Boston
Groundwater Trust

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October 16th, 2019

Raul Duverge, Senior Project Manager
Boston Planning & Development Agency (BPDA)
One City Hall Square
Boston, MA 02201-1007

Subject: 350 Boylston Street Notice of Project Change (NPC) Comments

Dear Mr. Duverge:

Thank you for the opportunity to comment on the 350 Boylston Street Notice of Project Change (NPC) located in the Back Bay. The Boston Groundwater Trust (BGwT) was established by the Boston City Council to monitor groundwater levels in sections of Boston where the integrity of building foundations is threatened by low groundwater levels and to make recommendations for solving the problem. Therefore, my comments are limited to groundwater related issues.

The project is located in the Groundwater Conservation Overlay District (GCOD) established under Article 32 of the Zoning Code. As stated in the original 2008 Draft Project Impact Report (DPIR) and confirmed again in the NPC, the project will meet the stormwater standards as required by the GCOD.

The project is located in an area where low groundwater levels have persisted. Historically Trust groundwater levels in this area along Arlington, Berkeley, Boylston, & Providence Streets and Saint James Avenue, have been in the El. 0' to 7' Boston City Base (BCB) range. Most recently levels in the immediate vicinity of the project site have dropped into the El. 2'to 4' BCB range. As stated in the 2008 DPIR the existing building to be demolished is supported on wood piles which range in cutoff elevations from El. 0' to (-3') BCB. According to record searches via the Inspectional Services Department (ISD) online database, most of the remaining structures on the southern side of Boylston Street, in the Arlington to Berkeley Street block, are supported on wood piles with cutoff elevations ranging from El. 2' to 5' BCB.

Our organization has worked diligently with local stakeholders who own underground infrastructure to identify potential cause(s) of these low groundwater levels. Thus far we have been unsuccessful in identifying any sources for the depleted groundwater levels in this area.

As stated in the 2008 DPIR response to comments section, the Proponent has and will continue to work with the Boston Groundwater Trust and the community in general, to monitor, maintain, protect, and improve (where possible) groundwater levels at and adjacent to the site. The Proponent will seek a license from the adjacent owners to enter the adjoining properties for the purpose of documenting and assessing the current condition of the adjoining properties in advance of the construction.

This block is one of the few blocks remaining where historical buildings have been preserved along Boylston Street. The block also serves as one of the gateways into the Back Bay so it is essential that the remaining buildings here are preserved. It would be very helpful and appreciated if the proponent maintains their commitment as stated above to help identify potential causes for these low groundwater levels. Conceivably work with existing building owners in the vicinity and conduct a survey to confirm the building foundation types. In addition, possibly call upon their project engineers to provide information (if available) from previous foundation investigations which may have been conducted by existing buildings in the vicinity. I would be more than willing to meet with the proponent to discuss this further and assist in developing a potential strategy moving forward.

Compliance with the GCOD requires both the installation of a recharge system and a demonstration that the project cannot cause a reduction in groundwater levels on site or on adjoining lots.

The project (as proposed in the 2008 DPIR and reconfirmed in the NPC) includes three levels of underground parking. The 2008 DPIR states that the construction of the underground parking structure and building foundations will require an excavation extending to the limits of the property from current ground surface (El. 18' to El. 14') to El. (-25') to El. (-28'), which corresponds to an average depth of about 43-ft. below current ground surface. The bottom of the excavation is anticipated to terminate within the Marine deposits, the design bearing strata for the new building's foundation system. The foundation system selected for the new building will be comprised of a reinforced concrete strip footing foundation constructed around the inside perimeter of the new building footprint in combination with a reinforced concrete strip footing foundation within the central core area of the new building footprint.

In advance of the excavation and foundation construction, a lateral earth support system will be installed around the perimeter of the entire site to control the limits of the excavation, avoid adverse impacts to adjacent properties, control groundwater seepage, and maintain current groundwater levels outside the excavation.

The 2008 DPIR states that although the wall system has not yet been selected, it will likely consist of a continuous reinforced concrete diaphragm wall ("slurry wall") installed from ground surface and sealed down into the relatively impervious clay soils below the bottom of excavation. The perimeter lateral earth support wall system shall also serve as the permanent below grade foundation walls for the underground parking garage.

The 2008 DPIR also states following installation of the perimeter excavation support wall, and in advance of the underground garage excavation, the Project will construct an underground drainage gallery adjacent to and outside the south excavation support wall, beneath Providence Street. The drainage gallery will be designed to receive and discharge water (by gravity) into the near surface fill soils.

As stated in the 2008 DPIR, performance criteria will be established for protection of groundwater levels in the vicinity of the Project. The contractor will be required to modify construction methods and take necessary steps during the work to not lower groundwater levels outside the limits of the site. Geotechnical instrumentation will be installed and monitored during the below-grade portion of the work to observe the performance of the excavation, adjacent buildings and structures, and area groundwater levels. Groundwater observation wells will be monitored prior to and during construction activities. When construction begins, groundwater observation wells will be monitored regularly for the duration of the below-grade construction period.

Prior to the issuance of a building permit, the Proponent will provide the BPDA and the Trust a letter stamped by a professional engineer registered in Massachusetts that details how the Project will meet the GCOD requirement for no reduction in groundwater levels on Site or on adjoining lots.

The 2008 DPIR also states that if feasible, one groundwater monitoring well may be installed in the sidewalk and in the public right of way to document existing groundwater levels. The new well will be installed in accordance with City and Trust standards for permanent groundwater monitoring wells. I anticipate on coordinating with the proponent on selecting a potential location for this well.

I look forward to continuing to work with the proponent and the Agency to assure that this project can have only positive impacts on area groundwater levels.

Very truly yours,

Christian S. Simonelli

Christian Simonelli
Executive Director

CC: Kathleen Pederson, BPDA
Maura Zlody, EEO