Appendix A

APPENDIX A BOSTON UNIVERSITY MEDICAL CENTER INSTITUTIONAL MASTER PLAN BACKGROUND / HISTORY

A.1 2000 Boston University Medical Center IMP Overview

The original Boston University Medical Center Institutional Master Plan was approved by the Boston Redevelopment Authority on May 18, 2000 and the Boston Zoning Commission on June 28, 2000, effective July 13, 2000. Boston University Medical Center is comprised of Boston Medical Center ("BMC") and Boston University Medical Campus ("BU Medical Campus") which includes three of Boston University's health science schools – the School of Medicine, Goldman School of Dental Medicine; and the School of Public Health.

Only one new construction project, the Medical Services Center, was contemplated as part of the 2000 BUMC IMP. The Medical Services Center included a five-story, 92,010 square foot outpatient care center to be located northeast of the Menino Pavilion and related circulation, parking and landscaping improvements. The circulation system included a two-way interior road connecting to both Harrison Avenue and Albany Street. The then existing 176 parking spaces on the site were reconfigured to accommodate 111 spaces. A new 32,000 square foot landscaped courtyard was proposed off Harrison Avenue and East Concord Street between building BCD and FGH. The project also included the demolition of the Thorndike, Administration and Sears Buildings, and the renovation of Buildings BCD and FGH. While the building demolition activities occurred and buildings BCD and FGH have been preserved, the Medical Services Center building was never constructed. However, the 2003 Second Amendment, as described below, substituted the Medical Services Center with the Moakley Medical Services Building.

The Boston University Medical Center Institutional Master Plan Renewal was approved by the Boston Redevelopment Authority on June 22, 2010 and the Boston Zoning Commission on August 4, 2010. Boston University Medical Center is comprised of Boston Medical Center ("BMC") and Boston University Medical Campus ("BU Medical Campus") which includes three of Boston University's health science schools – the School of Medicine, Goldman School of Dental Medicine; and the School of Public Health.

Three new construction projects were contemplated as part of the 2010 BUMC IMP.

- Energy Facility - Construct an approximately 48,000 s.f. building on the existing surface parking lot located to the east of the Power Plant to improve energy efficiencies, ensure reliability, and support greener campus growth.

- Administration/Clinical Building – Construct an approximately 160,000 s.f. building on the surface parking lot located on the north side of the Power Plant

along Albany Street to consolidate administrative functions and improve campus adjacencies. This building will also accommodate space for outpatient offices and operational support space.

- New Inpatient Building - Construct an approximately 405,000 s.f. building on the Dowling Building site to support the increased inpatient volume and the growth in Emergency Service and Trauma volume. This project will necessitate the demolition of the Dowling Building.

A discussion of IMP Amendments, Notices of Project Change, and Notices of Exemption follows, while Table A-1 summarizes the history of the BUMC Campus IMP to date.

A.1.1 Boston University Medical Center IMP Amendments

On May 14, 2001, Boston University Medical Center proposed its first amendment to the IMP; the rehabilitation of the Surgical Building, an administrative building, located at 85 East Concord Street. This building is an existing eight-story, 66,952 square foot building including an adjoining one-story entry building. BMC proposed to rehabilitate the building for office uses and replace the entry building with a new one-story lobby. The amendment was approved by the BRA on July 17, 2001 and the renovation was completed in September 2003.

On July 31, 2003, Boston University Medical Center submitted a Notice of Project Change ("NPC") to the BRA. The NPC considered: the replacement of the approved Medical Services Center in the 2000 IMP with the proposed Moakley Building as an Institutional project; modifications and additions to the existing Ambulatory Care Center; and, inclusion of circulation and parking changes associated with the Moakley Building. The 133,217 square foot Moakley Building at 830 Harrison Avenue has a program of consolidated cancer related care, a patient-centered ambulatory surgery center, a center for digestive disorders, and a new otolaryngology clinic. The NPC also represented a biannual update to the Boston University Medical Center IMP. The NPC was approved by the BRA on October 7, 2003 and the building was completed in the Fall of 2006.

On December 1, 2004, Boston University Medical Center submitted its second IMP amendment for several minor modifications, which considered the reuse of basement, office and administrative space in BCD, FGH and 761 Harrison Avenue, and to remove from the Boston University Medical Center IMP list of buildings, the Mallory building which is no longer leased to BMC. The second amendment to the IMP was approved by the BRA on January 26, 2006.

On April 30, 2007, a third IMP Amendment was filed for the new, approximately 245,000 s.f. Shapiro Ambulatory Care Center ("SACC") at 725 Albany Street. When completed, the new facility will allow for the relocation of the DOB clinical services to appropriately-sized new space consistent with Department of Public Health requirements and BMC

clinical standards. This solution also allows BMC to further its goal to consolidate clinical departments by shifting some outpatient services from Dowling, Yawkey and other locations on campus to the proposed SACC. The SACC's design does not result in significant new outpatient space on campus, rather it will create more efficient use of outpatient space resulting in higher throughput of patients. The third amendment was approved by the BRA in December 2007.

On June 8, 2009, Boston University Medical Center submitted an Institutional Master Plan Notification Form for the Renewal and Amendment of the Boston University Medical Center IMP ("IMPNF for Renewal and Amendment"), which IMPNF for Renewal and Amendment described the minor expansion of the Menino Pavilion by the construction of a single-story slab-on-grade addition of approximately 845 square feet on the southwest end of the Menino Pavilion (the "ED Project"). Notice of receipt by the Authority of the IMPNF for Renewal and Amendment was published in the ***Boston Herald*** on June 9, 2009 initiating a comment period that ended on July 9, 2009. On July 16, 2009, the Authority approved the IMPNF for Renewal and Amendment for a two year renewal of the Boston University Medical Center IMP and the ED Project.

On August 14, 2009, Boston University filed an IMPNF for Amendment of the IMP in connection with the incorporation in the IMP of the Albany Fellows Site, which is an approximately 1.7 acre site lying between Albany Street and Fellows Street, and the construction on a portion of the Albany Fellows Site of a proposed project known as the Graduate Student Housing Project for Boston University Medical School. The Albany Fellows Site consists of three parcels: Parcel 1, which fronts on Fellows Street and contains approximately 15,324 square feet of land area; Parcel 2A, which fronts on Albany Street and contains approximately 38,920 square feet of land area; and Parcel 2B, which is bounded by Parcel 2A, former Pike Street, Fellows Street and Parcel 1 and contains approximately 20,766 square feet of land area. Notice of receipt by the Authority of the Amendment IMPNF was published in the ***Boston Herald*** on August 14, 2009 initiating a comment period that ended on September 25, 2009. On January 12, 2010, the Authority approved the IMP Amendment for inclusion of the Albany Fellows Site and Graduate Student Housing Project, and on February 10, 2010, the Zoning Commission approved the same.

Boston University has completed the Graduate Student Housing Project as a nine story building of approximately 84,033 square feet including a 12,000 square foot landscaped open space on a portion of Parcel 2A. The building provides 104 two bedroom units to house up to 208 graduate students of the Boston University Medical Campus and also contains approximately 5,000 square feet of ground floor retail space. It is anticipated that future development on Parcels 1 and 2B of the Albany Fellows Site will be consistent with the development density previously approved by the BRA for a prior development. Under this assumption, total development on Parcel 1 and Parcel 2B (including the remainder of Parcel 2A, not used for the open space and the Graduate

Student Housing Project) will be limited to approximately 358,500 square feet of above-grade building space and up to 322 parking spaces. Potential uses for these future facilities may include: housing (either student housing or housing for faculty and staff of the Boston University or Boston Medical Center), ground level retail, office, backstreets, research & development, and academic space. As currently envisioned, the density of development of these two remaining building sites, Parcels 1 and 2B, is expected to be evenly distributed, with the Parcel 2B site having a range of between 110,000 and 190,000 square feet of program (exclusive of parking), and the Parcel 1 site (with the remainder of Parcel 2A area) having a range of between 80,000 and 170,000 square feet of program (exclusive of parking). This would result in two buildings of moderate height (i.e. in a range from 9 to 14 stories).

For purposes of ensuring that the recently approved (January 2010) Albany Fellows Site and the Graduate Student Housing Project are included in the renewal IMP, the 2010 BUMC IMP incorporates the site and project in this filing.

A.1.2 Notices of Exemption

On October 2, 2006, Boston University Medical Center submitted an Institutional Master Plan Notification Form to the BRA proposing an addition of approximately 10,000 square feet to the Newton Pavilion inpatient care building located on East Newton Street. The existing Newton Pavilion is eight floors and has an elevator penthouse. The Newton Pavilion was originally built in 1986, at which time all inpatient care floors below the eighth floor were built with three pods per floor. The existing eighth floor has two pods. The IMPNF proposed filling in the last pod of the eighth floor in order to provide approximately 12 beds of additional care. On November 7, 2006, the BRA issued a Notice of Exemption for the Newton Pavilion eighth floor addition exempting it from Article 80 Institutional Master Plan Review because it was not affecting a gross floor area of more than 20,000 square feet and was not a phase of another Institutional project.

On February 23, 2007, BMC submitted a Request for a Notice of Exemption to the BRA proposing an addition of approximately 17,500 square feet to the Menino Pavilion located on Albany Street. BMC determined that the need for a third MRI and 11 additional Emergency Department beds to ease overcrowding of existing patient flows could not be accommodated within existing space and therefore requested approval for the addition to the Menino Pavilion. On April 5, 2007, the BRA issued a Notice of Exemption for the Menino Pavilion addition exempting it from Article 80 Institutional Master Plan Review because it was not affecting a gross floor area of more than 20,000 square feet and was not a phase of another Institutional project.

Table A-1 Summary of Boston University Medical Center IMP and Amendments

Date	Action	Subject
May 18 2000	IMP BRA Board Approval	Original Boston University Medical Center IMP and including proposed five-story, 92,010 s.f. Medical Services Center (outpatient care) and related circulation, parking and landscaping.
July 14 2001	IMP Amendment BRA Board Approval	Rehabilitation of the Surgical Building for administration uses. Involved an existing eight-story, 66,952 square foot building including an adjoining one-story entry building. Amendment included replacement of the adjoining building with one-story lobby.
October 7 2003	NPC BRA Board Approval	Replacement of the Medical Services Center with the Moakley Building (133,217 s.f. – cancer care, ambulatory care, digestive disorder center, and otolaryngology clinic), modifications to existing Ambulatory Care Center and circulation/parking changes associated with Moakley.
January 26 2006	IMP Amendment BRA Board Approval	Minor modifications including reuse of basement, office and administrative space in BCD, FGH and 761 Harrison Avenue, and removed from the BUMC Campus IMP list of buildings, the Mallory building which is no longer leased to BMC.
November 2006	Notice of Exemption Granted	Expansion of the Newton Pavilion to create 10,000 s.f. with 12 new inpatient beds
April 5 2007	Notice of Exemption Granted	Addition of 17,500 s.f. to the Menino Pavilion for MRI and ER beds.
December 2007	IMP Amendment BRA Board Approval	Demolition of existing building and construction of the new 245,000 s.f. Shapiro Ambulatory Care Center at 725 Albany Street. The SACC will create more efficient use of existing outpatient space shifted from other campus locations.

July 16 2009	IMP Renewal and Amendment BRA Board Approval	Renewal of the 2000 Boston University Medical Center IMP for a 2 year term and minor expansion of the Menino Pavilion by construction of a single story slab on grade addition of 845 s.f. to the ED.
January 12 2010	IMP Amendment BRA Board Approval	Amendment to IMP to include the approximately 1.7 acre site lying between Albany Street and Fellows Street (the "Albany Fellows Site") in the Boston University Medical Center IMP and the construction on a portion of the Albany Fellows Site of a proposed project known as the Graduate Student Housing Project for Boston University Medical School consisting of a nine story building of approximately 84,033 square feet with approximately 12,000 square feet of on-site landscaped open space, which building will provide 104 two bedroom units to house up to 208 graduate students of the Boston University Medical Campus and will also contain approximately 5,000 square feet of ground floor retail space.
June 22 2010	IMP Renewal BRA Board Approval	Renewal of the 2010 IMP to include 3 proposed IMP Projects. The construction of a 48,000 square foot Energy Facility, the construction of a 160,000 square foot Administration/Clinical Building and demolition of an existing building and the construction of a 405,000 square foot new Inpatient Facility. Removal of leased space at the Finland and Kakas Building. Inclusion of leased space at the Crosstown Site, clarification of the Ownership of the Gambro Building and a change in use for the Doctors Office Building from Outpatient to Administration.

Appendix B

Boston Medical Center Institutional Master Plan

Boston, MA

Pedestrian Wind Assessment

RWDI # 1400060
August 21, 2013

SUBMITTED TO

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1. INTRODUCTION

Rowan Williams Davies & Irwin Inc. (RWDI) was retained by Tsoi / Kobus & Associates to assess the potential wind conditions for the proposed Boston Medical Center Institutional Master Plan located in Boston, MA (see Image 1 and cover page). The objective of this assessment was to provide a qualitative evaluation of wind comfort conditions on and around the development and recommend mitigation measures in support of the project's IMPNF/PNF submission to the Boston Redevelopment Authority (BRA).

This qualitative assessment is based on the following:

- a review of regional long-term meteorological data for Boston;
- our previous wind-tunnel tests on buildings in the Boston area including previous wind tunnel studies conducted near the development site;
- design drawings received by RWDI on July 23, 2013;
- our engineering judgment and expert knowledge of wind flows around buildings[1-3];
- use of software developed by RWDI (*Windestimator*[3]) for estimating the potential wind comfort conditions around generalized building forms.

This qualitative approach provides a screening-level estimation of potential wind conditions. Note that other wind issues, such as those relating to wind loading, door pressures, exhaust re-entrainment, snowdrifts, etc. are not considered in the scope of this assessment.

Image 1 – Campus Plan and Project Locations
(Courtesy of the Design Team, dated August 5, 2013)

1. H. Wu and F. Kriksic (2012). "Designing for Pedestrian Comfort in Response to Local Climate", *Journal of Wind Engineering and Industrial Aerodynamics*, vol.104-106, pp.397-407.
2. H. Wu, C.J. Williams, H.A. Baker and W.F. Waechter (2004), "Knowledge-based Desk-Top Analysis of Pedestrian Wind Conditions", *ASCE Structure Congress 2004,* Nashville, Tennessee.
3. C.J. Williams, H. Wu, W.F. Waechter and H.A. Baker (1999), "Experience with Remedial Solutions to Control Pedestrian Wind Problems", *10th International Conference on Wind Engineering*, Copenhagen, Denmark.

2. BUILDING AND SITE INFORMATION

The proposed Boston Medical Center site is generally bounded by Massachusetts Avenue to the west, and East Concord Street to the east. The proposed Energy Facility and Admin / Clinical Building are located south of Albany Street, and the latter is connected via the Patient Transport Bridge to the proposed New Inpatient Building (Phase 1), located to the north on Albany Street. The Moakley Cancer Center Addition is located at the southwest corner of the East Concord Street and Boston Medical Center Place intersection (see Image 2).

The scope of this assessment includes the Phase 1 (B1) of the New Inpatient Building, the Patient Transport Bridge and the Moakley Cancer Center Addition. The predicted wind conditions around each of these buildings will be discussed within this report.

In general, buildings surrounding the development site are of generally similar height.

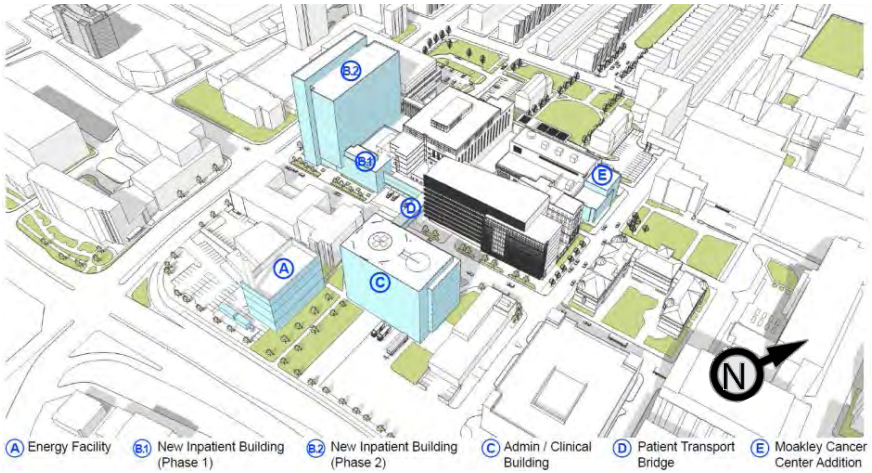


Image 2 – Site Plan Illustrating Phase I and Phase II Developments.

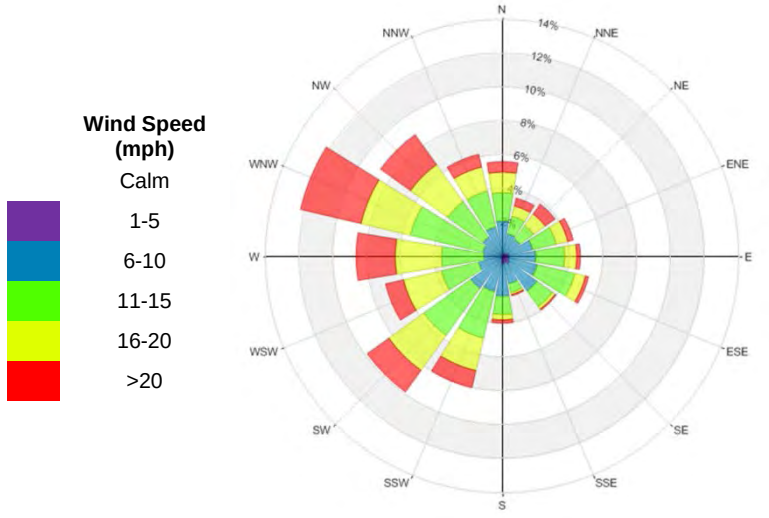
Image 3 – Proposed Phase I Developments when viewed from the East (Upper Image) and West (Lower Image).

3. METEOROLOGICAL DATA

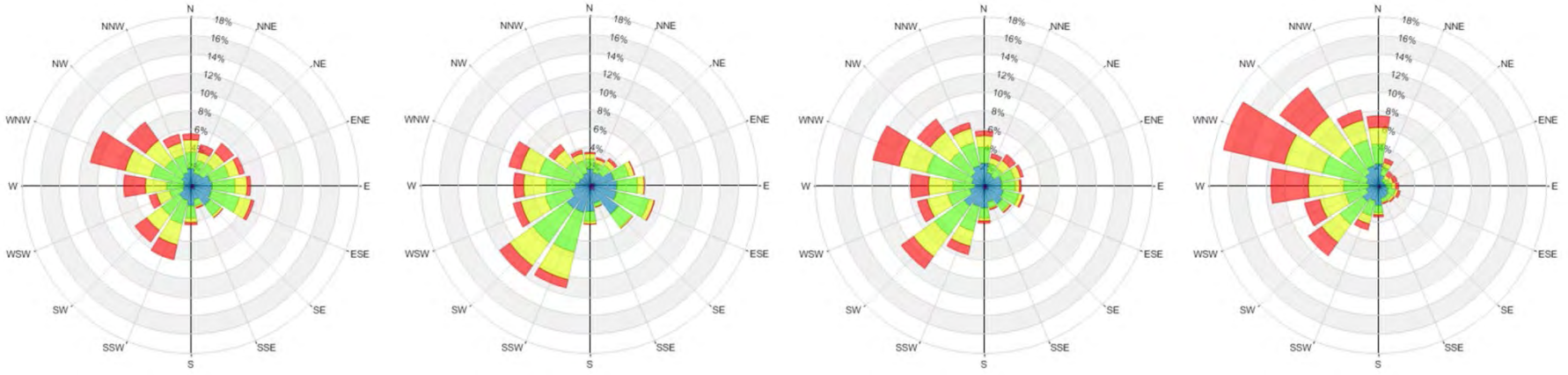
Wind statistics at Boston-Logan International Airport between 1973 and 2011, inclusive, were analyzed for the spring (March to May), summer (June to August), fall (September to November) and winter (December to February) seasons. Image 4 graphically depict the distributions of wind frequency and directionality for the four seasons and for the annual period. When all winds are considered (regardless of speed), winds from the northwest and southwest quadrants are predominant. The northeasterly winds are also frequent, especially in the spring.

Strong winds with mean speeds greater than 20 mph (red bands in the figures) are prevalently from the northwesterly directions throughout the year, while the southwesterly and northeasterly winds are also frequent.

Winds from the northwest, southwest and northeast directions are considered most relevant to the current study, although winds from other directions were also considered in our assessment.



Annual Winds



Spring (March to May) | Summer (June to August) | Fall (September to November) | Winter (December to February)

Image 4 - Directional Distribution (%) of Winds (Blowing From) – Boston-Logan International Airport (1973 to 2011)

4. EXPLANATION OF CRITERIA

The BRA has adopted two standards for assessing the relative wind comfort of pedestrians. First, the BRA wind design guidance criterion states that an effective gust velocity (hourly mean wind speed +1.5 times the root mean square wind speed) of 31 mph should not be exceeded more than one percent of the time. The second set of criteria used by the BRA to determine the acceptability of specific locations is based on the work of Melbourne[4]. This set of criteria is used to determine the relative level of pedestrian wind comfort for activities such as sitting, standing, or walking. The criteria are expressed in terms of benchmarks for the 1-hour mean wind speed exceeded 1% of the time (i.e., the 99-percentile mean wind speed). They are as follows:

Table 1: BRA Mean Wind Criteria *

Dangerous	*> 27 mph*
Uncomfortable for Walking	*> 19 and ≤ 27 mph*
Comfortable for Walking	*> 15 and ≤ 19 mph*
Comfortable for Standing	*> 12 and ≤ 15 mph*
Comfortable for Sitting	*< 12 mph*

* Applicable to the hourly mean wind speed exceeded one percent of the time.

Pedestrians on walkways and parking lots will be active and wind speeds comfortable for walking are appropriate. Lower wind speeds comfortable for standing are desired for building entrances where people are apt to linger. For outdoor terraces, low wind speeds comfortable for sitting are desired during the summer. In the winter, wind conditions in these areas may not be of a serious concern due to limited usage.

The wind climate found in a typical downtown location in Boston is generally comfortable for the pedestrian use of sidewalks and thoroughfares and meets the BRA effective gust velocity criterion of 31 mph. However, without any mitigation measures, this wind climate is likely to be frequently unsuitable for more passive activities such as sitting.

4. Melbourne, W.H., 1978, "Criteria for Environmental Wind Conditions", *Journal of Industrial Aerodynamics*, 3 (1978) 241 - 249.

5. PEDESTRIAN WIND CONDITIONS

5.1 Background

Predicting wind speeds and occurrence frequencies is complicated. It involves building geometry, orientation, position and height of surrounding buildings, upstream terrain and the local wind climate. Over the years, RWDI has conducted more than 2,000 wind-tunnel model studies on pedestrian wind conditions around buildings, yielding a broad knowledge base. This knowledge has been incorporated into RWDI's proprietary software that allows, in many situations, for a qualitative, screening-level numerical estimation of pedestrian wind conditions without wind tunnel testing.

The majority of the development site is sheltered by the existing buildings to the northwest through north, but are generally more exposed to the predominant winds from the southwest and northeast quadrants. The existing wind conditions on and around the development site are likely comfortable for walking on an annual basis, with uncomfortable winds from time to time in the winter.

In our discussion of anticipated wind conditions, reference may be made to the following generalized wind flows. Tall buildings tend to intercept the stronger winds at higher elevations and redirect them to the ground level, or are redirected by the massing of the building and lead to wind accelerations at building corners (see Image 5a). Such a Downwashing Flow is often the main cause for wind accelerations around large buildings at the pedestrian level. Also, when two buildings are situated side by side, wind flow tends to accelerate through the space between the buildings due to the Channelling Effect (see Image 5b).

Image 5a – Downwashing Flow (Left) Corner Acceleration (Right)

Image 5b - Channeling Effect

5.3 B1 New Inpatient Building (Phase 1)

Given the building size and local wind climate, it is our prediction that the wind conditions along Albany Street near the site of the B1 New Inpatient Building will meet the effective gust criterion. In addition, wind conditions on sidewalks around the building are expected to be suitable on an annual basis, although uncomfortable winds may occur from time to time in the winter and spring. These conditions are expected to be similar to existing as the building massing change is minor, and will have minimal impact on the local wind flows throughout the area.

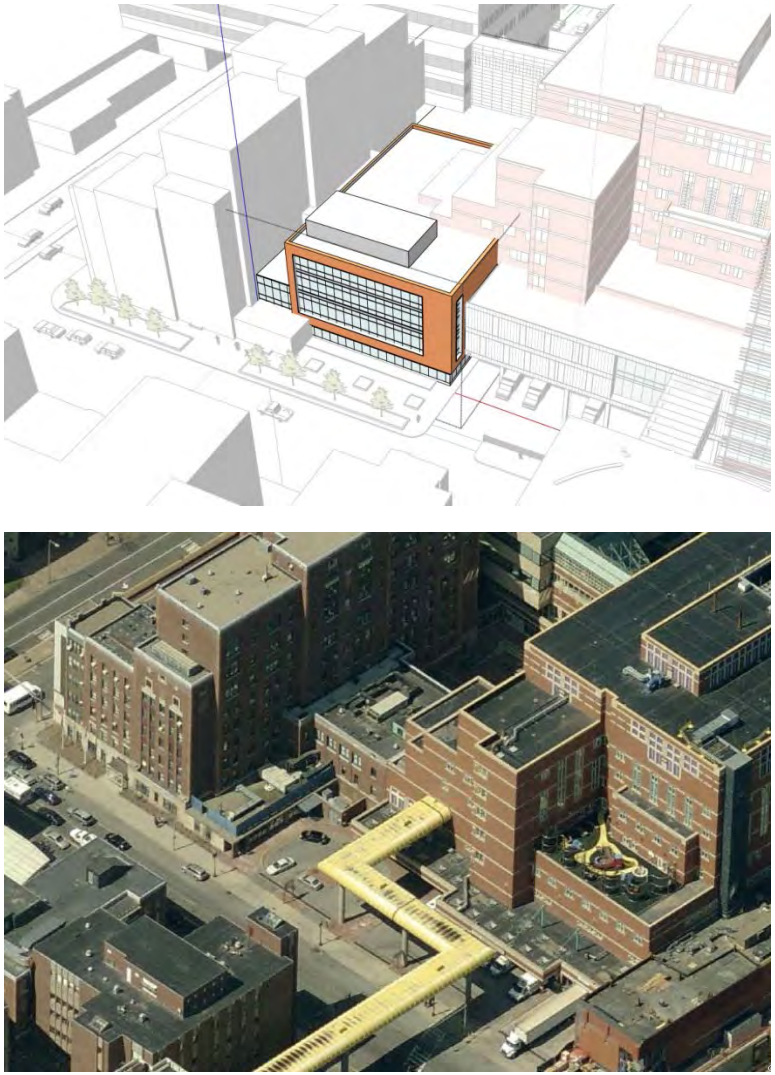


Image 6 – Proposed (Top) and Existing (Bottom) B1 New Inpatient Building Massing. Photo Courtesty Bing™ Maps.

5.4 Moakley Cancer Center Addition

The Moakley Cancer Centre Addition is of similar height to the existing adjacent Moakley Cancer Center, and is well sheltered by buildings of similar or greater height for wind directions commonly associated with strong winds (see Image 8). Wind conditions throughout the area are expected to meet the effective gust criterion.

MBTA Bus Stop

The inclusion of a canopy at the southeast corner of the Moakley Cancer Center Addition is a positive design features and should be retained as it will help provide shelter to the MBTA Bus Stop, where pedestrians are expected to linger (see Location A4 in Image 7). The proposed building and adjacent surroundings will provide additional shelter to the bus stop when winds are from the southwest through northwest directions.

Sidewalks

Wind conditions on the sidewalks around the proposed development are expected to be suitable on an annual basis. At the northeast corner of the tower (Locations A5 in Image 7), increased wind activity is anticipated in the winter when winds are from the northwest, with uncomfortable winds predicted during the winter.

If possible, we recommend including landscaping along the north façade of the building will help reduce winds, as increased wind activity is predicted at the northeast corner.

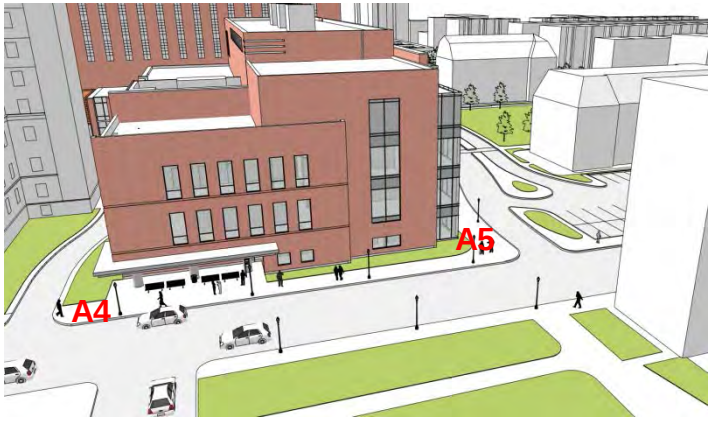


Image 7 – Moakley Cancer Center Addition with E Concord Street Entrance Indicated.

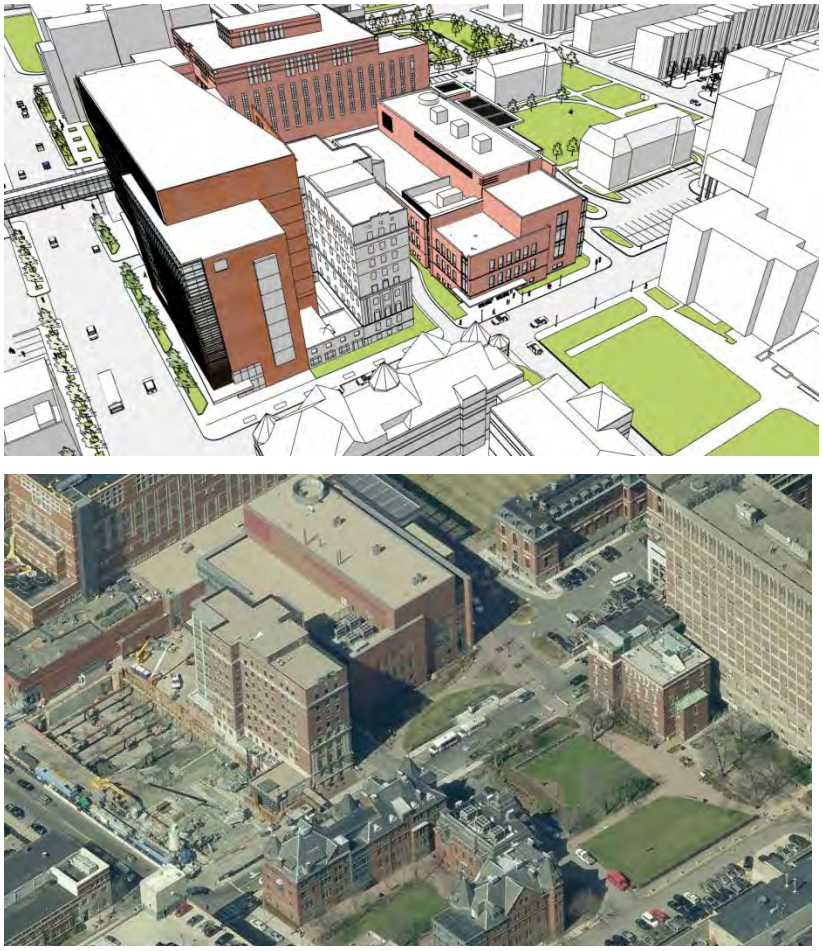


Image 8 – Proposed (Top) and Existing (Bottom) Moakley Cancer Center Addition. Photo Courtesty Bing™ Maps.

5.5 Patient Transport Bridge

The elevated Patient Transport Bridge is expected to perform similar to the existing utilities connection. It is our prediction that the future wind conditions underneath the patient transport bridge will meet the effective gust criterion.

Sidewalks

Wind conditions on the sidewalks around the proposed development are expected to be suitable on an annual basis with more uncomfortable winds from time to time during the winter and spring. These wind conditions are expected to be similar to existing, as both the existing connector and proposed Patient Transport Bridge are fairly aerodynamic structures and are not anticipated to strongly redirect wind flows at grade level.

Image 9 – Proposed Patient Transport Bridge (Top) and Existing Utilities Connection (Bottom). Photo Courtesty Bing™ Maps.

6. SUMMARY

The proposed Moakley Addition included several positive design features for wind control, including the use of a large canopy above the main entrance. Other buildings in the master plan, including the B1 New Inpatient Building (Phase 1) and the Patient Transport Bridge are not expected to change wind conditions throughout the area due to relatively minor changes in building massing. Although the site is generally exposed to prevailing winds, the proposed developments are expected to meet the effective gust criterion. In addition, suitable wind conditions are predicted on an annual basis around much of the site, included where main entrances and sidewalks are located.

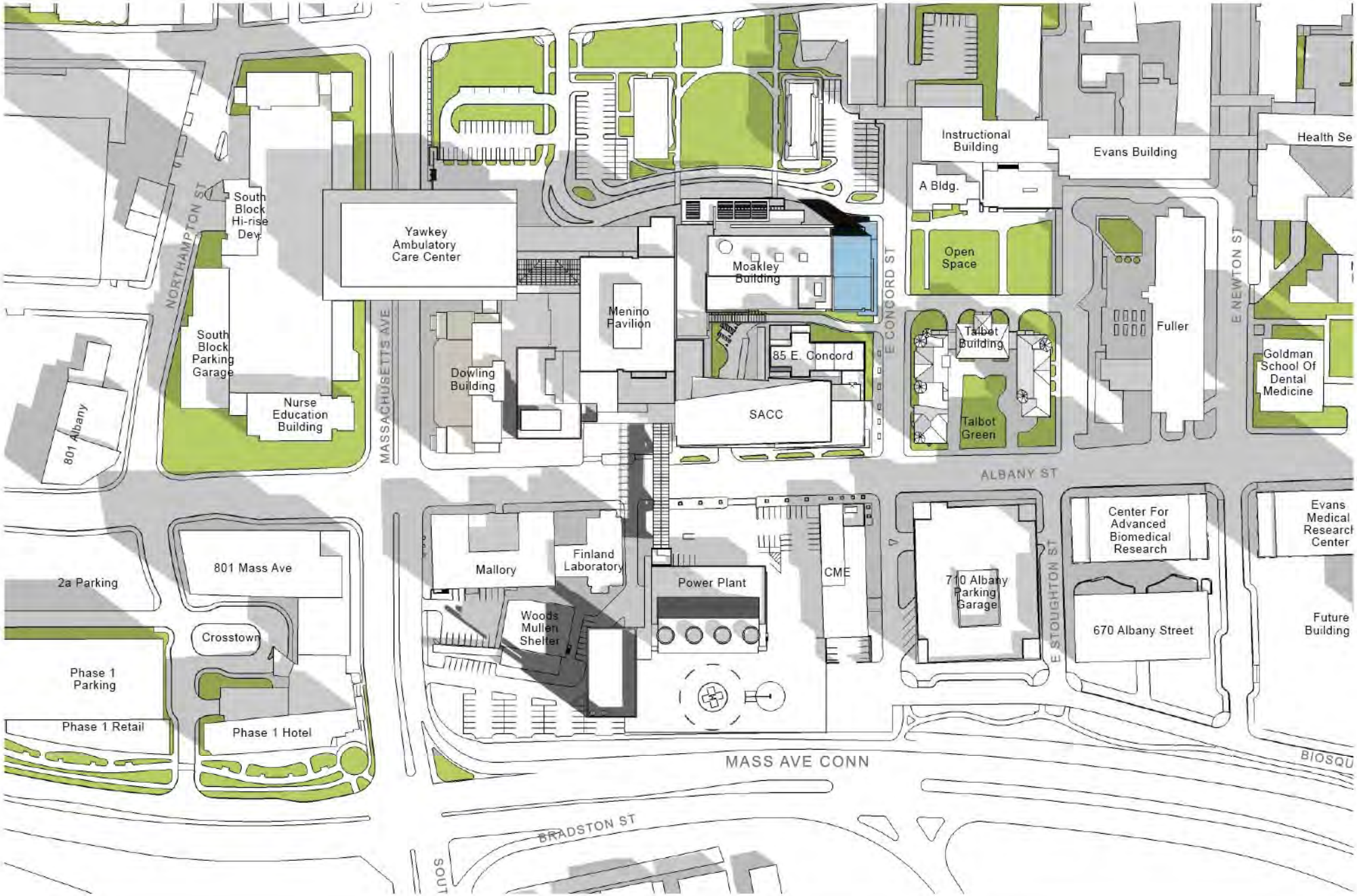
7. APPLICABILITY OF RESULTS

In the event of any significant changes to the design, construction or operation of the building or addition of surroundings in the future, RWDI could provide an assessment of their impact on the design considered in this report. It is the responsibility of others to contact RWDI to initiate this process.

Appendix C

Shadow Study - March 21 9am

April 26, 2013



BOSTON MEDICAL CENTER
EXCEPTIONAL CARE. WITHOUT EXCEPTION.

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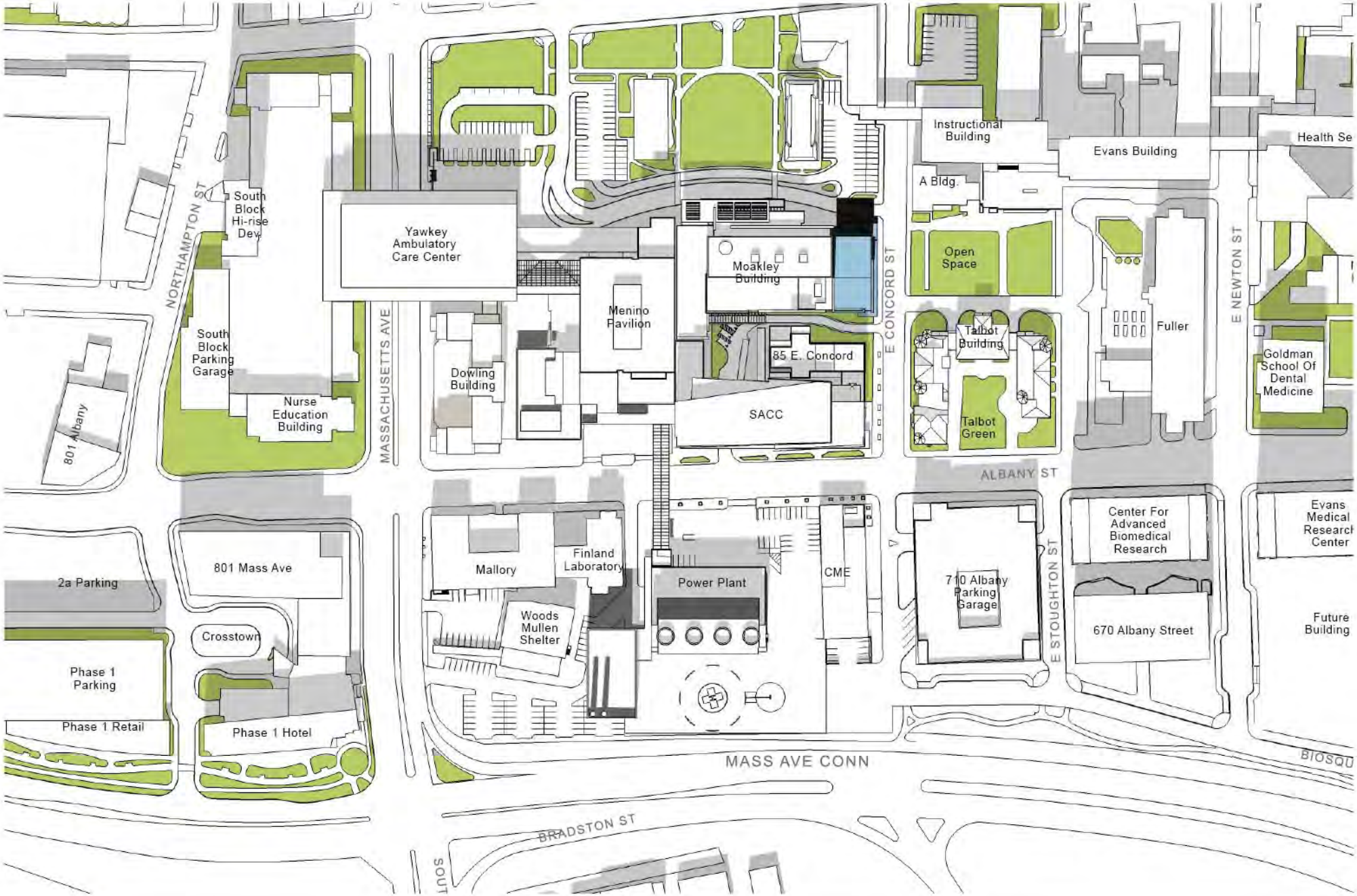
Shadow Study - March 21 12pm

April 26, 2013



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Shadow Study - March 21 3pm

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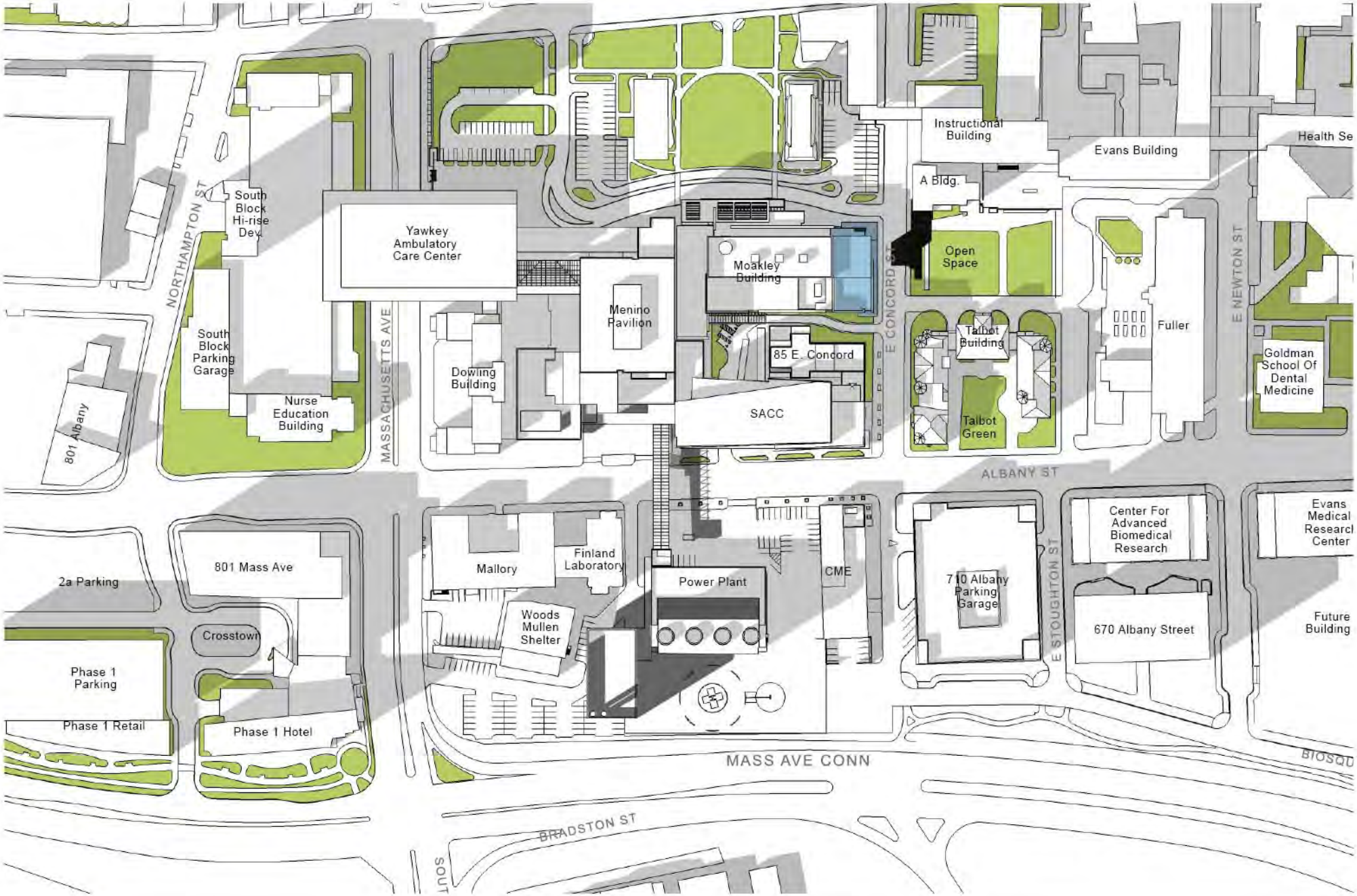

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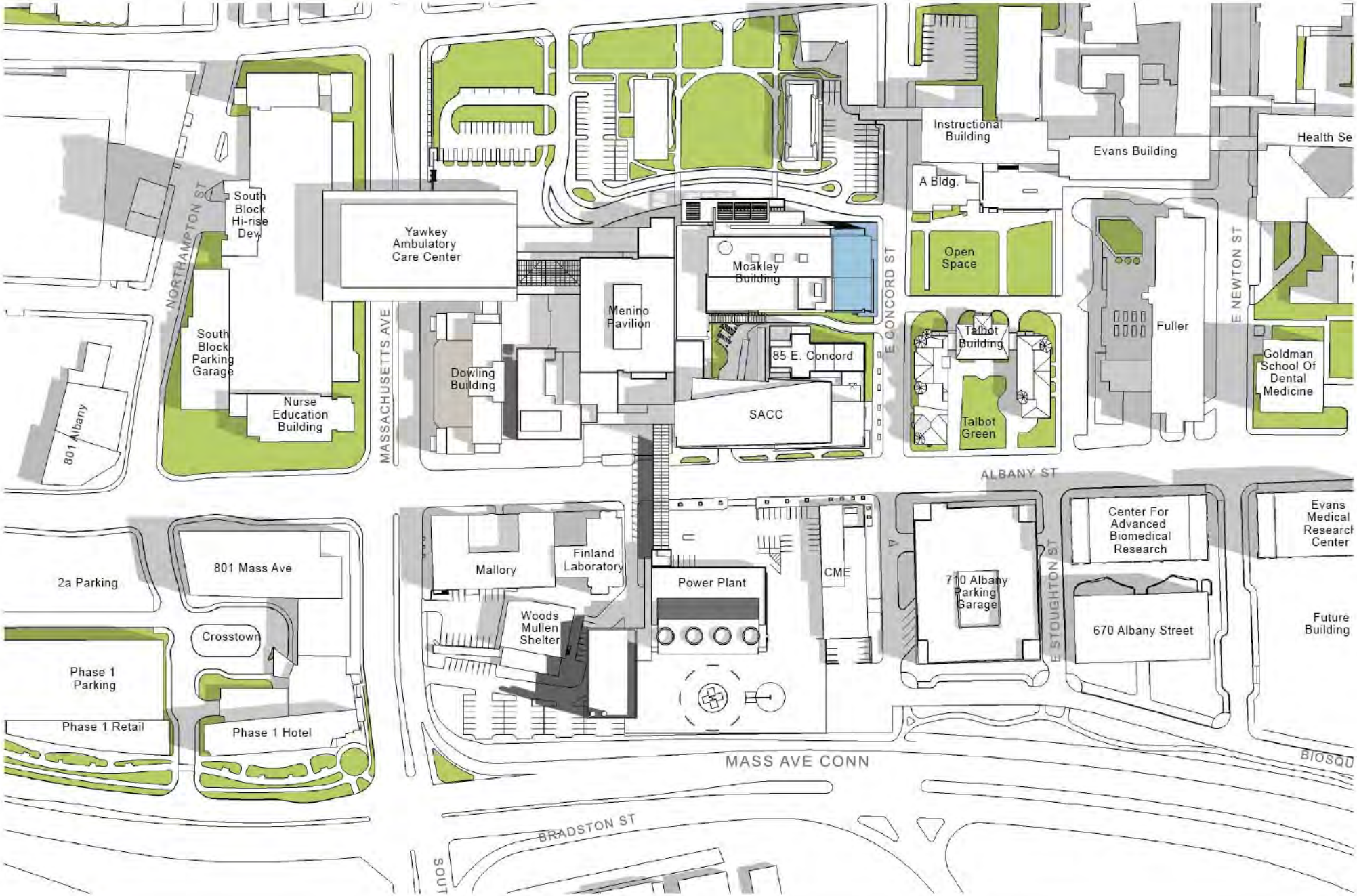
Shadow Study - June 21 9am

April 26, 2013



BOSTON MEDICAL CENTER
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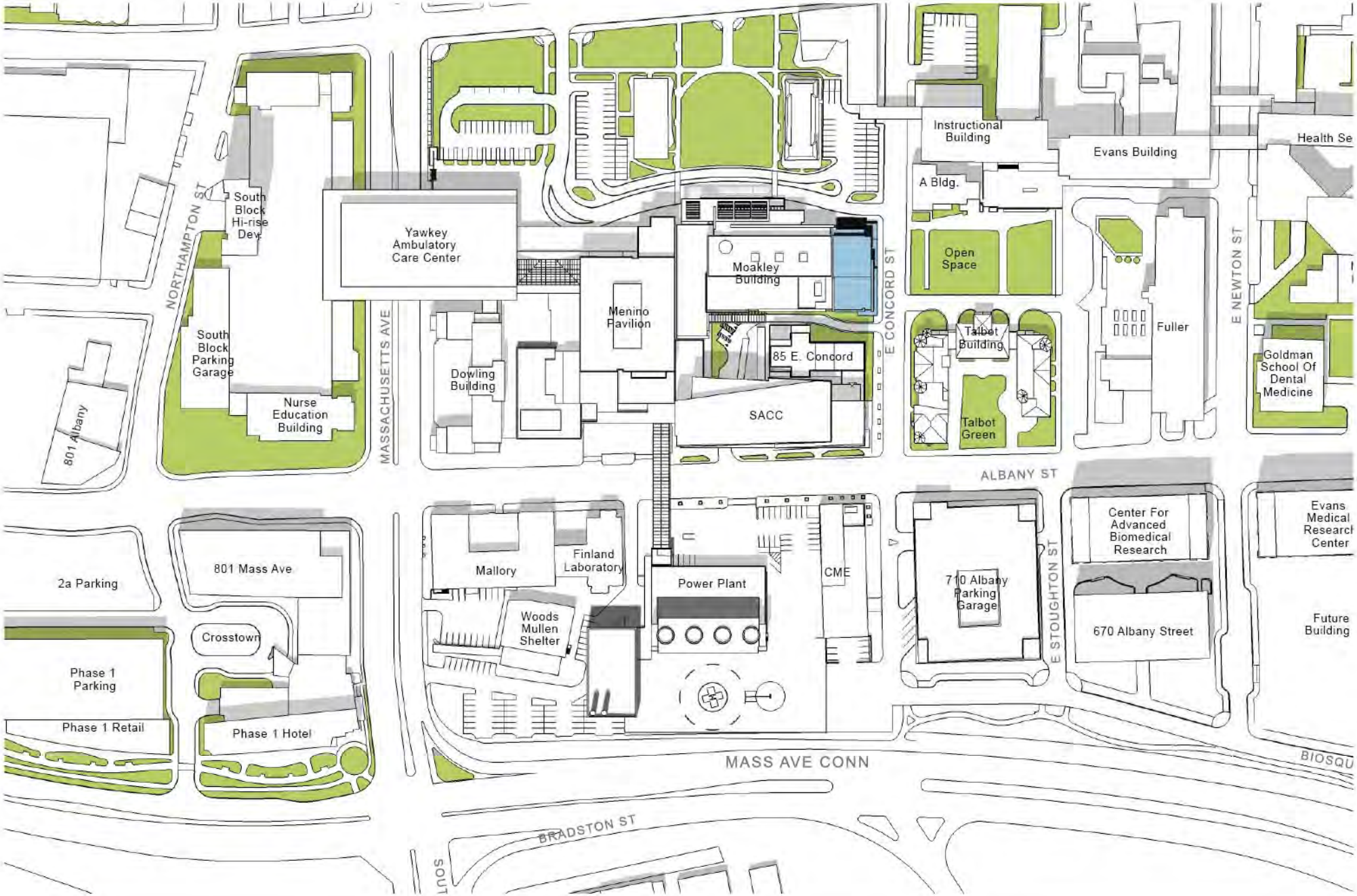
Shadow Study - June 21 12pm

April 26, 2013



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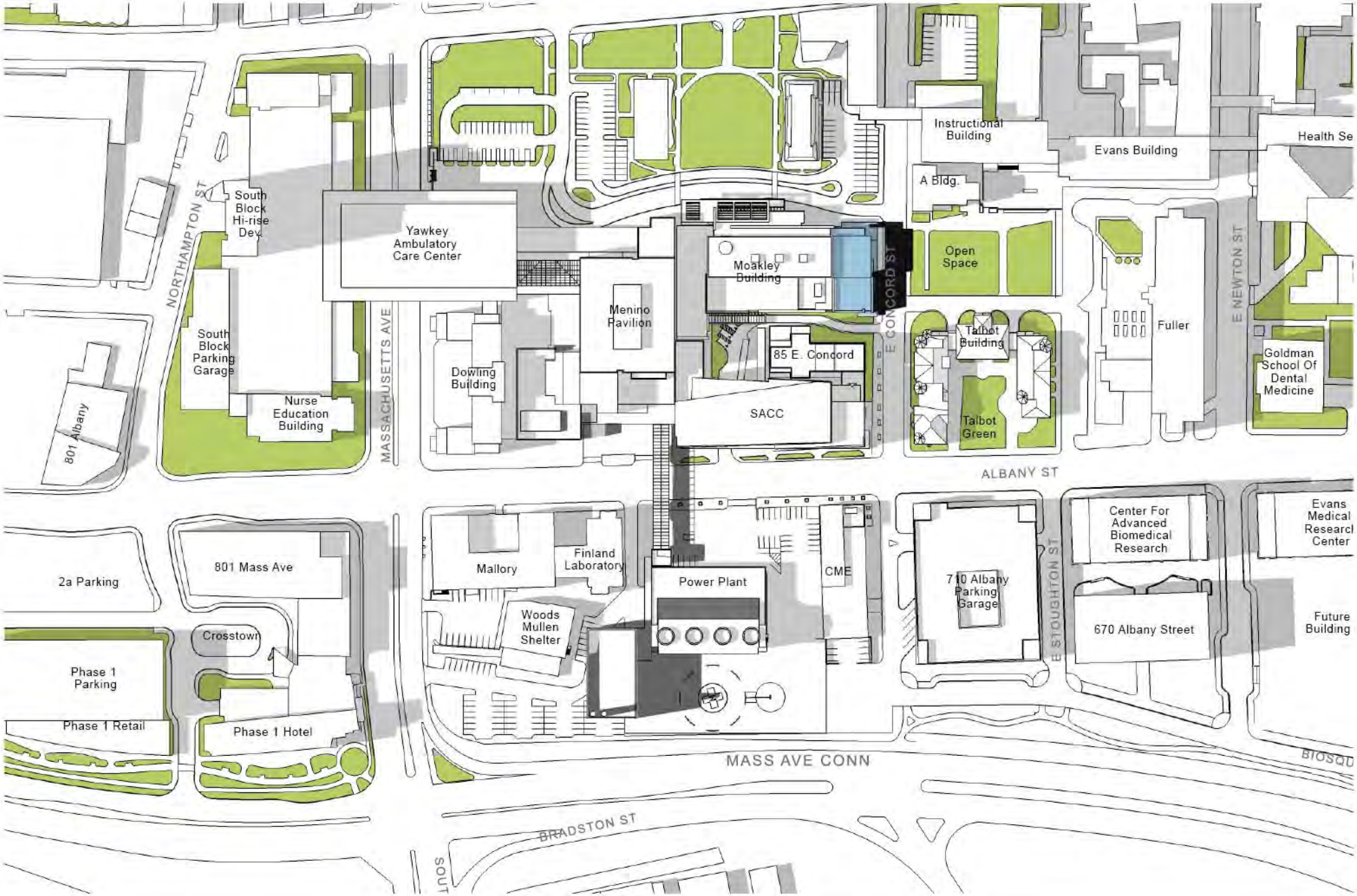

BOSTON MEDICAL CENTER
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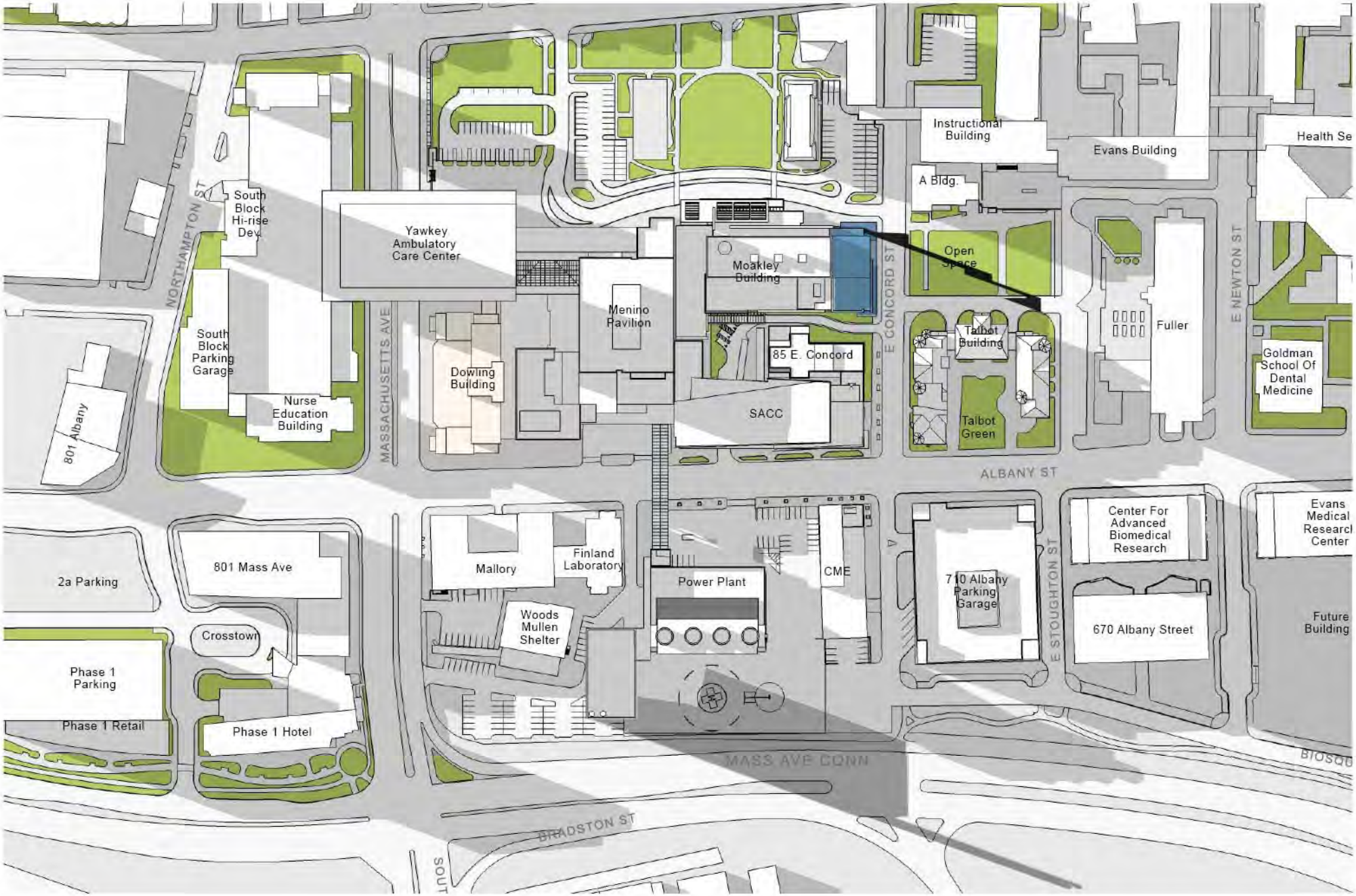
Shadow Study - June 21 6pm

April 26, 2013



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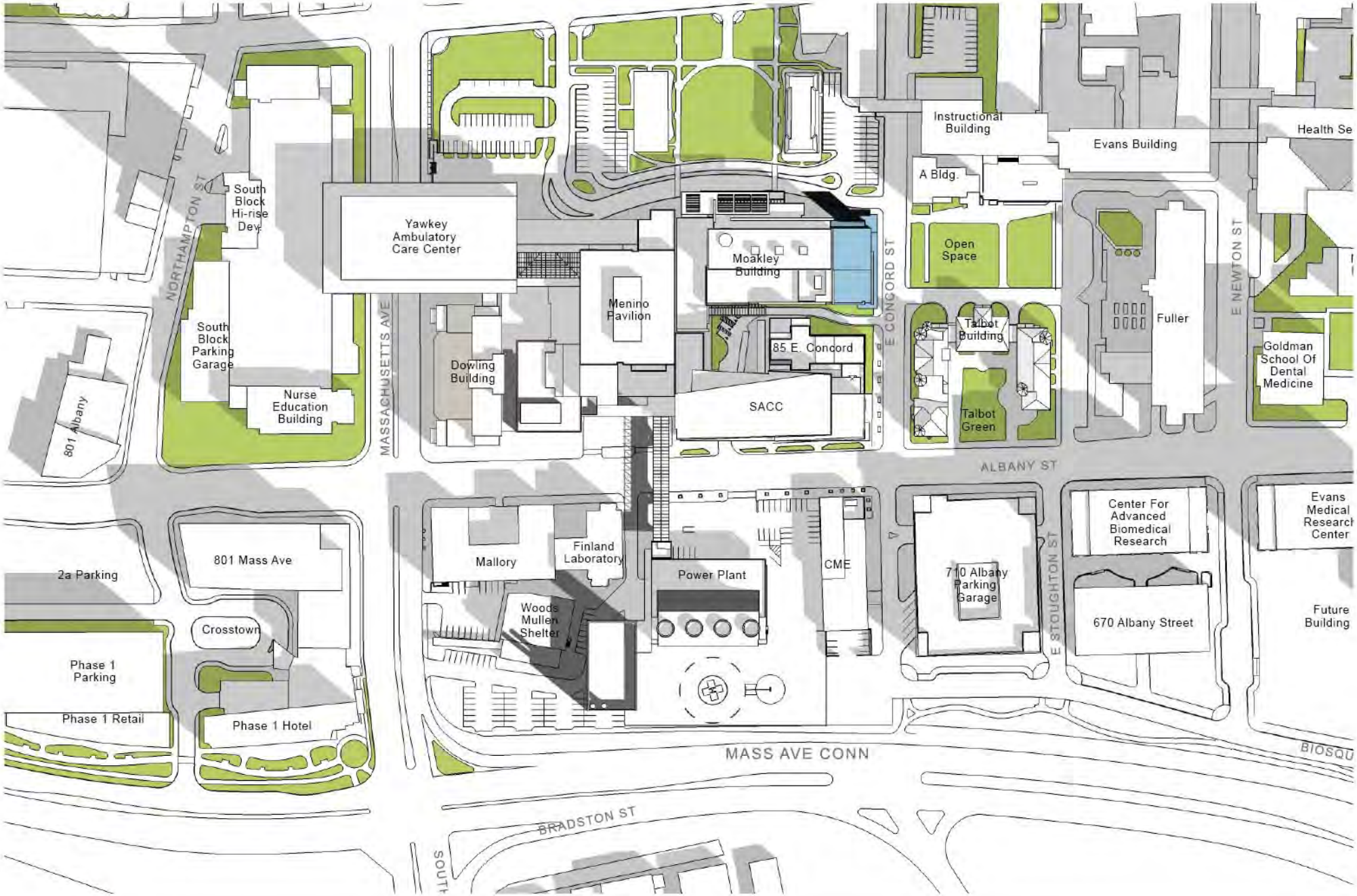
Shadow Study - September 21 9am

April 26, 2013



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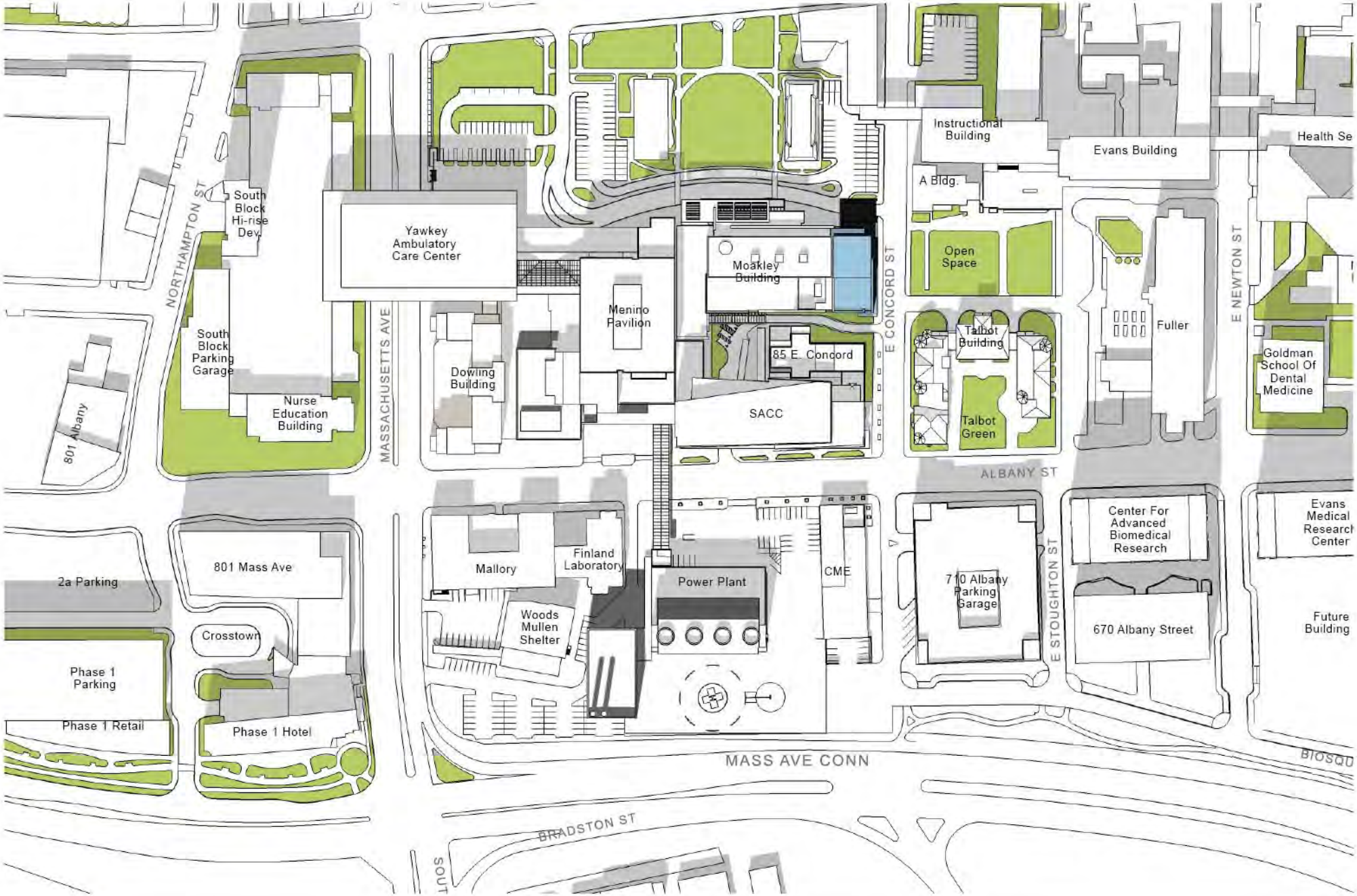
Shadow Study - September 21 12pm

April 26, 2013



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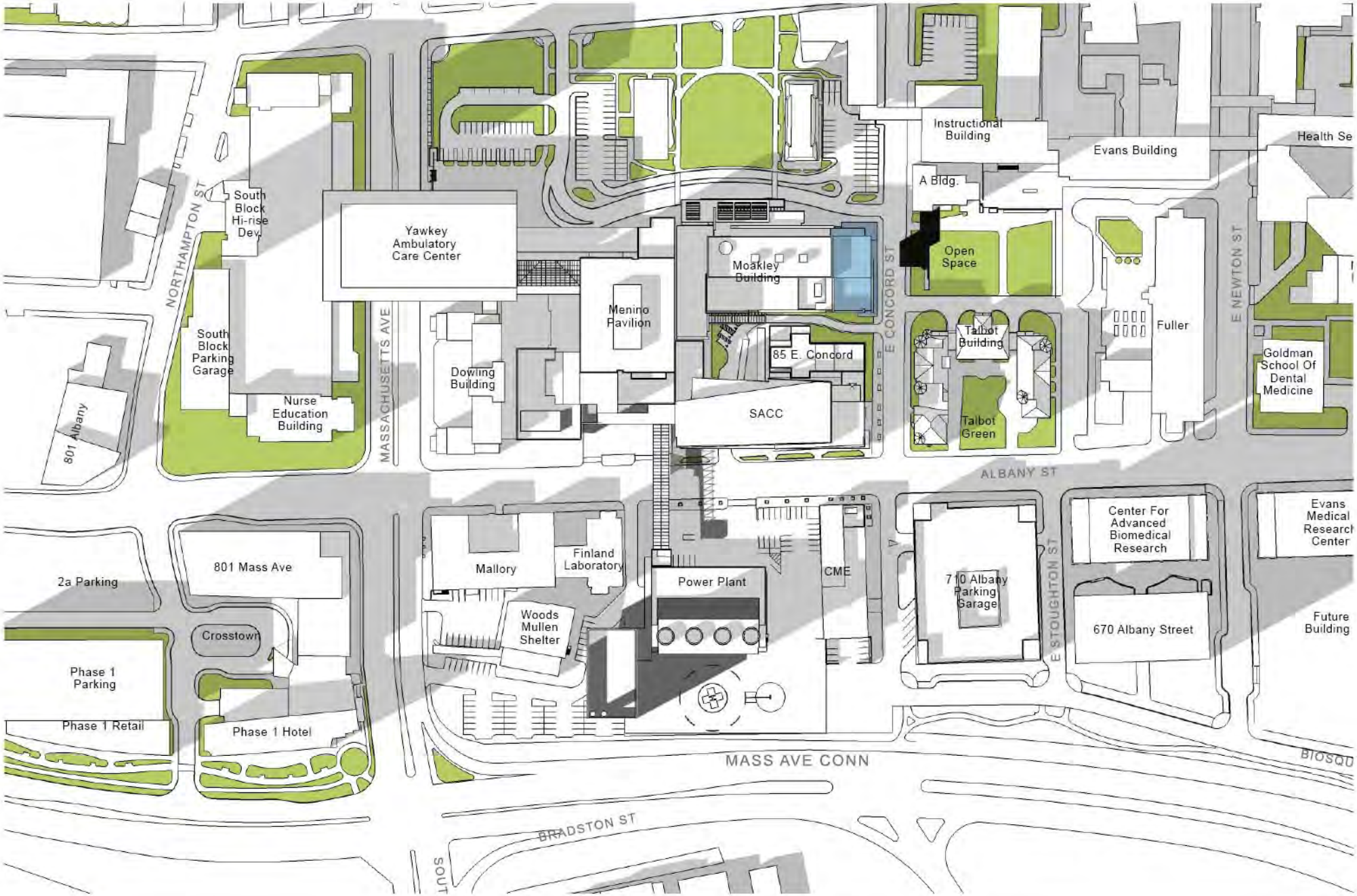

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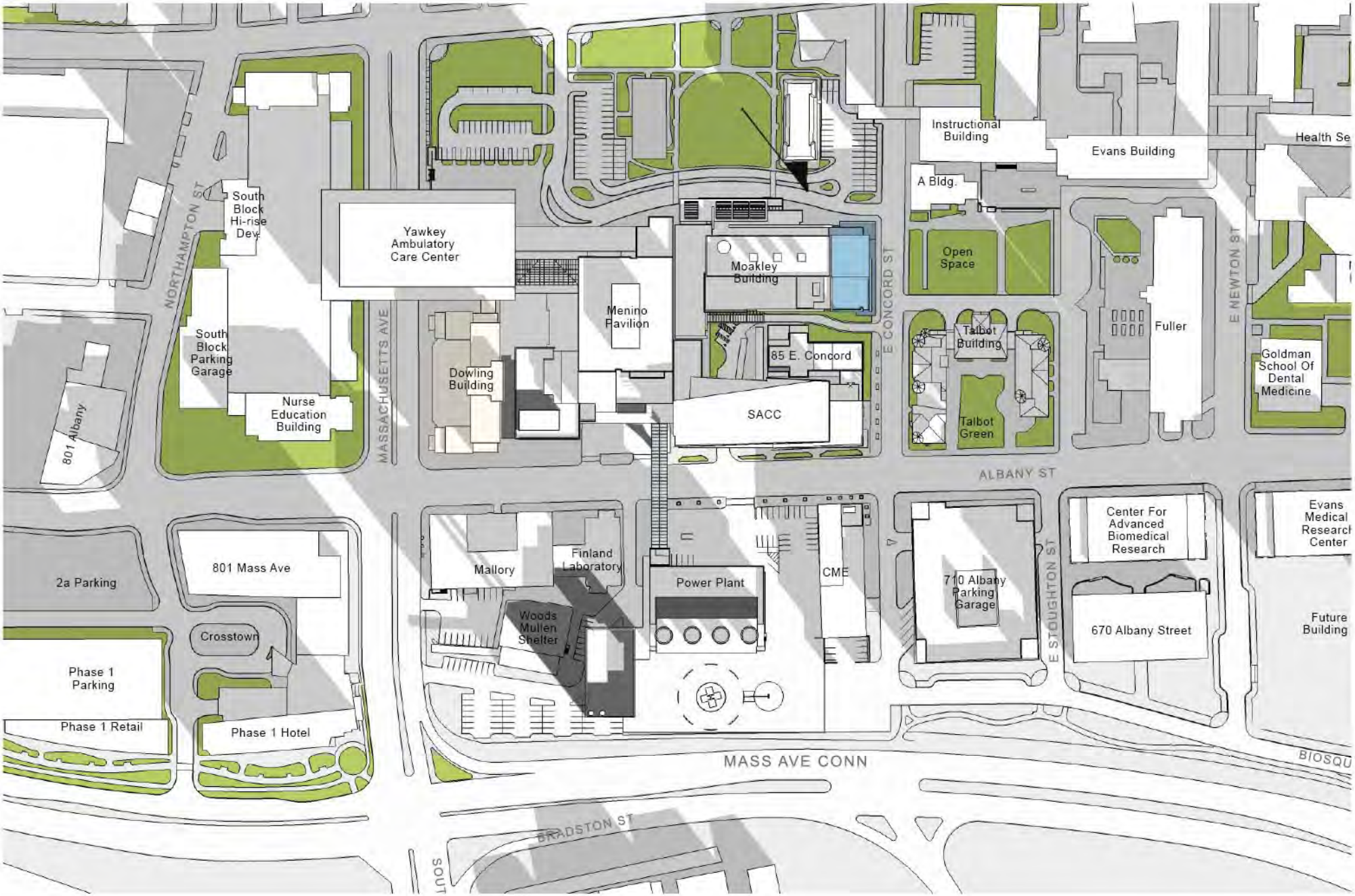

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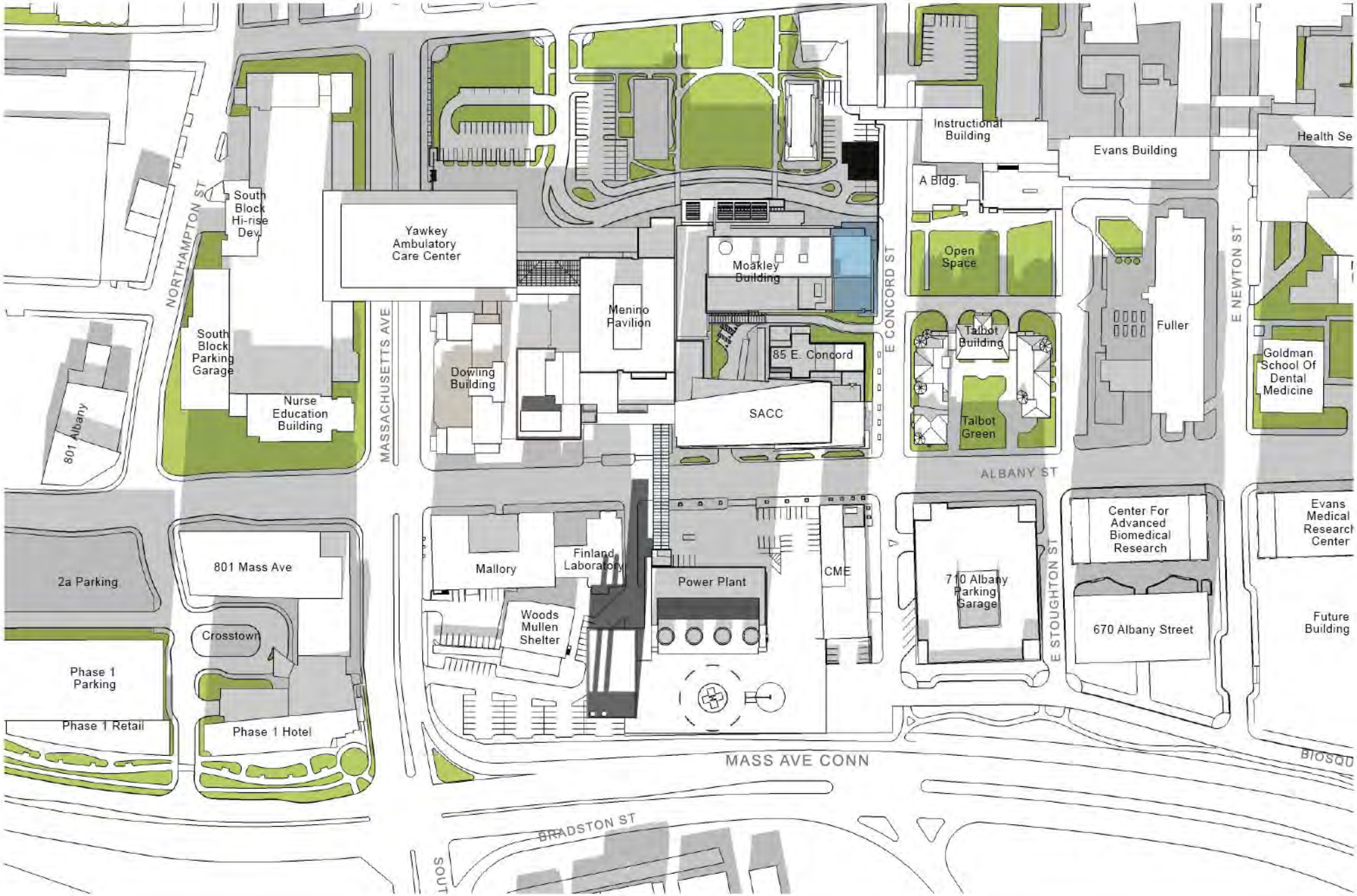

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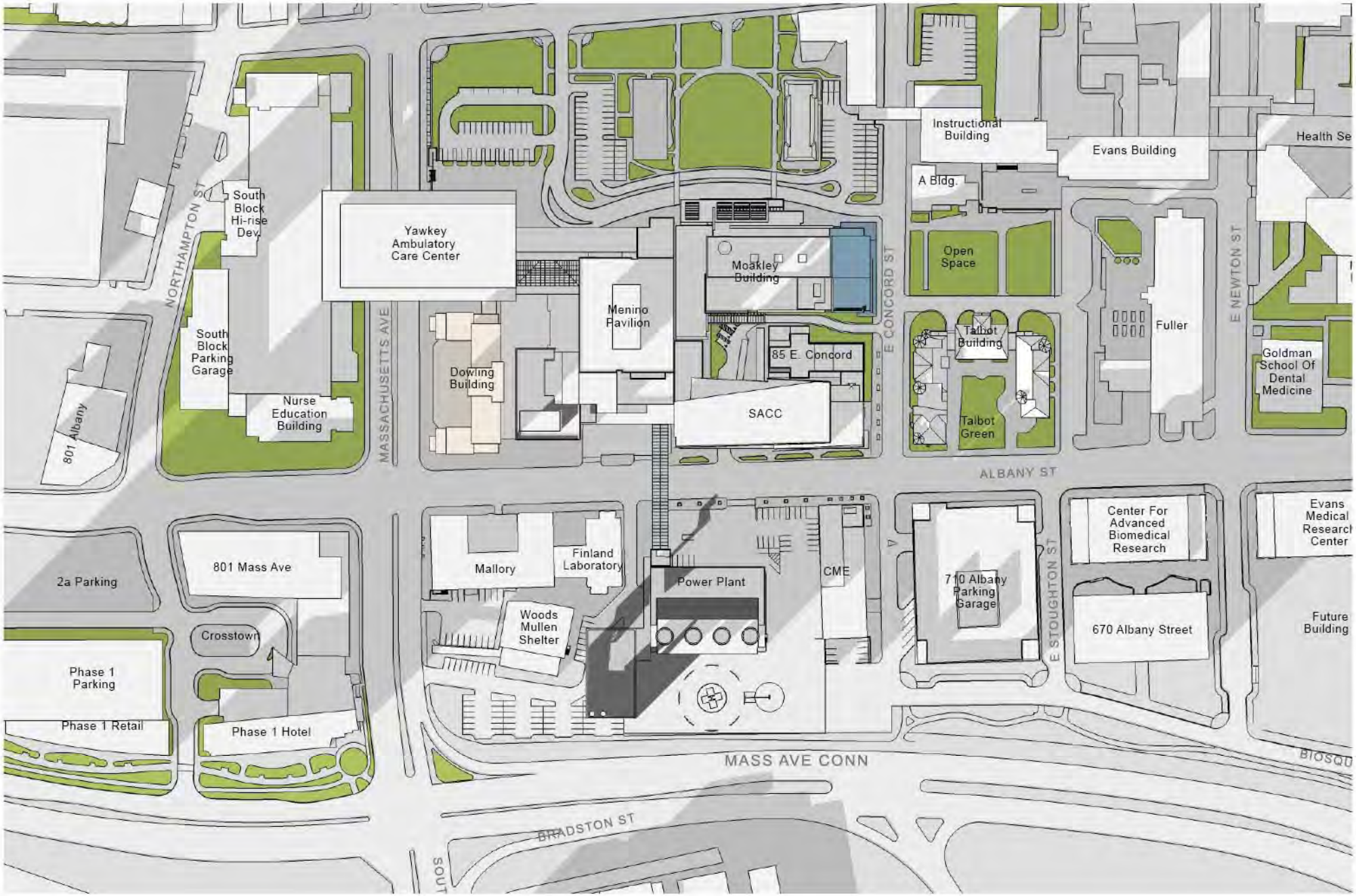

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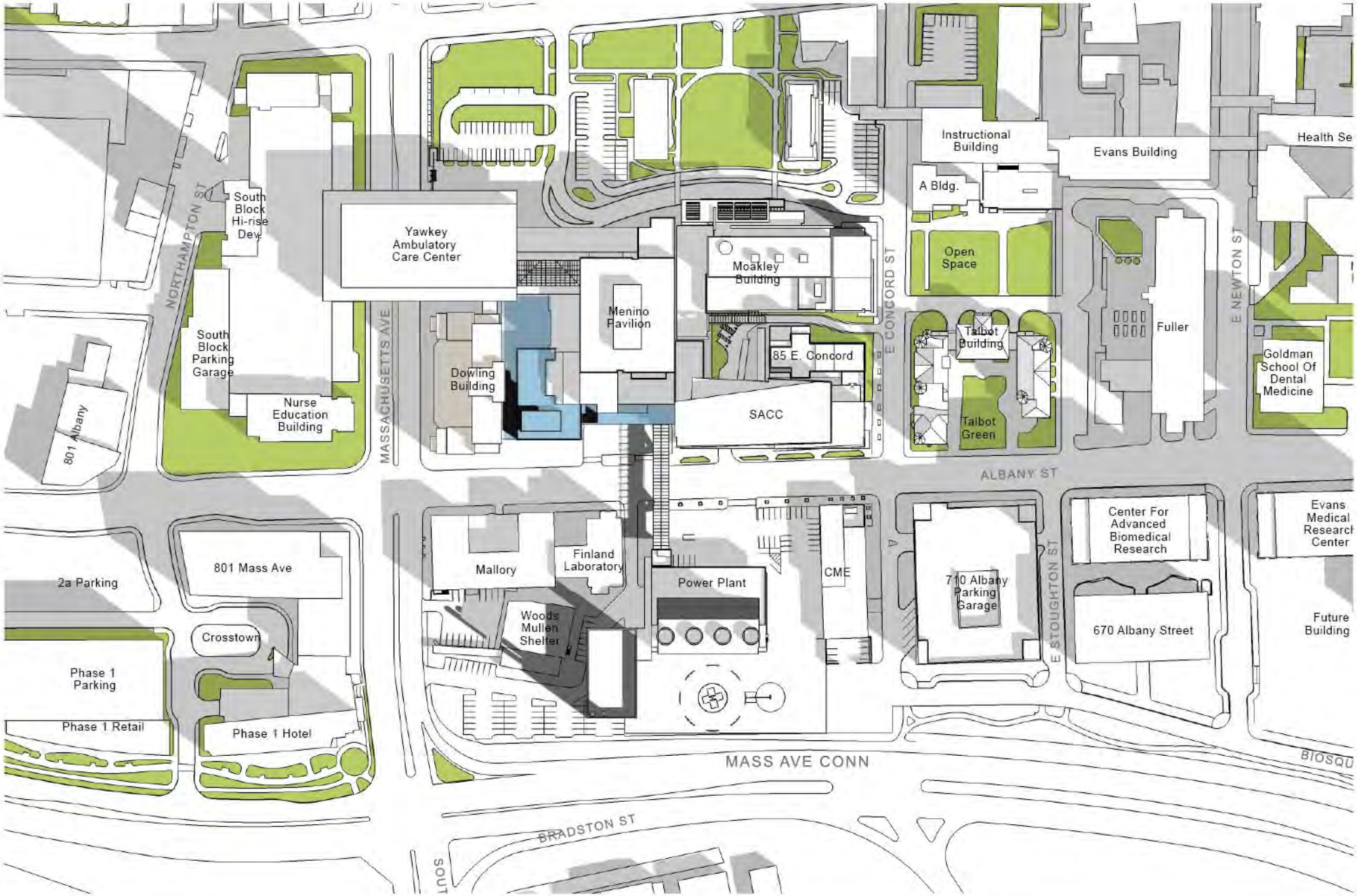

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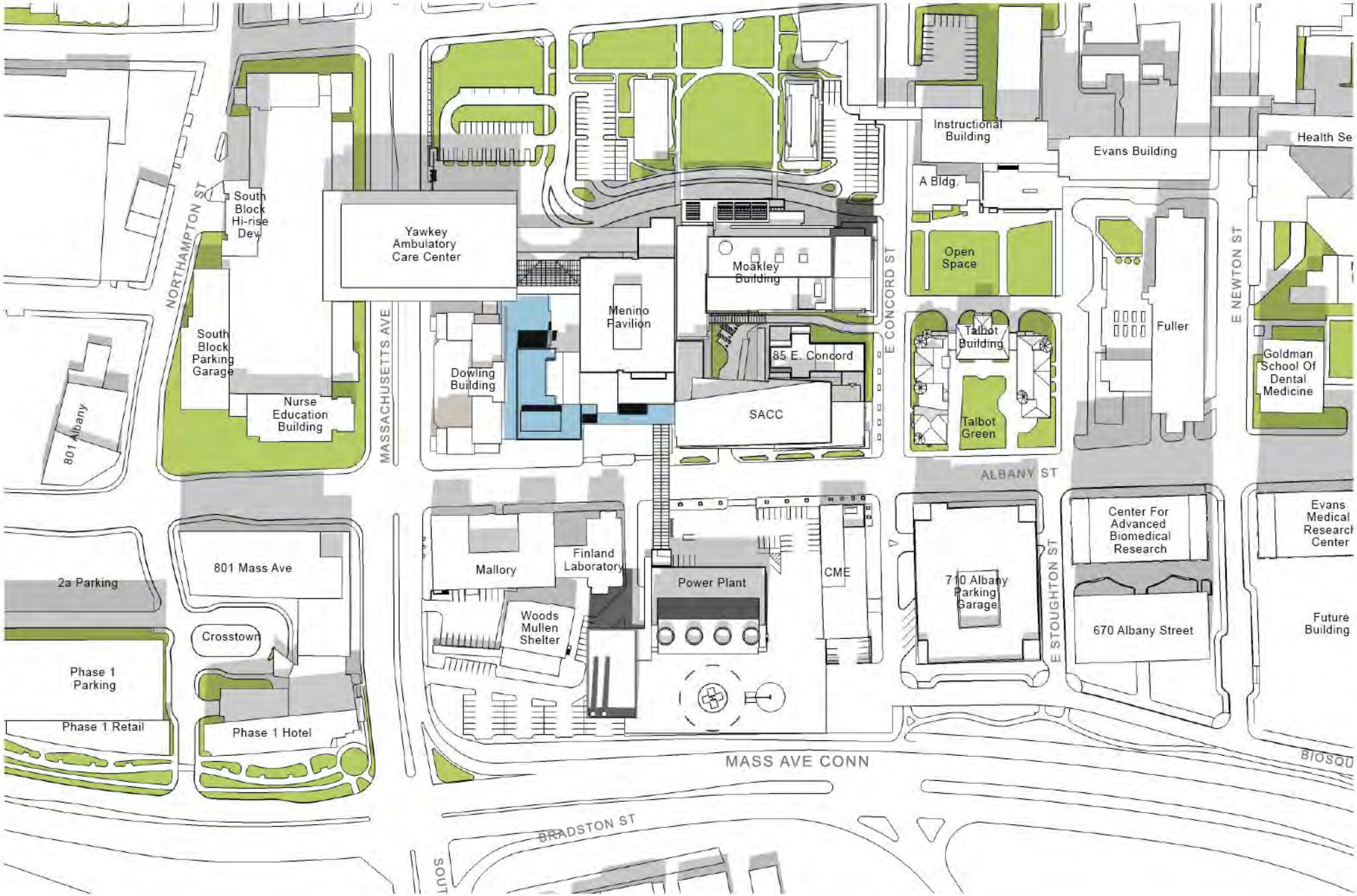

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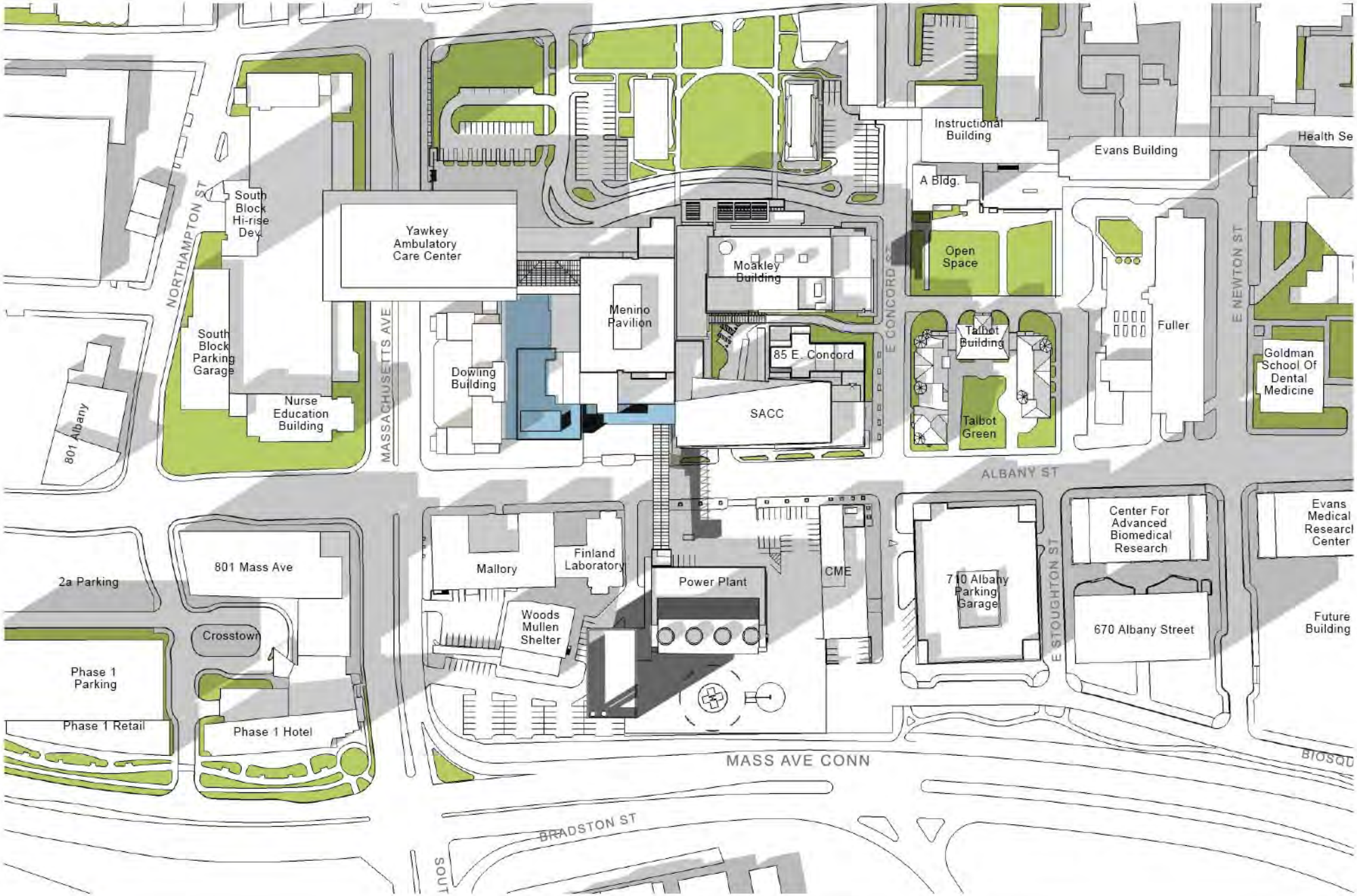

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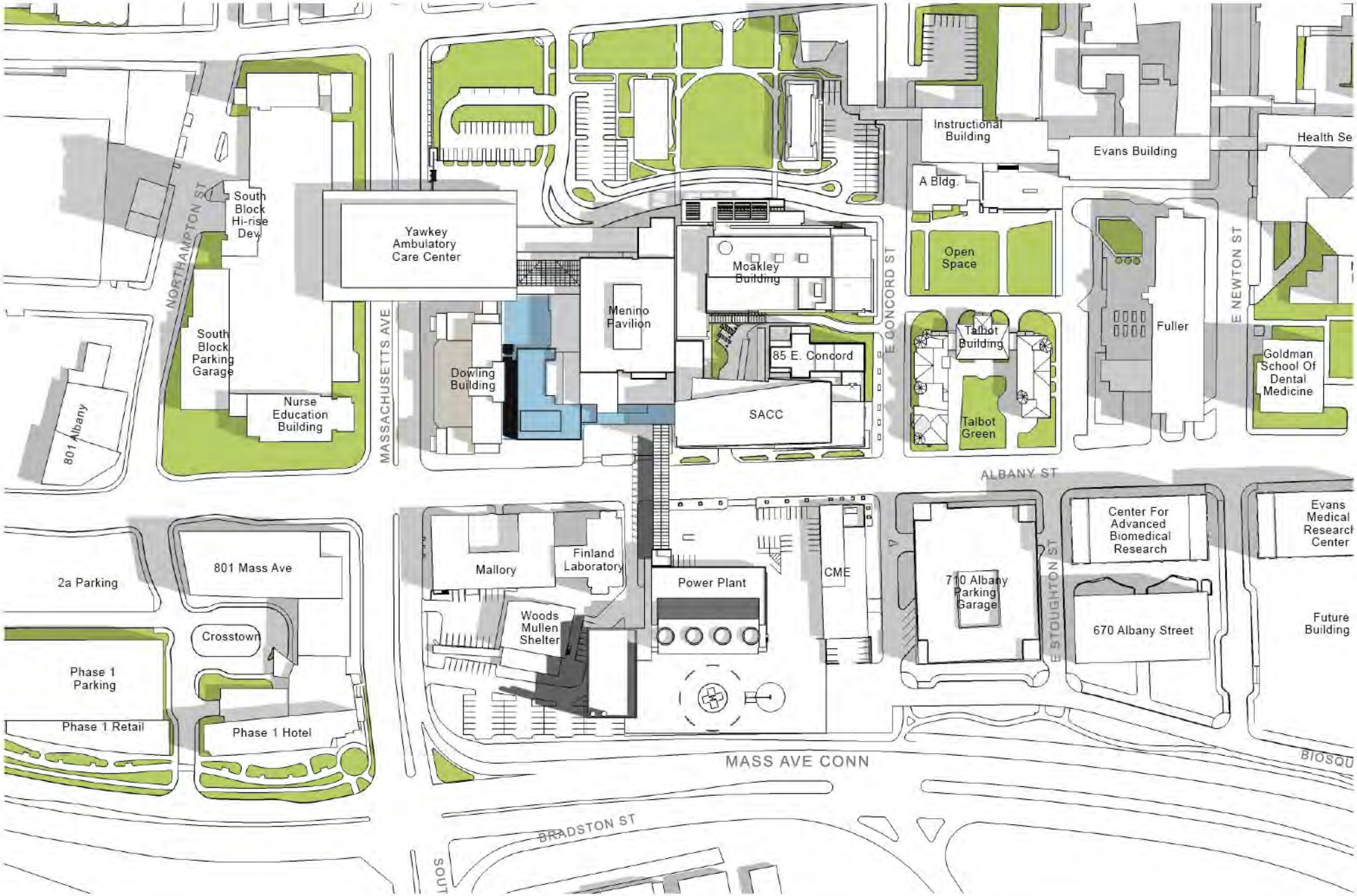

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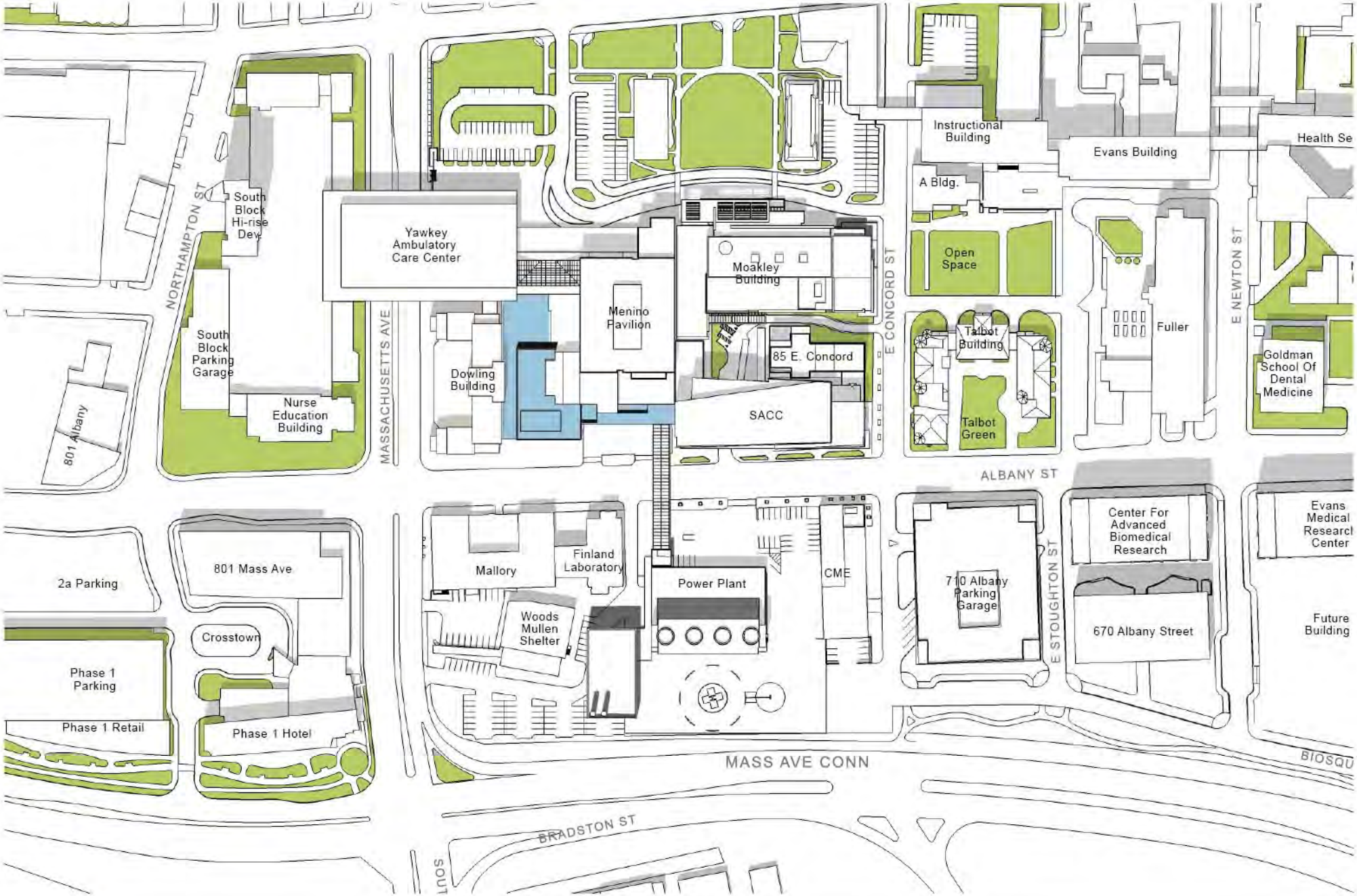

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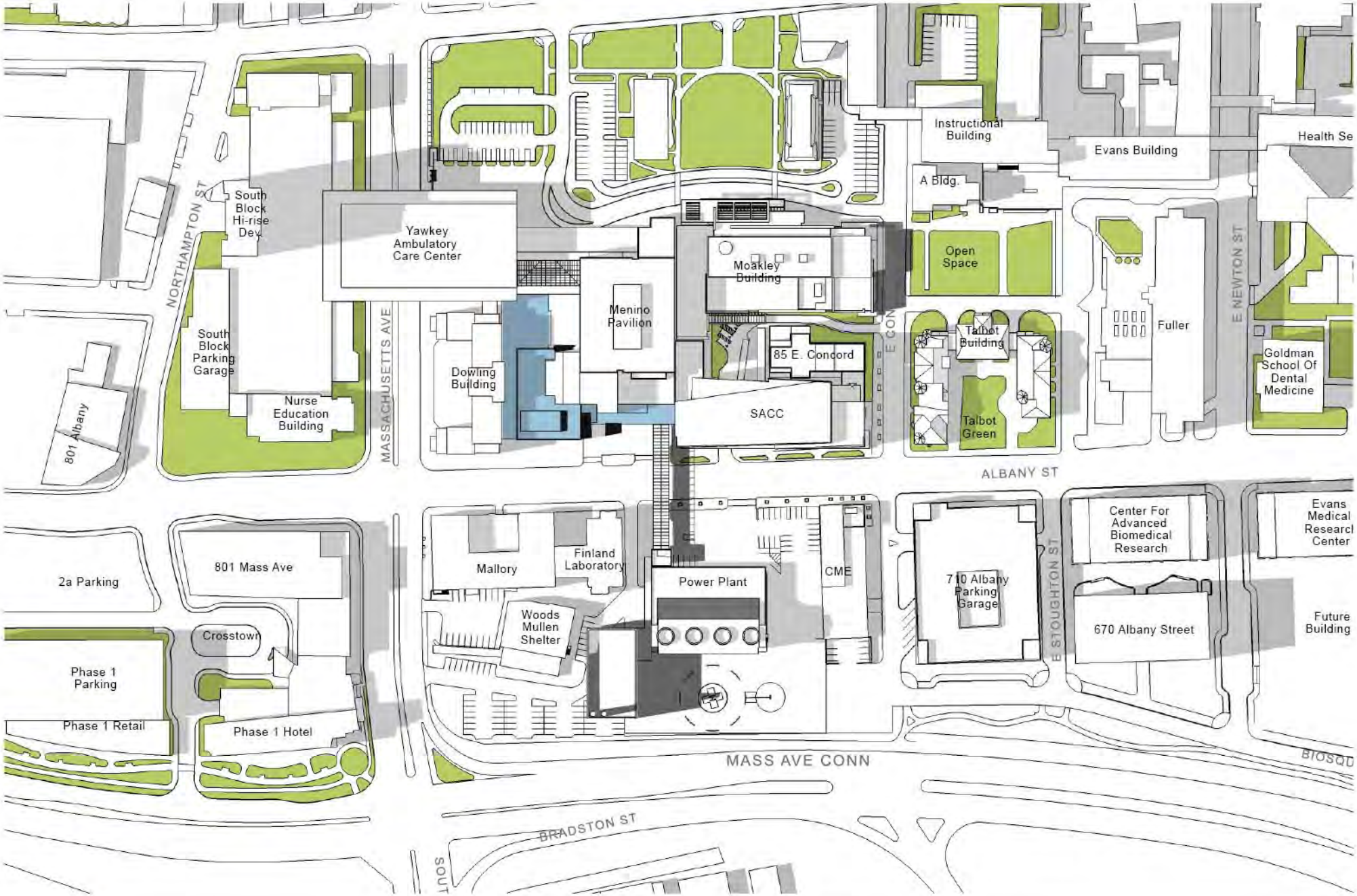

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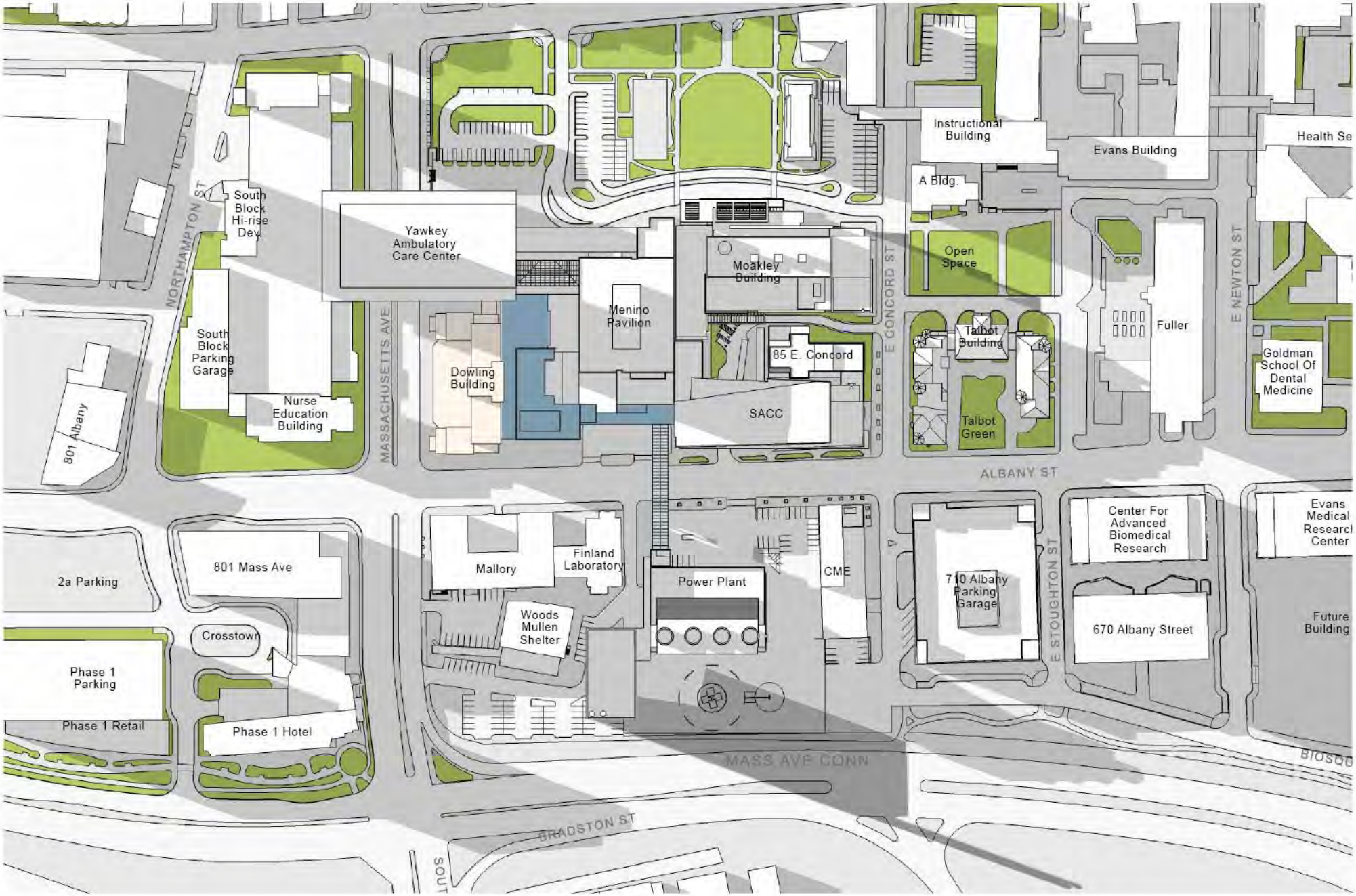

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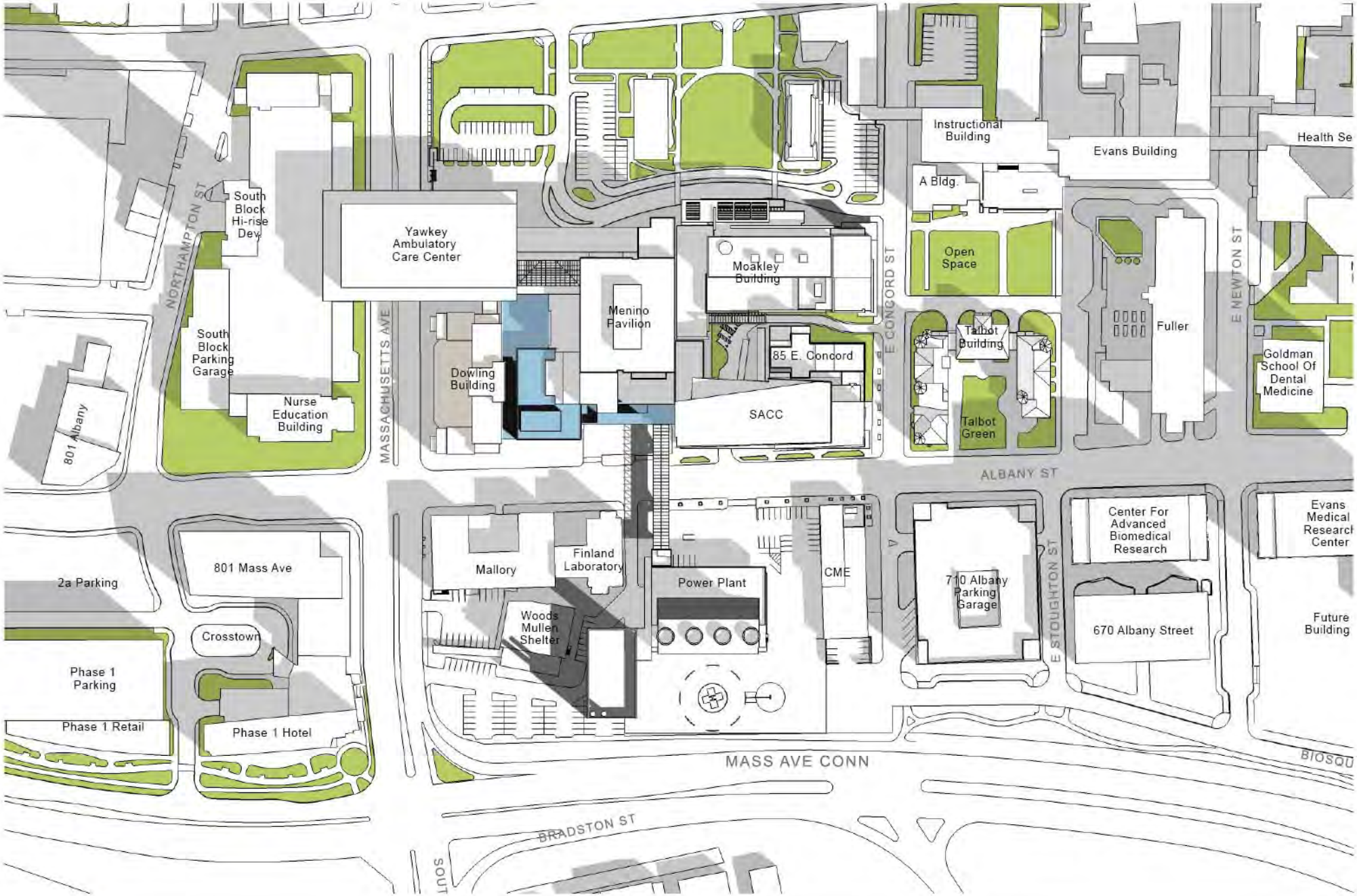

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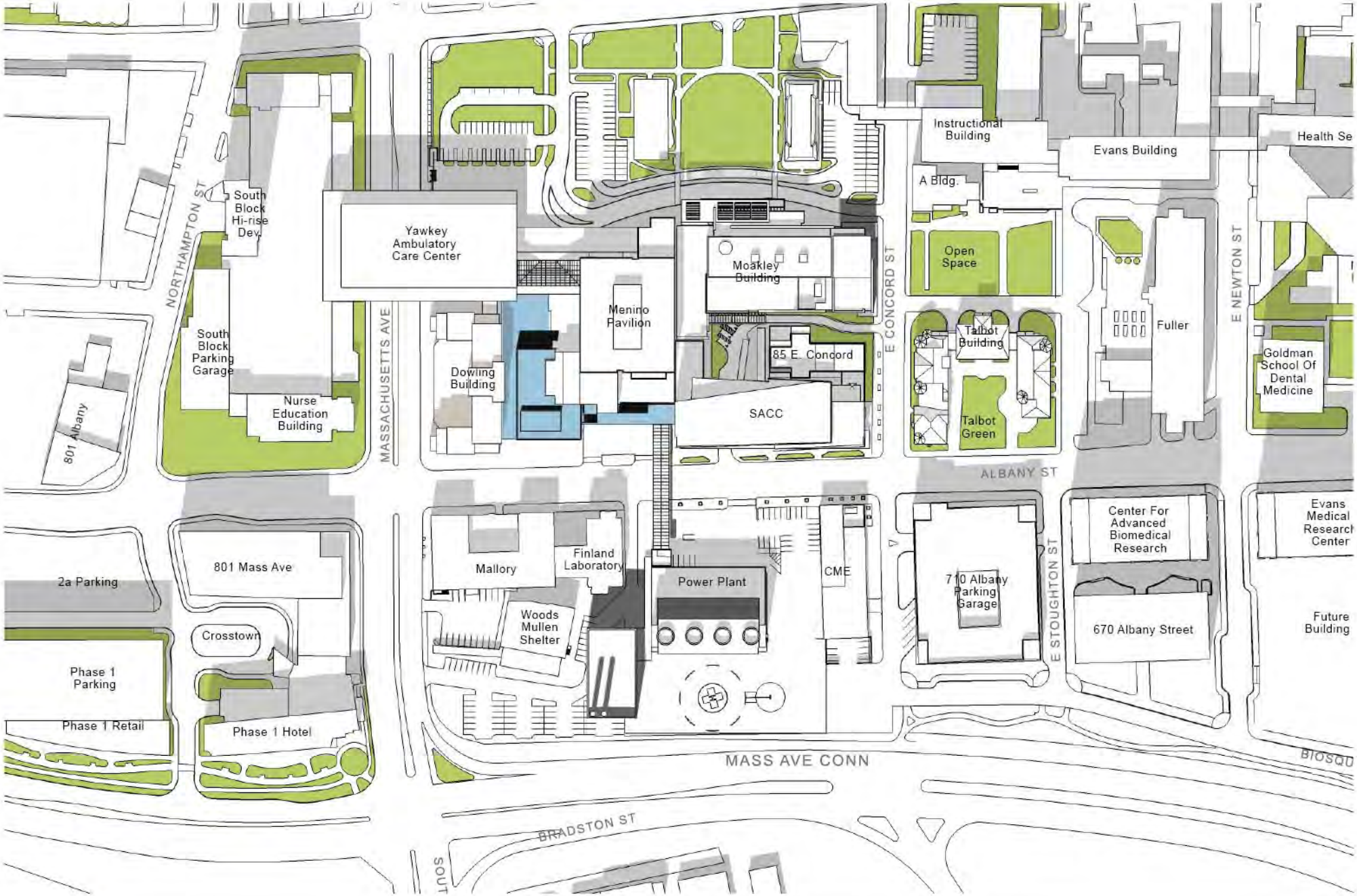

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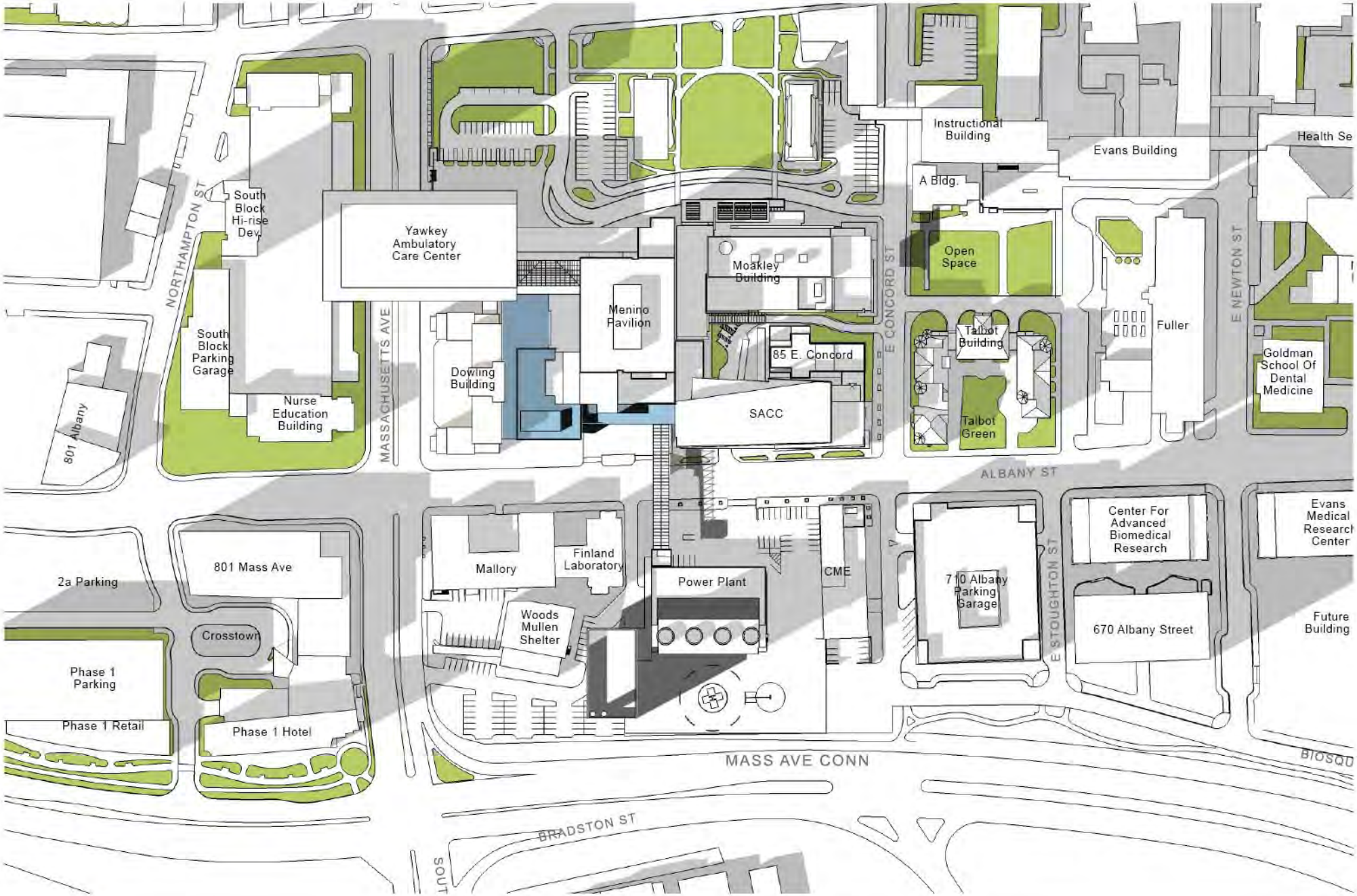

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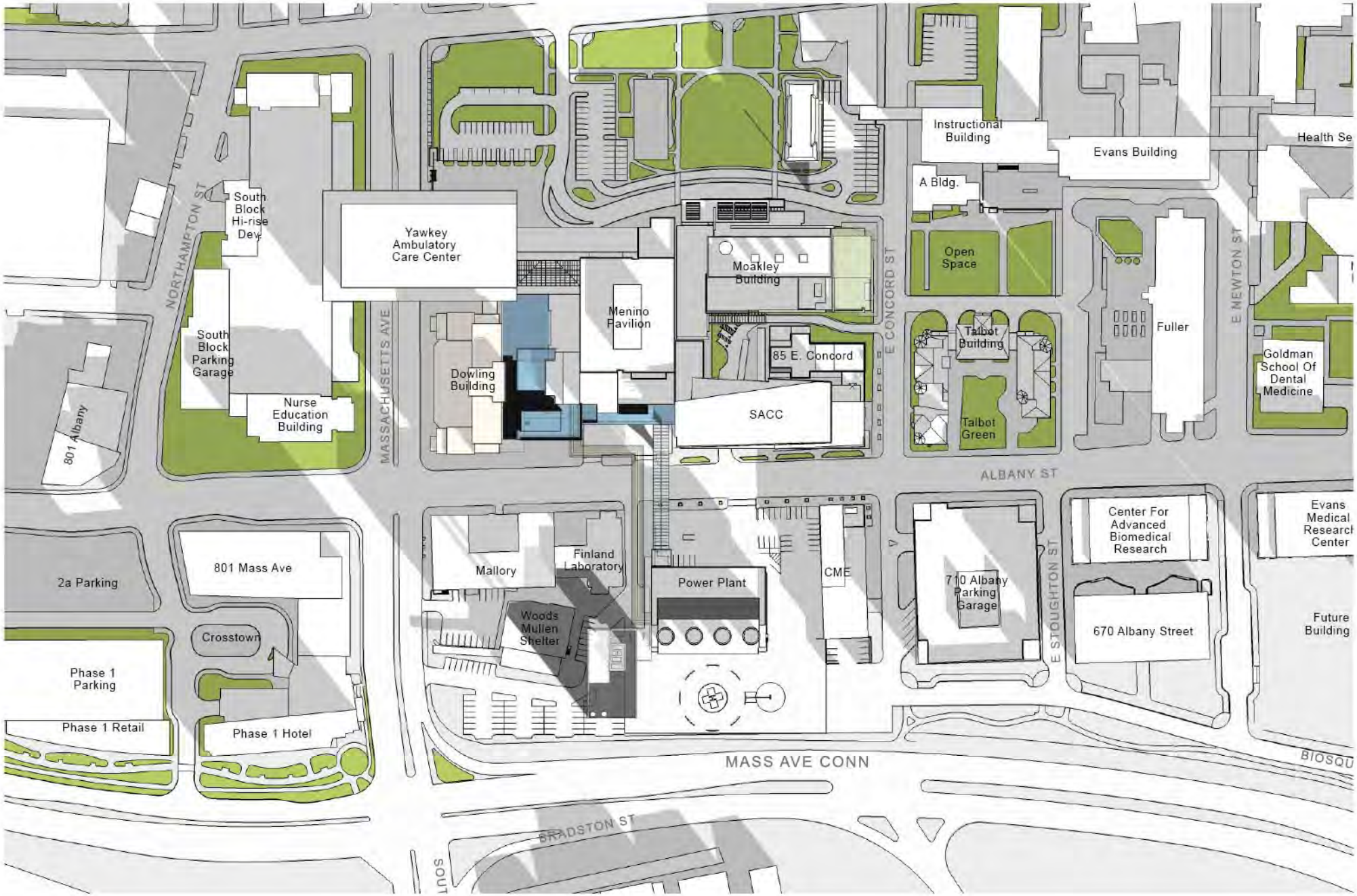

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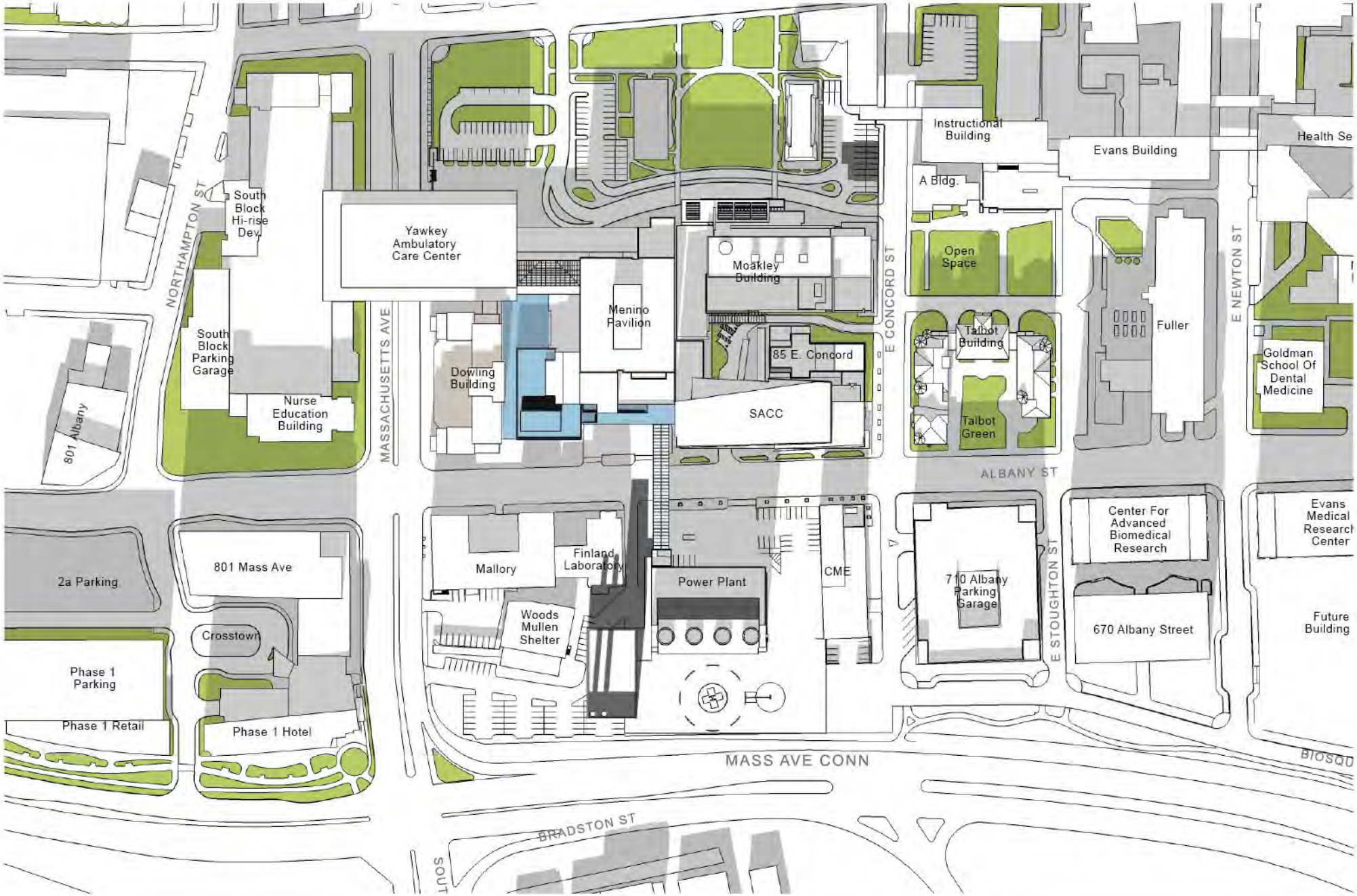

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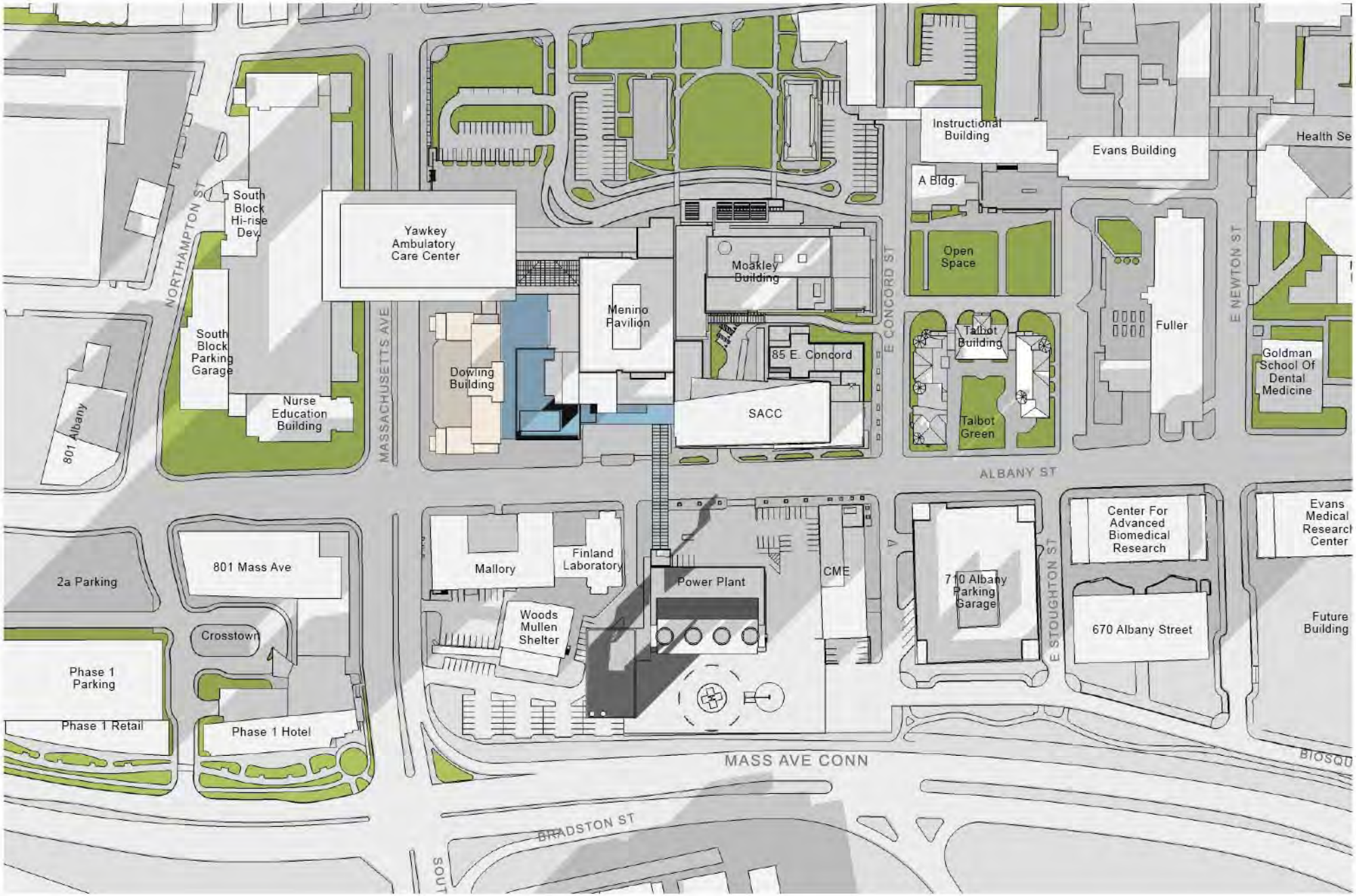

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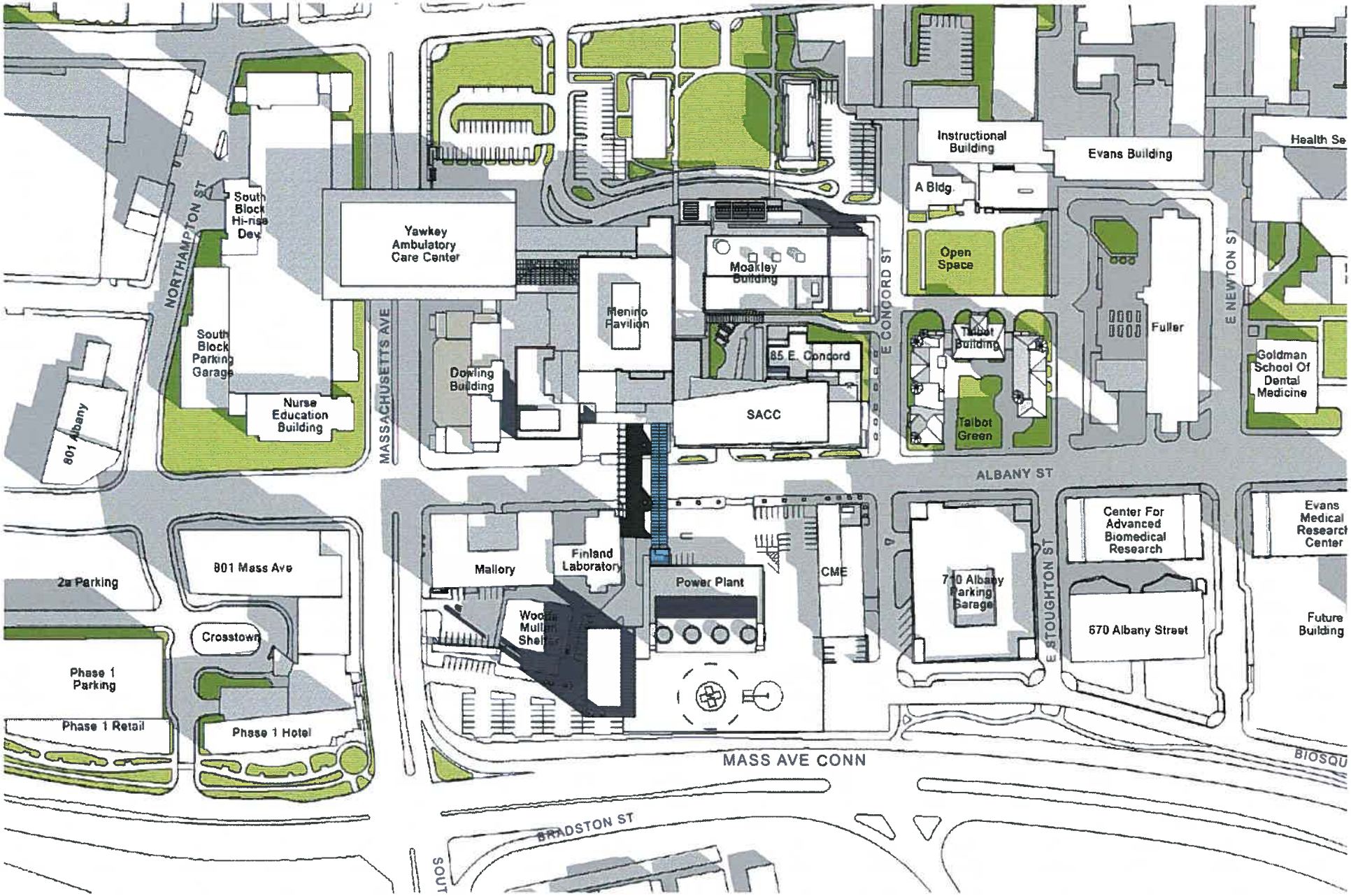

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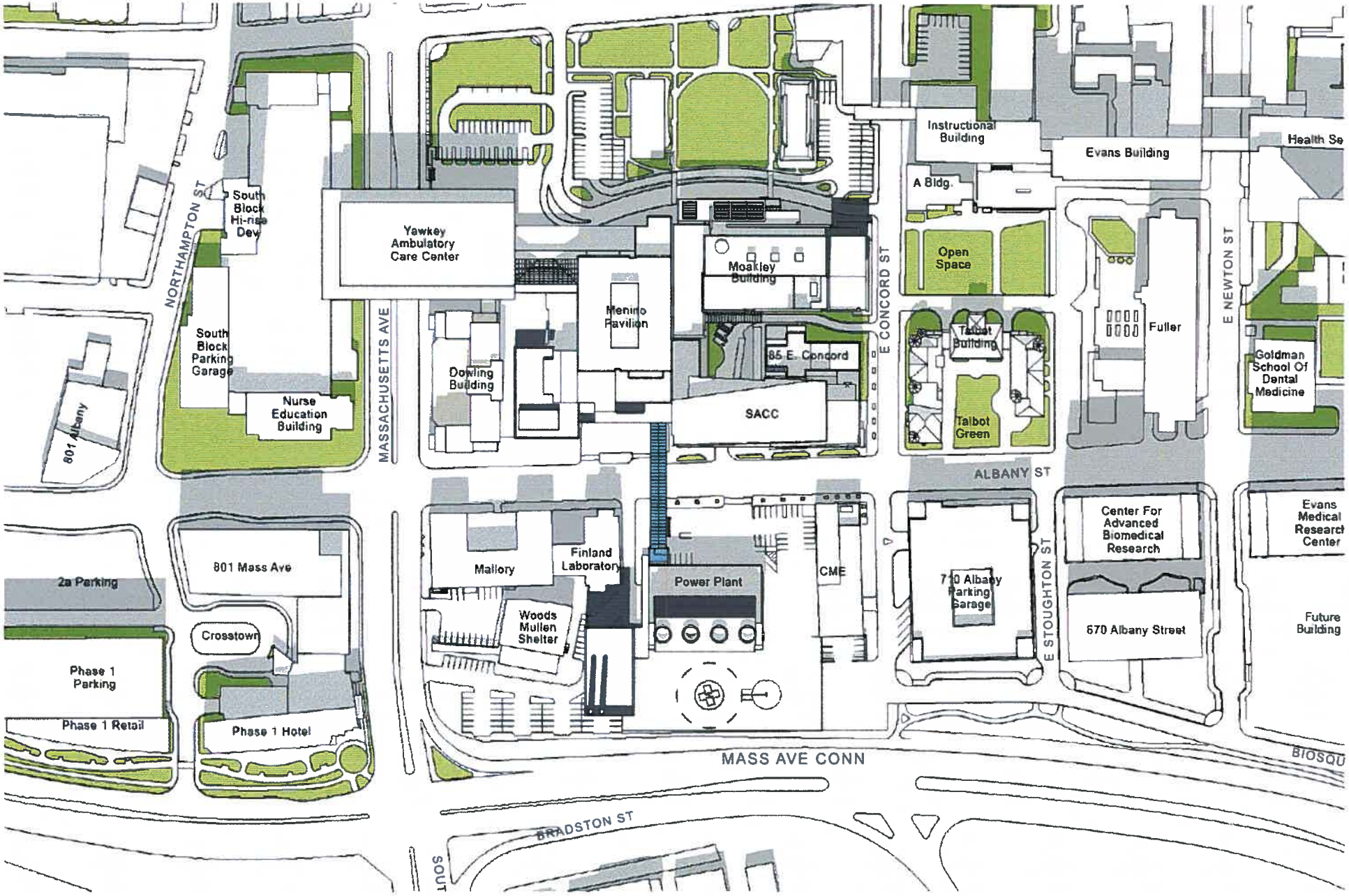

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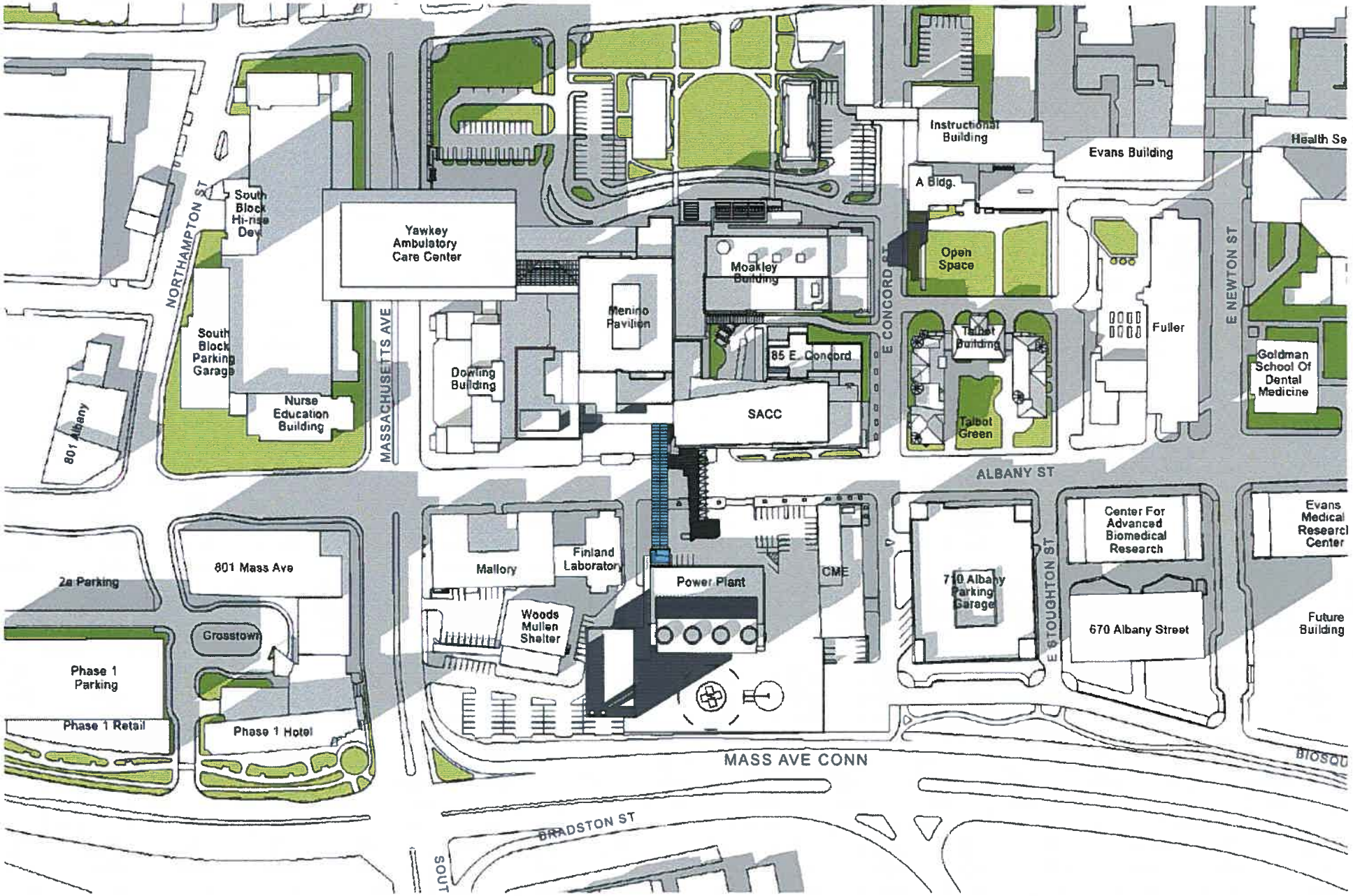

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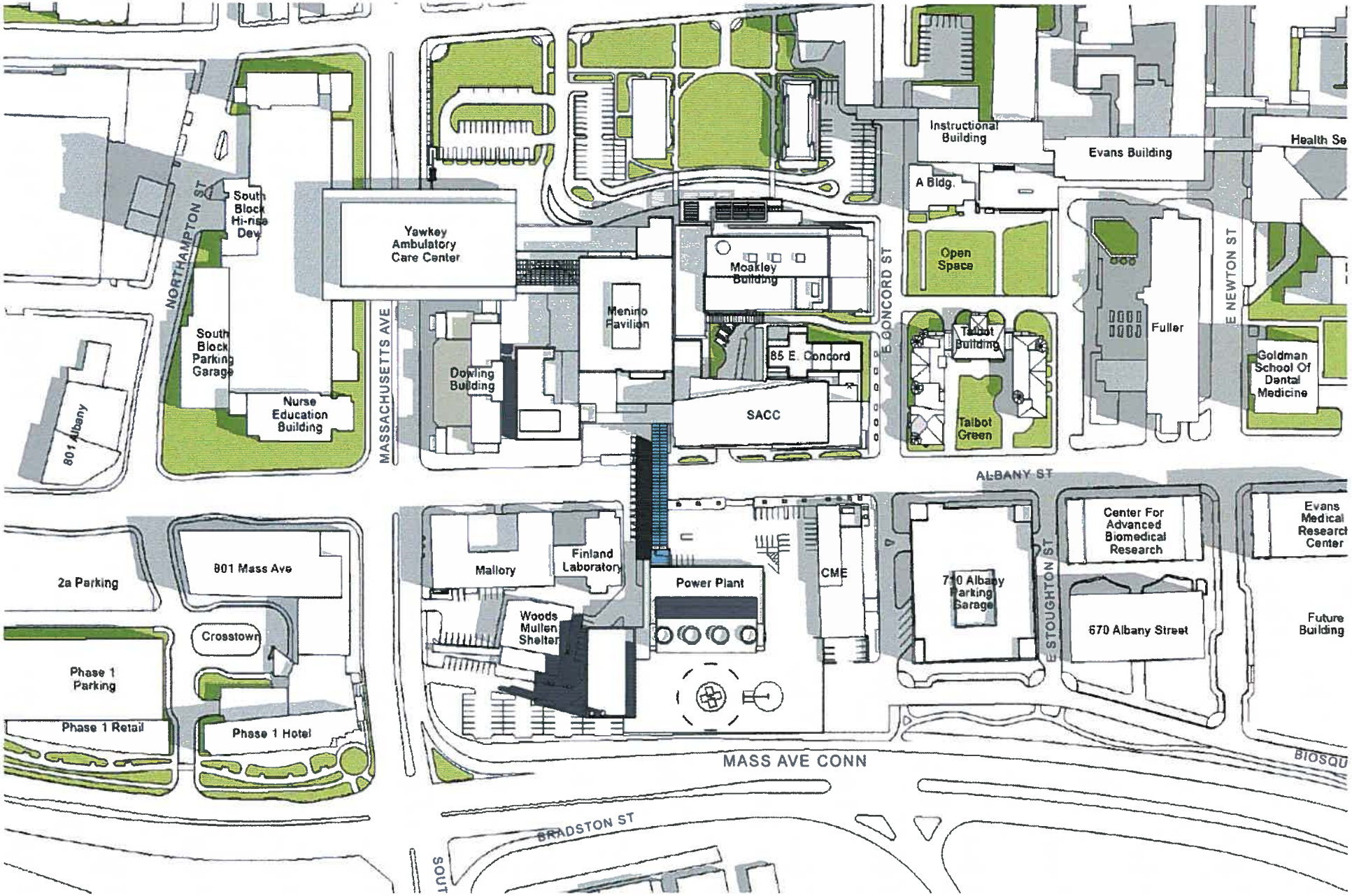

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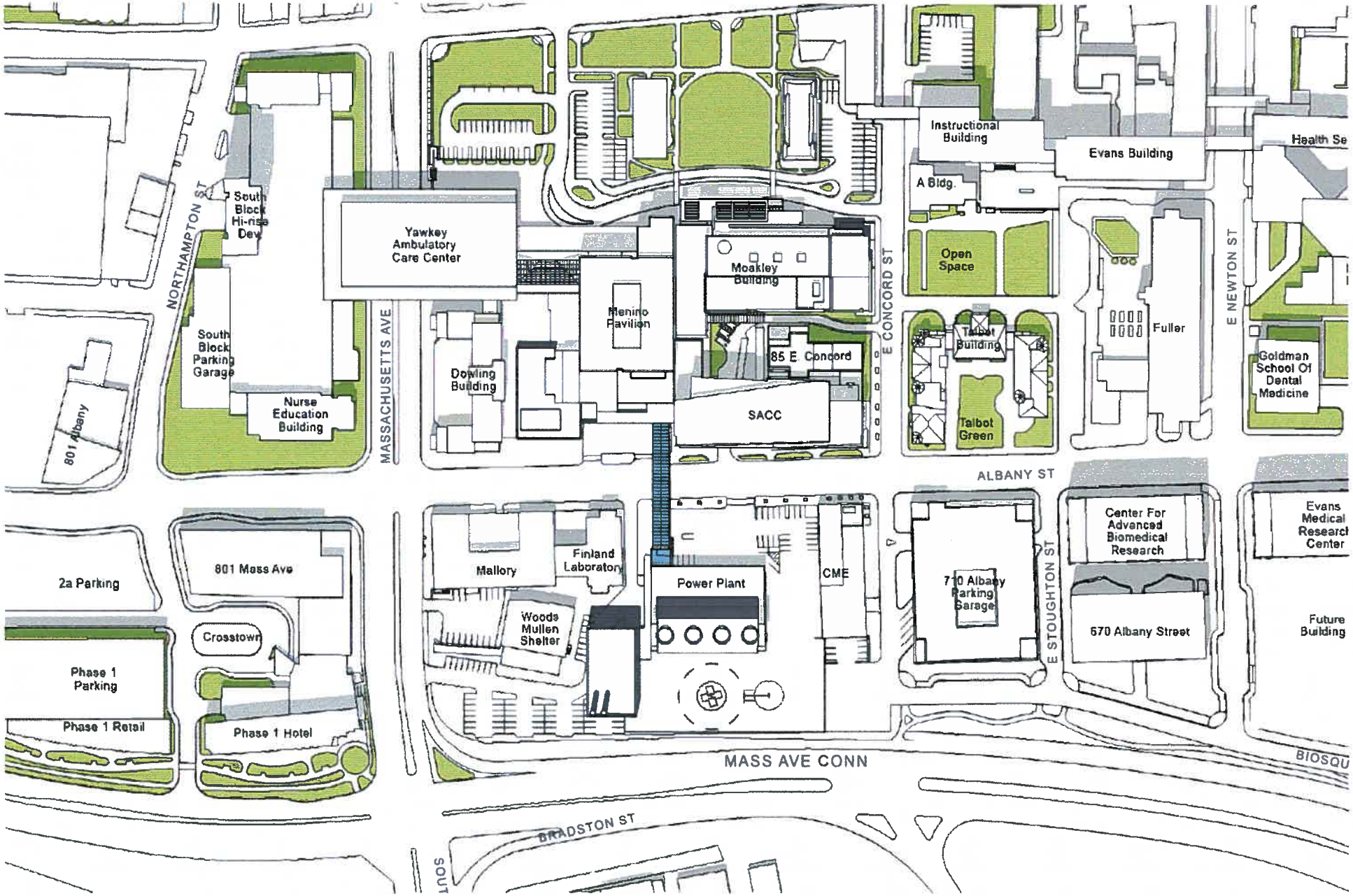

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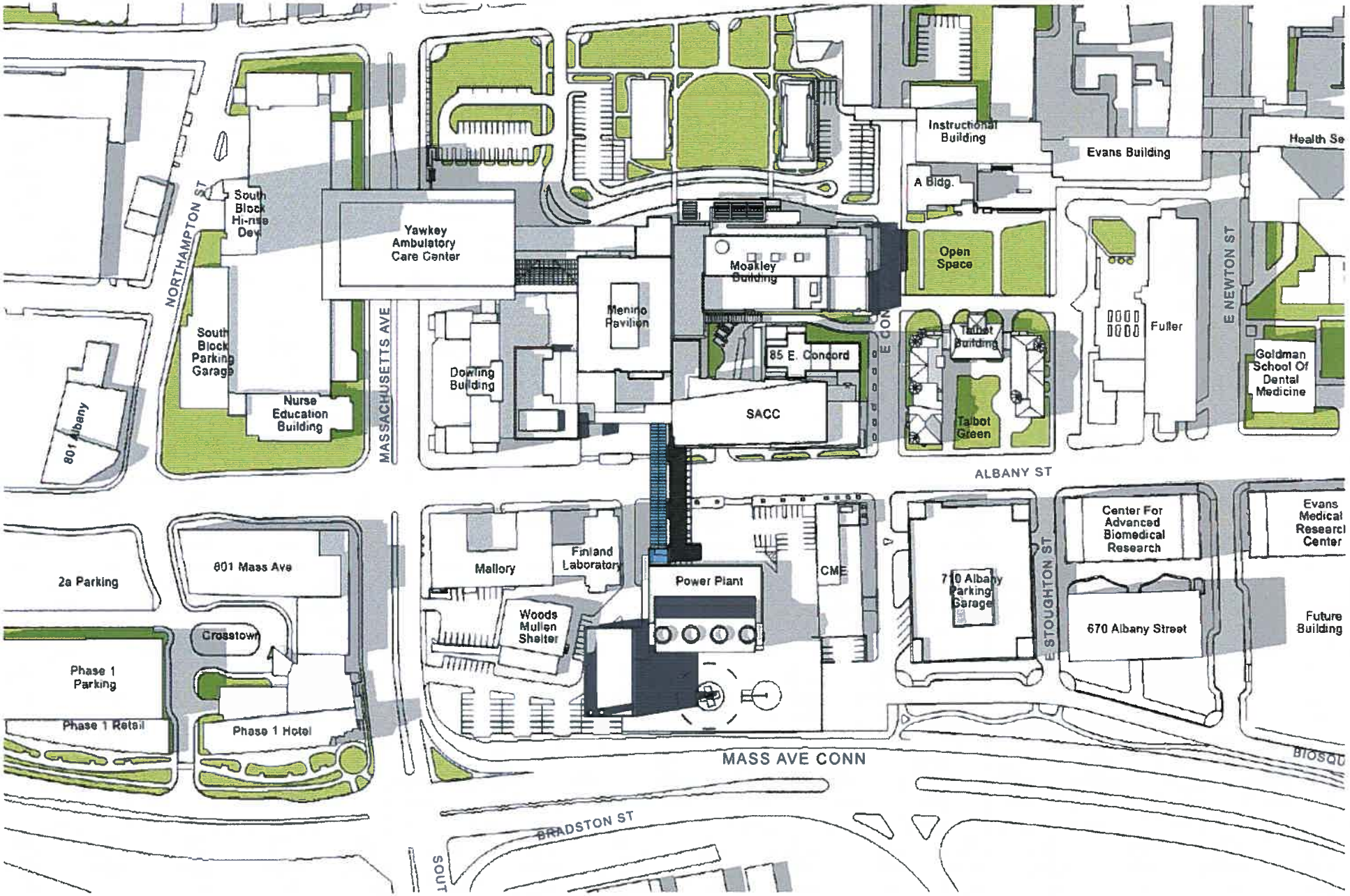

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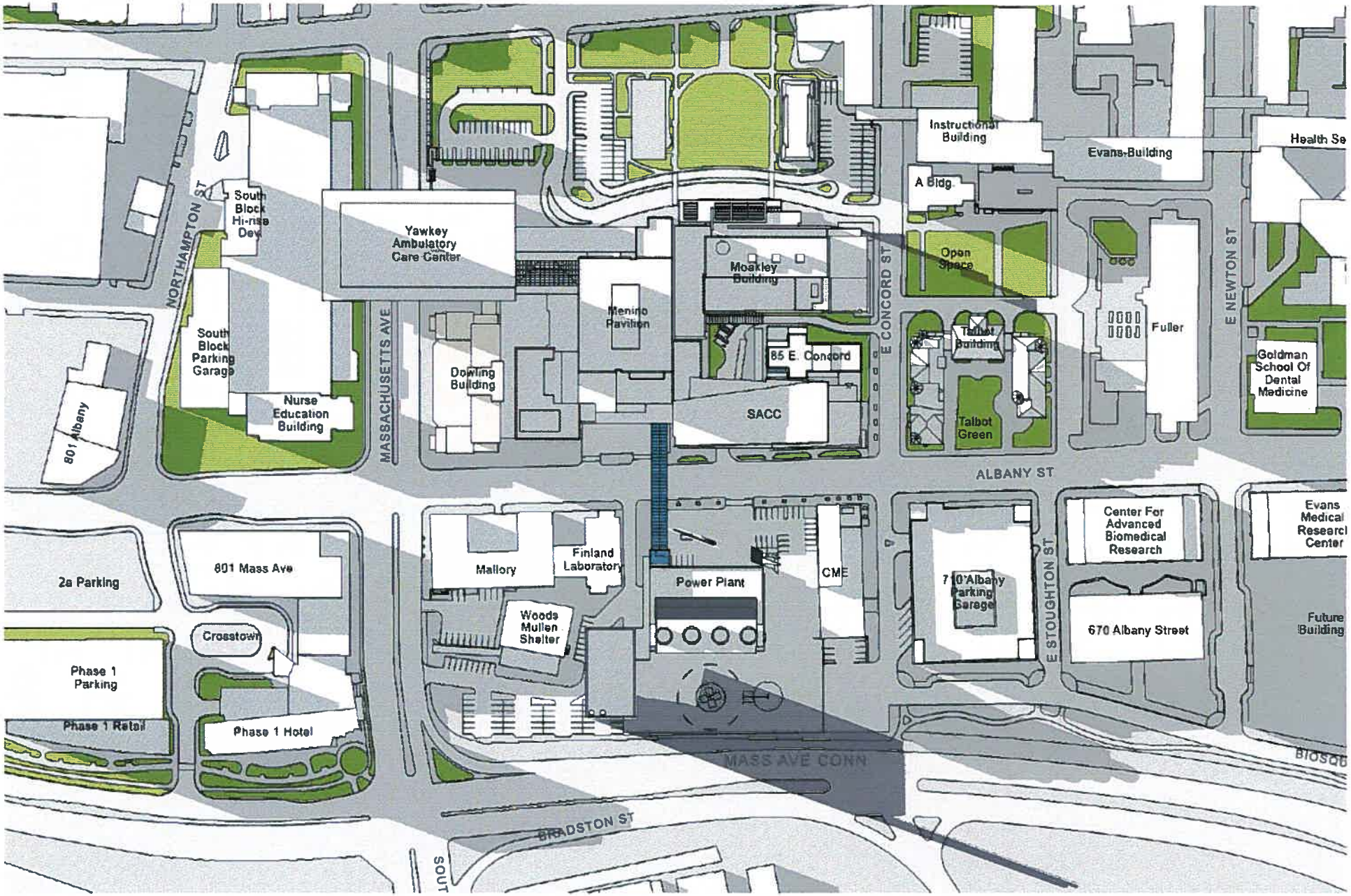

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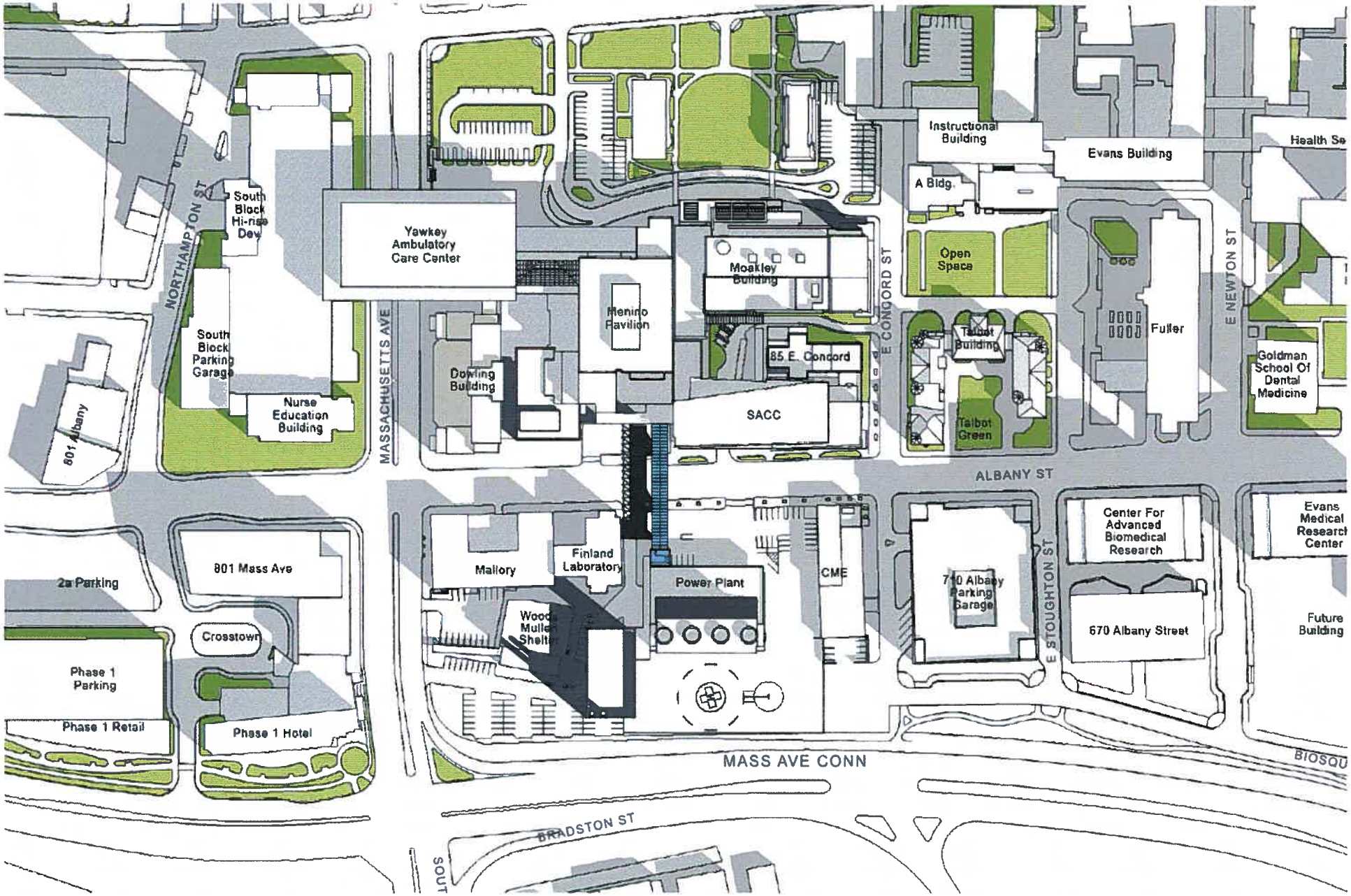

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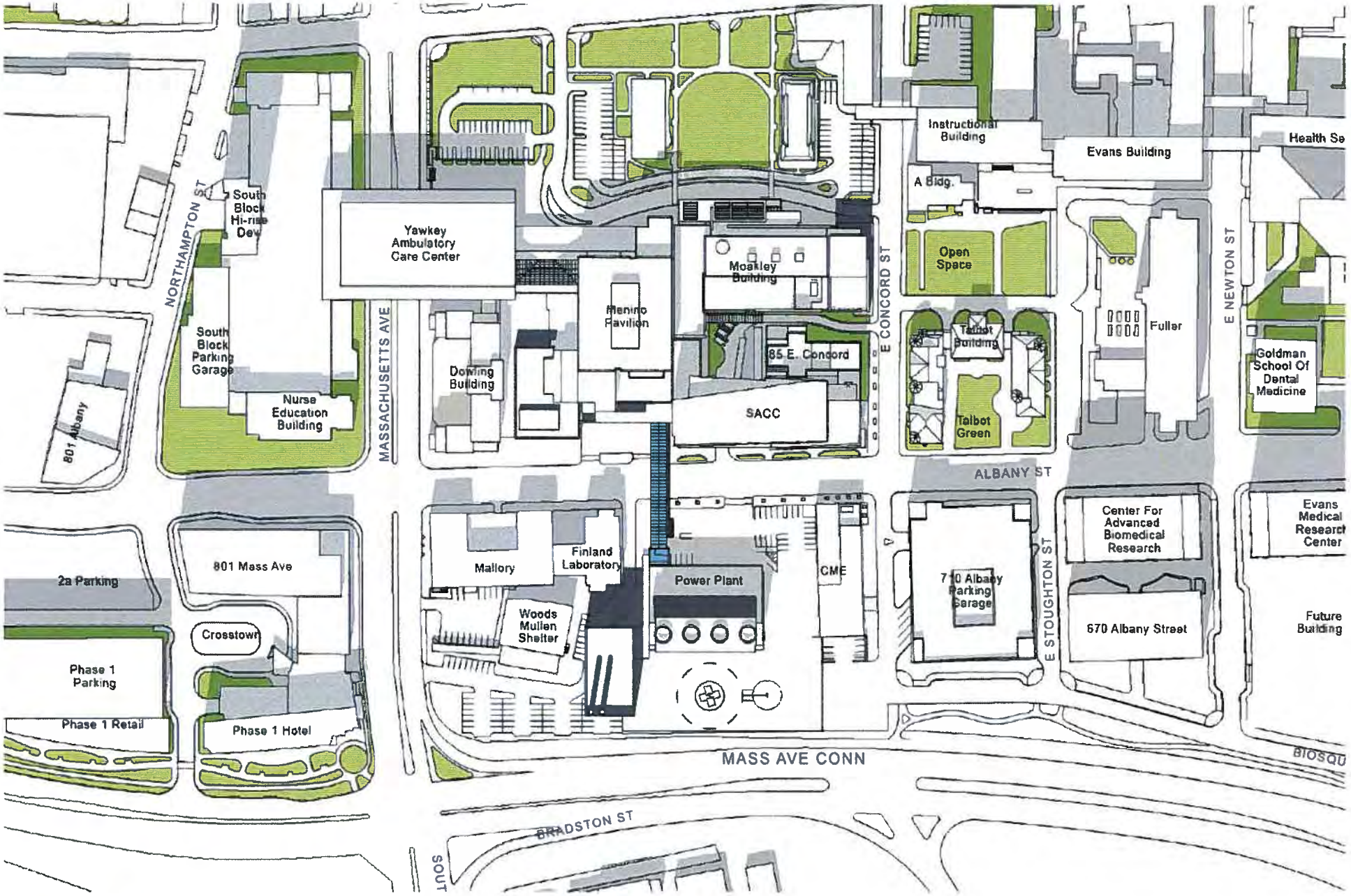

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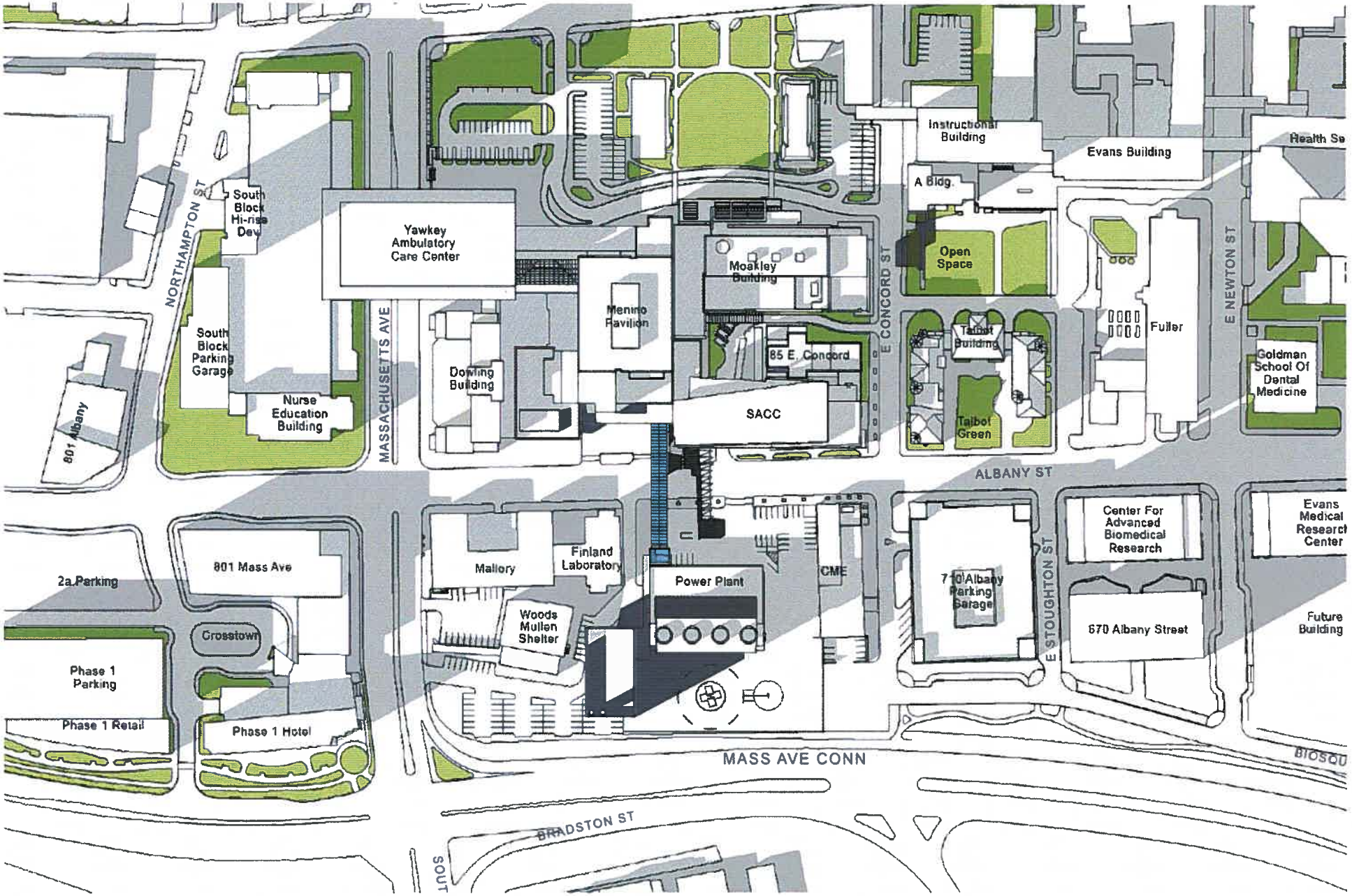

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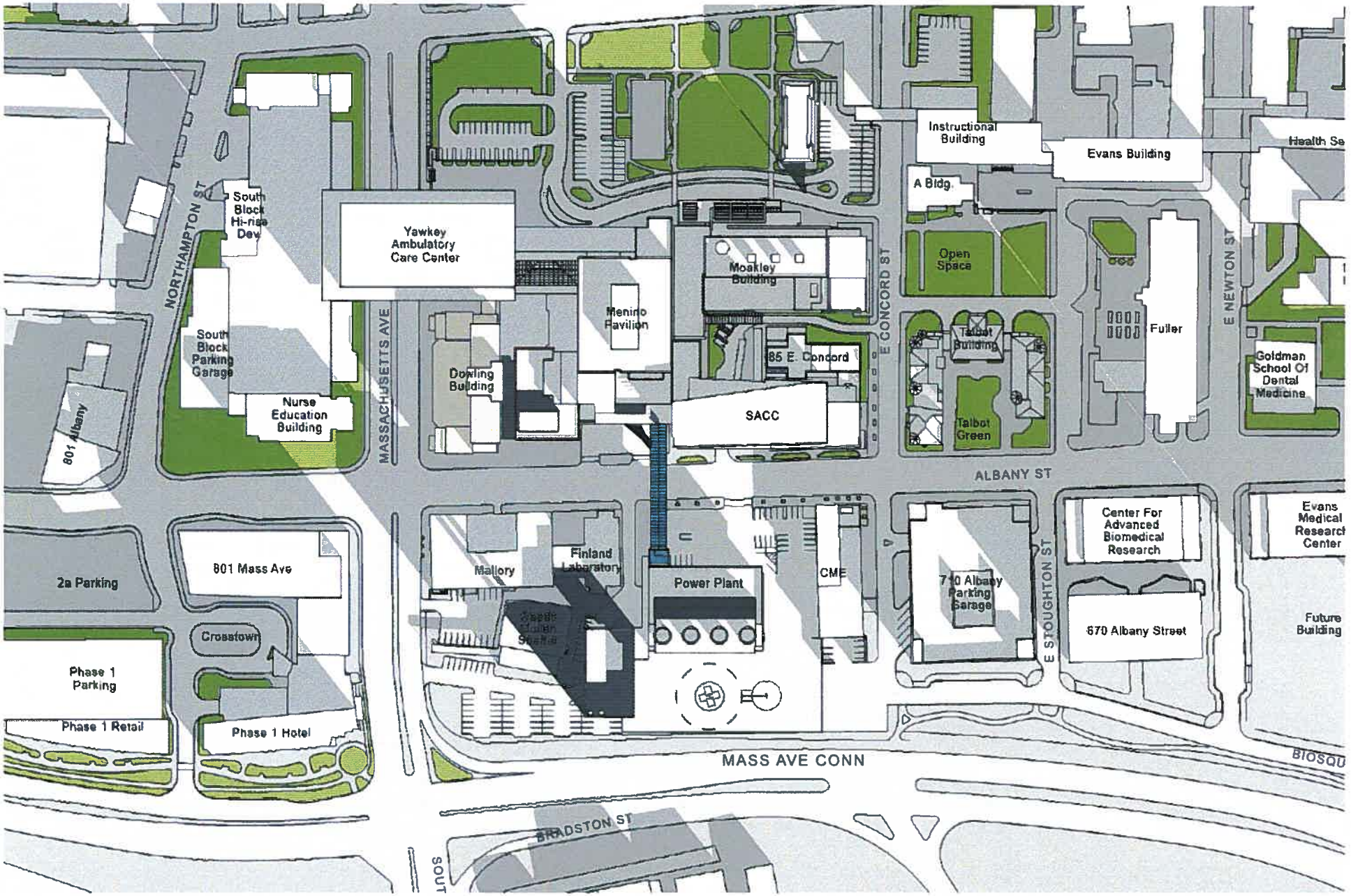

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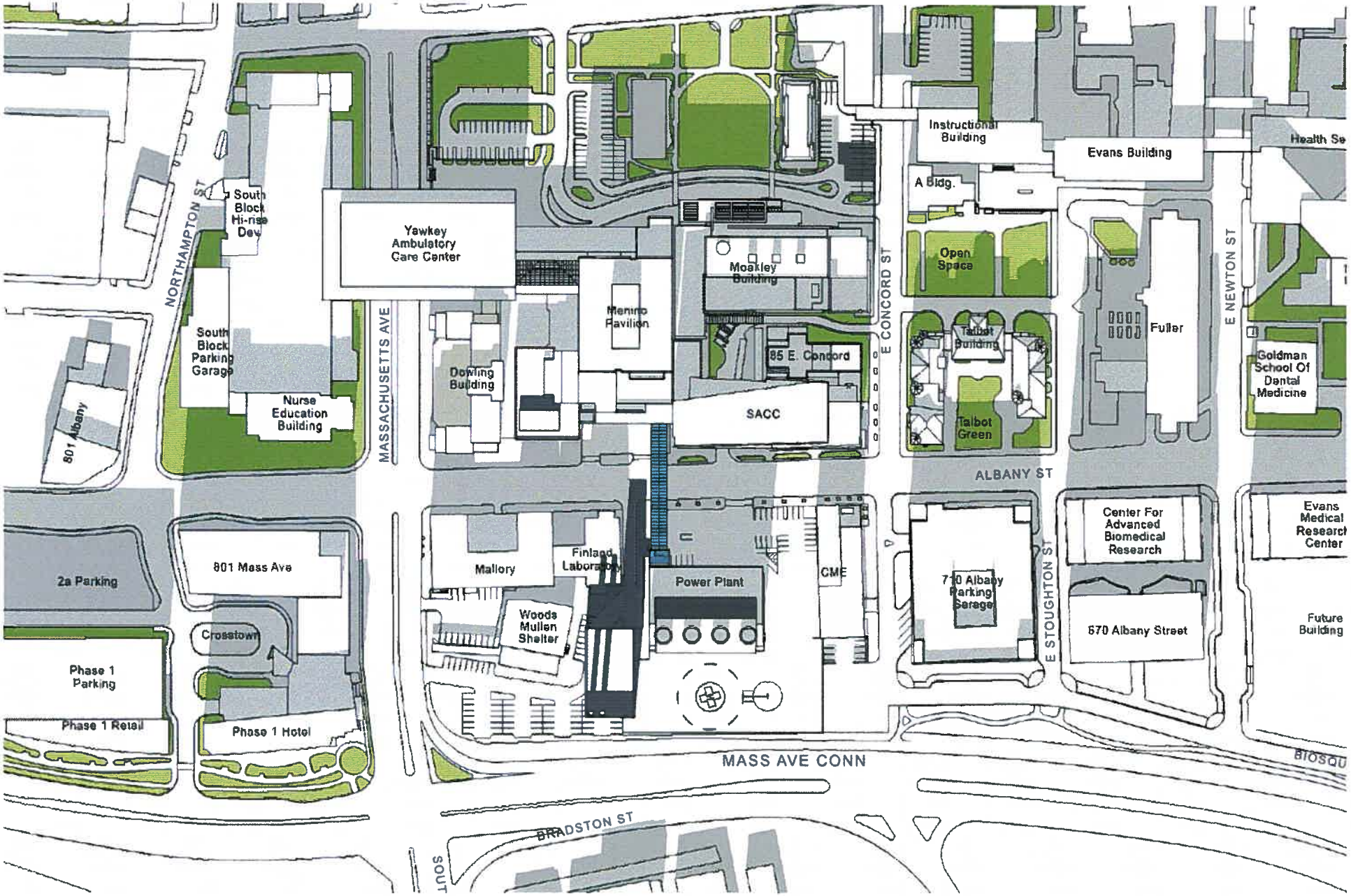

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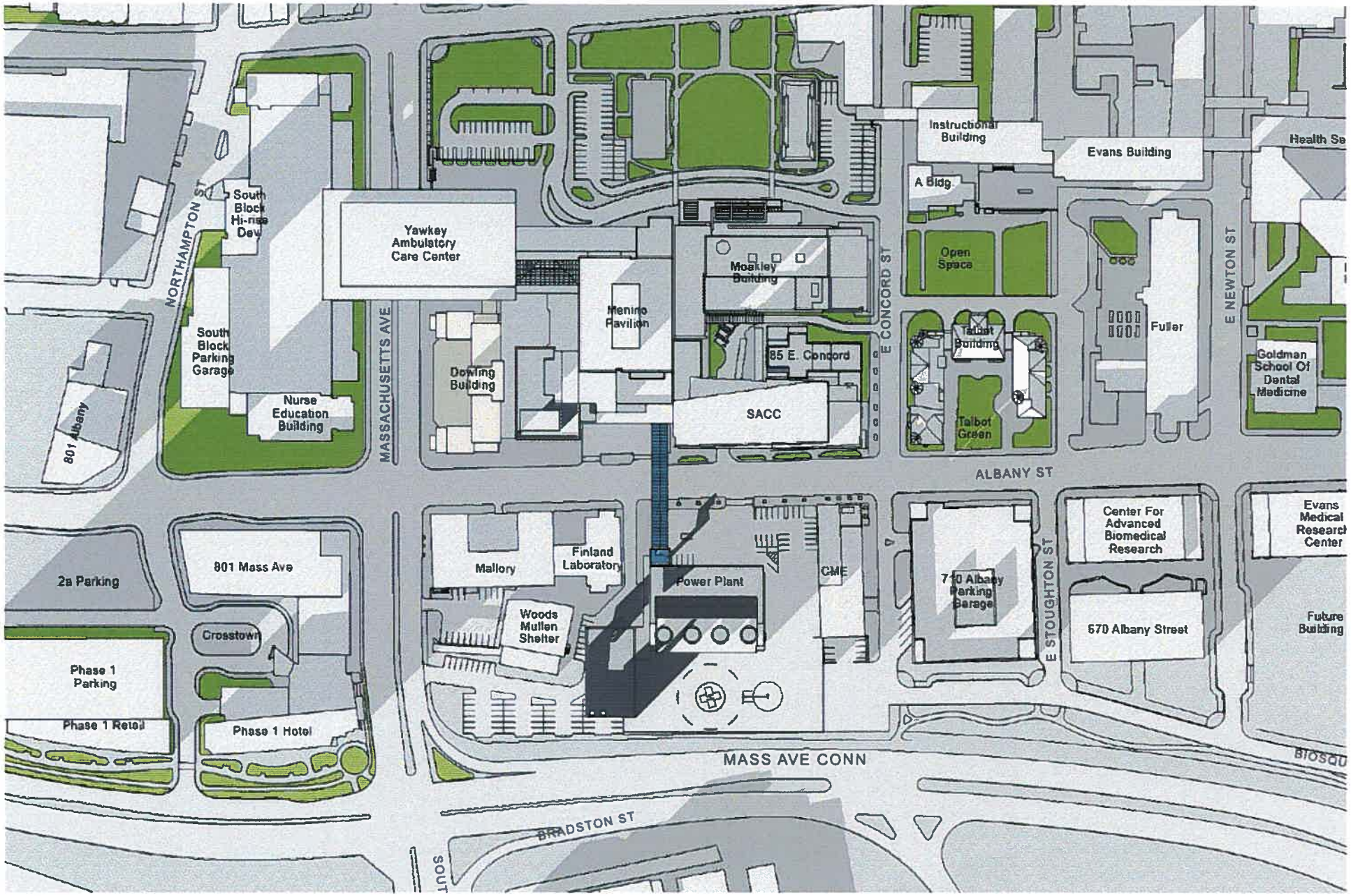

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Appendix D

LEED 2009 for Healthcare: New Construction & Major Renovations
BMC IMP Submission
Project Title: **MOAKLEY CANCER CENTER ADDITION**

Issue Number: 2
Project Number: 33015-00
Date: 9/6/2013

Y	?	N	Credit	Title	Points
9	**6**	**3**		**SUSTAINABLE SITES**	**18**
Y			SSp1	Construction Activity Pollution Prevention	
Y			SSp2	Environmental site Assessment	
		1	SSc1	Site Selection	1
1			SSc2	Development Density & Community Connectivity	1
	1		SSc3	Brownfield Redevelopment	1
3			SSc4.1	Alternative Transportation - Public Transit Access	3
1			SSc4.2	Alternative Transportation - Bicycle Storage & Changing Room	1
	1		SSc4.3	Alternative Transportation - Low-Emitting & Fuel-Efficient Vehicles	1
1			SSc4.4	Alternative Transportation - Parking Capacity	1
	1		SSc5.1	Site Development - Protect or Restore Habitat	1
	1		SSc5.2	Site Development - Maxmize Open Space	1
1			SSc6.1	Stormwater Design - Quantity Control	1
	1		SSc6.2	Stormwater Design - Quality Control	1
	1		SSc7.1	Heat Island Effect - Non-Roof	1
1			SSc7.2	Heat Island Effect - Roof	1
1			SSc8	Light Pollution reduction	1
		1	SSc9.1	Connection to the Natural World - Places of Respite	1
		1	SSc9.2	Coonection to the Naturial World - Direct Exterior Access for Patient	1

Y	?	N	Credit	Title	Points
5	2	2		**WATER EFFICIENCY**	**9**
Y			WEp1	Water Use Reduction - 20% Reduction	
Y			WEp2	Minimize Potable Water Use for Medical Equipment Cooling	
1			WEc1	Water Efficient Landscaping - No Potable Water Use or No Irrigation	1
1	1		WEc2	Water Use Reduction: Measurement & Verification	1 to 2
2	1		WEc3	Water Use Reduction	1 to 3
1			WEc4.1	Water Use Reduction - Building Equipment	1
		1	WEc4.2	Water Use Reduction - Cooling Towers	1
		1	WEc4.3	Water Use Reduction - Food Waste Systems	1

Y	?	N	Credit	Title	Points
7	**7**	**25**		**ENERGY AND ATMOSPHERE**	**39**
Y			EAp1	Fundamental Commissioning of Building Systems	
Y			EAp2	Minimum Energy Performance	
Y			EAp3	Fundamental Refrigerant Management	
5	3	16	EAc1	Optimize Energy Performance	1 to 24

Y	p ?	N	Credit	Title	Points
		8	EAc2	On-Site Renewable Energy	1 to 8
1		1	EAc3	Enhanced Commissioning	1 to 2
	1		EAc4	Enhanced Refrigerant Management	1
1	1		EAc5	Measurement and Verification	2
	1		EAc6	Green Power	1
	1		EAc7	Community Containment Prevention - Airborne Releases	1

Y	?	N	Credit	Title	Points
7	4	5		**MATERIALS AND RESOURCES**	**16**
Y			MRp1	Storage and Collection of Recyclables	
Y			MRp2	PBT Source Reduction - Mercury	
		3	MRc1.1	Building Reuse - Maintain Existing Walls, Floors, and Roof	1 to 3
		1	MRc1.2	Building Reuse - Maintain Interior Non-Structural Elements	1
2			MRc2	Construction Waste Management	1 to 2
2	1	1	MRc3	Sustainably Sourced Materials and Products	1 to 4
1			MRc4.1	PBT Source Reduction - Mercury in Lamps	1
2			MRc4.2	PBT Source Reduction - Lead, Cadmium, and Copper	2
	2		MRc5	Furniture and Medical Furnishings	1 to 2
	1		MRc6	Resource Use - Design for Flexibility	1

Y	?	N	Credit	Title	Points
9	2	7		**INDOOR ENVIRONMENTAL QUALITY**	**18**
Y			IEQp1	Minimum Indoor Air Quality Performance	
Y			IEQp2	Environmental Tobacco Smoke (ETS) Control	
Y			IEQp3	Hazardous Material Removal or Encapsulation	
1			IEQc1	Outdoor Air Delivery Monitoring	1
	1	1	IEQc2	Acoustic Environment	1 to 2
1			IEQc3.1	Construction IAQ Management Plan - During Construction	1
1			IEQc3.2	Construction IAQ Management Plan - Before Occupancy	1
4			IEQc4	Low-Emitting Materials	1 to 4
1			IEQc5	Indoor Chemical and Pollutant Source Control	1
1			IEQc6.1	Controllability of Systems - Lighting	1
		1	IEQc6.2	Controllability of Systems - Thermal Comfort	1
	1		IEQc7	Thermal Comfort - Design and Verification	1
		2	IEQc8.1	Daylight and Views - Daylight	2
		3	IEQc8.2	Daylight and Views - Views	1 to 3

Y	?	N	Credit	Title	Points
5	1	0		INNOVATION IN DESIGN	**6**
Y			IDp1	Integrated Project Planning and Design	
1			IDc1.1	Innovation in Design: Article 37 - Modern Grid	1

Y	?	N	Credit	Title	Points
	1		IDc1.2	Innovation in Design: Article 37 - Groundwater Recharge	1
1			IDc1.3	Innovation in Design: Article 37 - Modern Mobility	1
1			IDc1.4	Innovation in Design: Green Cleaning	1
1			IDc2	LEED Accredited Professional	1
1			IDc3	Integrated Project Planning and Design	1

Y	?	N	Credit	Title		Points
2	1	1		REGIONAL PRIORITY		**4**
		1	RPc1.1	EAc2	On-Site Renewable Energy	1
1			RPc1.2	SSc6.1	Stormwater Design - Quantity Control	1
	1		RPc1.3	SSc7.1	Heat Island Effect - Non-Roof	1
1			RPc1.4	SSc7.2	Heat Island Effect - Roof	1

Y	?	N		Points
44	23	43	TOTAL	**110**
			Certified	*40 to 49*
			Silver	*50 to 59*
			Gold	*60 to 79*
			Platinum	*80 to 110*

Appendix:

List of Applicable Regional Priority Credits for BMC Zip Code 02118 (Boston, MA)			*threshold*
1	*EAc2*	*On-Site Renewable Energy*	*1%/1point*
2	*MRc1.1*	*Building Reuse - Maintain Existing Walls, Floors, and Roof*	*75%*
3	*SSc3*	*Brownfield Redevelopment*	*1 point*
4	*SSc6.1*	*Stormwater Design - Quantity Control*	*1 point*
5	*SSc7.1*	*Heat Island Effect - Non-Roof*	*1 point*
6	*SSc7.2*	*Heat Island Effect - Roof*	*1 point*

List of Applicable "Basic Services" Within range of project		*<.5miles*
1	*Andre's Café*	*Restaurant*
2	*Estragon*	*Restaurant*
3	*Boston Medical Center Campus Park*	*Park*
4	*Congregation Lion of Judah*	*Church*
5	*Boston City Fire Department*	*Fire Station*
6	*Halisi Day Spa & Salon*	*Salon*
7	*DB&S Lumber and Home Improvement Centers*	*Hardware*
8	*South End Finess Center*	*Fitness Center*
9	*Hampton Inn and Suites Boston Crosstown Center*	*Hotel*
10	*walgreens*	*Pharmacy*
R	*North Hampton Street Residential Block*	*Dense Residential*

LEED 2009 for Healthcare: New Construction & Major Renovations
BMC IMP Submission
Project Title: **INPATIENT BUILDING PHASE 1**

Issue Number: 1
Project Number: 33020-00
Date: 8/29/2013

Y	?	N	Credit	Title	Points
10	**5**	**3**		**SUSTAINABLE SITES**	**18**
Y			SSp1	Construction Activity Pollution Prevention	
Y			SSp2	Environmental site Assessment	
1			SSc1	Site Selection	1
1			SSc2	Development Density & Community Connectivity	1
	1		SSc3	Brownfield Redevelopment	1
3			SSc4.1	Alternative Transportation - Public Transit Access	3
1			SSc4.2	Alternative Transportation - Bicycle Storage & Changing Room	1
	1		SSc4.3	Alternative Transportation - Low-Emitting & Fuel-Efficient Vehicles	1
1			SSc4.4	Alternative Transportation - Parking Capacity	1
		1	SSc5.1	Site Development - Protect or Restore Habitat	1
	1		SSc5.2	Site Development - Maxmize Open Space	1
1			SSc6.1	Stormwater Design - Quantity Control	1
	1		SSc6.2	Stormwater Design - Quality Control	1
		1	SSc7.1	Heat Island Effect - Non-Roof	1
1			SSc7.2	Heat Island Effect - Roof	1
1			SSc8	Light Pollution reduction	1
	1		SSc9.1	Connection to the Natural World - Places of Respite	1
		1	SSc9.2	Coonection to the Naturial World - Direct Exterior Access for Patient	1

Y	?	N	Credit	Title	Points
6	2	1		**WATER EFFICIENCY**	**9**
Y			WEp1	Water Use Reduction - 20% Reduction	
Y			WEp2	Minimize Potable Water Use for Medical Equipment Cooling	
1			WEc1	Water Efficient Landscaping - No Potable Water Use or No Irrigation	1
1	1		WEc2	Water Use Reduction: Measurement & Verification	1 to 2
2	1		WEc3	Water Use Reduction	1 to 3
1			WEc4.1	Water Use Reduction - Building Equipment	1
		1	WEc4.2	Water Use Reduction - Cooling Towers	1
1			WEc4.3	Water Use Reduction - Food Waste Systems	1

Y	?	N	Credit	Title	Points
7	**8**	**24**		**ENERGY AND ATMOSPHERE**	**39**
Y			EAp1	Fundamental Commissioning of Building Systems	
Y			EAp2	Minimum Energy Performance	
Y			EAp3	Fundamental Refrigerant Management	
5	3	16	EAc1	Optimize Energy Performance	1 to 24

Y	?	N	Credit	Title	Points
		8	EAc2	On-Site Renewable Energy	1 to 8
1	1		EAc3	Enhanced Commissioning	1 to 2
	1		EAc4	Enhanced Refrigerant Management	1
1	1		EAc5	Measurement and Verification	2
	1		EAc6	Green Power	1
	1		EAc7	Community Containment Prevention - Airborne Releases	1

Y	?	N	Credit	Title	Points
7	4	5		**MATERIALS AND RESOURCES**	**16**
Y			MRp1	Storage and Collection of Recyclables	
Y			MRp2	PBT Source Reduction - Mercury	
		3	MRc1.1	Building Reuse - Maintain Existing Walls, Floors, and Roof	1 to 3
		1	MRc1.2	Building Reuse - Maintain Interior Non-Structural Elements	1
2			MRc2	Construction Waste Management	1 to 2
2	1	1	MRc3	Sustainably Sourced Materials and Products	1 to 4
1			MRc4.1	PBT Source Reduction - Mercury in Lamps	1
2			MRc4.2	PBT Source Reduction - Lead, Cadmium, and Copper	2
	2		MRc5	Furniture and Medical Furnishings	1 to 2
	1		MRc6	Resource Use - Design for Flexibility	1

Y	?	N	Credit	Title	Points
11	2	5		**INDOOR ENVIRONMENTAL QUALITY**	**18**
Y			IEQp1	Minimum Indoor Air Quality Performance	
Y			IEQp2	Environmental Tobacco Smoke (ETS) Control	
Y			IEQp3	Hazardous Material Removal or Encapsulation	
1			IEQc1	Outdoor Air Delivery Monitoring	1
1	1		IEQc2	Acoustic Environment	1 to 2
1			IEQc3.1	Construction IAQ Management Plan - During Construction	1
1			IEQc3.2	Construction IAQ Management Plan - Before Occupancy	1
4			IEQc4	Low-Emitting Materials	1 to 4
1			IEQc5	Indoor Chemical and Pollutant Source Control	1
1			IEQc6.1	Controllability of Systems - Lighting	1
	1		IEQc6.2	Controllability of Systems - Thermal Comfort	1
1			IEQc7	Thermal Comfort - Design and Verification	1
		2	IEQc8.1	Daylight and Views - Daylight	2
		3	IEQc8.2	Daylight and Views - Views	1 to 3

Y	?	N	Credit	Title	Points
6	0	0		INNOVATION IN DESIGN	**6**
Y			IDp1	Integrated Project Planning and Design	
1			IDc1.1	Innovation in Design: Article 37 - Modern Grid	1

Y	?	N	Credit	Title	Points
1			IDc1.2	Innovation in Design: Article 37 - Groundwater Recharge	1
1			IDc1.3	Innovation in Design: Article 37 - Modern Mobility	1
1			IDc1.4	Innovation in Design: Material Ingredient Reporting	1
1			IDc2	LEED Accredited Professional	1
1			IDc3	Integrated Project Planning and Design	1

Y	?	N	Credit	Title		Points
2	**2**	**0**		**REGIONAL PRIORITY**		**4**
	1		RPc1.1	EAc2	On-Site Renewable Energy	1
1			RPc1.2	SSc6.1	Stormwater Design - Quantity Control	1
	1		RPc1.3	SSc7.1	Heat Island Effect - Non-Roof	1
1			RPc1.4	SSc7.2	Heat Island Effect - Roof	1

Y	?	N		Points
49	23	38	TOTAL	**110**
			Certified	*40 to 49*
			Silver	*50 to 59*
			Gold	*60 to 79*
			Platinum	*80 to 110*

Appendix:

List of Applicable Regional Priority Credits for BMC Zip Code 02118 (Boston, MA)			*threshold*
1	*EAc2*	*On-Site Renewable Energy*	*1%/1point*
2	*MRc1.1*	*Building Reuse - Maintain Existing Walls, Floors, and Roof*	*75%*
3	*SSc3*	*Brownfield Redevelopment*	*1 point*
4	*SSc6.1*	*Stormwater Design - Quantity Control*	*1 point*
5	*SSc7.1*	*Heat Island Effect - Non-Roof*	*1 point*
6	*SSc7.2*	*Heat Island Effect - Roof*	*1 point*

Appendix E

Boston Climate Change Preparedness Questionnaire

2. Project Information

1. Project Name and Location

Project Name : Moakley Cancer Center Addition
Project Address : 830 Harrison Avenue

2. Project Contact:

Name : Robert Biggio
Title : Vice President Facilities & Support Services
Company : BUMC
Email Address : tmoked@epsilonassociates.com
Phone Number : 617-638-8000

3. Project Contact:

Name : Robert Biggio
Title : Vice President Facilities & Support Services
Company : BUMC
Email Address : tmoked@epsilonassociates.com
Phone Number : 617-638-8000

4. Team Description:

Owner / Developer : Boston University Medical Center
Architect : TKA Architects
Engineer (building systems) : Engineered Solutions, Inc
Sustainability / LEED : TKA Architects
Permitting : Collaborative Partners
Climate Change Expert : Epsilon Associates, Inc.

3. New Page

5. Is this project a:

Single building

6. At what phase is this project?

Draft/ Final Impact Report Submitted

4. Phased, multi-building project

Project Identification

5. Single building project

7. Project Identification:

Project Name : Moakley Cancer Center Addition
Primary Project Address : 830 Harrison Avenue

6. Master Plan

Project Identification

7. Institutional Master Plan

Project Identification

8. Building Classification and Description

8. Building Uses - check all appropriate uses:

Laboratory / Medical

9. Building First Floor Uses - list all:

Medical

10. Construction Type – select most appropriate type:

Steel Frame

11. Building Size: do not include commas

Site Area (Square Feet) : 10,540
Building Area (Square Feet) : 27,800
Building Height (Feet) : 53
Number of Stories (Floors) : 3
First Floor Elevation (feet above sea level)(Boston City Base Elev.)(Ft.) : 18'-10"
Number of below grade levels : 1

9. Green Building

12. Which LEED Rating System(s) has or will your project use (by area for projects using multiple rating systems):

	Rating System
Primary Use	LEED 2009 for Healthcare
Secondary Use	
Additional Uses	

13. What are the projected LEED Rating System Outcome(s):

	Rating System
Primary Use	Silver
Secondary Use	
Additional Uses	

14. Is or will the Project Register with the US Green Building Council

No

15. Is or will the Project Seek US Green Building Council Certification:

No

10. Higher Temperatures and Heat Waves - Analysis and General Strategies

16. Analysis Sources:

17. What time span of Climate Change was considered:

18. Analysis Conditions:

What Low Temperature will be used for project planning (degrees) : 0
What High Temperature will be used for project planning (degrees) : 95

19. What Extreme Heat Event characteristics will be used for project planning:

Peak High (degrees) : 95
Duration (days) : 4
Number of events per year : 3

20. What measures will the project employ to reduce urban heat-island effect:

Shade trees
High reflective roof materials

21. Will the project be able to manage hotter and more humid summers without increasing its electrical load; if so how?

No

22. Will the building remain operable without utility power for an extended period; if so for how long and by what strategies?

If Yes, for how long (days) and describe strategies: 96 hours

11. High Temperatures and Heat Waves - Active and Passive Strategies

23. What will be the overall energy performance of the project or building (percentage above code)

15%

24. How will project energy performance be determined

Whole Building Energy Model

25. What specific measures will the project employ to reduce building energy consumption

High performance lighting
Automatic lighting controls
High performance HVAC equipment

26. What specific measures will the project employ to reduce building energy demands on the utilities and infrastructure

None

27. Will the project employ Smart Grid Infrastructure and / or Systems

Local distributed electricity / micro grid
Local distributed steam / heating / cooling system

28. Describe any non-mechanical strategies that will support building functionality and use during an extended interruption(s) of utility services and infrastructure

Potable water storage for drinking / food preparation
Potable water for sinks / sanitary systems
High performance building envelop

29. List the R values for building envelope elements:

Roof : 30
Floors / Slab : 20
Foundation / Basement : 20
Windows : 0.40
Doors : 0.40
Walls : 13

12. Sea-Level Rise and Storms – location analysis and description

30. Location Description:

Site Elevation - low point (feet above sea level)(Boston City Base Elev.)(Ft.) : 16.8
Site Elevation - high point (feet above sea level)(Boston City Base Elev.)(Ft.) : 17.5

31. Location Classification - is the site or building located in any of the following:

	Yes	No
Coastal Zone		X
Velocity Zone		X
Flood Zone		X
Area Prone to Flooding		X

32. Are updates in the floodplain delineation due to climate change likely to change the classification of the site or building location:

No

33. What is the project or building proximity to nearest Coastal, Velocity or Flood Zone or Area Prone to Flooding (horizontal distance in feet)

2,270

13. Sea-Level Rise and Storms – analysis and general strategies

Analysis Sources:

What time span of Climate Change and Rising Sea-Levels was considered:

How were impacts from higher sea levels and more frequent and extreme storm events analyzed:

14. Sea-Level Rise and Storms - Building Flood Proofing

Will the building remain occupiable without utility power during a period of extended inundation:

Will the proposed ground floor be raised in response to Sea Level Rise:

Will the proposed ground floor be raised in response to Sea Level Rise:

Will lower building levels be constructed in a manner to prevent water penetration:

Describe measures and strategies intended to ensure the integrity of critical building systems during a flood or severe storm event:

Were the differing effects of fresh water and salt water flooding considered:

Will the project site and building(s) be accessible during periods of inundation or limited circulation and / or access to transportation:

Describe any additional Building Floor Proofing strategies?

15. Sea-Level Rise and Storms - Building Resiliency and Adaptability

Will the building be able to withstand severe storm impacts and endure temporary inundation

Will the building include additional structural capacity and or building systems to accommodate future on-site renewable and or clean energy sources; if so what:

Can the site and building be reasonably modified to increase Building Flood Proofing; if so how:

Describe any additional Building Resiliency and Adaptability strategies:

Boston Climate Change Preparedness Questionnaire

2. Project Information

1. Project Name and Location

Project Name : New Inpatient Building Phase I
Project Address : Albany Street

2. Project Contact:

Name : Robert Biggio
Title : Vice President Facilities & Support Services
Company : BUMC
Email Address : tmoked@epsilonassociates.com
Phone Number : 617-638-8000

3. Project Contact:

Name : Robert Biggio
Title : Vice President Facilities & Support Services
Company : BUMC
Email Address : tmoked@epsilonassociates.com
Phone Number : 617-638-8000

4. Team Description:

Owner / Developer : Boston University Medical Center
Architect : TKA Architects
Engineer (building systems) : Engineered Solutions, Inc
Sustainability / LEED : TKA Architects
Permitting : Collaborative Partners
Climate Change Expert : Epsilon Associates, Inc.

3. New Page

5. Is this project a:

Single building

6. At what phase is this project?

Draft/ Final Impact Report Submitted

4. Phased, multi-building project

Project Identification

5. Single building project

7. Project Identification:

Project Name : New Inpatient Building Phase I
Primary Project Address : Albany Street

6. Master Plan

Project Identification

7. Institutional Master Plan

Project Identification

8. Building Classification and Description

8. Building Uses - check all appropriate uses:

Laboratory / Medical

9. Building First Floor Uses - list all:

Medical

10. Construction Type – select most appropriate type:

Steel Frame

11. Building Size: do not include commas

Site Area (Square Feet) : 33,780
Building Area (Square Feet) : 81,700
Building Height (Feet) : 63
Number of Stories (Floors) : 4
First Floor Elevation (feet above sea level)(Boston City Base Elev.)(Ft.) : 18'-10"
Number of below grade levels : 1

9. Green Building

12. Which LEED Rating System(s) has or will your project use (by area for projects using multiple rating systems):

	Rating System
Primary Use	LEED 2009 for Healthcare
Secondary Use	
Additional Uses	

13. What are the projected LEED Rating System Outcome(s):

	Rating System
Primary Use	Silver
Secondary Use	
Additional Uses	

14. Is or will the Project Register with the US Green Building Council

No

15. Is or will the Project Seek US Green Building Council Certification:

No

10. Higher Temperatures and Heat Waves - Analysis and General Strategies

16. Analysis Sources:

17. What time span of Climate Change was considered:

18. Analysis Conditions:

What Low Temperature will be used for project planning (degrees) : 0
What High Temperature will be used for project planning (degrees) : 95

19. What Extreme Heat Event characteristics will be used for project planning:

Peak High (degrees) : 95
Duration (days) : 4
Number of events per year : 3

20. What measures will the project employ to reduce urban heat-island effect:

Shade trees
High reflective roof materials

21. Will the project be able to manage hotter and more humid summers without increasing its electrical load; if so how?

No

22. Will the building remain operable without utility power for an extended period; if so for how long and by what strategies?

If Yes, for how long (days) and describe strategies: 4 days, electric via generators and steam via redundant district steam service connections

11. High Temperatures and Heat Waves - Active and Passive Strategies

23. What will be the overall energy performance of the project or building (percentage above code)

15%

24. How will project energy performance be determined

Whole Building Energy Model

25. What specific measures will the project employ to reduce building energy consumption

High performance lighting
Automatic lighting controls
High performance HVAC equipment

26. What specific measures will the project employ to reduce building energy demands on the utilities and infrastructure

None

27. Will the project employ Smart Grid Infrastructure and / or Systems

Local distributed electricity / micro grid
Local distributed steam / heating / cooling system

28. Describe any non-mechanical strategies that will support building functionality and use during an extended interruption(s) of utility services and infrastructure

Potable water storage for drinking / food preparation
Potable water for sinks / sanitary systems
High performance building envelop

29. List the R values for building envelope elements:

Roof : 30
Walls : 13
Floors / Slab : 20
Foundation / Basement : 20
Windows : 0.40
Doors : 0.40

12. Sea-Level Rise and Storms – location analysis and description

30. Location Description:

Site Elevation - low point (feet above sea level)(Boston City Base Elev.)(Ft.) : 15.5
Site Elevation - high point (feet above sea level)(Boston City Base Elev.)(Ft.) : 18.8

31. Location Classification - is the site or building located in any of the following:

	Yes	No
Coastal Zone		X
Velocity Zone		X
Flood Zone		X
Area Prone to Flooding		X

32. Are updates in the floodplain delineation due to climate change likely to change the classification of the site or building location:

No

33. What is the project or building proximity to nearest Coastal, Velocity or Flood Zone or Area Prone to Flooding (horizontal distance in feet)

2,300

13. Sea-Level Rise and Storms – analysis and general strategies

Analysis Sources:

What time span of Climate Change and Rising Sea-Levels was considered:

How were impacts from higher sea levels and more frequent and extreme storm events analyzed:

14. Sea-Level Rise and Storms - Building Flood Proofing

Will the building remain occupiable without utility power during a period of extended inundation:

Will the proposed ground floor be raised in response to Sea Level Rise:

Will the proposed ground floor be raised in response to Sea Level Rise:

Will lower building levels be constructed in a manner to prevent water penetration:

Describe measures and strategies intended to ensure the integrity of critical building systems during a flood or severe storm event:

Were the differing effects of fresh water and salt water flooding considered:

Will the project site and building(s) be accessible during periods of inundation or limited circulation and / or access to transportation:

Describe any additional Building Floor Proofing strategies?

15. Sea-Level Rise and Storms - Building Resiliency and Adaptability

Will the building be able to withstand severe storm impacts and endure temporary inundation

Will the building include additional structural capacity and or building systems to accommodate future on-site renewable and or clean energy sources; if so what:

Can the site and building be reasonably modified to increase Building Flood Proofing; if so how:

Describe any additional Building Resiliency and Adaptability strategies:

Appendix F

BOSTON REDEVELOPMENT AUTHORITY

SCOPING DETERMINATION
FOR
INSTITUTIONAL MASTER PLAN NOTIFICATION FORM/PROJECT NOTIFICATION FORM
BOSTON UNIVERSITY MEDICAL CENTER
INSTITUTIONAL MASTER PLAN AND LARGE PROJECT REVIEW

PREAMBLE

Boston University Medical Center ("BUMC") is comprised of Boston Medical Center ("BMC") and Boston University Medical Campus ("BU Medical Campus") which includes three of Boston University's health science schools – the School of Medicine, Goldman School of Dental Medicine and the School of Public Health. The BUMC campus is located in Boston's South End neighborhood and is comprised of approximately 20 acres including 28 BUMC campus-owned or controlled buildings, a helipad and development parcels. BMC and BU Medical Campus also leases spaces in 8 buildings located on and/or proximate to the campus. The total BUMC owned or controlled and leased space is approximately 3 million square feet of usable space.

As stated in Section 80D-1 of the Boston Zoning Code ("Code"), "the purpose of Institutional Master Plan Review is to provide for the well-planned development of Institutional Uses in order to enhance their public service and economic development role in the surrounding neighborhoods." Under the Code, an Institutional Master Plan ("IMP") has a dual purpose of meeting the needs of the institution and relating the campus to its context in a positive way. The Boston Redevelopment Authority ("BRA") approved the Boston University Medical Center IMP ("2010 IMP") on June 22, 2010. BMC seeks to amend the 2010 IMP to incorporate the following:

1. An addition to the existing Moakley Cancer center to facilitate the relocation and expansion of outpatient services;
2. Minor footprint, massing and phasing revisions to the 2010 IMP New Patient Building to include the expansion of the Emergency Department and Trauma Center;
3. Relocation of the 2010 IMP Energy Facility;
4. Replacement of the existing yellow utility tube across Albany Street with a new Bridge to service patient transport and materials handling; and
5. Inclusion of the acquisition of the Perkins Elmer site.

The BRA continues to seek to enhance BUMC's presence in the City of Boston as an important economic development entity and employer. Care should be taken to respond to the concerns outlined below:

1. The BRA seeks to understand the long-term plans of its institutions in the so that necessary growth by institutions can be allowed on a fair and equitable basis. Therefore, the BRA requires 10 year IMPs of all institutions. Institutions will be required to provide updates to the BRA on the status of their IMP and any projects and commitments therein every 2 years on the anniversary of their approval by the Boston Zoning Commission.

2. Attractive residential neighborhoods are viewed by the BRA as being vital to the long-term success of Boston. BUMC sits within the context of the South End neighborhood. Impacts from institutional project construction, operations and expansion must have minimal negative impacts on the neighborhoods and BUMC should take appropriate steps to ensure this.

3. A Task Force has been appointed to assist and advise the BRA on the BUMC IMP and Proposed Projects. BUMC is requested to provide 2 year regular updates to Task Force members in addition to the BRA.

SUBMISSION REQUIREMENTS

The Boston Redevelopment Authority ("BRA") is issuing this Scoping Determination pursuant to Section 80D-1 and Section 80B-5 of the Boston Zoning Code (the "Code"). Pursuant to Article 80D of the Boston Zoning Code ("Code") the Boston University Medical Center Corporation and the Trustees of Boston University (collectively known as the "Proponents") submitted an Institutional Master Plan Notification Form/Project Notification Form ("IMPNF/PNF") to the Boston Redevelopment Authority ("BRA") on June 7, 2013. The IMPNF/PNF described proposed modifications to the 2010 IMP, including the following:

1. An addition to the existing Moakley Cancer center to facilitate the relocation and expansion of outpatient services;
2. Minor footprint, massing and phasing revisions to the 2010 IMP New Patient Building to include the expansion of the Emergency Department and Trauma Center;
3. Relocation of the 2010 IMP Energy Facility;
4. Replacement of the existing yellow utility tube across Albany Street with a new Bridge to service patient transport and materials handling; and
5. Inclusion of the acquisition of the Perkins Elmer site.

Notice of the receipt by the BRA of the IMPNF/PNF was published in the Boston Herald on June 7, 2013 initiating a public comment period ending on July 8, 2013.

Pursuant to Section 80D-4.3c and Section 80B-5.3c of the Code a scoping session was held on June 20, 2013 with the City's public agencies and to which members of the Task Force were invited. A combined Task Force and Public meeting where the proposed IMPNF/PNF were reviewed and discussed, was held on June 19, 2013. Based on the BRA's review of public comments and comments from the City's public agencies, the BRA hereby issues its Scoping

Determination pursuant to Section 80D-4.3 and Section 80B-5.3 of the Code. Comments from the City's public agencies are attached and incorporated as a part of this Scoping Determination. All attached comments from the City's public agencies and the public must be responded to in the IMPA/DPIR.

This Scoping Determination requests information required by the BRA for its review of the proposed IMPNF/PNF in connection with the following:

1. Approval of the BUMC IMP Amendment/Draft Project Impact Report ("IMPA/DPIR") pursuant to Article 80 and other applicable sections of the Code;
2. Recommendation to the Zoning Commission for approval of the IMPA/DPIR.

The IMPA/DPIR should be documented in a report of appropriate dimensions and in presentation materials which support the full review of the IMPA/DPIR. Fifteen copies of the full IMPA/DPIR should be submitted to the BRA. An additional twenty copies should be available for distribution to the Task Force members, participants, community groups and other interested parties in support of the public review process. The IMPA/DPIR should be uploaded on the BUMC or other appropriate website so that it may be viewed electronically. The IMPA/DPIR should be submitted 1) as a stand-alone document, and 2) electronically in the form of CD's. The IMPA/DPIR document should include this Scoping Determination and text, maps, plans, and other graphic materials sufficient to clearly communicate the various elements of the IMPA/DPIR.

BUMC 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 IMPA/DPIR to the BRA as required by Section 80A-2. This Notice shall be published within five (5) days after the receipt of the IMPA/DPIR by the BRA. Public comments shall be transmitted to the BRA within sixty (60)

days of the publication of this Notice, unless a time extension has been granted by the BRA in accordance with the provisions of Article 80 or to coordinate the IMP review with any required Large Project Review. Following publication of the Notice, BUMC shall submit to the BRA a copy of the published Notice together with the date of publication.

BRA MEMORANDUM

TO: Sonal Gandhi, Project Manager
FROM: David Grissino AIA, Senior Architect/Urban Designer
DATE: July 22, 2013
SUBJECT: **Boston University Medical Center**
Institutional Master Plan Notification Form/ Project Notification Form

URBAN DESIGN SCOPING DETERMINATION COMMENTS

Background

In their 2010 Institutional Master Plan (IMP), Boston University Medical Center (BUMC) outlined a series of goals and aspirations for the development of the campus which responded to evolving trends in healthcare delivery and education. Attention was given to describing current needs and the projects required to address them. Long range goals and planning principles were also outlined to serve as a framework for future discussion. The major urban design and campus design objectives of the 2010 IMP included:

- Transforming Albany Street and the image of the campus
- Being sensitive to the surrounding context through massing, scale, and materials
- Creating a clear and welcoming sense of arrival/wayfinding
- Enhancing pedestrian friendly edges
- Consolidating functions to improve efficiency and access to care
- Addressing aging buildings and the functions they provide
- Planning for long term growth

On June 7, 2013, BUMC filed their Institutional Master Plan Notification Form/ Project Notification Form (IMPNF/PNF). The IMPNF/PNF described a series of strategic changes to the development and use of the campus which would require modification of the projects previously approved in the 2010 IMP. The IMPNF/PNF outlined 6 Proposed Institutional Master Plan Projects. Those projects are a 38,000sf Energy Facility, a 78,000sf New Inpatient Building (Phase 1), a 323,000sf New Inpatient Building (Phase2), a 219,000sf Administration/Clinical Building, a 7,100sf New Patient Transport Bridge, and a 27,800sf addition to the Moakley Cancer Center. The IMPNF/PNF also describes the relocation of all inpatient services from the Newton Pavilion to the New Inpatient Building, acquisition of the Perkins Elmer site at the eastern edge of the campus, and the removal of several leased spaces from their IMP area.

These scoping comments address the strategic and campus design modifications to the 2010 IMP in an effort to understand how the currently proposed IMP projects impact the overall urban design framework and physical development of the campus. A more detailed set of project-specific questions relating to the Article 80B Large Project Review component of the IMPNF/PNF will be provided separately. These comments also seek additional information regarding modifications to two previously approved IMP Projects which are not seeking Article 80B approval at this time.

Modifications to the Institutional Master Plan

Campus Uses and Adjacencies

A major theme of the master plan has been reorganization of uses to establish ideal adjacencies and maximize efficiency. These shifts will fundamentally alter the general use zones which have historically defined the campus, its circulation patterns, building scale and character, campus identity and image, and relationship to surrounding non-institutional areas.

1 While discussed as a concept in the 2010 IMP, the consolidation of clinical services to the West Campus will make major progress with the relocation of inpatient services to the new Inpatient Building Phase 1. More information should be submitted regarding this relocation, including a description of how many square feet of space will become available in the Newton Pavilion for other uses, a description of those potential uses (BMC administration, BU Medical campus teaching or research, support, etc), and the location within the building where the spaces will be vacated and repurposed.

2 In addition, a narrative and graphic description should be provided which outlines the impacts on campus circulation caused by the relocation of the clinical uses and the associated staff and support personnel. Impacts to both the pedestrian and vehicular systems should be detailed.

3 In the 2010 IMP, a scenario was described in which the Doctor's Office Building (DOB), no longer able to function as a clinical building, would be downgraded when the Shapiro Ambulatory Care Center (SACC) became available. With SACC now open, an update should be provided regarding the current and anticipated uses in the DOB building. Table 1-2 of the IMPNF/PNF still states that the uses are a mixture of administrative and outpatient services. If clinical services are indeed now relocated to the SACC, Table 1-2 should be revised and the Campus Adjacencies map (Figure 1-6) should be modified. With the changes to the DOB and Newton Pavilion, the concept of an "East Campus Clinical" district should be

4 reconsidered. In this context, comments should be made regarding the potential future of the aging Preston Family Building as well.

In reference to the relationship between BMC and the BU Medical Campus, the IMPNF/PNF states that "the synergy among these institutions and the incorporation of teaching and research with the clinical programs is essential to improving health for the general public." With changes to the location of clinical functions which were previously physically linked to the academic buildings, the issue of the relationship between BMC and the BU Medical Campus should be discussed, particularly if the strategy for maintaining that strong

5 relationship has implications to the campus design approach. Pedestrian connectivity between academic and clinical spaces could have an impact on circulation routes along East Newton Street and Albany Street.

Both the 2010 IMP and the current proposed IMP Amendment highlight the need for additional administrative space at BUMC. This space presumably is needed to offset the loss

of leased spaces at Northampton Street and Harrison Avenue and the increased demands of inpatient and outpatient care. The Doctors Office Building, Newton Pavilion, and Perkins Elmer site all provide opportunities for administrative uses, as well as some undefined portion of the new 219,000 sf Administration/Clinical Building proposed under the IMP Amendment. Given the consistent labeling of "administration" as a principal use in most buildings shown in Table 1-2, it is difficult to ascertain the true supply and demand for administrative space. This lack of clarity is compounded by the uncertainty regarding the amount of administrative space not longer being leased on Northampton Street or Harrison Avenue. The IMP should provide a clear summary of the current and projected need for administrative space and clarify if the space currently available exceeds or falls short of that need.

6

7 With the removal of the 761 Harrison Avenue, Harrison Court Apartments/Office lease from the IMP, clarification regarding the 122,922 square feet of displaced uses should be provided. Of particular interest are the amount of residential units which are being relocated and a description of their new location.

Visions for Albany Street and the campus edges

Several trends in BUMC's campus development highlight the need for a clearly articulated and defined vision and set of design guidelines for Albany Street, Harrison Avenue, and Massachusetts Avenue. As the BUMC expands its overall footprint by acquiring additional properties farther along Albany Street such as the Perkins Elmer site, increased pedestrian traffic between the clinical and academic core and these more remote locations will demand a better understanding of the relationship of signage, wayfinding, and campus identity elements which are in the public realm.

Development of new and renovated building projects such as the New Inpatient Building Phase 1 or the DOB has the potential to establish new relationships between BUMC's facilities and the public realm. These projects can foster greater connectivity and the development of new networks of open spaces which create a pedestrian oriented future for the surrounding streets. BUMC must clarify the role each of these three major streets will play in the imagability and identity of the campus as a whole. This is of particular importance along Albany Street, which is becoming a more prominent face of the campus.

8

A set of urban design diagrams should be provided in the IMP which provides guidelines for development of buildings and green spaces which will enhance, identify, and clarify the institution's relationship to the surrounding area. The guidelines should also specifically define the extent and location of public realm improvements, both those associated with IMP building projects and those that are not. A timeline should also be provided which describes the phasing of the public realm improvements.

8 cont.

The Harrison Albany Corridor Strategic Plan

In June 2012, The City of Boston and Boston Redevelopment Authority issued the Harrison Albany Corridor Strategic Plan (HACSP). This plan was the result of extensive community outreach and participation which outlined a vision for an area extending from Massachusetts Avenue to Herald Street. Improving physical connectivity, establishing a sense of place, and

enhancing the public realm were central organizing themes to the plan. The HACSP called for the establishment of a "primary green corridor" along East Newton Street, connecting the Medical sub-area to the historic Franklin and Blackstone Squares in the South End. It also highlighted the potential for two "place-making opportunities" where East Newton Street intersects with Harrison Avenue and Albany Street.

While the IMPNF/PNF recognized some aspects of the plan, such as the desire to improve the relationship between institutional buildings and the public realm, additional narrative and graphic information should be provided which addresses BUMC's specific role in the evolution of East Newton Street. This element of the plan is of special importance given the significant changes occurring with the repurposing of the Newton Pavilion. 9

Acquisition of the Perkins Elmer facility

Identified as an area of interest in the 2010 IMP, the Perkins Elmer site has now been acquired by BUMC. Additional information regarding this site should be submitted with the IMP Amendment. That information should include, but not be limited to, a discussion of the physical boundaries of the properties which have been acquired, dimensional information of the individual existing structures, condition assessment of the structures (using evaluation criteria similar to Section 1.5.5 of the 2010 IMP), and long-term program goals for the site. 10

In the HACSP discussed above, the Perkins Elmer site sits within the Back Streets sub-area. The surface parking area was identified as a potential redevelopment site which could contribute to the creative economy and help strengthen the streetwall along the mid-block section of both East Canton Street and East Dedham Street. The IMP should specifically comment upon these goals as they relate to the institution's vision for the block. 10 cont.

Proposed IMP projects

The IMPNF/PNF proposed six IMP projects, some of which were modifications to those approved in the 2010 plan. Four of those six projects will be discussed in detail in a separate Scoping Comments memorandum relative to their Article 80B Large Project Review process. The New Inpatient Building (Phase 2) and the Administrative/Clinical Building are only seeking Article 80D review at this time. The New Inpatient Building, Phases 1 and 2, appears to be simply a mechanism for differently executing the same project which was previously approved as the "New Inpatient Tower" in 2010. The overall square footage of the project is roughly the same, but any significant programmatic changes should be described. The Administration/Clinical Building, however, has changed not only in its size (increasing by nearly 60,000 square feet) but in its location relative to Albany Street (setback from the street). The reasons for these changes should be described in detail in the IMP. 11 12

BRA MEMORANDUM

TO: Sonal Gandhi, Project Manager
FROM: David Grissino AIA, Senior Architect/Urban Designer
DATE: July 30, 2013
SUBJECT: **Boston University Medical Center**
Institutional Master Plan Notification Form/ Project Notification Form

URBAN DESIGN SCOPING DETERMINATION COMMENTS

Background

On June 7, 2013, BUMC filed their Institutional Master Plan Notification Form/ Project Notification Form (IMPNF/PNF). The IMPNF/PNF described a series of strategic changes to the development and use of the campus which would require modification of the projects previously approved in the 2010 IMP *and* new projects not anticipated at that time. The IMPNF/PNF outlined 6 Proposed Institutional Master Plan Projects. Those projects are a 38,000sf Energy Facility, a 78,000sf New Inpatient Building (Phase 1), a 323,000sf New Inpatient Building (Phase 2), a 219,000sf Administration/Clinical Building, a 7,100sf New Patient Transport Bridge, and a 27,800sf addition to the Moakley Cancer Center. The IMPNF/PNF also describes the relocation of all inpatient services from the Newton Pavilion to the New Inpatient Building, acquisition of the Perkins Elmer site at the eastern edge of the campus, and the removal of several leased spaces from their IMP area.

These scoping comments address the project-specific issues relating to the Article 80B Large Project Review component for the Moakley Cancer Center Addition, New Inpatient Building (Phase 1), Energy Facility, and New Patient Transport Bridge. A broader discussion of the overall master plan, urban design framework, and the other IMP Projects was provided separately in a Memorandum dated July 22, 2013.

For additional information regarding typical submission requirements under Article 80B, please refer to the BRA Development Review Guidelines using the following link: http://www.bostonredevelopmentauthority.org/pdf/documents/Development%20Review%20Guidelines%20-%20Final%20Version%20(April%202006).pdf

Project Review Comments

Moakley Cancer Center Addition
This modest addition to the existing Moakley Building is the enabling project which will allow other elements of the IMP to move forward. Although modest in scale, the project has great potential to positively affect the growth of the campus and its relationship to the surrounding area by redefining the edge of the campus along East Concord Street.

1

However, the proposed project will be removing an element of the existing open space system. To better understand these issues, a more detailed set of site plans should be provided which accurately describes the existing and proposed site conditions, including landscape elements, pathways, and the bus stop. These drawings should be at a large enough scale to understand the design intent for various proposed landscape and streetscape features easily. The scale of this drawing should be coordinated with BRA Urban Design staff.

2

The height and overall massing of the addition is in keeping with the existing building and is appropriate for the surrounding context. The proposed architectural expression directly replicates the material and façade design of the current Moakley Building. Because the addition will push the building facade much closer to East Concord Street, consideration should be given to an architectural expression which is more responsive to the redefined street edge condition the project will create.

2 cont.

Alternative studies should be submitted which investigate the relationship between the proposed addition and East Concord Street. These studies should also recognize that the north elevation may provide a distinctive edge to the adjacent open space in a similar fashion to the west elevation's "face" to the large open space located between BCD and FGH. While the uses on the interior of the proposed addition may not enable a large curtainwall similar to the west elevation, a more unified and frontal expression should be studied.

3

In addition to elevation studies, multiple ground level perspectives should be submitted which allow a clear understanding of the scale, materials, and character of the proposed building. Views should be taken from a point 5'-0" above the ground plane and include surrounding buildings, structures, and other scale elements in order to understand the context accurately. For each viewpoint, two images should be provided depicting the existing and proposed conditions. At a minimum, views should be taken from points east and west along the north side of the East Concord Street sidewalk and from the center of the nearby open space. View locations should be reviewed and approved by BRA Urban Design staff.

New Inpatient Building (Phase 1)

One of the long term strategic goals of the IMP is to transform the Albany Street campus image. With the construction of the first phase of work on the New Inpatient Building, significant improvements will be made to the function and appearance of BUMC along this important city street.

4

Figure 1-9 in the IMPNF/PNF begins to delineate the modifications to the public realm which are the result of the construction of the new building, but site plans with greater clarity and specificity should be submitted for review. These site plans should describe the existing and proposed condition at a larger scale and include an area which extends along Albany Street from Massachusetts Avenue to the SACC. Any functional or aesthetic changes to the loading, ambulance area, entries, or other public realm elements should be described.

With regard to the exterior design, the proposed addition presents a simple "picture window" to the street with a "contemporary aesthetic consistent with the modern design direction of

5 the campus." Additional information should be provided regarding the degree to which details and materials used on the SACC will impact the proposed design solution. Discussion should also be provided regarding the value of creating a more unified and coherent institutional identity along Albany Street and the appropriateness of extending the Phase 1 architectural vocabulary to Phase 2 of the project.

5 cont. While the Albany Street elevation appears simple and uniform, the interior functions on Levels 2, 3, and 4 appear quite different and could have an impact on the viability of the exterior expression as proposed. Narrative and supporting graphics should be provided which address this issue. The outcomes of this analysis and study will also be relevant to the Moakley Addition study requested above.

6 In order to understand the transformation of Albany Street as a result of this project, two ground level perspectives should be submitted, based on the methodology described earlier. Views should be taken from points north and south along Albany Street.

Energy Facility

Given its scale and revised location relative to other buildings in the area, the Energy Facility will have a high degree of visibility from the Melnea Cass intersection with Massachusetts Avenue and along the Mass Ave Connector. While the "industrial" architectural expression is appropriate, the use of dark grey cladding should be studied further. The overall palette of materials in the area is generally warm tones and/or a light to mid-range value. Use of a dark grey metal panel would stand apart from this background.

7 Perspective views utilizing a photo-montage technique would be most effective in studying this proposal, using vantage points at the southeast corner of Melnea Cass the intersection of Massachusetts Avenue and at the center southbound travel lane of the Mass Ave Connector near the Chief Medical Examiners Building. In addition to the build and no-build condition, an additional view should be provided which depicts the future condition with the existing Power Plant demolished and the Administration/Clinical Building in place.

As materials and finishes are finalized for the Energy Facility, the issue of Solar Glare must be revisited in order to determine that the large facades visible from the surrounding streets do not create hazardous conditions for the large volume of buses and automobiles in the area. Of particular concern is the late afternoon effect of glare along the Mass Ave Connector.

New Patient Transport Bridge

The removal of the existing yellow tube over Albany Street will make a significant improvement to the public realm and overall image of the campus. The proposed bridge, while serving vital functions for patients and infrastructure, can potentially become a signature element for the campus and a memorable part of Albany Street. However, the

8 bridge should strive to be as light and transparent as possible, minimizing its visual impact through careful specification of glass, detailing of connections, and construction of supports. In addition, the concept of strategically lighting the bridge or highlighting it in such a way as to create a beacon, gateway, or way-finding element should be reconsidered.

The proposed bridge project will have the potential to improve the public realm and reconfigure the circulation patterns along this section of Albany Street. A more detailed set of site plans should be provided which depicts the existing and proposed conditions. It is possible that this area could be shown on the drawings requested for the New Inpatient Building (Phase 1). Pedestrian and vehicular issues related to the location and shape of the vertical supports for the bridge should be described. In order to evaluate the urban design issues relating to the bridge, eye-level perspectives should be provided with near-range views (describing the pedestrian experience under and around the structure) and longer-range views (describing the lightness and transparency of the glass above).

9

10

BRA MEMORANDUM

TO: Sonal Gandhi

FROM: Katie Pedersen

DATE: July 1, 2013

RE: Boston University Medical Center
Boston, Massachusetts
Institutional Master Plan Notification Form/Project Notification Form

I have reviewed the Institutional Master Plan Notification Form/Project Notification Form (IMPNF/PNF) dated June 7, 2013 and submit the following comments for the Environmental Protection Component. The Boston Medical Center Corporation and the Trustees of Boston University (collectively the "Proponents") propose the following "Proposed Project":

- An addition to the existing Moakley Cancer Center;
- Minor footprint, massing, and phasing renovations to the 2010 Institutional Master Plan (IMP) New Inpatient Building;
- Relocation of the 2010 IMP Boston Medical Center Energy Facility;
- Replacement of the existing yellow utility tube across Albany Street with a new bridge
- The inclusion of the acquisition of the Perkin Elmer site

The Proposed Project includes a 27,800 square foot addition to the existing Moakley Cancer Center, the construction of a 78,000 square foot New Inpatient Building (which will include the demolition of a portion of the existing Dowling Building), the relocation of the Boston University Medical Center Energy Facility (from the previously BRA approved location) and the reduction in size (a 38,500 square foot combined heat and power facility) and the replacement of the existing yellow utility tube with a new Bridge.

The environmental impacts of the proposed Boston University Medical Center project shall be analyzed collectively (as the Proposed Project) and building specific and accordingly, the results will be reviewed both for their individual impacts as well as for the cumulative impact from the Proposed Project (as defined above).

1. Wind

The Proponent shall be required to conduct a qualitative analysis of the pedestrian level winds for the following: the proposed Moakley Cancer Center Addition, the proposed New Inpatient Building Phase 1 and the proposed Boston University Medical Center Energy Facility. The analysis shall discuss the impacts on existing and proposed building entrances, entrances to public transportation stations, crosswalks and public sidewalks, public plazas and gathering areas, parks and green spaces.

2. Shadow

The Proponents have stated that the Proposed Project (and in particular the proposed Moakley Cancer Center Addition, the proposed New Inpatient Building Phase 1, the proposed Boston University Medical Center Energy Facility and the proposed new Bridge) is not anticipated to generate negative new shadows. The Proponent has demonstrated that the Proposed Project will not create significant adverse impacts on public open spaces and pedestrian areas, including, but not limited to, the sidewalks and pedestrian walkways within, adjacent to, and in the vicinity of the Proposed Project and the existing and proposed plazas, historic resources and open space areas within the vicinity of the Proposed Project.

Both the proposed Moakley Cancer Center Addition and the proposed Boston University Medical Center Energy Facility will be surrounded by and adjacent to structures of similar height and massing, thus no significant negative new shadow impacts are anticipated. The proposed New Inpatient Building will be located along the north side of Albany Street and as a result net new shadows are anticipated to be cast back on the roof of the proposed New Inpatient Building. Similarly, the proposed new Bridge's net new shadow is expected to be cast onto itself.

3. Daylight

(Please refer to Urban Design's comments)

4. Solar Glare

The Proponents have stated that the Proposed Project's exterior materials have yet to be determined. However, the Proponents have stated that the Proposed Project exterior is not likely to incorporate the use reflective glass and instead will include brick, stone, pre-cast concrete and glass. Thus, the Proponents do not anticipate the creation of either adverse solar glare impacts or solar heat buildups in nearby buildings. However, should the Proposed Project design change and incorporate substantial glass-facades (reflective glass), a solar glare analysis shall be required.

The analysis shall measure potential reflective glare from the buildings onto potentially affected streets and public open spaces and sidewalk areas in order to determine the likelihood of visual impairment or discomfort due to reflective spot glare. Mitigation measures to eliminate any adverse reflective glare shall be identified.

5. Air Quality

The Proponents shall provide a description of the existing and projected future air quality in the Proposed Project vicinity and shall evaluate ambient levels to determine conformance with the National Ambient Air Quality Standards (NAAQS). Careful consideration shall be given to mitigation measures to ensure compliance with air quality standards.

A description of the Proposed Project's heating and mechanical systems including location of buildings/garage intake and exhaust vents and specifications, and an analysis of the impact on pedestrian level air quality and on any sensitive receptors from operation of the heating, mechanical and exhaust systems, including the building's emergency generator, shall be required. Measures to avoid any violation of air quality standards shall be described.

6. Noise

The Proponent shall be required to establish the existing noise levels at the Proposed Project site and vicinity based upon a noise-monitoring program and shall calculate future noise levels after the Proposed Project completion based on appropriate modeling and shall demonstrate compliance with City of Boston noise regulations and applicable state and federal regulations and guidelines. The noise evaluation shall include the effect of noise generated by the area's traffic and other noise sources. If deemed necessary, mitigation measures to minimize adverse noise impacts to acceptable limits shall be described.

Analyses of the potential noise impacts from the Proposed Project's mechanical and exhaust systems and compliance with applicable regulations of the City of Boston shall be required. Descriptions of the Proposed Project's mechanical and exhaust systems and their location shall be included. Measures to minimize and eliminate adverse noise impacts on nearby sensitive receptors shall be described.

7. Groundwater

The Proponents have stated that the proposed Moakley Cancer Center Addition and the proposed New Impatient Building are located within the Groundwater Conservation Overlay District (GCOD) and accordingly, have stated that the Proposed Project will be constructed in compliance with the recharge requirements that make up one of the standards for approval under the GCOD. However, the GCOD has a second requirement and thus the Proponents shall be required to demonstrate that the proposed Moakley Cancer Center Addition and the proposed New Impatient Building will not cause reductions in groundwater levels on the sites or on adjoining lots. The Proponents shall also be required to provide the mandated certification (per Article 32) by an engineer registered in Massachusetts.

8. Sustainable Design/Green Buildings

The purpose of Article 37 of the Boston Zoning Code is to ensure that major buildings projects are planned, designed, constructed and managed to minimize adverse environmental impacts; to conserve natural resources; to promote sustainable development; and to enhance the quality of life in Boston. Any proposed project subject to the provisions of Article 37 shall be LEED Certifiable (U.S. Green Buildings Council) under the most appropriate LEED rating system. Proponents are encouraged to integrate

sustainable building practices at the pre-design phase. Proposed Projects which are subject to comply with Section 80B of the Boston Zoning Code, Large Project Review, shall be subject to the requirements of Article 37.

Please see the Interagency Green Building Committee's Comment Letter for particular comments.

Thomas M. Menino
Mayor

Article 37 Interagency Green Building Committee

June 24, 2013

Robert Biggio, Vice President, Facilities and Support Services
Boston Medical Center Corporation
750 Albany Street, 1st Floor
Boston, MA 02118

Re: Boston University Medical Center, South End
Institutional Master Plan Notification Form/Project Notification Form
Article 37, Boston Zoning Code

Dear Mr. Biggio:

The Boston Interagency Green Building Committee (IGBC) has reviewed Boston University Medical Center's (BUMC) LEED for New Construction and Major Renovation (LEED NC) checklists for the following Institutional Master Plan (IMP) projects:

- An addition to the Moakley Cancer Center showing a plan to obtain 54 points, LEED Silver
- Phase I of a new Inpatient Building + a new Patient Transport Bridge showing a plan to obtain 58 points, LEED Silver
- Construction of a previously BRA-approved new Energy Facility showing a plan to obtain 45 points, LEED Certified

We request the following:

1. Elaboration on the choice of LEED NC for both the Moakley Addition and the Inpatient Building rather than LEED 2009 for Healthcare New Construction & Major Renovation.
2. A description of the ways in which LEED credits will be obtained. Please submit a detailed narrative for the IGBC's review.

Each checklist shows an intent to obtain Innovation in Design points for Boston Green Building credits Modern Grid and Modern Mobility; Groundwater Recharge is also planned for the Moakley addition and Inpatient Building Phase I. Please provide specifics regarding plans to

meet the Boston Public Health Commission prerequisites:

3. • Retrofit of all diesel construction vehicles, from the United States Environmental Protection Agency approved retrofit technologies, as applicable, or contribution of a comparable amount to the Air Pollution Control Commission Abatement Fund;
4. • Develop and implement an outdoor construction management plan including provisions for wheel washing, site vacuuming, truck covers and anti-idling signage; and
5. • Develop and implement an Integrated Pest Management (IPM) plan.

The IGBC looks forward to additional information. Please contact us through your Project Manager if you have questions.

Sincerely,
Article 37 Interagency Green Building Committee

BOSTON PUBLIC HEALTH COMMISSION

Building a Healthy Boston

July 8, 2013

Sonal Gandhi
Boston Redevelopment Authority
Boston City Hall, 9th Floor
Boston, MA 02201-1007

RE: BUMC IMPA/PNF

Dear Ms. Gandhi:

Thank you for the opportunity to comment on the Boston University Medical Center Institutional Master Plan Amendment/Project Notification Form. As the City's public health department we are pleased that this plan reflects patient needs and will enable BMC to effectively serve Boston's most vulnerable patients in the setting most appropriate to their needs.

The Project would consist of a 17,136 square foot addition to Boston Medical Center, including a proposed addition to the existing Moakley Cancer Center; minor footprint, massing and phasing revisions to the proposed New Inpatient Building; relocation of the Energy Facility; replacement of the existing yellow utility tube across Albany Street with a bridge for patient transport and materials handling; and the addition of property, on the Boston University Medical Center Campus in the South End.

The Boston Public Health Commission (Commission) has reviewed and supports the Institutional Master Plan Amendment, recognizing that the IMP as amended will positively impact public health and quality of life in Boston. We have, however, requested that modifications be made on the siting of the Energy Facility to take into account the needs of existing clients and guests using the Finland and Woods Mullen buildings to receive essential services.

The Commission considers the substantial size of the proposed IMP Amendment an opportunity to create positive health impacts of the city's most central health campus by maximizing the creation of jobs for residents, and promoting safe neighborhoods with opportunities for active transit.

With regard to plans for future building design and use, the Commission encourages the Proponent to incorporate healthy building principles into design and management plans wherever possible. The Commission supports measures to ensure indoor environmental quality through the use of low-emitting construction materials, increased ventilation and the elimination of environmental tobacco smoke through smoke-free policies. Additionally, the

1.

Commission supports the incorporation of active design principles and elements that promote active circulation within and around buildings through the location, design and dimensions of stairs along with signage to promote active circulation.

Specifically, in the areas of urban design and transportation, the amended plan calls for significant improvements to pedestrian safety and walkability on Albany Street and throughout the campus. In the implementation of this plan, we encourage the proponent to focus on measures to increase pedestrian connectivity and facilitate walking and active transit. These may include measures like wayfinding features to nearby transit lines. For example, given the proximity to the new Newmarket Commuter Rail station, any improvements to pedestrian and bicycle connectivity with the Newmarket station that can be accommodated through street design or signage should be considered. In addition, indoor design features that promote walkability, active design and use of stairs should be considered as individual buildings are designed and constructed.

2.

3.

We applaud the proponent's proposed efforts around parking management, especially given the relationship between car usage and chronic disease and air quality, in an area with high density of public transit options and high traffic congestion. In particular, we think the proponent's TDM efforts through TransComm will continue to promote greater rates of walking and biking by staff, students, patients and visitors. We would propose that the proponent consider expansion of this program to include other area employers within immediate proximity to the campus. Further, we appreciate the existing and proposed accommodations to support bicycle use and would encourage the proponent to consider other measures to promote walking and biking by all patient, visitor and employee transit riders to the area who may experience physical or perceived barriers to walking or bicycling in the high traffic area, including those with impaired mobility. This could include additional pedestrian safety improvements, especially along Massachusetts Avenue.

4.

5.

With regard to the proposed Energy Facility siting in the IMP amendment, the relocation of the new energy facility from the approved location under the existing IMP to the new proposed location brings it into immediate proximity to the BPHC's Finland and Woods Mullen buildings, which collectively serve some of the City's most vulnerable populations. While we appreciate the proponent's ambitious greenhouse gas reduction goals, we would suggest that the proponent take all practicable measures to reduce local air quality impacts related to combustion byproducts. In addition, due to the function of the Woods Mullen building as an overnight shelter, it is appropriate to consider the impacts on what is functionally similar to a residential use.

6.

We also wish to clarify for the IMP Amendment/PNF, that the Finland is a direct service building, which receives frequent in and out foot traffic of clients served by the Commission. The parking area directly behind the Woods Mullen and Finland buildings, which is adjacent to and on the site of the proposed new Energy Facility currently serves as the access and loading area for the buses that transport homeless guests to the Long Island Shelter several times each day. Continued use of this parking area is needed since the inability to use this area for the loading of buses would have a detrimental effect of the traffic flows on Massachusetts Avenue, the only other access point for the facility. While we recognize the overall value of the new energy

7. facility on regional air quality, we request that the Proponent modify the plans to take into account the needs those using both the Finland and Woods Mullen buildings.

The Commission commends the Authority and Proponent for actively engaging community participation throughout the development of this Master Plan, and their commitment to doing so as this project moves forward. In addition to the existing Task Force, given the proximity to the Commission facilities, we encourage the proponent to meet with additional utilizers of the campus and surrounding areas as part of public review processes, to best understand the needs of those who live, work and receive services in the area which will be affected by the project.

Thank you again for the opportunity to comment on this Master Plan Amendment. If you have any questions please feel free to contact me.

Sincerely,

Barbara Ferrer

Barbara Ferrer, PhD, MPH, MEd
Executive Director

Cc: Peter Meade, Executive Director/Secretary, Boston Redevelopment Authority
James M. Tierney, Chief of Staff and Special Counsel, Boston Redevelopment Authority

Boston Water and Sewer Commission

980 Harrison Avenue
Boston, MA 02119-2540
617-989-7000

July 8, 2013

Ms. Sonal Gandhi
Senior Project Manager
Boston Redevelopment Authority
One City Hall Square
Boston, MA 02201

Re: Boston University Medical Center- IMPA/PNF

Dear Ms. Gandhi:

The Boston Water and Sewer Commission (BWSC, the Commission) has reviewed the Institutional Master Plan Amendment/Project Notification Form (IMPA/PNF) for the Boston University Medical Center (BMC). The IMPA/PNF describes proposed modifications to the Institutional Master Plan previously approved in 2010, including a proposed addition to the existing Moakley Cancer Center; minor footprint, massing and phasing revisions to the proposed New Inpatient Building; relocation of the Energy Facility proposed; replacement of the existing yellow utility tube across Albany Street with a new bridge for patient transport; temporary relocation of the current loading dock for the west Campus and construction of a new below grade tunnel beneath Albany Street; and incorporation into the Master Plan recently acquired property located at 100 East Canton Street, 123 East Dedham Street, and 57 Albany Street.

At this time BMC is initiating Large Project Review for the following projects:

- Moakley Cancer Center Addition
- New Inpatient Building Phase 1
- Energy Facility
- New Patient Transport Bridge

The Commission has the following comments regarding the proposed projects:

General

1. The proponent must submit site plans and General Service Applications to the Commission for individual construction projects as they are proposed. Site plans must show the location of existing public and private water mains, sanitary sewers and storm drains serving project sites, as well as the locations of proposed service connections.

2. With each site plan, the proponent must provide detailed estimates for water demand, sanitary sewer flows and stormwater runoff generation for the proposed project. The amount of potable water required for landscape irrigation, if any is anticipated, must be quantified and provided separately.

3. It is the proponent's responsibility to evaluate the capacity of the water, sewer and storm drainage systems serving the individual project sites to determine if the systems are adequate to meet future project demands. With each site plan, the proponent must include detailed capacity analyses for the water, sewer and storm drain systems serving the project site, as well as an analysis of the impact the project will have on the Commission's and the MWRA's systems overall. The analysis should identify specific measures that will be implemented to offset the impacts of the anticipated flows on the Commission and MWRA sewer systems.

4. The proponent is advised that any new, relocated, reconstructed or expanded water, sanitary sewer, or storm drainage facilities required to accommodate future development must be designed and constructed at the proponent's expense and in conformance with the Commission's Sewer Use and Water Distribution System regulations.

5. To assure compliance with the Commission's requirements, the proponent should submit site plans and General Service Applications for individual projects to the Commission for review when project designs are 50 percent complete.

6. Before the proponent demolishes any existing structure, existing water and sewer connections to the structure must be cut and capped in accordance with Commission standards. The proponent must complete a Termination Verification Approval Form for a Demolition Permit, available from the Commission. The completed form must be submitted to the City of Boston's Inspectional Services Department before a Demolition Permit will be issued.

Sewage/Drainage

7. Grease traps are required in all new and existing cafeteria or kitchen facilities in accordance with the Commission's Sewer Use Regulations. The proponent is advised to consult with the Commission prior to preparing plans for grease traps.

8. The Department of Environmental Protection (DEP), in cooperation with the Massachusetts Water Resources Authority (MWRA) and its member communities, are implementing a coordinated approach to flow control in the MWRA regional wastewater system, particularly the removal of extraneous clean water (e.g., infiltration/ inflow (I/I)) in the system. In this regard, DEP has been routinely requiring proponents proposing to add significant new wastewater flow to assist in the I/I reduction effort to ensure that the additional wastewater flows are offset by the removal of I/I. Currently, DEP is typically using a minimum 4:1 ratio for I/I removal to new wastewater flow added. The Commission supports the DEP/MWRA policy, and will require the proponent to develop a consistent inflow reduction plan.

9. Site plans must show in detail how drainage from the building's roof and from other impervious areas will be managed. Roof runoff and other stormwater runoff must be conveyed separately from sanitary waste at all times.

10. The project sites are located within Boston's Groundwater Conservation Overlay District (GCOD). The district is intended to promote the restoration of groundwater and reduce the impact of surface runoff. Projects constructed within the GCOD are required to include provisions for retaining stormwater and directing the stormwater to the groundwater table for recharge.

11. Developers of projects involving disturbances of land of one acre or more are required to obtain an NPDES General Permit for Construction from the Environmental Protection Agency, and prepare a pollution prevention plan. The proponent is responsible for determining if such a permit is required and for obtaining the permit. If a permit is required, a copy of the Notice of Intent and the pollution prevention plan prepared pursuant to the Permit must be provided to the Commission prior to the commencement of construction.

12. The Massachusetts Department of Environmental Protection (MassDEP) has established Performance Standards for Stormwater Management. The Standards address stormwater quality, quantity and recharge. In addition to Commission standards, the proposed project will be required to meet MassDEP's Stormwater Management Standards.

13. In conjunction with each site plan and General Service Application submitted, the proponent will be required to submit a Stormwater Pollution Prevention Plan. Each plan must:

- Specifically identify how the project will comply with the Department of Environmental Protection's Performance Standards for Stormwater Management both during construction and after construction is complete.

- Identify specific best management measures for controlling erosion and preventing the discharge of sediment, contaminated stormwater or construction debris to the Commission's drainage system when construction is underway.

- Include a site map which shows, at a minimum, existing drainage patterns and areas used for storage or treatment of contaminated soils, groundwater or stormwater, and the location of major control or treatment structures to be utilized during construction.

14. The discharge of dewatering drainage to a sanitary sewer is prohibited by the Commission. The proponent is advised that the discharge of any construction site dewatering drainage to the storm drainage system requires a Drainage Discharge Permit from the Commission. If the dewatering drainage is contaminated with petroleum products for example, the proponent will be required to obtain a Remediation General Permit from Environmental Protection Agency (EPA) for the discharge.

15. The Commission encourages the proponent to explore additional opportunities for protecting stormwater quality by minimizing sanding and the use of deicing chemicals, pesticides, and fertilizers.

Water

16. The Commission utilizes a Fixed Radio Meter Reading System to obtain water meter readings. Where a new water meter is needed, the Commission will provide a Meter Transmitter Unit (MTU) and connect the device to the meter. For information regarding the installation of MTUs, the proponent should contact the Commission's Meter Installation Department.

17. The proponent should explore opportunities for implementing water conservation measures in addition to those required by the State Plumbing Code. In particular the proponent should consider outdoor landscaping which requires minimal use of water to maintain. If the proponent plans to install in-ground sprinkler systems, the Commission recommends that timers, soil moisture indicators and rainfall sensors be installed. The use of sensor-operated faucets and toilets in common areas of buildings should also be considered.

18. The proponent is required to obtain a Hydrant Permit for use of any hydrant. The water used from the hydrant must be metered. The proponent should contact the Commission's Operations Division for information regarding Hydrant Permits.

Thank you for the opportunity to comment on these projects.

Yours truly,

John P. Sullivan, P.E.
Chief Engineer

JPS/as
cc: Robert Biggio, Boston Medical
J. Hobbs, Collaborative Partners
E. Grobb, Epsilon Associates, Inc.
M. Zlody, Boston Env. Dept.
P. Laroque, BWSC
M. Tuttle, BWSC

Michael J. Crowley
90 E. Brookline Street, #3
Boston, MA 02118
617-614-5999

July 8, 2013

BY EMAIL

Ms. Sonal Gandhi
Boston Redevelopment Authority
One City Hall Square
Boston, MA 02201

Re: **Boston University Medical Center IMPNF/PNF**

Dear Ms. Gandhi:

I am writing as a member of the Task Force for the above-referenced project. I have had the opportunity to participate on the Task Force and public meetings. In addition, I have reviewed the Institutional Master Plan Notification Form / Project Notification Form submitted by Boston University Medical Center dated June 7, 2013 and would like to offer the following comments for your consideration.

1. The proponent has presented compelling information to support its request to amend the approved 2010 Institutional Master Plan to incorporate various minor modifications.

2. The modifications demonstrate an on-going commitment by BUMC to provide an exceptional clinical environment to care for its patients; improve energy efficiency and care for the environment through an innovative energy infrastructure; foster its partnership with the broader neighborhood community by enhancing the Albany streetscape with additional plantings, removal of the "yellow" utility tube and fewer curb cuts. These are all very positive elements of the proposed amendment.

3. As the design process evolves, there should be a detailed examination of the architectural treatment of the new bridge that spans Albany Street. There is an opportunity to eliminate the pylons and develop and alternate structural support system to further enhance the streetscape.

4. BUMC is a vibrant environment during the day. I would recommend that BUMC continue to explore retail and other opportunities that would extend that vibrancy into the evening hours. The Medical Center could build on the Albany Gateway theme and develop a destination experience for neighborhood residents and members of the BUMC community.

I enthusiastically support BUMC's submission and welcome the opportunity to work with the BRA and BUMC to advance the vision outlined in the IMP Amendment.

Sincerely,

Michael J. Crowley

Kristi Dowd

From: Gandhi, Sonal <Sonal.Gandhi.bra@cityofboston.gov>
Sent: Monday, July 08, 2013 7:18 PM
To: Kristi Dowd; Donna Camiolo
Subject: Fwd: Boston University Medical Center - Institutional Master Plan Amendment - Comments from WSANA Due on 7/8/13

Begin forwarded message:

From: Christos Hamawi <christos@bluebrickstudios.com>
Date: July 8, 2013, 7:14:31 PM EDT
To: "Gandhi, Sonal" <Sonal.Gandhi.bra@cityofboston.gov>
Cc: Adrienne Kimball <Adrienne.Kimball@americastestkitchen.com>, George Stergios <wsana2010@gmail.com>
Subject: Boston University Medical Center - Institutional Master Plan Amendment - Comments from WSANA Due on 7/8/13

ATTN: Sonal Ghandi / Senior Project Manager BRA

RE: Comments on the BUMC IMPA/PNF Due by July 8, 2013

Dear Sonal,

After attending the BUMC IMPA/PNF presentation as a task force member and discussing the plan in detail with other WSANA members that attended a special meeting (Between BUMC and WSANA) last week, please find my comments regarding the amendments made to the BUMC IMPF below:

[Link to BUMC Institutional Master Plan for reference: http://www.bu.edu/community/master-plans/]

I would like to start off by saying that residents of WSANA recognize and greatly value the important work and services that BUMC provides to the citizens of Boston and surrounding communities.

We consider BUMC as a partner with many shared goals and objectives and we fully support BUMC in their efforts to continue to improve the quality of healthcare and services they provide.

That being said, as a partner and neighbor to BUMC, we have some very important concerns regarding the BUMC Master Plan that we wish to address.

1. First and foremost, Section 1.0 Public Benefits, specifically Page 1-50 "A Safety Net for Special At Risk Populations"

It is our understanding that BUMC is currently the largest Safety Net hospital in New England. We believe substance abuse is a serious problem plaguing our state and community and applaud BUMC, Boston Public Health, and other BUMC partner agencies for all that they do to treat those suffering and to get them off of their addictions and into healthy productive lifestyles. As BUMC continues to grow and expand their care and treatment of the 'At Risk Populations' even further, the impact to the immediate WSANA neighborhood equally increases. We would like to see BUMC acknowledge and address this issue in the master plan, and to see that a comprehensive plan is in place to best handle the rising levels of substance abuse patients being treated at their facility (and at partner facilities) and their impact on the safety, security, health, and quality of life in the adjacent WSANA neighborhood. This includes increased cooperation and communication between BUMC, WSANA, Boston Public Health, Boston Police, and our City and State representatives. The significance of this issue should not be overlooked, which is why we feel it should, in some way, be acknowledged and addressed within the scope of Section 1.0 "Public Benefits" and/or "Partnerships/Organizations" in the Master Plan.

Some (but not all) of the public safety concerns include:

- **The rising levels of discarded drug paraphernalia and hypodermic needles being found within the WSANA residential areas; most notably in residential gardens, tree pits, stairwells, and public alleys.** These needles are often uncapped, exposed, and hidden beneath flower beds, bushes, or other debris and can easily puncture someone. These needles can also be objects of curiosity for small children.

- **The rising levels of discarded alcohol and pill bottles in WSANA residential areas**. This not only contributes to an already exacerbated trash issue within the community, but demonstrates evidence of increased drug and alcohol use within our neighborhood, and public intoxication. This increase most certainly impacts the level of safety and security within the WSANA neighborhood.

- **The rising levels of drug dealing by those being treated as well as by those coming to exploit those being treated.** This includes the illegal sale of prescription drugs dispensed through the BUMC Pharmacy. Drug dealing is taking place within the WSANA neighborhood on a daily basis, and in daylight hours. This not only increases the level of drug use within WSANA, but it also introduces an increase in theft, break ins, vandalism, assault, and drug related violence.

- **The rising level of trespassing and loitering by substance abuse patients**. Patients being treated by BUMC and/or its partners routinely view the front stoops, stairwells, and alleyways as their personal rest areas. This issue is a serious quality of life issue as well a public safety hazard. BUMC should provide a comprehensive respect training program to all their substance abuse patients that includes rules and regulations for receiving treatment at a BUMC facility. Specifically, we would like BUMC to emphatically urge their patients to be courteous and respectful of all public and private property when being treated at a BUMC facility. That includes not trespassing on any private property, not using private stairwells or stoops as rest areas or restroom facilities, not littering on sidewalks or in front gardens, tree pits, stairwells, and stoops, and not causing other public disturbances. BUMC should also be providing and encouraging the patients to use BUMC or BUMC Partner provided rest areas, rest rooms, and facilities instead. We would like to see this simple respect training program merged together with any drug counseling and substance abuse treatment program offered by BUMC and its partners.

These are serious and significant public health and safety issues and quality of life issues that will only continue to escalate in scope and frequency as BUMC continues to grow and expand its capacity to treat substance abuse patients. That does not imply that BUMC patients are the sole source of the problem, or that the resolution of these issues is the sole responsible of BUMC, but rather that BUMC, as one of the major providers of care for substance abuse patients, should be a major partner and player with regard to resolving these issues together with WSANA and other stakeholders in the community. We would like to see BUMC take a more proactive approach and to incorporate a stated goal of reducing the negative public health, safety, and quality of life issues that result from treating many patients with substance abuse issues in a dense residential area.

2. Regarding Section 1.0 Public Benefits, specifically Page 1-60 "Partnerships/Organizations"

BUMC has partnered with Mass Highway and the City of Boston to landscape and maintain the newly constructed medians on Massachusetts Avenue in the South End, between Albany Street and Columbus Avenue. It is our understanding that they agreed to a 10 year term. The landscaping was first initiated in 2012, so it is our belief that this contract will expire sometime around the year 2022. (or thereabouts).

These medians not only enhance the WSANA neighborhood, but they also greatly enhance the gateway to BUMC. With that in mind, we would really like the BUMC Master Plan to acknowledge this Mass Ave Median landscaping and maintenance commitment somwhere in Section 1.0 Public Benefits, perhaps within "Partnerships/Organizations" . We would also like BUMC to consider extending this contract beyond the 10 year period with a goal of finding a more lasting and permanent landscaping and maintenance solution for the long term that would eliminate the use of watering trucks (which block an entire lane of traffic and poses a safety risk to those individuals watering) and eventually introduce and underground water source or watering system.

3. Regarding Section 1.8.3.3. "Current Open Space" and 2.1.1 Proposed Moakley Center Addition:

WSANA members have expressed their strong appreciation and support for all the open spaces provided by BUMC. They are essential in helping to harmoniously fuse the BUMC facility together with the WSANA residential community.

With that in mind, we urge BUMC to avoid removing the Alpert Garden park along East Concord Street in order to expand the Moakely building and to instead continue to seek other alternatives that do not involve the removal of any green space. We feel that the Alpert Garden Park is not only an important aesthetic buffer between the hospital and the community, but the combination of the Alpert Garden Park and the Talbot Green creates a peaceful, green, and harmonious urban oasis along Concord Street that will be a great loss upon its removal. In addition, this lush green landscaping with many beautiful healthy and thriving trees helps filter polluted city air, provides a respite with shade and seating, and helps reduce noise levels in the area.

4. Regarding Section 4.2.7 Pedestrian Conditions

WSANA would like to request that the BUMC Master Plan consider improvements to the 'Pedestrian Conditions and Experience' along Harrison Avenue between East Concord Street and East Brookline Street. We would like to see additional landscaping enhancements, new parks and green spaces, and building improvements with more of a front facing appearance.

5. Regarding section 1.0 on page 1-43 Figure 1-16: (The diagram depicting the future plans to relocate the existing Helipad from the ground to the roof of Building "C")

WSANA urges BUMC to assess alternatives to relocating the existing Helipad including leaving it as is or relocating it to another location where sound is mitigated away from the residential neighborhoods by taller adjacent building structures. Since the Helipad relocation is not part of the current review process or development proposal, we further request that BUMC remove this rooftop Helipad depiction on Building C from all IMP diagrams until it is further discussed with the public and scheduled for official review.

6. Regarding Section 4.2.6 on page 4-26 Public Transportation

WSANA recognized the importance of improved traffic flow, reduced congestion, and reduced noise and air pollution, and better accessibility options with regard to enhanced Public Transportation. We would like to urge BUMC to work closely with the MBTA and other city/state agencies (or perhaps with TranSComm Shuttle Servies www.transcomm.org) to evaluate a reliable and continuous shuttle service between the BUMC facility and the Andrews Square Red Line MBTA stop by leveraging the (almost) direct link offered via Southampton Street. This wide roadway is under utilized and could provide a significant community benefit by directly linking the BUMC community and adjacent WSANA neighborhood to a major T station, further expanding options for both residents and commuters.

7. WSANA would also like to encourage BUMC to include more green initiatives in its plan, including the development of LEED certified buildings http://www.usgbc.org/leed and the City of Boston's Green Building and Green Roofs initiative http://www.cityofboston.gov/environmentalandenergy/buildings/.

While there are likely to be more areas of concern raised by other WSANA residents, these are the concerns that I was able to collect in the time period provided.

Best regards,

-Christos

Christos Hamawi
(617) 653-7044
BUMC IMPA/PNF Task Force Member
WSANA Board

Glen A. Berkowitz

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July 8, 2013

Ms. Sonal Ghandi
Senior Project Manager
Boston Redevelopment Authority
One City Hall Square
Boston, MA 02201

Sonal.Gandhi.BRA@cityofboston.gov

Delivery by Adobe PDF via email

Dear Ms. Ghandi,

As a South End resident who lives immediately adjacent to the Boston Medical Center/ Boston University Medical Center campus ("BMC"), I would like to take this opportunity to provide comments and suggestions regarding Boston Medical Center's Institutional Master Plan Amendment/Project Notification Form ("IMP") as presented to the community on June and July 2013.

I am pleased that the Boston Medical Center Corporation is taking steps that will allow for continued success in terms of patient care, greater organizational financial stability, and increased levels of neighborhood benefits. Based on news reports, it appears that BMC has experienced increasing financial deficits during recent several years. The deficits may be due to larger national changes in health care reform, yet they are clearly not sustainable. I want to see BMC not only survive, but thrive, as both a patient, a believer in their public mission, and as a neighbor who believes that with the well-being of BMC so goes the quality-of-life of our neighborhood.

I am particularly pleased to see the following elements as part of these new plans:

Consolidation of Inpatient Services, Expanded Emergency Department, and Core moved Westward. I support BMC's efforts to consolidate clinical services, upgrade and expand the Emergency Department and Trauma Center in the Menino Pavilion, and move the core of the clinical campus to the west. These changes appear to provide more simple inpatient access (to one rather than disparate locations), staffing and management operating efficiencies, and appear to help save money. All seems like good objectives.

New Transport Bridge and Tunnel Crossings of Albany Street. At first, I had many questions about these new proposed crossings. I thank the BMC team for helping me better understand the complexities associated with the issues involved. I especially appreciate their effort to help me during an extended holiday week, and want to acknowledge that courtesy. My reading of the IMP is that it requests approval for both a proposed new aerial elevated bridge crossing and a proposed new subterranean tunnel crossing. Both of these crossings will connect existing and future BMC on the "south" side of Albany Street, and appear to make sense. From an architectural and urban design context, it would be preferred if both new crossing could be tunnel connections. I ask the BRA to request the Proponent to further evaluate the feasibility of such tunnels. Tunnels should be preferred if feasible. Either way, tunnel or overhead, I support BMC's efforts to grade-separate (via tunnel or bridge) new connections for staff, patients, and materials that need transport across the two sides of Albany Street.

1.

However, with the good aspects of this IMP and PNF come a number of missed opportunities that warrant further study, more detailed analysis, and renewed institutional commitment. These opportunities include:

Retain Existing Alpert Garden on the east side of the Moakley Cancer Center adjacent to East Concord Street and the historic Talbot Green. The IMP requests approval to expand the Moakley Cancer Center Building ("Moakley") by constructing an Addition on its "east" side, expanding the building to the edge of East Concord Street. The IMP, as far as I can tell, fails to sufficiently describe that this Addition would require eliminating the existing Joan F. Alpert Garden space ("Alpert Garden") that has been in place since the Moakley was approved in 2003. The BRA should request that the Proponent more fully evaluate alternatives to the complete elimination of the Alpert Garden. See Appendix A, Figure 1.

2.

A decade ago, the Moakley went through a good community process. At that time, BMC requested community support to replace existing older Medical Services buildings with the new Moakley facility. That process led to a careful, thoughtful design that specifically kept the "east" edge of the Moakley purposely set-back from both East Concord Street and the historic Talbot Green.

The historic Talbot Green forms the traditional open space core of the BMC/BUMC campus; this is the open space location that is most heavily used and frequented by people (patients, staff, students, other visitors, including members of the local neighborhood). Back in 2003, the idea was to set-back the new Moakley and create a new park (Alpert Garden) that would abut East Concord Street and complement the historic Talbot Green.

With nearly ten (10) years of operational use, the new Alpert Garden has proved to be a nice open space that is used by patients and staff, those waiting for transportation services nearby, and it also helps enhance the wonderful open space that is the Talbot Green. The Talbot is, today, the nicest open space experience in that part of our neighborhood. There is no doubt that the 2003 plan to create the new, complementary Alpert Garden has worked

very well. It helps create a very enjoyable open space experience for people who work or visit the BMC campus (including neighborhood residents).

The IMP's plan to expand the Moakley with a new Addition to be built "east" between the existing building and East Concord Street would eliminate (completely remove) the Alpert Garden. This should be unacceptable, and at best only a worst-case scenario if and only if no feasible alternatives exist. The IMP states that the Moakley Addition is the new "linchpin" to the planned IMP new campus changes, but to this reader such connections are unclear. Also unclear are the specific alternatives (and pros and cons of each) to this Addition. The BRA should ask the Proponent to provide more detail on the causes of and the need for the proposed Moakley expansion. As part of this additional detail, the Proponent should also be requested to evaluate and fully study options that do not necessitate elimination of the Alpert Green. Such options should include reworking the planned and programmed New Inpatient Building Phase 1 and Phase 2, additional expansion West campus facilities towards the north edge of Albany Street (e.g. where the loading docks are now but are scheduled to be abandoned under the IMP), and, if possible, ways to expand the Moakley in other directions.

3. The BRA should also request the proponent to more fully delineate its proposed elimination of the Alpert Garden in Section 1.8.3.3, Campus Open Space.

Local Infrastructure Improvements and Beautification Initiatives should include Harrison Avenue in addition to Albany Street. Section 1.8.3.3 of Campus Open Space includes language in which BMC offers to provide a new commitment "to implement and animate its open space network through additional streetscape refinements and landscaped areas along the Albany Street Corridor". The BRA should ask BMC to evaluate improvements to the interface between the Hospital Campus and the abutting residential neighborhoods (both WSANA and BFSNA) along the Harrison Avenue corridor. Previous BMC efforts in the past 10 years have done a wonderful job with landscaping and other beautification improvements along Harrison Avenue between Mass. Ave. and Worcester Square. BMC
4. should now be asked by the BRA to evaluate what improvements can be reasonably made along Harrison Ave. between East Concord Street and East Brookline Street.

Between East Concord Street and East Brookline Street, the BMC Campus edge alongside the Harrison Avenue corridor consists too frequently of poorly designed and inadequately maintained landscape edges. In these areas, the predominate landscaping feature is mulch, much of which is dank and dirty. These areas also feature ancillary and unsightly structures such as back-up emergency generators and electrical transformers. These structures also contribute unwarranted noise that is highly audible to abutting residents along this corridor.

See Appendix A, Figure 2b and 2b for the existing Harrison Avenue landscaping and ancillary structures at the East Concord Street intersection.

See Figure 3 for the existing Harrison Avenue landscaping between East Concord Street and East Newton Street.

See Figure 4a and 4b for the existing Harrison Avenue landscaping between East Newton Street and East Brookline Street.

Local Infrastructure Improvements and Beautification Initiatives should include Massachusetts Avenue median planting beds. Section 1.9.2.3 includes language in which BMC restates its prior (and existing) commitment "to maintain planting beds along the median islands stretching from Albany Street to Shawmut Avenue along Massachusetts Avenue". The problem is that the existing commitment is short-term only, and because of that near-term focus BMC has failed to make minor capital improvements to provide underground sprinklers and currently manually waters the medians with movable trucks and crews. This hand watering is very expensive, relatively, exposes workers to possibly undue safety issues by working in the middle of a very active, busy arterial roadway, and also impacts traffic flow on that roadway. The BRA should ask BMC to assess extending its agreement to maintain the median landscaping along Mass. Ave. into the longer term future. This assessment should include, in order to reduce annual costs, the feasibility of installing underground sprinkling apparatus in those median strips to eliminate hand watering (and resulting worker safety issues and traffic impacts).

5.

Energy Facility Environmental Pollution Offset and/or Mitigation Plan. BMC sought and received approval in its 2010 IMP to construct an on-campus energy co-generation facility, powered by natural gas (presumably, with no other fuel backup?). Now, BMC seeks approval in its 2013 IMP to redesign and relocate this proposed facility. As part of this new review, the BRA should ask the Proponent to quantify the environmental pollution impacts to the adjacent neighborhoods from operations of this proposed fossil-fuel electric generation industrial plant, and evaluate alternatives to reasonable mitigate such environmental impacts by a variety of low-cost offset and/or mitigation measures that the Proponent could procure or sponsor and implement.

6.

Natural gas is a fossil fuel that is often promoted as "cleaner" than coal, but which has its own serious environmental hazards. When natural gas is burned, it involves a chemical process that creates nitrogen dioxide, carbon monoxide, fine particulates, polycyclicaromatic hydrocarbons, volatile organic compounds (including formaldehyde) as well as other chemicals.

In its public presentations, the Proponent refers to this Energy Facility as a "Green Power". That is, literally, misleading and factually incorrect. Natural gas may be a "cleaner" source of energy as compared to other fossil-fuel sources, but chemical and other pollutants are created and dispersed into the adjacent atmosphere. I also want to acknowledge the energy efficiencies inherent in the "co-generation" aspects of this combined electric generation station and thermal heat plant. But this plant will pollute the adjacent neighborhood, and the BRA should ask the Proponent to ascertain the amount of that pollution, express the negative potential impacts to public health (among others), and

evaluate whether measures to offset or mitigation such impacts are feasible and reasonable.

By way of example, both NOx and PM2.5 emissions are important issues for air quality.

7. Massachusetts is in an EPA delineated moderate non-attainment for ozone, which means NOx emissions are a concern. There will be some NOx emissions from the proposed Energy Facility. The BRA should request the Proponent determine whether such emissions are enough to trigger the power plant buying NOx credits or doing more than have best available control technology economically achievable. Either way, the BRA could nonetheless request an offset or mitigation plan for the increased NOx in order to fully protect the health of the adjacent neighborhoods.

8. Another pollutant that the BRA should request the Proponent to discuss is PM2.5. MA is in attainment for PM2.5 but every increase in PM2.5 likely has a negative health impact (and EPA will probably tighten up the PM2.5 standards at some time in the next couple of years because a federal court remanded the limit to EPA). The BRA could request an offset or mitigation for the increased PM2.5 to be expected from the power plant in order to fully protect public health.

I think one option for offsets or mitigation could involve traffic (cars and trucks) reduction measures to be undertaken by the Proponent because mobile sources of PM2.5 and NOx tend to be significant. I acknowledge the Proponent already does an admirable job with encouraging bicycle and pedestrian accessibility and discouraging use of private automobiles by staff, students, patients, and other visitors. But more, much more, could be done, including by way of examples:

9.
- Elimination of “free” on-campus parking spots to staff and faculty, among others
- Free or subsidized Hubway memberships for staff, faculty, students, among others
- Innovative newer-tech cloud-based techniques (with Apps for Android, iOS, and other major mobile operating systems) to inform motorists where on-street meter parking spaces are currently available. This could greatly reduce the number of vehicles that constantly prowl around the BMC Campus and adjacent neighborhoods in search of such spaces.

The proposed Energy Facility will add negative emissions to our local neighborhood and city environment, and the BRA should request that the Proponent fully disclose these impacts and fully ascertain offset and/or other mitigation measures that might feasibly and reasonable reduce the total amount of such emissions in the adjacent neighborhoods.

In closing, I want to thank you again for this opportunity to offer my comments and suggestions on this IMP. I hope the BRA will include the requests contained herein in the Scope that it further presents back to the Proponent. I am available to answer any questions that you might have, and can be reached at the contact information provided on the first page.

Sincerely yours,

Glen A. Berkowitz, Esq.

cc: Bob Biggio, BMC

Kristi Dowd, cpopm

Executive Board, WSANA (c/o George Stergios)

Appendix A

Existing Condition Photographs

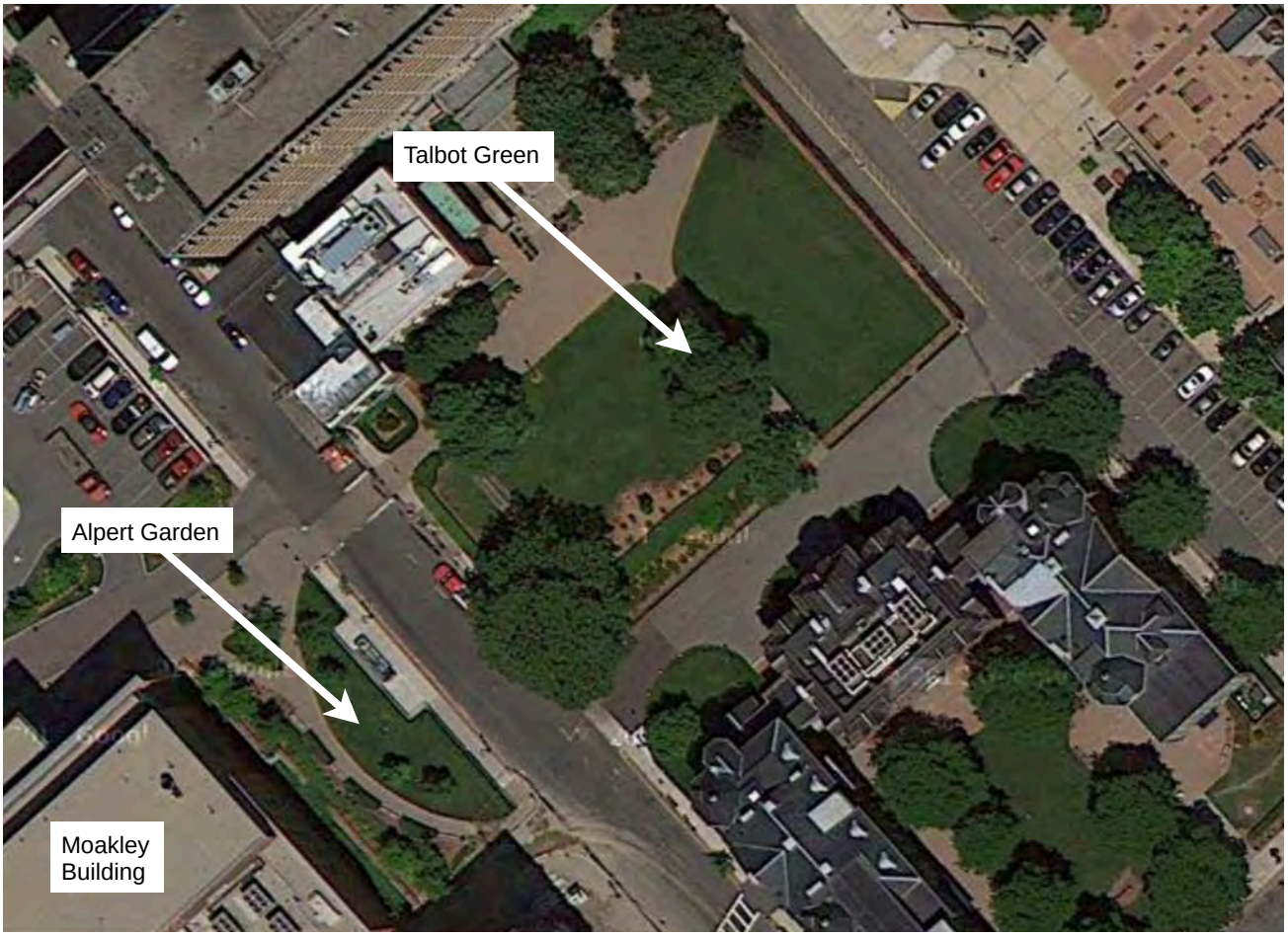

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Figure 1: Alpert Garden and Talbot Green

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Figure 2a: Harrison Avenue at East Concord Street
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Figure 2b: Harrison Avenue at East Concord Street
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Figure 3: Harrison Avenue between East Concord Street and East Newton Street
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Figure 4a: Harrison Avenue between East Newton Street and East Brookline Street
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Figure 4b: Harrison Avenue between East Newton Street and East Brookline Street

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