

35 CAMBRIDGE PARK DRIVE

SPECIAL PERMIT APPLICATION

SUPPLEMENT | 11.08.16



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CITY OF CAMBRIDGE, MASSACHUSETTS

PLANNING BOARD

CITY HALL ANNEX, 344 BROADWAY, CAMBRIDGE, MA 02139

SPECIAL PERMIT APPLICATION • COVER SHEET

In accordance with the requirements of the City of Cambridge Zoning Ordinance, the undersigned hereby petitions the Planning Board for one or more Special Permits for the premises indicated below.

Location of Premises: _____
Zoning District: _____
Applicant Name: _____
Applicant Address: _____
Contact Information: _____
Telephone # _____ Email Address dangelucci@thedaviscompanies.com Fax # _____

List all requested special permit(s) (with reference to zoning section numbers) below. *Note that the Applicant is responsible for seeking all necessary special permits for the project. A special permit cannot be granted if it is not specifically requested in the Application.*

8.11	
8.22.2a	Alteration of a pre-existing nonconforming use
20.95.1.5	1.75 FAR for non-residential use
20.95.34	Waiver of Yard Requirements
20.73	Flood Plan Overlay District Special Permit
20.96.1	Reduction in Permeable Area

List all submitted materials (include document titles and volume numbers where applicable) below.

Project Narrative; Dimensional Form; Ownership Certificate; Supporting Statement; Photographs; Survey; Site Plan; Elevations; Floor Plans; Landscape Plan; Engineer's Report

Signature of Applicant: _____

For the Planning Board, this application has been received by the Community Development Department (CDD) on the date specified below:

_____ Date

_____ Signature of CDD Staff

Cambridge Planning Board
344 Broadway
Cambridge, MA 02139

November 7, 2016

**Re: 35 Cambridge Park Drive
Planning Board Case #314**

Dear Members of the Planning Board:

On behalf of the Davis Companies, I am pleased to submit the enclosed supplement to our Special Permit application. Since we last appeared before the Board on August 2, we have been working closely with the staff at the Community Development Department and other City agencies to address the issues and concerns expressed by the Board. I am pleased to report that we have made considerable progress on a range of topics.

The Conservation Commission held a hearing on our project on September 26 where they commented favorably upon our Flood Plain Special Permit application and voted to issue an Order of Conditions. In addition, our civil engineers have held meetings with the Department of Public Works and have provided all requested calculations regarding the Stormwater Management Practices to be employed at the Project. We have been advised that DPW will be updating its July memorandum, reflecting the results of those meetings.

Similarly, our traffic engineer has completed all of the traffic analysis requested by the City's Traffic, Parking and Transportation Department. We are in the process of finalizing a series of TDM and mitigation measures. Our expectation is that a memorandum from TP&T will be forthcoming, memorializing those items.

In addition, we have spent considerable effort on modifications to the site plan that incorporate the Board's recommendations concerning vehicle access and pedestrian circulation at this important corner. Finally, the building design has been given considerable attention, with a particular focus on the feedback provided by the Board concerning the rooftop mechanical equipment and the building facades.

We are grateful to the staff at the Community Development Department for the amount of time they have spent working with our architects on exploring these modifications. We look forward to reviewing all of this with you on September 22nd.

Very truly yours,



Brian Fallon

President, TDC Development Group

LLC



PROJECT NARRATIVE

35 CAMBRIDGE PARK DRIVE

SITE IMPROVEMENTS

In response to the clear direction provided by the Planning Board regarding the original site design that maintained the existing curb cut and driveway on Cambridge Park Drive, as well as the surface parking for handicap vehicles, this area of the site has been completely redesigned. The curb cut will be eliminated and the driveway and surface parking have been removed. This change, when combined with the removal of several large pieces of mechanical and electrical equipment, will result in significant public realm enhancements and increased permeable area at this prominent corner of the site. The existing asphalt pavement in this location has been replaced with pervious hardscape and landscape elements, including multiple rain gardens, clusters of shade trees, outdoor seating areas and street furniture to enhance the pedestrian experience. A significant bioswale, comprised of flood tolerant perennials and groundcover and containing a significant tree grove, is also located at this corner, offering pedestrians an opportunity to interact with nature as they enter the site while providing a welcoming expression at the entrance of Cambridge Park Drive. Permeable wood decking is located adjacent to the ground level retail use (which is approximately 7,500 SF) to encourage outdoor seating and to provide pedestrians with an opportunity to receive shade from the existing and proposed street trees. This retail edge, in concert with the public realm enhancements and building articulation at the ground level, will create an active urban streetscape along Cambridge Park Drive.

To the east of the building, the existing accessible van parking spaces and the existing outdoor loading area (both which currently face Steel Place) will be relocated. A compact driveway to provide access to two new loading bays (one outdoor bay to the north of the building which will be fully obscured by the building mass, and one interior loading bay which will be concealed by overhead doors) will be accessed by a new curb cut facing Steel Place. This driveway will also provide access to the relocated accessible van spaces, which are proposed to be located within the building adjacent to the east building entrance. The vehicular access area will be heavily screened by groves of shade trees and planting elements facing Steel Place and Cambridge Park Drive. The parking garage layout has been modified to accommodate all vehicular ingress and egress through an expanded curb cut at Steel Place, eliminating the need to accommodate any vehicular access from Cambridge Park Drive. Long term bicycle parking (to accommodate approximately 60 spaces) and associated amenities to promote cycling will be located in the existing garage adjacent to the north building entrance. Short term bicycle parking will be provided adjacent to the building entries and retail spaces at the south and east edges of the site to accommodate 18 bicycles.

BUILDING DESIGN

The building's proposed massing and façade expression have been simplified and special care has been given to minimize the impact of the mechanical penthouse on the building's massing. The mechanical penthouse is no longer emphasized as a vertical design feature at the southeast corner and has been set back considerably from the building façade to treat it as a secondary design element. A significant "notch" is provided at the center of the mechanical penthouse to mitigate its length along Cambridge Park Drive.

This "notch" extends the full height of the building and is aligned with the main building entrance on Cambridge Park Drive, which not only emphasizes this important element but also serves to break the south elevation into two distinct volumes. These volumes are no longer expressed as having two different "attitudes"; but now present a unified and singular expression facing Cambridge Park Drive. The primary façade facing Cambridge Park Drive is comprised of a glass curtainwall assembly to offer a high level of transparency. Vertical accent fins with a warm "copper" finish (consistent with accent elements elsewhere on the building) introduce a varied rhythm to this façade to further break down the scale of the glass volumes. This glazing also wraps the east and west corners before transitioning to a more opaque façade expression comprised of pre-cast concrete panels with generously sized "punched" window openings. Several of these openings contain

a vertical accent feature which reflects a similar rhythm and finish as the accent fins employed at the glass curtainwall. The pre-cast concrete panels use a clear joint pattern to break down the scale of the material, offering an opportunity to provide complementing variances in color, texture and pattern. This treatment also extends to the north elevation above the renovated “link” which connects the building to the garage. Though different in terms of material, the two façade treatments share a common language of scale, proportion and pattern to offer a unified design expression. At the ground level, the retail edge will employ large areas of glazing which frame inset entry areas. Vertical fins and opaque materials (with a consistent “warm” finish) are incorporated into the façade to break down the areas of glazing to reinforce a comfortable pedestrian scale. Both building entrances will have an articulated canopy to mark these points for pedestrians.

GARAGE DESIGN

In addition to reconfiguring the parking layout and modifying the existing curb cut on Steel Place to accommodate a single point of access and egress into the garage, the façade facing Steel Place will be enhanced. Perforated and corrugated metal panels will be applied to this façade (as well as the façade that returns towards the building) to eliminate visual access to the garage’s interior, but to also offer a more pleasant environment for pedestrians traversing Steel Place. These panels will be oriented vertically on the façade and will be expressed in a color palette that is complementary to the building’s materials.

DIMENSIONAL FORM

Project Address: 35 Cambridgepark Drive

Application Date:

	Existing	Allowed or Required (max/min)	Proposed	Permitted
Lot Area (sq ft)	106,095 SF		106,095 SF	
Lot Width (ft)				
Total Gross Floor Area (sq ft)	137,635 SF	185,666 SF	184,814 SF	
Residential Base				
Non-Residential Base			184,814 SF	
Inclusionary Housing Bonus				
Total Floor Area Ratio				
Residential Base				
Non-Residential Base	1.30	1.75 *	1.75	
Inclusionary Housing Bonus				
Total Dwelling Units	N/A	N/A	N/A	
Base Units				
Inclusionary Bonus Units				
Base Lot Area / Unit (sq ft)				
Total Lot Area / Unit (sq ft)				
Building Height(s) (ft)	51'-4"	85'-0"	69'-0"	
Front Yard Setback CPD	17'-4"	15'-0" *	16'-0" **	
Front Yard Setback Alewife	varies	15'-0" *	51'-4" **	
Side Yard Setback	varies	waived *	9'-2" **	
Side Yard Setback	0'-0"	waived *	0'-0" ***	
Open Space (% of Lot Area)	10,365 SF (10%)	15,914 SF (15%)	23,522 SF (22%)	
Private Open Space	N/A			
Permeable Open Space	10,365 SF (10%)	26,524 SF (25%)	17,571 SF (17%)	
Other Open Space (Specify)				
Off-Street Parking Spaces	351	177 min.	331	
Long-Term Bicycle Parking	20	55	58	
Short-Term Bicycle Parking	0	14	18	
Loading Bays	1	2	2	

Use space below and/or attached pages for additional notes:

- * upon the issuance of a Special Permit
- ** setback varies - see plans
- *** existing building to remain



To: Cambridge Planning Board

Date: October 15, 2016

Memorandum

Project #: 13511.00

From: William Nichols, PE
Howard Moshier, PE

Re: 35 Cambridgepark Drive Redevelopment
Preliminary Stormwater & Floodplain Overlay District
Impact Summary – Revision 2

Based on a review of the Federal Emergency Management Agency (FEMA) maps and current topographic information, a portion of the Project site is located in the Flood Plain Overlay District. This memorandum serves to summarize the Project's expected impact on flood plain issues as identified in City of Cambridge Zoning Article 20.70 – Flood Plain Overlay District. This memorandum also summarizes the Project's stormwater management objectives. Included herein are the following:

- Description of flood plain elevations;
- Description of existing and proposed site surface conditions;
- Stormwater approach narrative;
- Compensatory storage narrative

The Project is providing the detailed landscape plan separately in the Special Permit Application.

Flood Elevations

A portion of the site is located within the limits of the Special Flood Hazard Area designated as Zone AE according to the Middlesex County Flood Insurance Rate Map (#25017C0419E dated June 4, 2010) issued by FEMA, and as determined by a field survey performed by Otte & Dwyer, Inc. in June 2016. The current 100-year flood elevation is +7 NAVD88 (EL. +18.66' Cambridge City Base (CCB)) and is presented in Figure 1. Cambridge Department of Public Works (CDPW) provided preliminary estimated 100-year flood elevations for design year 2030 (EL. +19.10' CCB) and 2070 (EL. +22.50' CCB). The design year 2030 100-year flood plain limit is shown on Figure 1. As noted on Figure 1, the current 100-year flood elevation limit based on field-measured elevations varies from the limits shown on FEMA mapping. For the purposes of all discussions herein (unless otherwise noted), impacts are measured based on the surveyed current 100-year flood elevation of +18.66 CCB.

Site Surface Conditions

Under existing conditions, the project site is primarily occupied by building roofs, paved areas, and a garage structure planned to remain. Figure 2 attached presents an overview of the pre-development pervious and impervious surfaces. Figure 3 presents the currently proposed post-construction surface condition. As indicated below in Table 1, the redevelopment project is currently proposing a net *increase* of pervious surface area. This change is expected to reduce stormwater rates and volumes from current conditions.

\\MABOSDATA\projects\13511.00 Davis 35 CambridgeparkDr\docs\Permits\Special Permit\mnr\Special_Permit_v3_10-15-2016.docx

W. Nichols
10.17.2016





Table 1: Site Surface Area Summary

	Pre-development (sf)	Post-development (sf)	Change (sf)
Impervious Surface Area	95,457	88,521 (Rev 2)	-6,936 (Rev 2)
Pervious Surface Area	10,635	17,571 (Rev 2)	+6,936 (Rev 2)

Stormwater Management Approach

The Project developed a conceptual stormwater management and grading approach to better understand the Project's impacts on stormwater quantities. Figure 4 provides the conceptual site plan.

As proposed, stormwater runoff from roof areas, ground level paved and plaza areas is expected to be collected and routed to a detention system as shown on Figure 4. Existing geotechnical conditions do not allow for substantial infiltration meeting Cambridge DPW guidance. Therefore, in order to provide stormwater quality benefits, the Project, as shown attached, proposes overflow from the detention system to be routed through a proprietary treatment device.

At this time the proposed site plan has been reviewed and approved by the Cambridge Conservation Commission; however, it is still under review by CDPW. During the permitting process, it is conceivable that the proposed detention system could take other forms. As the Project's design progresses, the Proponent will continue to work with CDPW in selecting a design that is acceptable and meets CDPW requirements.

With the incorporation of stormwater management controls and the reduction of imperviousness in the developed condition, the Project is expected to result in an overall decrease in stormwater runoff from the 2-year, 10-year, and 25-year design storm events. The current condition runoff estimates are summarized in Table 2 below. Please note that the existing garage on site is expected to remain and no significant modifications to the garage are proposed.

The Project is also considering the construction of a bio-retention area along Steel Place (see Figure 4), formerly Cambridge Park Place. This bio-retention area would provide further stormwater benefits (both quantity and quality). The Project is still conducting geotechnical evaluations and existing tree evaluations to determine the feasibility of this feature and will include in subsequent CDPW filings as applicable.



Table 2: Existing Peak Flow Rates

Storm Event	Peak Flow Rates (CFS)
2-yr	7.60 (Rev 2)
10-yr	11.68 (Rev 2)
25-yr	14.85 (Rev 2)

Compensatory Storage Impacts

Figure 4 provides conceptual surface grading for the area east of the building, including the site that will be created by the removal of part of the existing building. In this area, the proposed grades represent an anticipated increase in flood plain storage. As discussed earlier, the Project is contemplating an excavation along the easterly side of the site to construct a bio-retention area; proposed grades in this area are included in Figure 4.

The existing garage has below-grade space that appears vulnerable to storm events exceeding the current 100-year flood elevation. In the future, under projected 100-year flood elevations, the lower level of the garage has space unoccupied by parking that would provide additional compensatory storage.

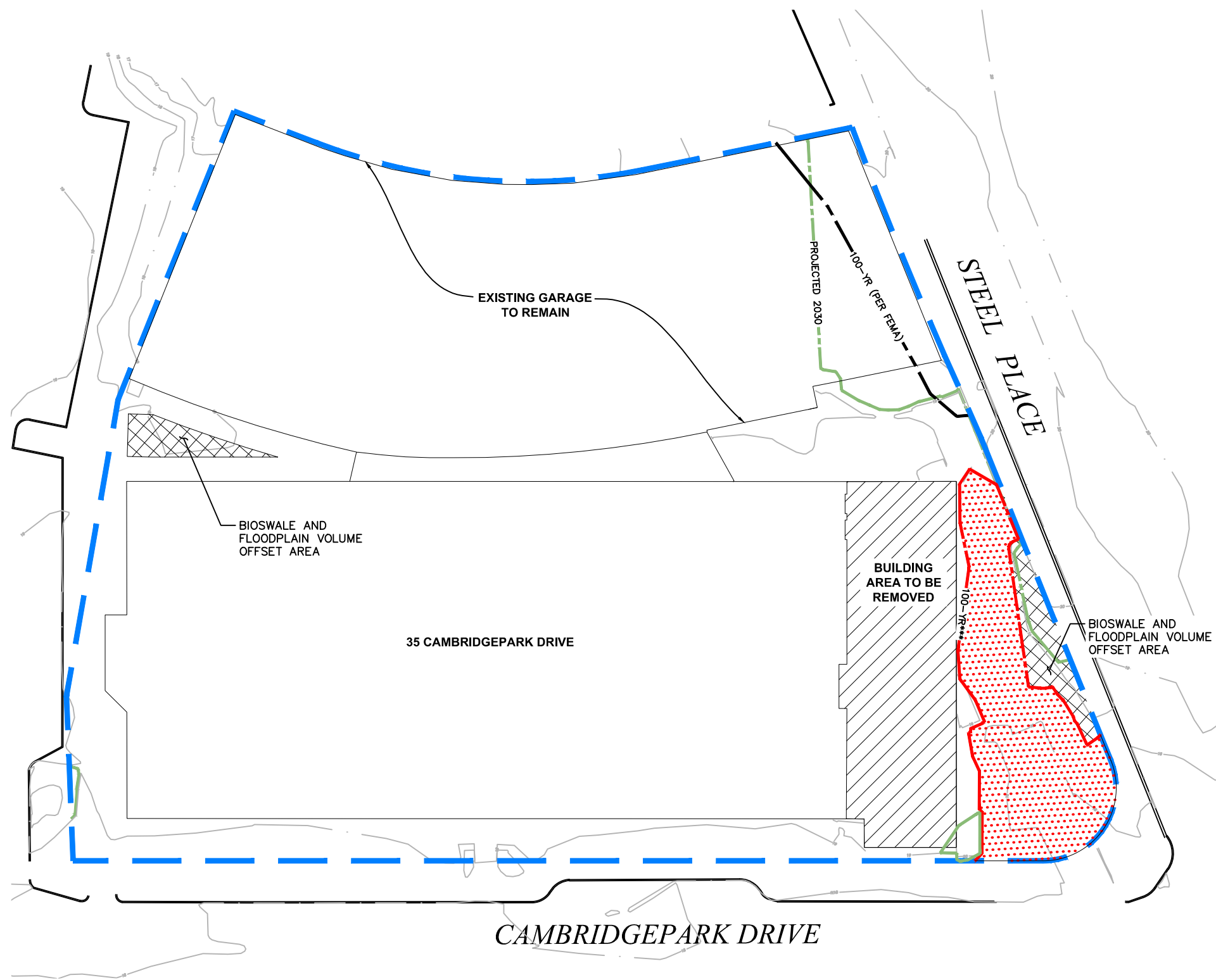
Lastly, the proposed Project is removing part of the existing building. This removal will allow the Project to provide a limited amount of additional compensatory storage under current conditions. However, if flood plain elevations increase as projected by CDPW, the removal of the building will provide additional future flood plain storage.




Cambridge DPW and Conservation Commission

The project has submitted this information included herein to the Cambridge Conservation Commission and CDPW. The filings were prepared by a Massachusetts registered professional engineer and demonstrate that any encroachment of the floodway does not result in an increase in flood levels during the occurrence of the current 100-year flood. At this time, the project has approval from Cambridge Conservation Commission; however the project is still under review by the CDPW.

Summary

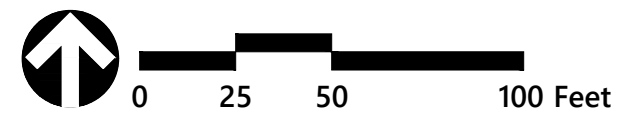
A portion of the Project site has surface elevations below the FEMA published current 100-year flood elevation. As currently proposed, the Project is expected to increase pervious surfaces, creating a stormwater benefit and reducing the Project site's contribution to the flood plain. With the implementation of stormwater management features such as bio-retention areas and a detention system, the Project is expected to further reduce stormwater runoff and improve runoff water quality. The Project's proposed grading and removal of a portion of the existing building is expected to increase the flood plain storage volume within the site limits.

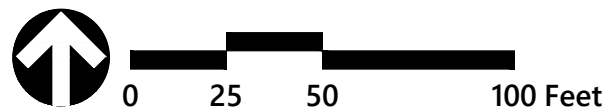
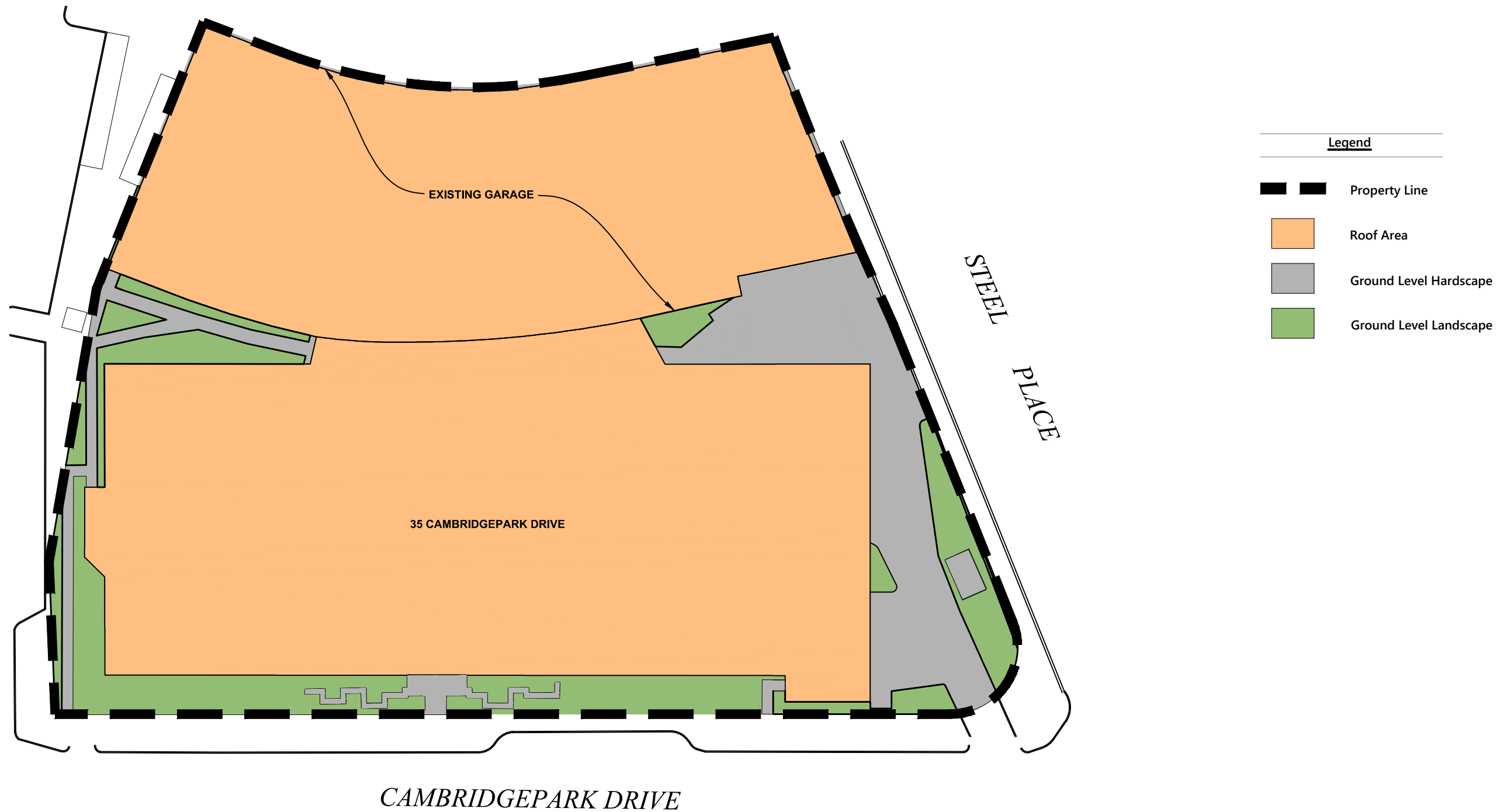


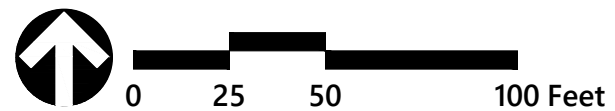
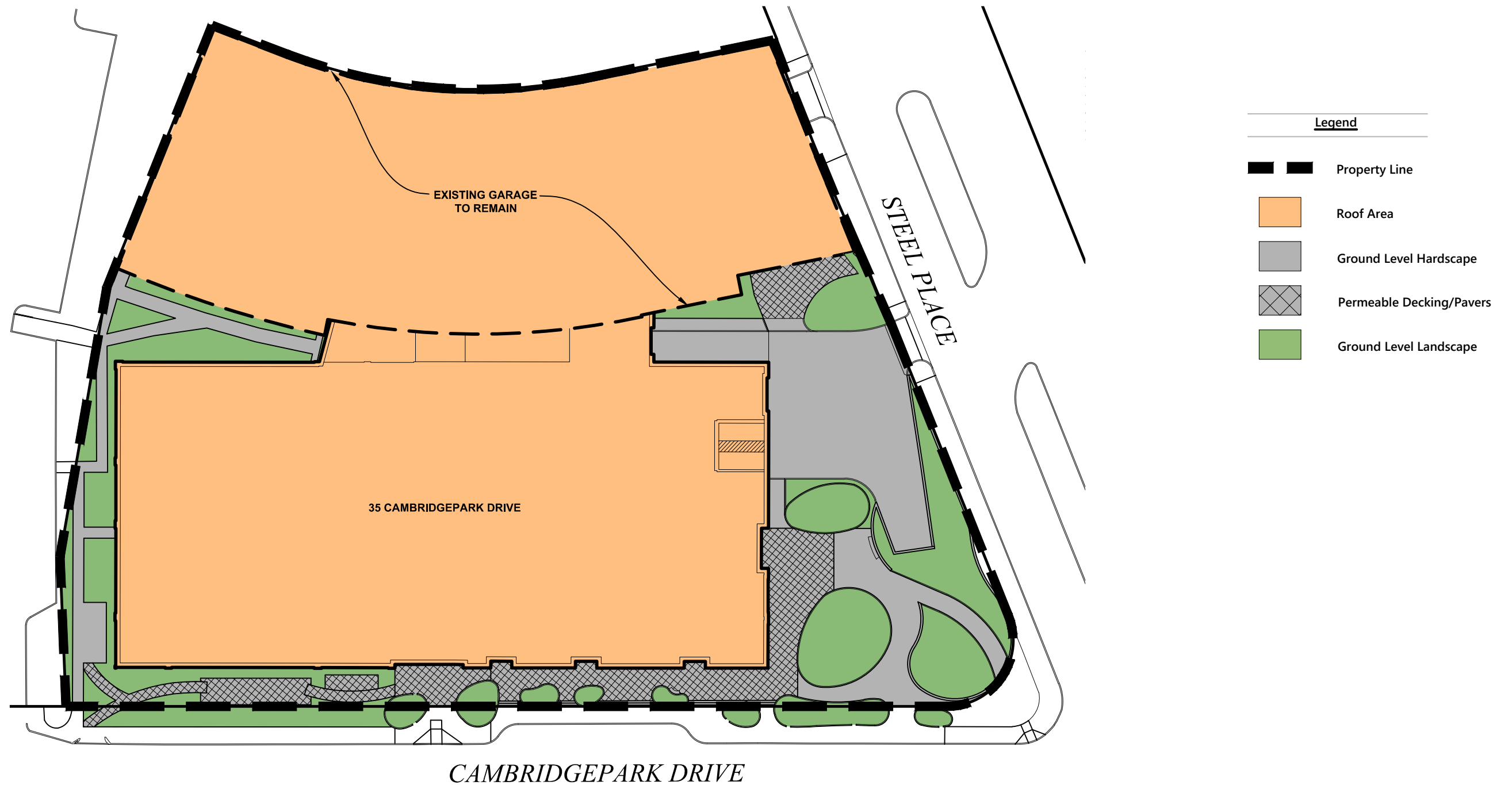
Legend	
	Property Line
	100-year Floodplain
	Bioswale & Floodplain Volume Offset Area

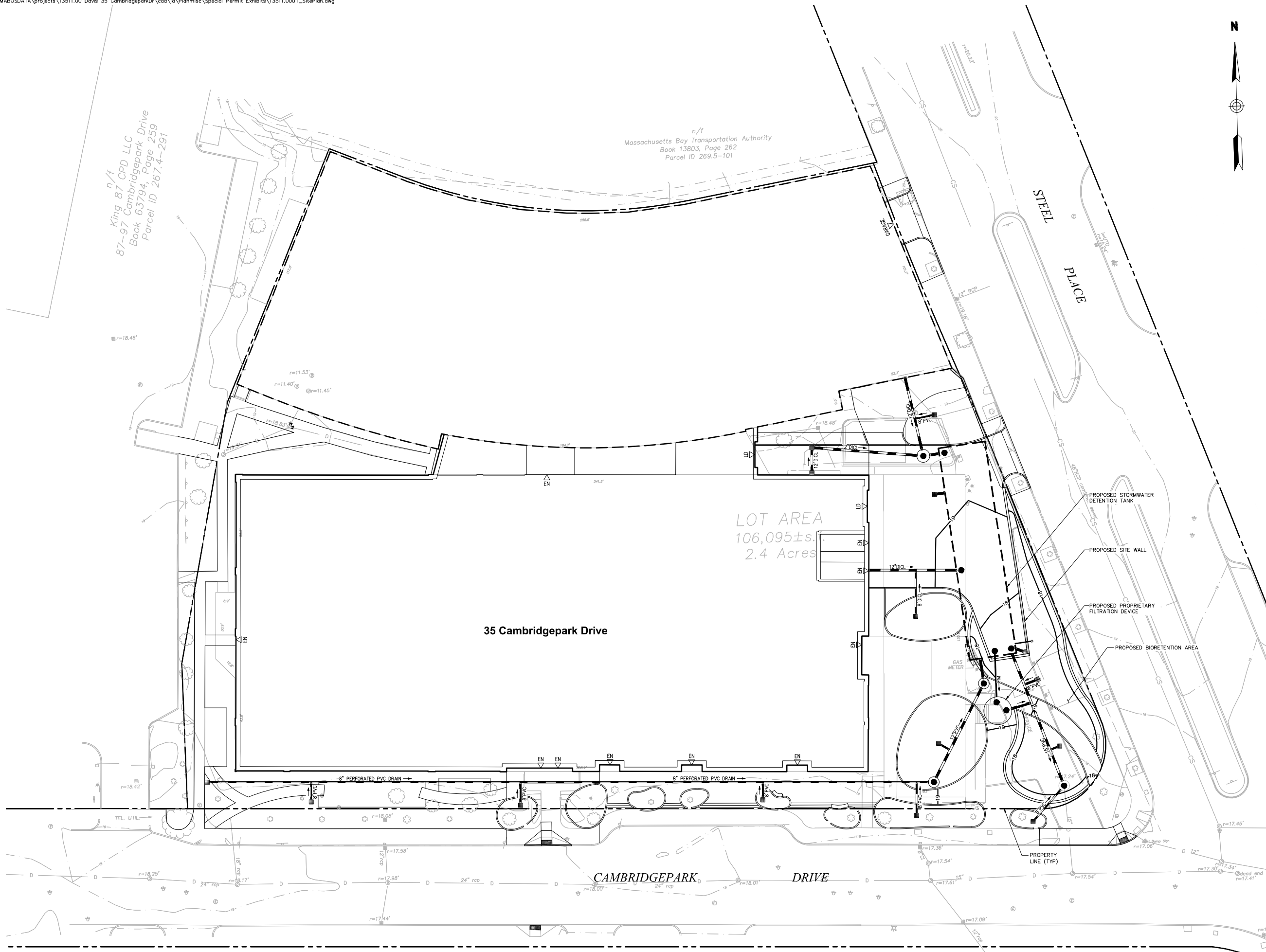
	Flood Elevations (Ft)
Current 100-year	18.66
Projected 2030	19.10
Projected 2070**	22.50

*All elevations refer to Cambridge City Base
 **Projected 2070 flood elevation not shown
 ***Floodplains shown on this figure are based on site topography and may vary from FEMA limits.









LOT AREA
106,095±s.s.
2.4 Acres

35 Cambridgepark Drive

STEEL PLACE

CAMBRIDGEPARK DRIVE

35 Cambridgepark Drive

Cambridge, Massachusetts

No.	Revision	Date	Appr.

Designed by	Checked by

Issued for: **Special Permit** Date: **June 2016**
Rev 2: October 2016

Not Approved for Construction

Site Plan

Drawing Number

FIG-4





33 Moulton Street
Cambridge MA 02138
617 499 8000
acentech.com



May 27, 2016

James Highum
Spagnolo Gisness Associates
200 High Street
Boston, MA 02110

Via email: jhighum@sga-arch.com

Subject **Environmental Noise Analysis**
35 Cambridge Park
Cambridge, MA
Acentech Project No. 627506

Dear Jim:

This letter presents our review and recommendations on the proposed mechanical equipment and emergency generator for 35 Cambridge Park Drive in Cambridge, MA. This project site needs to comply with the City of Cambridge noise regulation as well as the Massachusetts state regulation. This is a preliminary evaluation for the project as it is required to apply for Special Permit.

APPLICABLE NOISE REGULATION

Massachusetts

The Massachusetts Department of Environmental Noise Policy defines noise pollution by the condition resulting when:

- The equipment increases broadband sound level by more than 10 dBA above ambient, or
- The equipment with tonal sound - when any octave band center frequency sound pressure level exceeds the two adjacent bands by 3 dB or more

For this project, we assume that the existing background sound levels are high enough in the project area that the meeting the City of Cambridge Noise Regulation would be the more stringent requirement.

City of Cambridge

The City of Cambridge Noise Regulation has fixed sound emissions level limits for daytime and nighttime hours. There are different limits based on the zoning district. Based on the City of Cambridge Zoning Map, the equipment of our project should meet the Residential Zoning District at the closest receivers with sound pressure levels as shown in Table 1 on the following page at all times.

Octave Band Center Frequency of Measurement (Hz)	Residential Area (Daytime) dB	Residential Area (Nighttime) dB
31.5	76	68
63	75	67
125	69	61
250	62	52
500	56	46
1000	50	40
2000	45	33
4000	40	28
8000	38	26
Single Number Equivalent	60 dBA	50 dBA

Table 1. City of Cambridge Maximum Allowable Octave Band Pressure Levels

Daytime is defined by the City as the period between the hours of 7AM and 6PM except Sunday and holidays.

From our experience with similar projects, the existing background sound levels will result in higher noise limits than the Cambridge noise limits. Based on this assumption, this project is designed to meet 60 dBA during the daytime hours and 50 dBA during the nighttime hours. Because this is a core & shell building with expected future lab tenants, the analysis should include the expected sound levels of all these equipment. **We recommend designing the core & shell equipment to meet 55 dBA during the daytime hours and 45 dBA during the nighttime hours.** This will provide some noise allowance for the future tenants.

PRELIMINARY EQUIPMENT EVALUATION

Your engineer has provided us with preliminary rooftop equipment selections and emergency generator information. Most equipment units are located on the roof level and Level 6. There is also a mechanical room on Level 5 with an air handling unit and pumps. The preliminary layout is attached at the end of this report.

The list below shows the preliminary list of equipment for this project:

- Two 96,000 cfm air handling units by Custom Air Solutions with internal sound attenuators. One will be located in the mechanical room on the fifth floor and the other one will be located at the penthouse level.
- Strobic Tri-Stack lab exhaust air system with three fans, each fan with inlet flow of 32,000 cfm. Each exhaust fan will be provided with nozzle silencers provided by the fan manufacturer and the air bypass opening will also be provided with a short sound attenuator. These fans will also be on VFD. They will be located on the roof level.
- Three Marley model NC8409PCN3 cooling towers outfitted with Ultra Quiet Fans (C). The cooling towers will be located on the roof level with a screen.
- One 600 kW diesel engine emergency generator by Caterpillar, with a Pritchard Brown acoustic enclosure and exhaust muffler that achieves an average of 35 dB(A) overall sound reduction. This acoustic enclosure will help provide general reduction of engine and exhaust noise but it does not meet the daytime noise limit of 60 dBA. We understand that this is acceptable to the City of Cambridge as long as the generator is for emergency and testing use and not for other purposes where it will operate more frequently.
- Pump rooms on fifth floor mechanical room
- Chiller plant on the penthouse level

The following are our preliminary noise control recommendations to address the City of Cambridge noise regulation:

- Air handling units will be outfitted with OA sound attenuators internally or louver-backed sound attenuators to mitigate exterior noise.
- Lab exhaust fans will be outfitted with exhaust air discharge sound attenuators beyond the nozzle silencers provided by the manufacturer. The bypass opening will be provided with sound attenuators. The sound attenuators will be provided by third-party manufacturers such as VAW or Vibro-Acoustics.
- The cooling towers will be acceptable based on the current selection as long as they are on VFD with significantly reduced fan speeds at night. As the design develops, we will develop options to further reduce noise from the cooling towers.
- Generator enclosure by Pritchard Brown is acceptable and we will confirm whether a 35 dBA-enclosure is necessary as the design develops.
- Where there are mechanical room louvers, such as for the chiller plant, we anticipate the need to have louver-backed sound attenuators to address noise to the neighbors.
- We recommend providing a solid screen for the roof levels to provide some noise buffer for future tenant equipment. The screen should be solid and extend as close to the roof structure as possible.

* * * * *

I trust this letter provides the information that you need at this time. If you have questions, please call me on my direct line at 617.499.8080.

Sincerely,



Rose Mary Su
Senior Consultant

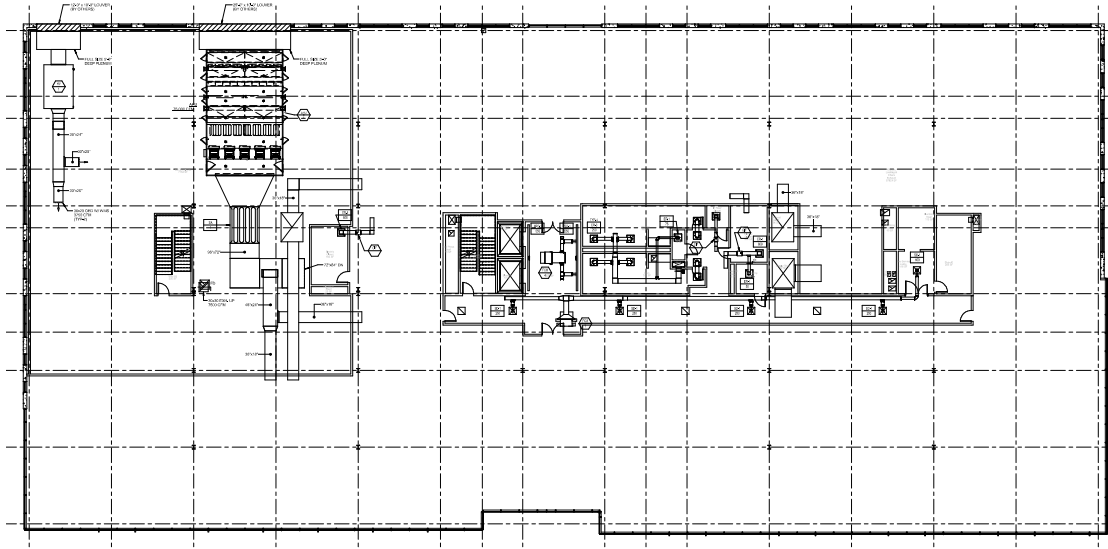
Encl: Preliminary Equipment Layout

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PRELIMINARY EQUIPMENT LAYOUT

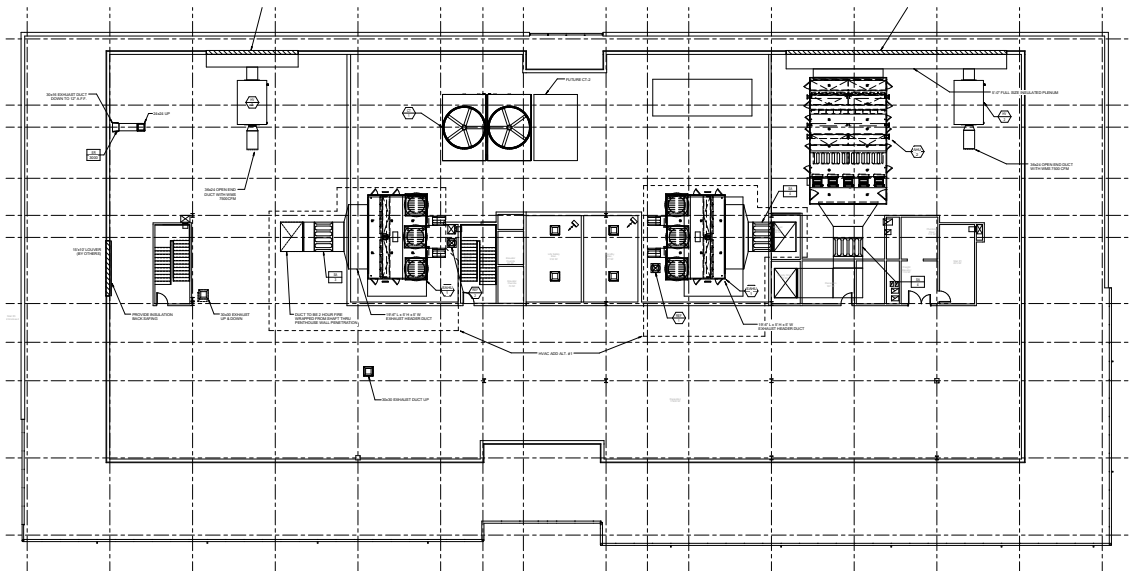
Level 5 Mechanical Equipment Room

Rev. 2



Level 6 Mechanical Equipment Penthouse

Rev. 2



Roof Level

Rev. 2

