

HARVARD UNIVERSITY



INSTITUTIONAL MASTER PLAN NOTIFICATION FORM / APPLICATION FOR SMALL PROJECT REVIEW

For the Second Amendment to the 2013 Institutional Master Plan for Harvard University's Campus in Allston
Harvard Life Lab



February 2016

Institutional Master Plan Notification Form / Application for Small Project Review

For the Second Amendment to the
2013 Institutional Master Plan
for Harvard University's Campus in Allston

Harvard Life Lab

Submitted to:

Boston Redevelopment Authority

Submitted by:

Harvard University, on behalf of:

Harvard Business School

Shad Hall

70 North Harvard Street

Boston, MA 02163

In conjunction with:

Shepley Bulfinch

R.G. Vanderweil

Reed Hilderbrand

Shawmut Design & Construction

SLB Group

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3.0 Anticipated Impacts

4.0 Zoning Requirements

1.0 Introduction

This Institutional Master Plan Notification Form (IMPINF) is being submitted to the Boston Redevelopment Authority (BRA) by Harvard University (Harvard) on behalf of the Harvard Business School (HBS). This document is being submitted in accordance with Section 80D-9(2) of the Boston Zoning Code (the Zoning Code), for purposes of amending the current Institutional Master Plan (IMP) for Harvard University's Campus in Allston. The HBS campus is a significant part of Harvard's Campus in Allston and it is covered by the current IMP. As described in more detail in Chapter 4, this document is being submitted in accordance with Section 80D-9(2)(b), Projects Qualifying for Expedited Amendment Procedure.

This IMPINF considers one project: the construction of the Harvard Life Lab (Life Lab or the Project), a new building of approximately 14,750 square feet of gross floor area¹ designed to provide wet lab/co-working space for small Harvard-related scientific start-ups. The proposed site for the new Life Lab facility is adjacent to the existing Harvard Innovation Lab (i-lab) in Batten Hall on Western Avenue.

This IMPINF does not propose to add any additional land to the existing Harvard IMP area in Allston. The Project site is already part of the Harvard IMP area; the proposed institutional use requires approval under the IMP requirements of Section 80D of the Zoning Code.

1.1 Status of the Harvard Allston Institutional Master Plan

Harvard has been filing Institutional Master Plans for its Allston campus since 1989. Most recently, Harvard filed an IMPINF in October 2012 to start the process of the review and approval of a new Ten-Year Institutional Master Plan for Harvard's Campus in Allston. Harvard submitted its new IMP on July 26, 2013 [revised in October 2013] in response to the BRA's Scoping Determination on the IMPINF. The IMP was approved by the BRA Board on October 17, 2013 and by the Boston Zoning Commission on November 20, 2013.

Harvard University submitted an Institutional Master Plan Notification Form/Notice of Project Change (IMPINF/NPC) on November 10, 2015. The IMPINF/NPC described changes to Harvard's Allston Science Complex, a project that was approved under Articles 80B (Large Project Review) and 80D (IMP Review) of the Boston Zoning Code in 2007. The IMPINF/NPC filing started the formal review of the revised Project under Articles 80B and 80D and began the process for obtaining IMP approval for the first amendment to the 2013 IMP. Following the public comment period, the BRA issued a Scoping Determination on December 23, 2015 outlining issues to be addressed in more detail in an IMP Amendment. Harvard submitted the IMP Amendment on January 29, 2016 and it is currently under review.

1 All square footage numbers in this document refer to gross floor area as defined by the Boston Zoning Code.

2.0 Project Description

2.1 Program Need

The Harvard Life Lab will build on the success of Harvard's i-lab and the One Harvard mission by providing Harvard students, faculty, and alumni with much-needed wet lab space. It will help seed the campus in Allston with early stage, growing scientific ventures and contribute to building a thriving startup community. Equally important, the Life Lab will also provide learning opportunities, inspiration, mentors, and career development ideas to current Harvard students. Additionally, the program will serve as a test case to generate expertise and market intelligence that can be leveraged as Harvard develops a vision around what it takes to build a successful life science environment. Finally, the program will continue to test and grow a new startup system adjacent to the Harvard i-lab, including the future Allston Enterprise Research Campus.

2.2 Overview and Background

The Project seeks to bridge a gap revealed by the success of the i-lab and encountered by students and faculty who require wet lab facilities to further explore and develop their innovative ideas. Therefore, Harvard is proposing to construct a new building in order to provide wet lab/co-working space for small Harvard-related scientific start-ups. The Harvard Life Lab will build on the success of the adjacent i-lab and will be located on Western Avenue in the southwest corner of the i-lab parking lot. Figure 1 shows the project location within the Ten-Year Plan.

This Project is considered to be a pilot project to evaluate the viability of this model and the demand for this sort of wet lab space. The facility is expected to be in place for five to ten years.

The prefabricated modular building will include approximately 14,750 square feet of gross floor area¹ of space in a two story building. It will include general biosafety level 1 lab space with dedicated biosafety level 2 specialty rooms, 36 lab benches, support workspace/write up space for up to 50 including a Faculty-member-in-residence Venture Group, and conferencing and support spaces to promote user connections.

Ventures selected for the Life Lab will principally involve Harvard faculty and/or Harvard students and may include Harvard alumni and other Harvard affiliates. Teams will be selected based on compatibility with the i-lab's mission, future growth potential, and demonstration that the enterprise will support the Harvard and i-lab community by providing educational programming and mentoring in the i-lab and/or Life Lab. Each venture selected will have to sign an Occupancy Agreement that provides for below-market rent in exchange for educational programming and mentoring to students and other

¹ All square footage numbers in this document refer to gross floor area as defined by the Boston Zoning Code.

participants in the i-lab and/or Life Lab. Harvard will not own the intellectual property; instead it will be owned by the venture that creates it.

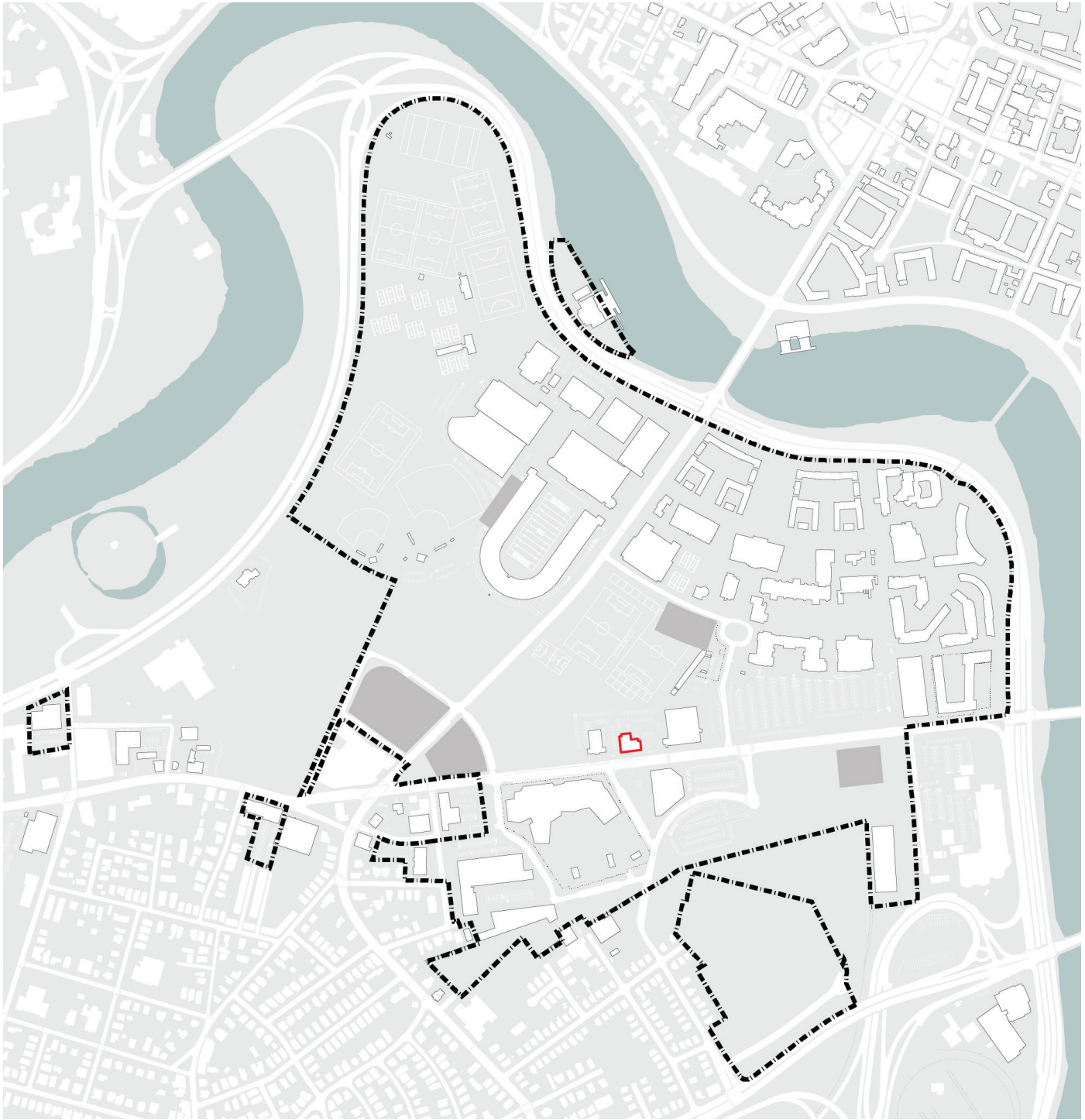


Figure 1: Project within Ten-Year Plan

Note: IMP boundary subject to approval of the first amendment to the 2013 IMP



2.3 Project Siting and Location

This facility will be located in the southwest corner of the i-lab parking lot on Western Avenue, to the west of the i-lab.

The planning principles guiding the Project location and siting include:

1. Locate the building in close proximity to the i-lab;
2. Site the building so that it provides an edge on Western Avenue and aligns with the existing i-lab;
3. Provide opportunities to enhance the pedestrian experience through building transparency and active programming on the Western Avenue side of the building;
4. Stay southwest of a Massachusetts Water Resource Authority (MWRA) easement and underground stormwater storage in the center of the parking lot and stay east of the alignment of the future Stadium Way; and
5. Establish a welcoming street frontage by engaging the sidewalk through existing and introduced landscape elements.

Figure 2 shows the Life Lab within the future urban context. Figure 3 and Figure 4 provide site contextual information at the immediate surroundings and site scale. Figure 5, Figure 6, and Figure 7 illustrate the design features of the proposed building and landscape.

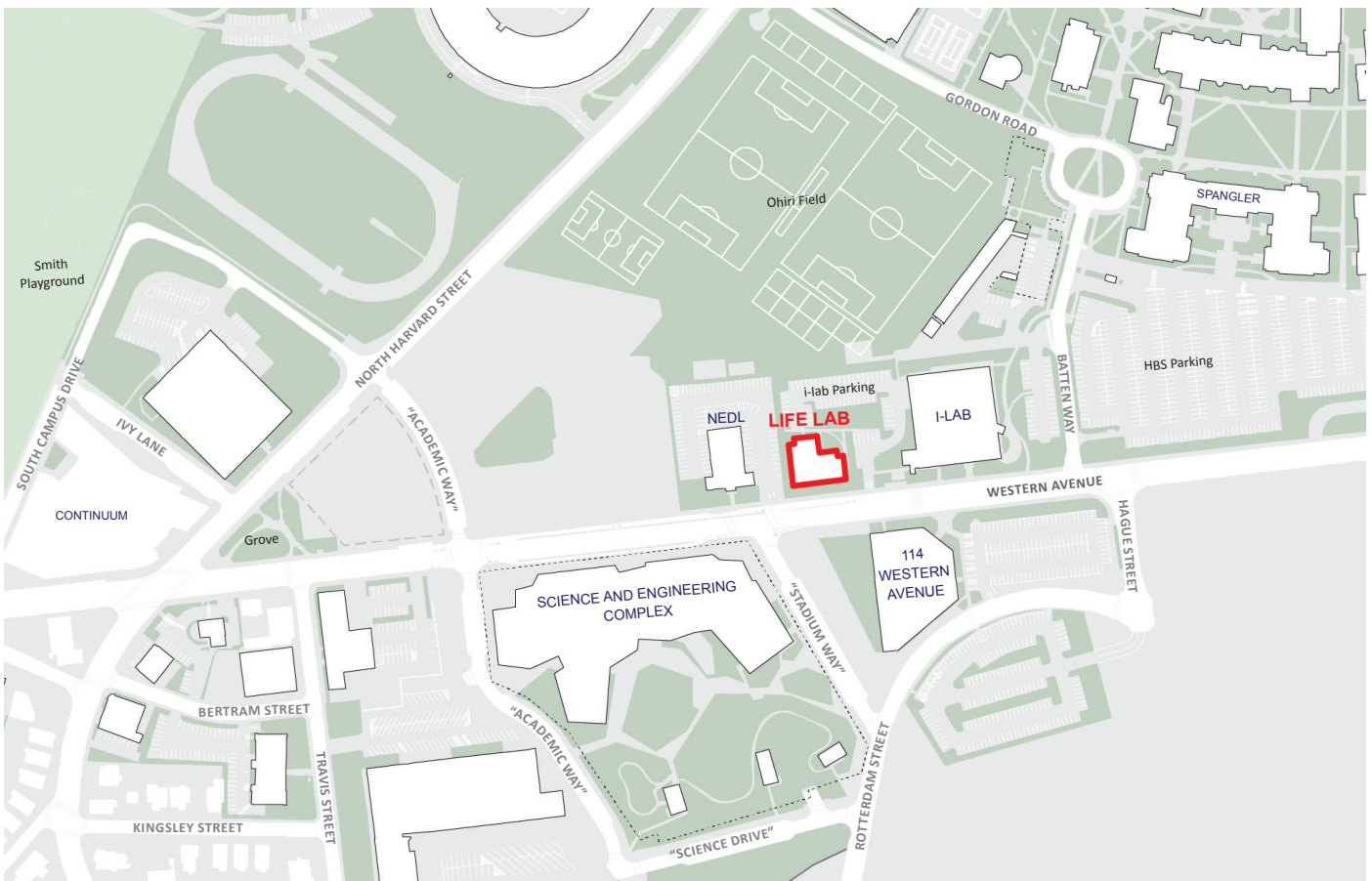


Figure 2: Urban Design Context with Future Science and Engineering Complex Complete



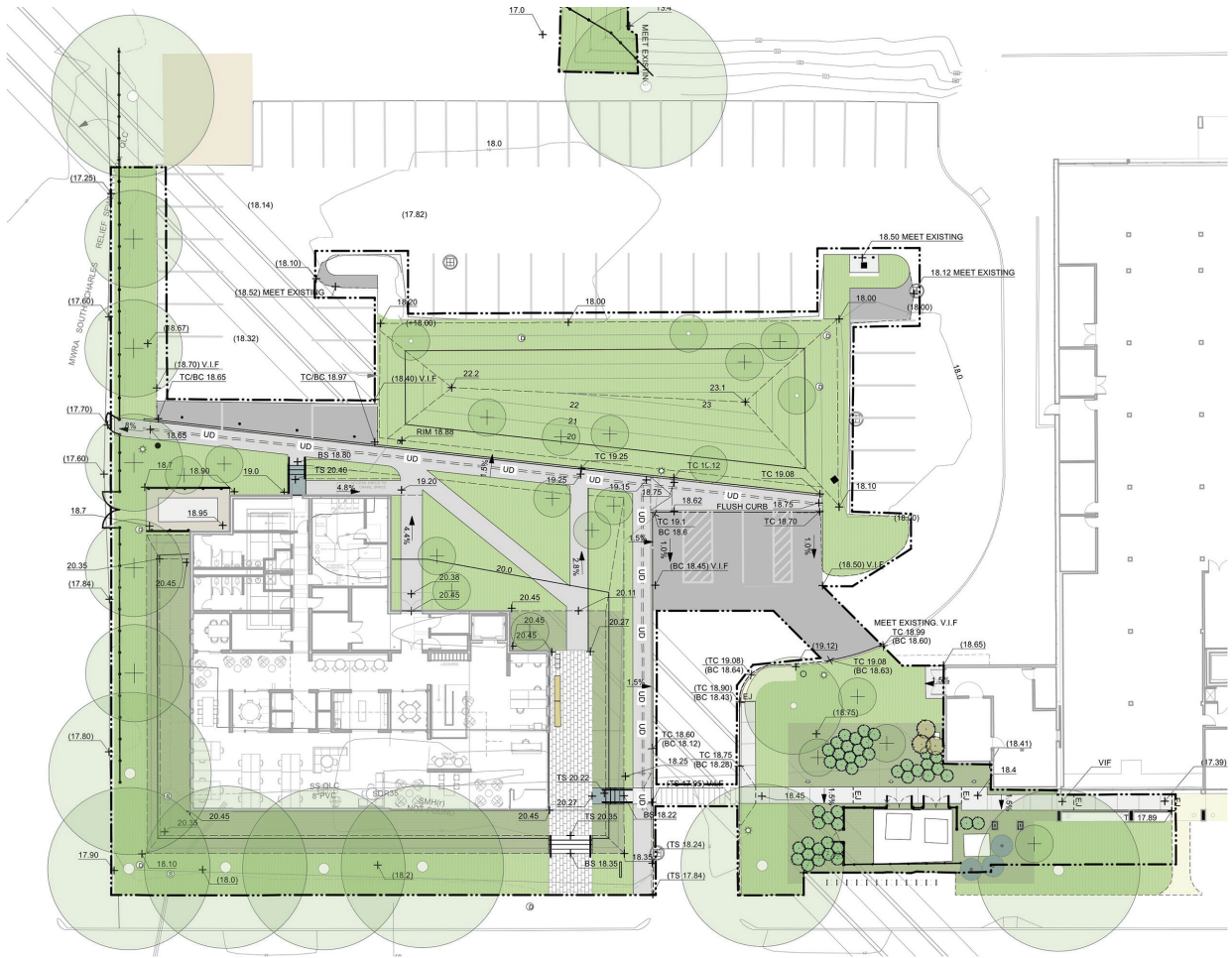


Figure 3: Site Plan

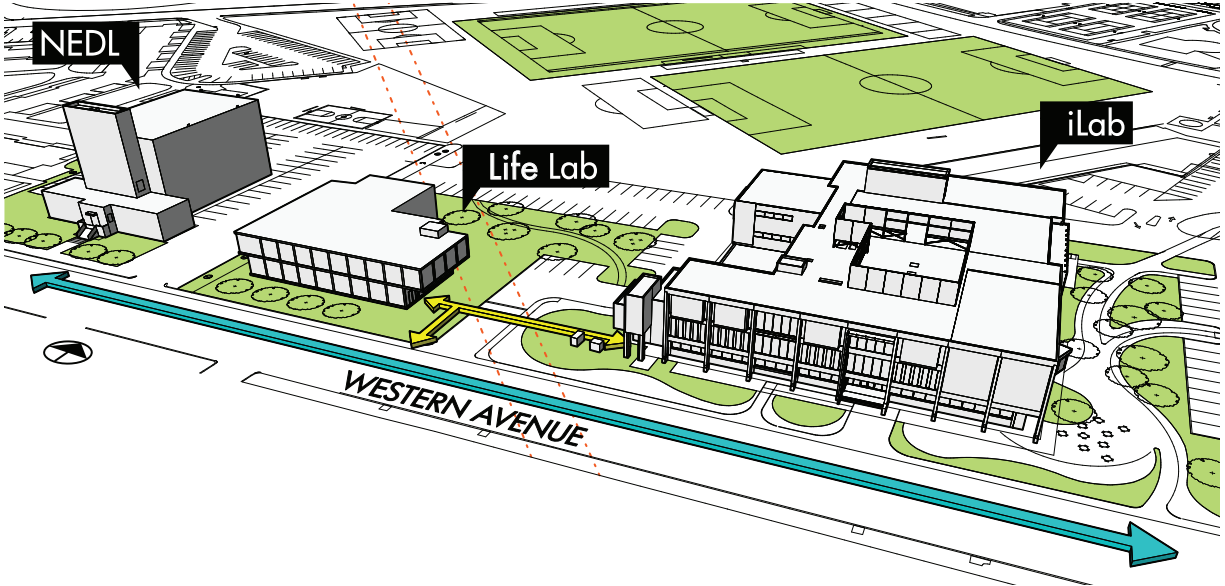


Figure 4: Project in Context



Figure 5: View from Western Avenue, Southwest



Figure 6: View from Western Avenue, Southeast

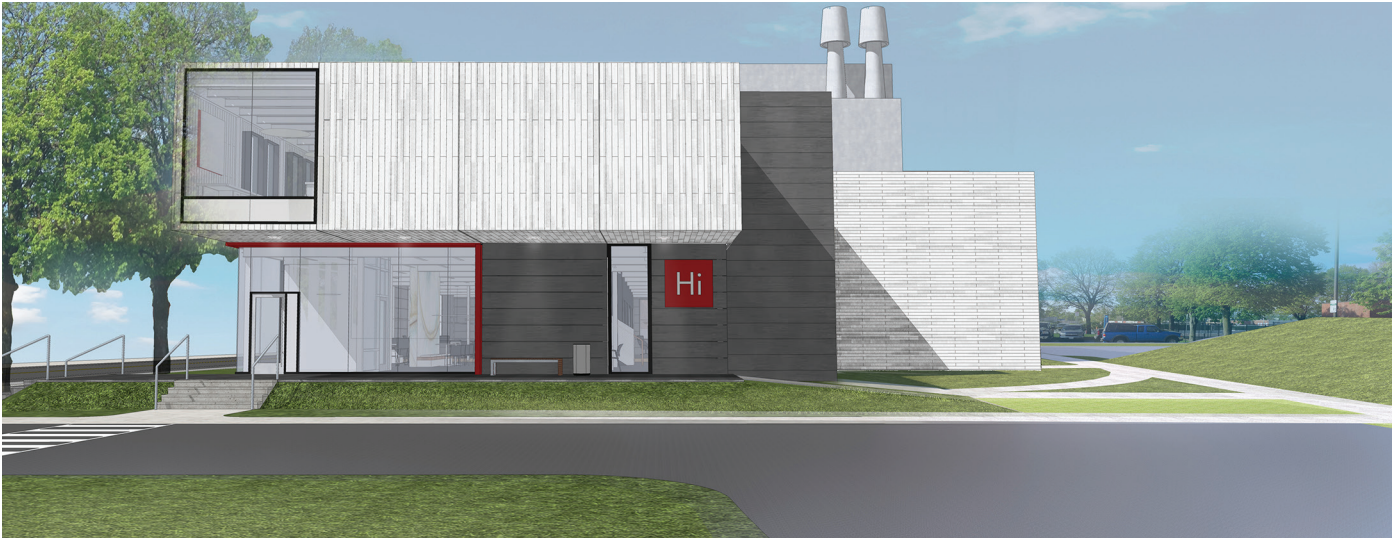


Figure 7: East Elevation

2.4 Project Dimensions

The Project's dimensions are presented below in Table 1.

Table 1: Project Dimensions

Site Size	93,704 square feet
Building Footprint	7,061 square feet
Use	Office, classroom, laboratory, meeting space, other research space
Gross Floor Area (measured in accordance with the Boston Zoning Code)	14,750 square feet
Square Feet of gross floor area proposed for demolition	0
Floor Area Ratio	0.16*
Building Height	26 feet
Parking	No new parking
Applicable urban renewal plans or LDAs	None
Current zoning	Site is located in the Harvard University Institutional Subdistrict
Total Project Cost	Approximately \$17 million
Estimated DIP Payment	Total of approximately \$147,000
Approximate timetable	Construction start Spring 2016, Occupancy Fall 2016

* Calculated with new building area divided by site area. Does not include Batten Hall (i-lab).

2.5 Building Dimensions

Table 2 presents the building dimensions for the Project. See Figure 8 for floor plans.

Table 2: Building Dimensions

Use	Gross Floor Area
Labs and lab support	5,900 SF
Lobby/Lounge/Common Space	1,150 SF
Office/Conference Room	3,750 SF
Circulation	2,300 SF
Back of House/Service/Storage	1,650 SF
TOTAL	14,750 SF

Note: All square footage numbers in this document refer to gross floor area as defined by the Boston Zoning Code.

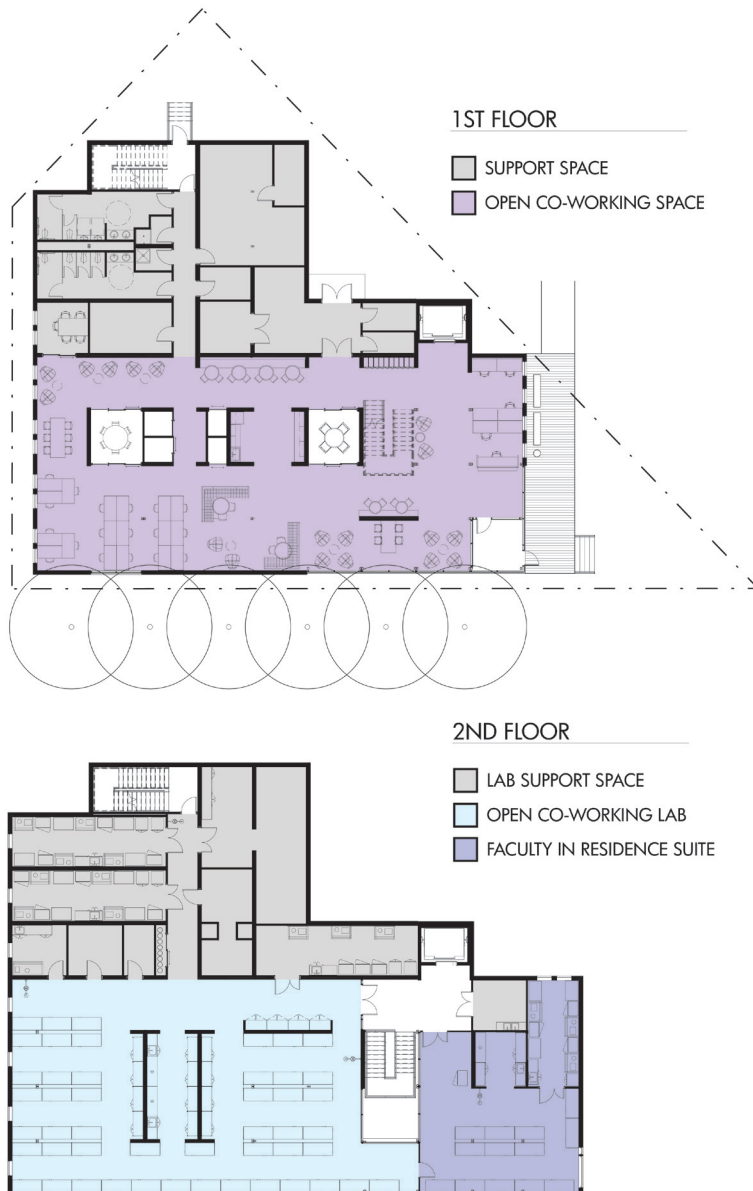


Figure 8: Floor Plans

2.6 Use of Physical Space

The overall goal for the program is both to provide an experiential, educational environment in which students and faculty can apply classroom theories to the challenges of creating innovations in the real world and to create a highly engaged, dynamic and collaborative co-working lab environment for its users. Ventures selected for the Life Lab will principally involve Harvard students and faculty. Access will be restricted to i-lab student Venture Incubation Program team members, alumni ventures, and select faculty ventures. It will be open 24/7 and year round – including holidays.

The arrangement and disposition of the program elements is intended to provide flexibility and a diverse array of spaces and to promote lab community connections.

The proposed facility will make available equipment typical for a biology lab. Both fixed and benchtop equipment will be managed through LabCentral, the operator of the lab space. Fixed equipment will include access to fume hoods, tissue culture rooms, freezers, etc. Benchtop equipment will likely include spectrometers, PCR systems, plate readers and washers, blot apparatus, incubators, chambers, cell counters, microscopes, centrifuges, balances and sonicators.

2.7 Landscape

As shown in Figure 9, the Project will include significant landscape enhancements, mainly around the southern and eastern edges of the building. The design intent is to improve the visual environment along this portion of Western Avenue, provide better pedestrian access to the building, open up views of the building from the street, provide a comfortable and direct connection between the Life Lab and the i-lab, and soften the edges around the parking areas by maintaining the existing landscape buffers.

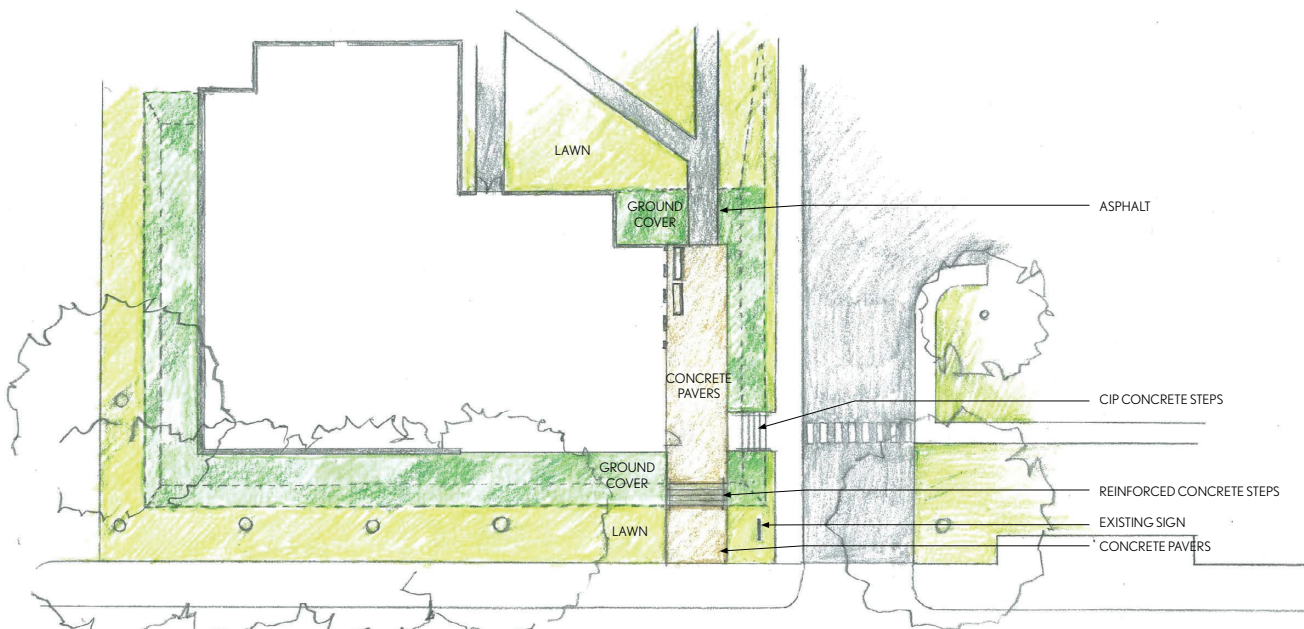


Figure 9: Landscape Plan

2.8 Community Benefits

Programming at the Ed Portal and the i-lab

The Harvard Life Lab has partnered with LabCentral as the primary provider of support for day-to-day operation of the Wet Lab and its resident ventures. LabCentral has developed expertise in creating and delivering public-facing and youth offerings in partnership with several educational content providers, including YouthCITIES, BioBuilder, and The Possible Project. LabCentral has agreed to work with their educational partners, the Harvard Education Portal (Ed Portal), and the Life Lab to develop and deliver events targeted at Allston-Brighton learners, including:

- Three neighborhood programs per academic year focused on STEM topics, delivered in partnership with the Ed Portal, and potentially including LabCentral's other partner organizations. The spectrum of offerings will take into account a wide range of participant ages and academic levels and align with the Ed Portal's approaches to fostering inquiry, problem orientation, mentorship, hands-on learning, and connecting Harvard faculty and students with the neighborhood. These educational offerings will be marketed through Ed Portal channels.
- An ongoing speaker series (workshops) held at the i-lab on topics relevant to the intersection of entrepreneurship and life sciences, which will be open to Harvard and public audiences. Harvard anticipates holding approximately six life science-related workshops in any given year, aligned to the academic calendar. Workshops will be marketed through the i-lab's web site, e-mail newsletters, and EventBrite listings.

The Life Lab estimates the cost of designing and delivering these programming offerings, including staff time, partner fees, materials and other costs, to total over \$20,000 annually.

Chromebook Laptop Access for all Allston-Brighton Boston Public School Students

Harvard has partnered with Boston Public Schools administrators and Principal Leaders (formerly called Network Superintendents) to explore classroom technology needs in Allston-Brighton Boston Public Schools. This partnership is a response to a Boston Public Schools assessment of laptop availability in Allston-Brighton schools. In alignment with previous successful partnerships to provide Boston Public School students better access to laptop technology, the Life Lab proposes providing a one-time grant totaling over \$60,000 to fully fund the purchase of Chromebook laptops to provide every Allston-Brighton BPS student access to new, modern laptops.

Ice Cream Social

The i-lab and the Life Lab will host an annual spring Allston-Brighton community social event featuring snacks and non-alcoholic refreshments (e.g. ice cream sundaes, soft drinks), activities and/or entertainment for a minimum of five years, recalling the historic WGBH ice cream social neighborhood tradition at 125 Western Avenue. This offering will be communicated through i-lab channels and Ed Portal channels and will be free of charge to attendees.

All Life Lab public offerings will be free of charge, with expenses for design, program delivery, and materials borne by the Life Lab. LabCentral's obligations for supporting program design and delivery will be specified in the contract for their management of

day-to-day operations at the Life Lab and overseen by the i-lab's Assistant Director for Operations and Assistant Director for Life Sciences. The i-lab and Life Lab will include summary data about Life Lab public offerings (e.g. number and kind of offerings, number of registrants) as part of their annual reporting on community programs and utilization.

3.0 Anticipated Impacts

3.1 Transportation

Transportation and Access

As shown in Figure 3, the Life Lab building will be located in the existing parking lot to the west of the i-lab. Vehicular access to the site will be from an existing curb cut on Western Avenue to the east of the Project. Loading will occur primarily with deliveries to HBS Central Receiving and then couriered to the Life Lab building. Special deliveries and pick-ups will occur from the adjacent parking lot. Western Avenue is a two-way arterial roadway with daily weekday traffic volumes of approximately 12,300. The roadway has one lane in each direction with turn lanes at intersections. There is a cycle track/buffered bike lane in the eastbound direction and a bike lane in the westbound direction of Western Avenue. An existing Hubway station is located at the i-lab, approximately 100 feet from the Project site. The i-lab also houses a bike repair station.

Pedestrian access to the building will be located along the eastern and northern façade of the building, with a new sidewalk linking the entry to the Western Ave sidewalk. Pedestrians will access the site via the extensive path network in the Harvard campus and the sidewalks along both sides of Western Avenue. An unsignalized pedestrian crossing is located on Western Avenue approximately 300 feet to the east of the site and at the location of the bus stops for the MBTA bus routes 70 and 70A. These routes operate along Western Avenue with 15-20 minute and 25-30 minute peak hour headways. Bus stops for the Route 60 and 86 services are located in Barry's Corner, a five minute walk (approximately one-quarter mile) from the site. The existing Harvard University shuttle service – which is open to the public - connects the site with the Cambridge campus.

Project Parking

The existing parking lot currently accommodates 86 parking spaces: 46 metered parking spaces, 24 permit parking spaces, 5 handicapped permit spaces, 4 parking spaces for incoming Zip Cars® arrival parking, 2 parking spaces for Zip Cars®, an electric vehicle charging station with 2 spaces for plug-ins, and 1 space each for Low Emissions Vehicle, High Occupancy Vehicle and motorcycle parking. The proposed building will eliminate 30 of the 86 spaces in this parking lot.

Harvard will proportionally reduce the number of metered parking spaces and permit spaces to address the reduction in the size of the parking lot. The remaining permit spaces will be sufficient to accommodate the anticipated parking associated with the ten existing staff at the i-lab and the estimated five new staff at the Life Lab. To address the transient parking needs of the i-lab and the Life Lab, Harvard will reduce the duration of the parking meters from the current six-hour limit to a four-hour limit to encourage greater parking turnover.

Project Transportation Demand Management

Harvard offers a broad range of transportation demand management services as part of its CommuterChoice program. In addition, the University implemented other innovative transportation options to support the collaborative efforts among the entrepreneurial teams that use the existing i-lab. These options, which will also support the entrepreneurial teams that will use the Life Lab, include:

- a conveniently located Hubway station;
- an electric vehicle charging station for two plug-ins;
- shuttle bus service connecting to the Cambridge campus; and
- Zip Car® parking including special “open parking spaces” for incoming Zip Cars®.

There are currently 115 covered bike parking spaces at the i-lab, which should be sufficient for both the i-lab and the Life Lab.

3.2 Project Sustainability

Working closely with the Harvard Business School sustainability leadership, and recognizing the challenges of including sustainable design measures in a temporary facility, the design of the Life Lab incorporates a number of sustainable measures, including, energy efficient envelope, LED Lighting, daylight harvesting, occupancy sensors, energy recovery and low flow restroom fixtures.

Additionally, as a facility that has the potential for a second life at some other location, the Life Lab endeavors to balance short and longer term value. The potential service life of the building ideally would not end after ten years, but continue. Although its second life users and location are not currently known, the embodied program value that the building has to offer should not be significantly diminished. The materials and systems selected contribute to that balance of long and short term value.

3.3 Project Utilities

Water will be supplied from the i-lab through an underground service. Water usage will be lab use on the second floor and general office use on the first floor. The project team estimates that the Project will require approximately 1,900 gallons per day of water. There will be separate domestic and lab water systems with backflow prevention devices on the lab water.

There are two sources of sewage generation, lab waste and sanitary waste. Each waste stream will exit the building independently and connect to a common manhole adjacent to the building. The project team estimates that the Project will generate approximately 1,900 gallons per day of sewage. There will be a full pH adjustment system on the lab waste discharge prior to exiting the building with a monitoring station for testing purposes.

Stormwater management is designed to capture 1” of rainfall based on the footprint of the new building and impacted sitework. The stormwater will be collected under the building in collection tanks and tied into the existing infrastructure.

Primary heating will be provided by a gas-fired furnace in the rooftop air handling unit. Where required, electric reheat coils will provide additional heating. Cooling will be provided by the package DX air handling unit. Exhaust air heat will be recovered via an air to air heat pipe system.

3.4 Construction Logistics

A Construction Management Plan (CMP) in compliance with the City's Construction Management Program and consistent with the University's program-wide construction guidelines will be submitted to the Boston Transportation Department.

Construction staging, material laydown, and worker parking will occur on-site. The existing parking area located to the north of the proposed building will be used for these activities.

Construction trucks accessing the site will arrive via the Mass. Turnpike to the Soldiers Field Road access road to Western Avenue and will depart using the same roadways. Construction trucks will be prohibited from using local neighborhood streets to arrive at or depart from the site. For delivery and removal, HBS will use access through the Charlesview site from North Harvard Street in order to not disturb the large MWRA Relief Sewer running northwest to southeast through the site and to avoid complication relative to the 60" water main running along the north side of Western Avenue.

4.0 Zoning Requirements

4.1 Zoning Code

This IMPNF seeks to amend the Harvard Allston Campus IMP in accordance with the provisions of Section 80D-9.2 of the Boston Zoning Code (Expedited Review for Certain Small Projects).

Criteria for Expedited Review

Section 80D-9.2(b) states that a Proposed Institutional Project shall qualify for an expedited IMP amendment procedure if the project does not meet the size thresholds for Large Project Review, the project is located within an Institutional District or Subdistrict, and if the project is not for one or more of the High Impact Subuses of an Institutional Use.

Conformance with Criteria

The Project calls for the construction of a 14,750 square feet of gross floor area¹ structure which is below the size thresholds for Large Project Review as specified in Section 80B-2 of the Zoning Code.

As noted, the Project site is located within the existing Harvard University Institutional Subdistrict and Harvard's IMP Area.

In addition, the proposed uses (laboratory, research, office) do not constitute a "High Impact Subuse" of the College/University use category (as defined in Article 2A of the Zoning Code), as it is not a dormitory, student housing, athletic facility, facility of public assembly, parking facility, power plant, or centralized heating or cooling plant.

Finally, in accordance with Section 80D-9.2(a)(1) of the Zoning Code, Harvard hereby states that this IMPNF does not propose any other changes to the approved Allston Campus IMP.

Relationship to Existing Zoning

As mentioned above, the Project site is located within the Harvard University Institutional Sub-district of the Allston Neighborhood District. "College or University" and "Research Laboratory" uses are allowed uses within this subdistrict.

The underlying zoning of the Harvard University Institutional Sub-district establishes an as-of-right maximum height of 55 feet, maximum floor area ratio of 1.0 and minimum front yard depth of 20 feet. The Project will not exceed these thresholds.

1 All square footage numbers in this document refer to gross floor area as defined by the Boston Zoning Code.

