Section 4

Campus Development Plan

4.1	Planni	ng Themes	100		4.4.2	Parking Supply	143
	4.1.1	Planning Goals	100		4.4.3	Loading & Access	143
	4.1.2	Planning Principles	101		4.4.4	Streetscape Treatment	148
	4.1.3	Major Capital Projects	102		4.4.5	Signage & Wayfinding	153
	4.1.4	Campus Population Growth	102		4.4.6	Comprehensive Transportation	155
	4.1.5	The Future Campus	103			Review	
	4.1.6	Interdisciplinary Aggregation	104		4.4.7	Transportation Demand	155
	4.1.7	Institutional Priorities	104			Management	
	4.1.8	Planning Process	106	4.5	Impler	nentation Considerations	155
4.2	Develo	opment Strategy	107		4.5.1	Overview of Action-Based	155
	4.2.1	Proposed Development Programs	107			Sequencing	
4.3	Conse	rvation Strategy	123		4.5.2	Modernizing the Power Plant	155
	4.3.1	Treatment of Historic Resources	123		4.5.3	Healthcare, Health Sciences and	156
	4.3.2	Proposed Landscape & Open Space	e 124			STEM	
	4.3.3	Sustainability Considerations	131		4.5.4	Apartment-Style Student	158
	4.3.4	Proposed Infrastructure & Utilities	137			Residences	
4.4	Transı	oortation & Parking Strategy	142		4.5.5	Howard University Union	159
	4.4.1	Transportation Planning Principles	142		4.5.6	Intercollegiate Athletics Annex	161
				4.6	Infras	tructure & Utility Systems	163-168

4.1 Planning Themes

The visibility and reputation of the university is also on the rise. Howard University continues its position as a leading institution, with President Frederick serving as a thought leader on issues impacting HBCUs and higher education.

-Stacey Mobley, Chair, HU Board of Trustees.

The Central Campus Master Plan shall remain the product of a broad effort by the Howard University administration, staff, faculty, and students, various neighboring community stakeholders, several civic associations and task forces, and the Advisory Neighborhood Commissions (ANC) 1B. The primary purpose of the Campus Plan is to create a dynamic, achievable, and flexible framework for the physical environment of Howard University's central campus that supports and advances the institution's mission and strategic plan, and enriches the lives of those who live, study, teach, and work at and around Howard's vibrant urban campus.

The Campus plan is guided by the goals, objectives, planning principles and design criteria developed through the process. The goals, objectives, and principles were generated in response to the existing conditions analysis findings and through the collaboration of Howard's administration, faculty, staff, students, community stakeholders with the planning team.

4.1.1 Planning Goals

Align space needs with the five Howard Forward Priorities: enhance academic excellence, inspire new knowledge, serve the community, improve efficiency, and achieve financial sustainability.

Recommend optimal uses for the various campus parcels and the identification of sites for new facility development.

Acknowledge the historic campus resources, both its buildings and landscapes.

Promote the continued contributions of Howard toward the economic and cultural vitality of the local community and the city.

Structure a process by which the University meets its goals and objectives in an environmentally sustainable manner that serves to expands the awareness of students, faculty, staff, and alumni for the importance of sustainability.

Ensure compliance with the District's regulatory requirements, including reducing adverse neighborhood impacts, identifying future institutional impacts, and promoting neighborhood and community stability.

4.1.2 Planning Principles

Planning principles are derived from the goals referenced above, as follows:

Support the Academic Mission

The primary areas of focus for Howard University are education, research, and creative activities. As such, the physical resources of the University must be planned, designed, and developed to support these activities, today and in the future. The planning framework will enable Howard to continue its tradition of excellence, which serves an increasingly diverse population of students, faculty, and staff.

Improve Quality of Life

Provide a quality physical environment with a variety of places and spaces in which the campus community of students, faculty, and staff can socialize, study, network, learn, and relax.

Advance Smart and Sustainable Urban Design

Continue and advance the strong composition and balance of building density and mixed uses within a variety of formal quadrangles and informal open spaces. Explore strategies to integrate/activate Howard University's edge facilities to address and enhance both the internal campus and the external community.







Enhance the Public Realm

Commit to the enhancement and maintenance of the cultural landscapes of the campus that have meaning and memory to the campus community, and design and develop new public open-spaces that enhance the campus setting, and become future cultural landscapes.

Enhance Physical Access and Connectivity

Strengthen and expand the campus network of high-quality, walkable spaces and strong pedestrian and bicycle connection to, and throughout the campus on both the north-south and east-west axes.

Support Interdisciplinary Academics & Research

Create environments that support and spur Interdisciplinary academics and research, which are critical to Howard's 21st century academic vision that affirms it's preeminence in researchfocused higher learning.

4.1.3 Major Capital Projects

The 2020 Campus Plan includes eight (8) major initiatives, which are in are more specific, project-based activities intended to support HU's Strategic Plan, academic, research programs through the following objectives:

Academic and Research Objectives

Provide an interdisciplinary center for the Arts & Communications programs

- Create an innovative interdisciplinary environment for STEM that offers groundbreaking instructional space
- Develop a Health Sciences Complex to house all health science programs in one multidisciplinary setting
- Develop a new world-class teaching Hospital with an associated medical office building

Campus Life Objectives

- Provide additional student-focused space for activities, recreation, dining, and socializing in a new HU Union
- Provide additional athletic support and facility space in the new Intercollegiate Athletics Center
- Provide attractive apartment-style housing to enable more students to live near the campus

4.1.4 Campus Population Growth

The following graph shows the expected growth in enrollment over a ten-year period to the expected 12,000 student range. Student enrollment growth was calculated using the assumption that STEM program would grow at a rate of 5% per year over the planning period.

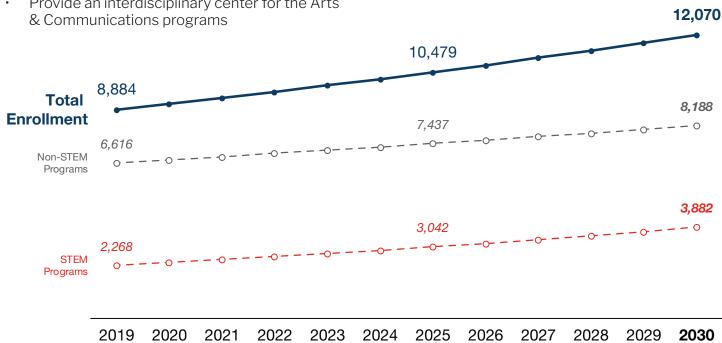


Table 4.1: Projected Student Population Growth

4.1.5 The Future Campus

The Campus Plan takes a comprehensive look at the overall physical campus environment of Howard University. The University is proposing a progressive plan to renovate, modernize, and merge existing buildings to and identifies a strategy for needed improvements to existing facilities, landscapes, and infrastructure, as well the new facilities, landscapes, and systems deemed critical to meet future strategic academic, research, and student life priorities.

The vision of Howard University as a world-class academic and research presence is reflected in an ambitious investment in its academic programs, facilities, grounds, infrastructure, and the community surrounding the campus. To meet its capital needs over the next decade, Howard will undertake extensive renovations of specific existing buildings and systems, and develop new facilities to house critical program priorities that support the mission, vision and strategic priorities of the University.

Howard Forward 2024 and the Capital Plan established the program priorities that informed the development strategies in the Campus plan. The planning goals, objectives, and principles set the overarching framework within which the various critical programmatic needs Howard should be met.

The University is committed to optimizing the value and performance of its physical assets in

support of its mission. To advance and achieve this priority, the University is recommending a strategy of catalytic development that will optimize value, mitigate risk, and include diversity in the value chain. The strategy aggregates the five (5) Howard Forward Pillars into three (3) focus areas:

- 1. Enabling leadership in academics and research, including a focus on STEM and Health Sciences, arts and communications, law and business that enables Howard to take advantage of emerging opportunities in the greater work economy;
- 2. Enriching the campus experience with projects that emphasize experiential learning and improve campus life and activities, and;
- 1. Improving efficiency, effectiveness, and financial stability, which includes optimizing land use, program consolidation, and diversification of revenue streams.

The University will prioritize core academics and research, both high-demand programs and online courses, investing in cutting-edge technology and creating innovative physical and virtual learning environments/spaces. The University will highlight STEM academic fields, bolster interdisciplinary programs, and establish new academic and research facilities.

Howard will enrich the campus experience and serve the community by leveraging relationships with corporate partners to foster a campus

New/ Existing	Square		Lot Sqft	Footprint	GSF	FAR
Existing	0330	0800	42,646	36,063	22,173	0.52
		0266, 0267, 0268, 0269, 0270, 0217,				
Existing	2872	0275, 0803, 0820, 0822, 0823, 0824	9,915	0	0	0.00
Existing	2873	1109, 1110	113,401	57,645	573,687	5.06
New	2882	0950, 0951, 0952, 0953, 1037	138,616	55,465	271,017	1.96
Existing	3055	0015, 0821	52,670	16,243	88,979	1.69
New	3057	0092	1,329,765	362,798	1,442,459	1.08
Existing	3058	0834, 0835	59,860		75,000	1.25
Existing	3060	0041, 0830, 0839	227,132	78,743	341,886	1.51
Existing	3063	0801	107,553	46,587	216,319	2.01
Existing	3064	0044, 0045, 0826, 0837	217,762	109,087	318,583	1.46
Existing	3065	0033, 0036, 0829, 0830, 0831, 0833	89,432	65,904	219,897	2.46
Existing	3068	0809, 0810	99,145	57,353	138,829	1.40
New	3069	0065, 0066	491,255	271,354	1,149,970	2.34
Existing	3072	0052, 0818	52,457	34,083	136,332	2.60
Existing	3074	0011	9,057	10,123	30,396	3.36
Existing	3075	0807	641,070	296,087	1,168,647	1.82
Existing	3080	0073	44,340	34,327	137,308	3.10

community that promotes physical and mental wellbeing. The University will ensure compliance with regulatory and governing agencies as well as reduce the campus carbon footprint. Howard intends to achieve financial sustainability by delivering a more efficient campus footprint, developing solid real estate partnerships, and diversifying revenue streams to include the monetization of surplus and non-core land.

4.1.6 Interdisciplinary Aggregation

Howard will aggregate academic units based upon synergistic functional requirements to create greater operational efficiency, programmatic synergy, and cultivate a more unanimous and engaging learning experience. Successful aggregation requires a review and assessment of the six major space typologies that serve the academy: general-purpose classrooms, assembly space, laboratories, studios, specialty resources, and library/study space.

Functionally, all units require access to generalpurpose classrooms and assembly space, as well as specialized and library/ study spaces.

Programs such as fine and performing arts, architecture, and communications require and heavily use distinct studio spaces. These disciplines have a natural synergy supporting fields of study focused on arts and media that are suitable for cross-pollination.

Similarly, STEM and health science-related fields require specialized laboratories. These programs, at their respective graduate and undergraduate levels, also possess under-utilized curricular synergies, which the plan hopes to reinforce.

4.1.7 Institutional Priorities

The first initiatives are urgent, and prioritize investments in the physical plant infrastructure and utilities to avoid crippling functional interruptions, improve efficiencies, and enable the University to support environments that continue to attract and retain outstanding students, faculty, researchers, and clinicians.

4.1.7.1 Ongoing Urgent

Recent steam pipe ruptures have prompted repairs to stabilize campus infrastructure and

develop central utility modernization and recovery. The C. B. Powell building is more than 100 years old and facing the imminent failure of numerous critical building components that pose life-safety issues. The University will relocate programs that currently occupy the facility, and the original C. B. Powell building will be renovated and re-occupied as part of two co-located capital projects.

4.1.7.2 Proposed

The planning process identified eight capital projects as critical for Howard to achieve its academic, research, and student life priorities over the next decade. The focus of the projects ranges from student support and services to interdisciplinary school/college academic space to a new Howard University hospital. The eight Capital Projects deemed by the University as needed include:

- The Burr Intercollegiate Athletic Center
- The Center for Arts and Communications
- The Howard University Union
- The Health Sciences Complex
- The STFM Center
- The Apartment-Style Student Residences
- The Howard University Hospital
- The Medical Office Building

The proposed central campus total land area within the HU boundary remains approximately 86 acres, but with 58 buildings that over 6.3 million square feet, resulting in a current Floor Area Ratio of 1.7 for the Central Campus.

As Howard moves forward with its proposed capital projects, many of the efforts will require the temporary relocation of programs occupying facilities slated for renovation, or buildings planned for demolition that will create a site for new capital project development. The University has a three-tiered strategy for program relocations, either long-term or temporary, which includes: Backfill into existing to on-campus facilities, On-campus swing-space/temporary relocations, and Modular Unit temporary relocations. The Modular units are typically located on HU property, but outside the historic core campus. Also, the University

ASSET	ASSET NAME	ADA	BUILDING ENVELOPE	INTERIOR	PLUMBING	HVAC	EHS	ELECTRICAL
1	MORDECAI JOHNSON BUILDING	•	•		1		•	
2	WONDER PLAZA	•			1		•	1
3	HOWARD MACKEY BUILDING (ARCHITECTURE)	1	•				•	
6	MARY BETHUNE ANNEX	1	•		•		•	
7	ERNEST JUST HALL (BIOLOGY)	•	•			•	•	
8	JOHN BURR GYMNASIUM BUILDING	•						
10	SCHOOL OF BUSINESS	•	•	•	1		•	
12	ANDREW CARNEGIE BUILDING	•	•	•	•			•
13	C. B. POWELL BUILDING (COMMUNICATIONS)							
15	CHEMISTRY BUILDING	•						
16	CHEMICAL ENGINEERING BUILDING	•	•	•	1	•	•	1
18	GEORGE COOK HALL				•		•	•
19	CANCER RESEARCH CENTER	•	•	•			•	
20	LOUIS CRAMTON AUDITORIUM	•		•	1	•	•	•
21	CHARLES DREW HALL	•	•	•	1	•	•	
26	LEWIS DOWNING HALL (ENGINEERING)	•	•	•		•	•	
28	LULU CHILDERS HALL (FINE ARTS)							
29	FOUNDERS LIBRARY	•	•				•	
34	BETHUNE ANNEX CAFETERIA	•	•	•	•	•	•	•
35	COLLEGE HALL NORTH	•	•	•	•	•	•	•
38	INTERDISCIPLINARY RESEARCH BUILDING	•	•		•	•	•	•
39	HOWARD UNIVERSITY SERVICE CENTER	•						
42	RALPH BUNCHE INTERNATIONAL AFFAIRS CENTER	•	•	•	•		•	•
43	IRA ALDRIDGE THEATER	•			1		•	
47	CHAUNCEY COOPER HALL (PHARMACY)	•	•				•	•
48	POWER PLANT	•					•	
50	ANDREW RANKIN MEMORIAL CHAPEL			•	1	•	•	1
53	INABEL LINDSAY HALL (SOCIAL WORK)	•			•	•	•	
55	WILBUR THIRKIELD HALL (PHYSICS)	•	•					
57	ARMOUR BLACKBURN UNIVERSITY CENTER	•			1		•	
58	EARLY LEARNING CENTER	•	•	•	•	•	•	•
67	COLLEGE HALL SOUTH	•	•	•	•		•	•
96	HOWARD MANOR	1						
200	LOUIS STOKES HEALTH SCIENCES LIBRARY	•	•		•		•	1
401	HARRISON BROTHERS BUILDING	•	1	•	•	•	•	•



Table 4.3: Renovation Matrix

may need to occasionally look off-campus for temporary space to meet critical program needs.

4.1.7.3 Potential Future Development Opportunities

Once the New HU Hospital complex is completed and occupied, the existing HU Hospital, health sciences buildings, and adjacent support buildings will be vacated and decommissioned. The newly freed-up land gives rise to a unique opportunity for Howard to collaborate with developers to create a vibrant, innovative, and urban mixed-use development zone along Georgia Avenue.

The vacated spaces that formerly housed STEM programs can be converted into valuable swing space to accommodate temporary uses, as well as the growth and expansion of special programs.

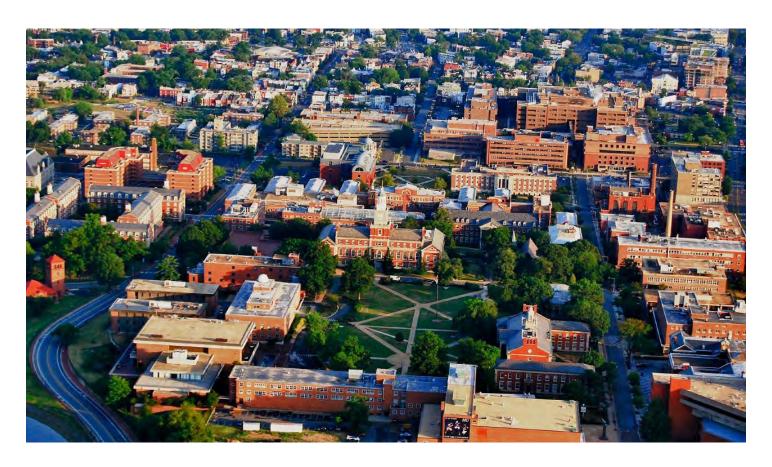
4.1.8 Planning Process

The planning process explored development concepts informed by identified program uses, campus and site context, adjacencies, access, infrastructure, historic resources, and applicable DC Zoning regulations.

Multiple, subsequent iterations of campus-wide and individual project concepts were prepared, which addressed site and building considerations such as adjacent historic resources, scale, massing, and facility heights. These included concepts that maximized building heights to the allowable 90 foot limit for college and university campuses.

The University and campus stakeholders will continue to evaluate the iterations and provide recommendations for improving the individual projects and the campus through the ongoing master planning process, as well as through the further processing of individual projects. The campus plan and capital projects outlined in the following pages are the result of this interactive process and represent the University's preferred development scenario for its Central Campus.

The University is committed to continue collecting feedback from the campus community as the Plan evolves over time, and as specific projects are implemented.



4.2 Development Strategy

4.2.1 Proposed Development Programs

The purpose of the Campus Plan is to create a physical environment that is supportive of and inspirational to the fulfillment of the University's mission and strategic plan, and that enriches the lives of all who live, study, teach and work at Howard University.

As a vibrant urban institution within one of the country's most dynamic cities, the Plan needs to maximize the short- and long-term growth and development potential on the Howard campus.

A unifying factor across all proposed development programs is the aggregation uses based upon synergistic functional requirements to create greater operational efficiency, programmatic interconnectivity, and cultivate a more consistent and engaging campus experience.



Figure 4.1: Campus Plan Perspective from Reservoir



Figure 4.2: Proposed Campus Plan

4.2.1.1 Intercollegiate Athletics Annex (A)

Through a series of new construction and phased renovation projects, Burr Gymnasium will ultimately function as a dedicated intercollegiate athletics facility. The academic and general recreation functions within Burr will relocate to proposed Union facility (see Section 4.2.1.3), once it is completed.

The proposed facility, identified as the Intercollegiate Athletics Annex (IAA), will provide much needed office, office support, classroom, meeting, and activity space adjacent to the existing Burr Gymnasium. The four-story facility will house programs that will help improve student athlete's schedules and optimize coaching contact hours. The Athletics Annex will also help to establish a new face for Howard athletics along Georgia Avenue.

Historic Preservation Considerations

The proposed development site at 2801 Georgia Avenue NW is currently improved with a fivestory brick building. The facility was originally constructed in 1928, was expanded in 1933, and served as a furniture storage warehouse by the American Storage and Transfer Company. The

building was acquired by the University in 1968 and became known as "University Warehouse # 2," or the "Bank Building." The openings on the ground floor of the building were altered at some point, and a first-floor slate-tile façade added. The existing building at 2801 Georgia Avenue NW is not currently designated. Based on preliminary information, it doesn't appear to possess the historical or architectural significance or integrity necessary to be eligible for individual listing in the NRHP or DC Inventory.

Neighborhood Context & Impacts

The height of the proposed Annex is one story less than the current warehouse facility, and its intended design and function will enhance and activate this edge environment of the campus along Georgia Avenue. The new facility will house Intercollegiate offices and instructional space that is currently in the Burr Gymnasium, and occupant parking/loading is provided in an existing lot behind the gymnasium. The location is not directly adjacent to residences, and its scale is consistent with other HU facilities along Georgia Avenue NW. As a result of these planning parameters, the project is not expected to adversely impact the neighborhood.

A. Athletic	Annex Building (AAB)
Zoned	MU-4
FAR	0.03 (1.5 Non-Residential)
Height	50' (50' Max/90' Institutional Allowed)
Lot Occupancy	0.0067% (60%)
GAR	0.66 (0.3)

Table 4.4: Athletics Annex Site Zoning Requirements

Athletic Annex Bu	ilding (AAB): 50' Height
Floor 1	8,897 GSF
Total Floor 1	8,897 GSF
Upper Floors (2-4)	13,645 GSF (each)
Total 2-4 Floors	40,935 GSF
4	Levels of Athletic + Support Spaces
1	Level of Basement

AAB TOTAL 49,832 GSF (Does Not Include any below grade basement/parking)



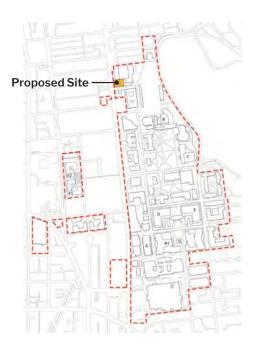


Figure 4.3: Athletic Annex in Context

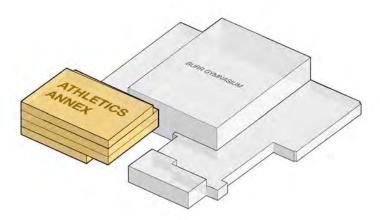


Figure 4.4: Athletic Annex: Programmatic Section

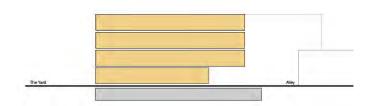


Figure 4.5: Athletic Annex: Massing Study

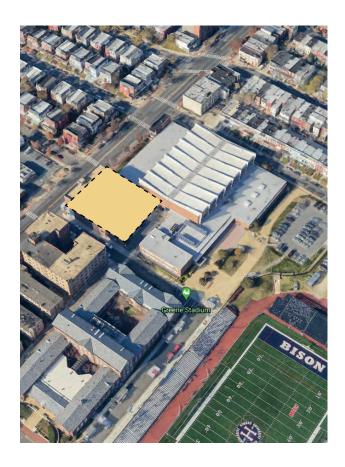


Figure 4.6: Athletic Annex in Context

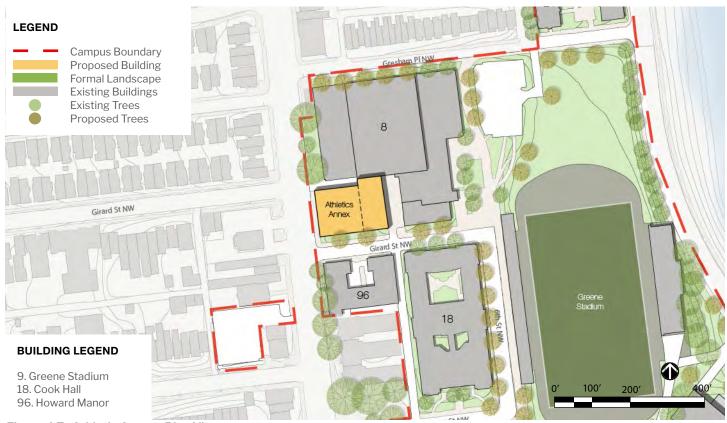


Figure 4.7: Athletic Annex: Plan View

4.2.1.2 Center For Arts & Communications (B)

A new Center for Arts and Communication (CAC) will rise on the northern end of the Yard, directly north of Childers Hall. The multi-story facility will house studio-based learning environments, classrooms, officing, and support spaces for programs such as the fine and performing arts, architecture, and communications. Optimally, the university's media stations would also maintain a presence within the facility.

The co-location of synergistic programs will create opportunities for interdisciplinary studies and collaboration. The core campus location will enable better event synchronization with other major event venues within the northern end of campus.

The concept retains three significant facilities (Cramton Auditorium, Ira Aldridge Theatre, and College of Fine Arts), and introduces a new state-of-the-art academic facility that creates a fusion environment of old/new facilities.

Historic Preservation Considerations

The proposed CAC development site is currently occupied by the University's Fine Arts complex made up of the College of Fine Arts (Lulu Childers Hall), Cramton Auditorium, and the Ira Aldridge Theater. The development concept retains these buildings and a new facility constructed to the

northeast in place of an existing asphalt parking lot. The new construction would attach to the rear elevations of these existing buildings.

The existing buildings were designed by the collaboration of prominent African American architects and Howard affiliates Hilyard R. Robinson and Paul R. Williams. These three facilities were part of the 1951 campus development plan formulated by the General Services Administration (GSA) during the presidency of Mordecai Wyatt Johnson.

The three buildings are not currently designated; however, Childers Hall forms the northern boundary of the upper quadrangle, or "the Yard," which is designated a National Historic Landmark (NHL) Historic District and is listed in the National Register of Historic Places. All three buildings are currently being evaluated as part of the ongoing campus survey and evaluation.

Neighborhood Context & Impacts

The CAC site occupies an internal highpoint within the campus, overlooking the McMillan Reservoir, and removed from any adjacent residential neighborhoods. Parking will be provided in a structured facility located beneath the new development. The proposed parking will accommodate future attendees at campus events and performances. The new facility will positively benefit the community.

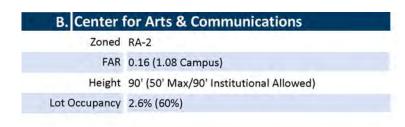


Table 4.6: CAC: Zoning Requirements

B. Center for Arts &	Communications (CAC) @ 90' Height
Floors 1 -3	35,491 GSF (each)
Total 1-3 Floors	106,473 GSF
Upper Floors (4-7)	27,011 (each)
Total 4-7 Floors	108,044 GSF
7	Levels of Academic + Support Spaces
1	Level of Basement (Not Included in Total)
CACTOTAL 214 F17 C	Levels of Below-Grade Structured Parking

CAC TOTAL 214,517 GSF (GSF Does Not Include any below grade basement/parking)

Table 4.7: CAC Building Data



Figure 4.8: Center for Arts & Communications in Context

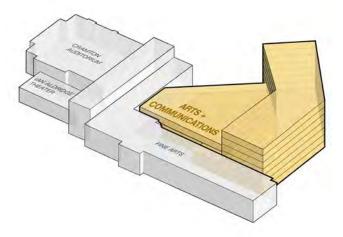


Figure 4.9: Center for Arts & Communication: Massing Study

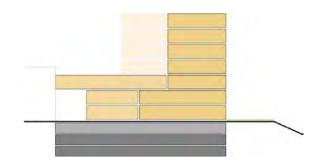


Figure 4.10: Center for Arts & Communication: Programmatic Section

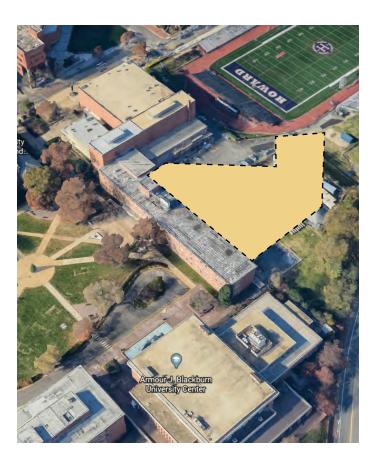


Figure 4.11: Center for Arts & Communications in Context



Figure 4.12: Center for Arts & Communication: Plan View

4.2.1.3 Howard University Union (C)

The proposed Howard University Union (HUU) will be a fusion of a student activity center, wellness center, and campus recreation center. The Union is envisioned directly north of the undergraduate Library.

The highly active fusion facility will invigorate Howard's historic Upper Quadrangle and serve to link student housing communities along the east-west corridor of Howard Place. The facility will provide space for student organizations, events, cultural exchange, recreation, sports, and encourage social and academic collaboration. It is also envisioned to contain a correlated academic unit, and a wellness suite, to include a new student health clinic.

The new facility is comparably scaled to other nearby buildings and would provide an expansive eastern terrace – potentially linked to the Blackburn Center - that will overlook the McMillan Reservoir.

Historic Preservation Considerations

The proposed HUU development site (see 3.6.3) is currently the location of four existing buildings: Alain Leroy Locke Hall, the Human Ecology Building (Howard University Middle School), and Academic Support Buildings A and B. All buildings

would be demolished as part of the proposal. These buildings are not designated historic resources: however, Locke Hall and the Howard Middle School currently form the eastern boundary of the upper quadrangle, which is designated a National Historic Landmark (NHL) Historic District and is listed in the National Register of Historic Places. The Howard Middle School building, originally known as the Human Ecology Building, was built in 1960 to the specifications of the Washington-based architecture and engineering firm of Kluckhohn, Cobb & McDavid. Alain Locke Hall was built in 1964 and designed by DC firm Justement, Elam and Darby. Academic Support Buildings A and B were built in 1975 and designed by Atlanta-based architecture firm Turner Associates. All four buildings are currently being evaluated as part of the ongoing campus survey and evaluation.

Neighborhood Context & Impacts

The HUU development site occupies an internal campus vista overlooking the McMillan Reservoir and removed from any residential areas. The proposed building includes an outdoor terrace on the eastern side, which will activate this previously isolated area along 4th Streets NW. Parking and service access would occur in a proposed garage beneath the facility. As planned, the Union would not negatively impact the surrounding community.

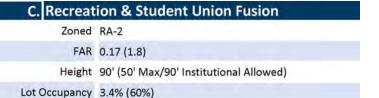


Table 4.8: Howard University Union: Zoning Requirements

Floors 1 -4	45,770 GSF (each)
Total 1-4 Floors	183,078 GSF
Floor 5	39,183 (each)
Total 5 Floors	39,183 GSF
5	Levels of Recreation + Student Life Spaces
1	Level of Basement
2	Level of Below-Grade Structured Parking (#
RSUFTOTAL 222.261	GSF (GSF Does Not Include below grade basement/parking

RSUF IOIAL 222,261 GSF Does Not Include below grade basemen





Figure 4.13: Recreation & Student Union Fusion in Context

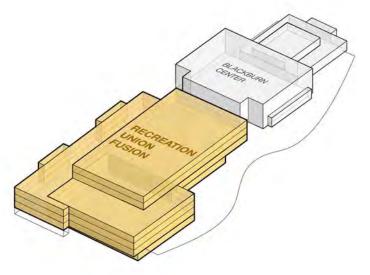


Figure 4.14: Recreation & Student Union Fusion: Massing Study

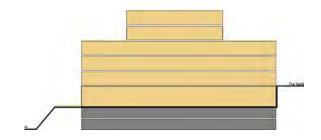


Figure 4.15: Recreation & Student Union Fusion: Programmatic Section

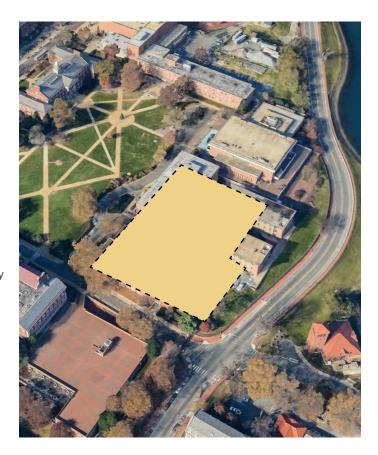


Figure 4.16: Recreation & Student Union Fusion in Context



Figure 4.17: Recreation & Student Union Fusion: Plan View

4.2.1.4 Health Sciences Complex (D)

The new Health Sciences Complex (HSC) will colocate the colleges of Medicine, Dentistry, Nursing, and Allied Health Sciences, Pharmacy, and Mental Health programs.

The interdisciplinary building will embrace the existing, historically significant C.B. Powell (Freedmen's Hospital) building. As part of the project, the renovation of the historic structure will provide space for offices and administrative support spaces. The seven-story facility will cluster programs requiring access to specialized labs and instructional spaces that create opportunities for interdisciplinary collaboration.

Historic Preservation Considerations

The proposed Health Science Complex and STEM Center are located on the site currently occupied by nine buildings on the block between Bryant, College, Fourth, and Sixth streets NW. The buildings include the C.B. Powell Building. WHUR and WHUT, the Mental Health Clinic, Laser Chemistry Building, Graduate School of Arts and Sciences, and others.

The buildings on this block are not currently designated; however, all buildings are currently being evaluated as part of the ongoing campus survey and evaluation. Historically, the buildings were a part of the Freedmen's Hospital complex, built in several phases between 1908 and

the 1930s to replace a Civil War-era hospital complex. The former Freedmen's Hospital was the oldest institution in the country to have the primary objective of affording patient care and professional medical training to African Americans. The complex, though always associated with Howard University and its medical program, was officially acquired by the University in 1967 prior to the construction of the present-day hospital to the south.

Consistent with the previously approved 2011 Master Plan, the proposed development would require demolition of all buildings on the block except for the original hospital and ward wings. The building was completed in 1908 and designed by the team of Bruce Price and de Sibour with John Russell Pope Architects. New construction would fill the remainder of the block and attach to the former hospital building on the rear (north) and side (east and west) elevations.

Neighborhood Context & Impacts

The Health Sciences Complex site is within the campus core, and is removed from campus/ community edges. The development of the proposed facility will result in the renovation and adaptive reuse of the C. B. Powell Building, which would be a benefit to the University and the City. A below-grade parking structure is planned, with access and loading from College Street NW. As planned, the HSC facility would minimally impact the neighboring communities.

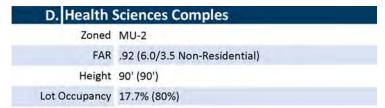


Table 4.10: Health Science Complex Site Zoning Requirements

ach)
nch)
emic / Support Space
nent (Not Included in Total)
-Grade Structured Parking

Table 4.11: Health Science Complex Data



Figure 4.18: Health Science Complex: Context

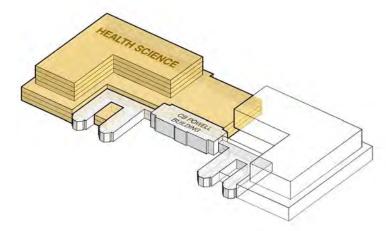


Figure 4.19: Health Science Complex: Massing Study

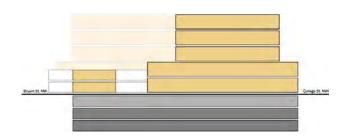


Figure 4.20: Health Science Complex: Programmatic Section

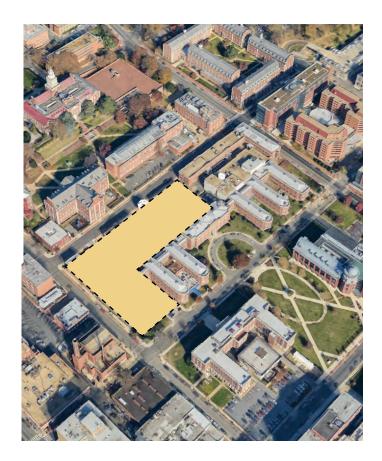


Figure 4.21: Health Science Complex: Context

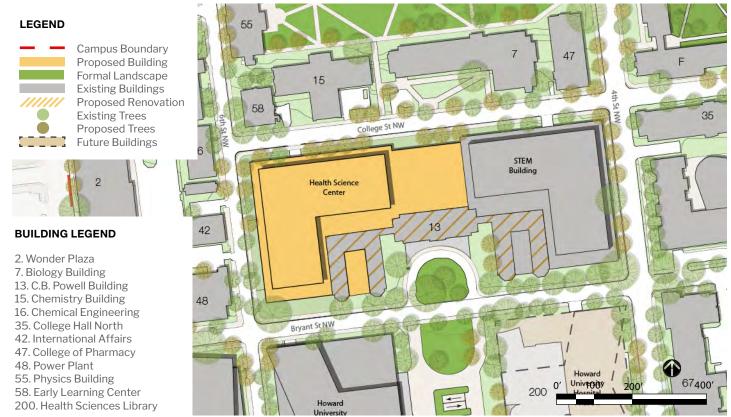


Figure 4.22: Health Science Complex: Plan View

4.2.1.5 STEM Center (E)

A new lab-intensive STEM-focused building will rise adjacent to the proposed Health Sciences Center. The STEM facility will also embrace the C.B. Powell (Freedmen's Hospital) building. which will house general academic, office. and administrative support space. The sevenstory building co-locates science, technology, engineering and mathematics programs to enable/ foster interdisciplinary collaboration, innovation, and discovery. This program enables STEM programs that are currently spread across various parts of the campus to be consolidated into one contiguous, state-of-the-art location providing one-stop access to teaching and research labs, office and administrative functions, classrooms, meeting spaces, and other academic and campus support resources.

Together, the STEM Center and Health Sciences Complex will connect to create a comprehensive "cluster" environment for innovation in instruction and research across multiple disciplines.

Historic Preservation Considerations

The historic preservation considerations for the STEM Center are the same as the previous Health Sciences Complex site. New construction would fill the remainder of the block and attach to the former hospital building on the rear (north) and side (east and west) elevations.

Neighborhood Context & Impacts

The STEM Center project will mirror and link with the Health Sciences Complex within the campus core, which is similarly removed from campus/ community edges. A below-grade parking structure is planned, with access and loading from College Street NW. As planned, the STEM facility would not negatively impact the neighboring communities.

E. STEM B	uilding
Zoned	MU-2
FAR	0.75 (6.0/3.5 Non-Residential)
Height	90 (90')
Lot Occupancy	16% (80%)
GAR	x.x (0.3)

Table 4.12: STEM Site Zoning Requirements

Floors 1-3	79,093GSF (includes Renovation Area of CB Powell/Freedman's A
Total Floors 1-3	216,100 GSF
Floors 4-7	38,475 GSF (each)
Total Floors 4-7	153,900 GSF
7	Levels of Academic/Support Space
1	Level of Basement (Not Included in Total)
2	Level of Below-Grade Structured Parking

STEM TOTAL 370,000 GSF (GSF Does Not Include any below grade basement/parking)
Table 4.13: STEM Building Data



Figure 4.23: STEM Building in Context

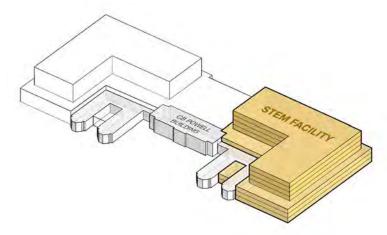


Figure 4.24: STEM Building: Massing Study

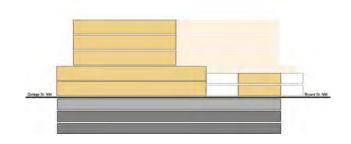


Figure 4.25: STEM Building: Programmatic Section

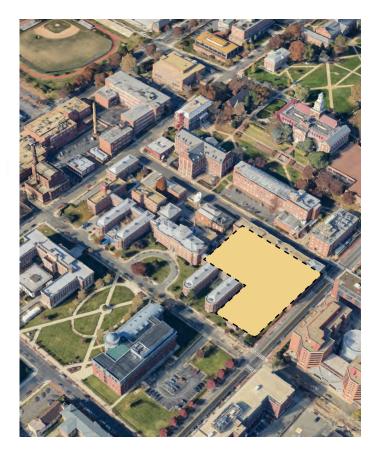


Figure 4.26: STEM Building in Context

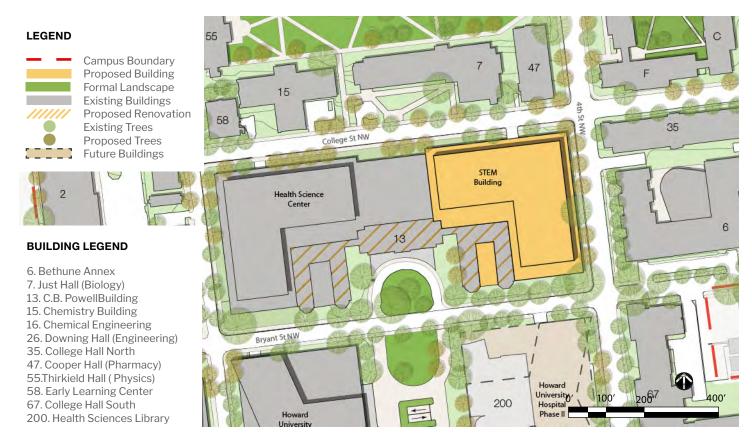


Figure 4.27: STEM Building: Plan View

4.2.1.6 Apartment-Style Residences (F1, F2)

TThe two apartment-style residence buildings would occupy the full block with the structures set to allowable setbacks. The concept for the two multi-story facilities is to create a contemporary living learning environment that blends into the surrounding urban fabric.

The C-shaped forms maximize the number of units that would have views over the adjacent park and to the central Howard campus. Direct access from the campus to the residences is through an existing east/west walkway within the Banneker Recreation complex that acts as an extension of Howard Place and terminates at a planned plaza fronting the entrance points of both facilities.

The site has an extant combined sewer line with a nascent restrictive easement to be established along the northeastern corner, which precluded development in that area. The first floor, fronting Sherman Avenue NW, would house amenities and appropriately scaled commercial/ retail opportunities.

Historic Preservation Considerations

The proposed Apartment Style Residences development site (see 3.6.7) is currently occupied by asphalt parking lots and a one-story utilitarian building located at 2467 Sherman Avenue NW.

F. 2 Apartment-Style Residence Building

FAR 1.9 (1.8)

Zoned RA-2

Height 60 (50' Max/90' Institutional Allowed)

Lot Occupancy 40% (60%)

Table 4.14: Apartments Site Zoning Requirements

The existing building, which would be demolished as part of that development, is not a designated historic resource and is not located within a historic district. The building was originally developed in two phases after 1958, spanning the block between Sherman Avenue and Ninth Street NW. The building is constructed of concrete block and the Ninth Street elevation is clad in Formstone. After a preliminary assessment, the building does not appear to possess the historic or architectural significance or integrity necessary to be eligible for individual listing in the NRHP or the DC Inventory.

Neighborhood Context & Impacts

The two residence facilities would occupy a campus site that is bordered on three sides by public uses: Banneker Park and Senior High School to the east; a DC Fire Station to the north; with Garfield Terrace Senior Housing and the Meyer Elementary School to the west. Lastly, a mixed-use retail and residential building (Trellis House) stands to the south. The proposed residential buildings would be near the University's two existing upperclassman residence halls. Howard Plaza Towers East and West, to create an upperclassman housing district on the west side of the campus core. The new residences will visually enhance that section of Sherman Avenue and will help activate the area. Parking is proposed beneath the facilities to minimize on-street parking by occupants and visitors to the proposed groundfloor retail. The two projects should positively benefit the surrounding community.

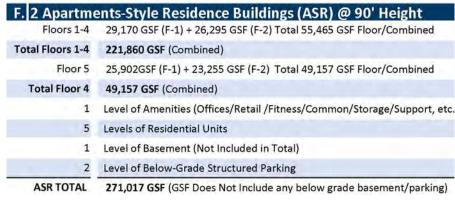


Table 4.15: Apartment Building Data

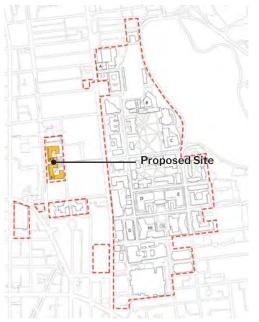


Figure 4.28: Apartment Style Residences in Context

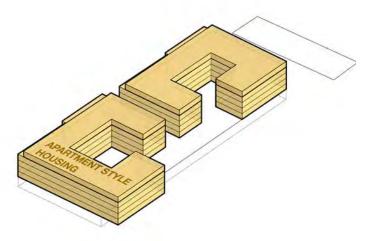


Figure 4.29: Apartment Style Residences: Massing Study

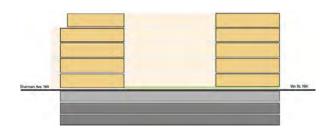


Figure 4.30: Apartment Style Residences: Programmatic Section

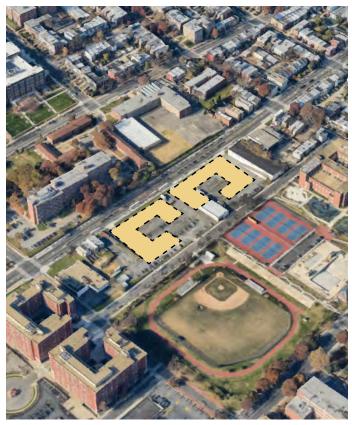


Figure 4.31: Apartment Style Residences in Context

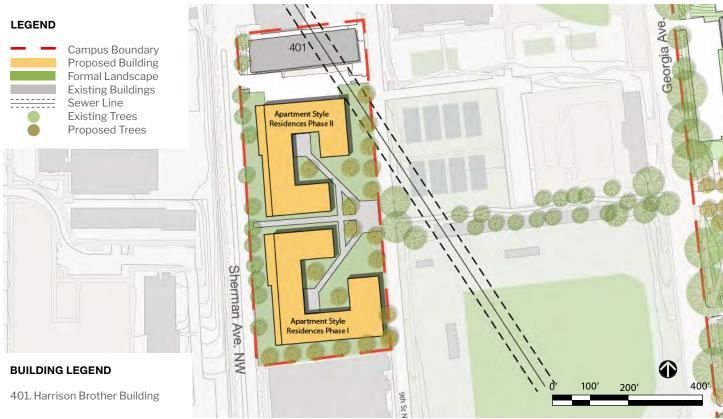


Figure 4.32: Apartment Style Residences: Plan View

4.2.1.7 Medical Office Building (G) & HU Hospital (H1, H2)

The development of a new state-of-the-art teaching hospital and trauma center is a cornerstone of Howard's commitment to service. The proposed Medical Office Building would be a seven-story, 180,052 GSF outpatient clinic facility, and the new seven-story, 677,045 GSF Howard University Hospital (HUH) will be an advanced, modern teaching hospital and trauma center. The state-of-the-art facilities will serves both the planned health sciences programs and the DC community. The two adjacent facilities will occupy two sites on either side of Sixth Street between W and Bryant streets. Beyond the 10-year planning period, an interconnecting future phase (H2) is

G. Medical Office Building

Zoned PDR-2

FAR 2.01 (6.0/4.0 Non-Residential)

Height 90 (90' Max)

Lot Occupancy 36% (80%)

H. Howard University Hospital

Zoned MU-2

FAR 1.4 (6.0/3.5 Non-Residential)

Height 90 (90' Max)

Lot Occupancy 16% (80%)

Table 4.16: Zoning Requirements

envisioned to the east of the proposed HU Hospital site (H1) in order to provide additional clinical operations and patient beds, as needed.

Historic Preservation Considerations

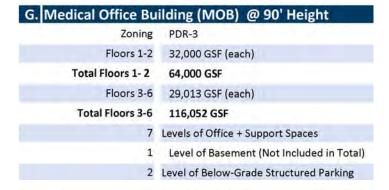
There are four existing buildings located on the two proposed sites, all of which would be demolished to accommodate the new hospital.

The first site, identified as building/site G, is located on the west side of 6th Street, and is currently occupied by two brick buildings located at 2230 Sixth Street NW and 2216-2220 Sixth Street NW.

The second site, referred to as site/building H1, is located to the east of Sixth Street and is currently occupied by two buildings including a three-story plus basement brick building later occupied by the College of Nursing and Allied Health Sciences (Annex 1), and a three-story building within the south side courtyard of Annex 1, known as Annex 2. The buildings are currently vacant and heavily damaged as a result of a steam tunnel rupture in 2017. The buildings located on these sites are not currently designated; however, all buildings are currently being evaluated as part of the ongoing campus survey and evaluation.

Neighborhood Context & Impacts

The proposed HU Hospital and Medical Office Building sites replaces these uses north of their



H. Howard University Hospital (HUH) Phase I @ 90' Height Floors 1-2 82,000 GSF (each) Total Floors 1-2 164,000 GSF Floors 3-6 53,900 GSF (each) Total Floors 3-6 215,600 GSF B1 Below Grade Level Parking B2 Below Grade Level HU Program Service/MEP/Parkin B3 Below Grade Level Structured Parking

Table 4.17: HU Hospital & Medical Office Building Data



Figure 4.33 Howard University Hospital & Medical Office in Context

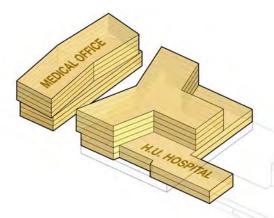


Figure 4.34: Howard University Hospital & Medical Office: Massing Study

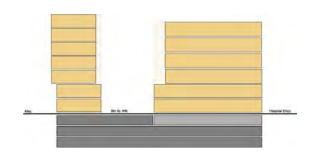


Figure 4.35: Howard University Hospital & Medical Office: Programmatic Section

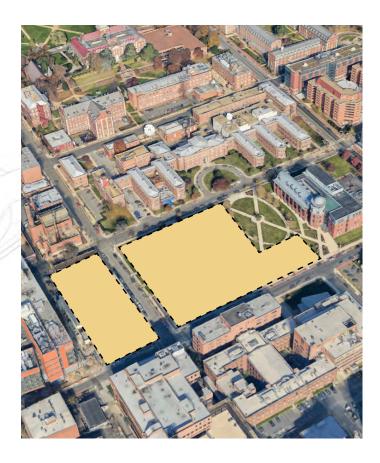


Figure 4.36: Howard University Hospital & Medical Office in Context



Figure 4.37: Howard University Hospital & Medical Office: Plan View

existing locations. This shifts the functions closer to the campus core, which creates better connectivity and more opportunities for collaboration across disciplines. The proposed buildings will be right-sized to meet the projected future demand for beds, and efficiently configured to occupy less land. Structured parking is planned bereath both facilities, and loading/service would occur from Bryant Street NW.

The new modern hospital and clinical offices within the Medical Office Building will positively impact, through health services, the immediate community, the City, and the greater metropolitan region. The new plan frees up land for future development that would also result in positive impacts on the economy, jobs, and increase housing opportunities. As planned, the combined projects should not result in any undesirable impacts to the neighboring communities.

Once the new facilities are completed and occupied, the vacated hospital and health sciences buildings present an opportunity for a mixed-use development that would help to progress the District's economic and planning objectives, and serve the surrounding community.

4.3 Conservation Strategy

4.3.1 Treatment of Historic Resources

It is clear that the Howard University Central Campus contains a number of historic buildings and sites that are not currently designated but are nevertheless significant and not necessarily recognized outside the campus boundaries today.

Howard University understands that as it continues to evolve and develop it must consider impact of proposed development on sites that are most important to the history of the University. It also recognizes that it must balance educational, physical, and financial demands with appropriate stewardship of those historic sites.

As part of the development of the 2020 Campus Plan, Howard University has met with representatives of the Office of Planning (OP) and Historic Preservation Office (HPO) to understand the city's expectations for the Plan as it relates to historic preservation. In ongoing collaboration with HPO, the university has commenced a Historic Preservation Study to undertake efforts

to identify and evaluate historic campus buildings, structures, objects, landscape sites, and features to fully understand their role and significance in the history and development of the university. This effort will serve two functions: first, it will help the University identify the resources that should be recognized, documented, and protected; second, it will help inform the potential of the 2020 Plan and its development proposals to affect these resources, spaces, and organization that are particularly important to the university. Following completion of this work, the university will consult with the HPO to determine the appropriate mechanism for protection.

As part of this process, the University is undertaking the following scope of work:

- 1. On-site survey and photographic documentation of all existing resources on the central campus. These resources will include buildings, structures, objects, and landscape sites as defined by the National Register of Historic Places.
- Perform research and prepare an historic context statement to provide the historical background and overarching basis for evaluating the significance and integrity of each resource.
- 3. Evaluation of survey and research findings using a methodology based on an assessment of Relative Level of Significance (RLS) of each resource. The RLS for each resource will based on two factors: 1) its individual contribution to one or more of the various aspects of significance that have been identified in the historic context and 2) its historic integrity based on the National Register's seven aspects of integrity.
- 4. Prepare Determinations of Eligibility (DoE) for each resource to explain and support the findings of the RLS analysis. These findings will be used to evaluate the potential for historic designation for each resource, both individually and/or as part of an historic district. This evaluation will be conducted using the guidelines of the National Register of Historic Places.
- 5. Consultation with the DC Office of Planning and Historic Preservation Office
- 6. Preparation of the Historic Preservation Study report as an addendum to the Campus Plan.

This report will address the documentation identified above including the following:

- Summary of findings on the historic development, significance, and eligibility of buildings;
- Historic context;
- Inventory of historic resources on the campus;
- Statement for each resource regarding architectural and historical significance and integrity and their relative significance ranking;
- Recommendations for additional research necessary and on building and/or historic district eligibility for listing in the DC Inventory of Historic Sites and National Register of Historic Places.

4.3.2 Proposed Landscape & Open Space

The campus landscape is a treasured amenity that is remembered by students, faculty and alumnae as a special quality of a university. The design of the landscape at Howard University is equally as important as the design of its buildings. The campus landscape plays many roles in academic life and should provide a rich variety of open spaces as a counterpoint to the intensity of urban and academic life.

4.3.2.1 Tree Canopy

During the design and further processing of each development project, a survey will be required of all trees with critical roots within the limit of disturbance. Trees located outside of the limit of disturbance should be surveyed if their root system extends into the disturbance zone. A tree protection plan will need to be prepared for review and approval.

Any trees identified to be removed should be evaluated for condition and canopy coverage. Proposed planting plans should promote meeting or exceeding the existing coverage at maturity. Transplant value should be evaluated during the tree survey.

The review process shall include an internal HU review of all trees to be removed or relocated, followed by a review by DC Urban Forestry of

any Special or Heritage Trees located within the disturbance zone.

Heritage Trees should not be removed from the site. A tree protection construction plan and a three-year tree management plan should be submitted to Howard University and DC Urban Forestry Division.

Special Trees in fair condition or better should be protected in place when possible. If a Special Tree requires removal, a Special Tree permit must be submitted to DC Urban Forestry Division.

Trees under 14" Diameter at Breast Height (DBH) in good - excellent condition should be protected in place when possible and evaluated for transplant if they conflict with the future development.

Based on review, the following development impacts should be taken under consideration:

- Development site B has one Special Tree that is currently in fair/poor condition that will need to be removed.
- Development site C has two Heritage Trees that will require protection during construction.
- Development site D has one Special tree in good/fair condition that will need to be removed, and four others requiring protection
- Development site G has one Special Tree in fair condition that will require protection.



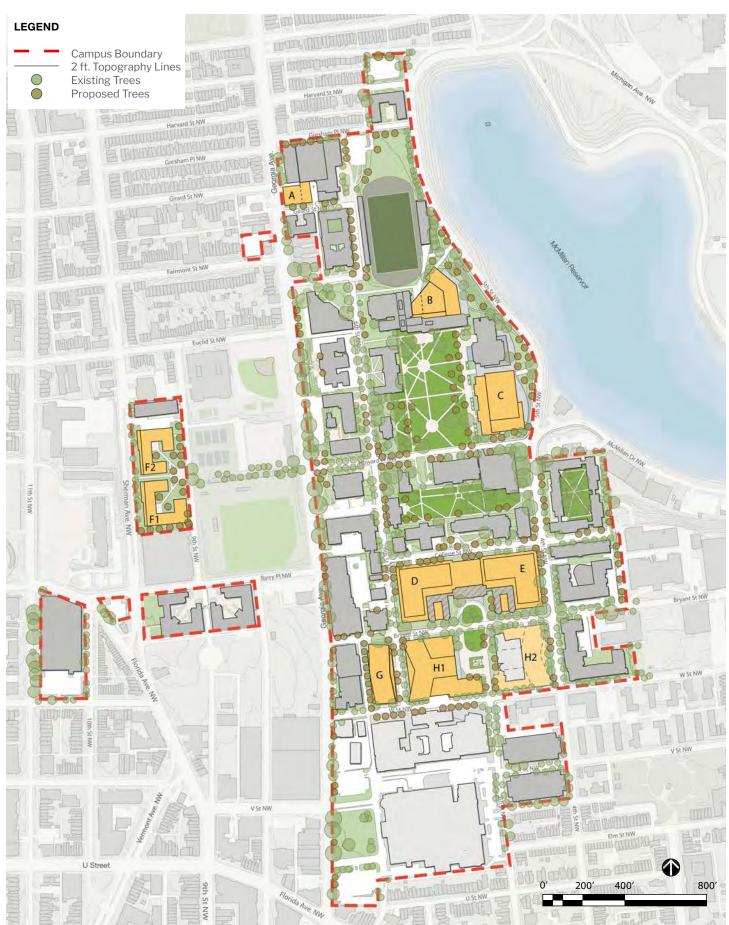


Figure 4.38: Proposed Trees vs. Existing



Figure 4.39: The proposed Yard Perspective

4.3.2.2 Enhanced & New Landscapes

Significant landscape improvements are proposed in the Landscape Plan to raise the general quality and first impressions of the Campus. The Landscape Plan reinforces the principal organizing elements of the Campus - the Upper, Lower, and Southern (Freedmen's) Quadrangles - and is designed to extend the picturesque quality of the best landscape area - the Upper Quadrangle, known as 'The Yard.'

The Yard

The Landscape Plan reconfigures the existing service drive and expands the design of the historic Upper Quadrangle into the reclaimed space. Walkways are modified to focus on the pedestrian experience with additional nodes and areas for informal gathering, while still accommodating service and loading access to the current and future buildings.

The pathway materials of the new east walk should be reinforced to support emergency and service

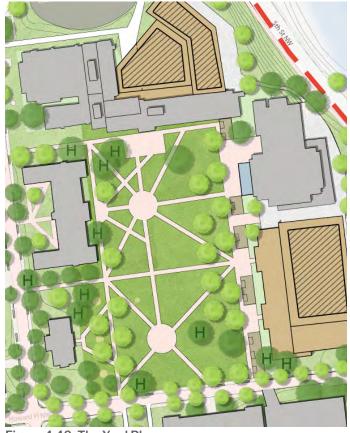


Figure 4.40: The Yard Plan

vehicles, while aesthetically matching the feel of the original pathways within the Upper Quad. The new extended quad could accommodate opportunities for smaller plazas for seating. Planted stormwater management swales and rain gardens should be integrated into the base building planting design to mitigate runoff and key paving areas. The Yard's lawn includes additional canopy trees planted along the east and west perimeters in a formal arrangement. The main lawn should be maintained as an open lawn to accommodate large gatherings and functions, with minimal improvements that would impede the flexibility of event layout.

Transition spaces between the new Arts and Communications building, the Blackburn University Center, and the new Union building should offer glimpses of the McMillian Reservoir. Stormwater management structures or fountain features can help build the visual reference between the campus and the reservoir. The eastern building terraces will provide views overlooking a naturalized slope of native plant species and the reservoir.

Hospital Plaza

The Hospital Plaza supports pedestrian and vehicular circulation for doctors, patients and visitors. The entrance plaza should relate to the



Figure 4.41: Landscape & Open Space Plan



Figure 4.42: The Hospital Landscape

historic arched ambulatory driveway on the north side of Bryant Street. Hardscape, planting and site furnishings should be of a similar form, connected by a decorative mid-block pedestrian crossing. The entry plaza and central green space should offer inviting open spaces for seating, gathering and respite. Canopy shade trees and low growing buffer planting should be integrated into the planting to reinforce the softscape zone from the drive area. Consideration should be taken in the below grade garage design to accommodate trees and stormwater management structures. The hospital site should display legible directional signage and lighting elements to highlight vehicular and pedestrian zones within the space.

Gateways

Campus gateways are the visual identifiers that reflect main points of entry to the campus (edge gateways), and entrance thresholds into special spaces within the campus (internal gateways).

Originally, the primary gateways to Howard University were located at Sixth Street and Howard Place in the 1930's by Albert Cassell, Campus Architect, David Williston, Landscape Architect and Louis Frey, Architect. This group worked together to integrate landscape elements into the development plans.

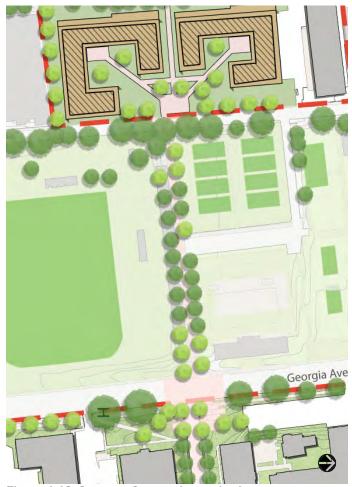


Figure 4.43: Gateway Connection to the Apartments



Figure 4.44: In-between Medical Offices & the HUH perspective

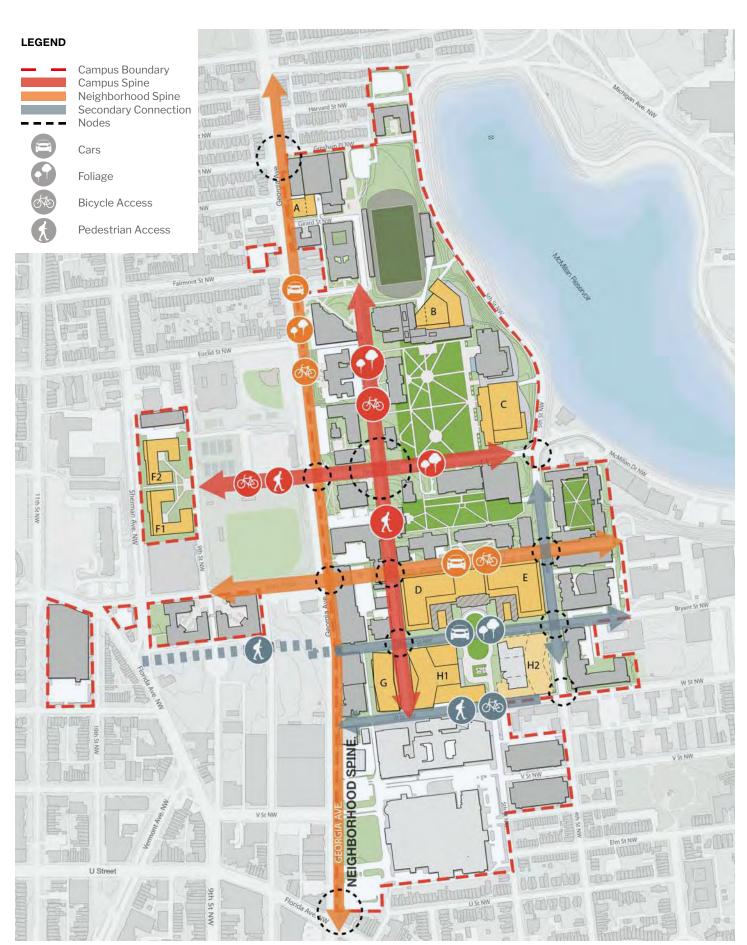


Figure 4.45: Connections & Nodes

These impressive gateways were intended to provide visual first impressions of the Campus at strategic locations and offer a sense of welcome and openness. As the Campus has grown, these gateways are no longer on the perimeter of the Campus and serve as internal pedestrian gateways to the Upper Quad.

Important street corridors, such as Georgia Avenue and streets shared with the neighborhoods provide the primary initial impression and public edge for the University. Edge gateways should reinforce campus identity and serve as opportunities to expand campus placemaking into the public realm. Amenities to consider integrating into edge gateway design include plaza spaces, seating elements, public art, interpretive/interactive signage, and enhanced planting treatments.

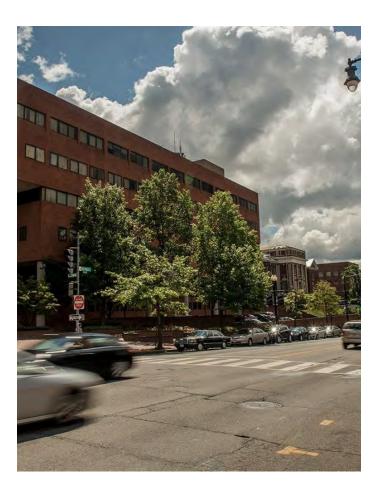
4.3.2.3 Connections & Nodes

This master plan identifies three types of streets: Campus Spines, Neighborhood Spine and Secondary Connections. Streetscape enhancement strategies for all streets should include:

- 1. Provide comprehensive stormwater management through low impact strategies.
- 2. Create wider sidewalks to accommodate pedestrian movements.
- 3. Provide accessible sidewalks and roadway crossings
- 4. Provide enhanced soils and expand the soil volume in tree pits to promote healthier tree growth.
- 5. Providing a legible wayfinding system
- 6. Promote safety and security on and off campus.
- 7. Continue to partner with the DC Department of Transportation to create seamless streetscape guidelines for the campus.

There are two campus spines in the study area that support pedestrian, vehicular and bicycle movements:

1. 6th Street runs north and south, and weaves together all functions of the campus. This



spine is the only continuous way to walk through campus from one end to the other. Wayfinding signage, and tree planting efforts should continue to reinforce this as a greenway.

2. Howard Place runs west to east, connecting 4th Street to Banneker Park. The pedestrian connection continues through Banneker park to the future residential halls on 9th Street.

There are two Neighborhood Spines: (Georgia Ave. Sections)

- 1. The Georgia Avenue public realm serves as the main commercial spine to the campus. Where there is opportunity, create open spaces that fosters engagement between campus life and the neighborhood. A key location to consider is the intersection of Georgia Avenue and Howard Place, in front of the College of Engineering and Architecture.
- 2. On College Street, reclaim surface parking lots and create open spaces that further articulate

the link into the Lower Quad. Consider placing a sculptural art piece in the Lower Quad that is visible from College Street to draw attention up the stairway connection into the space.

There are two Secondary Connections:

1. Bryant Street will be the primary vehicular access to the future hospital.

2. W Street primary pedestrian and bicycle cross connection.

4.3.2.4 Pervious Surface

Main campus: 3,896,842 sf

Proposed Building Footprint: 1,458,068 sf

Proposed Greens: 436,693

Proposed Permeable / Hardscape: 8.92

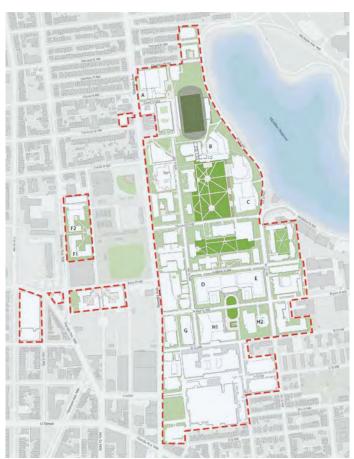


Figure 4.46: Proposed Pervious vs. Impervious

4.3.3 Sustainability Considerations

4.3.3.1 Vision & Purpose

Howard University is a catalyst for change within our society. It embodies the fundamentals of resilience and vision for a sustainable future through its pursuit of human development, and of improving the human condition. As a physical manifestation of such ideas, the campus should reflect these goals in its academics, infrastructure, buildings, operations, administration, and culture of engagement.

As the University prepares students for leadership amid a changing climate, it needs to infuse the student experience with sustainable thinking at every scale. The 2011 Master Plan identified a key planning principle for the University as "Embrace Sustainability." The challenge for this updated version of the Master Plan would be to "Prioritize Sustainability" in all development, plans, and projects.

4.3.3.2 Summary

The sustainability guidelines include recommendations for stormwater management, carbon and energy use reduction, sustainable buildings, and recommendations for implementation.

Partnership and collaboration with the HU Office of Sustainability and other key stakeholders should be prioritized in during the design and further processing projects to implement these recommendations. This Master Plan should also consider the outcomes of the resilience planning under way by the DC Mayor's College and University Sustainability Pledge and Second Nature.

These guidelines support previous recommendations for the University to explore the possibility of participating in the Sustainability Tracking, Assessment and Rating Systems (STARS program) developed by the Association of the Advancement of Sustainability in Higher Education (AASHE). This framework is designed specifically for Universities to implement sustainability in all sectors of higher education, from education to research to operations and administration. Even without certifying, the categories serve as a valuable framework for long range planning, measurements, and improvement.



Table 4.18: Sustainability Wheel

Energy

- New buildings should be designed to LEED / green building code standards & be required to use energy modeling as a design tool.
- Existing buildings should be benchmarked in the Energy Star system.
- Evaluate modernization of existing central utilities for cost, flexibility, asset monitoring, and sustainability criteria.

Community

Develop & improve campus strategy for education, research, and employee development in campus sustainability strategies.

- Create more usable space for gathering.
- Prioritize projects that improve safety.
- Integrate USDOTs complete streets strategies.

Materials

- Implement waste audit to benchmark existing waste streams and identify opportunities for improvement.
- Evaluate building materials (foundation and structure) to reduce embodied CO2 emissions.

Ecology

Replace turf gras with native & adaptive vegetation.

• Evaluate integrated pest management strategies.

Resilience

 Resilience assessment to evaluate economic, social, cultural, and physical issues of risk analysis / mitigation.

Wellness

- Sustainable food systems
- Expand or improve community garden with green house for year round use.
- Improve walk ability of campus

Water Management

- Replace or adapt existing fixtures (lavatories, shower heads)
- Condensate capture and reuse.
- Meter & track water usage by building.
- Incorporate low-impact development strategies.

4.3.3.3 Engagement & Administration

The primary focus of this document is on the buildings, infrastructure and built environment. It is recommended to have expand the role of the sustainability committee, office, and/or officer tasked by the administration or governing body. The University's holistic approach to sustainability is not readily available and clear to students and there should be increased opportunity for this group to advise and implement policies and programs related to sustainability on campus and to develop a plan that includes measurable sustainability objectives and/or include the integrated concept of sustainability in the institution's highest guiding document.

There is interest from the student body in improving the culture and awareness of sustainability issues on campus. It is recommended that the University conduct an assessment of campus sustainability culture that focuses on sustainability values, behaviors and beliefs. A strategy for campus engagement can be developed through student educators, programs for student life, research opportunities,

and employee development. With student and community buy-in, the likelihood of the initiatives being accepted by most is high as the implementation will closely match the needs of the campus community.

4.3.3.4 Curricular Enhancement

The University should support curriculum that furthers sustainable education. Howard University has a Green Teaching Certificate that is being piloted. This initiative aims to reward faculty members who are green teachers and to enable students to select green courses. Inventory of those programs should be conducted and identified improvements to programs. Majors, degree programs, minors, or concentrations should be catalogued for students to easily access as part of enrollment and recruitment.

4.3.3.5 Emissions

With climate change being of utmost importance over the next 10 years, it is imperative that the University understand the climate impact of their campus. A first step would be to create an inventory to quantify the institution's greenhouse gas (GHG) and/or air pollutant emissions should be conducted to understand key pollutant liabilities and opportunities for improvement. A more detailed inventory to quantify the institution's Scope 1 and Scope 2 GHG emissions could also be completed to define a robust approach to addressing the Universities impact on climate change. As part of the larger GHG emissions evaluation, the University should develop a data management plan to collect and track information on grid-purchased electricity, electricity from on-site renewables, utility-provided steam and hot water, and stationary fuels and other energy products.

4.3.3.6 Transportation & Access

The campus has a very high Walk Score with public transit available for most basic needs but safety on the campus is still a concern for students and employees. There are opportunities to improve non-car access on the campus, both for both safety, infrastructure, and sustainability.

With parking being consolidated on the campus, the streets should be reevaluated for opportunities to model USDOT's Complete Streets guidance which promote safety, comfort, and integration of transit networks. The 2011 Master Plan made many recommendations for Transportation Demand Measures (TDM) including increased access to the HU shuttle, bicycling, and pedestrian connectivity; this work should be re-evaluated in the next phase of this Master Plan and measured to identify where additional improvements can be made.

A concerted effort to improve wayfinding on campus will lead to better utilization of spaces and a safer environment for students with better lighting of pathways, more greenspace along walking pathways and crosswalks on sections of busy streets.

4.3.3.7 Energy

New or renovated buildings should be designed and built at minimum, in accordance with a published green building code, policy/guideline, or rating system. To meet climate change targets and progressive code development, the University should take a more proactive approach to high performance buildings with the goal of designing to Net Zero for all new projects by 2030. New projects should be required to use energy model as a design tool; when an energy model is performed, higher performance is a typical outcome. An energy model done early in the project might be rough and include many assumptions, versus a more detailed model later in the design process. It can also be used as a cost-control measure, not as an add-on for sustainability.

Existing buildings should be benchmarked in the Energy Star system to measure energy use and identify improvements. It is understood that the campus is undergoing modernization of the existing steam plant as the steam plant is fragile but stable. Assessment is being undertaken by Engie to assess the University's steam plant operations and equipment, and steam tunnel in order to inform decision making related to steam plant modernization, cost, utility Master Planning, asset monitoring, and sustainability.

The University is working to develop the largest renewable energy project of any historically black College and University. A large on-site solar plan