



City of Cambridge
Department of Public Works

147 Hampshire Street
Cambridge, MA 02139
theworks@cambridgema.gov

Owen O'Riordan, Commissioner

Voice: 617 349 4800
TDD: 617 499 9924

December 5, 2015

TO: Planning Board

FROM: Katherine F. Watkins, PE
City Engineer

RE: PB #319, 605 Concord Avenue

We are in receipt of the Planning Board Special Permit submission for 605 Concord Avenue, dated September 6, 2016. The DPW has met with the Applicant and their consultant team to review the proposal for the work. The Applicant and their consultant team have demonstrated an understanding our Department's requirements for development projects and have indicated a willingness to work with the DPW to meet the requirements.

Generally, the DPW, based on the provided documentation, does not anticipate the project having any issue meeting all of the requirements of the DPW with the understanding that the project will be subject to a thorough and complete engineering review at the time of the Building Permit Application. Issues that need further development have been highlighted below.

20.90 Alewife Overlay District

The Applicant has submitted stormwater calculations, but needs to specifically address two additional requirements.

- 1. 25 to 2 Requirement: This is a Cambridge specific requirement that the post-development discharge hydrograph for the 25-year 24-hour rainfall event must be less than or equal to the 2-year 24-hour rainfall event pre-development. The difference in the runoff volume must be stored or recharged on site. The Applicant has stated that they meet this requirement, but the calculations need to be reviewed by DPW.*
- 2. 65% of phosphorous removal from stormwater. This is a Cambridge specific requirement to ensure that development projects improve the water quality of our receiving waters, the Alewife Brook and the Charles River. The Applicant has not addressed this requirement, but has committed to doing so.*

These requirements are typically met through a variety of measures: infiltration systems, porous asphalt, bio-retention areas (including rain gardens), green roofs, proprietary media filters, deep sump catch basins, on-site stormwater storage, etc. Regular maintenance and documentation is required to ensure that the improvements continue to function as designed.

The Applicant has requested reduction of the permeable area as of right pursuant to Section 20.96.1 with certification by the City Engineer. The project proposes to increase permeable area on the site from 2,559 to 3,648 sq ft (16.8% of the lot). This increase in permeable area does not meet the 25% requirement in Section 20.96.1, but the project proposes to make significant stormwater management improvements on the site. There is currently no stormwater management system on the parcel in the existing condition and all stormwater is currently discharged uncontrolled off of the site. The project design demonstrates that the proposed 25 year 24 hour peak discharge rate (1.13 cfs) is less than the existing 2 year 24 hour peak discharge rate (1.49 cfs). The design also includes a 6,600 gallon stormwater detention system with outlet control.

The Applicant has indicated that the proposed project will meet the ten stormwater management standards in Section 3 of the Concord–Alewife Area Stormwater Management Guidelines.

Recommendation / Additional Information: Because of the extent of the proposed stormwater improvements, DPW recommends an as of right reduction of the permeable area requirement. Through the Building Permit Application, the Applicant must demonstrate how they are meeting the 25:2 and 65% phosphorous removal requirements.

Climate Change / Resiliency:

DPW shared the anticipated flood elevations for 2030 (19.56 CCB) and 2070 (22.46 CCB) with the Applicant. The key electrical systems are located above the 2070 elevations. The building entrances are currently designed at elevation 21.66 CCB; above the 2030 elevation, but below the 2070 elevation. The Applicant has committed to bringing the entrances above the 2070 elevation to ensure the building can be properly protected from future Sea Level Rise / Storm Surge flooding events. The Applicant has also committed to evaluating the existing utilities located in the basement of Phase 1 to determine what measures can be taken to improve their resiliency.

Recommendation / Additional Information: Through the Building Permit Application, the Applicant must provide detailed grading plans showing the building entrances and all key mechanical equipment are located above the 2070 anticipated flood elevations.

We look forward to working with the Applicant and other City Departments on this project. Please feel free to contact me with any questions or concerns related to the comments or information provided above.

Sincerely,



Katherine F. Watkins, P.E.
City Engineer