

# Boston Groundwater Trust

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June 13<sup>th</sup>, 2019

Tim Czerwienski, AICP Project Manager  
Boston Planning & Development Agency  
One City Hall Square  
Boston, MA 02201-1007

**Subject: Boston University Data Sciences Center Draft Project Impact Report (DPIR) Comments**

Dear Mr. Czerwienski:

Thank you for the opportunity to comment on the Boston University Data Sciences Center Draft Project Impact Report Comments (DPIR) located in the Fenway. The Boston Groundwater Trust 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 document and confirmed at the scoping session, the project will be designed and constructed to comply with the requirements of Article 32.

As stated in the document the proposed building has a 2-level deep basement on the west side of the Site and a 1-level deep basement on the east side of the site. The excavation depths vary from approximately 45-ft. on the west side of the Site to approximately 22-ft. on the east side. There will be locally deeper excavations for pits, such as elevators.



The 5-story building podium on the east side of the site has one basement level below grade. The foundation below the building will consist of a reinforced concrete mat foundation that is fully waterproofed. The mat foundation will be soil bearing in the naturally deposited sand unit. The proposed tower on the west side of the Site has 2 basement levels and this structure will also be supported on a continuous reinforced concrete, soil bearing, mat foundation. This deeper mat foundation will bear in the marine clay deposit.

All basement walls that extend below the groundwater level, and also the mat slab, will be fully waterproofed. The structure will not cause the groundwater to raise, pond, or be lowered in the surrounding area.

The document also states that a temporary lateral earth support system will be required to complete the excavation for the below grade space. The earth support system will be a relatively impermeable wall such as continuous interlocking steel sheet piles. The excavation support wall will be laterally braced with 1 to 2 or 3 levels of bracing during construction. The proposed approximately 45-ft. deep excavation on the west side of the site will result in surrounding soil movements. Street surface settlements of typically 1 inch are anticipated within approximately 30 feet of the excavation support wall. The excavation performance and street settlements will be monitored during construction with a geotechnical instrumentation program to evaluate if the performance coincides with the design assumptions. Corrective actions such as limited excavation areas or additional bracing will be implemented if measured movements exceed design phase estimated movements.

The excavation support wall will extend into the underlying marine deposits (clay) to create a groundwater barrier around the perimeter of the Site. Temporary construction dewatering will be required inside the limits of the excavation support wall. Groundwater drawdown outside the limits of the excavation will be controlled by the continuous interlocking steel sheeting that will be used for temporary excavation support. Any leaks or holes in the sheeting that are revealed during excavation will be plugged or grouted in the field or prior to excavation, if known.



Prior to the issuance of a building permit, the Proponent will provide the BPDA and the Boston Groundwater 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.

As stated in the document a geotechnical monitoring program will be implemented prior to and during construction and will likely consist of settlement monitoring of adjacent buildings. The Proponent will coordinate with the Trust regarding groundwater monitoring prior to and during construction. One groundwater monitoring well may be installed to document existing groundwater levels and hydrogeologic conditions. If required, the new well will be installed prior to the start of construction and will be installed in accordance with City and Trust standards for permanent monitoring wells. The well will be installed at a location where it will be accessible for long term monitoring.

As stated at the scoping session, the Proponent will coordinate with the Trust to ensure Trust observation well #23H-2374, located on Commonwealth Avenue in the sidewalk, adjacent to the project site, will be preserved throughout the entire construction process.

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 Simonelli  
Executive Director

CC: Kathleen Pederson, BPDA  
Maura Zlody, EEOS

