

Massachusetts Institute of Technology East Campus Urban Design Study: Final Report

14 March 2014

Mack Scogin Merrill Elam Architects | **MICHAEL VAN VALKENBURGH ASSOCIATES INC**



Massachusetts Institute of Technology
East Campus Urban Design Study: Final Report

14 March 2014

Mack Scogin Merrill Elam Architects | **MICHAEL VAN VALKENBURGH ASSOCIATES INC**

Prepared by

Mack Scogin Merrill Elam Architects, Inc.
111 John Wesley Dobbs Avenue NE
Atlanta, Georgia 30303
1.404.525.6869

Michael Van Valkenburgh Associates, Inc.
Landscape Architects
231 Concord Ave
Cambridge, MA 02138
1.617.864.2076

In collaboration with

Greenberg Consultants Inc., *Urban Designer*
VHB, *Infrastructure, Sustainability, Traffic Consulting*
HR+A Advisors, *Economic Consulting*
Atelier Ten, *Environmental / Sustainable Design*

MIT East Campus Working Team

Pamela Delphenich	Director of Campus Planning
Thayer Donham	Senior Campus Planner, Campus Planning
Dennis Frenchman	professor, DUSP
Sarah Gallop	Co-Director, Office of Government and Community Relations
Michael Owu	Director - Real Estate, MIT Investment Management Company
Adèle Naudé Santos	dean, School of Architecture & Planning, and Professor of Architecture
Nader Tehrani	department head and professor, Department of Architecture
Meejin Yoon	associate professor, Department of Architecture

Prepared for

Massachusetts Institute of Technology
Department of Facilities
600 Technology Square, Second Floor
Cambridge, Massachusetts 02139

MIT East Campus Steering Committee

Chris Kaiser	provost, co-chair (through 10/31/13)
Martin Schmidt	provost, professor of Electrical Engineering and Computer Science (co-chair effective 11/1/13)
Israel Ruiz	executive vice president and treasurer, co-chair
Eran Ben-Joseph	department head and professor, Department of Urban Studies and Planning (DUSP)
Xavier de Souza Briggs	associate professor, DUSP
Peter Fisher	department head, Department of Physics
Patrick Hulin	undergraduate student, Mathematics
Steve Marsh	Managing Director - Real Estate, MIT Investment Management Company
Adèle Naudé Santos	dean, School of Architecture & Planning, and Professor of Architecture
Tony Sharon	deputy executive vice president
Caleb Waugh	graduate student, School of Engineering
James Wescoat	professor, Department of Architecture

MIT East Campus Urban Design Study: Final Report

- Preface	5
- Project Conditions	
- Study Intent and Goals for Area	6
- Landscape Analysis	7
- Campus Analysis	13
- Zoning Ordinance Parameters	16
- Community Process	17
- Urban Planning Framework Statement	18
- Principles and Strategies	19
- Campus / Urban Planning Schemes	25
- Scheme A	27
- Scheme B	33
- Scheme C	39
- Gateway Options	45
- Retail and Active Use Spaces	49
- Massing Options	50
- Landscape Approaches	51
- Approach 1	50
- Approach 2	57
- Approach 3	64
- Sustainability Statement	68
- Index of Resources	69

Preface



In October 2013 the Massachusetts Institute of Technology (MIT) commissioned Mack Scogin Merrill Elam Architects in association with Michael Van Valkenburgh Associates Landscape Architects to produce a planning study for the currently underutilized MIT East Campus which is adjacent to the Kendall Square area of the City of Cambridge, Massachusetts. This document, East Campus Urban Design Study : Final Report, marks the conclusion of this Study.

Mack Scogin Merrill Elam Architects and Michael Van Valkenburgh Associates Landscape Architects were joined by Greenberg Consultants Inc. (Urban Design), Vanasse, Hangen, Brustlin Inc. (Infrastructure, Sustainability and Traffic Consulting), HR&A (Economic Consulting) and Atelier Ten (Environmental / Sustainable Design). The resulting study illustrated here includes three campus/urban planning schemes, three landscape approaches, parking and service studies, and notes on sustainability and process are under separate cover as Appendix A and C respectively.

The area under consideration for the East Campus Urban Design Study is bounded by Ames Street, Main Street, One Memorial Drive and Memorial Drive and includes the One Broadway site north of Main St. The area is, as of April 2013 and by virtue of Ordinance Number 1355, City of Cambridge, a new Planned Unit Development 5 (PUD-5) District which grants MIT additional development rights. These development rights, in effect, establish the maximum permitted program of development for the district. (See page 16, zoning ordinance parameters)

This study follows two previous studies: (1) Kendall Square Initiative: Elkus Manfredi Conceptual Plan which resulted in the approval of the new PUD-5 and a revised zoning ordinance, and (2) East Campus / MIT gateway: Alternative Approaches generated by the faculty of the MIT School of Architecture + Planning. This study merges the most relevant aspects of the two previous studies and sets forth an urban design framework that has the capacity to satisfy academic, commercial, public and gateway goals for both the long and short terms.

A major component of the East Campus Urban Design Study was the facilitation of structured stakeholder participation. Three public Forums each were conducted for the MIT Community and Cambridge Community with the third Forum being a joint meeting of both communities. The materials in this Final report reflect the information shared with the communities. (See page 68, Index of Resources and

page 16, Community Process for further elaboration)

It has been both a privilege and an honor for Mack Scogin Merrill Elam Architects and Michael Van Valkenburgh Associates Landscape Architects and the entire consulting team to undertake the East Campus Urban Design Study for MIT. MIT's special long standing relationship with industry, its position as a world leader in technology advancement, and its enduring and reciprocal relationship with the City of Cambridge set the stage for a unique urban / academic construct. This report is submitted with the aspiration of supporting MIT in the realization of the full potential of this opportunity.

Study Intent and Goals for the Area

On the 2nd of August 2013 the Massachusetts Institute of Technology released a Request for Proposals for the East Campus Urban Design Study. Below is an excerpt from that document that outlines the study intent and goals for the East Campus Urban Design Study.

Study Intent

The study intent is to create a long-range development framework to accommodate future academic, commercial, and residential uses and a gateway into the MIT East Campus area. The property in the study area is owned by MIT and utilized by the Institute for both academic and commercial purposes. At a minimum, MIT intends to build commercial lab/office buildings with retail in the short term (within 10 years) and academic research buildings in the long term. The commercial development will enhance the vitality of the area, provide much needed amenities, and support the high tech research and development that continues to expand in Kendall Square, making it the most densely populated innovation cluster in the world.

The Framework should give equal consideration to open space, arrival experience and connections linking the main campus, MIT Sloan block, and the greater Kendall Square neighborhood. The Framework should also consider landscape/ecological systems, pedestrian circulation, vehicular circulation, materials handling, options for district energy, and parking.

Goals for the Area

MIT's goals for the new development proposals being put forth by the Institute in Kendall Square are:

• Enhanced Innovation Cluster

MIT's success in innovation is dependent on external interactions with the extended academic and business world and collaborations within the Institute itself. The Institute has helped attract to land adjacent to campus a multitude of life science and technology companies, ranging from start up, venture backed firms to well established giants such as Novartis, Pfizer, Sanofi-Aventis, Takeda, Schlumberger, Microsoft, and Google. This fertile environment has enhanced research collaboration both within the Institute and between the Institute and industry, resulting in the creation of a highly productive discovery environment, a powerful economic engine, an extremely effective talent magnet, and one of the world's most highly recognized life-science and technology centers. All of this helps MIT recruit and retain the best faculty, students, and staff. MIT's Kendall Square Initiative should provide new space to allow this powerful academic industry innovation dynamic to grow.

o Goal: Provide space for both new innovative academic initiatives and commercial enterprises

• Lively Urban Environment

Despite the excitement of the creative intellectual developments in and around Kendall Square, the physical environment is still not reflective of a world class institution, leading innovation cluster, or vibrant city square. Kendall Square is experiencing a burgeoning sense of excitement and identity but still requires the addition of fundamental amenities such as basic retail services and places to entertain, meet, and assemble that are critical to a successful urban interactive place.

o Goal: Create a destination gathering and arrival place with amenities and services and active streetscapes

• Vibrant Gateway

The Infinite Corridor, the major pedestrian campus thoroughfare, ends well before Kendall Square and leaves the Sloan School disconnected. The revitalization of Kendall Square provides an opportunity to extend the Infinite Corridor and establish a major new gateway at the east end of the campus where it meets the central business district and the neighboring community.

o Goal: Establish a vibrant new gateway and connective link between the Institute, the central business district, and the Cambridge community

• Feasible Development

Achieving the vision of a revitalized Kendall Square will require a significant financial investment by MIT. However, to ensure that MIT does not need to divert precious academic resources from critical Institute initiatives such as faculty research and student scholarships, the commercial buildings proposed in the plan should be financially self-supporting in addition to being viable under market, physical, and legal/political considerations. Furthermore, to ensure city support, the plan should generate increased tax payments to the City of Cambridge to provide funds to help it achieve its policy objectives, such as maintaining a low residential tax rate, creating more affordable housing units, and improving the school system.

o Goal: Create an overall development plan that is economically viable

MIT Gateway and Campus Connections



How can MIT-specific activities to be made more prominent and varied in the East Campus?



How can connections to the Sloan School be strengthened through the East Campus?



How can the indoor and outdoor rhythms of the Infinite Corridor be transformed and celebrated in the East Campus?



How can the Infinite Corridor become a window into MIT in the East Campus?



How can MIT more immediately announce itself on arrival at the Kendall T-Stop?



How can the presence of the commercial research buildings be balanced by appropriately scaled open space?

Landscape Analysis East Campus Existing Conditions

The central spaces of the East Campus are predominantly urban in character, defined by the irregular grid of minor city streets and largely occupied by surface parking lots. The edges of the East Campus, around the Sloan School and west of E23 are more campus-like in character. In general there is little landscape or pedestrian continuity across the East Campus, either north-south between Main Street and the river, or east-west between the Sloan School and Ames Street.

Questions related to connectivity became central to the analysis of the existing landscape conditions, connections to the rest of campus, to the city and to the river. A strategy for a well-connected public realm in East Campus started with an understanding of the existing connections and a search for potential sites for improvement.

Connections to the City

Connections to the River



How can Main Street become activated at all hours of the day and throughout the week?



How can the increasing vitality of Kendall Square retail best serve the MIT and Cambridge communities?



How can the Wadsworth Street connection to the river be strengthened?



How can the river become more central to the experience of the East Campus and Kendall Square?



How can MIT more immediately announce itself on arrival at the Kendall T-Stop?



How can new public open space on the East Campus help to create a more complete open space system in this part of the city?



How can the variety of connections to the river be increased?



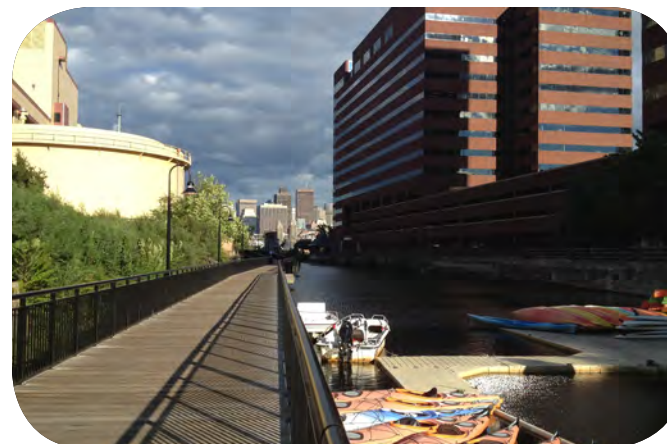
How can connections across Memorial Drive to the river be made more welcoming and safer?



How can the East Campus better connect to Third Street and the fast-changing areas to the north?



What kind of presence should the East Campus have on the urban skyline?



How can the variety of connections to the river be increased?

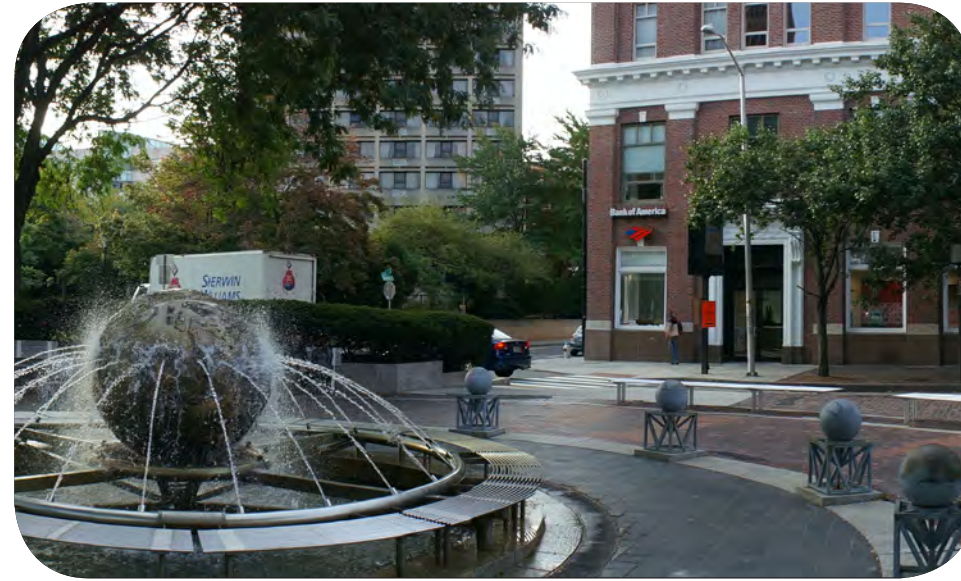
Landscape Analysis East Campus Initial Findings

Initial findings suggest that the East Campus landscape is limited, and of poor quality, particularly in the central area between Carleton and Wadsworth Streets. In general, the open spaces in this part of campus, and the off-campus public open spaces to the north of Main Street are experienced as isolated islands rather than as an integrated system. Creating new public spaces that are part of a wider system that is well connected will be key to the success of the East Campus landscape.

Kendall Square has two recognizable centers, both with potential as gateways to East Campus from Main Street - one at the T headhouse next to E38, and one at Point Park. While acknowledging that improved connections from these centers to the river could be made along Carleton and Wadsworth Streets, the design team identified a connection through the heart of East Campus to the river as another possible way to give structure to the East Campus through landscape.



Open Space at BioMED Realty



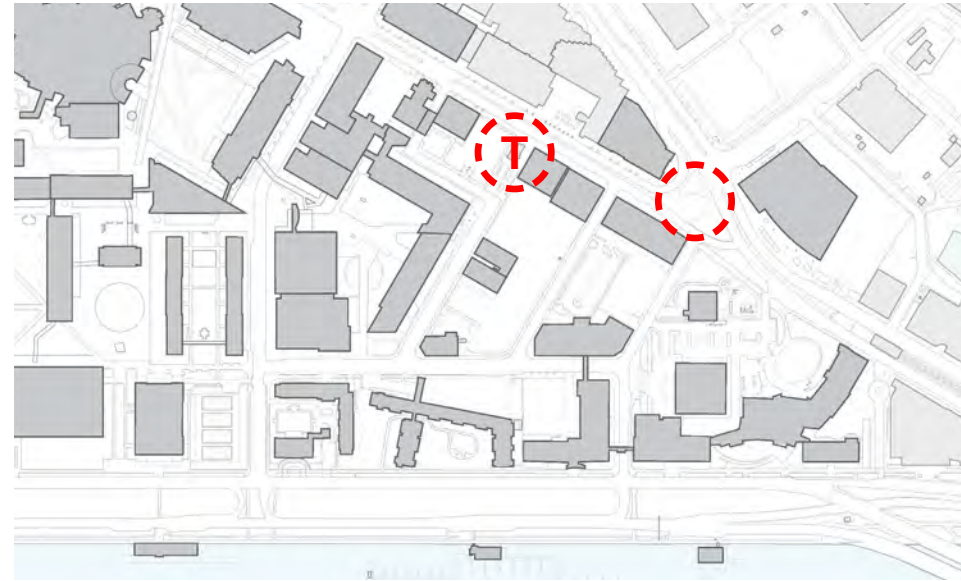
Point Park



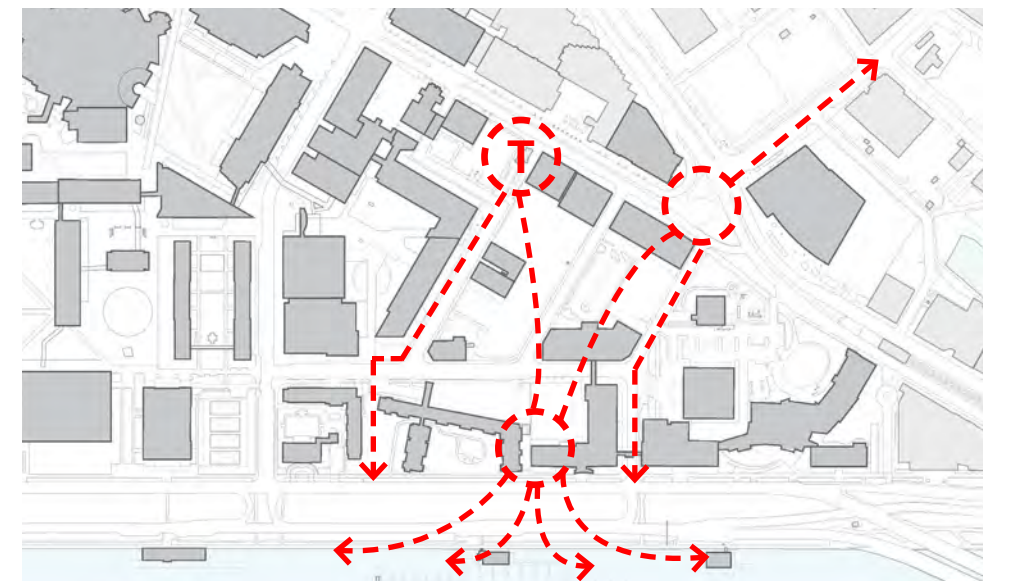
The Charles River and Boston Skyline



Isolated Island of Open Space: Kendall Square North Plaza



2 Centers of Kendall Square: Point Park with E48 and Eastgate beyond



Connect Kendall Square to Charles River: View of Boston skyline from MIT

Landscape Analysis East Campus Landscape Strategy

The landscape strategy reflects the diversity of the physical context, and aims to create spaces that welcome the range of users anticipated from the MIT community, residents of the surrounding neighborhoods, and the workers of Kendall Square. The strategy is to create a range of landscape types, from highly programmed urban plazas at different scales, to more intimate and richly planted garden-like spaces.

The aim was to create a series of places that would not replicate the landscapes of extensive lawn and canopy trees commonly found on the MIT campus, but rather gives the East Campus a distinct identity that feels welcoming to users from inside and outside MIT. The variety of spaces complement

each other and are designed to accommodate large communal events, small gatherings and individual use.

Examples of successful prototypes by Michael Van Valkenburgh Associates are shown on the left side of the page.



PLAZA
Bailey Plaza, Cornell University



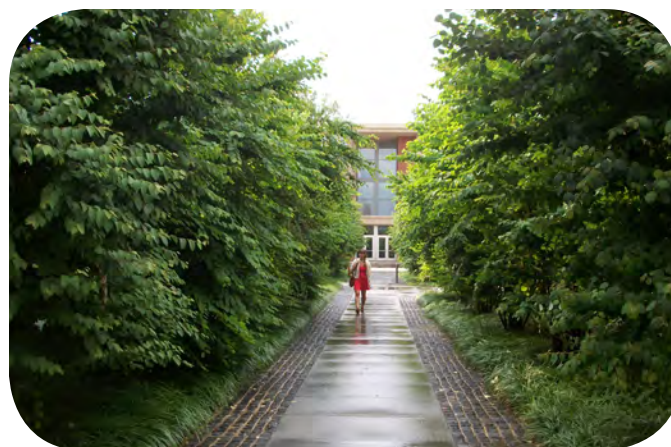
COMMON SPACE
Harvard Square, Harvard University



GARDEN SCALE
Princeton University



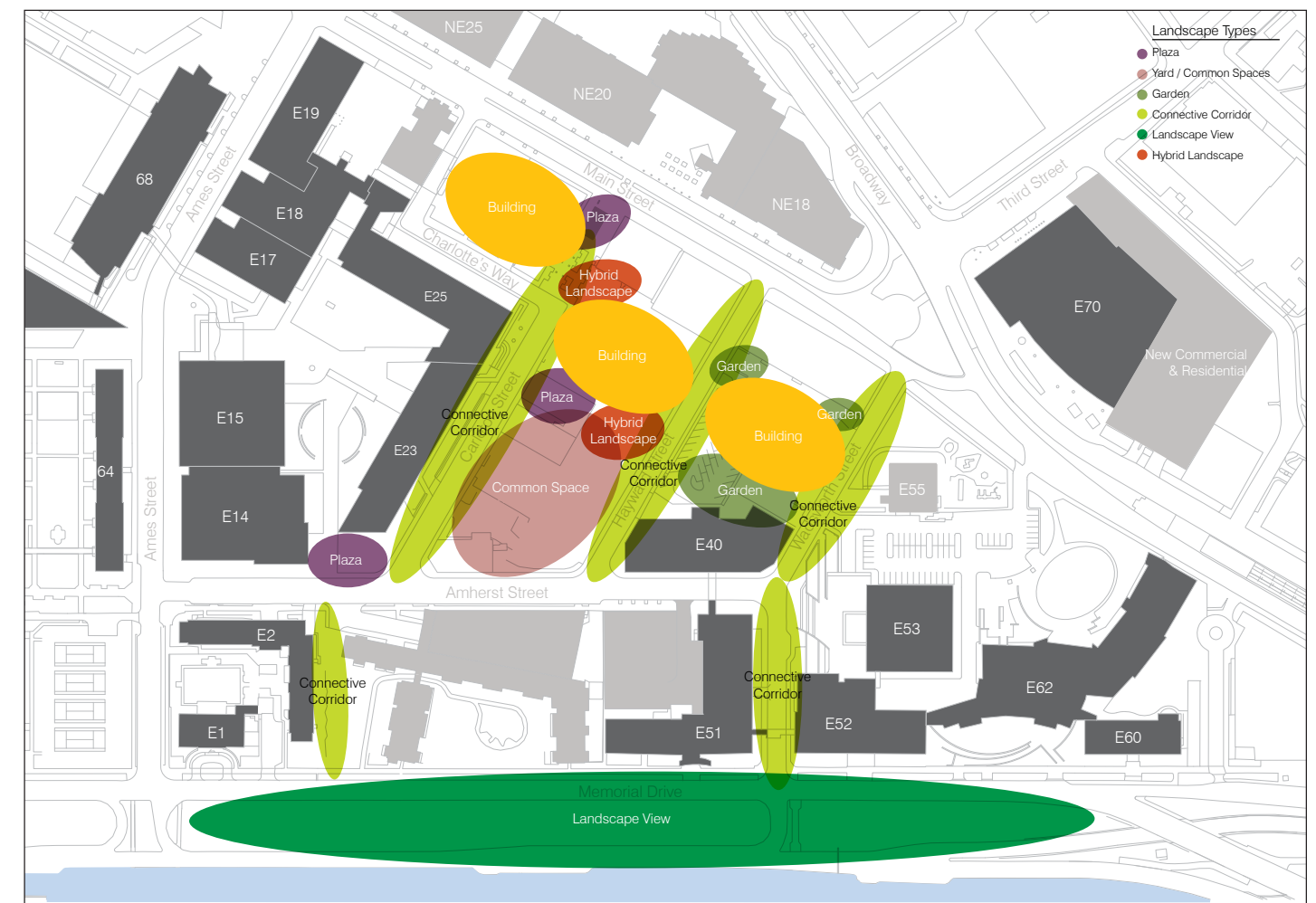
BORROWED LANDSCAPE
Brooklyn Bridge Park



CONNECTIVE CORRIDORS
Princeton University



HYBRID LANDSCAPE
Hudson Park Boulevard



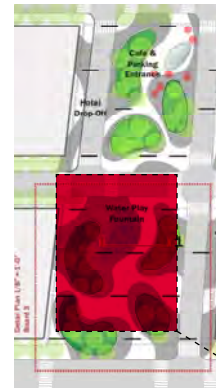
LANDSCAPE TYPES

Landscape Analysis East Campus Scale Comparisons

Michael Van Valkenburgh Associates tested the site area yielded by Schemes A, B and C with precedent projects from its own portfolio. Scale comparisons with both urban and campus projects led to the conclusion that the East Campus at MIT could accommodate landscape spaces substantial enough to become the centerpiece of future development. A series of landscapes connecting to Main Street, the Infinite Corridor, the Sloan School, and the river, while providing a central space of significant scale, would have the size, presence and program potential to become the armature around which future development of the East Campus could occur.



Hudson Park and Boulevard, New York



40,600 sf



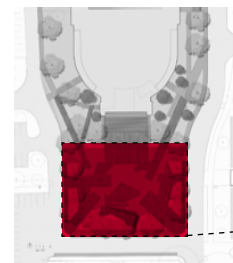
Union Square Plaza, New York



38,000 sf



Bailey Plaza, Cornell University



19,500 sf

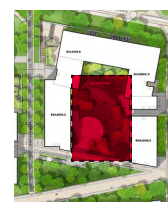


Shown with Scheme A

Landscape Analysis - East Campus Scale Comparisons Cont.



Princeton University Campus, Princeton University



9,800 sf



Tahari Courtyards, Millburn

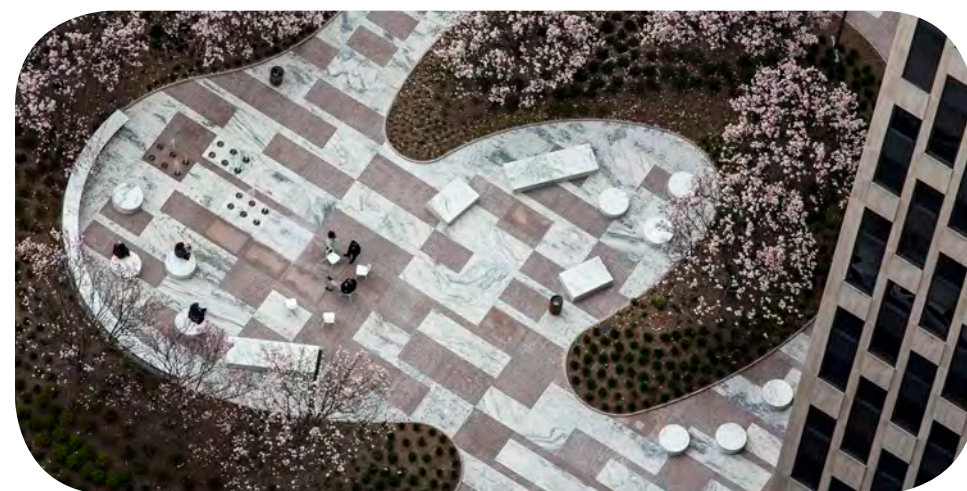
2,300 sf



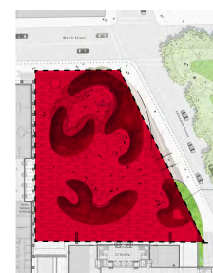
Boston Children's Museum, Boston



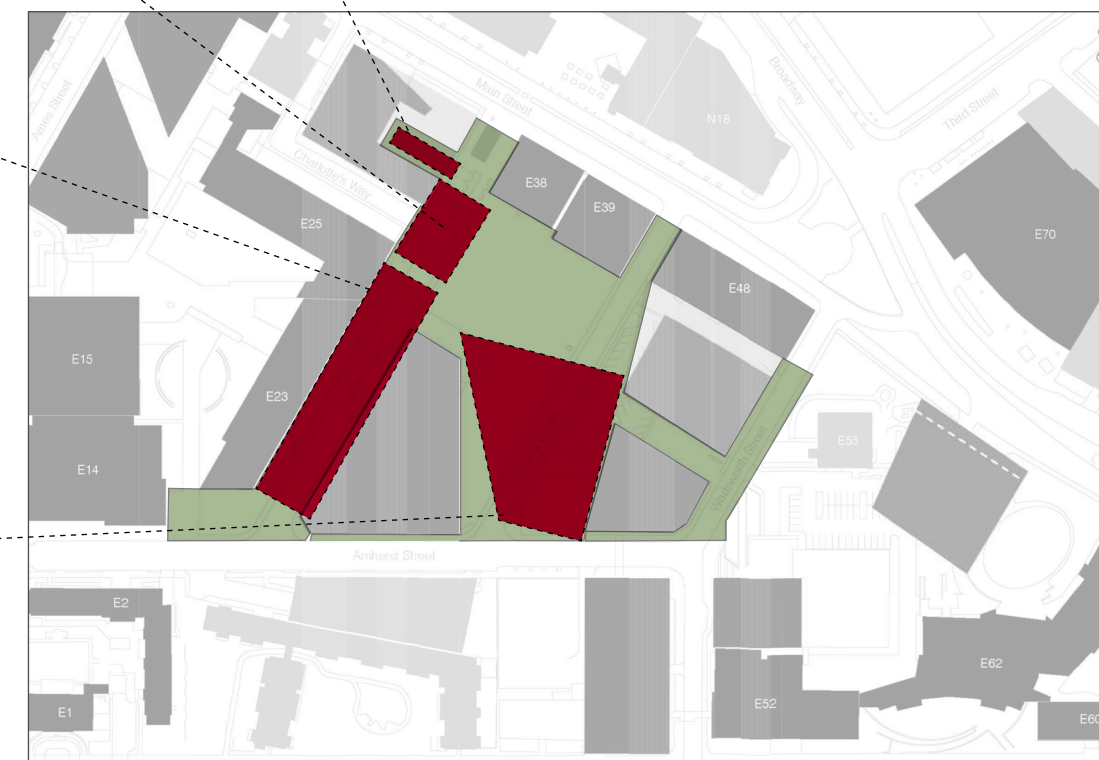
40,500 sf



Jacob Javits Plaza, New York



45,900 sf



Shown with Scheme B

Campus Analysis

In both institutional character and built form, MIT forges its own unique way among institutions of higher learning. The physical characteristics of the MIT campus resonate with teaching and research both of which are, paradoxically messy and exacting; microscopic and infinite; personal and institutional. The formal south lawn with the Dome at Killian Court and the informal aggregated north precinct, the restriction and simultaneous expansion of the Infinite Corridor, and the distinct separation of personal space from the collective institutional space all exemplify this physical resonance.



Campus as City Fabric:
The south edge of East Campus is well defined by Memorial Drive and Charles River. But along the northern edge, the definition of campus fabric is slowly evolving into the fabric of Cambridge across Main and Vassar street.



MIT Buildings:
The diagram illustrates the fragmented expansion of the campus towards the north. It also illustrates the underutilized nature of the East Campus in its existing condition.

MIT in terms of institutional character is among other things:

- (1) Dedicated to the advancement of knowledge and the education of students in science, technology and other areas of scholarship.
- (2) A renown world leader in technology and science advancement.
- (3) Closely associated with industry outreach and interface.
- (4) An institution that generously supports its academic community.

Physically the MIT campus is characterized by:

- (1) Its linearity east-west along Memorial Drive and the Charles River.
- (2) The iconic presence of the Dome on Killian Court.
- (3) The strength and anchoring effect of the Bosworth plan and architectural expression.
- (4) The Infinite Corridor and the energy that it produces by its spatial configuration.
- (5) A formal face south to the Charles River at Killian Court and the Dome and an aggregated informal face to the north along Vassar and Main Streets.
- (6) The aggregation of buildings in the central academic core with free standing buildings to the west and east.
- (7) Definitive buildings in, on and around distinctive varie-gated landscapes.
- (8) Separation of student housing from institutional, academic and research spaces.
- (9) A physical and political symbiotic relationship with the city of Cambridge.
- (10) A strong visual connection to the Boston skyline.

East Campus (PUD-5), in particular, is characterized as:

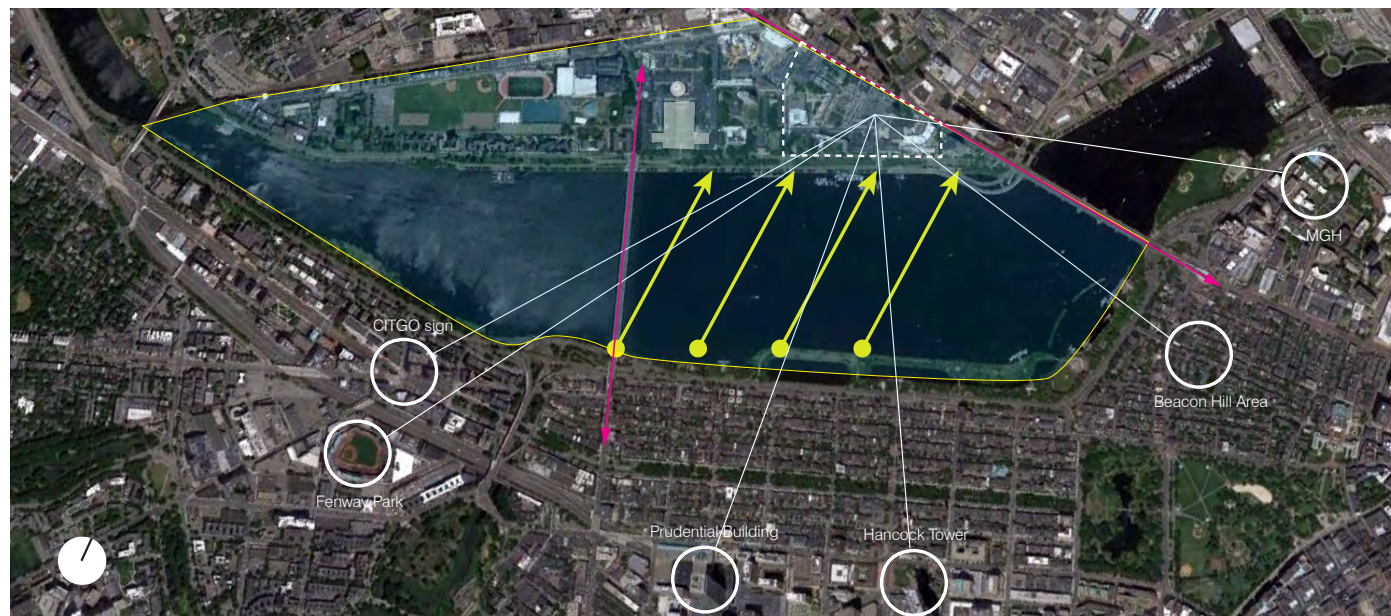
- (1) Underutilized, undistinguished and uninviting.
- (2) In a gateway position from the City of Boston across Longfellow Bridge and via the T- Stop in Kendall Square.
- (3) Having a developmental capacity of over four million square feet.
- (4) Potentially a major interface zone from the Cambridge community through to the Charles River.
- (5) Divided from the Cambridge community at the north edge by the assemblage of three historic buildings that currently provide no porosity or transparency to the inner block.
- (6) Potentially the site of a new, distinctive campus landscape space that, with Kresge Court, brackets the center academic core.
- (7) A zone where the Infinite Corridor can be differently realized and extended to promote east/west connectivity to the Sloan School of Management, north/ south from Main Street to the Charles River to connect academic structures, and as a tool for engaging the greater Cambridge Community.
- (8) Potentially the site of a new campus/ urban construct for the 21st century. A construct that merges the public realm, the academy, and industry in an identifiable uncompromised campus place that is decidedly MIT. (See Principles and Strategies pages 18 through 23)



Campus Landscape Mosaic:
The Charles River boundary and landscape are the connective elements that hold the MIT campus together. Distinguished buildings are in, on or around a variety of landscapes.



Infinite Corridor Extension:
The infinite corridor is a unique experience MIT offers and the East Campus has the capacity to host the extension of the infinite corridor in any number of configurations and at various elevations.



East Campus' Relationship to Boston:
The East Campus is a visual and physical link between Cambridge and Boston. It is optimally situated to receive south light and has uninterrupted views towards many of the landmarks in Boston.

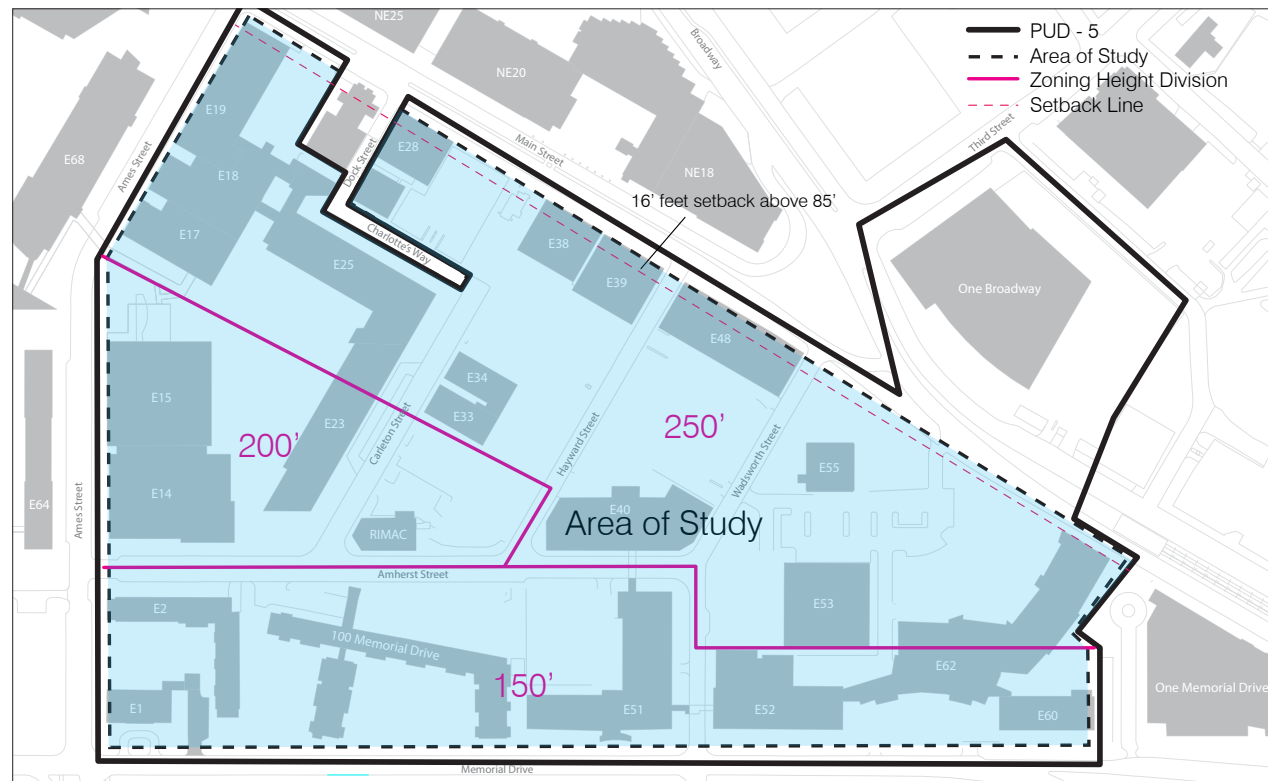
- *Minimum Publicly Beneficial Open Space for PUD-5: 15%** (*PUD-5 13.87.1)

- *Ratios for Maximum Allowed Parking:*

Office Use:	maximum 0.9 spaces per 1,000 SF
Laboratory Use:	maximum 0.8 spaces per 1,000 SF
Retail Use:	maximum 0.5 spaces per 1,000 SF
Institutional Use:	maximum 1.0 space per 1,800 SF
Residential Use:	minimum 0.5 spaces per dwelling unit maximum 0.75 spaces per dwelling unit

- *Allowable Program in PUD-5:*

1,690,000 SF	New Gross Floor Area by Use on Area of Study maximum 890,000 sqft commercial maximum 800,000 sqft academic
2,275,205 SF	Total Existing Buildings on Area of Study
330,000 SF	New Gross Floor Area by Use on One Broadway Site minimum 240,000 sqft residential 90,000 sqft commercial
297,069 SF	Existing Building on One Broadway Site
<hr/>	
4,592,274 SF	Total Building Capacity on PUD-5



Zoning Ordinance Parameters

On March 21, 2013 the City of Cambridge issued ordinance Number 1355 thereby creating Planned Unit District 5 (PUD-5) of approximately 26 acres as shown on the plan diagram opposite. The new Section 13.8 PUD-5, excerpted below, is intended to allow mixed-use development with increased development densities and heights.

13.81 Purpose. The PUD-5 District is intended to provide for Kendall Square’s continued prominence as a world-renowned center of innovation and a vibrant neighborhood through the creation of a mixed-use district of high quality general and technical office and laboratory uses with significant retail activity proximate to the MBTA station. The PUD-5 District helps organize placement of commercial and institutional buildings and establishes an additional mixed-use development containing a significant residential component to support the burgeoning residential corridor along Third Street and the strong links to existing neighborhoods and the riverfront. The PUD-5 District allows for continued support of the academic mission at MIT and encourages connective links, physical and otherwise, between the Institute and adjacent neighborhoods.

The PUD-5 District responds to the Kendall Square planning process and is intended to be a smart-growth, transit-oriented district and therefore allows for replacing surface parking lots with larger scale development in Kendall Square and the major public transit services located there. The PUD-5 District encourages low parking ratios, shared parking strategies, the use of public transportation and improved pedestrian and bicycle environments. The PUD-5 District furthers the City’s goals for sustainable development through buildings and sites that are planned, designed and constructed in a sustainable way so as to minimize adverse environmental impacts as they are initially constructed and as they are occupied and operated over the course of their useful lives.

The PUD-5 District promotes the creation of a strong retail corridor along Main Street and the enhancement of Broad Canal Way. Combined, this new public crossroads will have broad appeal as a desirable destination during and beyond the traditional workday by providing a critical mass of diverse restaurants, shops, entertainment and programming. The ground floor space will engage pedestrians and provide a variety of indoor and outdoor gathering spaces, including retail that can address the needs and reflect the creativity of the local community.

While the entire Ordinance Number 1355 is applicable, of particular influence on this planning study were issues of maximum program area for academic uses and for commercial laboratory/ office uses including innovation space. Active use provisions, building height and setback regulations, parking ratios and guidelines, and publicly beneficial open spaces were also of particular importance.

Community Process

MIT and Cambridge Participation

The project team engaged in three rounds of meetings with both the internal MIT community and the external Cambridge community. In the first two rounds the groups met separately, and the final round was a joint meeting.

In the first meeting principles and strategies were presented, and questions about the site were posed to encourage a discussion about the communities' impressions of the East Campus and their vision for the future. The team encouraged participants to post comments on a large aerial image of the site, followed by a group discussion. Feedback from this meeting was recorded and presented back to the groups at the following meeting.

In the second meeting the team identified and described four critical design issues, including the use of the Eastgate site, the nature of the gateway, connections, and landscape typologies and mixed use. Feedback was invited from the participants through written responses on the site aerial and a group discussion. Again, feedback was recorded and presented back to the groups at the following meeting.

In the final meeting three campus/ urban planning schemes were presented and three landscape approaches. The work was presented through diagrams, plans, 3d models and annotated before and after views. The material presented at the three public meetings is summarized and included in this final report. See Index of Resources for access to Minutes of Meetings.



Urban Planning and Framework Statement

The East Campus Urban Design Study represents a contemporary shift in the way the urban university positions itself in the city. Increasingly, there is a move away from the isolated campus with an exclusive enclave of academic buildings occupying a large land area on its own, remote from other uses, to one that is more integrated in a lively mixed-use urban setting. There are multiple advantages to this greater integration. Universities are communities, are within communities and create communities. Universities have the potential to be great city builders. They form mutually beneficial symbiotic relationships with the city around them. There are many opportunities for joint planning around a shared vision to promote shared and overlapping use of resources like access to transit, retail, community facilities etc.

The interweaving and overlap of the campus and the city produces an environment which is more like a university “quarter” as opposed to the traditional detached campus. This is inherently a more sustainable form of development as it uses scarce resources and land to greater advantage. It positions the campus as a valuable asset and catalyst, with economic spin-offs and entrepreneurship opportunities along with easier access to shared neighborhoods to meet the needs for housing and commercial nodes to provide daily life necessities of the academic community.

Within this perspective the East Campus Urban Design Study is a search for an inventive and unique solution which moves beyond previous normative or formulaic thinking; a solution learning from but moving beyond precedents that no longer resonate with this academic generation. The way MIT grows and makes itself physically has everything to do with the well being of the academic and intellectual community and the ability of the institute to attract and keep faculty, students and researchers of extraordinary ability.

In many ways the future of Kendall Square is not dissimilar to its past; a place where people can work, live, study and play, and this future can only be realized through the active participation of all in the Kendall community. During the MIT rezoning process a consensus emerged between MIT, the City of Cambridge and neighborhood groups that a density of mixed-use development supported by public open space, ground floor retail, and residential development was a critical component of the way ahead. The East Campus Study process has continued this dialogue in attempting to address a complex set of parameters and constraints while creating a plan that is a truly world-class vision. The appetite for something special here was shared by everyone involved in the process, and we believe our design approach has led to some solutions which meet those appropriately high expectations.

We have built on our familiarity with the City of Cambridge’s community outreach process in constructing a cycle of three workshop sessions with the MIT and broader Cambridge com-

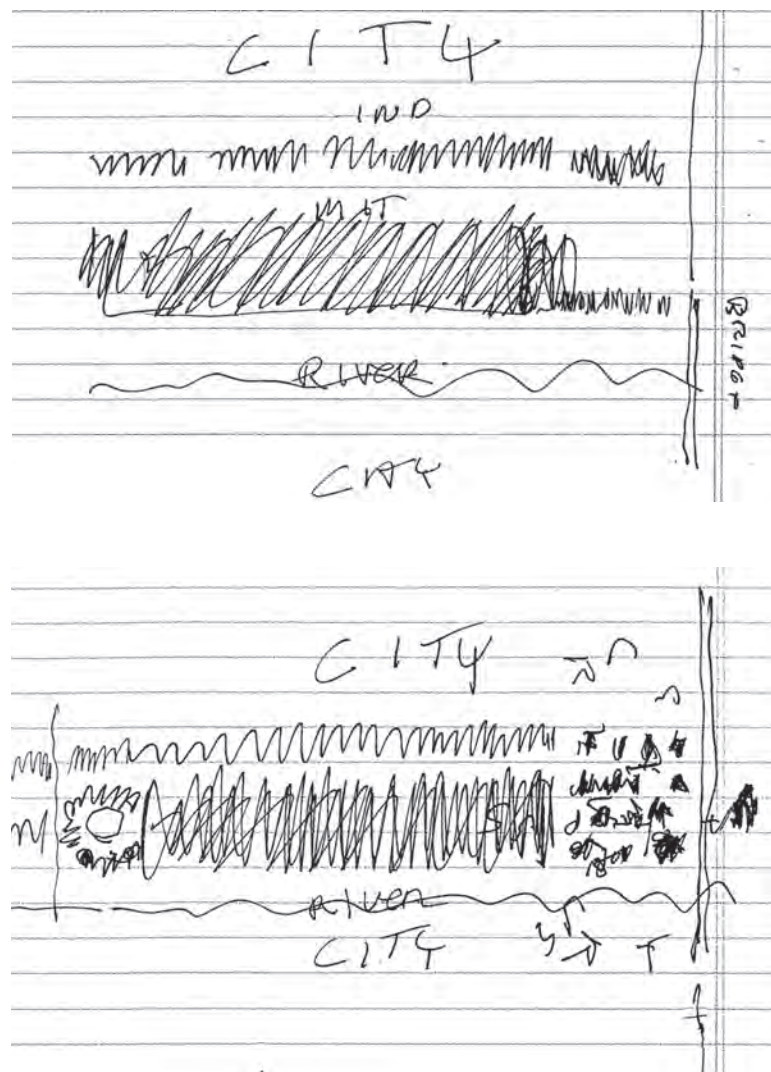
munities which has produced valuable insights in the course of an iterative process proceeding from the articulation of shared principles to the exploration of concepts and arrangements that proposed a range of options in terms of land use, built form, circulation and public realm. The insights coming from these sessions have been invaluable in refining and narrowing the many possible options leading to preferred directions.

We have made extensive use of drawings, diagrams and physical and digital models as important tools for public presentations and meetings to enable the public to better understand, evaluate, and influence the different options that were being explored. These have been most helpful in increasing our conceptual understanding of a context with many moving parts and complex variables; identifying clear imperatives, those sine qua non priorities which must be met; and identifying the critical missing links and gaps that needed to be addressed to engage and unify the East Campus with the rest of the MIT Campus, Kendall Square and its place of privilege on the Charles River.

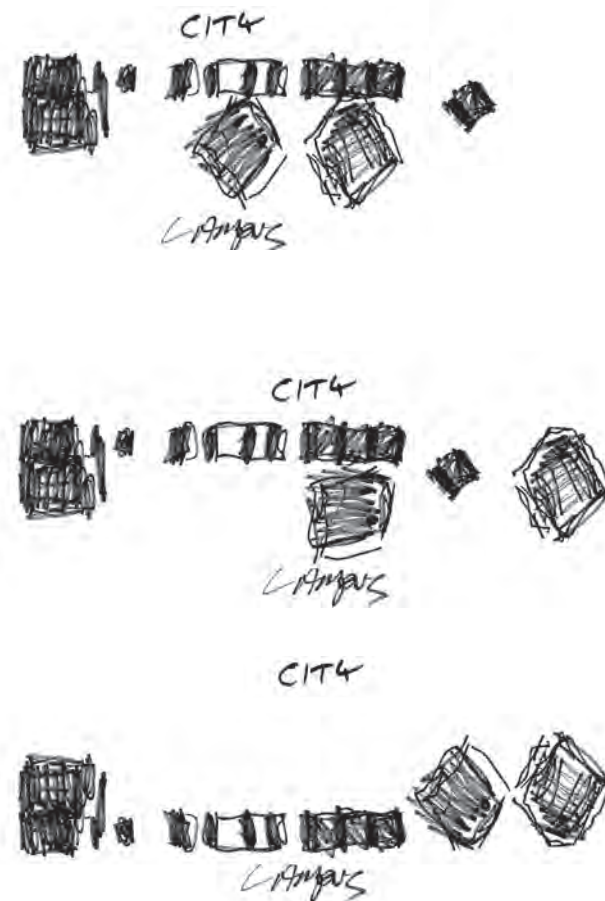
Ultimately this Study is about the management of changes which will occur over an extended period, identifying first critical moves in early and mid-term stages while always keeping in mind long term goals and objectives. This has required taking into account the pragmatic needs of space, function, time, cost and process and how these would be affected by the more subjective (aesthetic) desires of culture, quality, and image. What we have attempted to do is discover the true necessity of the undertaking which is a balanced and measured consideration of all goals and aspects of a project including site, function and aesthetics.

Of necessity the Study did not arrive at a definitive conclusion in the form of a singular “design” solution for the entire East Campus. There are too many uncertainties and additional factors which will come into play over time as incremental steps occur in a multi-decade process. What is proposed, however, is a clear set of agreed upon Principles (set out below) to guide these steps along with an Urban Design and Development Framework that sets out a clear definition of a robust public realm in several versions integrating the Campus, the City and the River and a range of options for positioning commercial lab buildings, academic and mixed-use buildings that are consistent with this integrated vision. MIT will need to further evaluate the logistics, timing, and market conditions as it moves forward, and as a result the final plan is likely to be refined over time. The play out of decisions within this Framework and creativity and excellence in design of buildings and landscapes respecting the Principles will be the keys to creating an urban place of great distinction and a new form of urban campus exemplary of MIT’s unique qualities.

Ken Greenberg



Urban adjacencies sketch



Porosity diagram sketch

Principles and Strategies

Early in the study process, the collective MIT and consulting team developed the following principles and strategies. Just as these principles and design strategies informed this study, they are tools and guidelines that are intended to move forward with the future development of the East Campus.

Principle 1: As a gateway, the East Campus project will be emblematic of MIT in the 21st Century.

Strategies:

Create a physical and intellectual porosity between the academic campus and city, supporting MIT's academic mission, and its urban context.

Rather than a singular entrance to MIT, the gateway will be a node of activity and a multifaceted series of spaces and portals.

Leverage the potential of the East Campus as an appropriate and memorable presence on the ground and on the skyline of Cambridge.

Principle 2: The project will engage and enrich Kendall Square as the most densely populated innovation cluster in the world, and an important cultural, business and social partner of MIT.

Strategies:

A vital and varied MIT presence will be expressed on Main Street.

The vision should consider adaptive reuse options as a way to enrich the layered experience and diversify the scale of Kendall Square.

The 24-hour nature of research will be served with safe, welcoming public spaces and amenities open at all hours of the day and throughout the week.

Principle 3: Developing economically viable commercial research buildings integrated with the overall vision for the East Campus plan will be essential to the plan's success.

Strategies:

The plan will be flexible enough to allow for academic and research uses that have not yet been thought of, and for unanticipated funding sources.

The incremental development of the East Campus will be economically viable at each step of its realization

The architecture of the commercial research buildings will reflect the unique market opportunity of being on the MIT campus, – innovative and distinctive, yet flexible.

Principle 4: The utilization of landscape and architecture will provide:

- a. A unique blending of city and campus,**
- b. Increased connectivity,**
- c. An enhanced sense of place,**
- d. A sustainable urban ecosystem.**

Strategies:

The East Campus will be both a recognizable part of the MIT campus, and a part of the wider city.

Open space in the East Campus will complement the mosaic of existing campus landscapes.

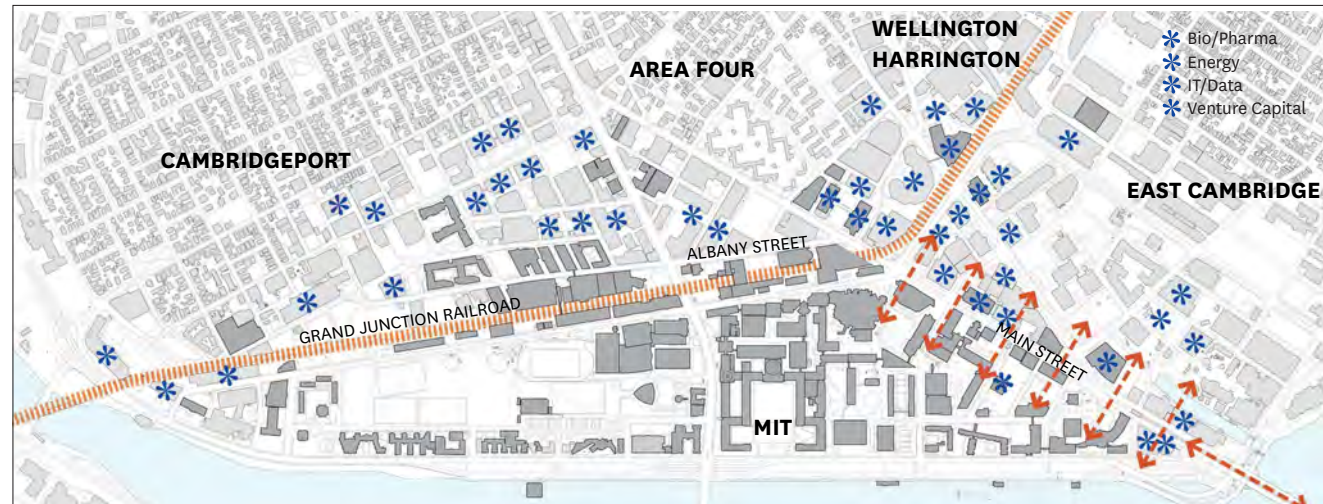
The ground plane will be liberated to include an interrelated exterior and interior public realm with welcoming, open ground floors and a density of private program above and below.

Equal consideration should be given to open space, the MIT arrival experience, and connections to the Charles River.

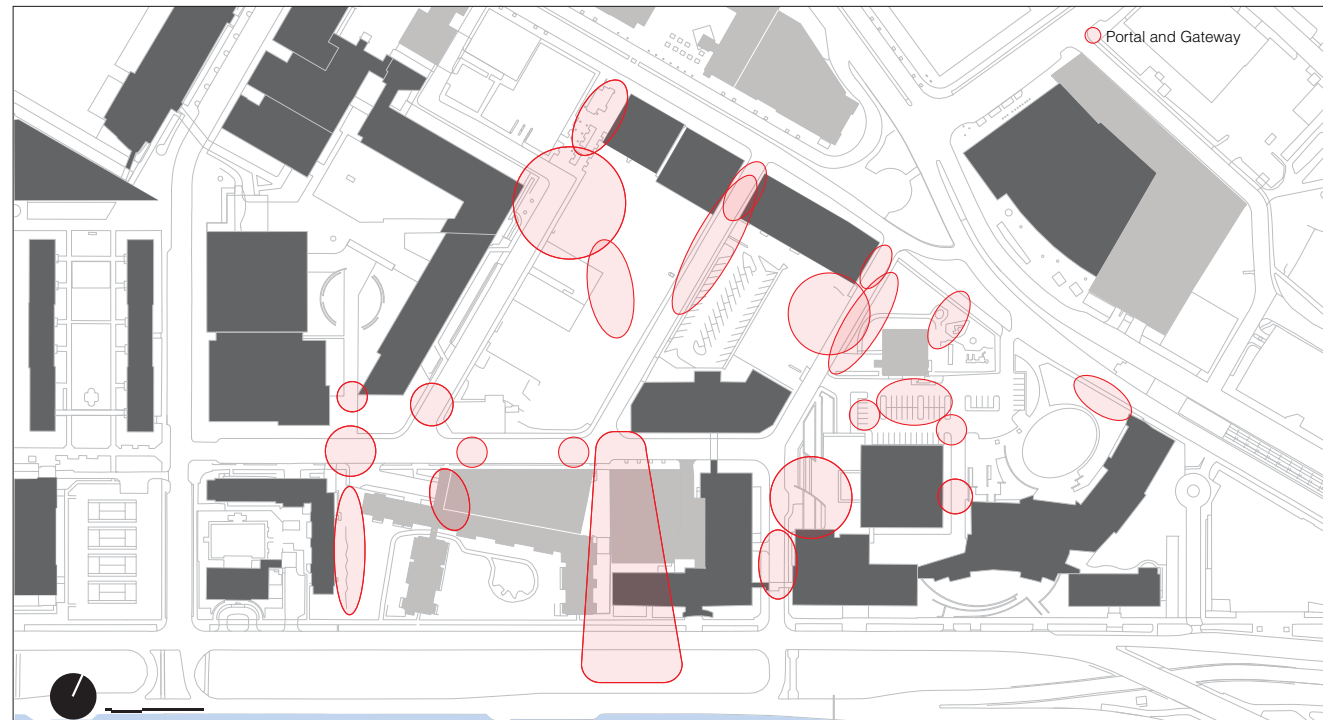
The Infinite Corridor needs to find a new and appropriate expression in the East Campus.

Multiple modes of circulation, transportation and parking will make a balanced contribution to the vision with a priority given to active transportation, a high quality pedestrian environment, and well managed materials handling facilities.

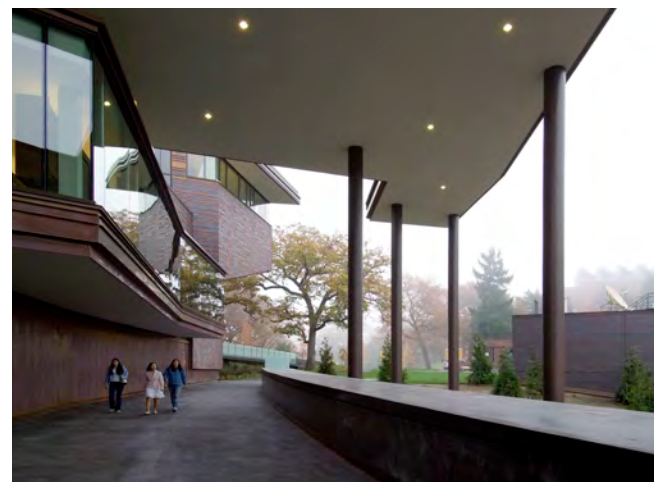
Principle 5: The project will embody an “MIT-ness” both in its process and product.



(1a) East Campus / Innovation Cluster diagram



(1b) Portals and gateways diagram



(1c) Portal at Wellesley College, Wellesly MA



(1d) Portal at Wellesley College, Wellesly MA



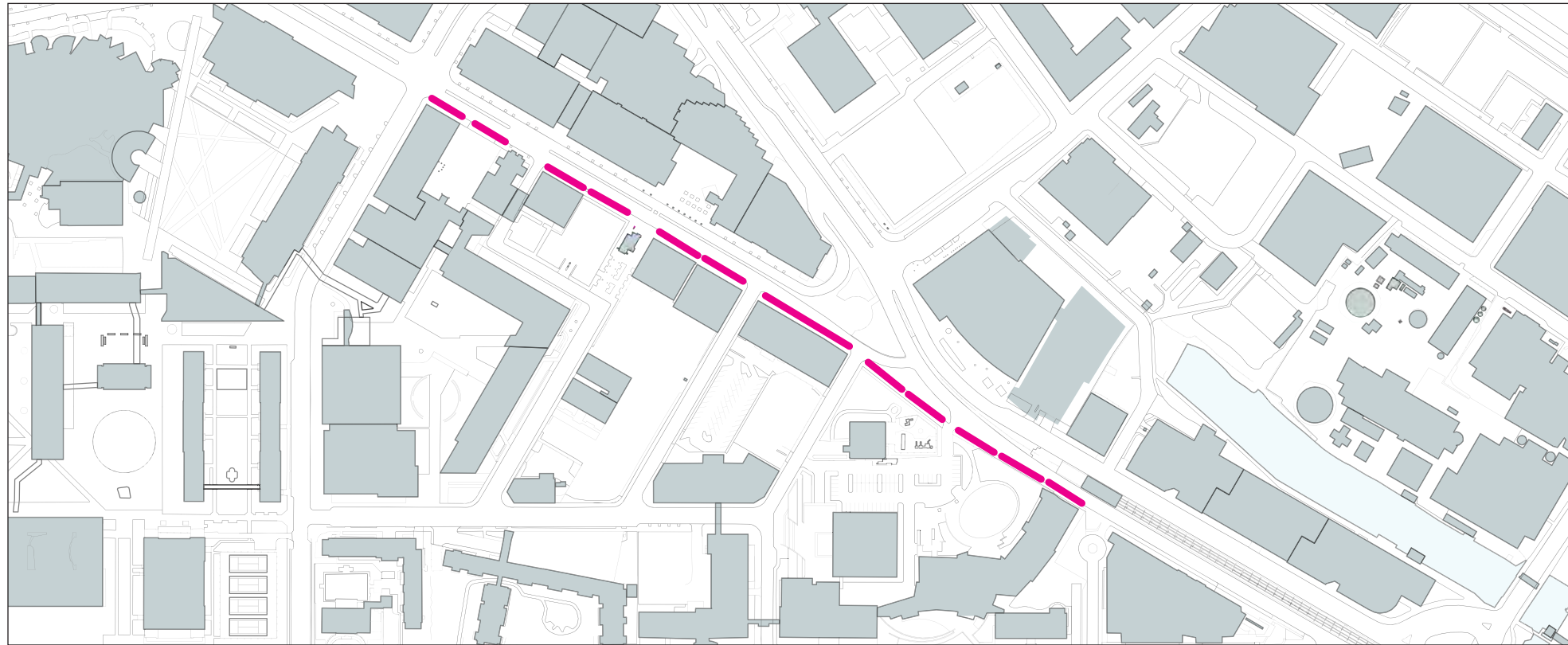
(1e) Aerial view of MIT

Principle 1:
As a gateway, the East Campus project will be emblematic of MIT in the 21st Century.

Strategies:
 Create a physical and intellectual porosity between the academic campus and city, supporting MIT's academic mission, and its urban context. (1a)

Rather than a singular entrance to MIT, the gateway will be a node of activity and a multifaceted series of spaces and portals. (1b) (1c) (1d)

Leverage the potential of the East Campus as an appropriate and memorable presence on the ground and on the skyline of Cambridge. (1e)



(2a) Main Street MIT presence diagram (pink shows MIT owned frontage)

Principle 2:
The project will engage and enrich Kendall Square as the most densely populated innovation cluster in the world, and an important cultural, business and social partner of MIT.

Strategies:
A vital and varied MIT presence will be expressed on Main Street. (2a)

The vision should consider adaptive reuse options as a way to enrich the layered experience and diversify the scale of Kendall Square. (2b)

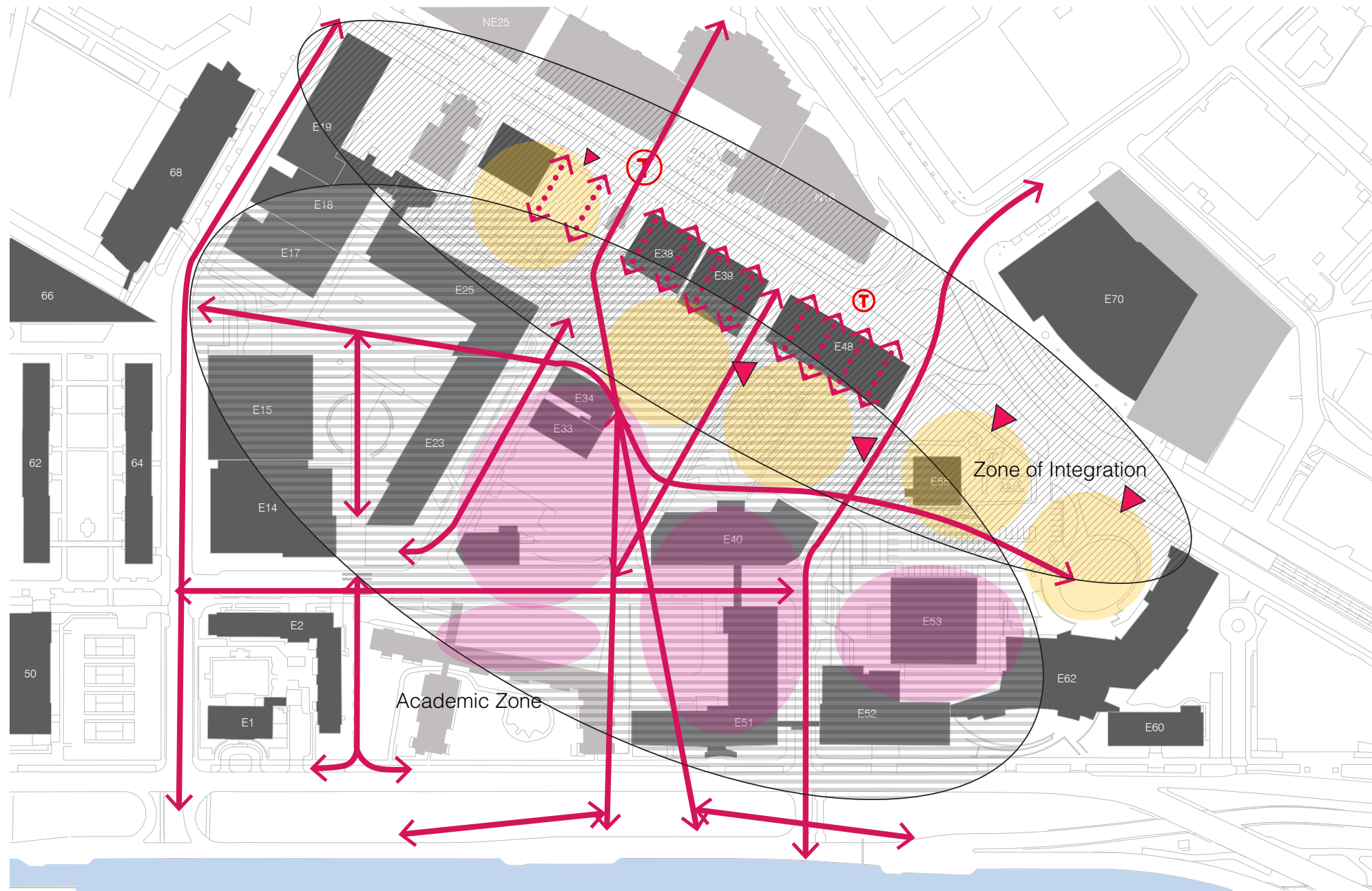
The 24-hour nature of research will be served with safe, welcoming public spaces and amenities open at all hours of the day and throughout the week. (2c)



(2b) Main St. - existing condition looking southeast from building E38



(2c) Skating rink - Kendall Square North Plaza



Principle 3:
Developing economically viable commercial research buildings integrated with the overall vision for the East Campus plan will be essential to the plan’s success.

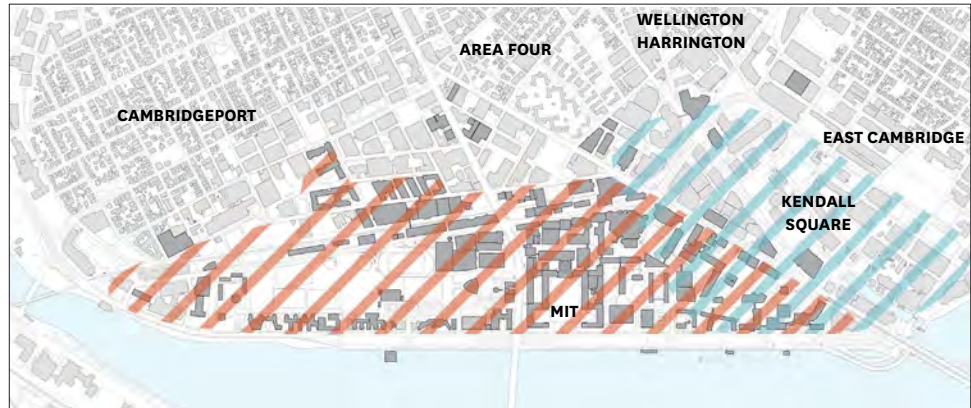
Strategies:
 The plan will be flexible enough to allow for academic and research uses that have not yet been thought of, and for unanticipated funding sources.

The incremental development of the East Campus will be economically viable at each step of its realization

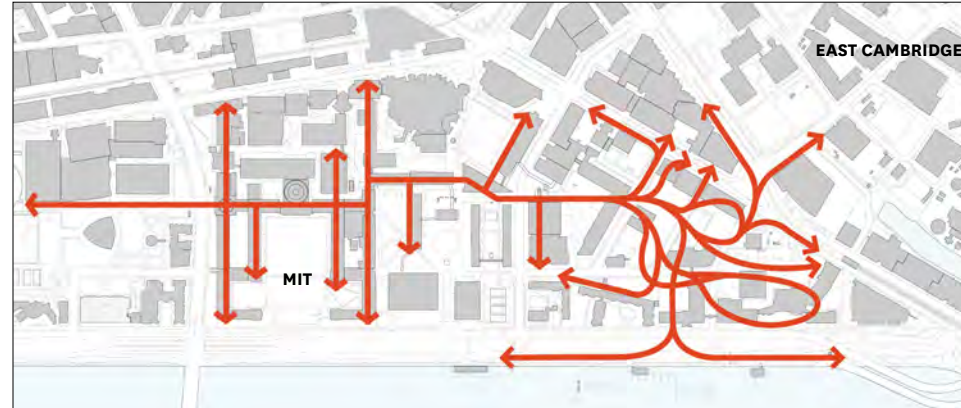
The architecture of the commercial research buildings will reflect the unique market opportunity of being on the MIT campus, – innovative and distinctive, yet flexible.

(3a) Zones of potential development diagram

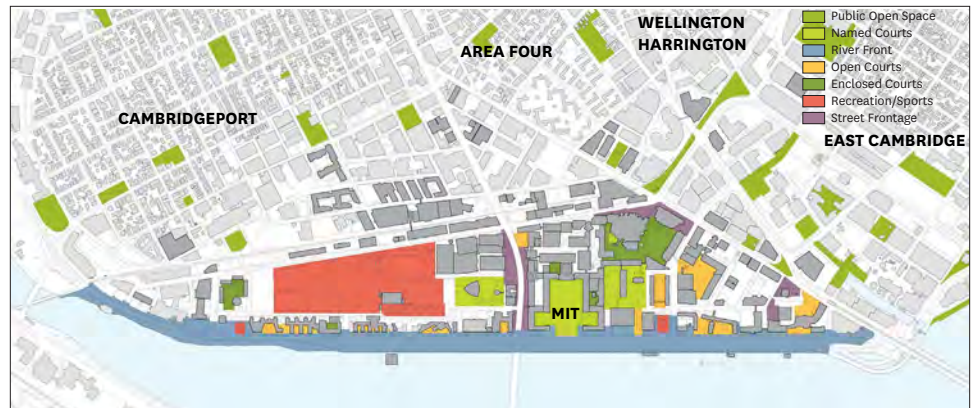
- Existing Academic Buildings
- Existing Key Buildings on/near site
- Potential Academic Sites
- Potential Commercial Sites
- ▲ Front Doors
- ↔ Pedestrian Connectivity
- ⋯ Porosity
- ▨ Zone of Integration
- ▨ Academic Zone



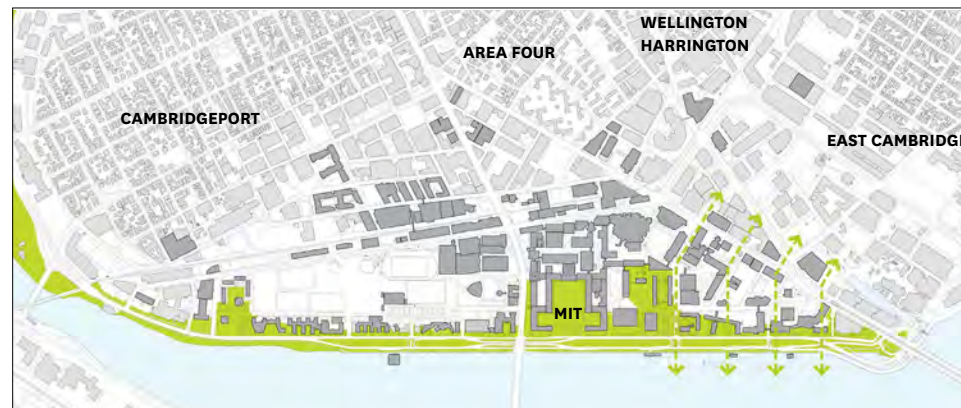
(4a) MIT / Kendall Square zone of integration diagram



(4b) Infinite Corridor East Campus possibility diagram



(4c) Mosaic of existing campus landscapes diagram



(4d) Open space and connection to Charles River diagram

Principle 4: The utilization of landscape and architecture will provide:

- a. A unique blending of city and campus,**
- b. Increased connectivity,**
- c. An enhanced sense of place,**
- d. A sustainable urban ecosystem.**

Strategies:

The East Campus will be both a recognizable part of the MIT campus, and a part of the wider city. (4a)

Open space in the East Campus will complement the mosaic of existing campus landscapes. (4c)

The ground plane will be liberated to include an interrelated exterior and interior public realm with welcoming, open ground floors and a density of private program above and below. (4e)

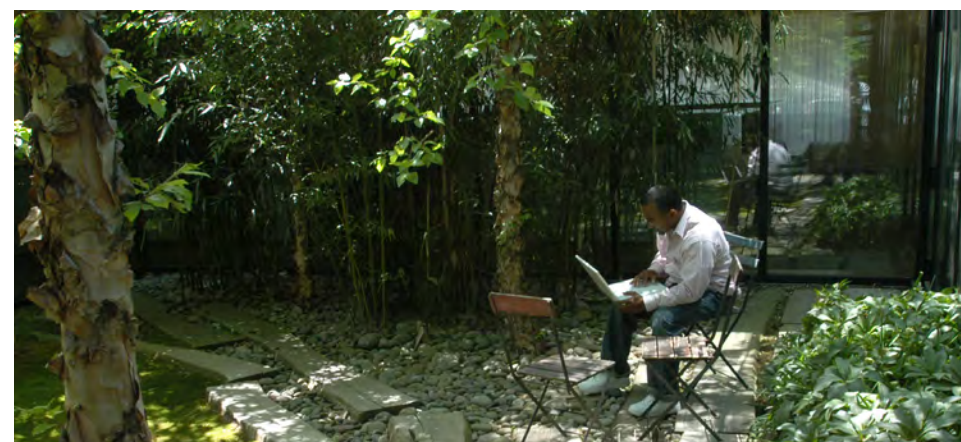
Equal consideration should be given to open space, the MIT arrival experience, and connections to the Charles River. (4d)

The Infinite Corridor needs to find a new and appropriate expression in the East Campus. (4b)

Multiple modes of circulation, transportation and parking will make a balanced contribution to the vision with a priority given to active transportation, a high quality pedestrian environment, and well managed materials handling facilities



(4e) 3 photos: Examples of liberated ground plane





Principle 5: The project will embody an “MIT-ness” both in its process and product.

