

Permitting Submission

Biogen Building 8 – Tanks & Enclosure

125 Broadway | Cambridge, Massachusetts

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Prepared for Applicant

Biogen
125 Broadway
Cambridge, MA 02142

Prepared by

SMMA
1000 Massachusetts Ave
Cambridge, MA 02138

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Project Overview

Project Description

The project site is located at 125 Broadway in Cambridge, Massachusetts and is approximately 1.7 acres. The site is bound by Galileo Galilei Way to the west, West Service Drive to the east, and mixed-use high-rise developments directly to the north and south. Refer to Figure 1 for a locus map. Biogen's Building 8 occupies much of the project site, open space exists directly north of the building providing pedestrian walkways, a large plaza, children's play structure, and various planted areas. Refer to Figure 2 for an existing conditions aerial map.

The project includes installation of a new oxygen (O₂) tank and replacement of an existing carbon dioxide (CO₂) tank. The building has currently met the maximum allowable limits using bottled and dewatered O₂. The new O₂ tank is a capacity improvement, will provide bulk storage, and also remove storage from within the building. A new CO₂ tank is proposed to replace an existing bulk tank. The existing CO₂ tank was located within the existing loading dock and experienced failure in December 2021 due to over-pressurization. The proposed location meets current code requirements and will continue to provide bulk CO₂ storage.

Each tank will also require various manifold and vaporizer equipment to be in close proximity. The tanks are proposed to be placed immediately adjacent to and along the building with their associated equipment located to the south and east. This layout is preferred because it locates the tallest elements (tanks) as close to the building as possible given locations of the existing air intakes and louvers nearby. The layout of the tanks and equipment will all be located within the enclosed area as shown (20.5' x 23.5') and will occupy approximately 500 square feet (0.01 acres) of the property. The enclosure will be located on the southern area of the site directly adjacent to the building and existing loading dock and enclosed on three sides. The area is currently mulched with four shrubs and in the proposed conditions would be concrete. Refer to Figure 3 for a proposed site plan and section.

As described above, open space for the parcel is primarily located on the north side of the building therefore the proposed location of the tanks maintains this large space. The project team did initially explore alternative locations; however, they were eliminated due to the impact on open space, access requirements for maintenance, and maintaining existing piping within the building.

An initial comment from the Cambridge Redevelopment Authority (CRA) raised the question of whether this pad and its enclosure could be moved further into the site and off of the roadway edge. It was originally thought that this might be possible as there is a small (2'-6" wide) stone strip between the pad and an existing underground areaway. Upon further evaluation, SMMA has determined that the pad/enclosure cannot be moved from where it currently is proposed as doing so would cause the fire rated wall portion of the west enclosure to intrude upon the exhaust fan/louver opening and nullify the protection provided by the wall.

Visual Mitigation

The project proposes to screen the tanks and associated equipment by a visual screen on the south and east elevations. The west elevation will be made up of a portion of fire rated masonry wall, required due to the tank's location to an existing 34-inch by 34-inch exhaust louver and fan, which is within the 10'-0" clearance requirement for these two elements, with the remainder being a visual screen like at the south and east elevations. The visual screen will be 10-feet tall and will be made from perforated metal panel with a decorative applique and 4-inch square aluminum posts. Originally, the applique has been imagined to mimic that of a recent installation of a similar screen at Biogen's Building 6 at 115 Broadway, pictured below, Biogen is open to

working with CRA on developing alternative graphics to suggest more natural or organic appearance than was used at B6.

Green screens were initially explored as an option for screening; however, were quickly eliminated mainly because the type of screen that would allow for vegetation would also allow ability to climb up the screen and into the secure area of the tanks and equipment. In addition, there is limited opportunity to plant adjacent to the enclosure due to the existing walkways to the south and east.



Tank Enclosure at Biogen Building 6, 115 Broadway, Cambridge

A 10-foot-long portion of the west elevation closest to the building will consist of the fire rated wall, approximately 15.5-feet in height, comprised of decorative concrete masonry block where exposed to view. This wall is required to be fire rated because of the proximity to an existing louver/exhaust fan and will provide required separation from the tank and vaporizer to the louver.

Existing vegetation in the vicinity of the enclosure will be relocated between the tank enclosure and the existing pedestrian path to serve as an additional buffer. A dead oak tree identified by CRA further west along the existing pedestrian walkway will also be replaced in kind as part of the overall mitigation strategy.

Renderings of the project's screens are included on Figure 4, including options for a few alternative applique designs.

Maintenance Requirements

The tanks will be maintained by AirGas and will include refilling. Access to the enclosure will be from the West Service Drive, but a secondary doorway is proposed along the west elevation to provide an alternative means of egress for personnel who may be conducting maintenance inside the enclosure.

Based on Biogen's use, it is anticipated that the tanks will be refilled once every 2 weeks or twice per month. A refueling truck will pull up adjacent to the enclosure from the access road via Broadway, and the truck's hose will connect directly to a common fill box with separate connections for each tank. Refilling will be scheduled to occur during off-business hours, from approximately 8:00pm – 4:00am. There is no discernible(?) noise

associated with the refilling operation. As described above, the CO₂ tank that was previously located within the loading area had been refilled by this truck at this location and on a similar schedule.

A pair of steel bollards exist on either side of the pedestrian walkway just south of the project site. The project proposes steel bollards spaced 3' to 4' O.C. to continue along the existing curb line to for additional protection of the tanks and enclosure.

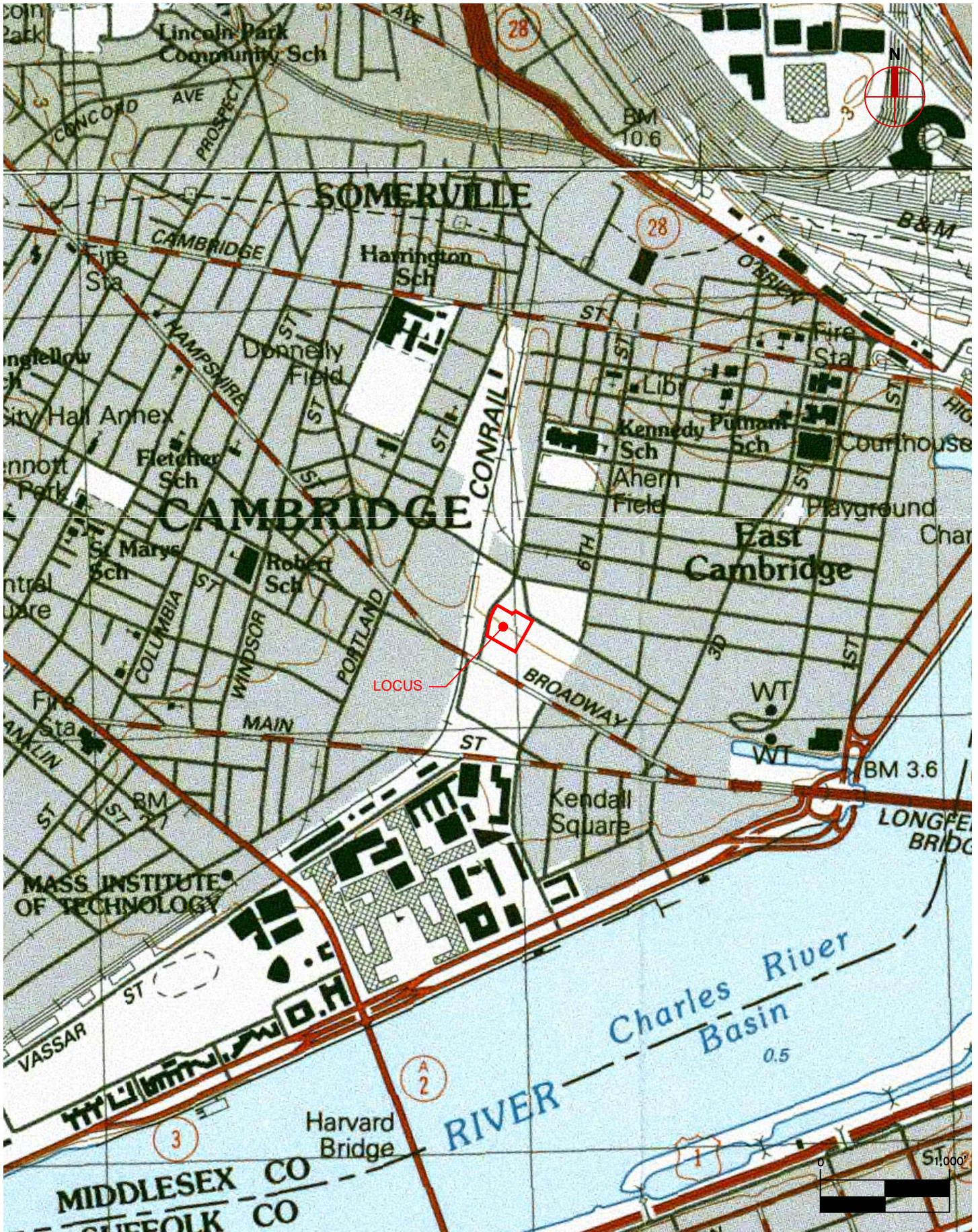


FIGURE 1: LOCUS MAP

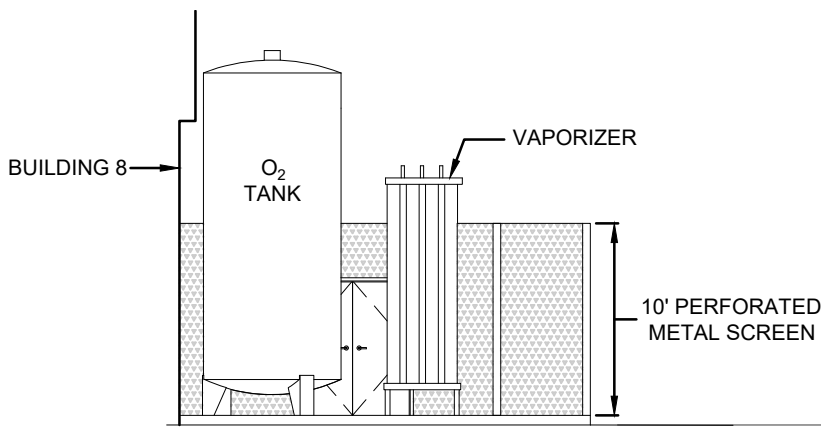
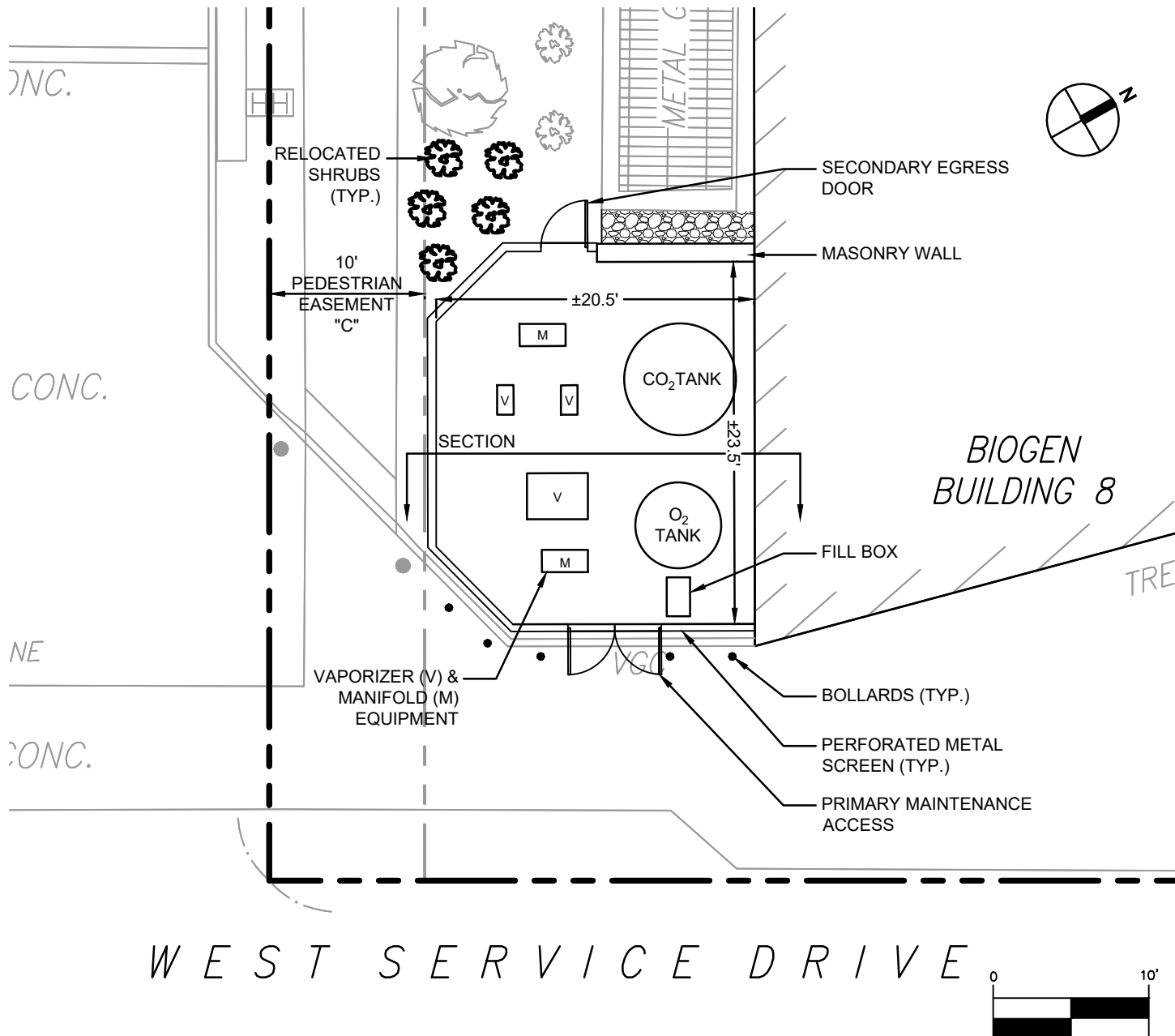
FIGURE 1: LOCUS MAP

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BIOGEN BUILDING 8 - TANKS & ENCLOSURE
FIGURE 2: EXISTING CONDITIONS AERIAL MAP

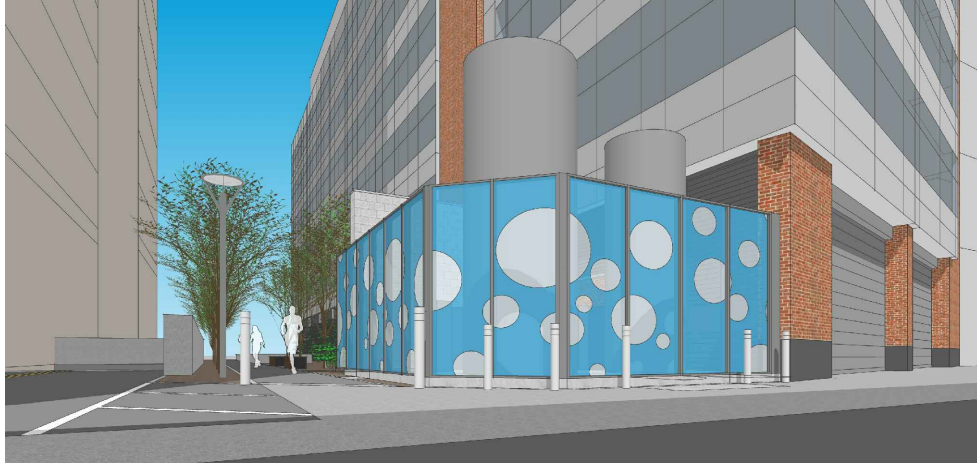
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BIOGEN BUILDING 8 - TANKS & ENCLOSURE
 FIGURE 3: PROPOSED SITE PLAN & SECTION

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VIEW FROM WEST SERVICE DRIVE:



GRAPHICS OPTION A: BLUE BUBBLES



GRAPHICS OPTION B: TREE PATTERN



GRAPHICS OPTION C: SINGLE COLOR (GREEN)