date in late 2020 or early 2021.

## Initial Findings and Project Evolution

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During Fuss & O'Neill's initial review, five primary topics were identified for further discussion and presented in the geotechnical testimony. Those topics are generally as follows:

- **Dewatering and Groundwater Management:** The original proposed foundation depth would have been approximately 15 feet below the groundwater table, requiring continuous dewatering during construction. Fuss & O'Neill had raised concerns regarding effluent discharge, migration of contaminants from nearby sites, and potential structural risks associated with impacts to abutting properties. The two-story proposal eliminates the groundwater table interactions, and would limit dewatering to short-term activities (e.g. to remove rainwater). GEI provided additional gauging data to demonstrate that the groundwater table stabilized below the proposed foundation depth. We note that dewatering and discharge from the site, if performed, should still be coordinated with the National Pollutant Discharge Elimination System (NPDES) Program.
- **Foundation Waterproofing:** The building program has been amended to sit above the water table, eliminating the need for continuous groundwater control. The existing details were coordinated with other elements of the design (e.g. foundation thicknesses were reflected appropriately on parking plans).
- **Building Loads and Design Parameters:** Fuss & O'Neill raised several technical questions with regard to the building design loads and geotechnical recommendations, which have been modified as a result of design changes. We reiterate our recommendation that the Applicant should perform a bearing capacity analysis and coordinate the final foundation design with the geotechnical designer. However, as noted during previous testimony, these items will be dependent upon the final design of the building and can be resolved during the building permit review process.
- **Abutting Property Impacts:** The proposed excavation would occupy effectively the entire property, leaving virtually no buffer between the excavation and neighboring properties and structures. The drilled secant pile walls could exert vibratory loads during installation, and could present potential structural risks to the nearby buildings, as well as public infrastructure. GEI provided testimony relative to the proposed means and methods for installation in this setting. The CMP and subsequent coordination meeting addressed this topic, as described below.
- **Soil Management and Public Safety:** Excavation for the proposed foundation cavity will generate approximately 13,000 cubic yards of soil for off-property disposal (down from 25,000 cubic yards for the original four-story foundation and parking garage). Fuss & O'Neill raised questions regarding traffic control, vehicle queueing, and public safety, as well as the environmental quality of the site, and the potential means of deep excavation

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(noting that the excavation is now significantly shallower and can be largely performed from ground-level). The CMP and subsequent coordination meeting addressed this topic, as described below.

Changes to the building program have largely mitigated the original concerns related to waterproofing and groundwater management, and the Applicant indicated that the building load questions would be resolved as the design progresses. The remaining items, related to abutting property impacts and soil management, are the focus of this review.

## CMP Review

Hass Construction Company, acting as the Applicant's Owner's Project Manager (OPM), prepared an initial Construction Management Plan (CMP) for the project, and met with the Applicant and representatives of the Town on July 1, 2019 to review it. The following technical points were generally discussed in the plan and subsequent meeting:

- Coordination of traffic control with public safety officials. The CMP proposes a barrier in Sewall Avenue and a controlled entrance / exit for construction vehicles, which would create a secured area along the frontage of Sewall Avenue. The sidewalk would be closed around the project site and police details would control vehicular access and manage traffic around the site. The police representative at the July meeting indicated that two detail officers would be required (at the developer's expense) and raised questions regarding Fire Department access, specifically ladder truck deployment. We recommend that as the project proceeds to permitting, a more detailed review of turning movements and vehicular access, including Fire Department equipment, be developed and incorporated into the CMP.
- Trucking and Hauling. The Applicant and OPM indicated that soil management would require approximately three to four months and would use a limited number of small-sized trucks (e.g. triaxle dump trucks, with 10-15 cubic yard capacity) to remove soil from the site. The anticipated trucking route would be from Longwood to Sewall Avenue, to Charles Street, to Beacon Street, progressing around the site in a counterclockwise manner. The small number of vehicles would reduce the likelihood of truck queues, and these smaller vehicles could, more so than larger trucks, better navigate the area around the site. However, this method would require a longer project duration, and could potentially impact project costs, or present logistical challenges related to seasonal operation of soil management facilities. We recommend that the ZBA capture an enforceable condition regarding the truck usage to ensure that hauling activities are managed in conformance with these expectations.

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- **Soil Quality.** The Applicant indicated that preliminary soil data was forthcoming and would be presented once available. The Applicant further indicated that they were prepared to take on the obligations for reporting and cleanup under the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000) if required based on the findings. We recommend that the ZBA capture an enforceable condition regarding the Applicant's obligations to evaluate the environmental quality of the Site, and address the associated regulatory requirements, potentially including environmental remediation obligations.
- **Work Hours.** The Applicant and Construction Manager indicated that the work would proceed during daytime hours (i.e. 7 am – 5 pm weekdays, with occasional Saturday work) except where necessary for deliveries, specifically the construction crane, which would potentially enter the site from Beacon Street. The Applicant further acknowledged that work would be scheduled to avoid conflicts with religious holidays in order to limit disruption to the nearby congregation. We recommend that the ZBA capture an enforceable condition regarding the Applicant's scheduled work hours.
- **Logistics and site preparation.** Building, health, and other officials provided commentary on the construction start requirements, specifically as it pertained to rodent control, abatement and demolition of the existing building, and existing drainage conditions identified by the Heath Department. With regard to worker parking and site logistics (e.g. construction office), the Applicant indicated that there is space available off-site, under the Applicant's control and in the vicinity of the project, specifically along Harvard Street. Because the project would close a traffic lane and eliminate multiple street parking spaces, we recommend that project approval be conditioned to require the Applicant to provide off-site parking (or on-site parking within the garage, once constructed) for the construction work force, to limit further reduction in street parking.
- **Overhead protection and crane usage.** The Applicant proposes to excavate and install a foundation for the elevator shaft, and then install a crane to construct the building structure. The CMP calls for roofing protection over the adjacent buildings, but does not describe the type of protection, or account for overhead movements over adjacent parking lots or other areas. We recommend that the CMP be amended to address these overhead risks and reviewed prior to the Town's building permit approval.
- **Foundation protection for adjacent structures during construction, with specific emphasis on the secant pile installation.** The Applicant committed to crack and vibration monitoring to a distance of 100 feet from the proposed installation, and (to the extent that access is granted), inspection of both interior and exterior foundations to ensure that the conditions are documented prior to construction and managed as necessary. This item has been proposed in concept both in the Applicant's geotechnical

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testimony and in the CMP. Fuss & O'Neill recommends that the foundation design and excavation support be prepared and stamped by a registered Professional Engineer, as part of the building permit process. We further recommend that the submittal addressing these items include additional detail regarding locations and types of "representative cracks" to be monitored (as referenced in the CMP under "Preconstruction Survey and construction monitoring") and corrective actions (with actionable levels) to be taken in the event of structural damage to nearby properties.

Fuss & O'Neill notes the following specific conditions and recommendations regarding the CMP:

- The CMP will continue to evolve as the project moves toward construction. The Applicant indicated that construction could begin in 2020, and we understand that the General Contractor (GC) has not been selected. During the July meeting, the Applicant indicated that the CMP would be incorporated into the GC's contract and become binding on the subcontractors performing the work. We recommend that ZBA incorporate conditions allowing the Town to reopen review of the CMP as the document evolves. We further recommend that the ZBA condition its approval of the project on the use of an approved form of the CMP at all times during the work.
- The CMP should present a conceptual phasing plan with estimated project durations and timelines prior to building permit approval. Public safety officials should be apprised of the expected project durations, and the project should be coordinated with potential improvements to the nearby intersections, which are in various stages of design and planning.
- The Applicant should confirm that utilities (e.g. storm drainage infrastructure, sewer connections) on the Site do not cross property lines prior to disconnection, or make arrangements to disconnect utilities appropriately. As discussed in the CMP meeting, electrical lines would be relocated to accommodate the construction project and will be coordinated with the utility as needed.

## Conclusions and Recommendations

The Applicant's design team has provided information related to the majority of Fuss & O'Neill's technical questions regarding the proposed foundation design and installation. To the extent that such questions remain (e.g. bearing capacity analysis), the additional information can be supplied as part of subsequent design and building permit review. The preliminary CMP provides detail on proposed construction means-and-methods issues which could pose public safety or environmental concerns. Those clarifications should be incorporated into any ZBA approvals as explicit conditions regarding the development proposal. Furthermore, the ZBA approval should allow for



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the evolution of the CMP and provide for continuing Town authority to manage the impacts to the affected public.

Sincerely,

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Project Manager

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Senior Vice President