

# Institutional Master Plan Amendment

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## BETH ISRAEL DEACONESS MEDICAL CENTER

Submitted to:  
**Boston Planning & Development Agency**  
One City Hall Square  
Boston, MA 02201

Prepared by:  
**Epsilon Associates, Inc.**  
3 Mill & Main Place, Suite 250  
Maynard, MA 01754

Submitted by:  
**Beth Israel Deaconess Medical Center**  
330 Brookline Avenue  
Boston, MA 02215

In Association with:  
**Payette**  
**Leggat McCall Properties**  
**Goulston & Storrs**  
**VHB**

July 20, 2018

(Rev. 11/2018)

**Epsilon**  
ASSOCIATES INC.

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## Chapter 1

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### Introduction / Mission and Objectives



## 1.0 INTRODUCTION/MISSION AND OBJECTIVES

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### 1.1 Introduction

Beth Israel Deaconess Medical Center (BIDMC) is a premier non-profit academic medical center and a major teaching affiliate of Harvard Medical School that is renowned for excellence in patient care, biomedical research, teaching, and community service. Located in the heart of Boston's Longwood Medical and Academic Area (LMA), it serves more than half a million patient encounters annually. BIDMC is also the hub of a network of licensed and affiliated healthcare providers, including the Bowdoin Street Health Center, four other affiliated community health centers in Boston and one on Cape Cod; three BIDMC owned non-profit community hospitals in Milton, Needham and Plymouth and six other affiliated hospitals; health care providers such as Atrius Health, Joslin Diabetes Center and Hebrew Senior Life; and numerous physician groups, including its exclusive affiliate, Harvard Medical Faculty Physicians whose physicians provide patient care, research and medical education services at BIDMC.

BIDMC was established in 1996 through the merger of Beth Israel Hospital (founded in 1916) and New England Deaconess Hospital (founded in 1896)—two highly respected institutions with long-standing presence in the community. Since that time, BIDMC has worked continuously to fully integrate the services and operations of its two hospital campuses—the East Campus and the West Campus—located within a block of each other across the intersection of Brookline Avenue and Longwood Avenue. As described in BIDMC's last Institutional Master Plan (IMP) in 2004 and in subsequent IMP updates and renewals, BIDMC has gradually relocated services and renovated existing facilities to consolidate and reduce duplication of services on the two campuses, to create desirable adjacencies among related clinical programs, and to upgrade its aging facilities. These ongoing facilities improvements have eased access, enhanced the patient and staff experience and contributed to cost-saving operational efficiencies in support of BIDMC's commitment to provide the highest quality patient care, medical education and research at lower cost.

Over the past several years as BIDMC has expanded its network of affiliated providers, BIDMC has engaged in strategic planning and associated facilities planning to identify and determine how best to provide updated facilities to meet the increasing and changing needs of its patients. Through the campus integration efforts described above, coupled with moving administrative space off-campus into leased facilities, BIDMC has maximized the use of its existing, aging campus facilities for inpatient care.

BIDMC's Boston campus is the referral center for the sickest patients being cared for by BIDMC's network of health care providers. Due to the increasingly acute, complex needs of its patients, BIDMC needs more single-bedded patient rooms, more intensive care beds and expanded surgery and clinical support spaces that can support patient and family oriented, team-based care and improved technology. Currently only 37 percent of

BIDMC's medical/surgical beds are in single-bedded rooms, which is well below other Academic Medical Centers (AMCs) that have built new inpatient facilities in recent years, and BIDMC's inpatient beds operate at or above 85 percent occupancy over 88 percent of the time, above optimal occupancy rates. Patients and families continue to request single rooms, and the seriously ill and often vulnerable patients and families BIDMC cares for have greater need for the quiet and respite of a single-bedded room than patients with fewer significant medical needs and other challenges. Single-bedded patient rooms help reduce the incidence of hospital-acquired infection, improve patient sleep and reduce stress for patients and their families. In addition BIDMC's existing operating rooms, diagnostic, procedural spaces, and healing and waiting areas are aged and undersized relative to current industry norms and regulatory requirements for new facilities. BIDMC's average age of facility is approximately 60 years (since original building construction) which is well above BIDMC's AMC peers in the Boston area.

To address these needs and improve BIDMC's ability to fulfill its mission to provide highest quality affordable patient care, BIDMC is proposing a new inpatient building on its West Campus, herein referred to as the IMP Project, which will include inpatient beds (both medical/surgical and intensive care), operating and procedure rooms, clinical service and support spaces, medical education and conference space, and a rooftop helipad (which will be relocated from its existing location at the adjacent Rosenberg Building).

BIDMC is pleased to submit this Institutional Master Plan (IMP) Amendment to the BRA, doing business as Boston Planning and Development Agency (herein, the "BPDA" except when referring to activities prior to 2016) in order to amend and extend for five years the BIDMC IMP pursuant to Article 80D of the Boston Zoning Code (Zoning Code). This IMP Amendment responds to the Scoping Determination issued in response to the Institutional Master Plan Notification Form/Project Notification Form (IMP/NF/PNF) by the BPDA on February 22, 2018. The IMP Amendment portion of the Scoping Determination is included as Appendix A.

## 1.2 Mission and Objectives

BIDMC's mission statement is:

"To provide extraordinary care, where the patient comes first, supported by world-class education and research.

Our mission is supported by a workforce committed to individual accountability, mutual respect and collaboration. We recognize that the diversity, talent, innovation, and commitment of all of our employees contribute to our strength and are a major component of our success. We greatly value the leadership and participation of our trustees, overseers and donors who make an invaluable contribution to our ability to carry out our mission to serve patients, students, science and our community."

## ***Patient Care***

Patient care is at the heart of BIDMC's mission. For more than 100 years, BIDMC has provided top-quality healthcare. Its patients benefit from the most current treatments, therapies and procedures health care has to offer, including the newest technologies. BIDMC is committed to serving its patients compassionately and effectively and to create a healthy future for them and their families through research and the teaching of the next generation of physicians and allied healthcare professionals. Services to the community are a vital part of BIDMC's patient care mission. BIDMC has a covenant to care for the underserved and works to address disparities in access to care.

BIDMC has a rich tradition of clinical excellence, innovation and medical milestones. For example, the first implantable cardiac pacemaker was developed at Beth Israel Hospital in 1960, and New England's first minimally invasive coronary bypass surgery was performed at New England Deaconess Hospital in 1995. More recent advancements at BIDMC include the first adult-to-adult living donor liver transplant in New England (1998); the discovery of a protein responsible for preeclampsia, a dangerous complication of pregnancy and a leading cause of maternal death (2003); and the opening of the first multidisciplinary center in New England to treat adults with celiac disease and other gluten-related disorders (2005). BIDMC was also one of three health care institutions in the country to first adopt OpenNotes, which invites patients to read their doctors' notes (2010), and the first hospital in the nation to measure emotional harm as a preventable harm to improve the patient and family experience, and better the quality and outcomes of care (2014).

## ***Biomedical Research***

In addition to its excellence in clinical care, BIDMC consistently ranks as a national leader among independent hospitals in National Institutes of Health funding. Research funding totals over \$250 million annually. BIDMC researchers run more than 1,300 active sponsored projects and more than 2,500 clinical research studies, and BIDMC shares important clinical and research programs with institutions such as the Dana-Farber/Harvard Cancer Center, Joslin Diabetes Center and Boston Children's Hospital.

BIDMC's commitment to bold and innovative ideas and its nurturing of promising young scientists, are leading to novel discoveries in therapies and diagnostics. For example, BIDMC scientists are international leaders in the development of a vaccine for the Zika virus, having already demonstrated that three different vaccine candidates provide robust protection against the virus in both mice and rhesus monkeys. Several human clinical vaccine trials are underway. BIDMC researchers, through the Institute for RNA Medicine, are leading innovative work to explore new targets for treatment of a wide swath of diseases, including cancer. BIDMC scientists are also making groundbreaking discoveries in antibiotic resistance, Alzheimer's, pancreatic cancer and more.

## *Teaching*

To promote its teaching mission, BIDMC has almost 1,250 physicians on the medical staff, most of whom hold faculty appointments at Harvard Medical School. In addition to training medical students and doctors, BIDMC provides clinical education to students in nursing; social work; radiologic technology, ultrasound and nuclear medicine; and physical, occupational, speech and respiratory therapies. The Carl J. Shapiro Institute for Education and Research provides medical students and physicians in training with an on-site centralized educational facility, a state-of-the-art computer lab, and a variety of educational resources that let students diagnose, manage, and learn technical skills on simulated patients.

## *Community Service*

BIDMC has a steadfast and longstanding commitment to the health and well-being of the community, as shown by its significant investments in fiscal year (FY) 2016, including:

- ◆ A total investment of \$77.5 million by BIDMC for its community benefits mission, including direct expenses, charity care and certain unpaid charges for medical care;
- ◆ \$26.4 million to reducing barriers to care and improving health and well-being of Boston residents;
- ◆ \$3.6 million for health disparities research;
- ◆ Five licensed or affiliated community health centers in Boston, serving more than 100,000 patients each year; and
- ◆ 50,000+ Boston residents receive their primary care at BIDMC, Bowdoin Street Health Center and BIDMC's affiliated physician practices in Boston.

BIDMC also provides numerous other economic benefits to the City of Boston, including employment of approximately 2,800 Boston residents as part of a diverse workforce of over 9,000 full-time and part-time employees, and the purchase of approximately \$100 million of local goods and services each year.

## *Proposed IMP Project*

The IMP Project will reflect and advance BIDMC's non-profit mission, including excellence in clinical care, dedication to innovative research, training the next generation of medical and allied health professionals, and a commitment to its neighboring communities.

The new facility will help to meet the increasingly acute and complex needs of the seriously ill patients referred to BIDMC from its network of community providers, and to continue

caring for local Boston residents, including patients from underserved neighborhoods who may face special challenges.

The proposed IMP Project, BIDMC's first new building on the Boston campus in over 20 years, ensures that BIDMC's patients and families will have access to modern, single-bedded, family-friendly rooms which facilitate healing and recovery, will provide additional intensive care beds to manage the care of BIDMC's most vulnerable patients, and will expand surgery, diagnostic and procedure space and clinical support spaces.

The IMP Project will allow BIDMC to provide spaces that can accommodate the latest technology and promote team-based care involving the patient, family and multi-disciplinary clinical teams including residents, fellows, nurses and allied health professionals.

The IMP Project will leverage adjacent testing, diagnostic and support resources, and by integrating and interconnecting the new inpatient facility with existing buildings, will provide operational efficiencies and enhanced workflows. The IMP Project also gives BIDMC the opportunity to design an energy-efficient and environmentally sustainable building, consistent with its commitment to a healthy community.

### 1.3 Programs, Initiatives and Trends

#### *1.3.1 Rising Acuity of Patients, Patient Volume and Need for Single-bedded Rooms*

BIDMC is the referral center for the sickest patients who require the most complex care within BIDMC's network of health care providers and concurrently fulfills its mission as an essential community hospital for residents living in Boston and other nearby communities, including many from vulnerable populations that often demonstrate an increased need for access to health care. As a result, BIDMC provides care to an increasingly complex patient population. BIDMC's overall case mix index (CMI), a measure of the average severity level of the patients being treated, increased by 5.5 percent from FY 2015 to FY 2017. BIDMC's average CMI in general medicine and for general surgery was the highest as compared to other Massachusetts academic medical centers and health systems in the greater Boston area. During this period while acuity was rising, BIDMC also saw a higher volume of inpatients, including a rise in average daily census for all services of 7.5 percent, a rise in inpatient admissions of 4.3 percent, and a 17 percent increase in the number of internal medicine cases. Total bed days at BIDMC during this same period increased by 9 percent.

Concurrent increases in inpatient admissions and patient acuity levels have created capacity challenges in the existing BIDMC facilities, and highlight a need for BIDMC to upgrade and expand its inpatient facilities in order to improve its capacity to care for these high acuity patients and meet growing patient demand. BIDMC currently experiences more significant inpatient capacity challenges as compared to other hospital providers nationally. Among a comparison group of 48 academic medical centers with over 500 hospital beds and a CMI

greater than 1.5, BIDMC was within the 92nd percentile for medical/surgical occupancy in calendar year 2017. In calendar year 2017, BIDMC's average monthly medical/surgical occupancy rates operated at an average occupancy rate of 93 percent, and the occupancy rate never dropped below 88 percent; the optimal occupancy rate at BIDMC given its proportion of double-bedded rooms is currently between 82 and 85 percent.

The acutely ill patients whom BIDMC serves have a greater need to receive care at BIDMC, in a private healing environment, to reduce the risk of infection, reduce stress, and improve sleep. Currently, only 37 percent of BIDMC's medical/surgical beds are in single-bedded rooms, a low percentage that is due to the fact that BIDMC's existing inpatient facilities were constructed at times when double-bedded rooms were standard. Since 2010, Department of Public Health (DPH) requirements as set forth in the Facilities Guidelines Institute (FGI) Guidelines for Design and Construction of Hospitals and Outpatient Facilities have required that all new inpatient beds be in single-bedded rooms. Since the IMP Project will be the first new building that BIDMC has built since that standard was adopted, BIDMC has a low percentage of single-bedded rooms compared to other academic medical centers that have constructed new inpatient facilities in the past decade.

Construction of the IMP Project will allow BIDMC to increase its number and proportion of single-bedded rooms at BIDMC and will provide state-of-the-art operating and procedure rooms and other modernized clinical and clinical support facilities, thus enhancing BIDMC's ability to continue to offer the highest quality care to meet the needs of its increasingly complex patients.

### ***1.3.2 Employment***

BIDMC is a major employer within the LMA and the City of Boston with a total of approximately 9,000 employees working within its facilities in and around the LMA. This includes employees at facilities both owned and leased by BIDMC, and includes both full-time (approximately 8,300) and part-time (approximately 700) staff, as well as staff not characterized as full or part time (approximately 229). BIDMC employment within the LMA translates to approximately 8,241 Full-time Equivalents (FTEs). BIDMC estimates that it will add approximately 1,484 new jobs over the next ten years. Table 1-1 depicts the projected growth and annualized growth rate for employment at BIDMC from fiscal year 2017 through 2027.

Additional BIDMC employees are based outside the LMA, some in Boston and some in other communities.

Table 1-1 BIDMC Projected Employee Growth

Existing FTEs 2017	Projected FTEs 2023	Projected FTEs 2027	Total Growth 2017-2027	Annualized Growth 2017-2027
8,241	9,102	9,725	1,484	1.67%

*Boston Resident Employees*

Approximately 2,800 Boston residents are employed at BIDMC's facilities in and around the LMA, representing approximately 31 percent of BIDMC's workforce. These Boston residents are currently employed in the full range of positions within the medical center.

The IMP Project will add approximately 80 to 100 FTEs.

## Chapter 2

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### BIDMC Campuses and Facilities



## 2.0 BIDMC CAMPUSES AND FACILITIES

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### 2.1 Overview - Existing LMA Campus and Other Properties in Boston

BIDMC is currently licensed for a total of 673 beds, including 493 medical/surgical beds, 77 intensive care beds, and 62 OB/GYN beds, and has a delivery rate of approximately 5,000 births per year. BIDMC provides a full range of emergency services including a level 1 trauma center and rooftop helipad. In fiscal year (FY) 2017, BIDMC had 40,656 inpatient discharges, 643,975 outpatient visits (at campus and off-site licensed facilities), and 57,224 Emergency Department visits.

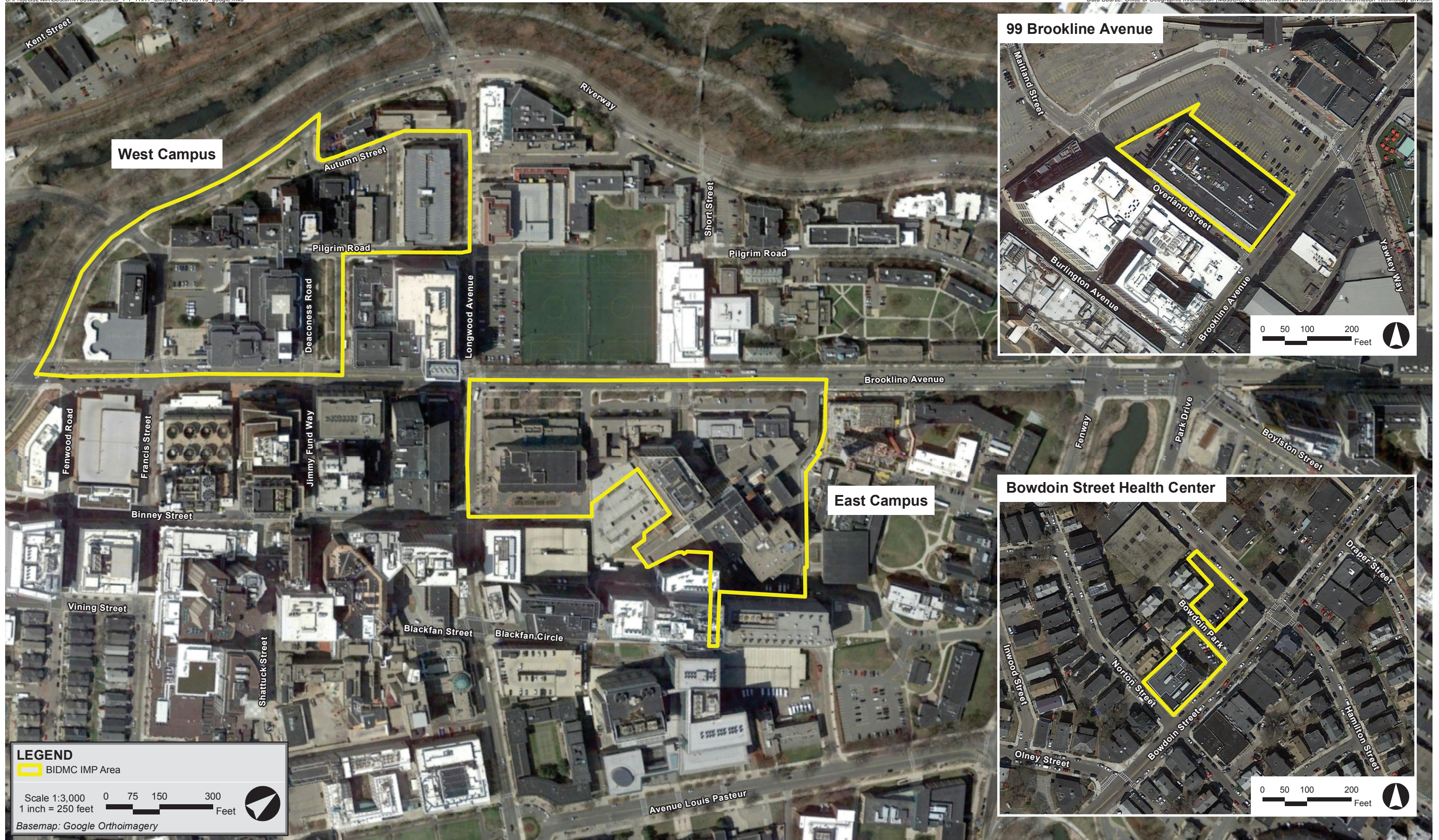
BIDMC is located on two main campuses in the LMA of Boston—the East Campus and the West Campus—which correspond respectively to the prior Beth Israel and New England Deaconess campuses. BIDMC also has several off-site locations. The East Campus, located at 330 Brookline Avenue, is approximately 8.5 acres and is bounded generally by the Emmanuel College Campus, Brookline Avenue, Longwood Avenue, and Binney Street. The West Campus, located at One Deaconess Road, is approximately 8.5 acres and is bounded generally by Brookline Avenue, the Riverway, Autumn Street and Longwood Avenue. The BIDMC facilities in Boston also include a non-contiguous, approximately 1.3-acre parcel at 99 Brookline Avenue (near Fenway Park) on which BIDMC’s Research North building is located, and the site of the Bowdoin Street Health Center building at 230 Bowdoin Street together with two ancillary parking lots located at 3-5 Bowdoin Park and 133-137 Hamilton Street in Dorchester totaling approximately 0.36 acre. These BIDMC facilities and the BIDMC IMP Area are shown in Figure 2-1.

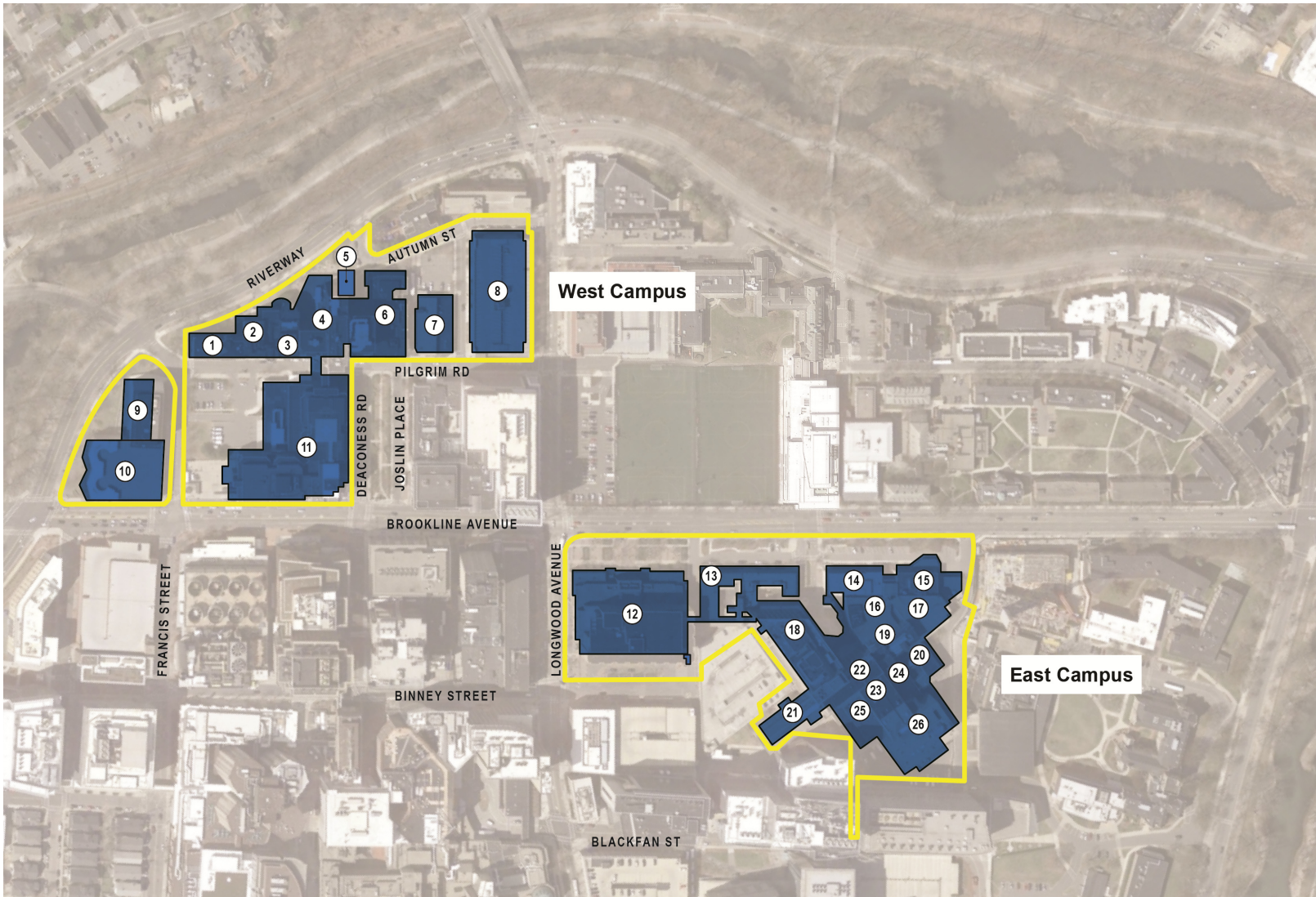
The East Campus is located on the east side of Brookline Avenue, north of Longwood Avenue. The East Campus houses most of BIDMC’s outpatient ambulatory services (including day surgery), and research labs and some inpatient clinical services. Services provided on the East Campus include women’s health, infant care, cancer care and orthopedics. The West Campus facilities contain the majority of BIDMC’s inpatient clinical services. The Rosenberg Building, BIDMC’s newest inpatient clinical building, is located on the West Campus and houses BIDMC’s largest and most technologically advanced operating and procedure rooms, several floors of medical/surgical and intensive care beds, BIDMC’s emergency department, level 1 trauma center and helipad. Services provided on the West Campus include cardiology, neuroscience, transplants and emergency medicine.

### 2.2 Existing Property and Uses

#### 2.2.1 *Owned Properties*

BIDMC-owned buildings and their location (see Figure 2-2 for LMA campus buildings; Figure 2-1 for off-campus buildings), approximate gross floor area (GFA) in square feet (sf) as defined by the Zoning Code, current primary uses, date of construction, stories and heights are listed in Table 2-1; parking facilities are listed separately in Table 2-2. As provided in the BIDMC IMP, hospital sub-uses are frequently relocated and reconfigured within hospital buildings to respond to changes in case mix and services and to accommodate ongoing renovations; building use information in Table 2-1 provides a snapshot of use locations at the current time.





— BIDMC PROPERTY LINE

- ① PALMER
- ② SPAN
- ③ BAKER
- ④ FARR
- ⑤ DOOLEY CHAPEL
- ⑥ DEACONESS
- ⑦ LIBBY
- ⑧ PILGRIM ROAD GARAGE
- ⑨ LOWRY
- ⑩ LOWRY PARKING GARAGE
- ⑪ ROSENBERG
- ⑫ SHAPIRO/SHAPIRO GARAGE
- ⑬ KIRSTEIN
- ⑭ ROSE
- ⑮ YAMINS
- ⑯ RABB
- ⑰ FINARD
- ⑱ FELDBERG/REISMAN
- ⑲ GRYZMISH
- ⑳ ANSIN
- ㉑ STONEMAN
- ㉒ RESEARCH WEST
- ㉓ SHERMAN
- ㉔ EAST
- ㉕ SERVICE
- ㉖ DANA-SLOSBERG-LANDAY

NOVEMBER 2017

Table 2-1 BIDMC-Owned Buildings and Uses in Boston

Campus Map Key <sup>1</sup>	Building Name	Address	Approximate GFA (sf) <sup>2</sup>	Current Building Uses <sup>3</sup>	Date of Construction	Stories Above Grade	Stories Below Grade	Building Height (ft) to top of highest occupied floor (approx.)	Building Height (ft) including Mechanical Penthouses <sup>4</sup> (approx.)
West Campus									
1	Palmer	195 Pilgrim Road	58,400	Administrative/Support Service, Ancillary clinical services	1927	6	1	85	96
2	Span	193 Pilgrim Road	18,800	Ambulatory, Administrative/ Support Service, Research	1981, 1991	4	1	86	102
3	Baker	193 Pilgrim Road	29,600	Ambulatory, Administrative/ Support Service	1932	6	1	77	98
4	Farr	185 Pilgrim Road	198,700	Ambulatory, In-patient clinical, Administrative/ Support Service, Cafeteria, Retail	1953 & 1971	11	1	190	201
5	Dooley Chapel	185 Pilgrim Road	1,600	Worship/assembly	1956	1	0	35	N/A
6	Deaconess	175 Pilgrim Road	74,100	Ambulatory, In-patient clinical, Administrative/ Support Service	1903-1907 Addition in 1923	5	1	63	83
7	Libby (f/k/a "Maintenance")	169-171 Pilgrim Road	23,700	Administrative/Support Service	1932 & 1957	2	1	30	42
9	Lowry	110 Francis Street	90,000	Ambulatory, Administrative/ Support Service	1964	10	1	125	140

Table 2-1 BIDMC-Owned Buildings and Uses in Boston (Continued)

Campus Map Key <sup>1</sup>	Building Name	Address	Approximate GFA (sf) <sup>2</sup>	Current Building Uses <sup>3</sup>	Date of Construction	Stories Above Grade	Stories Below Grade	Building Height (ft) to top of highest occupied floor (approx.)	Building Height (ft) including Mechanical Penthouses <sup>4</sup> (approx.)
West Campus (Continued)									
11	Rosenberg (f/k/a "West Clinical Center")	One Deaconess Road	330,300	In-patient clinical, Administrative/ Support Service, Café, Retail, Restaurant, Emergency Department, Helipad	1996 & 2001	8	1	112	164
East Campus									
12	Shapiro	364 Brookline Avenue	354,500	Ambulatory, Administrative/ Support Service, Board Rooms/Conference Center, Café, Retail/Pharmacy, Restaurant, Fitness Center	1996	10	5	152	190
13	Kirstein	330 Brookline Avenue	75,000	Ambulatory, Administrative/ Support Service, Research	1931 & 1950	4	1	45	61
14	Rose	330 Brookline Avenue	27,600	Ambulatory, Administrative/ Support Service	1928	4	1	41	54
15	Yamins	330 Brookline Avenue	25,600	Ambulatory, Administrative/ Support Service	1949	4	2	50	65
16	Rabb	330 Brookline Avenue	53,900	Ambulatory, Administrative/ Support Service	1966-1986 & 1991	4	1	53	67

Table 2-1 BIDMC-Owned Buildings and Uses in Boston (Continued)

Campus Map Key <sup>1</sup>	Building Name	Address	Approximate GFA (sf) <sup>2</sup>	Current Building Uses <sup>3</sup>	Date of Construction	Stories Above Grade	Stories Below Grade	Building Height (ft) to top of highest occupied floor (approx.)	Building Height (ft) including Mechanical Penthouses <sup>4</sup> (approx.)
East Campus (Continued)									
17	Finard	330 Brookline Avenue	41,600	In-patient clinical, Ambulatory, Administrative/ Support Service, Research	1985	5	1	68	83
18	Feldberg-Reisman	330 Brookline Avenue	241,200	In-patient clinical, Ambulatory, Administrative/ Support Service, Research, Worship	1976 1984	12	1	162	198
19	Gryzmish	330 Brookline Avenue	84,500	In-patient clinical, Ambulatory, Research, Administrative/Support Service	1928	8	2	95	111
20	Ansin	330 Brookline Avenue	14,500	Administrative/Support Service, Research, EMS Station	1987	3	1	55	N/A
21	Stoneman	330 Brookline Avenue	125,800	In-patient clinical, Ambulatory, Administrative/ Support Service, Research, Retail	1950 & 1986	11	2	143	N/A
22	Research West	330 Brookline Avenue	29,500	Research, Administrative/ Support Service	1989	5	2	129	N/A

Table 2-1 BIDMC-Owned Buildings and Uses in Boston (Continued)

Campus Map Key <sup>1</sup>	Building Name	Address	Approximate GFA (sf) <sup>2</sup>	Current Building Uses <sup>3</sup>	Date of Construction	Stories Above Grade	Stories Below Grade	Building Height (ft) to top of highest occupied floor (approx.)	Building Height (ft) including Mechanical Penthouses <sup>4</sup> (approx.)
East Campus (Continued)									
23	Sherman	330 Brookline Avenue	33,000	Ambulatory, In-patient clinical, Administrative/ Support Service, Ancillary Clinical Services, Research, Auditorium	1970	5	2	129	N/A
24	East	330 Brookline Avenue	31,200	Research, Ancillary Clinical Services, Administrative/ Support Service	1928	4	2	64	76
25	Service	330 Brookline Avenue	43,800	Ambulatory, Administrative/ Support Service, Cafeteria	1949	4	2	75	89
26	Slosberg-Landay/Dana	330 Brookline Avenue	136,600	Research, Administrative/Support Service	1969 1982 1987	9	2	134	147
<b>Total On-Campus Building GFA<sup>5</sup></b>			<b>2,143,500</b>						
<b>Total On-Campus Parking GFA<sup>5</sup> (see Table 1-2 below)</b>			<b>344,920</b>						
<b>Total On-Campus GFA</b>			<b>2,488,420</b>						

**Table 2-1 BIDMC-Owned Buildings and Uses in Boston (Continued)**

Campus Map Key <sup>1</sup>	Building Name	Address	Approximate GFA (sf) <sup>2</sup>	Current Building Uses <sup>3</sup>	Date of Construction	Stories Above Grade	Stories Below Grade	Building Height (ft) to top of highest occupied floor (approx.)	Building Height (ft) including Mechanical Penthouses <sup>4</sup> (approx.)
Off Campus (see Figure 2-1)									
	Research North	99 Brookline Avenue	114,681	Research	1940	3	0	45	58
	Bowdoin Street Health Center <sup>6</sup>	230 Bowdoin Street	23,817 <sup>7</sup>	Ambulatory Clinic, Administrative/ Support Service, Wellness Center (including exercise facilities, demonstration kitchen, and classroom/ conference space)	1995 & 2015	2	0	26	36

<sup>1</sup> See Figure 2-2.

<sup>2</sup> As defined in the Zoning Code.

<sup>3</sup> This table lists the primary functions located within each campus building at the present time. Hospital sub-uses are frequently relocated and reconfigured within buildings to respond to changes in case mix and services and to accommodate ongoing renovations programs. Buildings which house inpatient clinical services (such as the Rosenberg, Deaconess, Farr, Finard, Feldberg-Reisman, and Stoneman Buildings, etc.) and adjacent buildings (such as Yamins, Rabb, and Rose Buildings, etc.) also contain numerous ancillary clinical services used by both inpatients and outpatients, including various diagnostic testing, radiology, gastroenterology, cardiology, and rehabilitation procedures and services. Interactions with clinical research subjects may take place in facilities which are used for research (including wet lab and dry/office research); ambulatory or in-patient clinical activities. Locations of auditoriums and conference centers are listed above; however, many other buildings also contain conference rooms and training facilities used for hospital administration and medical education purposes.

<sup>4</sup> Height to top of Mechanical Penthouses (whether or not such structures exceed 33 1/3 percent of the total roof areas) is provided; height of mechanical equipment is not included and may exceed maximum building height provided.

<sup>5</sup> Total On-Campus Building, Parking and Campus GFA totals have been adjusted in this Table to reflect the following changes since the 2004 BIDMC IMP: (1) the sale of the Kennedy building (78,000 GFA sf) and East Campus Parking Garage (117,850 GFA sf); and (2) the addition of 2,000 GFA sf due to minor building renovation projects in existing buildings that converted space previously excluded from GFA as defined in the Zoning Code into GFA sf; (3) adjusted measurements of the Pilgrim Road Garage and Lowry Garage to more accurately reflect the amount of GFA sf above-grade, resulting in the addition of 37,570 GFA sf (Pilgrim 16,730 GFA sf; Lowry 20,840 sf).

<sup>6</sup> BIDMC-owned building that is ground leased.

<sup>7</sup> In 2015, BIDMC completed the Bowdoin Street Addition Project which included an approximately 4,100 GFA sf addition to the existing Bowdoin Street Health Center as described in the BIDMC 2013 IMP Amendment (see Section 3.3.2 for more information), increasing the Bowdoin Street Health Center to approximately 22,850 GFA sf.



Table 2-2 provides information on parking facilities BIDMC owns in Boston. Structured parking locations are shown on Figure 2-2.

**Table 2-2 BIDMC-Owned Parking Facilities**

Campus Map Key <sup>1</sup>	Name	Approximate GFA (sf) <sup>2</sup>	# Parking Spaces	Type	Date of Construction	# stories above grade	# stories below grade
<b>West Campus</b>							
8	Pilgrim Road Garage	238,400	745	Parking Garage	1971-1978	7	1
10	Lowry Garage	106,520	292	Parking Garage	1972	5	1
n/a	Clicker Lot (behind Libby)	n/a	29	Surface parking lot, accessory/ancillary parking	n/a	n/a	n/a
n/a	Emergency Department Lot (adjacent to Rosenberg)	n/a	14 <sup>3</sup>	Surface parking lot, accessory/ancillary parking	n/a	n/a	n/a
<b>East Campus</b>							
12	Shapiro Garage	n/a	727	Parking Garage	1993	0	5
n/a	Kirstein Lot	n/a	11	Surface parking lot, accessory/ancillary parking	n/a	n/a	n/a
n/a	Finard/Yamins Lot	n/a	17	Surface parking lot, accessory/ancillary parking	n/a	n/a	n/a
	<b>Total On-Campus</b>	<b>344,920<sup>5</sup></b>	<b>1,835</b>				
<b>Off Campus</b>							
n/a	Center for Life Science Boston (Garage Condo Unit) <sup>4</sup>	n/a	450	Parking Garage	2008	n/a	5
n/a	Research North 99 Brookline Avenue	n/a	33	Surface parking lot, accessory/ancillary parking	n/a	n/a	n/a
n/a	Bowdoin Street Health Center 230 Bowdoin Street, 3-5 Bowdoin Park and 133-137 Hamilton Street	n/a	33	Surface parking lots, accessory/ancillary parking	n/a	n/a	n/a

<sup>1</sup> See Figure 2-2.

<sup>2</sup> GFA as defined in the Zoning Code.

<sup>3</sup> Not including ambulance parking bays.

<sup>4</sup> GFA as defined by the Zoning Code does not include below-grade parking. The Shapiro Garage and Center for Life Science Boston Garages are below grade and, therefore, have no GFA.

<sup>5</sup> See Table 2-1, Endnote 5 for explanation of adjustments to Total On-Campus Parking GFA since the 2004 IMP.

Table 2-3 includes the floor area ratio (FAR) of the BIDMC IMP Area lots (see Figure 2-3 for the location of the lot areas within the LMA, and Figure 2-1 for the BIDMC IMP Area).

**Table 2-3 BIDMC IMP Area Floor Area Ratio**

Parcel	Land Area (approx. sf)	Approximate GFA (sf) <sup>1</sup>	FAR
<b>LMA Campus (see Figure 2-3)</b>			
Lot A (West Campus)	56,401	196,520	3.48
Lot B (West Campus)	314,636	973,600	3.09
<i>Subtotal West Campus</i>	<i>371,037</i>	<i>1,170,120</i>	<i>3.15</i>
Lot C (East Campus)	376,484	1,318,300	3.50
<b>LMA Campus Total</b>	<b>747,521</b>	<b>2,488,420</b>	<b>3.33</b>
<b>Outside of LMA (see Figure 2-1)</b>			
Bowdoin Street Health Center, 230 Bowdoin Street	15,874 <sup>2</sup>	22,850	1.44
99 Brookline Avenue	55,016	114,681	2.08

<sup>1</sup> GFA as defined in the Zoning Code.

<sup>2</sup> Land area of ancillary parking lots at 3-5 Bowdoin Park and 133-137 Hamilton Street is excluded.

### 2.2.2 Leased Space

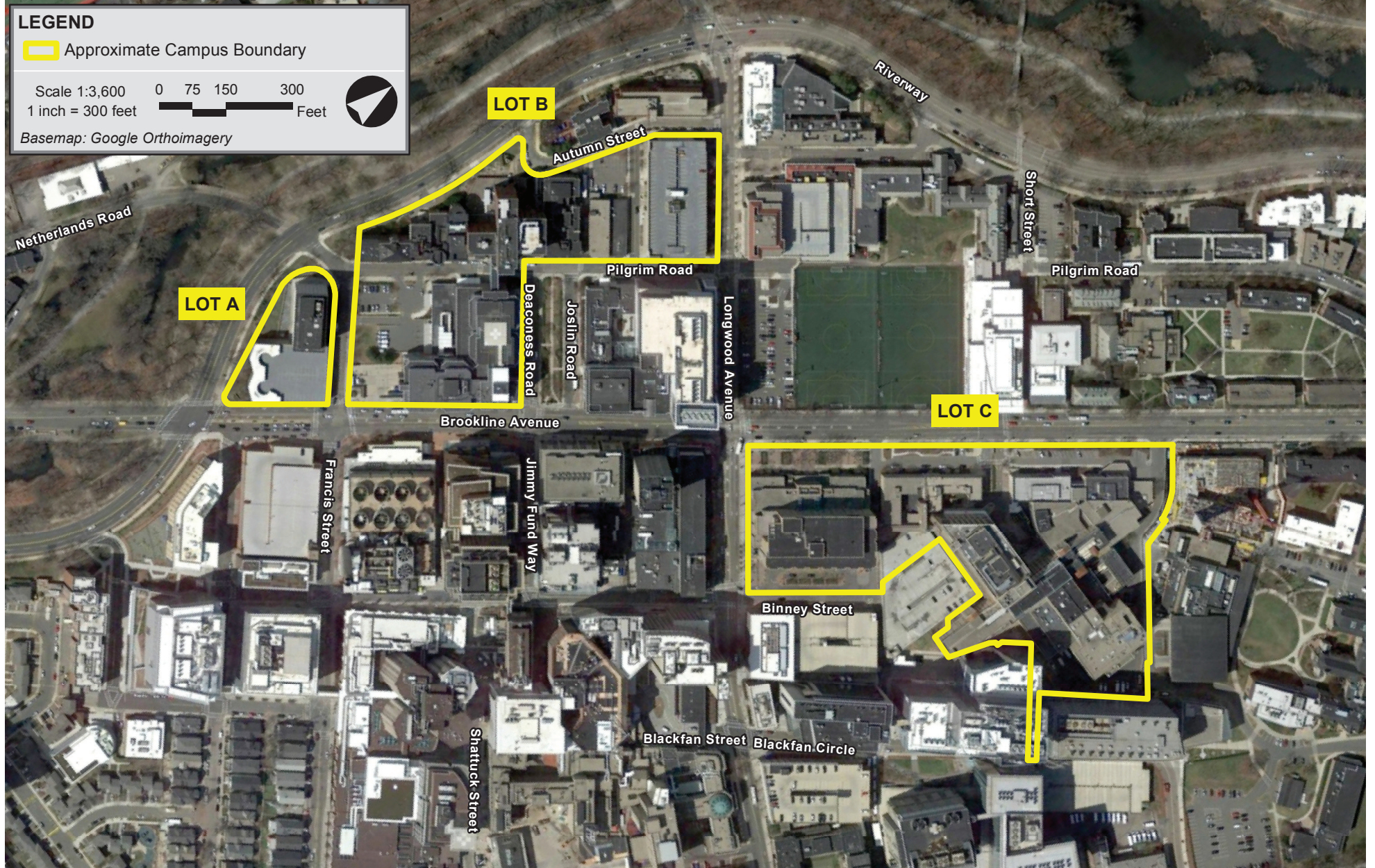
In Boston, BIDMC leases spaces in several buildings primarily for administrative space and wet and dry research. Table 2-4 provides a list of BIDMC's leased facilities.

Affiliated Physicians Group of BIDMC (APG), a BIDMC affiliate, and Harvard Medical Faculty Physicians (HMFP)<sup>1</sup> also from time to time lease space for physician medical practice offices in Boston and surrounding communities. APG and HMFP currently have three such leases in Boston outside of the BIDMC campus vicinity:

- ◆ APG: 5,315 sf at 294 Washington Street, in Downtown Boston (lease expires in 2022);
- ◆ APG: 4,605 sf at 545A Centre Street Jamaica Plain (lease expires in 2018, to be extended to 12/31/2019);
- ◆ APG: 3,028 sf at 1100 Washington Street, Dorchester (lease expires in 2021).

BIDMC also leases space in its campus facilities to third parties. Such tenants and uses change from time. Current restaurant/retail tenants include Starbucks in the ground floor of the Shapiro Clinical Center on the East Campus, and Dunkin Donuts in two locations.

<sup>1</sup> HMFP is a not-for-profit corporation that employs physicians who are on the faculty at BIDMC and operates some BIDMC-affiliated specialty physician practices.



On the East Campus there is a Dunkin Donuts coffee cart in the Feldberg/Reisman lobby. On the West Campus there is a Dunkin Donuts in the ground floor of the Rosenberg Building accessible from Brookline Avenue.

**Table 2-4 Leased Space in Boston**

Property Name and Address	Use	SF	Parking Spaces <sup>1</sup>	Expiration <sup>2</sup>
109 Brookline Avenue	Admin Space	63,772	25	2024
109 Brookline Avenue	Storage	2,826	0	2024
21-27 Burlington Avenue	Admin Space	10,388	2	2023
21-27 Burlington Avenue	Admin Space	16,522	0	2023
21-27 Burlington Avenue	Admin Space	15,818	2	2022
21-27 Burlington Avenue	Admin Space	7,156	3	2024
375 Longwood Avenue	Dry Research/ Admin Space	18,602	44	2022
MASCO 1 375 Longwood Avenue	Facilities	1,370	0	2020
Joslin Diabetes Center, 419 Brookline Avenue	Admin Space	1,895	0	2020
Renaissance Center, 1135 Tremont Street	Admin Space	77,667	250	2018 2023
Center for Life Science Boston 3 Blackfan Circle, 11 <sup>th</sup> Floor	Wet Research	6,654	0	2023
Center for Life Science Boston, 3 Blackfan Circle	Wet Research	362,364	154	2023
131 Brookline Avenue	Admin Space	23,010	0	2023
Longwood Galleria, 400 Brookline Avenue	Residential apartments	4	0	2019

<sup>1</sup> The Parking Spaces listed are the maximum number BIDMC is permitted pursuant to its leases; in some locations BIDMC currently uses fewer than the maximum count.

<sup>2</sup> Expiration years listed are for current lease terms; many leases have extension options that BIDMC may exercise.

<sup>3</sup> BIDMC leases four residential apartments at the Longwood Galleria for short-term use by families of out-of-town patients who are receiving long-term treatment at BIDMC.

## Chapter 3

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IMP Project

## 3.0 IMP PROJECT

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### 3.1 Needs and Objectives

To respond to the challenges of capacity constraints, aging facilities and the increasingly acute, complex needs of its patients, in 2014, BIDMC undertook a campus-wide assessment to determine the condition of existing facilities and options for increasing inpatient capacity as well as increasing the number of single-bedded patient rooms. BIDMC engaged a nationally recognized healthcare architect to study the campus and produce recommendations for achieving BIDMC's specific future program needs and objectives, listed below:

- ◆ Increase the number of high-performing, family-friendly private rooms for patients;
- ◆ Provide state-of-the-art operating rooms, procedural suites, and imaging areas sized to meet the highest standards, house the most advanced equipment, and promote collaboration among staff;
- ◆ Leverage adjacencies and efficiencies by preserving and enhancing existing services and workflows;
- ◆ Create more efficient floor layouts to reduce operating costs;
- ◆ Retain flexibility to respond to changes in patient volume, patient needs, and the evolving health care environment; and
- ◆ Improve capacity to renovate existing clinical floors and procedural suites more efficiently in the future.

Currently only 37 percent of BIDMC's medical/surgical beds are in single-bedded rooms. This is well below other Academic Medical Centers (AMCs) that have built new inpatient facilities in recent years. Patients and families continue to request private rooms and the seriously ill and often vulnerable patients and families BIDMC cares for have greater need for the quiet and respite of a single-bedded room than patients with less significant medical needs and other challenges. Single-bedded patient rooms help reduce the incidence of hospital-acquired infection, improve patient sleep and reduce stress for patients and their families according to extensive medical research. Studies also show that greater privacy contributes to improved communication between patients and families and their health care providers, and increased patient satisfaction.

BIDMC's inpatient beds currently operate at or above 85 percent occupancy over 88 percent of the time. Operating rooms, diagnostic, procedural spaces, and healing and waiting areas are aged and undersized relative to market norms and DPH regulations for

new facilities. BIDMC's average age of facility since original building construction is approximately 60 years, which is well above its AMC peers in the Boston area.

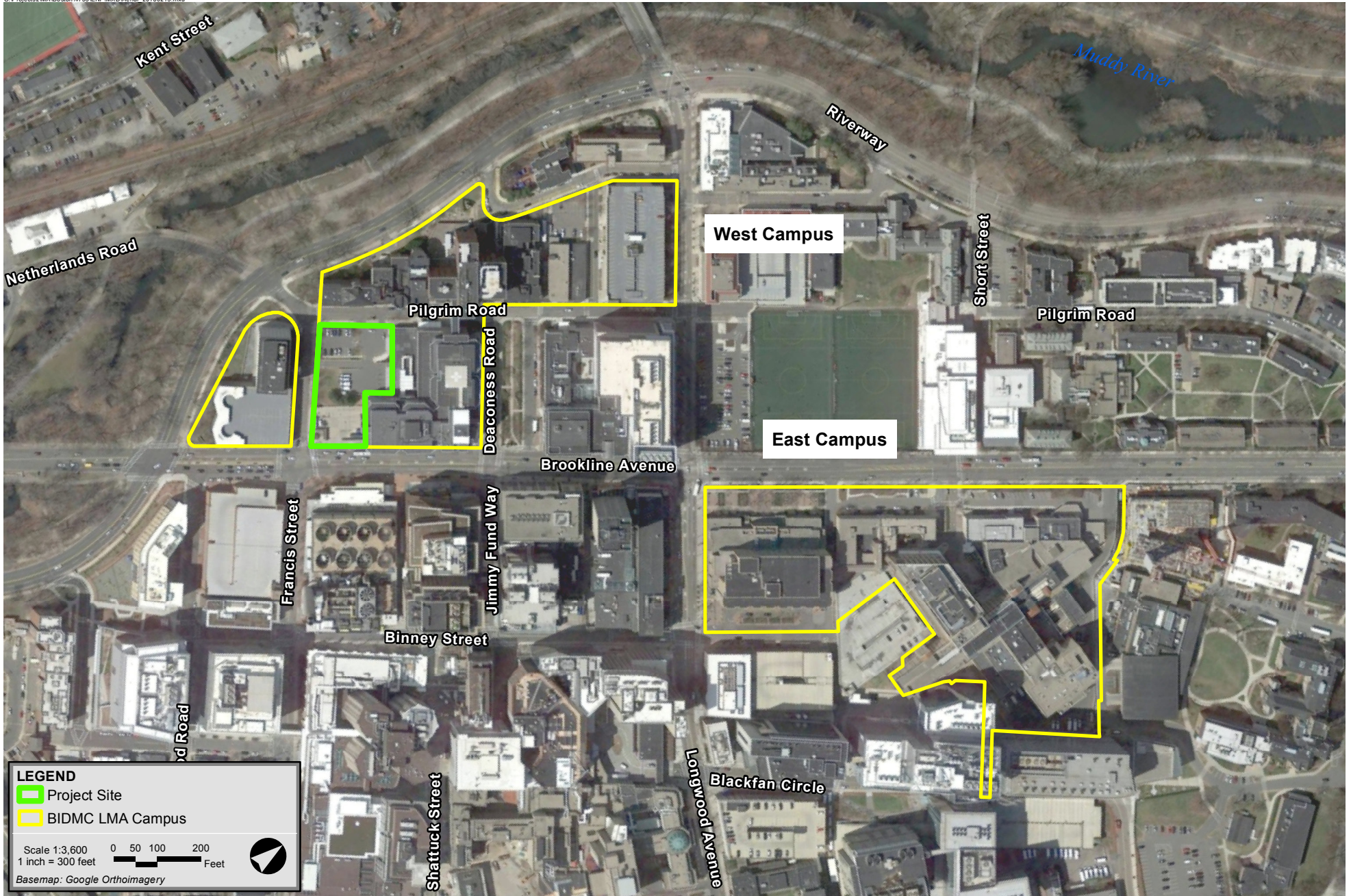
BIDMC's Boston campus is the referral center for the sickest patients being cared for by BIDMC's network of health care providers. In addition to patient and family-friendly medical/surgical and intensive care beds, the IMP Project will include the development of state-of-the art operating rooms and procedure rooms using the latest technology and standards. Multidisciplinary teaching spaces will also be incorporated into the patient floor design to support BIDMC's academic mission of training the clinicians and physicians of the Harvard Medical School and allied health care providers.

## 3.2 Proposed IMP Project

### 3.2.1 *IMP Project Site*

The IMP Project site is located on BIDMC's West Campus, and is bound by Brookline Avenue, Francis Street, a discontinued portion of Pilgrim Road owned by BIDMC, and the Rosenberg Building (see Figure 3-1). The approximately 45,000 sf site currently includes the Emergency Department patient drop-off, ambulance entrance, main West Campus loading facility (Main Loading Facility) and West Campus oxygen tanks. As described above, the IMP Project site was chosen for development of the New Inpatient Building because it is adjacent to the existing West Campus inpatient services that need to be expanded, and the efficiencies and enhancement of existing services that will be created through the interconnection and integration of the IMP Project to the Rosenberg and Farr Buildings. The IMP Project site is largely unbuilt, which will avoid the disruptive and expensive relocation of existing hospital programs during construction.

In order to ready the site for redevelopment, BIDMC is in the process of completing four enabling projects in order to move the critical functions currently on the site to other locations during construction. The Emergency Department pedestrian entrance will be relocated to the main entrance of the Rosenberg Building on Deaconess Road and the ambulance entrance will be relocated to Pilgrim Road. The ambulance entrance will be incorporated into the IMP Project with access from Pilgrim Road when the IMP Project is operational. The Main Loading Facility will be temporarily relocated to the rear of the Libby Building, while the oxygen tanks will be permanently relocated to the small surface parking lot (the Clicker Lot) behind the Libby Building. As part of the ground floor design of the IMP Project, the Main Loading Facility will be returned to its existing location off Brookline Avenue where it ties into existing materials management infrastructure in the Rosenberg Building that will continue to serve the West Campus as well as the IMP Project.





### **3.2.2 New Inpatient Building**

The IMP Project includes the construction of a 10 story inpatient clinical building on the West Campus that will include up to 325,000 sf of gross floor area (as defined in the Zoning Code). The IMP Project will include a ground level footprint of approximately 25,000 sf of enclosed space. As initially described in the IMPNF/PNF, it was contemplated that the IMP Project would contain up to 345,000 sf of gross floor area and have a height of up to 200 feet to the top of the highest occupied floor. The IMP Project gross floor area and height have been reduced based on design evolution and feedback from the City and the community. The IMP Project will be up to 178 feet in height to the top of the highest occupied floor, as measured per the Zoning Code (plus the helipad, mechanical equipment and roof structures, including a mechanical penthouse, mechanical screen and the enclosure for the elevators which serve the helipad, for up to an additional 39 feet). The building will extend over an additional area of approximately 13,000 sf of area that will be open at the ground level along Pilgrim Road. The majority of this covered exterior space will be used for ambulance arrival space. The IMP Project will house a range of clinical inpatient programs and inpatient beds (both medical/surgical and intensive care), operating and procedure rooms, as well as a range of support services and other functions ancillary to those clinical inpatient programs, education and conference space and a helipad on the roof (which will be relocated from the immediately adjacent Rosenberg Building).

The site selected for the IMP Project is adjacent to the Rosenberg Building. Currently, the Rosenberg Building is BIDMC's primary inpatient clinical facility on the West Campus and houses multiple operating rooms, as well as BIDMC's Emergency Department (a Level 1 Trauma Center). The location of the IMP Project will enable services to be connected to and integrated with existing inpatient services in the Rosenberg Building and the interconnected Farr Building complex. The adjacency of the IMP Project to the Emergency Department and the operating rooms in the Rosenberg Building will provide connectivity to support rapid, safe, and efficient movement of patients to patient rooms. Likewise, the IMP Project's pre-procedure rooms will have streamlined connections to the operating and procedure rooms in the Farr and the Rosenberg Buildings, supporting greater clinical collaborations and efficiencies in patient flow. Patients seen for services in any of these buildings will have covered, quick access to the entire complex. The interconnections among the IMP Project and the existing patient care facilities will also facilitate the sharing of clinical and operational support services, such as dietary, pharmacy, materials management, central sterile processing, and operating room storage areas, allowing BIDMC to leverage existing support infrastructure and streamline services. Additionally, the site selected does not involve demolition or the costly relocation of existing patient care services, and will facilitate maintaining full and uninterrupted hospital functions during construction.

The IMP Project will include up to 158 single-bedded inpatient rooms (up to 128 medical/surgical and 30 intensive care beds) within the new building. However, only 39 of the medical/surgical and 30 of the ICU beds will be additive to the overall BIDMC bed

count that will exist at the time the IMP Project opens (i.e., “net new”), as BIDMC anticipates closing 89 West Campus medical/surgical beds at the opening of the IMP Project. Additionally, BIDMC anticipates reopening 20 medical/surgical beds by the end of 2024 within existing West Campus facilities. Overall, BIDMC anticipates that up to 89 net new patient beds will be brought on-line in connection with the IMP Project on the West Campus during the term of the amended IMP.

The IMP Project will be designed for the evolving needs of the patients BIDMC serves, with the flexibility to adapt in the future. The IMP Project will include family-friendly, single-bedded patient rooms able to accommodate the sophisticated technology needed to best treat critically ill patients. New, state-of-the-art operating and procedure rooms will be large enough to support the latest imaging and other surgical equipment. BIDMC’s design goal for the overall IMP Project is to incorporate sustainable and evidence-based concepts to improve clinical outcomes, cost-efficiencies and decrease environmental impacts.

The IMP Project will improve the existing configuration of the sidewalk along both Brookline Avenue and Francis Street. Along Brookline Avenue, the sidewalk itself will remain approximately the same width, while the inclusion of additional landscape zones between the sidewalk and the street and the introduction of a landscape buffer at the base of the IMP Project will enhance the pedestrian experience along Brookline Avenue. The sidewalk along Francis Street will be widened considerably (from six feet to a width that varies from 12 to 20 feet), and a linear landscape zone at the intersection of Brookline Avenue and Francis Street will create a generous buffer between pedestrian and traffic zones. Similar to the Brookline Avenue sidewalk, a landscape buffer along the base of the IMP Project will further enhance the pedestrian experience. In addition to these improvements, the inclusion of a mid-block garden at the interface between the existing Rosenberg Building and the IMP Project as well as terrariums, greenwalls, other plantings, or art installations in the base of the building will create a uniquely beautiful streetwall which will enrich the pedestrian experience and provide additional public amenities along both Brookline Avenue and Francis Street. Additional landscaping will be provided along the Pilgrim Road sidewalk, and a roof garden for the use of patients, visitors and staff will be provided on the roof between the Rosenberg Building and the IMP Project. Lighting of the pedestrian realm (including sidewalks, landscaped areas and adjacent building walls) will be carefully designed to provide an enhanced experience as visitors navigate the site.

The IMP Project will connect to the Farr Bridge and the Rosenberg Building in multiple locations in order to provide convenient access and circulation for patients, families and staff. No demolition of existing buildings will be required for the IMP Project. Construction of the IMP Project will result in the elimination of 26 existing parking spaces currently accessed from Pilgrim Road, all 14 on-site parking spaces currently supporting the Emergency Department and 12 spaces in the nearby Clicker Lot; no new parking is proposed as part of the IMP Project.

The IMP Project will be similar in height to other major buildings in the immediate vicinity, including the Dana-Farber Cancer Institute's Yawkey Center for Cancer Care (+/-186 feet) located at 450 Brookline Avenue across the street from the IMP Project site. The height of the proposed building coupled with its close proximity to the Rosenberg Building will require the relocation of BIDMC's existing helipad from the roof of the Rosenberg Building to the roof of the IMP Project.

### **3.2.3**            *IMP Project Cost*

Direct construction costs for the IMP Project are anticipated to be approximately \$279,000,000.

### **3.2.4**            *Development Impact Payments*

The IMP Project is anticipated to result in a payment of more than \$1,910,000 to the Neighborhood Housing Trust, and a payment of more than \$380,000 to the Neighborhood Jobs Trust.

### **3.2.5**            *Schedule*

Construction will begin at the receipt of all necessary approvals (anticipated to be in 2019), with operations starting in the fourth quarter of 2022.

## **3.3**    **Institutional Master Plan History and Projects**

### **3.3.1**            *Summary of IMP Process*

The BIDMC IMP was originally approved by the BRA on April 1, 2004 and by the Boston Zoning Commission on June 23, 2004, with an effective date of June 28, 2004 (the "2004 IMP"). Consistent with the requirements of Article 80D of the Zoning Code, the IMP described the existing uses, structures, and activities on the BIDMC campus, along with future needs, leasing activity, master planning objectives, and proposed construction projects over the five-year term of the IMP. The IMP was renewed pursuant to the Institutional Master Plan Notification Form for Renewal (with no changed plans) filed on June 22, 2009, approved by the BRA on August 13, 2009, for an additional term of five years (the "2009 IMP Renewal"). The BIDMC IMP, as renewed, was subsequently amended pursuant to the BIDMC Institutional Master Plan Notification Form for Amendment of the IMP and Small Project Review Application for the Bowdoin Street Health Center Addition Project which was filed on October 9, 2013 and approved by the BRA on November 14, 2013 (the "2013 IMPNF for Amendment"). The 2013 IMPNF for Amendment, together with the associated Map Amendment No. 579, was approved by the Boston Zoning Commission on December 11, 2013, with an effective date of December 20, 2013. The IMP was renewed pursuant to the Institutional Master Plan Notification Form for Renewal (with no changed plans) filed on August 12, 2014, approved by the BRA on September 18, 2014, for an additional term of five years (the "2014 IMP Renewal"). The 2004 IMP, the

2009 IMP Renewal, the 2013 IMPNF for Amendment, and the 2014 IMP Renewal, as approved, collectively constitute the current BIDMC IMP.

Biannual updates of the IMP, as required under Section 80D-7 of the Zoning Code, have been filed with the BPDA, most recently on September 16, 2016. These updates summarized the status of the BIDMC IMP projects that were proposed as part of the approved IMP, and described for informational purposes exempt interior renovation projects, leasing, and other campus activities.

### ***3.3.2 Status of Projects Described in the IMP***

The BIDMC IMP described three proposed IMP projects, only one of which, the 25,000 sf West Clinical Center Addition, was an approved IMP project to be developed by BIDMC itself. Two other projects, referred to as the Blackfan Research Center addition (the BRC Addition, which is a portion of the project originally known as the Blackfan Research Center or BRC) and Longwood North Research Center (LNRC), were described in the IMP for informational purposes, but not for approval as IMP projects. These two projects were ultimately approved through a Planned Development Area (PDA) process by an affiliate of Lyme Properties, which acquired the parcels of land from BIDMC in 2005. The IMP also included a discussion of BIDMC's long-term vision, which included sites for potential future development, including the South Pilgrim Road site, which is the site of the proposed New Inpatient Building as described in Section 3.2 of this IMP Amendment. The IMP, as approved in 2004 and renewed in 2014, also described certain various campus improvement projects.

The 2013 IMPNF for Amendment (which forms a part of the current BIDMC IMP) approved the Bowdoin Street Health Center Addition project consisting of interior renovations and an addition of approximately 4,100 sf GFA to BIDMC's Bowdoin Street Health Center and the corresponding modification of BIDMC's IMP Overlay Area to include the site of the Bowdoin Street Health Center building at 230 Bowdoin Street and its two existing ancillary parking lots located at 3-5 Bowdoin Park and 133-137 Hamilton Street in Dorchester.

An update on the status of these projects is provided immediately below.

#### ***West Clinical Center Addition***

The current BIDMC IMP describes an approved IMP project consisting of a 25,000 sf addition to the Rosenberg Building to be located at the eastern side of the Project site (referred to as the West Clinical Center Addition project). As noted in the 2016 IMP Update and described in Section 3.2 of this IMP Amendment, BIDMC has a pressing need for expanded inpatient clinical facilities to meet the needs of its patients, and the New Inpatient Building is being proposed as a replacement for the small West Clinical Center Addition project.

## *Additional Projects Described in IMP*

### *The BRC Addition*

The 2004 IMP described, for informational purposes, BIDMC's proposed sale of land to an affiliate of Lyme Properties to facilitate construction of the BRC Addition, a state-of-the-art research facility included within the expanded BRC. The sale of land took place in 2005 following approval of the project in a PDA, and Lyme commenced construction. The BRC was completed by an affiliate of BioMed Realty Trust, Inc., which acquired the site in 2006, and was renamed the Center for Life Science Boston ("CLSB"; hereinafter, this project will be referred to as the "BRC/CLSB" for the sake of clarity).

As described in the 2009 IMP Renewal and the 2014 IMP Renewal, BIDMC is a major tenant in the BRC/CLSB, and, as contemplated by the 2004 IMP, in October of 2008 BIDMC acquired 450 parking spaces in the BRC/CLSB garage in the form of a garage condominium unit.

### *The LNRC*

The 2004 IMP included the LNRC, an approximately 440,000 sf biomedical research facility to be located on land that at the time was owned by BIDMC as part of its East Campus. Subsequent to filing the IMP, BIDMC sought removal of the LNRC from the 2004 IMP, and by letter dated November 18, 2003, the BRA approved the removal. Accordingly, BIDMC revised the 2004 IMP in January 2004 to reflect the updated status. This revised IMP is the version that was approved by the BRA Board and Zoning Commission in 2004 as summarized above.

The site of the LNRC, now called the Longwood Research Institute (the "LRI"; hereinafter, this project will be referred to as the "LNRC/LRI" for the sake of clarity), was acquired by an affiliate of Boston Children's Hospital ("Children's") in August 2006, and the LNRC/LRI was incorporated into Children's Institutional Master Plan, which was initially approved in 2008, and amended in 2012, 2013 and 2015 (as amended, the "Children's IMP").

As discussed in the Children's IMP, Children's has delayed the start of construction of the LNRC/LRI due to market conditions. The Children's IMP permits 454 parking spaces in the 340 Brookline Avenue Garage (formerly known as the BIDMC East Campus Parking Garage) to be used on an interim basis until commencement of construction of the LNRC/LRI. As described and approved in the Children's IMP and described in the 2009 IMP Renewal and IMP Updates BIDMC submitted in 2011, 2013, and 2016, Children's currently leases a portion of such garage spaces to BIDMC, and concurrently, BIDMC leases to Children's parking spaces BIDMC owns in the BRC/CLSB Garage. Beginning in March 2015, the number of spaces BIDMC leases in the 340 Brookline Garage increased to 430 and the number of parking spaces Children's leases from BIDMC in the BRC/CLSB Garage increased to 272.

### *Bowdoin Street Health Center Addition Project*

The 2013 IMPNF for Amendment approved the Bowdoin Street Health Center Addition Project located at 230 Bowdoin Street in Dorchester. The Project included interior renovations and an addition of approximately 4,100 sf to BIDMC's Bowdoin Street Health Center to house a Wellness Center focused on dietary education and exercise, as well as additional exam room space. Construction was completed and occupancy began in July 2015. These expanded facilities are allowing the Bowdoin Street Health Center to incorporate wellness activities into primary care delivery, enabling patients to get healthy and stay healthy.

### ***Campus Improvement Projects***

The 2004 IMP as initially submitted included several campus improvement projects to be implemented in phases with some interim improvements to be completed in connection with the construction of BRC/CLSB, and the remainder upon the completion of LNRC/LRI. The status of these campus improvements was set forth in detail in the 2009 IMP Renewal, in subsequent IMP Updates and in the 2014 IMP Renewal. There are no such campus improvement projects to be undertaken in connection with the LNRC/LRI as described in the BIDMC IMP that have been completed since the 2014 IMP Renewal, are currently ongoing or that BIDMC is scheduled to begin in the upcoming 24 months.

#### ***3.3.3 Other IMP-Exempt Projects***

BIDMC, like other health care institutions, is continually renovating and improving its existing facilities to enhance its ability to provide superior health care. Such projects include renovations to enhance work flow and patient care services and infrastructure upgrades in state-of-the-art facilities. Generally these projects do not fall under the requirements of Article 80D because they are interior renovations or fall below the 20,000 sf threshold for the erection or extension of an institutional use. A brief description of such projects is included here for informational purposes. The BIDMC IMP Renewals and IMP Updates describe such minor projects and improvements that have been undertaken since the initial approval of the IMP in 2004. The most recent 2016 IMP Update described the renovation and campus improvement projects that were completed since 2014, ongoing or planned for the 24 months from September 2016 to 2018. A brief update of projects that have been recently completed, are ongoing or are planned for the next 24 months is included here for informational purposes.

As noted in the 2014 IMP Renewal and most recently in the 2016 IMP Update, BIDMC is engaged in a long term project to design and construct improvements to the normal power distribution system and emergency power systems on both campuses to make these systems more climate resilient and to improve energy efficiency. Since the 2016 IMP Update, BIDMC has continued to make improvements to the power systems on the East Campus, including modifications to the Feldberg Building rooftop penthouse to make way for the

relocation of normal power electrical switchgear to the roof from the Feldberg basement, where it is vulnerable to flooding. The new electrical gear is currently being installed in the Feldberg penthouse.

BIDMC's inpatient census has been increasing in recent years. As noted in the 2016 IMP Update, to help meet this growing bed demand, two floors in the Stoneman Building on the East Campus which had in recent years been used for administrative functions, were renovated in FY 2016 and FY 2017 to restore their use as inpatient floors. On the West Campus a floor of the Farr Building that had been used for a combination of inpatient and administrative uses was remodeled into 20 single bed inpatient rooms in FY 2016.

As noted in previous IMP Updates, BIDMC continues to work on modernizing its pathology laboratories. A new grossing lab and pathology conference room were recently completed on the East Campus. Other renovations completed since the fall of 2016 on the West Campus include improvements to operating rooms in the Rosenberg Building (formerly known as the West Clinical Center), renovations to cardiac procedure space in the Deaconess Building, and remodeling of the Lowry Building to relocate endocrinology from the Shapiro Clinical Center to make room for the expanded bone marrow transplant program. All of these renovation projects were included in the 2016 IMP Update.

Projects underway currently, as noted in the 2016 IMP Update, include upgrades to the neonatal intensive care unit (NICU) in the Reisman Building underway to expand by nine the number of NICU beds/basinet during 2018. As also noted in the 2016 IMP Update, other projects that BIDMC expects to undertake in the next year or so include the renovation of Feldberg 8, which is the only remaining inpatient floor at BIDMC currently being used for administrative functions, to restore its inpatient use for 24 medical/surgical beds. Renovations in the Shapiro Clinical Center lobby are underway to provide for new food service operations, as the SouperSalad lease terminated in August 2016, and to create an outpatient pharmacy, which will enhance the patient experience by allowing patients to fill their prescriptions onsite.

In addition to these renovations and improvements, in 2018, an existing exterior porch on the fourth floor of the Deaconess Building will be partially enclosed to provide psychiatric patients with safe outdoor space in response to the Department of Mental Health's recent "Fresh Air" regulations. In 2019 several projects are planned, including the East Campus Autopsy and Morgue renovation, East Campus Anatomical Pathology Histology Lab reorganization, Feldberg Plaza waterproofing and hardscape restoration, and ongoing garage repairs. Also planned for 2018 and early 2019 is certain enabling work involving renovations and generally temporary relocations of existing facilities that must be done prior to construction of the proposed New Inpatient Building, as further described in Section 3.2.1 above. In addition, BIDMC generally upgrades several research labs each year, continually upgrading and replacing equipment as needed in the radiology/imaging departments, cardiac catheterization labs and surgical suites, and making minor space improvements and cosmetic and general upgrades to areas throughout the hospital that do

not involve relocating functions. BIDMC will also continue making ADA compliance program upgrades and a variety of power system, equipment and infrastructure upgrades to improve reliability and energy efficiency.

## 3.4 Zoning

### 3.4.1 *Existing Zoning Controls*

As described in Chapter 2, BIDMC has two main campuses located in the LMA on opposite sides of Longwood Avenue. The East Campus, located to the east of Longwood Avenue, is located in the Beth Israel Deaconess Medical Center Institutional District East governed by Article 70 of the Zoning Code. The West Campus, located to the west of Brookline Avenue, is located in the Beth Israel Deaconess Medical Center Institutional District West governed by Article 72 of the Zoning Code. Both the East and West Campuses are also located within the Restricted Parking Overlay District adopted pursuant to Section 3-1A.c of the Zoning Code. In addition, the East Campus only is located in the Groundwater Conservation Overlay District adopted pursuant to Section 3-1A of the Zoning Code.

The BIDMC IMP Area, as initially created by Map Amendment No. 435 which became effective June 28, 2004, covers both the East and West Campuses and a non-contiguous parcel to the northeast at 99 Brookline Avenue on which BIDMC's Research North Building is located. The BIDMC IMP was originally approved in 2004, and describes the existing uses, structures, and activities within the IMP Area, along with future needs, leasing activities, master planning objectives, and proposed construction projects over the term of the BIDMC IMP. The BIDMC IMP was renewed for an additional term of five years in 2009, and subsequently amended to include a new project known as the Bowdoin Street Health Center Addition Project in 2013. At this time, Zoning Map Amendment No. 579 expanded the boundaries of the BIDMC IMP Area to include the site of BIDMC's Bowdoin Street Health Center at 230 Bowdoin Street and its two ancillary parking lots located at 3-5 Bowdoin Park and 133-137 Hamilton Street. A plan showing the components of the BIDMC IMP Area is shown on Figure 2-1. The IMP was renewed for an additional term of five years in 2014, and IMP updates have been provided every two years (most recently in 2016) as required by the Zoning Code.

As described in Section 3.2.1 above, the IMP Project is located on the West Campus on a site bounded by Brookline Avenue, Francis Street, Pilgrim Road, and the Rosenberg Building. The site is approximately one acre in area, and currently includes the ambulance and Emergency Department entrances, surface parking for the Emergency Department, oxygen tanks and the Main Loading Facility serving the West Campus. The current BIDMC IMP describes an approved IMP project consisting of a 25,000 sf addition to the Rosenberg Building to be located at the eastern side of the IMP Project site (referred to as the West Clinical Center Addition project). As noted in the 2016 IMP Update and described above, BIDMC has a pressing need for new and expanded inpatient clinical facilities to meet the



needs of its patients, and the IMP Project is being proposed as a replacement for the small West Clinical Center Addition project.

### ***3.4.2 Proposed Zoning Controls and Review Procedure***

BIDMC is submitting this IMP Amendment to describe the IMP Project and include the IMP Project in the BIDMC IMP under Article 80D. The IMP Amendment seeks an extension of the term of the IMP for five years beyond the effective date of the IMP Amendment following its approval by the Boston Zoning Commission. Since the IMP Project site is within the BIDMC IMP Area, no Map Amendment or other change to the IMP Area is required in connection with the IMP Project.

As described above, the IMP Project includes construction of a new inpatient building to house a range of clinical inpatient programs, including inpatient beds (both medical/surgical and intensive care), operating and procedure rooms, ancillary clinical services, clinical support services, education and conference space, a medical helicopter landing pad on the roof (which will be relocated from the Rosenberg Building), and related hospital subuses. No new parking spaces will be created. The building will include up to 325,000 sf of gross floor area (as defined in the Zoning Code), which will increase the West Campus Lot B FAR to approximately 4.13, the West Campus-wide FAR to approximately 4.03 and the BIDMC LMA campus-wide FAR to approximately 3.76 upon completion of the IMP Project. (Table 2-3 provides information on current FAR for the West and East Campuses and areas outside the LMA). The building will contain 10 stories and will measure up to 178 feet in height to the top of the highest occupied floor (the helipad, mechanical equipment and roof structures including a mechanical penthouse, mechanical screen and the enclosure for the elevators which serve the helipad will be located on the roof, and will measure up to an additional 39 feet).

The plans included with this IMPA show additional features and dimensions of the building. Consistent with prior IMP filings, we understand that the level of detail provided in this IMP Amendment is sufficient to describe the relevant zoning controls for the building and uses described herein, without the need to describe each specific deviation from the provisions of underlying zoning.

### ***3.4.3 Effect of Approval of the IMP Amendment***

Pursuant to Article 80D of the Zoning Code, upon approval of the BIDMC IMP Amendment by the BPDA and its adoption by the Boston Zoning Commission, existing uses and structures and IMP projects described in the BIDMC IMP, as amended, shall be permitted and deemed to be in compliance with the use, dimensional, parking, and loading requirements of underlying zoning (including special purpose overlay districts) and may be reconstructed after casualty, notwithstanding any provision of underlying zoning to the contrary and without the requirement for further zoning relief. Such approvals shall apply whether such uses or structures are conducted or occupied by BIDMC or any other entity,

whether for-profit or non-profit, notwithstanding any other requirement of the Zoning Code, including, without limitation, any requirement that any such entity undertake such uses or occupy such structures pursuant to an Institutional Master Plan or that such Institutional Master Plan subsequently be amended. Specifically, approval and adoption of the BIDMC IMP Amendment will constitute approval of the IMP Project uses, dimensions, and parking and loading as described herein.

So long as the existing uses or structures within the BIDMC IMP Area and the IMP Project are consistent with the provisions of the IMP and the IMP Project is subject to the BPDA design approval process, such existing uses or structures and the IMP Project may be located on multiple contiguous parcels or lots. Consistent therewith, any yard and setback requirements shall be measured at the exterior property lines of the IMP Area, and shall not apply to any interior lots that may exist or be created within the IMP Area. Height shall be measured to the top of the last occupiable floor and shall not include mechanical floors or penthouses, whether or not such mechanical floor exceeds one-third of the roof area.

#### **3.4.4 Additional Zoning Controls**

The following zoning provisions shall also apply during the Term of the BIDMC IMP.

##### **3.4.4.1 Design Review of IMP Project**

Final plans and specifications for the IMP Project shall be subject to review and approval by the BPDA in accordance with its Development Review Guidelines (2006). The final plans and specifications, as approved by the BPDA, shall be deemed to be approved under this IMP Amendment.

##### **3.4.4.2 Portions of the IMPA Area within the Groundwater Conservation Overlay District**

Any proposed improvements within the BIDMC IMP Area to which the provisions of Article 32 are applicable, including IMP Projects as described in the BIDMC IMP, as amended, and other campus improvements that meet the groundwater conservation requirement thresholds set forth in Article 32, will obtain a written determination from the Boston Water and Sewer Commission as to whether said standards are met, and will provide a copy of this letter to the BPDA and the Boston Groundwater Trust prior to the issuance of a Certificate of Consistency for any proposed improvements in the portions of the IMP Area within the Groundwater Conservation Overlay District. Accordingly, BIDMC will not be required to obtain a conditional use permit from the Board of Appeal for such proposed improvements.

##### **3.4.4.3 Future Building Renovation and Maintenance Projects**

In addition to the IMP Project, BIDMC may from time to time undertake renovations and other small projects affecting existing buildings that result in the addition of small amounts

of gross floor area to the BIDMC campus, but do not meet the thresholds for IMP review as established under Article 80 and thus qualify as exempt projects under Section 80D-2 of the Zoning Code. Campus improvement projects are discussed in more detail in Sections 3.3.2 and 3.3.3 above. Such exempt campus improvement projects may be conducted without amendment of the BIDMC IMP and for those that result in an increase in GFA the permitted FAR under the BIDMC IMP shall be deemed adjusted accordingly. BIDMC will seek a determination from the BPDA as to whether a project qualifies as an exempt project if the Inspectional Services Department (ISD) requires such a determination as a condition of issuance of a building permit for the project. Should the BPDA determine the project is exempt pursuant to Section 80D-2, the BPDA will issue a Notice of Exemption in order that the project may receive a building permit from ISD.

Campus improvement projects which result in an increase in GFA may be subject to review and approval by the BPDA in accordance with its Development Review Guidelines (2006). The final plans and specifications of such projects, as approved by the BPDA, shall be deemed to be approved under the BIDMC IMP. The height and area of signs on a sign frontage may exceed the limits established by Article 11 of the Zoning Code provided that the design and dimensions for such sign is approved by the BPDA.

#### **3.4.4.4 Future Leased or Purchased Space**

From time to time during the term of the BIDMC IMP, BIDMC may purchase or lease space and parking facilities located outside of the BIDMC IMP Area. Any such space or facilities, regardless of whether it exceeds IMP exemption thresholds, will not require an amendment to the BIDMC IMP as long as the use category of the underlying zoning which most closely describes the use of such space or facility is either allowed as of right the by the underlying zoning or is allowed by zoning relief obtained by the property owner. This will give BIDMC the needed flexibility to meet is space and parking needs.

#### **3.4.4.5 Future Transfers of Space**

During the term of the BIDMC IMP, it is possible that BIDMC will transfer certain property described in the IMP. In such event, BIDMC may, by written notice to the BPDA, elect to remove such property from the BIDMC IMP and/or IMP Area, whereupon (a) such transferred properties, to the extent that they do not conform to the underlying zoning, shall be deemed to be lawful prior nonconforming uses and structures; and (b) remaining uses and structures described in the BIDMC IMP shall be deemed to be lawful prior nonconforming uses and structures to the extent they do not conform to underlying zoning, notwithstanding the creation of a new lot as a result of such transfer.

#### **3.4.4.6 Future Reallocation of High Impact Subuses**

From time to time during the term of the IMP, BIDMC may reallocate Gross Floor Area among the various Hospital Subuses, including all High Impact Subuses. Any such

reallocation will not require an amendment to the IMP. This will give BIDMC the needed flexibility to meet its operational needs.

### **3.5 Consistency with LMA Interim Guidelines**

In late fall 2002, the BRA and the Office of Jobs and Community Services (OJCS), in conjunction with the Boston Transportation Department, initiated a master planning process for the LMA. In February 2003, the BRA adopted a set of Interim Guidelines to inform the BRA's considerations while reviewing proposed projects and Institutional Master Plans pursuant to Article 80 of the Boston Zoning Code prior to completion of the LMA strategic plan.

The IMP Project is within the boundaries of the area in which LMA Interim Guidelines are applicable. The IMP Project's consistency with the LMA Interim Guidelines is discussed below.

#### ***3.5.1 Urban Design***

The Urban Design section of the Interim Guidelines establishes a set of design principles and criteria for projects in the LMA. The guidelines set principles to enhance and protect physical assets of the LMA, outline dimensional objectives, including height zones and setbacks, and describe public benefits that can be provided by project proponents and institutions in order to achieve building heights greater than the specified base heights.

##### **3.5.1.1 Protection of Assets / Shadow Criteria**

The LMA Interim Guidelines establish a principle of protecting the physical assets of the LMA and include guidelines regarding restrictions on new shadows on City of Boston parks and parkways.

The LMA Interim Guidelines identify the IMP Project site as being suitable for a building up to 205 feet tall. However, to minimize the IMP Project's visual and shadow impact, BIDMC diligently reviewed the design and its impacts in coordination with the need to construct a viable project that meets BIDMC's programmatic goals and has limited the height to up to 178 feet. This decreased height related to what was proposed in the IMPNF/PNF has resulted in only limited areas of new shadow that last longer than one hour on the Emerald Necklace and Riverway.

The Project does not cast net new shadows on Joslin Park or Evans Way Park on March 21st. The Project will not cast net new shadow on the Emerald Necklace for most of the day. Shadow lasting more than one hour on any one area on the Emerald Necklace and the Riverway is gone by 10:40 a.m. Appendix B includes the shadow graphics.

### **3.5.1.2 Height Zones**

The LMA Interim Guidelines identify three height zones. The IMP Project is located within the third height zone, which allows for a base height of 150 feet and a potential maximum height of 205 feet with the provision of exceptional public benefits.

The height of the IMP Project is consistent with the LMA Interim Guidelines with a height of up to 178 feet. The IMP Project will provide exceptional public benefits by being Leadership in Energy and Environmental Design (LEED) certifiable at the Silver level or higher, will provide a new green roof to provide outdoor space to building occupants and collect rainwater, and will provide an exceptional architectural design. In addition, as described in Chapter 6, BIDMC has a superior Workforce Development program. BIDMC also will be investing over \$21 million in community-based health initiatives in connection with the IMP Project.

The IMP Project will reflect and advance BIDMC's non-profit mission, including excellence in clinical care, dedication to innovative research, training the next generation of medical and allied health professionals, and a commitment to its neighboring communities.

As previously described, the Project will help to meet the increasingly acute and complex needs of the seriously ill patients referred to BIDMC from its network of community providers, and will enhance BIDMC's capacity to continue caring for local Boston residents, including patients from underserved neighborhoods. The design of the Project is guided by the need to provide state-of-the-art operating rooms, procedural suites, and imaging areas sized to incorporate the latest technologies, house the most advanced equipment, and promote collaboration among staff to best support the most acute patient care needs; leverage adjacencies and efficiencies by preserving and enhancing existing services and workflows to reduce construction and operating costs, consistent with BIDMC's commitment to delivering high quality, lower cost care; and create more single-bedded, family-friendly, patient rooms that facilitate healing and recovery.

### **3.5.1.3 Setbacks and Stepbacks**

The LMA Interim Guidelines state that setbacks from the curb shall equal the "most appropriate prevailing setbacks." The IMP Project site does not have a step-back line requiring a step-back from the adjacent street edges.

The IMP Project is sited such that the building is setback approximately two feet further from the curb than the adjacent Rosenberg Building along Brookline Avenue. This additional dimension will be utilized to provide a small landscape buffer zone that wraps the base of the building and visually links the proposed mid-block garden with the linear landscape zone at the corner of Brookline Avenue and Francis Street that then connects to the main entrance on Francis Street.

The building massing is developed to maintain an appropriate sense of scale to the street wall and pedestrian experience. The base of the building will consist of window openings of various sizes along with terrariums, greenwalls, other plantings, or art installations which through an artful combination of rich materials and textures will provide a year-round enhancement to the public realm. Dark-colored materials will provide a sharp contrast against the landscape elements which will further animate the street wall and create a diverse and engaging pedestrian experience. Along the Brookline Avenue sidewalk the building cantilevers approximately 10 feet beyond the street wall revealing a wood-like soffit that is approximately 32 feet above grade. The cantilever along Brookline Avenue will be similar in scale to the existing cantilevers on the Rosenberg Building, though the soffit elevation is approximately 10 feet higher.

The balance of the building tower rises in a singular form for another 150 feet above the glass 'reveal' to establish a parapet line that is approximately 178 feet above street level along Brookline Avenue and Francis Street. This massing is conceived to efficiently accommodate the BIDMC's patient care program requirements for the IMP Project while providing for exceptional public benefits in the form of expanded landscape areas that enhance the pedestrian experience and create an attractive 'gateway' building that welcomes visitors approaching from Brookline to the entire LMA.

#### **3.5.1.4 Mix of Uses**

The LMA Interim Guidelines seek to "improve the character, security, and vitality of the LMA" by increasing the mix of uses. The IMP Project will meet the intent of this guideline by providing a new mid-block garden on Brookline Avenue, as well as new landscaping along Brookline Avenue and Francis Street. The IMP Project will also include a new building entrance on Francis Street, which will activate this area, currently bordered by landscaping and a retaining wall, and provide increased security through its more active use and improved lighting. Lighting and new greenery (e.g., terrariums, greenwalls, or other plantings) or art installations will be included around the building to provide interest to the pedestrian realm.

#### **3.5.1.5 Character**

The LMA Interim Guidelines state that new projects should "build on and reinforce the distinctive physical, historic, and architectural characteristics of each of the institutions" by addressing simplified wayfinding, improved access and circulation, preservation and enhancement of buildings that contribute to the history of the district, and limits on the width and spacing of tall building elements to minimize environmental impacts. The IMP Project is consistent with these goals as described below.

The long history of BIDMC is currently encoded in the differing architectural character of its East and West Campuses. The East Campus (originally Beth Israel Hospital) is characterized by the consistent presence of buff-colored materials that provide a degree of uniformity and

connection between the various buildings on the East Campus. While the Shapiro Clinical Center deviates from this palette, it does so in specific response to the historic facade from which it rises. By contrast, the West Campus (originally New England Deaconess Hospital) is characterized by a pervasive palette of red brick with limestone accents. With its active composition of bright red brick, pre-cast concrete and expressive mullion and glass patterns, the Rosenberg Building belongs to neither the subdued buff colored buildings of the East Campus nor the relatively more stately and restrained architecture on the remainder of the West Campus.

The IMP Project is designed to visually unite the East and West Campuses through the strategic deployment of different materials on the different components of the building. The pedestrian experience of the IMP Project will be unified with the rest of the West Campus through the integration of landscape with the architecture and via the scale and texture afforded by the careful use of materials in the base of the building. The use of buff colored materials on the patient tower (Levels 4 and up) leverages the longer views that are available from elevated positions in neighboring buildings by creating a visual link between the IMP Project and the similarly colored buildings on the East Campus. In addition, the IMP Project will enhance the buildings in the area without the need to demolish any existing building.

An important component of the pedestrian experience within the West Campus is the location of building entrances and connections within the interior of the campus. Currently the Libby Building, Farr Building and Palmer Building are all accessed from Pilgrim Road, while the Rosenberg Building entrance is in a mid-block location on Deaconess Road facing Joslin Park. The proposed location of the main entrance to the IMP Project mid-block on Francis Street will mirror the entrance to the Rosenberg Building. In so doing, the existing clarity of the West Campus is reinforced and wayfinding for visitors to the campus is simplified. The lobby will be located at the corner of Francis Street and Pilgrim Road, a location that will facilitate the linkage of elevated connections between the IMP Project and existing BIDMC buildings (via the proposed Level 3 and Level 5 Connectors and the existing Farr Bridge), thereby allowing patients, staff and visitors to move easily between all of the West Campus facilities.

The west side of Pilgrim Road is currently characterized by landscaped elements which enrich the pedestrian experience between the Libby and Palmer Buildings (where the landscape is particularly mature). This 'green corridor' will be expanded and enhanced with landscape elements introduced along the Pilgrim Road side of the IMP Project's main building lobby. Locating the main lobby of the building at the corner of the site at the intersection of Pilgrim Road and Francis Street also provides visitors approaching the West Campus with a vista that encompasses a vibrant and architecturally distinguished building in place of the current condition of a retaining wall and parking lot.

Of equal importance to the IMP Project is the improved vehicular wayfinding and access within the LMA in general, and the West Campus specifically. Key to this objective is the

minimization of conflicting traffic movements and separation of traffic types, particularly at key decision points. The preservation of the Main Loading Facility in its current location at the corner of Brookline Avenue and Francis Street is important in several respects. By maintaining the entrance in its current location on Brookline Avenue, as much separation as possible is maintained between delivery trucks arriving at the campus, ambulances en route to the Emergency Department, and visitors making their way to the vehicular drop-off along Francis Street. Improved bike lanes being planned along Brookline Avenue will be viable with the entrance to the Main Loading Facility remaining on Brookline. Improvements to the Main Loading Facility will increase the maneuverability of large trucks within the facility and this will enhance the biking experience in the vicinity of the IMP Project. This location also serves to eliminate potential conflicts between service vehicles arriving at the West Campus and from cars exiting the Lowry Garage. This separation is important for visitors arriving at the building (particularly new or infrequent visitors who may be unsure of where they are going) as it both enhances the visibility of the drop-off area and creates an experiential hierarchy in which Francis Street has a character that is clearly distinct from Brookline Avenue.

### **3.5.2            *Transportation***

The LMA Interim Guidelines specify transportation-related topics that should be addressed, where feasible, by every project in the LMA. These topics include:

- ◆ Parking Ratios;
- ◆ Transportation Demand Management;
- ◆ Traffic Management;
- ◆ Local Street Network; and
- ◆ System-Wide Transportation Projects.

All of these topics are intended to help improve local vehicular circulation, reduce congestion and improve pedestrian access in and around the LMA.

#### **3.5.2.1        *Parking Ratios***

The LMA Interim Guidelines specify all new development will comply with the parking ratio goal of 0.75 spaces per 1,000 gross square feet floor area.

The IMP Project will provide no new parking on-site. Parking for patients and visitors will be provided in the existing Francis and Pilgrim garages. Any incremental staff parking needs would be accommodated through the use of leased, off-site parking facilities. The IMP Project complies with the LMA Interim Guidelines for parking ratios.



### 3.5.2.2 Transportation Demand Management

According to the LMA Interim Guidelines, all institutions and project proponents will be required to implement a transportation demand management (TDM) program to reduce auto use, as determined through the Transportation Access Plan Agreement (TAPA) process with the Boston Transportation Department (BTD) with specific measures to be included.

BIDMC is committed to continuing to offer a wide array of proactive TDM incentives as a means to reduce single occupant driving and increase use of alternative forms of transportation to access the workplace by its employees. BIDMC actively supports efforts to reduce auto use for employees traveling to the hospital. Many actions to support this goal are actively employed, including the following:

- ◆ Providing an Employee Transportation Advisor;
- ◆ Membership in the MASCO CommuteWorks Transportation Management Association (TMA);
- ◆ Full and active support of MASCO's other on-going transportation initiatives;
- ◆ 50 percent transit pass subsidy for employees (up to a limit of \$125 per month) ;
- ◆ Carpool assistance and incentives;
- ◆ Park and Ride Service;
- ◆ Emergency ride home;
- ◆ Bicycling/walking incentives and amenities;
- ◆ Location-priced parking (i.e., offering LMA market-rate parking on-campus and lower-priced parking off-campus);
- ◆ Telecommuting and compressed workweeks, when feasible; and
- ◆ Promotional efforts.

BIDMC is committed to maintaining its employee transit subsidy in connection with the construction of the IMP Project. BIDMC will also continue to promote and improve its TDM program to benefit its employees and reduce traffic impacts to roadways and parking facilities within the LMA and nearby neighborhoods.

### 3.5.2.3 Traffic Management

The LMA Interim Guidelines specify that institutions will comply with a Traffic Management Plan jointly developed with BTD.

BIDMC is committed to complying with the Traffic Management Plan and commits to assist in day-to-day traffic management activities as they improve mobility and safety in the LMA.

#### **3.5.2.4 System-Wide/Local Street Network Transportation Projects**

The LMA Interim Guidelines specify that new development projects make contributions to the design and/or implementation of specific system-wide transportation projects that were being pursued by the City and State. The LMA Interim Guidelines also include the expectation that every project contribute to improving the local vehicular and pedestrian access immediately around it. The transportation improvement and mitigation plan proposed by BIDMC for the IMP Project will provide improved transportation infrastructure for patients, visitors, employees and others traveling to the IMP Project site, the rest of the West Campus, and the surrounding LMA context. BIDMC will proactively manage the IMP Project, Rosenberg Building, and Emergency Department drop-off and valet parking activities to reduce adverse traffic impacts on area streets, particularly along adjacent Brookline Avenue. Portions of Pilgrim Road will be widened to accommodate two-way traffic access, allowing for a direct vehicular connection between the IMP Project's patient drop-off on Francis Street and the nearby Pilgrim Garage. Valet return to this location will also occur along Pilgrim Road during peak periods, with the goal to minimize valet traffic activity along Brookline Avenue. Roadway improvements and enhanced valet parking operations management have been devised to not only manage and mitigate impacts of the IMP Project, but to help manage peak hour traffic flow adjacent to the site. Numerous street trees, widened sidewalks and other pedestrian improvements are planned, including along Brookline Avenue on land owned by BIDMC over which it has granted a pedestrian access easement to the City of Boston. Additionally, BIDMC will continue to provide its proactive transportation demand management measures to its employees to encourage the use of transit and other alternative forms of transportation. BIDMC is committed through its IMP Project improvements to contribute to improved access, mobility and safety in the LMA.

#### **3.5.3 Workforce Development**

The LMA Interim Guidelines include guidelines regarding institutions and developers working with the BRA (now BPDA) and OJCS to analyze current and future workforce needs, and develop a Workforce Development Plan to address those needs. Information on Boston resident employees is requested as part of the workforce plan.

BIDMC is one of Boston's largest employers and is a major institutional employer of Boston residents. As discussed in Chapter 1, approximately 2,800 Boston residents are employed at BIDMC's facilities in and around the LMA, out of a total of approximately 9,000 employees. BIDMC's jobs start at \$15 an hour (with the exception of students) and are open to a broad spectrum of education levels. As described in Chapter 6, BIDMC has a robust Workforce Development program to help its current employees and provide opportunities to Boston residents.

### **3.5.4 Conclusion**

The IMP Project is generally consistent with the LMA Interim Guidelines as described below.

The IMP Project will:

- ◆ Be less than 205 feet in height and will match the most appropriate prevailing setbacks from the curb, matching those of the Rosenberg Building to which the IMP Project will connect;
- ◆ Provide exceptional public benefits, including helping to meet the increasingly acute and complex needs of the seriously ill patients cared for at BIDMC, providing a superior workforce development program, providing improved and new public spaces, and an architecturally distinguished, energy efficient building designed using an extensive evaluation of energy performance and sustainability measures;
- ◆ Reinforce the character of the institution, simplify wayfinding, and add new hospital building area on an underused site, instead of replacing an existing building;
- ◆ Construct a building that is shorter than the maximum height allowed with exceptional benefits to minimize shadow impacts on the Emerald Necklace and Parks and Boulevards Protection Zone;
- ◆ Make sidewalk and roadway-related improvements on Brookline Avenue, Francis Street and Pilgrim Road. Have minimal impact to transportation infrastructure and inclusion of a robust TDM program; and
- ◆ Create permanent employment and be a part of BIDMC's exemplary workforce development program.

BIDMC will continue to work with the City and its agencies, MASCO, and neighbors in the LMA to protect the assets of the area and create a better physical environment in the LMA.

## Chapter 4

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### Planning Framework

## 4.0 PLANNING FRAMEWORK

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### 4.1 Existing Context

The IMP Project will be located on the West Campus. The West Campus benefits from having well defined edges that help to create a distinction between the larger LMA and the more pedestrian friendly campus interior. These edges are formed by major arterial roadways which provide vehicular access to and through the LMA.

**Longwood Avenue** is a major city arterial providing vehicular access to and through the LMA from the east and the west, as well as pedestrian access into the LMA from the surrounding area and MBTA stops on two branches of the Green Line. Land uses along Longwood Avenue within the LMA are generally institutional or commercial in nature, including intermittent street-front retail operations.

**Brookline Avenue**, another major city arterial between Kenmore Square and Brookline Village, provides vehicular access to and through the LMA from the north and the south, with heavy pedestrian volumes comprised of LMA employees, students, patients and visitors in the several blocks around the intersection of Brookline Avenue and Longwood Avenue. Land uses along Brookline Avenue within the LMA are generally institutional (medical and educational) or commercial in nature, with a limited amount of street-front retail operations. Buildings in the immediate vicinity of the West Campus on the east side of Brookline Avenue typically have entrances facing Brookline Avenue, while those on the west side of the street more frequently have their primary entrances at mid-block locations on perpendicular streets (e.g., Longwood Avenue, Joslin Place and Deaconess Road) with secondary entrances facing Brookline Avenue. Similar to Longwood Avenue, there are intermittent street-front retail operations along Brookline Avenue.

**Emerald Necklace / Riverway**, a portion of the Olmsted designed Emerald Necklace open space system, with a major regional arterial/parkway running along its edge and separates the recreational open space from the LMA. A substantial portion of the heavy vehicular volume along the Riverway is comprised of commuters passing through the LMA to/from inner suburban areas and the city center. Pedestrian access from the LMA to the Muddy River is limited and occurs primarily where there are traffic signals; traffic volumes and speeds along the Riverway make for hazardous crossings in places without signals. Pedestrian activity along the Emerald Necklace open space is comprised primarily of recreational users from surrounding neighborhoods.

**Joslin Park** is a green oasis in the heart of the West Campus with primary public access from Brookline Avenue that is very well-utilized during the warm months of the year.

LMA project planning and review are informed generally by the LMA Interim Guidelines. These guidelines were put in place in 2003 as interim guidance at a time when the BRA and the Office of Jobs and Community Services, in conjunction with the BTD, had initiated

a master planning process for the LMA. These guidelines seek to preserve the institutions, while promoting open space, a mix of uses, community benefits to the surrounding neighborhoods, and limit transportation impacts. The IMP Project's consistency with the LMA Interim Guidelines is included in Section 3.5.

## **4.2 Facilities Needs**

As discussed mentioned in Section 1.3, BIDMC is the referral center for the sickest patients who require the most complex care within BIDMC's network of health care providers. BIDMC also serves as an essential community hospital for residents of Boston and other nearby communities, including many from vulnerable populations that often demonstrate an increased need for access to health care. As a result BIDMC provides care to an increasingly complex patient population and occupancy of its inpatient beds has been rising to higher than optimal rates. In calendar year 2017, BIDMC's average medical/surgical occupancy rates operated at an average occupancy rate of 93 percent, and the occupancy rate never dropped below 88 percent. Research supports that medical/surgical occupancy over 92 percent lengthens interval time (i.e., the time from an admission order to the patient arriving at the bed) and identifies that single-bedded rooms are generally easier to fill quickly. Adjusting for BIDMC's existing higher proportion of double-bedded rooms, the optimal occupancy rate for BIDMC is currently between 82 percent and 85 percent. Furthermore, only 37 percent of medical/surgical beds at BIDMC are in single-bedded rooms, and the seriously ill and often vulnerable patients BIDMC cares for have greater need for the private healing environment of a single-bedded room than patients with less significant medical needs and other challenges. To relieve capacity constraints and to meet the increasingly acute, complex needs of its patients, BIDMC needs to create more single-bedded medical/surgical patient rooms, more intensive care beds and expanded surgery and procedure and clinical support spaces that can support patient and family oriented, team based care. In addition, health care technology continues to evolve, and new spaces that will allow for these technologies are needed on BIDMC's LMA campus.

## **4.3 Campus Vision and Identity**

As described in Section 3.5.1.5, the long history of BIDMC is currently encoded in the differing architectural character of its East and West Campuses. The East Campus (originally Beth Israel Hospital) is characterized by the consistent presence of buff-colored materials that provide a degree of uniformity and connection between the various buildings on the East Campus. While the Shapiro Clinical Center deviates from this palette, it does so in specific response to the historic facade from which it rises. By contrast, the West Campus (originally New England Deaconess Hospital) is characterized by a pervasive palette of red brick with limestone accents. With its active composition of bright red brick, pre-cast concrete and expressive mullion and glass patterns, the Rosenberg Building belongs to neither the subdued buff colored buildings of the East Campus nor the relatively more stately and restrained architecture on the remainder of the West Campus.

As the first new building to be built since the merger of Beth Israel Hospital and New England Deaconess Hospital 22 years ago, the IMP Project is designed to visually unite the East and West Campuses through the strategic deployment of different materials on the different components of the building. The pedestrian experience of the IMP Project will be unified with the rest of the West Campus through the integration of landscape with the architecture and via the scale and texture afforded by the careful use of materials in the base of the building. The use of buff colored materials on the patient floors (Levels 4 and up) leverages the longer views that are available from elevated positions in neighboring buildings by creating a visual link between the IMP Project and the similarly colored buildings on the East Campus.

#### 4.4 Urban Design Guidelines and Objectives

BIDMC seeks to continue to promote its current campus structure on the West Campus, which focuses entrances and hospital activity within the interior of the campus. The outer edges of the West Campus provide a mixture of open spaces and retail (see Section 4.5 for more details about public realm goals and objectives). The IMP Project has been informed by these guidelines and objectives in the following ways:

- ◆ Reinforcing the existing alignment of building entrances, which focuses important entrances at the center of the campus, in order to facilitate the linkage of elevated connections and allow patients, staff and visitors to move easily between all of the West Campus facilities.
- ◆ Provide sidewalk improvements consistent with Boston's Complete Streets Guidelines, including the widening of sidewalks and new landscaping elements.
- ◆ Providing a new mid-block garden along Brookline Avenue, as well as new landscaping zones along the building edge on Brookline Avenue and Francis Street and terrariums, greenwalls, other plantings, or art installation incorporated into the base of the building.
- ◆ Improving vehicular wayfinding and access within the LMA in general and the West Campus specifically.

In addition to the above objectives, BIDMC also seeks to provide safe and convenient access to its facilities for patients, visitors, and staff. Widened sidewalks with street trees and landscaped zones offer a welcoming pedestrian experience, while gentle slopes allow all individuals to access the hospital buildings. Through the formation and on-going efforts of BIDMC's Universal Access Advisory Council and staff education, BIDMC is proactive in the implementation of Americans with Disabilities Act (ADA) improvements. During the last six years, BIDMC has invested more than \$11.6 million improving accessibility throughout its Boston and suburban campuses. This includes creating appropriate parking spaces and sidewalk entrance access ways, the renovation of a significant number of

bathroom facilities, modifying reception desks, and providing appropriate height exam tables and wheelchair scales for the proper treatment of patients in the healthcare office setting. BIDMC offers a significant number of accessible patient rooms to ensure that patients are cared for in the proper environment. BIDMC also replaced two fire alarm systems so that additional audio-visual alarm capacity could be added for exam rooms. These efforts will continue with the IMP Project.

## 4.5 Public Realm

### *Public Realm Improvements*

The public realm around and within BIDMC's LMA campus includes a mix of sidewalks, open spaces and roadways. Sidewalks have been widened adjacent to Longwood Center which is located on the corner of Brookline Avenue and Longwood Avenue. Retail space has also been added to this area to activate the pedestrian realm. Open space improvements on the East Campus include improvements to the landscaped areas along the Kirstein, Rose and Yamins parking areas fronting on Brookline Avenue. The landscaped area was increased by removing some paved area and reducing the parking capacity. These improvements create an extension of the existing landscaped Brookline Avenue Plaza in front of the Shapiro Clinical Center. Near the West Campus, along Deaconess Road at the intersection with Brookline Avenue, the half-acre Joslin Park, which was previously redeveloped by BIDMC, provides seating and plantings and creates a formal entryway to the surrounding hospital buildings. BIDMC maintains Joslin Park, which is owned by the City of Boston.

Improvements to the roadways include plans being developed by MASCO to add an improved dedicated bike lane on the east side of Brookline Avenue. Changes to Pilgrim Road are also proposed as part of the IMP Project. If approved and implemented, MASCO's plan would be a considerable amount of re-striping of travel lanes on Brookline Avenue, improving safety and accessibility for bicyclists. Changes to Pilgrim Road, which will include making it two-way between Francis Street and Deaconess Road, are anticipated following the completion of the IMP Project.

### *Public Realm Goals and Objectives*

BIDMC seeks to provide safe and convenient access in the vicinity of its buildings for the benefit of the public and BIDMC's patients, visitors and staff, no matter the mode of transport. Improvements to the sidewalks around and through its LMA campus will seek to provide as much room as necessary and practical, while also providing amenities such as street trees and benches where appropriate, including expansion of the 'green corridor' on the west side of the IMP Project site along Pilgrim Road.

An important component of the pedestrian experience within the West Campus is the location of building entrances and connections within the interior of the campus, and along



Pilgrim Road. Currently the Libby Building, Farr Building and Palmer Building are all accessed from Pilgrim Road, while the Rosenberg entrance is in a mid-block location on Deaconess Road facing Joslin Park. The proposed location of the main entrance lobby to the IMP Project at the corner of Pilgrim Road and Francis Street, with the front door positioned mid-block along Francis Street, mirrors the mid-block position of the entrance to the Rosenberg Building on Deaconess Road. This location responds to and reinforces the existing clarity of the West Campus and in so doing simplifies wayfinding for patients, visitors and staff. Similarly, this lobby location facilitates the linkage of elevated connections between the IMP Project and existing BIDMC buildings (via the proposed Level 3 and Level 5 Connectors and the existing Farr Bridge), thereby allowing patients, staff and visitors to move easily between all of the West Campus inpatient facilities.

BIDMC will continue to provide a high-quality pedestrian experience along Brookline Avenue in front of the East Campus. The interface between the West Campus and both Brookline Avenue and Francis Street will be improved by the IMP Project through the provision of additional street trees and the creation of a welcoming face towards the public realm. This interface will include aesthetic enhancements such as the incorporation of landscape buffer zones and bench seating at the base of the building, the inclusion of a mid-block garden at the point of interface between the IMP Project and the existing Rosenberg Building, and the introduction of a linear garden at the intersection of Brookline Avenue and Francis Street. The base of the building will be characterized by materials that are dark in color to provide a sharp contrast to the landscape elements and will include terrariums, greenwalls, other plantings, or art installations featuring an artful combination of rich materials, textures or plantings. Each of these design elements will contribute to the creation of a uniquely beautiful year-round amenity for pedestrians on both Brookline Avenue and Francis Street. Within this composition of elements, the loading dock door will be designed and detailed so that its appearance when closed will be similar to other large window openings in the base of the building. At the IMP Project's main lobby, the base of the building will be designed to maximize transparency and visual connections between the public realm and the building interior, including the installation of indoor landscaping that visually expands the appearance and perception of the public realm by extending the streetscape into the building.

Of equal importance to the IMP Project is the organization of program and access in a way that improves vehicular wayfinding and access within the LMA in general and the West Campus specifically. Key to this objective is the minimization of conflicting traffic movements and separation of traffic types, particularly at key decision points. The preservation of the Main Loading Facility in its current location at the corner of Brookline Avenue and Francis Street is important to this objective in several respects. By maintaining the entrance in its current location on Brookline Avenue, as much separation as possible is maintained between delivery trucks arriving at the campus, ambulances en route to the Emergency Department and visitors making their way to the vehicular drop-off along Francis Street. This location also serves to eliminate potential conflicts between service

vehicles arriving at the West Campus and the congestion that routinely occurs along Francis Street as through traffic from the area and cars exiting the Lowry Garage seek to enter the intersection of Brookline Avenue and Francis Street. This separation is important for visitors arriving at the IMP Project, as it both enhances the visibility to the drop-off area and creates an experiential hierarchy in which Francis Street has a character that is clearly distinct from Brookline Avenue.

#### **4.6 Signage Master Plan**

BIDMC recognizes the need to update campus signage, especially on the West Campus, and anticipates developing a signage master plan as the design of the IMP Project moves forward and is reviewed by the BPDA during design review.

## Chapter 5

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### Transportation

## 5.0 TRANSPORTATION

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### 5.1 Existing Conditions

Existing transportation conditions in the study area, including roadway geometry, traffic control at study area intersections, peak hour traffic and pedestrian flows, transit availability, parking supply and utilization, and loading and service activities are described within this section. The initial parts of this section specifically describe existing access characteristics of the BIDMC campus. Subsequent sections describe and quantify transportation characteristics of the entire study area as required by the BPDA.

#### *5.1.1 Summary of Existing BIDMC Transportation Infrastructure and Services*

BIDMC is located on two campuses in the LMA—the East Campus and the West Campus—which correspond respectively to the prior Beth Israel and New England Deaconess campuses.

To serve their patients, visitors, and staff, BIDMC has developed an extensive transportation infrastructure for safe and efficient access to and from its LMA campus. The existing BIDMC campus transportation infrastructure includes:

- ◆ Multiple dedicated, off-street drop-off/pick-up areas at key entrances to patient care centers;
- ◆ Available on-campus self-parking for patients and visitors;
- ◆ Available on-campus valet parking for patients and visitors;
- ◆ Limited on-campus and off-campus parking for BIDMC employees;
- ◆ An extensive TDM program for its employees to encourage commuting to work by transit and other alternative forms of transportation;
- ◆ Covered and secured bicycle parking;
- ◆ A campus shuttle bus system serving employees and patients;
- ◆ Dedicated ambulance access that is separated from public, patient access points; and
- ◆ Multiple loading and service areas.

Figure 5-1 identifies the specific locations of these various services on the West Campus. Each of these services is described in detail in the following sections.



### 5.1.1.1 BIDMC Parking System

BIDMC offers its patients, visitors, physicians, and employees a variety of parking options. BIDMC currently controls approximately 4,032 off-street parking spaces either by ownership or through leases from others. Of the 4,032 spaces, 1,426 spaces are available for use by BIDMC patients and visitors, and 2,606 parking spaces are subscribed to staff and physicians. About 3,012 (75 percent) of these parking spaces are located on one of the BIDMC campuses or nearby on sites within the LMA.

In addition to spaces within the LMA, BIDMC uses an additional 1,020 spaces for employees in remote parking facilities outside of the LMA. The majority of employees that park off-site either walk or use shuttle buses to travel between the BIDMC campuses and these remote parking facilities. Figure 5-2 identifies the locations of these parking facilities within the LMA, while Table 5-1 provides a summary of existing BIDMC parking facilities.

**Table 5-1 BIDMC Existing Parking Space Inventory (as of January 2018)**

Parking Facility <sup>1</sup>	Current Number of Parking Spaces			Connecting Mode	Owned/Leased
	Total <sup>2</sup>	Patient/Visitor	Employee/Physician		
<b>On-Campus/LMA Parking</b>					
Shapiro Garage	727	432	295	Walk	Owned
Kirstein Lot	11	0	11	Walk	Owned
Finard/Yamins Lot	17	17	0	Walk	Owned
Lowry Garage	292	205	87	Walk	Owned
Pilgrim Garage	745	368	377	Walk	Owned
Clicker Lot	29	0	29	Walk	Owned
Emergency Department Lot	14	14	0	Walk	Owned
Center for Life Science Boston Garage 3 Blackfan Circle	253 <sup>3</sup>	0	253	Walk	Owned (Condo)
Center for Life Science Boston Garage 3 Blackfan Circle	79 <sup>3</sup>	0	79	Walk	Leased
340 Brookline Avenue Garage	430 <sup>3</sup>	390	40	Walk	Leased
NRB Garage 77 Avenue Louis Pasteur	200	0	200	Walk	Leased
MASCO Garage 375 Longwood Avenue	215	0	215	Walk	Leased
<b>Subtotal On-Campus Parking Spaces</b>	<b>3,012</b>	<b>1,426</b>	<b>1,586</b>		

**Table 5-1 BIDMC Existing Parking Space Inventory (January 2018) (Continued)**

Parking Facility <sup>1</sup>	Current Number of Parking Spaces			Connecting Mode	Owned/Leased
	Total	Patient/Visitor	Employee/Physician		
<b>Off-Campus Parking</b>					
Research North 99 Brookline Avenue	33	0	33	Shuttle	Leased
Van Ness Garage Richard B. Ross Way	37	0	37	Shuttle	Leased
160 Ipswich Street	104	0	104	Shuttle	Leased
132 Ipswich Street	30	0	30	Shuttle	Leased
189-203 Ipswich Street	9	0	9	Shuttle	Leased
1271 Boylston Street (The Verb)	56	0	56	Shuttle	Leased
1282 Boylston Street (The Viridian)	150	0	150	Shuttle	Leased
Crosstown Garage 7 Melnea Cass Boulevard	90	0	90	Shuttle	Leased
Longwood Towers 20 Chapel Street, Brookline	35	0	35	Walk	Leased
Renaissance Open Lot & Garage 835 Columbus Avenue	250	0	250	Shuttle	Leased
55 Yawkey Lot 1249-1255 Boylston Street	59	0	59	Shuttle	Leased
Kenmore Lot 73 Brookline Avenue	94	0	94	Shuttle	Leased
Wentworth Lot Halleck Street	40	0	40	Shuttle	Leased
Chestnut Hill Lot 300 Hammond Pond Parkway, Newton	33	0	33	Shuttle	Leased
<b>Subtotal Off-Campus Parking Spaces</b>	<b>1,020</b>	<b>0</b>	<b>1,020</b>		

**Table 5-1 BIDMC Existing Parking Space Inventory (January 2018) (Continued)**

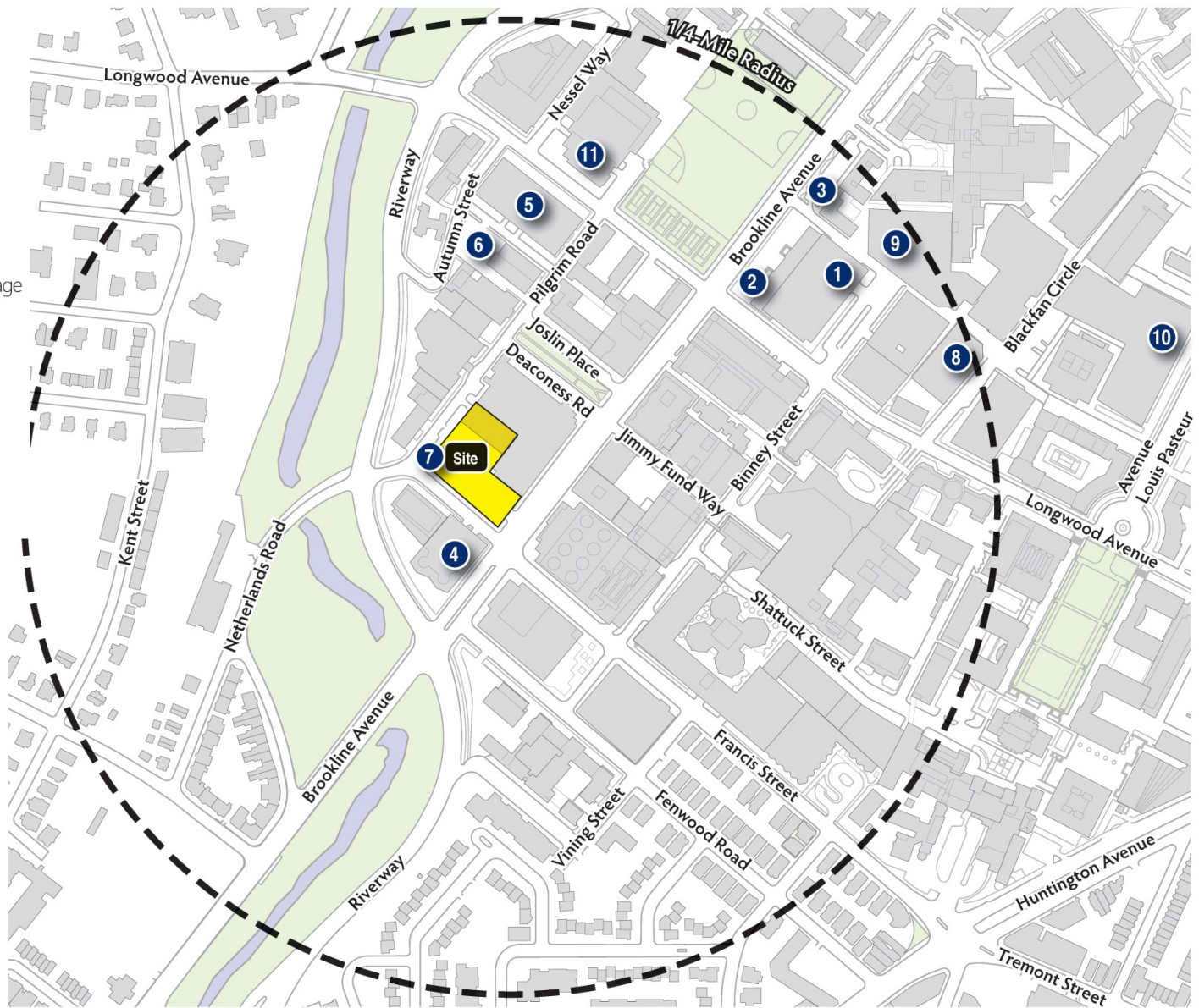
Parking Facility <sup>1</sup>	Current Number of Parking Spaces			Connecting Mode	Owned/Leased
<b>Grand Total BIDMC Parking Spaces</b>	<b>4,032</b>	<b>1,426</b>	<b>2,606</b>		

Source: Beth Israel Deaconess Medical Center, Parking and Security

- <sup>1</sup> Parking spaces provided at leased facilities (see Table 2-4) used by employees housed in such leased facilities are not included in this Table 5-1.
- <sup>2</sup> The totals indicated are the maximum parking spaces that BIDMC controls by ownership or lease at each location (except as noted below in connection with the lease arrangements with Boston Children’s Hospital for spaces in the Center for Life Science Boston). The number of spaces in actual use by BIDMC can at times be fewer than the maximum actual amount. BIDMC’s off-campus parking lease arrangements are subject to change over time.
- <sup>3</sup> As further described in Section 3.3.2 (regarding the status of the LNRC/LRI project and its relationship to the BIDMC IMP), Children’s owns the 340 Brookline Avenue Garage (formerly known as the BIDMC East Campus Parking Garage) and the Children’s IMP permits 454 parking spaces in this garage to be used on an interim basis until commencement of construction of the LNRC/LRI on the garage site. As approved in the Children’s IMP and described in the BIDMC 2009 IMP Renewal and subsequent IMP Updates, Children’s leases a portion of such garage spaces to BIDMC, and concurrently, BIDMC leases to Children’s parking spaces BIDMC owns in the Center for Life Science Boston (CLSB) Garage. Currently Children’s leases to BIDMC 430 parking spaces in the 340 Brookline Garage and BIDMC leases to Children’s 272 parking spaces in the CLSB Garage. As a result of these lease arrangements, BIDMC currently has use of 253 of its 450 owned spaces in the CLSB Garage condo, and has use of 79 spaces of the 154 it leases in the CLSB Garage pursuant to its research space lease. These lease arrangements may change during the five-year extension term of the BIDMC IMP.



- 1 Shapiro Garage
- 2 Kirstein Lot
- 3 Finard/Yamins Lot
- 4 Lowry Garage
- 5 Pilgrim Garage
- 6 Clicker Lot
- 7 Emergency Department Lot
- 8 Center for Life Science Boston Garage
- 9 340 Brookline Avenue Garage
- 10 NRB Garage  
77 Avenue Louis Pasteur
- 11 MASCO Garage  
375 Longwood Avenue



### *East Campus*

The East Campus currently provides 1,717 marked parking spaces for employees and transients (patients and visitors). These spaces are located in above-grade parking structures, below-grade facilities, and surface parking lots including:

- ◆ 340 Brookline Avenue Garage (formerly the East Campus Garage);
- ◆ Shapiro Parking Garage;
- ◆ Center for Life Sciences Boston Parking Garage;
- ◆ Kirstein Parking Lot;
- ◆ Finard/Yamins Parking Lot; and
- ◆ NRB Garage

### *West Campus*

The West Campus currently provides 1,295 marked parking spaces for employee and transient use. These spaces are distributed across the following five locations:

- ◆ Lowry Garage;
- ◆ Pilgrim Garage;
- ◆ Clicker Lot;
- ◆ Emergency Department Lot; and
- ◆ MASCO Parking Garage

In total, BIDMC provides 3,012 marked parking spaces for employee and transient use on or near the East and West Campuses. Chapter 3 of the DPIR provides a comprehensive description and summary of BIDMC's parking system and operational characteristics.

Peak parking accumulation at BIDMC occurs around midday (between 11:00 a.m. and 2:00 p.m.) on Tuesdays, Wednesdays, and Thursdays. Under existing conditions, the BIDMC's parking system generally has enough capacity to meet typical weekday parking demands. Parking availability is continuously monitored and assessed to ensure that supply is available to accommodate expected patient needs.

### 5.1.1.2 BIDMC Employee Transportation Demand Management Program

BIDMC actively supports efforts to reduce auto use for people traveling to its LMA campus, particularly employees. Many actions to support this goal are actively employed by BIDMC, including:

- ◆ Employee Transportation Advisor;
- ◆ CommuteWorks TMA;
- ◆ Subsidies for transit passes for employees;
- ◆ Carpool assistance;
- ◆ Park and Ride service;
- ◆ Bicycling/walking incentives and amenities;
- ◆ Location-priced parking;
- ◆ Telecommuting and compressed workweeks; and
- ◆ Promotional efforts.

BIDMC will continue to promote and improve its TDM program to benefit its employees and reduce traffic impacts to roadways and parking facilities within the LMA and nearby neighborhoods.

### 5.1.1.3 Loading and Service Operations

Loading activities for BIDMC are handled at several locations on the East and West Campuses, as described below, and presented in Table 5-2.

- ◆ **Feldberg/Reisman Building.** The main East Campus loading facility is located on the east side of the Feldberg/Reisman Building. It features a large service area with five truck bays. On the north side of the complex is a waste management area which includes two dumpster bays, trash receptacles, recycling receptacles, and a staging area. Also, on the north side of the complex is a loading dock with two ambulance bays and a hearse bay. A one-way service road that circles the campus and connects to Brookline Avenue provides access to the loading bays and parking located in the rear of the Feldberg/Reisman Complex.
- ◆ **Shapiro Center.** The Shapiro Center has its own dedicated loading dock, accessed from the East Campus service road, with a dumpster bay, an ambulance bay, and one truck bay.

- ◆ **Rosenberg Building.** The West Campus Main Loading Facility is located at the Rosenberg Building. It is a four-bay facility accessed from Brookline Avenue. It has three truck loading docks, one dumpster bay, and an ample staging area where truck maneuvers can be accommodated off-street for most trucks accessing this facility.
- ◆ **Libby Building.** The Libby Building dumpster bay is located on the south side of the building and is accessed from Pilgrim Road. A loading dock at the Libby Building is located within the Clicker Lot. BIDMC will convert a portion of the Clicker Lot into a temporary loading facility as a means to maintain materials management operations for the West Campus while the IMP Project is under construction. This location will also become the new, permanent location of the West Campus's oxygen farm.

**Table 5-2 BIDMC Loading and Service Facilities**

Active Facility	Service Bays (by type)			Primary Access Road
	Total	Loading	Dumpster	
<b>East Campus</b>				
Main Loading Facility	5	5	0	East Campus Service Road
Waste Management Area	2	0	2	East Campus Service Road
Shapiro Center	2	1	1	East Campus Service Road
<b>West Campus</b>				
Rosenberg Building Main Loading Facility	4	3	1	Brookline Avenue
Libby Building	1	0	1	Pilgrim Road

Source: Data provided by BIDMC 2017

#### 5.1.1.4 Helicopter Operations

The BIDMC helipad is currently located on the roof level of the Rosenberg Building and will be relocated to the roof level of the Project. There are no anticipated changes to BIDMC helicopter operations.

Most helicopter operations in the LMA are carried out by Boston Medflight, which provides transport for patients who require specialized and immediate emergency care services at a facility with a Level 1 trauma center and coordinates access to LMA and other Boston hospital helipads by other medical helicopter operators. BIDMC relocated its helipad in 2001 from the East Campus to the West Campus on the roof of the Rosenberg Building with the opening of the Berenson Emergency Department on Pilgrim Road. In 2017, helicopter transport of patients to BIDMC totaled 346 (or approximately 7 missions per week).

#### **5.1.1.5 BIDMC Bicycle Accommodations**

BIDMC encourages employees to bicycle to work. Currently, BIDMC owns and leases approximately 256 bicycle spaces on its East and West Campuses or nearby in the LMA, and 24 at its Research North building in the Fenway, dedicated for use by its employees. BIDMC also maintains 147 bicycle parking spaces for public use on its East and West Campuses. Additional bicycle parking will be put in place with the opening of the IMP Project. Bike parking to be added in connection with the IMP Project will comply with the City of Boston Bicycle Parking Guidelines. As mentioned above, BIDMC is also a Blue Bikes sponsor in the City, sponsoring three stations.

#### **5.1.2 Area-wide Parking**

This section identifies parking locations within the area, including both off-street and on-street parking. Several off-street parking facilities, and a relatively small amount of on-street parking spaces, are located within the area.

##### **5.1.2.1 Off-Street Parking Facilities**

Off-street parking areas within a quarter-mile of BIDMC are shown in Figure 5-3. In total, there are approximately 5,500 spaces provided in these facilities, which are exclusive of the on-campus spaces listed previously. Mid-day, there is generally little available parking at these facilities. This supply is further reduced by the number of spaces reserved for specific institutions or specific users within those institutions. Most of the hospital-controlled spaces are for each institution's employees, patients and visitors. Many LMA institutions maintain long waiting lists of employees seeking reserved off-street parking.

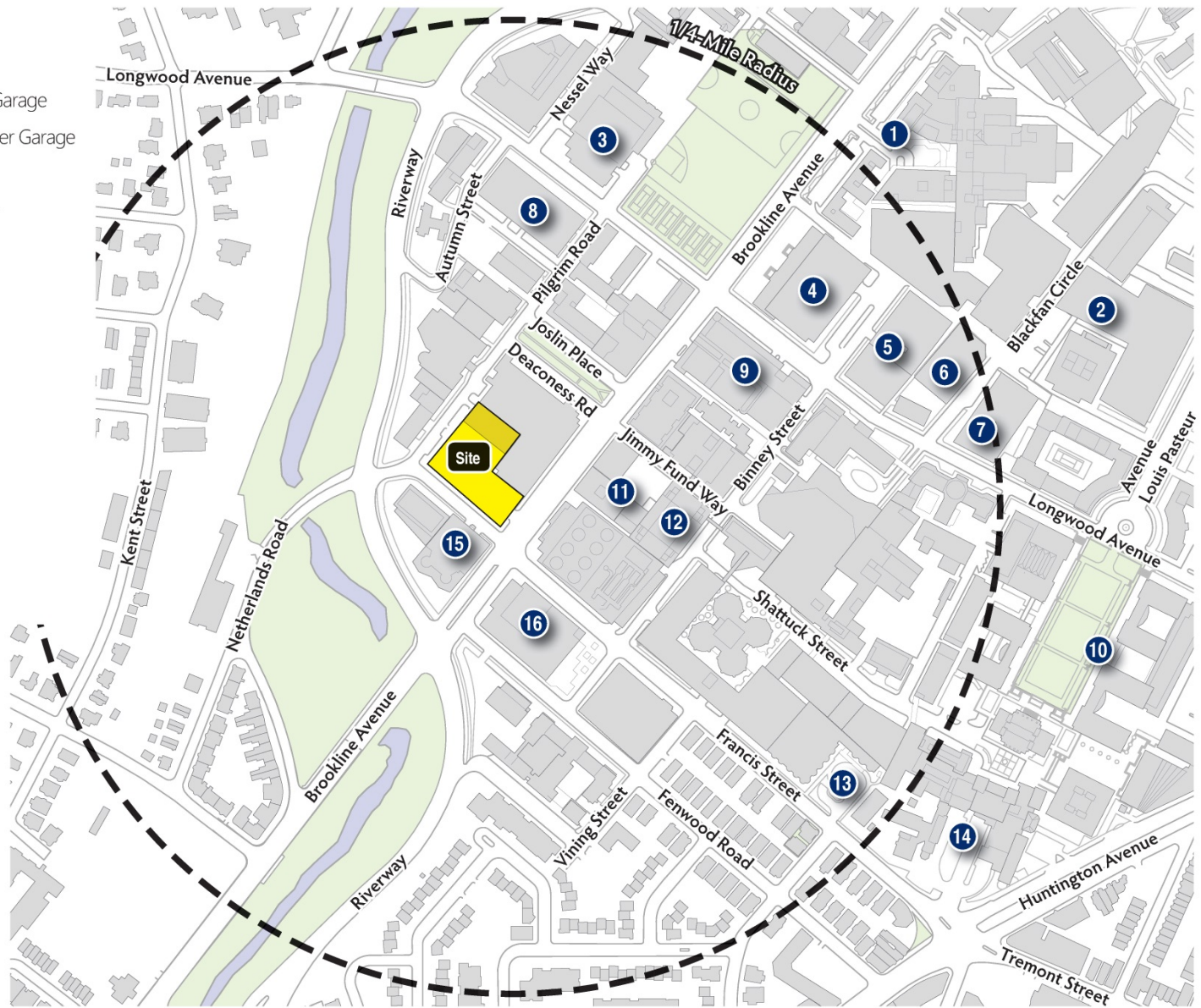
##### **5.1.2.2 On-Street Parking**

The majority of the area has no available on-street parking. There are some metered parking spots to the southeast on Brookline Avenue and northeast on both Joslin Place and Pilgrim Road. There is also residential parking to the southeast along Fenwood and Francis streets. On-street parking regulations nearby in the LMA are illustrated in Figure 5-4.

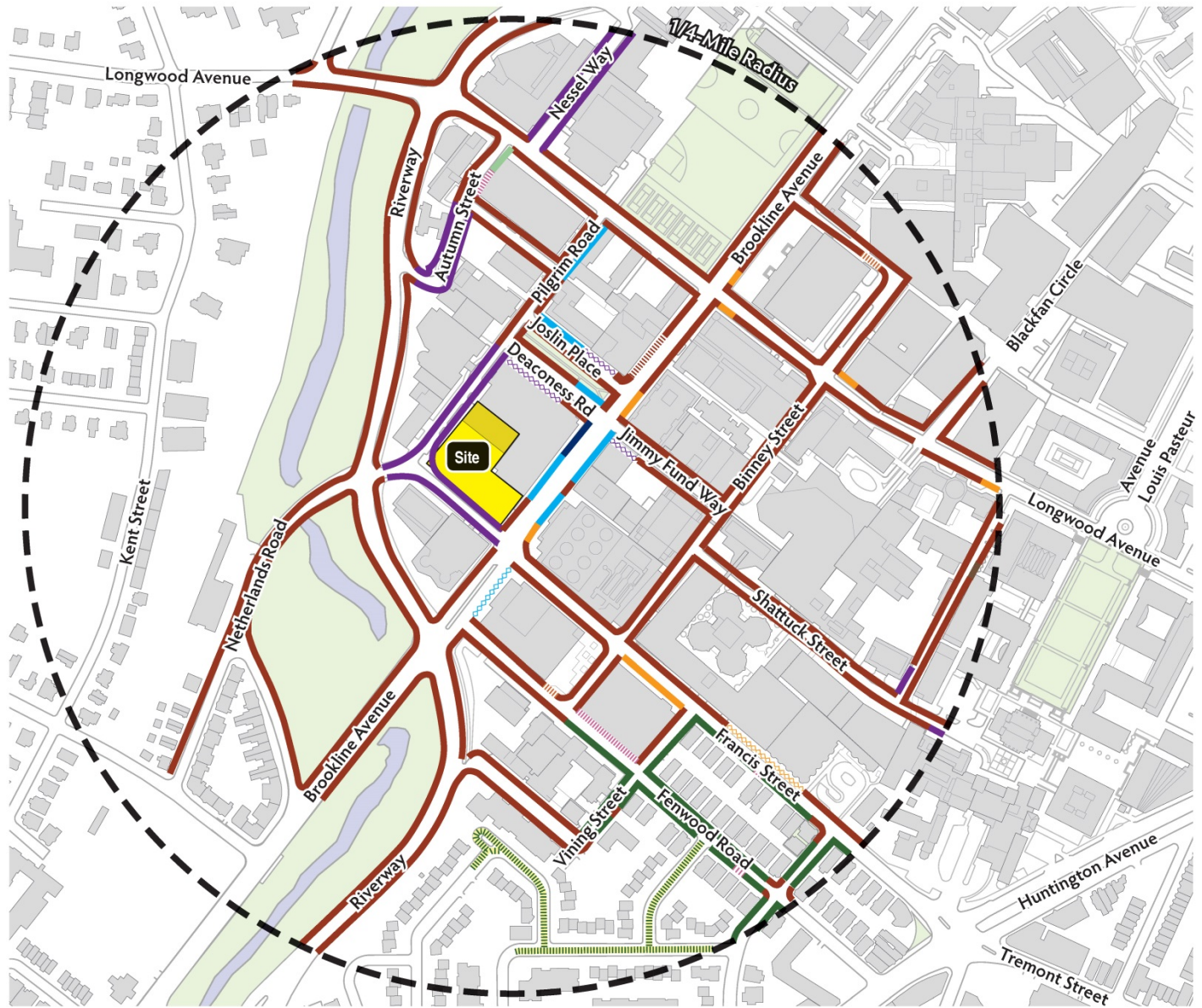
#### **5.1.3 Pedestrians and Bicycles**

The high level of pedestrian activity in the area has prompted changes in traffic signal design and operation in recent years to include exclusive pedestrian phasing, and all area signalized intersections are now equipped with pedestrian push-buttons. In addition, all BIDMC buildings are ADA accessible. MASCO and its member institutions have a program of continuing to study and re-evaluate pedestrian and cyclist needs in the area. Later this summer, Longwood Avenue will be repaved and restriped to include dedicated bicycle lanes after lengthy planning and design by MASCO, with the active support of BIDMC, and the BTDC. Future implementation of new bicycle lanes are planned for other area corridors into the future.

- 1 340 Brookline Avenue Garage
- 2 HMS/New Research Building
- 3 MASCO/375 Longwood Avenue Garage
- 4 BIDMC/Carl J. Shapiro Clinical Center Garage
- 5 BCH/333 Longwood Garage
- 6 BCH/Karp Research Facility Garage
- 7 BCH/Patient and Family Garage
- 8 BIDMC/Pilgrim Road Garage
- 9 Longwood Galleria Garage
- 10 HMS/Quad Garage
- 11 DFCI/Yawkey Center Garage
- 12 DFCI/Smith Building Garage
- 13 BWH/ASB II Garage
- 14 BWH/Stoneman Garage
- 15 BIDMC/Lowry Garage
- 16 BWH/80Francis Street Garage



- No Parking
- Metered
- ⋯ Metered-No Parking  
7 AM-9:30 AM & 4 PM-6 PM
- Commercial
- Mission Hill Residential
- ⋯ RTH Private Driveways
- ⋯ Loading
- Unrestricted
- Bus/Shuttle Stop
- ⋯ Cab Stand
- ⋯ Handicapped
- Private Way Permit Parking
- ⋯ Pick-Up/Drop-Off



Pedestrian intersection crossing volumes were conducted concurrently with traffic volume counts. Peak hour results are presented in Figures 5-5 and 5-6. Major pedestrian crossing locations are highlighted and summarized in the following bullets.

- ◆ As shown, the intersections of Brookline Avenue/Longwood Avenue, Longwood Avenue/Pilgrim Road, and Riverway/Longwood Avenue process approximately 1,000 pedestrian crossings during the morning peak hour.
- ◆ The greatest number of pedestrians were observed crossing diagonally at the Riverway and Longwood Avenue intersection. During the morning peak period, approximately 1,000 pedestrians crossed Brookline Avenue.

In addition, the LMA is an area that proactively supports bicycling as a commuting option to work. Peak hour bicycling activity in the LMA is presented in Figures 5-7 and 5-8.

#### **5.1.4 Existing LMA Transit Infrastructure**

BIDMC is well served by public transportation, including MBTA bus routes, MASCO shuttle routes, MBTA subways, and MBTA Commuter Rail lines as described in detail below. Note that it is possible to transfer between different routes and modes to travel from an origin to a destination.

##### **5.1.4.1 MBTA Bus Route Service**

In the LMA, eight bus routes provide service on Brookline, Longwood, and Huntington Avenues, with six of the bus routes including CT2, 8, 19, 47, 60, and 65 having a BIDMC stop. The BIDMC stops are at the East and West Campuses on Brookline Avenue. The routes are presented in Figure 5-9 and described in greater detail in the DPIR.

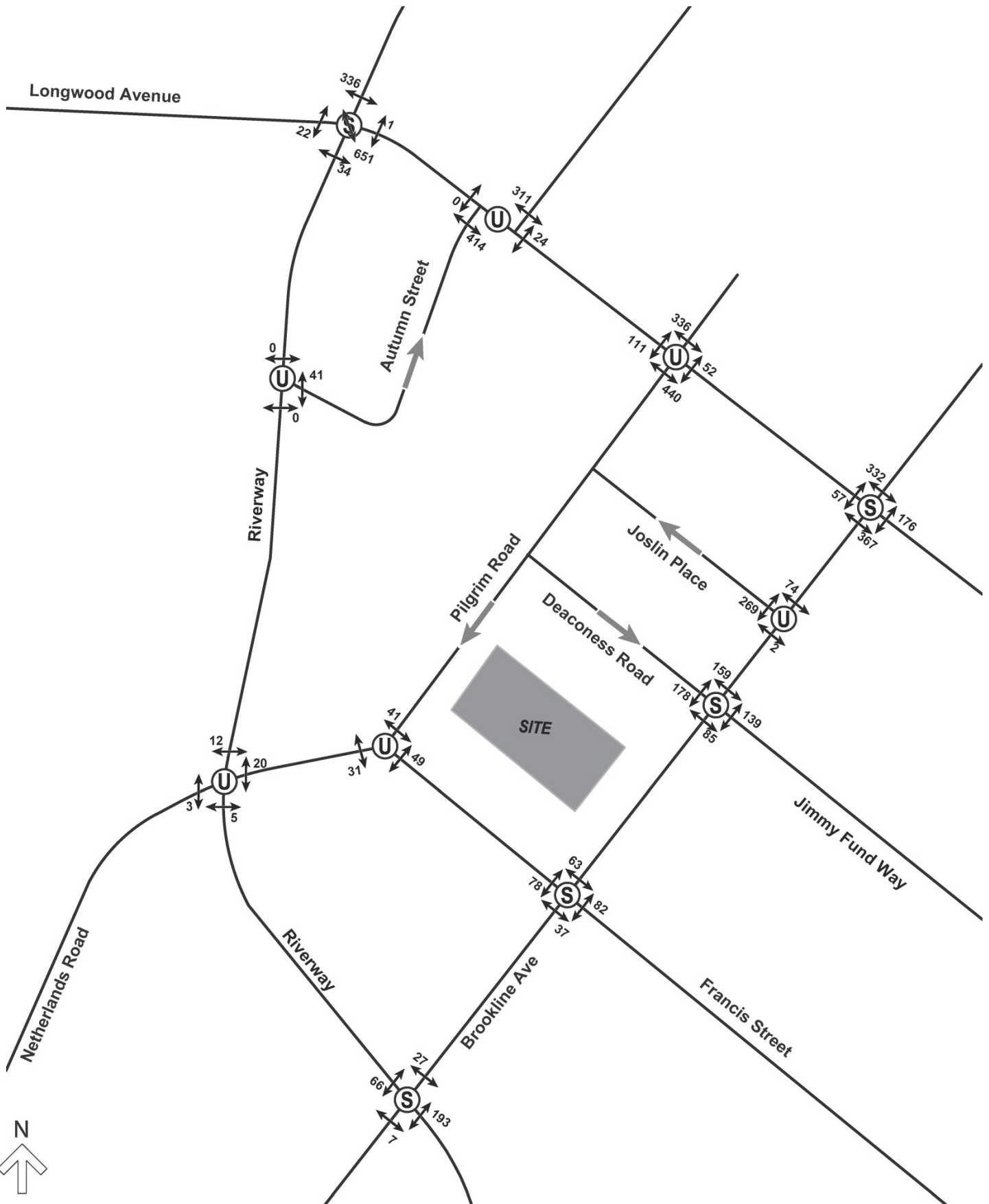
##### **5.1.4.2 MASCO Shuttle Services**

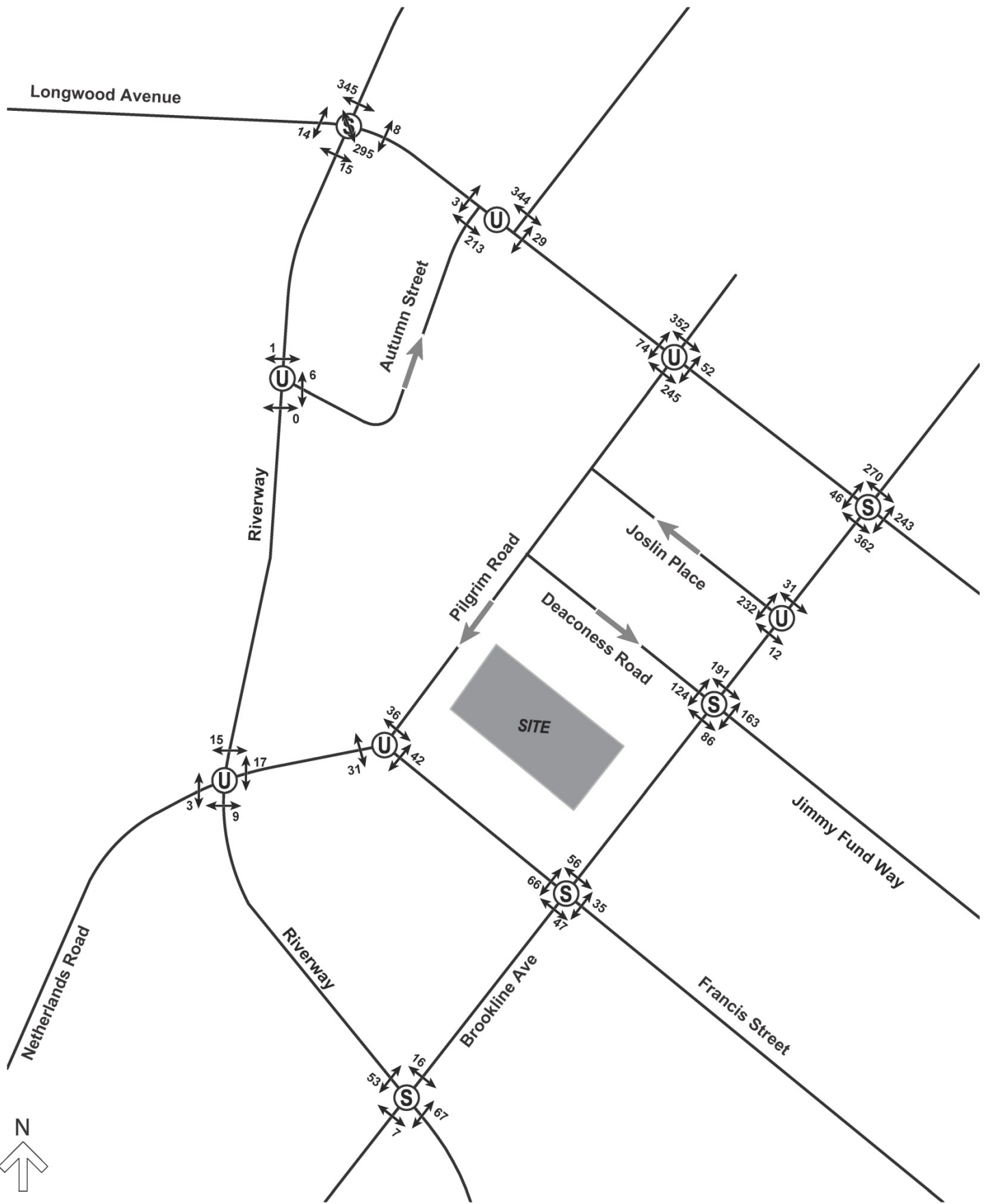
In addition to MBTA bus routes, MASCO operates nine bus routes that provide service within one-half mile of the East and West Campuses. These routes are presented in Figures 5-10 and 5-11, and their operational characteristics are described in greater detail in the DPIR.

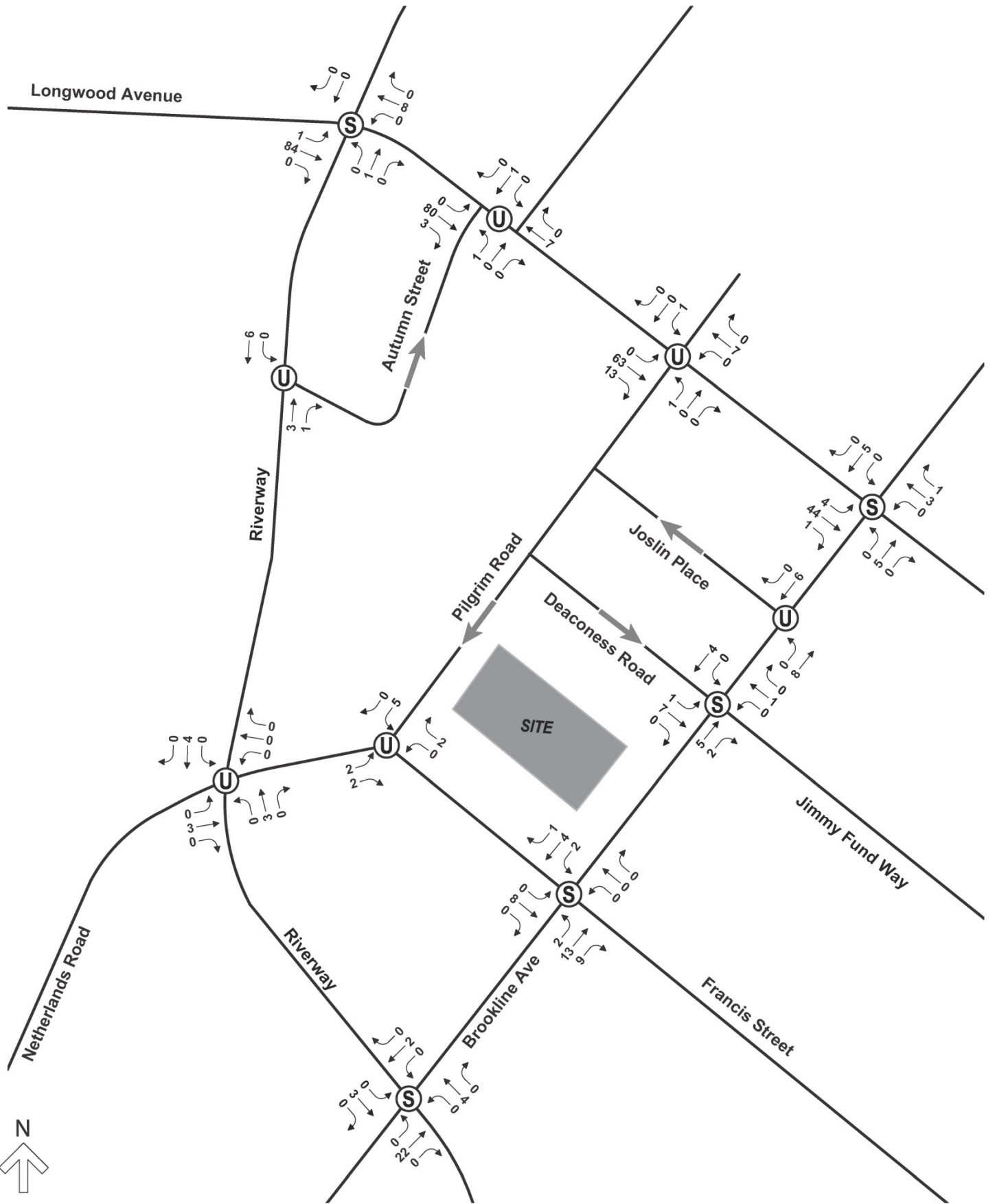
##### **5.1.4.3 MBTA Subway Services**

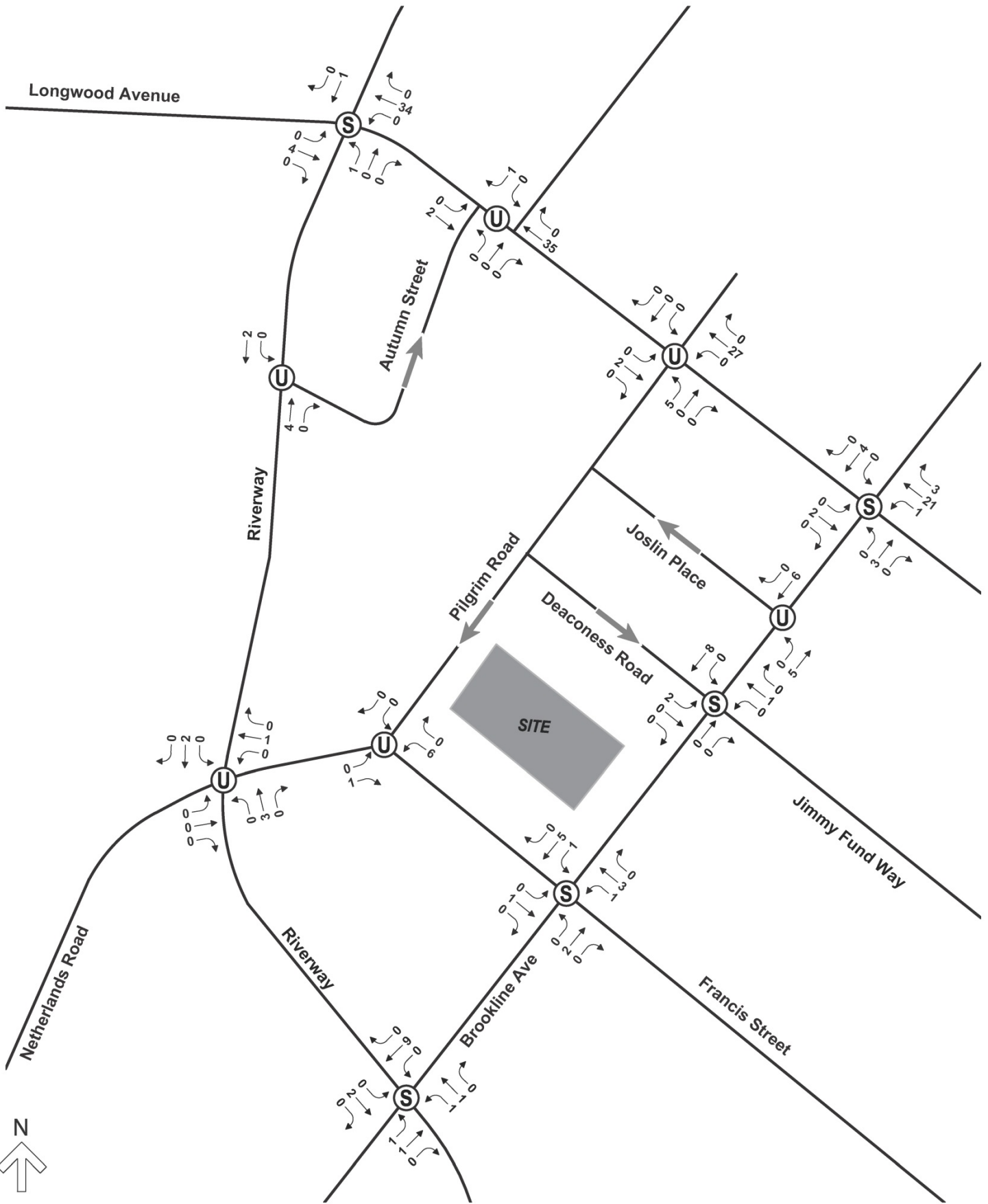
The East and West Campuses in the LMA are well served by public transportation. BIDMC is located between the Heath Street (E) Branch and the Riverside (D) Branch of the MBTA Green Line, and is also served by several branches of the MBTA's Commuter Rail system. These services are presented in Figure 5-9 and described in greater detail in the DPIR.





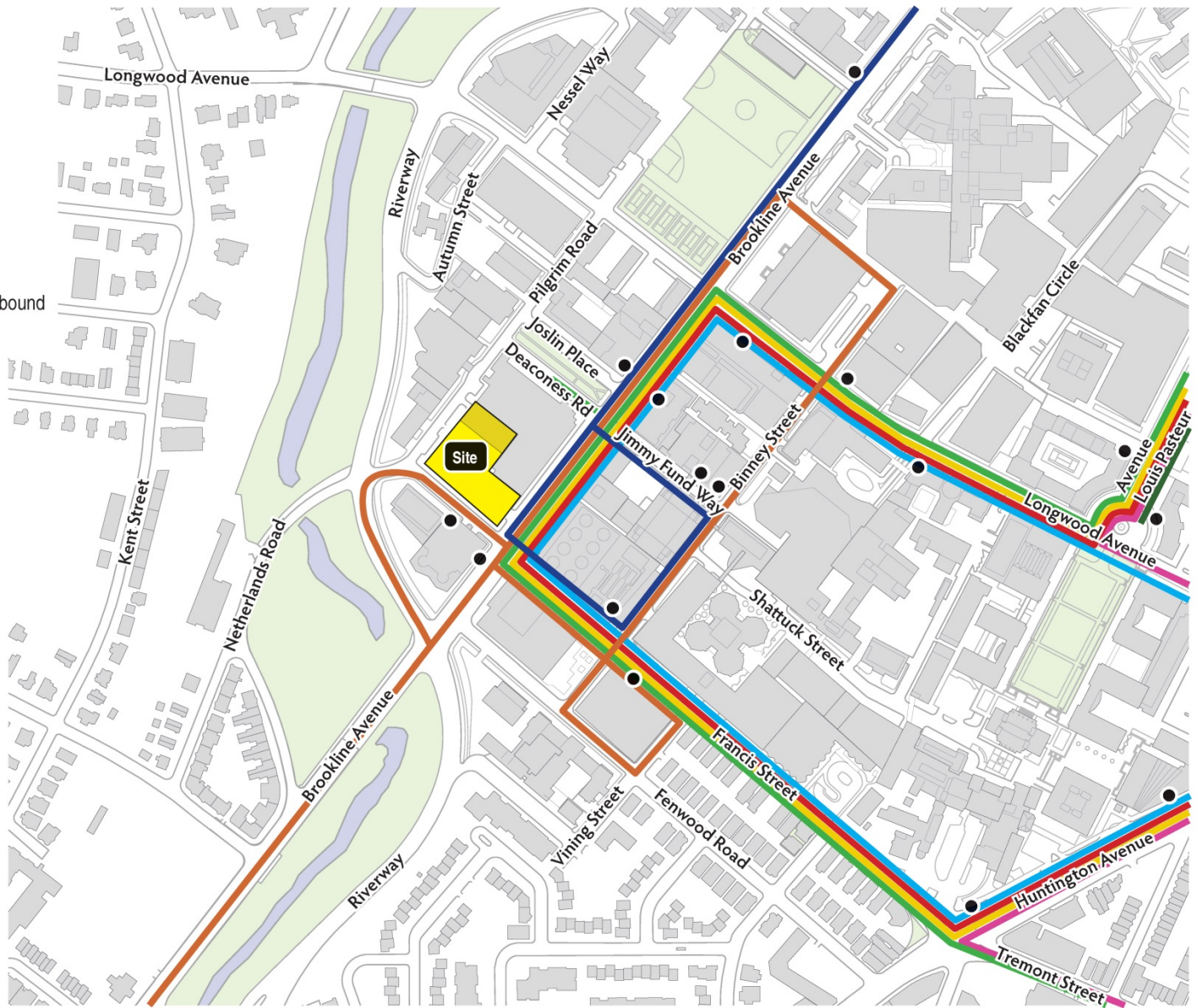




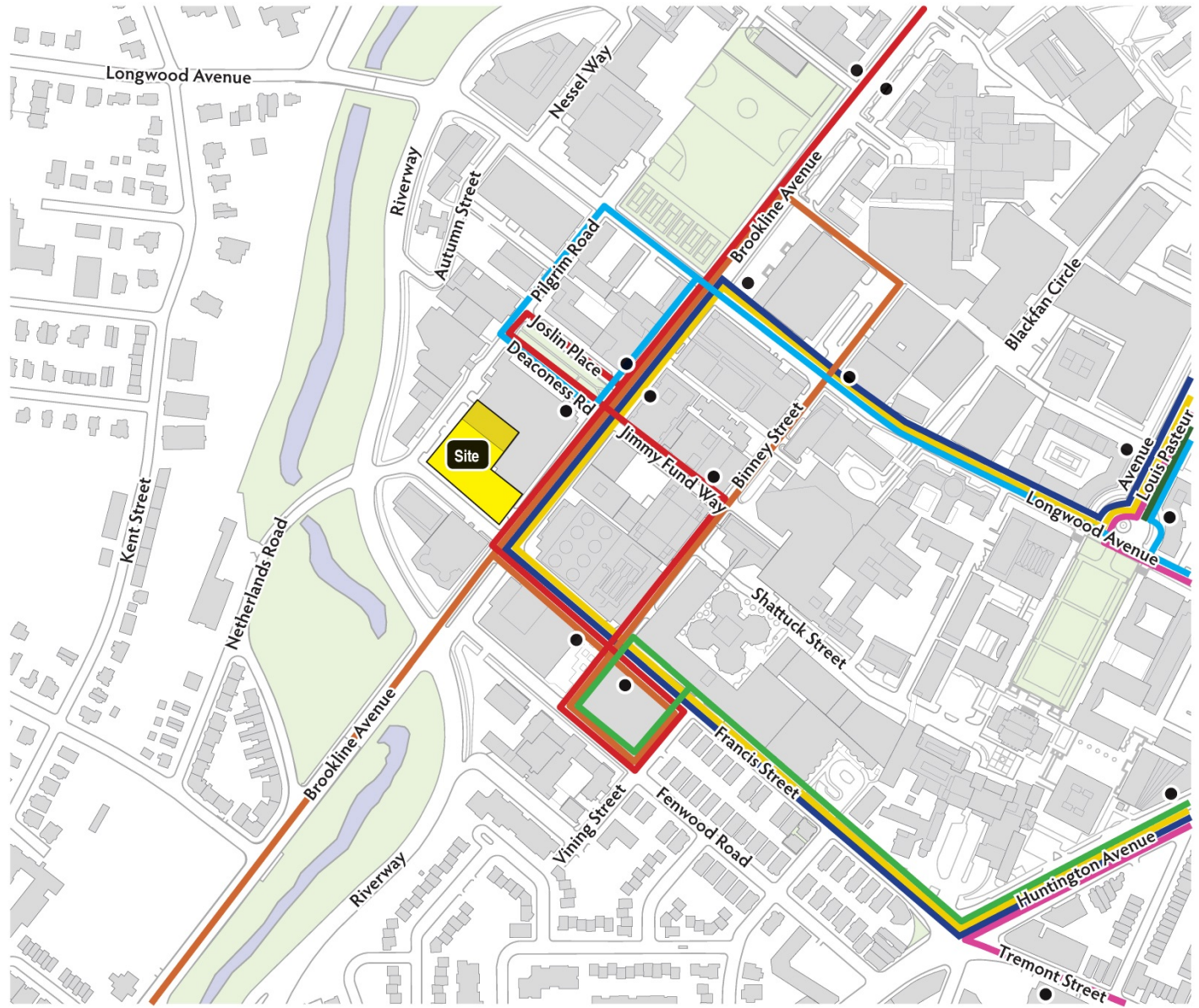




- Fenway AM
- Ruggles AM
- Wentworth AM
- JFK-Crosstown-AM
- Landmark HSPH Shuttle
- M2
- Chestnut Hill AM
- JFK-Crosstown-Wentworth-Outbound
- Shuttle Stop



- Fenway PM
- Ruggles PM
- Crosstown-Wentworth-PM
- Landmark HSPH Shuttle
- M2
- Chestnut Hill PM
- JFK-PM
- Ruggles BWH-PM
- Shuttle Stop



## 5.2 Impact of IMP Project

The construction of the IMP Project will require 26 parking spaces to be taken out of service. All 14 on-site parking spaces currently supporting the Emergency Department will be lost, and 12 spaces in the nearby Clicker Lot are expected to be lost due to the construction and use of the temporary loading dock and relocated oxygen tanks. These spaces will not be immediately replaced with the completion of the IMP Project.

The IMP Project will provide no new parking on-site. Parking for patients and visitors will be provided in the existing Francis and Pilgrim garages. Any incremental staff and physician parking needs would be satisfied via continued utilization of leased, off-site parking facilities.

In addition, BIDMC provides an extensive TDM program for employees to encourage alternative modes of transportation to the campus. As part of this plan, BIDMC has introduced a parking rate structure that makes it advantageous for employees to park outside of the LMA and utilize shuttles to reach its the East and West Campuses.

As presented in the DPIR, the additional traffic generated by the IMP Project will create minimal incremental impact to the surrounding transportation infrastructure. BIDMC will proactively manage the IMP Project, Rosenberg, and Emergency Department drop-off and valet parking activities to reduce adverse traffic impacts on area streets, particularly along adjacent Brookline Avenue. Portions of Pilgrim Road will be widened to accommodate two-way traffic access, allowing for a direct vehicular connection between the IMP Project's patient drop-off on Francis Street and the nearby Pilgrim Garage. Valet return to this location will also occur along Pilgrim Road during peak periods, with the goal to minimize valet traffic activity along Brookline Avenue. For those patients choosing to valet park, valet return will be accommodated on Francis Street across the street from the Project. This location will allow those vehicles to return from the Pilgrim Garage without having to travel along Brookline Avenue. Numerous street trees, widened sidewalks and other pedestrian improvements are planned, including along Brookline Avenue on land owned by BIDMC over which it granted a pedestrian access easement to the City of Boston.

Roadway improvements and enhanced valet parking operations management have been devised to help manage peak hour traffic flow adjacent to the site. Additionally, BIDMC will continue to provide its proactive TDM measures to its employees to encourage the use of transit and other alternative forms of transportation. BIDMC is committed through its IMP Project improvements to contribute to improved access, mobility and safety in the LMA.

As mentioned previously, BIDMC actively supports efforts to reduce auto use by its employees. This is fostered via a comprehensive TDM program that includes issuance of significant transit pass subsidies, and proactive participation in the LMA's CommuteWorks TMA. In 2016, BIDMC's employee mode shares included Massachusetts Department of



Environmental Protection-reported drive alone auto use of 28 percent. Conversely, nearly 55 percent of all BIDMC employees regularly use public transportation as their primary commuter mode choice. This is significant given that so many of BIDMC's staff are essential healthcare professionals that must be at the hospital at defined times and work shifts that do not coincide with traditional weekday work days which the region's transit system has been designed to serve. BIDMC will continue to explore, implement, and bolster its TDM program to encourage increased alternative transportation use and decrease single-occupant driving.

## Chapter 6

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### Employment and Workforce Development

## 6.0 EMPLOYMENT AND WORKFORCE DEVELOPMENT

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BIDMC expended over \$2 million in Workforce Development programming during 2017. As one of Boston's largest employers, BIDMC provides a wide range of activities including pipeline programs, ESOL classes, computer skills training, college prep courses, tuition reimbursement, and summer jobs and internships for older youth. BIDMC's jobs start at \$15 an hour (with the exception of students), offer benefits, and are open to a broad spectrum of education levels. BIDMC has a robust internal career mobility program and has strong partnerships to connect Boston residents to BIDMC job opportunities. BIDMC also anticipates investing more than \$380,000 in job linkage funds for job training and permanent employment opportunities in connection with the IMP Project. BIDMC intends to explore the jobs creation contribution option, in order to use its workforce development expertise to fund effective programs to train Boston residents into good career-path jobs at BIDMC.

BIDMC's Workforce Development Department was created in 2004 and has three objectives:

- ◆ Help departments hire into hard-to-fill jobs by developing "pipeline" programs to train BIDMC employees into those roles;
- ◆ Provide services and support to help all employees build careers at BIDMC; and
- ◆ As one of Boston's largest private employer, make sure that people who live in communities near BIDMC connect to the job and career opportunities available at BIDMC.

BIDMC is considered a national leader in workforce development, and has been recognized locally and nationally for its work, including being featured in stories on CBS news and the Boston Globe, profiled as a best practice by the Hitachi Foundation and the National Fund for Workforce Solutions, and recognized for its work in this area by the City of Boston, the White House, Associated Industries of Massachusetts, the English Works Campaign, Jewish Vocational Services Boston, and the MA Workforce Solutions Group.

Faced with shortages in key positions, BIDMC regularly runs "pipeline" programs to train incumbent workers into those roles, both filling the position with proven talent, and offering career growth for BIDMC employees. Those roles include research administrator, medical coder, central processing technician and registration specialist, among others. BIDMC developed one of the first health care registered apprenticeship programs in Massachusetts, focusing on clinical documentation specialists, and is working to add registered apprenticeship programs for one or two additional occupations. BIDMC also annually hires 15 external candidates with a Certified Nursing Assistant credential or direct care experience into a paid training program for the patient care technician role. To date, over 170 people have moved to new roles as a result of a pipeline program.

In the process of offering some college-level pipeline training opportunities for employees, it became clear that many BIDMC employees were not quite ready to pursue college-level work. In 2007, BIDMC launched its Employee Career Initiative. Through this initiative, all BIDMC employees can access:

- ◆ free-on site pre-college courses in reading, English and math, and college-level science courses such as Biology and Chemistry taught by Bunker Hill Community College faculty (class pass rates range from 83-98 percent);
- ◆ academic assessment on-site;
- ◆ a career and academic counselor;
- ◆ workshops on resources at BIDMC and elsewhere for financing one's education; and
- ◆ tutoring from volunteer BIDMC employees.

Now in its eleventh year, this initiative has served 1,312 employees to date.

This year, BIDMC is piloting an Employee Career Initiative pre-college math class on-site at Bowdoin Street Health Center. Enrollees in the class include Bowdoin Street Health Center employees, community members/residents and BIDMC employees who live in the area.

BIDMC also offers all employees the following opportunities: on-site ESOL classes, Computer Skills Classes, Scholarships, Tuition Reimbursement, a Financial Wellness program, career development workshops and a citizenship program.

BIDMC hires over 40 young people from the community each year into paid summer jobs. Organizations that refer these young people include: The Boston Private Industry Council/John D. O'Bryant School; ABCD Parker Hill; Brookline Connections for Youth; Bowdoin Street Health Center; Roxbury Tenants of Harvard, MA Commission for the Blind; and The Mary Lyon Pilot High School in Boston, an inclusive school. BIDMC also hosts interns during the school year from Fenway High School and participates in the Boston Public Schools' Annual Job Shadow Day.

BIDMC actively partners with Boston area community based organizations that are interested in connecting their job seekers to opportunities at BIDMC. BIDMC hosts about 20 internships a year from YMCA Training Inc., St. Mary's Center for Women and Children, Jewish Vocational Service (Transitions to Work program for young adults with disabilities) and Bunker Hill Community College's Learn and Earn program. This year, BIDMC became a supporter of the HackDiversity Initiative and will hire three diverse information technology students into paid summer internships.

BIDMC also partners with about 15 Boston organizations (including Boston's One-Stop Career Centers) which refer about 100 job candidates to BIDMC annually and get timely feedback from BIDMC on their candidates. BIDMC was one of the first employers to sign on to Mayor Walsh's Hire Boston Initiative, to support Boston residents in connecting them to good jobs that pay well and offer benefits.

BIDMC is also actively engaged in discussions on how to strengthen the local education and training system to better serve job seekers and employers. BIDMC's Director of Workforce Development is involved in a number of initiatives, including:

- ◆ founded, and from 2010 to 2017 chaired, the Boston Health Care Careers Consortium which convenes Greater Boston's healthcare employers, the education system and the workforce system to better connect job seekers to opportunities in health care;
- ◆ co-chairs the Greater Boston Chamber of Commerce's Talent Development and Retention Leadership Council;
- ◆ is an appointed member of the Boston Private Industry Council and the Massachusetts Workforce Development Board; and
- ◆ is the Chair of the Executive Committee of CareerSTAT, a national initiative encouraging health care employers to invest in their frontline workforce.

## Chapter 7

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### Community Benefits

## 7.0 COMMUNITY BENEFITS

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### 7.1 Introduction

BIDMC provides numerous benefits to the surrounding community and region through collaborations with community health centers and other community-based organizations and financial contributions to community partners whose work aligns with BIDMC's non-profit mission, as described below, as well as employment and workforce development programs as described in Chapter 6. Additional information can be found in BIDMC's Community Connections report<sup>1</sup>, and the report filed with the Attorney General<sup>2</sup> which describes community benefits.

BIDMC's Community Benefits program focuses on many Boston neighborhoods. BIDMC invested \$26.5 million to support Boston residents of which:

- ◆ **Safety Net:** \$12.8 million was provided to ensure access to care and services for vulnerable Boston residents. Additional support was provided in the form of unreimbursed care provided to MassHealth (Medicaid) patients.
- ◆ **Community Service:** \$13.7 million was allocated to programs to address health priorities, including many social determinants of health, affecting Boston residents.

In addition to these funds, BIDMC will be investing over \$21 million for community-based health initiatives in connection with the IMP Project. Funds will be made available through a transparent and community-engaged process guided by a Community Advisory Committee (CAC). The CAC will determine the specific funding priorities which will most likely be devoted to social determinants of health, including addressing the underlying root causes of poverty and health disparities.

Chapter 7 of the 2004 IMP included a detailed description of the community service programs, employment opportunities, and workforce development initiatives and other benefits that result from BIDMC's presence in Boston.

Recognizing that many factors influence community health, in addition to focusing on access to care, BIDMC's Community Benefits program prioritizes services to address behavioral health, chronic disease management, and social determinants of health and health risk factors. BIDMC works on numerous initiatives with the Community Care Alliance, its network of licensed and/or affiliated community health centers, as well as its

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<sup>1</sup> <https://www.bidmc.org/-/media/files/beth-israel-org/community-benefits/community-connections-2016.ashx?la=en&hash=532D21CAC623ACB8498511586970BCCA51F5FA75>

<sup>2</sup> <https://www.bidmc.org/-/media/files/beth-israel-org/community-benefits/community-benefits-2017-attorney-general-report.ashx?la=en&hash=897F2E9CD452C09F4457A575F32A6F1AFEF3CB08>

community based practices. Most of these initiatives focus on vulnerable cohorts who face health and access disparities, including older adults, low-income individuals/families, racially and ethnically diverse populations, and lesbian gay bisexual and transgender populations.

## 7.2 Increasing Access to Care

BIDMC has a covenant to care for the underserved and works to address disparities in access to primary and specialty care services experienced by low income uninsured/underinsured children and adults who struggle to overcome barriers to such care. Despite the broad health insurance coverage gains achieved through state and federal health care reform, approximately one in six (17 percent) patients seen at a Massachusetts federally qualified health center is uninsured according to the CY 2016 Uniform Data System (UDS) data. Many who continue to be without coverage may qualify for assistance from the Health Safety Net Program, a fund to which BIDMC makes significant annual contributions. In FY 2017, BIDMC served 2,603 Health Safety Net patients. BIDMC staff screened 9,776 patients for eligibility and enrolled 8,716 patients into entitlement programs. BIDMC provided 8,053 free-care pharmacy medications to indigent patients.

BIDMC collaborates with and provides support for community health centers and community based medical and behavioral health practices. BIDMC works in partnership with Bowdoin Street Health Center (which is operated and licensed by BIDMC), The Dimock Center, Fenway Health and its affiliated Sidney Borum Jr. Health Services, Charles River Community Health (formerly Joseph M. Smith Community Health Center), and South Cove Community Health Center, to ensure that Boston residents have access to culturally and linguistically appropriate health services. These community providers are uniquely positioned to offer accessible primary care as well as access to lab, radiology, mammography, and on-site specialty care to Boston's diverse urban communities. True to the legacies of its founding hospitals, BIDMC today continues to provide exceptional, personalized, culturally and linguistically appropriate care to its diverse communities. BIDMC recognizes its responsibility to take an active role in collaborating with community based leaders and organizations to understand the needs of its communities, and to partner together to develop programs and policies to ensure access to healthcare services and to improve health status, particularly for underserved communities. The BIDMC Community Benefits program focuses on individuals in Boston who have complex needs, face barriers to care, service gaps and other adverse social determinants of health due to income status, race, ethnicity, sexual orientation or gender identity.

Through the BIDMC Community Benefits program, BIDMC helps to increase capacity of primary care and OB/GYN practices at its six licensed and/or affiliated health centers, five of which are in Boston, and increases community-based specialty care services, mammography, and other on-site specialty care (e.g., Infectious Disease, etc.). BIDMC also continues its efforts to provide care for diverse patients through the use of a Cancer



Navigator, Interpreter Services, and multilingual patient education and cultural competence initiatives.

BIDMC's partnership and support of these health centers also takes many other forms. These include staff training, financial support, credentialing of physicians, admitting privileges, membership in BIDMC's accountable care organization (BIDCO), Harvard Medical School appointments and teaching opportunities. Such teaching and professional development and growth opportunities include The Partnership and the Linde Family Fellowship Program, the latter of which provides physicians with an opportunity to develop expertise and skills in primary care leadership, including practice management and innovation. In FY 2016, Ethan Brackett, MD of Fenway Health was a Linde Fellow and successfully implemented a plan to introduce family medicine at Fenway Health.

### **7.3 Social Determinants of Health and Health Risk Factors**

BIDMC recognizes that improvements in health status begin with addressing the underlying social, economic and environmental factors that impact health and health equity. Emphasizing prevention, physical activity, nutrition/food security, health literacy, transportation, violence and employment, BIDMC works with community based organizations to identify and address these determinants and factors that hinder health and well-being in the community.

### **7.4 Active Living/Healthy Eating**

In May 2015, BIDMC completed construction of a Wellness Center at the Bowdoin Street Health Center. The Wellness Center offers educational programming for the Bowdoin/Geneva neighborhood to increase active living and healthy eating. In its fifth year, Train4Change is a workforce and leadership opportunity that prepares Bowdoin/Geneva residents to be certified group fitness instructors, making them eligible to seek employment teaching fitness classes.

BIDMC continues to support Charles River Community Health to offer Zumba classes to older adults. The Zumba program has increased physical activity, healthy eating and has the added social/emotional benefit of reducing social isolation among its participants. BIDMC also supports Charles River Community Health's mobile market, which makes fresh produce available, free of charge, to those in need, through a Greater Boston Food Bank program. BIDMC also partners with the Greater Boston Food Bank, and annually organizes a volunteer day when BIDMC employees work at the Food Bank. Likewise, each year, BIDMC's Department of Surgery Committee on Social Responsibility holds the Food is Medicine event which raises over \$100,000 for the Food Bank.

BIDMC offers its Walking for Wellness program in several Boston communities and public schools, and Bowdoin Street Health Center has expanded its Healthy Food Equity Plan and its Healthy Champions program, where underprivileged youth engage in healthy cooking

classes and nutrition education workshops using the demonstration kitchen in the new Wellness Center. BIDMC also collaborated with the Mayor's Office to support the Boston CanShare Program. The CanShare program supports the City's Health Incentives Program, making healthy, local food options more accessible and affordable for low-income residents.

BIDMC is also collaborating with the Boston Public Health Commission, Artists for Humanity and the Boston Public Schools to foster safer routes to school. The Safe Routes to School initiative will provide visible bicycle parking on bike racks that are custom designed by local youth via Artists for Humanity. Along with creating bicycle parking and promoting active living, the racks will serve as eye-catching public art that promotes the Boston Safe Routes to School brand. The initiative is employing teens to design and build the bike racks and will enable these teens to develop and publicly showcase their portfolio.

## **7.5 Violence Prevention and Recovery**

Crime and violence affect all of Boston's residents, but have a disproportionate impact on two of Boston's inner city neighborhoods, Roxbury and Dorchester. These impacts include death and injury, emotional trauma, anxiety, and other mental health issues, isolation, and lack of trust and/or community cohesion.

BIDMC's Center for Violence Prevention and Recovery (CVPR) facilitates a comprehensive, integrated approach to addressing multiple forms of violence experienced in people's lives. Established in 1997, the Center for Violence Prevention and Recovery's mission is to improve the health and well-being of people impacted by multiple forms of violence, including domestic violence, sexual assault, community violence and homicide by providing trauma-informed services and programs; to improve the health care response to violence and train health care providers to identify and respond to patients who are experiencing or have previously experienced violence in their lives; and to engage in innovative collaboration between health care providers and community organizations to provide violence intervention, prevention and recovery services.

BIDMC's CVPR provides trauma informed services and offers a range of counseling and advocacy services for those who have been a victim of or a witness to community violence, including those who have experienced the loss of a loved one due to homicide. All CVPR services are offered free-of-charge and are provided regardless of the recipients' race, ethnicity, language, sexual orientation or gender identity. BIDMC is a long-standing partner and supporter of the Louis D. Brown Peace Institute. BIDMC's CEO, Kevin Tabb, MD, co-chaired the Institute's Walk for Peace in 2015 with Maura Healey and in 2016 with Mayor Walsh. In 2017 BIDMC Emergency Department physician, Alan Landry, MD, co-chaired the event with Mayor Walsh, Massachusetts Senator Linda Dorcea Fory and honorary co-chair Governor Baker. Ms. Dorcea Fory and Dr. Tabb once again co-chaired the event along with Chaplain Clementina Chery, CEO and President, Louis D. Brown Peace Institute, in May 2018.

Bowdoin Street Health Center actively partners with the Boston Public Health Commission on the Violence Intervention and Prevention Program, the Trauma Recovery Center, and the Defending Childhood Program, the latter of which provides home-based and community-based counseling services to inner-city patients from Dorchester, Roxbury and Mattapan to prevent and address childhood exposure to violence. Additionally, in early April, Bowdoin Street Health Center hosted a community meeting with over 25 attendees to focus on violence in the Cape Verdean community.

## **7.6 Disease Management and Prevention**

Chronic diseases, such as heart disease, hypertension, diabetes, cancer, and stroke, are among the most common, costly, and preventable of all health problems in the U.S. BIDMC works closely with its licensed and/or affiliated community health centers to address chronic conditions in the primary care setting. BIDMC has long supported programs in community care settings that educate and screen patients for diabetes, hypertension, and persistent asthma, and that provide evidenced-based counseling/coaching and treatment. These health centers served 5,724 diabetic patients; 16,329 with hypertension; and 1,749 with persistent asthma in FY 2017. Through partnership among the health centers and BIDMC and its clinicians, individuals needing specialty care can access care either on-site at the health centers from BIDMC specialists or at BIDMC's LMA campus.

In April the Bowdoin Street Health Center Wellness Center began offering a year-long National Diabetes Prevention Program to pre-diabetic individuals. This evidence-based program builds residents' health literacy and promotes lifestyle change including physical activity, nutrition, and stress management, as a means to preventing or delaying the onset of type two diabetes.

BIDMC has also supported access to care, treatment and research for HIV and AIDS. Annually, BIDMC participates in the AIDS Walk and annually raises and donates funds to AIDS Action.

BIDMC also supports access to cancer screening and treatment for low income, uninsured adults (breast, prostate, lung, and colon cancers). Two of its affiliated health centers in Boston offer on-site mammography, and BIDMC offers free-colon screening for eligible health center patients. BIDMC's LungHealth™ Lung Cancer Screening Program has screened over 1,000 patients who are at risk for developing lung cancer and has coordinated follow-up care as appropriate. BIDMC also supports and promotes the city-wide Cancer Navigators program by hosting quarterly meetings, and links patients screened positive for cancer to BIDMC's Cancer Patient Navigators.

## **7.7 Behavioral Health**

There is a growing appreciation of the impact that mental health and substance use disorders have on the general public and on the health care system. BIDMC, its clinicians and BIDCO are leading efforts to respond to the challenge of integrating medical and behavioral health care on several fronts. To address substance use in the community, BIDMC provides support to The Dimock Center's Dr. Lucy Sewall Center for Acute Treatment Services and Dimock's *Building the Road to Recovery* campaign. Additionally, BIDMC established a BIDMC Opiate Care Committee, and has implemented suboxone clinics at Bowdoin Street Health Center and at HealthCare Associates, BIDMC's primary care group practice.

## **7.8 Contributions to Boston Economy and Permanent Employment**

In addition to partnering with the community and the City in its community benefit programs, BIDMC directly contributes to the Boston economy. BIDMC is a large purchaser of goods and services, with approximately \$100 million spent annually with Boston businesses. BIDMC and its licensed community health center annually provide more than \$20,000,000 in charity care.

## **7.9 Voluntary Cash Payments to the City of Boston**

In addition to the monetary value of the community benefits and services and charity care discussed above, BIDMC makes annual voluntary cash payment in lieu of tax (PILOT) payments to the City of Boston Assessing Department for the City's general fund to help fund critical City services. BIDMC and its predecessor hospitals have made such payments beginning in the 1970s. During Boston's fiscal year 2018, BIDMC made cash PILOT payments totaling \$3,253,516.68.

## Chapter 8

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### Environmental Sustainability

## 8.0 ENVIRONMENTAL SUSTAINABILITY

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### 8.1 Existing Sustainability Measures

At BIDMC, environmental sustainability plays an integral role in its mission to provide extraordinary care where the patient comes first. BIDMC is committed to conserving natural resources, reducing its carbon footprint, and fostering a culture of sustainability. BIDMC meets all applicable environmental laws, regulations, and environmental commitments through employee engagement, community partnerships, and innovative solutions. BIDMC strives to continually improve its environmental performance by balancing economic viability with environmental responsibility. BIDMC's sustainability programs include, but are not limited to: energy and water conservation, waste reduction, recycling, composting, donating supplies and equipment, green commuting, and sustainable purchasing of food and supplies. BIDMC has a robust Environmental Sustainability Committee consisting of physicians, nurses, administration, research, engineering and other healthcare management professionals to guide its sustainability programs.

BIDMC partners with Practice Greenhealth, Healthcare Without Harm, MASCO, City of Boston's Green Ribbon Commission, MassDOT Commuter Challenge and the U.S. Environmental Protection Agency on programs to improve and measure the effectiveness of its sustainability efforts.

### 8.2 Green Building

BIDMC recognizes that sustainable buildings preserve and protect the environment, improve occupant health and wellness and cost less to operate. The IMP Project team<sup>1</sup> has embraced an integrative design process which supports the development of high-performance, cost-effective outcomes. Led by numerous Leadership in Energy and Environmental Design (LEED) accredited professionals (including one LEED Fellow), the team consistently combines high level conceptual thinking with rigorous analysis to explore innovative ideas whenever they appear to be beneficial and appropriate.

Numerous strategies to address energy use reduction are being investigated as the design of the IMP Project is progressing. Preliminary "shoe box" energy models are being utilized to test design options for their building performance implications, allowing informed decisions to be made about which options conserve the most energy and create the most value for the institution. Strategies that are currently proposed include dedicated outdoor air systems and chilled beams in the typical patient rooms, and enthalpy wheels on air handlers serving variable air volume systems. The feasibility of incorporating triple glazed windows in the

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<sup>1</sup> The IMP Project is the only proposed building currently anticipated within the five-year timeframe of the IMP extension.

building envelope is being considered, as is the possibility of eliminating the need for a dedicated perimeter heating system. The IMP Project team has selected a Commissioning Agent who will be responsible for a comprehensive commissioning process when construction is complete.

While the IMP Project site was selected for many reasons, one of the important considerations was the ability to take advantage of the LMA's existing infrastructure and density. With numerous businesses, services and public transportation facilities located nearby, the site is easily accessible to vehicular, bicycle and pedestrian modes of transit. The proposed location also leverages existing campus parking facilities, allowing the IMP Project to be built without the construction of any new parking.

The design of the IMP Project includes numerous strategies for water use reduction. The landscape design (including the proposed roof garden) is being developed using planting strategies which do not require extensive irrigation. In addition, a 28,000 gallon rainwater harvesting tank is being designed to provide make-up water for the cooling tower and to satisfy as much of the irrigation demand as possible. Low-flow water fixtures and fittings will be specified where permitted by health and safety regulations to limit use of potable water within the building as much as possible.

Given the very nature of the IMP Project and the importance of maintaining appropriate infection control measures, indoor air quality is an intrinsic concern. The detailed development of the design will explore both engineered solutions (e.g., pressurized entry vestibules) and physical solutions (e.g., minimizing mercury, lead, cadmium and copper content, specification of low-VOC emitting materials and the availability of Environmental Product Disclosures) that can help to maintain a healthy indoor environment. Thermal comfort and access to daylight are always important considerations in inpatient facilities, and both will receive considerable attention as BIDMC strives to enhance the patient, family and staff experience in the IMP Project. During construction, the contractor will be required to maintain a robust Construction Indoor Air Quality Management Plan, as well as a Construction Waste Management plan to divert materials away from landfills.

### **8.3 Energy Use**

Since 2006, BIDMC has maintained an average of \$1 million of annual capital spending on energy conservation projects, resulting in over 115,000 MMBtu saved. Projects include upgrades and replacements to lighting and controls, motors and variable frequency drives (VFDs), pneumatics, steam, chiller and chilled water, air handling unit upgrades, controls and metering. BIDMC employs a full time Energy Manager and a Controls Engineer to investigate energy reduction opportunities and perform projects.

The IMP Project will receive steam from the MATEP plant directly across Brookline Avenue from the IMP Project site. MATEP does not have the capacity to provide Chilled Water to the IMP Project to meet the cooling load of the building. The IMP Project will include a

chilled water system (chillers and cooling towers) within the building to meet this utility requirement. The need for cooling equipment within the building will afford BIDMC the opportunity to select high efficiency equipment that will optimize performance of these systems during all operational ranges (i.e., high volume and low volume periods).

The IMP Project will be primarily an extension of the existing West Campus functionally and operationally. The chilled water system described above will be the only “localized” heating or cooling system for the IMP Project.

#### **8.4 Water Use**

Since 2007, BIDMC has performed over \$500,000 in projects to conserve water. These projects have included campus-wide low-flow flush valve and china replacements, faucet and showerhead low-flow devices, sterilizer discharge water tempering controls and low-flow irrigation sprinkler heads and controls. As noted in Section 8.5, an approximately 28,000 gallon rainwater harvesting tank is being designed to provide make-up water for the cooling tower and to satisfy as much of the irrigation demand as possible.

#### **8.5 Stormwater and Groundwater Recharge**

Under current IMP Project plans, the IMP Project is going beyond minimum requirements related to stormwater runoff. There are four strategies currently included to improve stormwater runoff quality and reduce runoff quantity. First, at the roof level, the IMP Project currently includes approximately 9,000 sf of green roof area. Green roofs improve water quality, reduce runoff and seek to replicate natural hydrologic features. Secondly, the IMP Project currently incorporates a rainwater harvesting tank with a minimum volume of approximately 28,000 gallons per day. This harvesting tank will provide water for distribution to cooling towers and irrigation feeds. The use of a harvesting tank will reduce stormwater flows and, since the water used by cooling towers and irrigation will not directly enter the storm drainage system, harvested water will remove nutrients (phosphorus) and sediments from the storm drainage system for which BWSC would otherwise require treatment prior to discharge to the BWSC storm drainage system. As a third measure, any overflows from the harvesting tank system will be directed to groundwater recharge wells, further reducing flows and providing water quality benefits. Lastly, at the sidewalk level, the IMP Project is incorporating permeable paver strips along the curb line in accordance with Complete Streets guidance where feasible. There are several below-grade constraints, such as existing utility tunnels, and surface constraints like accessible drop-offs, that may prevent the widespread installation of permeable paver strips. BIDMC will continue to explore the opportunity for permeable paver installations.

#### **8.6 Solid Waste**

For 2016, BIDMC set a goal of diverting 30 percent of all solid waste from landfills. BIDMC achieved a 31 percent diversion rate in 2016 based on its recycling and composting efforts.



In 2017, BIDMC maintained a 30 percent diversion rate and anticipates exceeding 31 percent for 2018.

BIDMC's Environmental Sustainability Committee works with many teams to improve its solid waste reduction efforts. One such team of senior perioperative leadership, service line leaders, multispecialty physicians, clinical staff, a financial analyst and a systems engineer was formed to reduce operating room waste. The goal was to reduce waste by 10 percent, realizing a cost savings (avoidance) of \$98,000; in the first quarter of 2018, BIDMC confirmed a savings of over \$68,000 in just one of several initiatives - removal of unneeded items from procedural packs. Other interventions made by this team will result in additional waste reduction and savings that is anticipated to meet or exceed BIDMC's goal of reducing waste and saving \$98,000. BIDMC created a tool kit describing this methodology developed to reduce waste and will use it in the IMP Project and transfer it to BIDMC's other community hospitals.

IMP Amendment Submission Requirements from the Scoping Determination

**BOSTON REDEVELOPMENT AUTHORITY  
D/B/A BOSTON PLANNING & DEVELOPMENT AGENCY**

**SCOPING DETERMINATION**

**FOR**

**BETH ISRAEL DEACONESS MEDICAL CENTER  
INSTITUTIONAL MASTER PLAN AMENDMENT/ DRAFT PROJECT IMPACT REPORT  
NEW INPATIENT BUILDING PROJECT**

**PREAMBLE**

On January 11, 2018, Beth Israel Deaconess Medical Center ("BIDMC") submitted to the Boston Planning & Development Agency ("BPDA") an Institutional Master Plan Notification Form/ Project Notification Form ("IMP/NF/PNF") seeking an amendment to the BIDMC Institutional Master Plan ("IMP Amendment") and detailing the New Inpatient Building Project totaling approximately 345,000 square feet to be on a site bounded by Brookline Avenue, Francis Street, Pilgrim Road and the BIDMC Rosenberg Building ("Proposed Project").

The BPDA will review the proposed IMP Amendment and Draft Project Impact Report ("DPIR") pursuant to Sections 80D and 80B of the Boston Zoning Code ("Code"). As part of the BPDA's Article 80 review, BIDMC is required to prepare and submit to the BPDA a proposed IMP Amendment pursuant to Section 80D and a proposed Draft Project Impact Report pursuant to Section 80B. The document/s must set forth in sufficient detail the planning framework of the institution and the cumulative impacts of the Proposed Project included in the IMP Amendment to allow the BPDA to make a determination about the merits of the proposed IMP Amendment and Proposed Project. **The proposed IMP Amendment and Draft Project Impact Report shall contain the information necessary to meet the specifications of Article 80 as well as any additional information requested below.**

Copies of the IMP/NF/PNF were made available to the public in both electric and hard copy format. A scoping session was held on January 23, 2018 with public agencies and a Task Force/Public meeting was held on January 22, 2018 at the Longwood Medical Area Forum at which the Proposed Project was presented. The comment deadline for the IMP/NF/PNF was February 12, 2018.

Based on review of the IMP/NF/PNF, related comments, as well as a scoping session and public meeting, the BPDA hereby issues its written Scoping Determination ("Scope") pursuant to Section 80D and Section 80B the Code. BIDMC is requested to respond to the specific elements outlined in this Scope. Written comments constitute an integral part of the Scoping Determination and should be responded to in the IMP Amendment, Draft Project Impact Report or in another appropriate manner over the course of the review process. At other points during the public

review of the IMP Amendment and Draft Project Impact Report, the BPDA and other City agencies may require additional information to assist in the review of the Proposed IMP Amendment and Draft Project Impact Report.

To facilitate the preparation and review of the two documents referenced above, the Scope contains two discrete sections, one setting forth the submission requirements for the IMP Amendment, and another setting forth the submission requirements for the DPIR. When appropriate, information requested in one section may be provided in the submission that responds to the other section.

In addition to the specific submission requirements outlined in the sections below, the following general issues should be noted:

- All development projects have construction impacts. As with any urban development there needs to be a balance of constructions related inconveniences with the daily activities that will continue to occur adjacent to the project site. A detailed approach to the construction management must be included in the DPIR.
- Throughout this initial phase of review, the Proponent has taken steps to meet with local residents, elected officials, abutters, and City and State agencies. These conversations must continue, ensuring that what is presented in the DPIR is beneficial to the adjacent neighborhoods and the City of Boston as a whole.
- The BPDA encourages the Proponent to continue to work closely with City agencies including the Boston Transportation Department ("BTD") and the Parks and Recreation Department.

## SUBMISSION REQUIREMENTS

### FOR THE

### BIDMC IMP AMENDMENT

The Scope requests information required by the BPDA for its review of the proposed IMP Amendment in connection with the following:

1. Approval of the BIDMC IMP Amendment pursuant to Article 80D and other applicable sections of the Code.
2. Recommendation to the Zoning Commission for approval of the BIDMC IMP Amendment.

The BIDMC IMP Amendment should be documented in a report of appropriate dimensions and in presentation materials which support the review and discussion of the IMP Amendment at public meetings. Ten (10) hard copies of the full report should be submitted to the BPDA, in addition to an electronic version in .pdf format. Hard copies of the document should also be available for distribution to the BIDMC Task Force, community groups, and other interested parties in support of the public review process. The IMP Amendment should include a copy of this Scoping Determination. The IMP Amendment should include the following elements:

#### 1. MISSION AND OBJECTIVES

- **Organizational Mission and Objectives.** Define BIDMC's institutional mission and objectives, and describe how the development contemplated or proposed in the IMP Amendment advances the stated mission and objectives Sec. 1.2
- **Major Programs and Initiatives.** Update any major programs or initiatives that will drive physical planning in the future. Included in the description should be current and future trends that are impacting BIDMC and shaping program objectives, employment numbers, number of beds, etc. Provide any updates to BIDMC's current employee population, disaggregated by faculty/staff, full-time/part-time, Boston residents/non-residents, as well as projected employment over the term of the renewed IMP. Sec. 1.3

#### 2. EXISTING PROPERTY AND USES

The IMP Amendment should present applicable updated maps, tables, narratives, and site plans clearly providing the following information:

- **Owned and Leased Properties.** Provide an updated inventory of land, buildings, and other structures in the City of Boston owned or leased by BIDMC as of the date of submission of the IMP Amendment, with the following information for each property. Secs. 2.2, 2.3
  - Illustrative site plans showing the footprints of each building and structure, together with roads, sidewalks, parking, and other significant improvements.
  - Land and building uses.

- Building gross square footage and, when appropriate, number of dormitory beds or parking spaces.
- Building height in stories and, approximately, in feet, including mechanical penthouses.
- Tenure (owned or leased by BIDMC).

### 3. PROPOSED PROJECT

**Article 80D Requirements.** Pursuant to Article 80D, the IMP Amendment should provide the following information for the Proposed Project: Sec. 3.2

- Site location and approximate building footprint.
- Uses (specifying the principal subuses of each land area, building, or structure, such as classroom, laboratory, parking facility).
- Square feet of gross floor area.
- Square feet of gross floor area eliminated from existing buildings through demolition of existing facilities.
- Floor area ratio.
- Building height in stories and feet, including mechanical penthouses.
- Parking areas or facilities to be provided in connection with Proposed Projects;
- Any applicable urban renewal plans, land disposition agreements, or the like.
- Current zoning of site.
- Total project cost estimates.
- Estimated development impact payments.
- Approximate timetable for development of proposed institutional project, with the estimated month and year of construction start and construction completion for each.

**Rationale for Proposed Project.** Discuss the rationale for the program and location of proposed buildings in light of discussions on mission, facilities needs, and campus planning objectives. Discuss the rationale for the scale of the proposed building. Sec. 3.1

### 4. PLANNING FRAMEWORK

This section should discuss, at a minimum, the following:

- **Existing Context.** Describe BIDMC's place in the broader context of adjacent land uses, and the surrounding neighborhoods. Reference any City policies or plans that shape the planning context for the area and for BIDMC. Sec. 4.1
- **Factors Driving Facilities Needs.** Provide any update since filing the IMP of current facilities utilization rates and BIDMC's ability to accommodate patient number growth with existing facilities, by type of facility. Sec. 4.2
- **Campus Vision and Identity.** Describe any updates to BIDMC's vision of its desired physical identity and, in general terms, strategies for achieving that identity. Sec. 4.3
- **Overview of Urban Design Guidelines and Objectives.** Discuss any current or new urban design guidelines and objectives that have emerged and strategies for implementing them in conjunction with the Proposed Project or in the future. Discuss consistency with the LMA guidelines. Sec. 4.4  
Sec. 3.4

- **Public Realm.** Discuss any updates to the existing public realm conditions (i.e. parks, plazas, streetscapes) in the vicinity of BIDMC facilities, regardless of ownership. Discuss key urban design and public realm goals and objectives proposed by BIDMC for the campus, with a focus on creating a high-quality interface between the campus and the surrounding neighborhoods and transit stations. Sec. 4.5
- **Signage Master Plan.** BIDMC should develop a signage master plan for the campus that would address building and wayfinding signage. This will help present a unified identity to the public and will help expedite signage review. Sec. 4.6
- **Pedestrian Circulation Goals and Guidelines.** Provide a statement of goals and guidelines for pedestrian circulation both within and through BIDMC’s campus and in relation to the Proposed Project. Sec. 4.5

## 5. TRANSPORTATION AND PARKING MANAGEMENT / MITIGATION PLAN

The following submission requirements relate to the proposed IMP Amendment; the DPIR will be required to present more specific information on the transportation impacts of the Proposed Project. In addition to the submissions detailed in this Scope, BIDMC should continue to work closely with the Boston Transportation Department (“BTD”) to outline an appropriate scope for studying and mitigating any transportation impact of the Proposed Project.

- **Existing Conditions.** Provide any updates to BIDMC’s existing transportation and parking characteristics, including data on mode share for employees, parking spaces owned and operated by BIDMC, and policies regarding patient, visitor and employee parking, transportation demand management measures in place, etc. Sec. 5.1
- **Impact of New Project.** Discuss the impact of the Proposed Project on parking demand and supply. Sec. 5.2

## 6. ECONOMIC DEVELOPMENT

The IMP Amendment should address the following topics:

- **Employment and Workforce Development.** Provide any updates to existing and proposed programs to train and hire Boston residents for BIDMC jobs. Sec. 6

## 7. COMMUNITY BENEFITS PLAN

The IMP Amendment should describe any updates to BIDMC’s Community Benefits Plan since the approval of the IMP and in relation to the Proposed Project and IMP Renewal. Sec. 7

## 8. ENVIRONMENTAL SUSTAINABILITY

The City of Boston expects a high level of commitment to principles of sustainable development from all developers and institutions. BIDMC’s Proposed Project provides exciting opportunities for innovation and excellence. BIDMC will be expected to work with the BPDA, the City of Boston Environment Department, and others to set and meet ambitious environmental sustainability goals in the design of the Proposed Project. The IMP Amendment should present as much

information as possible on the topics below, with the understanding that not all of them may be relevant at this current time. Additional topics related to sustainability are included in the DPIR Scope for the Proposed Project.

- **Existing Sustainability Measures.** Update if applicable BIDMC's existing sustainability measures at the building and campus-wide level, including but not limited to energy, stormwater, solid waste, transportation, and infrastructure and utilities. Explain the administrative structure for making decisions about and promoting innovation in the area of building a sustainable campus. Describe any formal goals or principles that BIDMC has adopted in the area of sustainability since the approval of the IMP. Sec. 8.1
- **Green Building.** New campus buildings should achieve a superior level of performance in the areas of materials and resources (recycled content, construction waste management, local/regional materials), energy (energy performance, renewable energy), water management (water efficiency, stormwater management, graywater and stormwater recycling, etc.), indoor environmental quality, and other standard performance areas of high-performance or "green" buildings. Whenever possible, buildings should achieve a high level of certification through LEED or another appropriate system. Sec. 8.2
- **Energy Use.** Future campus development should consider the impact of new buildings on the existing heating and cooling infrastructure. Reducing the current energy use of existing buildings should be addressed prior to expanding or building new power plants. Planning should consider the possible benefits of localized heating and cooling systems within a section of the campus or within an individual building, allowing for alternative energy sources to be easily explored. Sec. 8.3
- **Water Use.** Future campus development should incorporate water use, conservation, and rainwater harvesting strategies at a campus level. New construction allows opportunities for storage systems to be installed for use by the new and adjacent buildings. Collected water can be used for flushing, HVAC make-up water, and irrigation. Sec. 8.4
- **Stormwater Retention/Treatment/Reuse and Groundwater Recharge.** BIDMC's development should go beyond the minimum requirements related to stormwater runoff. In particular, the new developments proposed as part of this IMP Amendment should set a goal of reducing stormwater discharge from the sites into the storm sewers, not simply avoiding any additional runoff. This goal should be considered in conjunction with strategies for reuse of retained stormwater and strategies for groundwater recharge. Individual building design, site design, and street-level interventions should all maximize the opportunities for stormwater retention, treatment, and reuse, as well as groundwater recharge, through innovative approaches. To the extent possible, the systems put in place should strive to work with the natural hydrology of the area. Sec. 8.5
- **Solid Waste.** Campus master planning should set the goal of reducing the level of solid waste generation in both the construction and operation of buildings. Sec. 8.6

## 9. OTHER

- **Public Notice.** BIDMC will be responsible for preparing and publishing in one or more newspapers of general circulation in the city of Boston a Public Notice of the submission of the IMP Amendment to the BPDA as required by Section 80A-2. This Notice shall be published within five (5) days after the receipt of the IMP Amendment by the BPDA. In accordance with Article 80, public comments on the IMP Amendment shall be transmitted to the BPDA within sixty (60) days of the publication of this notice. A sample form of the Public Notice is attached



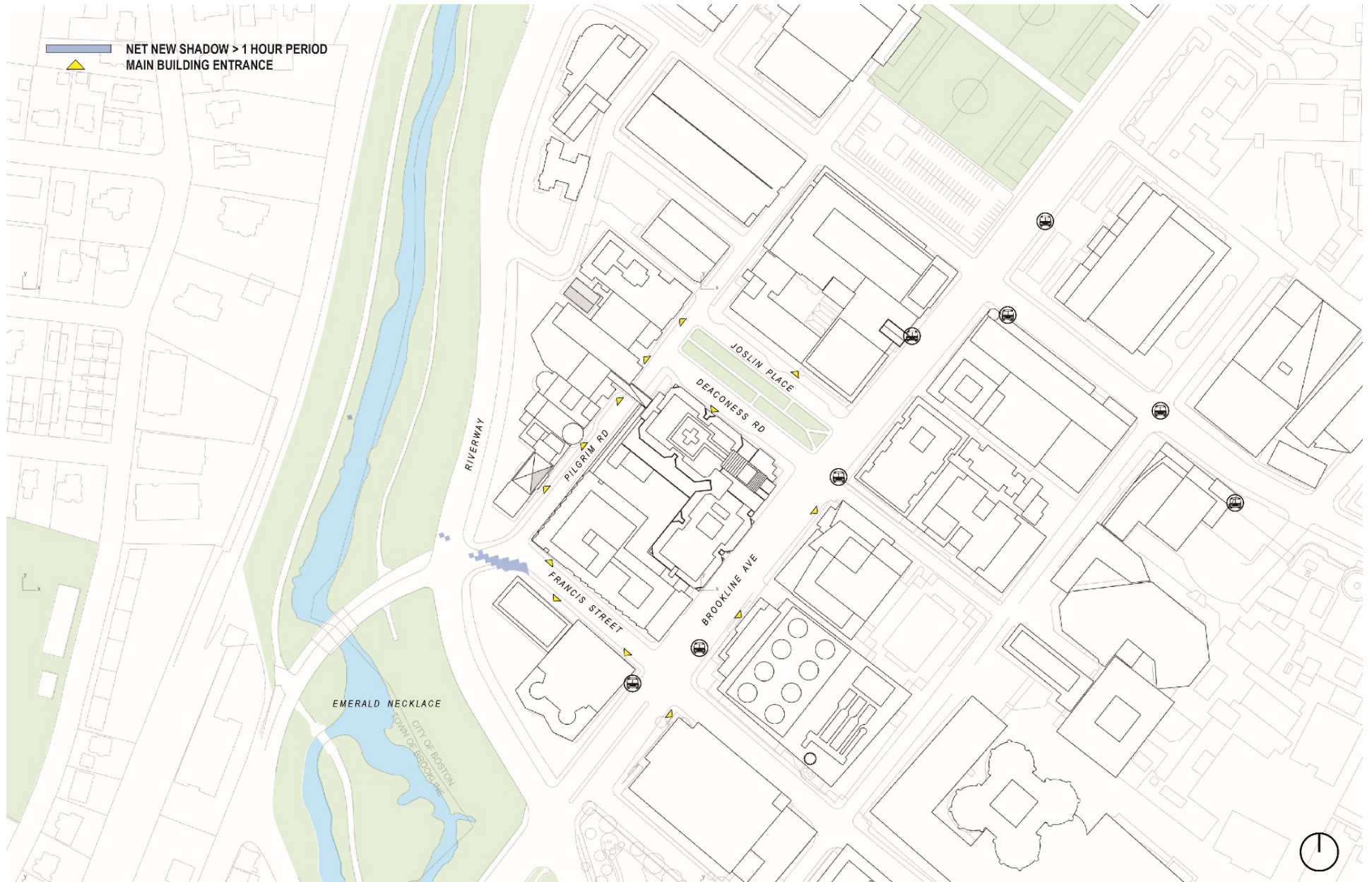
as Appendix 3. Following publication of the Public Notice, BIDMC shall submit to the BPDA a copy of the published Notice together with the date of publication.

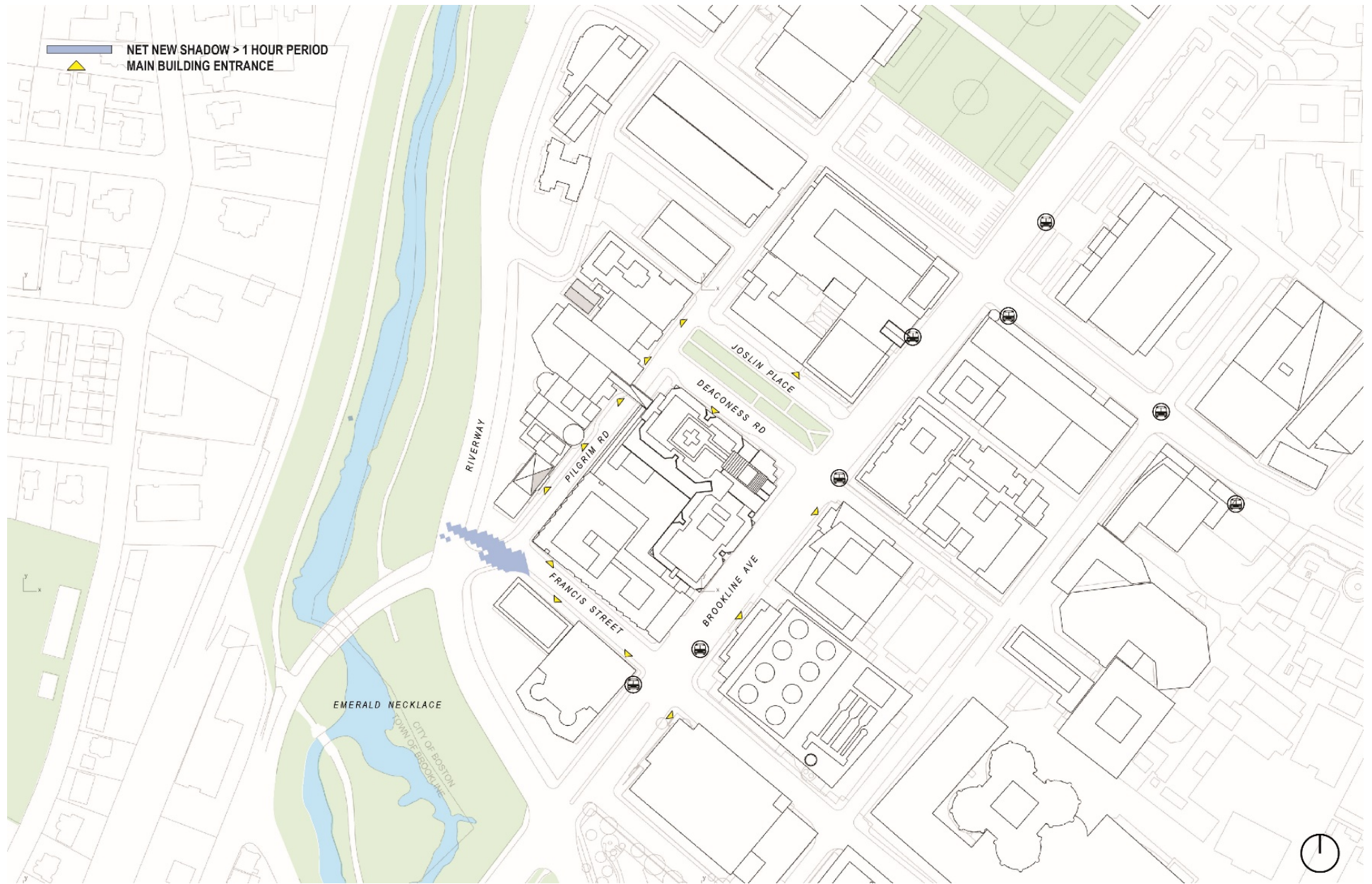
**Appendix B**

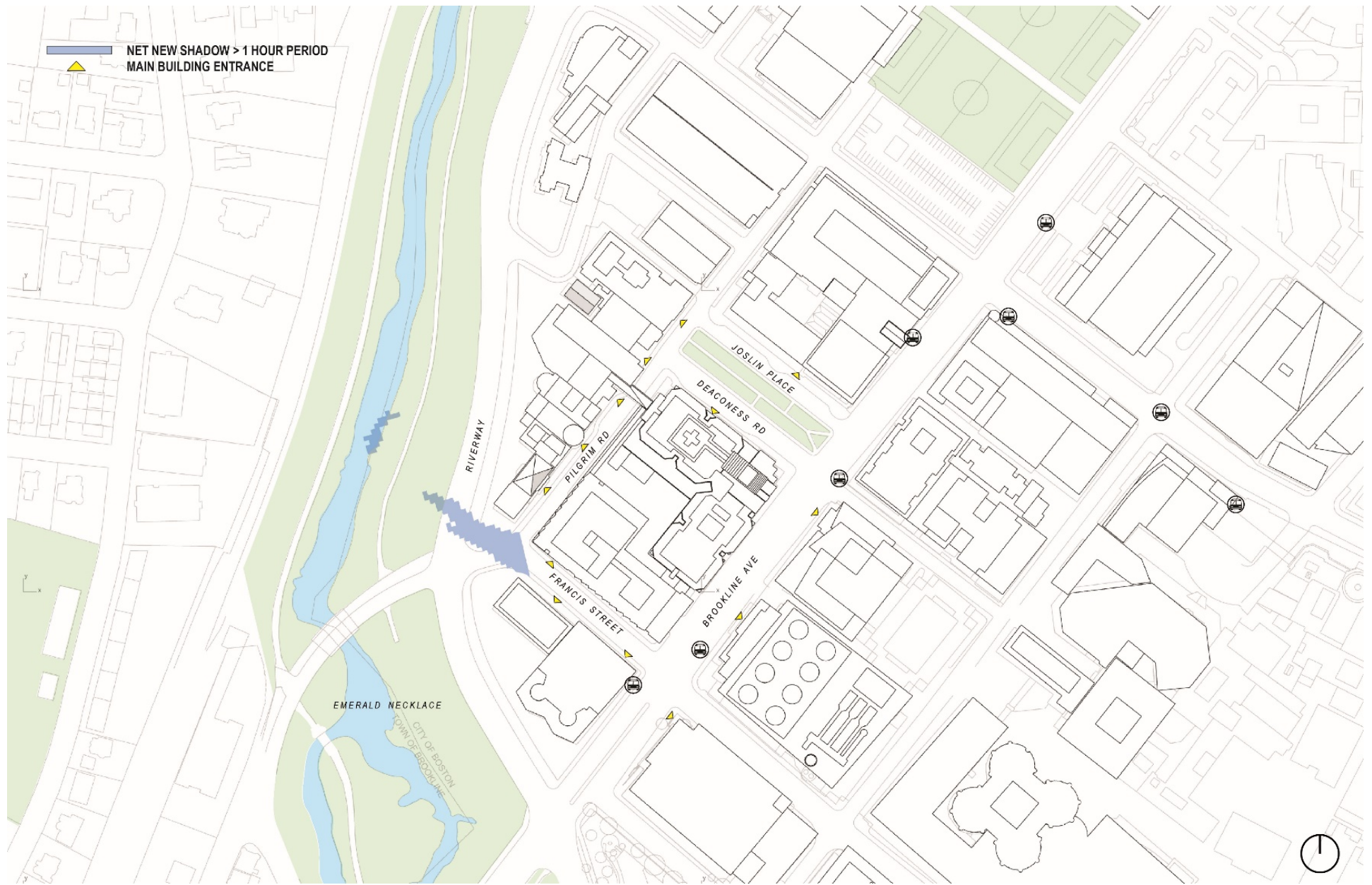
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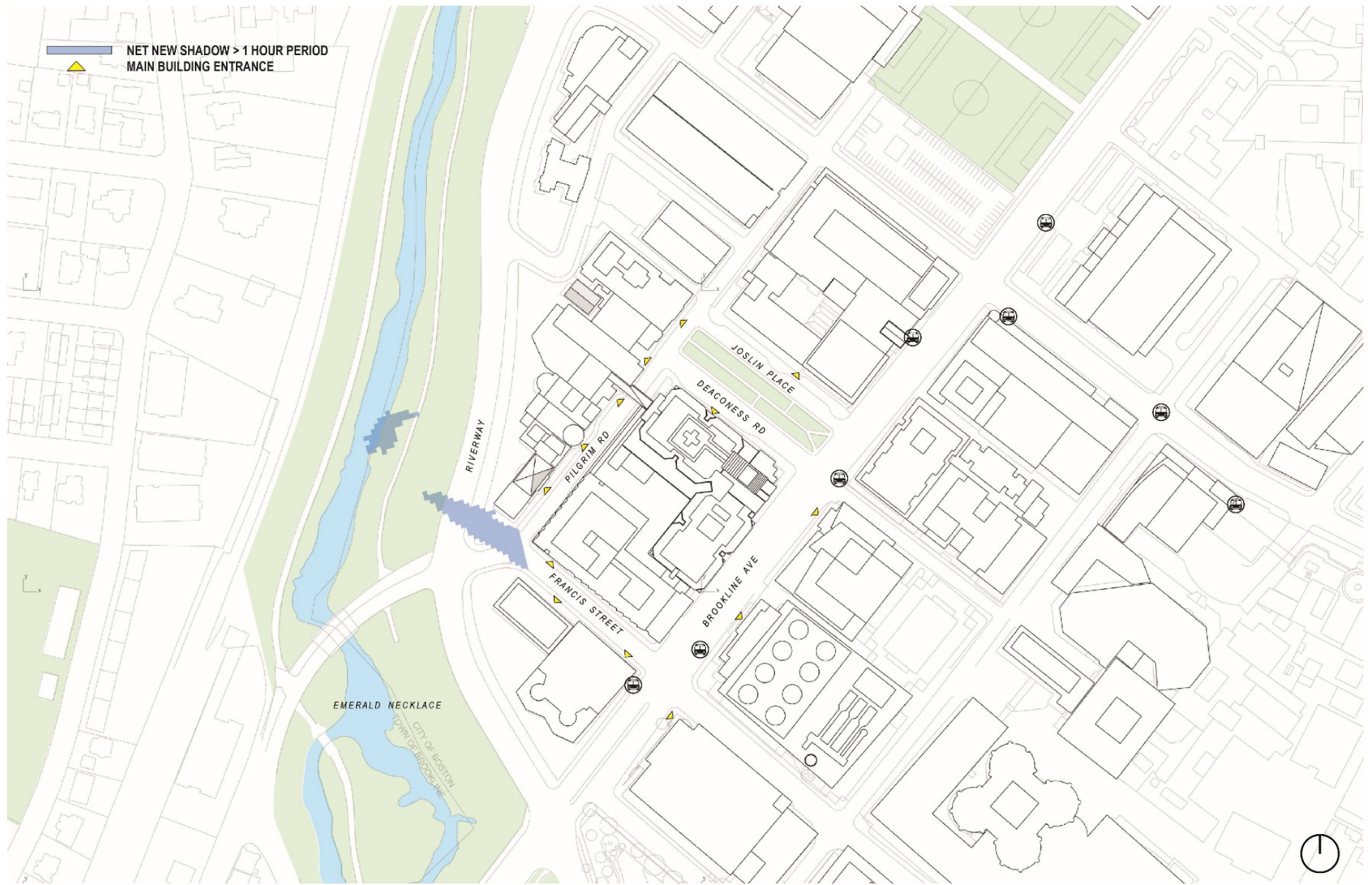
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LMA Interim Guidelines – Shadow Study





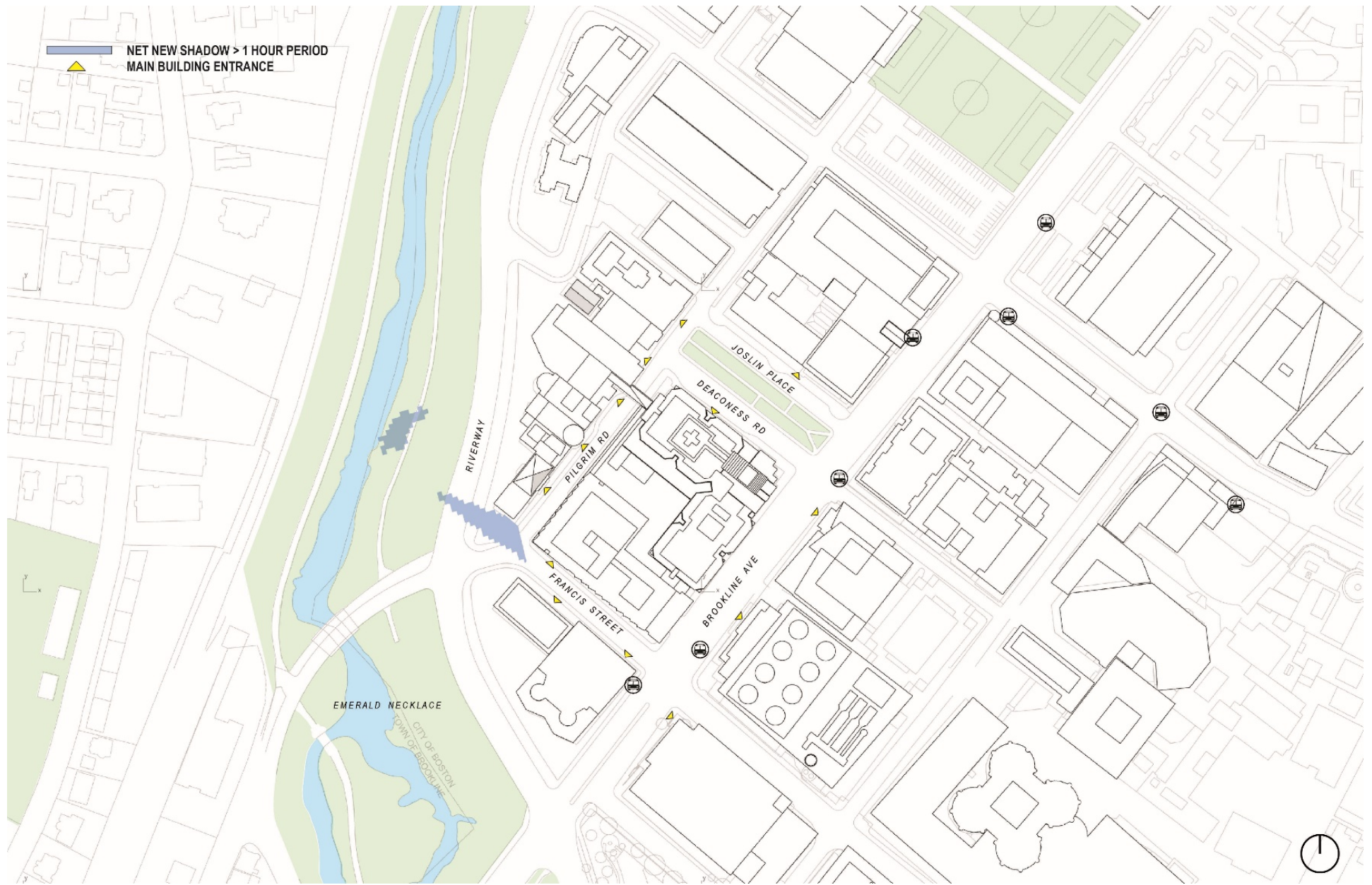


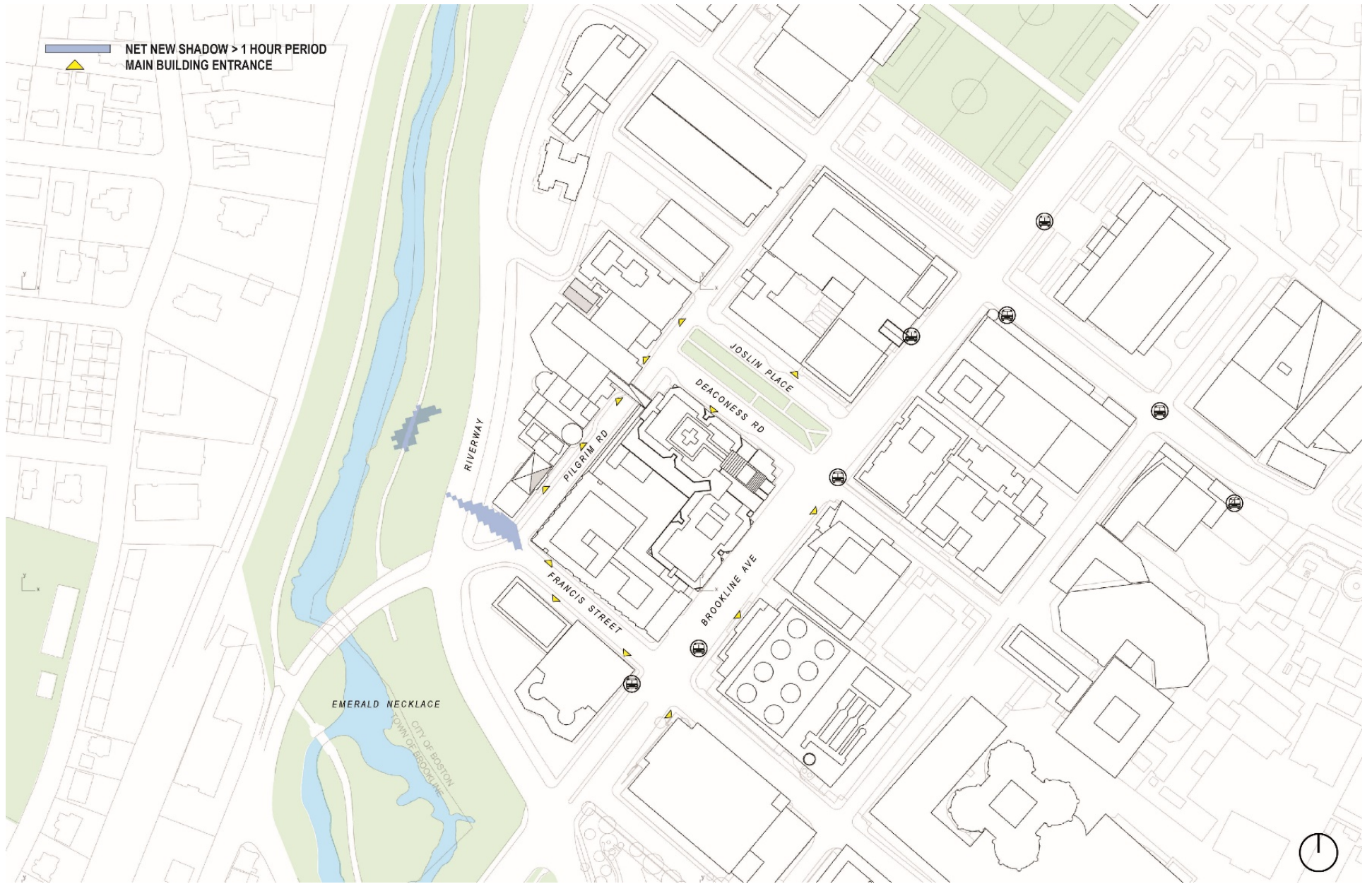


**BIDMC IMP Amendment Boston, Massachusetts**



Shadow Study (Updated): March 21, 9:30 a.m.



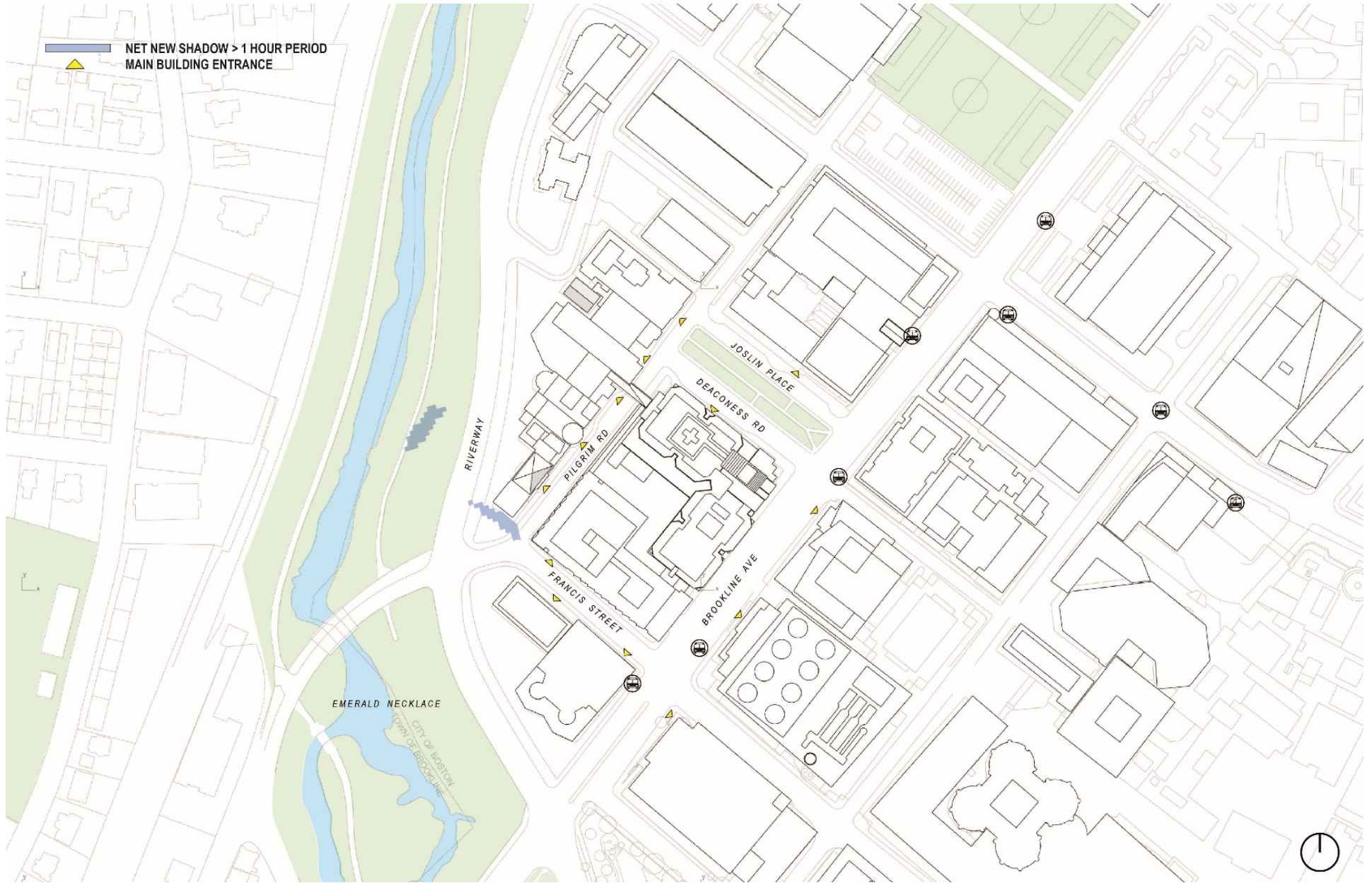


**BIDMC IMP Amendment Boston, Massachusetts**



Shadow Study (Updated): March 21, 9:50 a.m.







**BIDMC IMP Amendment Boston, Massachusetts**



Shadow Study (Updated): March 21, 10:10 a.m.

