Pratt Historic Preservation Master Plan

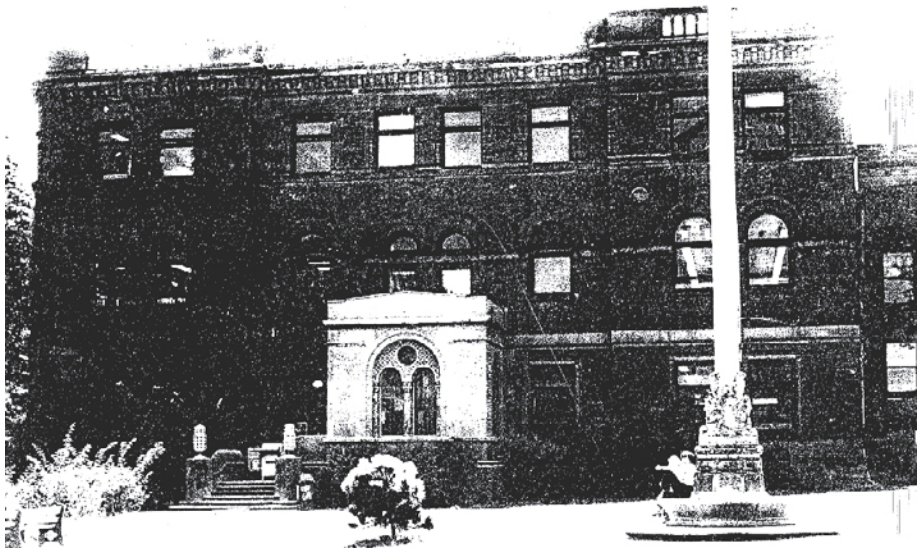
From the Grid to the Park to the Gardens: The Evolution of a Campus Plan

Part 1: Introduction and Analysis

EHRENKRANTZ ECKSTUT & KUHN ARCHITECTS

Table of Contents

I. Executive Summary



The Pratt Institute Historic Preservation Master Plan explores the history, significance and current condition of the Pratt Institute campus and individual historic resources therein. This documentation is accompanied by recommendations for the repair and continued maintenance of these resources and guidance for future campus improvements that are sympathetic to the existing campus and site history.

The preservation master plan is intended as a tool, supporting the stewardship of Pratt Institute's significant buildings, landscapes and structures. This report will be employed to direct repair and maintenance work, site enhancements and future growth. Furthermore, this plan may be used to generate interest and support for campus preservation and to seek funding to assist in the care of individual resources.

Campus Resources

The campus resources selected for inclusion in the preservation master plan represent a broad range of architectural styles and illustrate the development of Pratt's campus over more than a century of growth and change. From the earliest academic buildings of the Institute to converted shoe factory buildings, each of these resources contributes to the overall character of the Pratt Institute campus and merits a close study.

The following is a complete list of the buildings, landscapes and structures included in the Pratt Institute Historic Preservation Master Plan.

Buildings

Main Building
South Hall
Memorial Hall
East Hall
Student Union
Townhouses
Pratt Library
Chemistry Building
Machinery Building
Engineering Building
Carolyn Ladd Pratt House
Higgins Hall
Esther Lloyd-Jones Hall
Thrift Building
Pratt Studios
Steuben Hall
Information Science Center
DeKalb Building
North Hall
Willoughby Hall

Landscapes and Structures

Pratt Library Landscape
Main Building Courtyard
East Quadrangle Landscape
Children's Portico

Report Format

This plan is divided into Part 1: Introduction and Analysis and Part 2: Significant Buildings, Landscapes and Structures. Part 1 presents topics with campus-wide relevance, including site history, preservation planning issues and a brief introduction to the significant resources. An in-depth assessment of each individual resource follows in Part 2, with resource history, existing conditions, recommended treatments and estimated cost.

Part 1 is intended as an introduction to the preservation master plan and the Pratt Institute campus. In addition, this section of the report allows for a close study of the site as a whole and the issues and concerns specific to both the preservation and future development of this campus. This final section of Part 1 includes a campus lighting concept, discussion of educational opportunities and a summary of the cost estimate for preservation activities.

Part 2 of the preservation master plan is organized according to the lettering system introduced in Section III of this report. For each significant resource, the following information is provided:

- Architectural description and identification of character-defining features.
- Historic narrative related to that particular building or landscape, often accompanied by contextual history addressing the development of the campus and surrounding neighborhood.
- Existing conditions depicted in key notes on elevation and plan drawings, along with deficiencies and recommended work items identified in a table format.
- Identification of work priorities, required treatments and necessary maintenance.
- Cost estimate for the work recommended.

The information presented in this section of the report relies on extensive historic research and on-site surveys of individual buildings and landscapes. This research was essential in the compilation of comprehensive historic narratives, architectural descriptions and the identification character-defining features. Furthermore, field surveys were employed to record building deficiencies, which were later developed into a series of key notes applied to architectural drawings. The recommended treatments and associated costs for this work were developed based on these drawings.

Sources Consulted

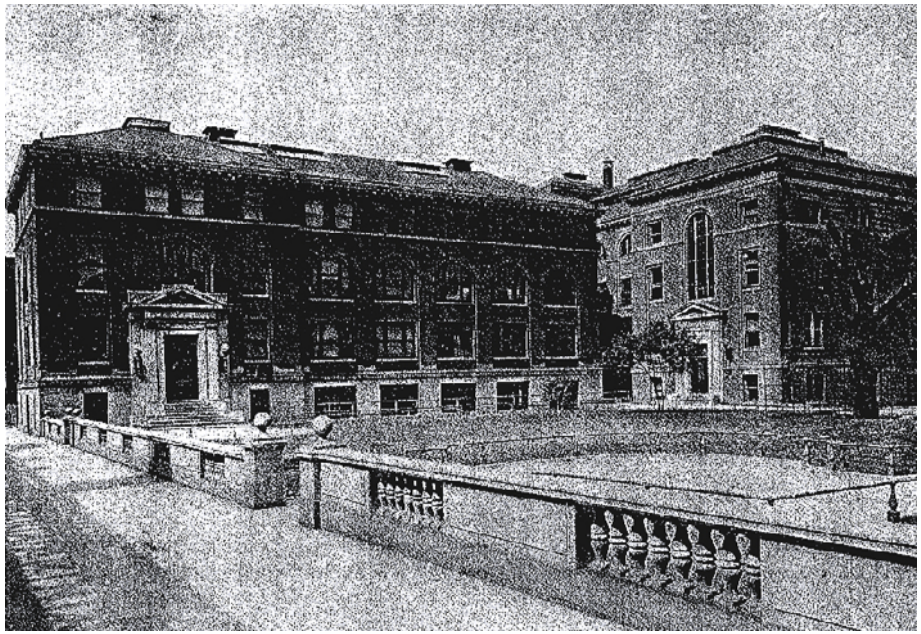
The project team consulted many sources in the preparation of the Historic Preservation Master Plan, including architectural drawings, historical documentation and various Pratt publications. The team drew upon these sources to inform the analysis of the existing campus and in the compilation of architectural, campus and contextual history.

The principal source for Pratt Institute history was an unpublished manuscript, *Fields of Influence: A Centennial History of Pratt Institute*, by Margaret Latimer. This document was produced in 1988 for the Trustees of Pratt Institute and addresses the history of the campus, from its founding in 1887 through the first one hundred years of the school.

The archival resources consulted at Pratt Institute included the Pratt Institute Students' Bulletin, the Prattler and Pratt Institute Monthly. Together, these sources provided insight into student life, Institute events and building history and contained valuable historic photographs. In addition, archival materials related to historic campus buildings, including original architectural drawings, were referenced in the vertical files of the Pratt Library.

Previous reports and studies related to the Pratt Institute campus were referenced throughout this project. These include *Pratt Institute: Strategic Campus Plan Report* by Cooper Robertson & Partners and *Facility Condition Assessment: Final Report–Pratt Institute Properties and Site Assets* by VFA, Inc. A complete list of these reports can be found in the bibliography (Section X).

II. Introduction



Founded in 1887 by Charles Pratt, Pratt Institute began as a trade school and has evolved over time to become a leading institution for the study of architecture, art and design and library science. Situated in the midst of a Brooklyn neighborhood, Pratt Institute was initially urban and compact, though the school gradually acquired property, expanding and ultimately creating a more traditional campus-like setting. Today, Pratt retains a collection of buildings and landscapes that represents its 119-year history and tells the story of the school as well as the surrounding neighborhood.

The Getty Foundation Grant, awarded to Pratt Institute for the creation of a Historic Preservation Master Plan, recognizes not only the architectural, historical and cultural significance of the campus but also a strong commitment by the school to the preservation of campus resources. Within the past ten years, Pratt Institute has untaken the repair and restoration of many of the most important buildings and landscapes on campus which were suffering from years of deferred maintenance. However, additional work is needed, along with clear direction in order to prioritize projects and direct future capital funds. The goal of this plan is to provide a framework within which Pratt can evaluate, restore and maintain its significant buildings and landscapes, ensuring their preservation and continued use.

The Historic Preservation Master Plan includes an inventory of buildings, landscapes and structures with architectural, historical and/or cultural significance. For each identified element, an architectural description, historical narrative and assessment of existing conditions are included. Based on this information, treatment options are recommended and an estimated cost assigned. Priorities have been determined for work items that require immediate attention, also taking into account the relative significance of each building or landscape. This information is intended to guide future decisions, establishing a plan of action within a time frame for the sequential preservation of all properties.

Getty Foundation Campus Heritage Grants

Campus Heritage Grants are presented to colleges and universities across the United States with architecturally, historically and culturally significant buildings, sites and landscapes in order to provide funds for preservation and planning activities. These activities may include historic research and survey work, the preparation of designation nominations, preservation master planning or related work. Eligible projects must be comprehensive, addressing the entire campus or a significant group of buildings, with the majority of grants directed toward planning activities.

The application for the Getty Foundation Campus Heritage Grant was prepared and submitted by Ehrenkrantz Eckstut & Kuhn Architects at the request of President Thomas F. Schutte and in collaboration with members of the faculty and staff of Pratt Institute.

Project Team

Ehrenkrantz Eckstut & Kuhn Architects has been involved in preservation and planning activities on the campus of Pratt Institute for over ten years. Led by Principal and alumnus of Pratt, Denis Glen Kuhn, the previous projects completed by EE&K included the exterior restoration of Higgins North, the restoration and adaptive reuse of Pratt's Manhattan Campus and the exterior restoration of Memorial Hall. Due to this continued association with the school, EE&K has watched the campus grow and evolve over time, changing from an urban institution locked within the city grid to a more traditional campus setting with open spaces and landscape features.

Project team consultants and members of the Pratt Institute faculty and staff played a key role in the production of this report and are identified below.

Ehrenkrantz Eckstut & Kuhn Architects:
Denis Glen Kuhn, Principal
Matthew Bell, Design Principal
Quentin Munier, Senior Associate
Jae Ahn, Historic Preservation Architect
Hillary Krell Lord, Historic Preservation Specialist
Michael LaForte, Senior Graphic Designer

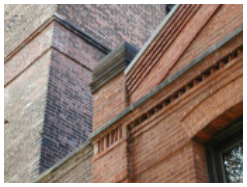
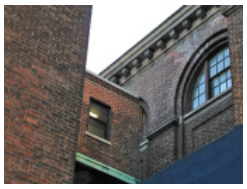
Pratt Institute:
Richard Scherr, Director of Facilities Planning and Design
Eric W. Allison, Ph.D., Adjunct Associate Professor; Historic Preservation Program Coordinator
Diane Carillo, Associate Director for Foundations

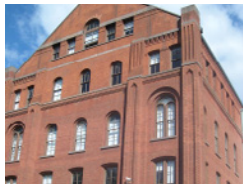
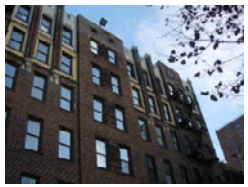
Consultants:
Bonnie Parsons, Architectural Historian
Raynor Rogers, Federman D+C Cost Estimators, Cost Estimator
Peter Barna, Lucy Harris, Light & Space Associates, Lighting

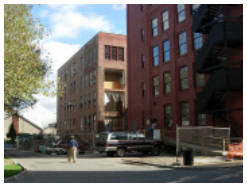

RYERSON ST
GRAND AVE
STEUBEN ST
MYRTLE AVE
EMERSON PL
TAAFFE PL
KENT AVE
WILOUGHBY AVE
VANDERBILT AVE
CLINTON AVE
WAVERLY AVE
WASHINGTON AVE
HALL ST.
DE KALB AVE
LAFAYETTE AVE
CLINTON HILL HISTORIC DISTRICT
CLIFTON PL
GREEN AVE
BUILDING INDEX
A. MAIN BUILDING
B. SOUTH HALL
C. MEMORIAL HALL
D. EAST HALL
E. STUDENT UNION
F. TOWNHOUSES
G. LIBRARY
H. CHEMISTRY BUILDING
I. MACHINERY BUILDING
J. ENGINEERING BUILDING
K. CAROLYN LADD PRATT HOUSE
L. HIGGINS HALL
M. ESTHER LLOYD-JONES HALL
N. THRIFT HALL
O. PRATT STUDIOS
P. STEUBEN HALL
Q. INFORMATION SCIENCE CENTER
R. DEKALB BUILDING
S. NORTH HALL
T. WILLOUGHBY HALL
U. PRATT LIBRARY LANDSCAPE
V. MAIN BUILDING COURTYARD
W. EAST QUADRANGLE LANDSCAPE
X. CHILDREN'S PORTICO
INDEX
PRATT INSTITUTE BUILDING - NON-CONTRIBUTING
PRATT INSTITUTE BUILDING - CONTRIBUTING
CAMPUS AREA
CONTRIBUTING LANDSCAPE
HISTORIC DISTRICT BOUNDARY - NATIONAL
HISTORIC DISTRICT BOUNDARY - NATIONAL AND LOCAL

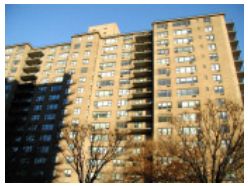
III. Campus Resources and Designation Status

	Bldg No.	Building	Original Const. Date	Architect	Original Use	New York City Landmark	Contributing in NYC Landmark District	New York State Landmark	Contributing in a National Register Historic District	Elligible for Local and National Historic Listing	Exterior Restoration Completed
	A	Main Building	1885-1887	Lamb and Rich	Classrooms and Studios	Yes 1981 (Individual)	No	Yes 1990 (Pratt Institute Historic District)	Yes 2005 (Pratt Institute Historic District)	N/A	Construction Documents, Tower Restoration, All Exterior Facades
	B	South Hall	1889-1891	William B. Tubby	Pratt High School	Yes 1981 (Individual)	No	Yes 1990 (Pratt Institute Historic District)	Yes 2005 (Pratt Institute Historic District)	N/A	Restoration of South Exterior Facade, Parapets, and Cornice
	C	Memorial Hall	1926-1927	John Mead Howells	Assembly	Yes 1981 (Individual)	No	Yes 1990 (Pratt Institute Historic District)	Yes 2005 (Pratt Institute Historic District)	N/A	Restoration Complete
	D	East Hall	1887 1889, 1896	James H. Windrin, William B. Tubby	Machine Shop Building	No	No	Yes 1990 (Pratt Institute Historic District)	Yes 2005 (Pratt Institute Historic District) 1977 National Historic Mechanical Engineering Landmark	N/A	Window Replacement, Restoration of Roof Parapet and Skylights

	Bldg No.	Building	Original Const. Date	Architect	Original Use	New York City Landmark	Contributing in NYC Landmark District	New York State Landmark	Contributing in a National Register Historic District	Elligible for Local and National Historic Listing	Exterior Restoration Completed
	E	Student Union	1887	William B. Tubby	Gymnasium	No	No	Yes 1990 (Pratt Institute Historic District)	Yes 2005 (Pratt Institute Historic District)	N/A	Exterior Restoration Complete
	F	Townhouses	1907	Hobart A. Walker	Faculty Housing	Yes 1981 (Individual)	No	Yes 1990 (Pratt Institute Historic District)	Yes 2005 (Pratt Institute Historic District)	N/A	Construction Documents and Restoration of Willoughby Ave Houses, Exterior Restoration of Emerson Pl. Facade, Parapet and Balluster
	G	Pratt Library	1896	William B. Tubby Interior: Tiffany Glass and Decorative Company	First Free Library in Brooklyn	Yes 1981 (Individual)	No	Yes 1990 (Pratt Institute Historic District)	Yes 2005 (Pratt Institute Historic District)	N/A	
	H	Chemistry Building (East Quadrangle)	1908	Howells and Stokes	Chemistry Classrooms and Labs	No	No	Yes 1990 (Pratt Institute Historic District)	Yes 2005 (Pratt Institute Historic District)	N/A	
	I	Machinery Building (East Quadrangle)	1912-1914	Howells and Stokes	Machinery Classrooms and Machine Shop	No	No	Yes 1990 (Pratt Institute Historic District)	Yes 2005 (Pratt Institute Historic District)	N/A	

	Bldg No.	Building	Original Const. Date	Architect	Original Use	New York City Landmark	Contributing in NYC Landmark District	New York State Landmark	Contributing in a National Register Historic District	Elligible for Local and National Historic Listing	Exterior Restoration Completed
	J	Engineering Building (East Quadrangle)	1927-1929	Howells and Stokes	Engineering Classrooms	No	No	Yes 1990 (Pratt Institute Historic District)	Yes 2005 (Pratt Institute Historic District)	N/A	
	K	Caroline L. Pratt House	1898	Babb Cook and Willard	Frederic B. Pratt Residence	No	Yes 1981 Contributing in Clinton Hill Historic District	Yes 1983	Yes 1985	N/A	Construction Documents Completed, South Deck and East Entry Restored
	L	Higgins Hall	1869 North Wing 1887 South Wing	Mundell & Teckritz Charles C. Haight	Adelphi Academy	No	Yes 1981 Contributing in Clinton Hill Historic District	Yes 1983	Yes 1985	N/A	North Wing: Restoration Complete, South Wing: Construction Documents Completed
	M	Esther Lloyd Jones Hall	c. 1920s	Unknown	Apartment Building	No	No	No	No	Yes	Construction Documents Completed, Roof Replaced
	N	Thrift Hall	1916	Shampan & Shampan	Bank	No	No	No	No	Yes	

	Bldg No.	Building	Original Const. Date	Architect	Original Use	New York City Landmark	Contributing in NYC Landmark District	New York State Landmark	Contributing in a National Register Historic District	Elligible for Local and National Historic Listing	Exterior Restoration Completed
	O	Pratt Studios	c. 1900	Unknown	Light Industrial	No	No	No	No	Yes	North Facade Restoration
	P	Steuben Hall	c. 1910s, 1940s	Unknown	Light Industrial	No	No	No	No	Yes	Partial Window Replacement, East Facade Restoration
	Q	Information Science Center	1955	McKim Mead and White	Student Housing	No	No	No	No	Yes	
	R	DeKalb Hall	1955	McKim Mead and White	Student Housing	No	No	No	No	Yes	
	S	North Hall	1947	McKim Mead and White	Classrooms and Cafeteria	No	No	No	No	Yes	

	Bldg No.	Building	Original Const. Date	Architect	Original Use	New York City Landmark	Contributing in NYC Landmark District	New York State Landmark	Contributing in a National Register Historic District	Elligible for Local and National Historic Listing	Exterior Restoration Completed
	T	Willoughby Hall	1957	S. J. Kessler	Apartment Building	No	No	No	No	No	Partial Restoration: Corner Face Brick, Balconies, and Elevator Tower
	U	Pratt Library Landscape	1896	William B. Tubby	Public Park	No	No	Yes 1990 (Pratt Institute Historic District)	Yes 2005 (Pratt Institute Historic District)	N/A	
	V	Main Building Courtyard	c. 1900	Unknown	Courtyard	No	No	Yes 1990 (Pratt Institute Historic District)	Yes 2005 (Pratt Institute Historic District)	N/A	
	W	East Quadrangle Landscape	1908	Howells and Stokes	Pratt Institute Park	No	No	Yes 1990 (Pratt Institute Historic District)	Yes 2005 (Pratt Institute Historic District)	N/A	
	X	Children's Portico	1912	William B. Tubby	Children's entrance to South side of Library	No	No	Yes 1990 (Pratt Institute Historic District)	Yes 2005 (Pratt Institute Historic District)	N/A	

Governing Preservation Legislation

New York City Landmarks Preservation Legislation

The 1965 New York City Landmarks Preservation Legislation officially recognizes that a designated building has special historical, cultural, or aesthetic value and it is an important part of New York City's historical and architectural heritage. To help protect the city's landmarks from inappropriate changes or destruction, the Landmarks Preservation Commission must approve in advance any alteration, reconstruction, demolition, or new construction affecting the designated building.

In general, there are three things an owner of designated property must do: (1) The Owner must obtain prior approval from the Commission before executing any work on the building; (2) The Owner must follow and abide by all permits and other conditions required by the Commission; and (3) The Owner must maintain the historic building in good repair to ensure that the outside portions of the building (or designated interior spaces if there is an interior landmark) do not become deteriorated or dilapidated.

These requirements affect the following New York City Landmarks at Pratt Institute: Main Building, South Hall, Memorial Hall, Pratt Library, Pratt Faculty Housing (all individual Landmarks), Higgins Hall and the Caroline L. Pratt House (Contributing buildings in the Clinton Hill Historic District)

New York State and National Register of Historic Places Legislation

The New York State Historic Preservation Office administers programs authorized by both the National Historic Preservation Act of 1966 and the New York State Historic Preservation Act of 1980. These programs, including the Statewide Historic Resources Survey, the New York State and National Registers of Historic Places, the federal historic rehabilitation tax credit, the Certified Local Government program, the state historic preservation grants program, state and federal environmental review, and a wide range of technical assistance, are available to Pratt Institute's landmark buildings and are provided through a network of teams assigned to territories across the state.

These national and New York State programs apply to the resources of Pratt Institute that are included as part of the Pratt Institute and Clinton Hill historic districts on the National Register of Historic Places. These include the following: Main Building, South Hall, Memorial Hall, East Hall, Student Union, Townhouses, Pratt Library, Chemistry Building, Machinery Building, Engineering Building, Caroline L. Pratt House, Higgins Hall, Pratt Library Landscape, Main Building Courtyard and Children's Portico.

In general, state and national preservation legislation provides the framework for incentive programs that assist historic property owners to preserve and restore their buildings and landscapes. Regulatory legislation that could affect the Pratt Institute and Clinton Hill state and national historic districts includes:

The National Historic Preservation Act of 1966, Section 106

The National Historic Preservation Act of 1966, as amended (16 U.S.C. 470) is the nation's primary historic preservation law. The act created the National Register of Historic Places, the official list of properties significant in the history, architecture, archeology and culture of the United States. The act also called for the creation of State Historic Preservation Offices (SHPOs) to administer the national program at the state level. In addition, any project that involves federal funds, licenses or permits is reviewed in accordance with Section 106, which establishes procedures to be followed by federal agencies whose actions may directly or indirectly have an effect on historic properties and directs those agencies to consult with SHPO to assess those effects. Therefore, any approvals/permits/funding that are given by a federal agency must also be reviewed by SHPO. The comments of an independent review agency, the Advisory Council on Historic Preservation, may be sought when federal agencies are involved in relevant undertakings. Examples of federal undertakings include but are not limited to CORPS permits, FCC permits (cell towers), FDIC approvals/funding (banks, mortgage insurance, etc.), or HUD funding, etc.

The New York State Historic Preservation Act of 1980, Section 14.09

The New York State Historic Preservation Act of 1980 was established as a counterpart to the National Historic Preservation Act and declares historic preservation to be the public policy and in the public interest of the state. The act created the New York State Register of Historic Places, the official list of sites, buildings, structures, areas or objects significant in the history, architecture, archeology or culture of the state, its communities or the nation. The act also requires state agencies to consult with the SHPO if it appears that any projects being planned may or will cause any change, beneficial or adverse, in the quality of any historic, architectural, archeological or cultural property that is listed on the National Register of Historic Places or listed on the State Register or that is determined to be eligible for listing on the State Register. It requires state agencies, to the fullest extent practicable, consistent with other provisions of the law, to avoid or mitigate adverse impacts to such properties, to explore all feasible and prudent alternatives and to give due consideration to feasible and prudent plans that would avoid or mitigate adverse impacts to such property. The act also establishes agency preservation officers within state agencies for the purpose of implementing these provisions. In addition, the act reaffirms and expands the role of the State Board for Historic Preservation, which advises and makes recommendations to the State Historic Preservation Officer on preservation programs and activities, including State and National Registers nominations and statewide preservation planning efforts.

State Environmental Quality Review Act (SEQRA)

The State Environmental Quality Review Act (SEQRA), 6NYCRR Part 617 of the New York State Environmental Conservation Law, establishes a set of uniform regulations by which all state, county and local governmental agencies incorporate consideration of environmental impacts into their planning, review and decision-making processes. Impacts to historic resources, such as buildings listed on the State or National Registers of Historic Places and archeological sites, should be taken into account. To accomplish the goal of the act, SEQRA requires that all governmental agencies determine whether the action they directly undertake, fund or approve may have a significant impact on the environment. If an action may have a significant adverse impact, agencies must prepare or request an environmental impact statement. SEQRA applies to projects undertaken or permitted by county and local governments; consequently, many thousands of projects statewide that fall outside the purview of the state and national historic preservation acts are reviewed. New implementing regulations for SEQRA went into effect in 1996. Under this act, municipalities may request that a project be reviewed by the SHPO. All SHPO comments under this review are advisory only.

IV. Historical Overview

The founding of Pratt Institute and the early years of the school

Pratt Institute was founded by Charles Pratt in 1887. The son of a carpenter, Charles Pratt worked various jobs as a young man to earn a living, saving enough money to spend one year at Wesleyan Academy before moving to New York in 1851. He went on to enter the oil business where his success led to considerable wealth. As his wealth grew, Charles Pratt began contributing to charitable causes, focusing largely on local institutions in his Brooklyn neighborhood, including Adelphi Academy and Emmanuel Baptist Church. Though successful in his business, Charles Pratt was never satisfied with his limited education and therefore focused his philanthropic activities in the late 1800's on the founding of a new school. These efforts led to Pratt Institute, a school that aimed to provide young people with a well-rounded education and practical training to prepare them to enter the workforce.

At the time when Charles Pratt founded Pratt Institute, Brooklyn in the Clinton Hill area was typical in many ways of formerly rural land in transition to an urban landscape. What most characterized these transitional areas was the free mix of residential buildings - both of the well to do and the working classes - light industrial buildings, crafts shops and remnant farm buildings. East of Pratt, for example, was an area of squatters' houses known as "Jackson Hollow" that burned down in 1903, while Charles Pratt himself had built a grand home at 232 Clinton Avenue in 1870 to be close to his refineries, and other wealthy families were following Pratt's lead. Between those two extremes, the Pratt Institute area also had scattered development of rowhouses along its streets, and detached, one and two-story, single family frame houses with farm outbuildings, one of which was on the site of the Pratt Studios in 1887. There were many open lots, and here and there small businesses such as a currier and a beer bottling shop, which were both on Emerson Street. The immediate

Pratt Institute area had no large scale manufacturing as was going on elsewhere in Brooklyn, but businesses such as the bottling shop were supportive of the larger complex of industries which included breweries, sugar refineries, slaughter houses, book publishers and boot and shoe manufacturers.

Pratt Institute opened with twelve students in Main Building and coursework in freehand, architectural and mechanical drawing. As enrollment increased, the curriculum expanded to add a Women's Department offering classes in sewing, art, needlework and cooking. Within several months, the Institute added trade school and mechanical courses held in the Trade School Building (Student Union) and Mechanic Arts (East Hall) Building respectively. The Pratt Institute Free Library, housed initially in the first floor of Main Building, opened to the public in January 1888, becoming the first such institution in New York City.

Pratt Institute, at this time, was comprised of three buildings occupying a portion of the city block defined by Ryerson Avenue, Grand Avenue, Willoughby Avenue and DeKalb Avenue. The school's location was considered ideal in the late 1800's, as an elevated subway line was put in along Grand Avenue in 1885, which made it easier for students to travel to this area for classes. The school was part of a neighborhood that was evolving into an urban setting, and the early buildings of Pratt Institute were an integral part of this urban fabric.

Between 1887 and the beginning of the twentieth century, open lots on DeKalb, Ryerson and Willoughby Streets gradually filled in with rowhouses that remained, some of them, well into the 20th century. This mixture of housing was important to students who began coming from beyond Brooklyn, as they boarded in many of the nearby houses, and the diversity of building uses facilitated the school's integration into the neighborhood.

At the same time, the neighborhood surrounding Pratt Institute was becoming industrialized. Two mill-construction buildings were put up on DeKalb (which have now become the Pratt Studios and a portion of Steuben Hall), and in the block of the ARC building were two factories: a stationary manufactory Cooke and Cobb Company and the J. Cramer and Son shoe manufactory.

Enrollment increased at Pratt and new courses were added as public interest in the school grew. In response to this increased demand, existing programs were enhanced and new programs were added, including the Library School, Music Department and Department of Commerce. This expansion required addition space, and Charles Pratt expressed a desire to acquire property for the construction of more buildings, such as a library and a museum.

Main Building remained the center of activities at Pratt as the campus expanded to add South Hall in 1889 and the Library in 1896. South Hall was constructed in order to house the High School of Pratt Institute, which was part of the original school curriculum at a time when the public education system did not meet this need. In these early years of the Institute, the power plant in East Hall supplied electricity and steam heat for the campus. (In the years that followed, this facility would be increasingly strained as the campus expanded, until the 1950's when Pratt Institute began to shift over to public utilities.)

Charles Pratt died in 1891, leaving the task of overseeing the Institute to his sons, Charles Pratt, Jr., Frederick Pratt and George Pratt. The academic departments of Pratt continued to evolve under their leadership, particularly that of Charles Pratt, Jr. At the turn of the century, the academic departments included: Industrial and Fine Arts, Science and Technology, Libraries, Domestic Art and Domestic Science. Around this time, the Departments of Music and Agriculture and the High School of Pratt Institute were discontinued, as these programs were not successful. The Department of Commerce, which was expanding too quickly as compared with the rest of the school, broke off to form the Heffley School of Commerce under Norman Heffley, Charles Pratt's secretary. The Heffley School of Commerce was located in a building on Ryerson that the Institute allowed him to use rent free. (The school was still operating in 1915, but the building was sold around 1920 when Pratt divested itself of land and buildings in the area that it was not using.)

Pratt Institute at the beginning of the twentieth century

The first half of the twentieth century brought many changes to the Institute, as the impact of the war and the following depression was felt throughout the country. Open space was also incorporated into the growing campus of Pratt Institute, with a public park surrounding the new library building and the Engineering Quad taking shape to the east of the existing campus buildings. Constructed in 1905, the Chemistry Building was the first of the three Engineering Quad buildings. The Machinery Building and Engineering Building followed, as the School of Science and Technology sought to address the need for such training, influenced largely by World War I.

The descendents of Charles Pratt remained in key leadership positions at Pratt Institute at the beginning of the twentieth century, serving on the Board of Trustees and playing a major role in the stewardship of the Institute. The academic departments were also brought together around this time to form the following schools: Fine and Applied Arts, Science and Technology, Household Science and Arts, Kindergarten Training (which closed in 1917) and Library Science.

The continued expansion of the school included the construction of Memorial Hall, adjacent to Main Building, and a new Thrift Building, also on Ryerson. An iron fence was added around the Library Park, along with a new gate on the west side of Ryerson.

Despite initial resistance from the Board of Trustees, Pratt began granting degrees in the late 1930's due to rising pressure to perform in increasingly competitive fields. Although not the original intention of Charles Pratt, the school was transforming from a vocational institution, focusing primarily on technical training, to an increasingly rigorous professional school.

Another major change for the Institute in the first half of the twentieth century was an acknowledgment that the school needed to reach out for leadership and financial support. Diversification of the Board of Trustees, solicitation of donations from alumni and the reorganization of the school's administration occurred. In 1950, Pratt Institute was placed on the list of accredited colleges and secondary schools by the Middle States Association, a process that underscored Pratt's transition from trade school to a school focusing on the preparation of young men and women for professional careers.

The neighborhood surrounding Pratt continued to evolve, with new industrial building including the J. & T. Cousins factory and the S. Weil and Company shoe manufacturers (now Pratt Studios and Steuben Hall respectively). Shoes were among Brooklyn's largest industries between the late 1800's and 1950. During the Depression factories came and went, but by 1939 the Greenhill and Daniel Knitting mill and the Goodwill Industries moved into the Studios and Steuben Hall, and a large new parking garage was built on the north side of the Studios. Brooklyn and Clinton Hill weathered the Depression better than most cities as its industrial base was made up of many industries rather than a few large ones and the diversity meant more people were employed. As late as 1950, new industry was still coming to the campus area, although declining in Brooklyn as a whole. In the garage building was now a cardboard container factory, while Superior Construction Company had taken over the stationery and shoe factories.

Unrest and rebuilding in the second half of 20th century

Post-World War II Brooklyn and the area of Clinton Hill began to experience great shifts in its industry - which was moving to cheaper quarters out of Brooklyn, and in its population - which was moving to suburbs for a single-family house on a lot of its own. City services declined and the area saw a new population arrive, working class African-Americans. They met racial bias, lack of bank lending, and economic depression, and the result was a decline in the area, a lack of connection between the Institute and its neighbors and building deterioration. Many of the homes in the area had been converted to rooming houses during World War II to accommodate the 85,000 workers at the nearby Brooklyn Navy Yard. After the war, this trend continued as students found living quarters in these buildings.

Near the middle of the twentieth century, Pratt Institute was considering further expansion of the campus and the need for additional student housing. With the

surrounding neighborhood in decline and concerns over safety and campus amenities, Pratt explored opportunities to expand and improve the campus, including a Title I slum clearance project under then Commissioner Robert Moses of the New York City Committee on Slum Clearance. Although referred to as the "Pratt Area Slum Clearance Project" or the "Pratt Project," this Title I project actually had a larger impact in the neighborhood, requiring the relocation of many existing residents and the transformation of a total of fourteen city blocks. The controversial Title I project was eventually approved, and the school proceeded to add DeKalb Hall and the Information Science Center, which originally served as the boy's and girl's dormitories. The Pratt Institute main campus was defined at this time from DeKalb Avenue to Willoughby Avenue and from Hall Street to Classon Avenue, while a series of adjacent blocks were redeveloped to construct the Willoughby Walk apartment buildings to the north and University Terrace to the south. The residential development to the north drew significant criticism due to difficulty with relocation, construction delays and financial problems.

In addition to changes brought about by the Title I project, several existing neighborhood buildings that were originally constructed for industrial or residential uses were gradually incorporated into Pratt's campus as the campus expanded. Pratt Studios, Esther Lloyd Jones Hall and Willoughby Hall were several such structures, and these were joined by Higgins Hall (formerly a building of nearby Adelphi Academy).

The later half of the twentieth century brought about growing unrest on the campus of Pratt Institute. Financial concerns, a depressed neighborhood and an ineffective administration were several of the issues facing the school. In addition, some of the academic programs were struggling to attract students and required major curricula updates. In addition to Vietnam War protests, student organizations arranged meetings and protests between the years 1968 and 1972 in response to problems such as poor leadership, dissatisfaction with academic programs and the lack of minority representation.

Following this period of general unrest, the school went about rebuilding relationships among the students, faculty and administration and addressing critical issues such as the deficit, declining enrollment and the state of the campus. The school critically examined academic programs and reevaluated and reorganized the administration. The School of Art and Design, School of Architecture and School of Liberal Arts and Sciences were joined by the new School of Computer, Information and Library Sciences, a program that addressed the latest technological advances while incorporating one of Pratt's oldest programs, Library Science. At the same time, Pratt began to phase out the Engineering School, a process that began in the 1970's and was completed in 1991.

More recent additions to the campus of Pratt Institute include the Activity/Resource Center (ARC), the purchase of Steuben Hall (formerly the United Metals building) and the underground extension to Pratt Library. Furthermore, Pratt established a successful Manhattan branch for Continuing and Professional Studies that has occupied several different buildings in Manhattan, most recently moving into its current building on West 14th Street.

In recent years, the Clinton Hill area of Brooklyn has been revitalized, with the restoration of historic brownstones and the neighborhood is once again attracting residents and business. Pratt Institute is now moving forward with a clear mission to provide a strong education to artists and those in creative fields, having established itself as one of the nation's most recognized independent schools for art and design.

V. Campus Analysis

The analysis of the Pratt Institute campus was informed by close study of the campus, along with meetings and informal conversations with faculty and staff. Previous reports were reviewed in the context of the Preservation Master Plan, and key recommendations from these documents have been identified and advanced in this plan.

The principal concepts gleaned from existing studies and reports include the following*:

- Concentrate new development within the Brooklyn campus and at Higgins Hall.
- Reinforce the central mall and other open spaces within the main campus through landscape improvements.
- Acknowledge existing buildings and open spaces in the design of new buildings.
- Plan long-term development for the east campus, including several new residential buildings and improved landscape.

Campus Evolution: From Grid to Park to Gardens

Pratt Institute began as an urban campus, interwoven with the city fabric of Brooklyn's Clinton Hill neighborhood. Originally surrounded by open lots as well as the residential and industrial buildings of an area experiencing continual growth and development, the first buildings of Pratt Institute responded to the existing city grid and were fully integrated into the larger urban setting.

---

* For a complete list of studies and reports see Section X: Bibliography.

As evident in the morphology graphics (Figures V–1 to V–6), Pratt expanded through both new construction and the purchase of nearby existing buildings. These buildings typically continued to address the city grid, opening directly onto the streets of Brooklyn. Until the 1950s, Pratt largely accepted the grid and inserted garden or park space within it when given the opportunity. While the influence of the City Beautiful Movement of the late 19th century can be read from the very first 1877 Lucien Blake plan for the school, economic pressures precluded the realization of these goals initially. The designed landscapes advocated by the City Beautiful Movement for aesthetic and spiritually elevating purposes were evident in the full block of land required by Blake's plan and the location of two buildings behind a lawn and circular drive. However, the school chose its location when the transition from rural to urban setting had already begun in Clinton Hill, when the reality of the real estate ownership and the economic caution of a new enterprise temporarily eclipsed aesthetics. In other words, Charles Pratt did not own all the land he would have needed, and had to be conservative in case the school failed.

The first buildings of Pratt Institute, Main Building, quickly followed by East and the Building Trades buildings, were placed squarely on their respective lots, back-to-back facing Ryerson and Grand. The first Thrift Building (1896) and South (1891-92) soon lined up with Main Building on the Ryerson grid. The Thrift Building further reinforced the Ryerson street axis in 1917, and Lloyd-Jones in 1921. With time to acquire a larger block of land and the certainty of its economic stability, the school had the opportunity to provide for park space with the Library in 1896 and with the East or Chemistry Quadrangle plan in 1904.

Although construction and the acquisition of additional property slowed drastically after the construction of Memorial Hall in 1927, the transformation of the Pratt Institute campus continued in the second half of the twentieth century. Additional open space resulted from the demolition of existing structures throughout the present-day campus, and several new buildings were constructed, including North Hall, DeKalb Hall and the Information Science Center. Gradually, five consecutive blocks of the campus were enclosed by a series of fences, and the four north-south streets between these blocks were closed to traffic. Though the pattern of the original street grid remained evident in the campus plan, the closure of these streets and the integration of additional open space transformed the campus from an entirely urban campus to resemble a more traditional college campus, clearly distinguished from the surrounding neighborhood (Figure V–7 to V–8).

Recent construction has largely occurred within the boundaries established by the historic street grid, allowing the former north-south streets to function as major pedestrian circulation routes on campus. Thus, the rhythm of the city streets and a tangible link to this historic street pattern is preserved, while the function of these former thoroughfares has shifted to accommodate the campus as an entity distinct from the city. This is particularly evident along Ryerson Walk and Grand Avenue. In addition, the presence of green spaces further emphasizes the "park-like" campus. These open spaces, varied in size and character, have developed over time to form a series of unique garden settings throughout the campus.

As a unique indicator of the site history and development, the original street pattern within the campus of Pratt Institute should be respected and future buildings planned such that the grid of the city continues to serve a key role in future campus development. Therefore, new construction should not interrupt the original street pattern, except under special circumstances. Any building that does intersect the grid must be a significant architectural statement and serve to reinforce or enhance campus characteristics such as open "garden" spaces, historic buildings or important views.

Historic Resources and Viewsheds

The resources of Pratt Institute include architecturally and historically significant structures along with open spaces. Brought together over time to form the present-day campus, important built elements and landscapes are intermixed within the Brooklyn campus. Furthermore, significant views into, out of and within the campus must be recognized and preserved. Any new construction or addition on the campus of Pratt Institute must not only acknowledge recognized historic resources, but should also seek to maintain and enhance these identified views.

The historic resources of Pratt Institute include the structures and landscapes detailed in Part 2 of this report. Several of the significant viewsheds identified during

the campus analysis are illustrated in Figure V–9 and emphasize the important relationship among the landscape, buildings and often the surrounding urban context. Due to the layered history of the campus, expressions of the City Beautiful Movement must be recognized alongside evidence of the city grid. The City Beautiful influence, as conveyed in the park space so patiently created at either side of the Library and within the East Quadrangle, is particularly significant in the development of the campus. Charles Pratt specifically advised buying the land that makes up the park at each side of the library when it was being planned as an art building. In later years when space was needed for additional permanent campus buildings, other lots were purchased and the library park kept intact. For this reason, the preservation of the Library landscape and related views, both into the campus toward Main Building and the adjacent historic structures and out from the campus toward Hall Street, is recommended.

The Ryerson streetscape between Willoughby and DeKalb, an urban viewshed that evolved between 1887 and the 1950s, begins with the west and east elevations of North and ISC buildings and is anchored by The Thrift at the opposite end. The view down Ryerson retains strong evidence of the city street grid, with building façades along the east edge of the walk aligned. This view also includes structures and landscape elements significant throughout the history of the campus.

In regard to the East Quadrangle, we know from architectural drawings and from elevations of the entire plan in the journal Architecture of 1918 that Howells and Stokes had prepared for Pratt Institute a quadrangle plan, one of whose sides was never constructed. This plan was typical of the best thinking of the day to link landscape and buildings. This park space, like that surrounding the Library, was intended to both to enhance the buildings as settings and to provide respite in nature for city residents.

Campus Fragments and Unresolved Sides

The gradual assembly of campus buildings and open spaces at Pratt Institute resulted in certain unresolved spaces and unexpected conditions, particularly due to building orientation and the relationship between adjacent structures. Many historic buildings remain oriented according to the original street grid, which changed significantly as the campus shifted from an urban to a more traditional campus setting (Figure V–10). The historic buildings lining DeKalb Avenue present a particular challenge in that none of these buildings was originally designed to address the central mall, one of the major open spaces on campus (Figure V – 11). The central mall exists today as a result of the demolition of mid-block buildings along Ryerson, Grand and Steuben, largely during the second half of the twentieth century. This facilitated east-west circulation within the campus, however existing buildings no longer formed part of a continuous city block, and building sides and backs now faced onto the central mall. In effect, the mall lacks clear definition, particularly along its southern edge.

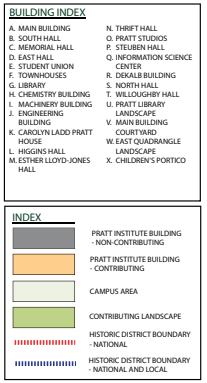
Potential strategies to address unresolved building sides and more clearly define existing open space include the use of landscape, public art and the introduction of new buildings. The planting of trees along the central mall is recommended to delineate this space more clearly. Furthermore, drawing on the success of the existing program for public artwork on campus, Pratt should explore the use of public art, designed specifically to address the buildings "backs" and "sides" currently lining the mall. Public art may also be integrated with unique landscape features in order to define the central mall more effectively. Finally, the introduction of new buildings should be considered along the edges of the central mall to enhance this important space. For example, a new building at the east end of the mall could provide a strong terminus for this space and work with recommended landscape features, to serve to "reorient" the existing buildings.

The existing buildings and landscape conditions along the north edge of the central mall are more successful in their relation to this open space. The amphitheater seating leading to the Main Building Courtyard and the landscape framed by the Chemistry, Machinery and Engineering Buildings both physically and visually connect to the central mall, linking three open spaces, which are varied in size and character yet significant in their contribution to the present-day "park-like" campus of Pratt Institute.

Connection to Myrtle Avenue

The construction of the PrattStore on Myrtle Avenue is the most recent expansion of the school within Brooklyn yet outside of the enclosed five-block campus. This extension of the university into the city, along a major commercial thoroughfare, helps to reestablish a connection between the campus and the surrounding urban context. Historically, the relationship of Pratt Institute to Myrtle Avenue is particularly significant as the elevated train which ran along Myrtle Avenue until 1969 served as an important link between the school and downtown Brooklyn.

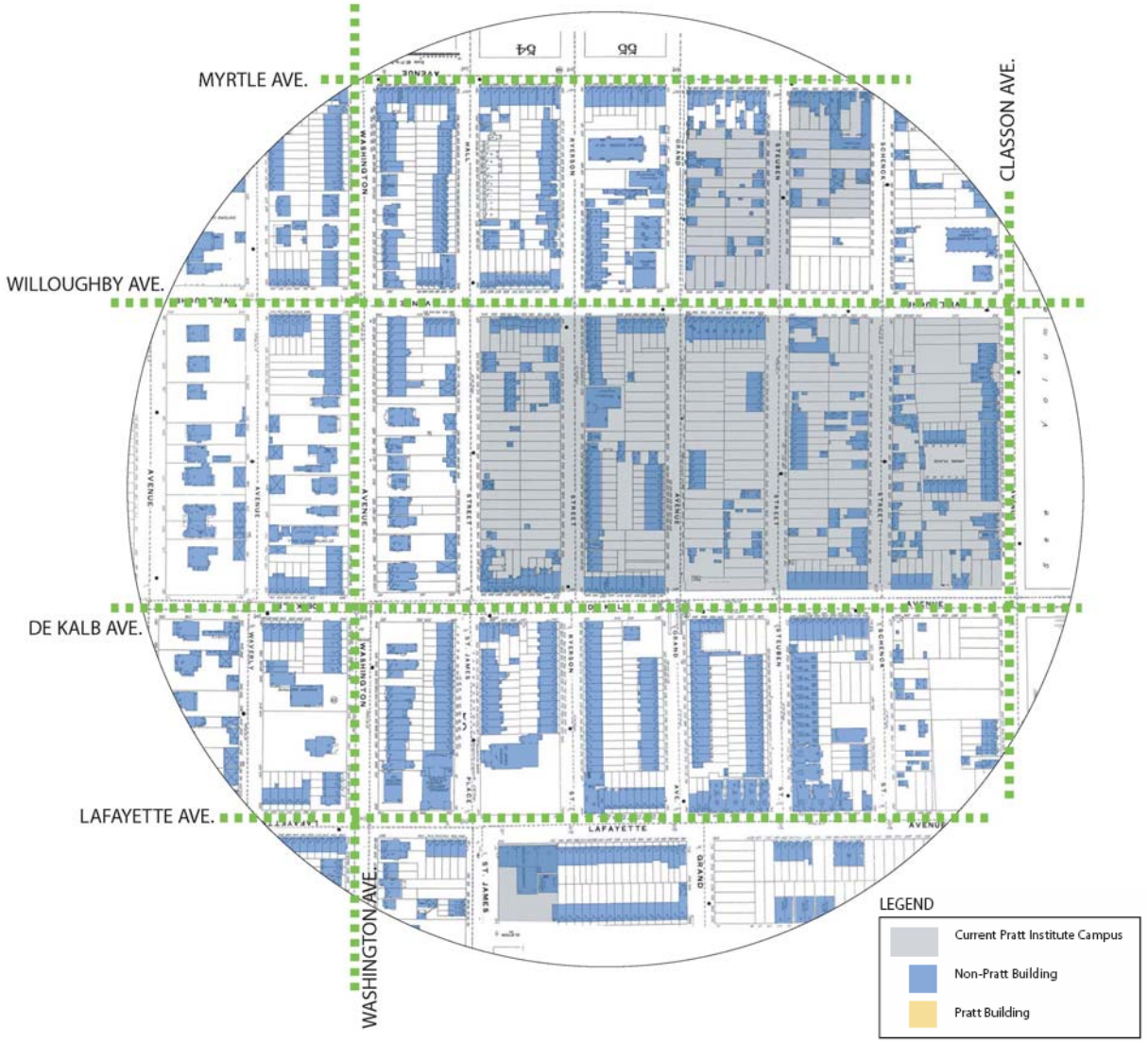
The connection between the garden campus and surrounding urban context may be further reinforced through the introduction of a major new building at the east end of the central mall. This building would not only serve as a terminus for the central mall but also for the north-south route linking the Pratt campus to the PrattStore and Myrtle Avenue.



V–1. Proposed Plan

1887

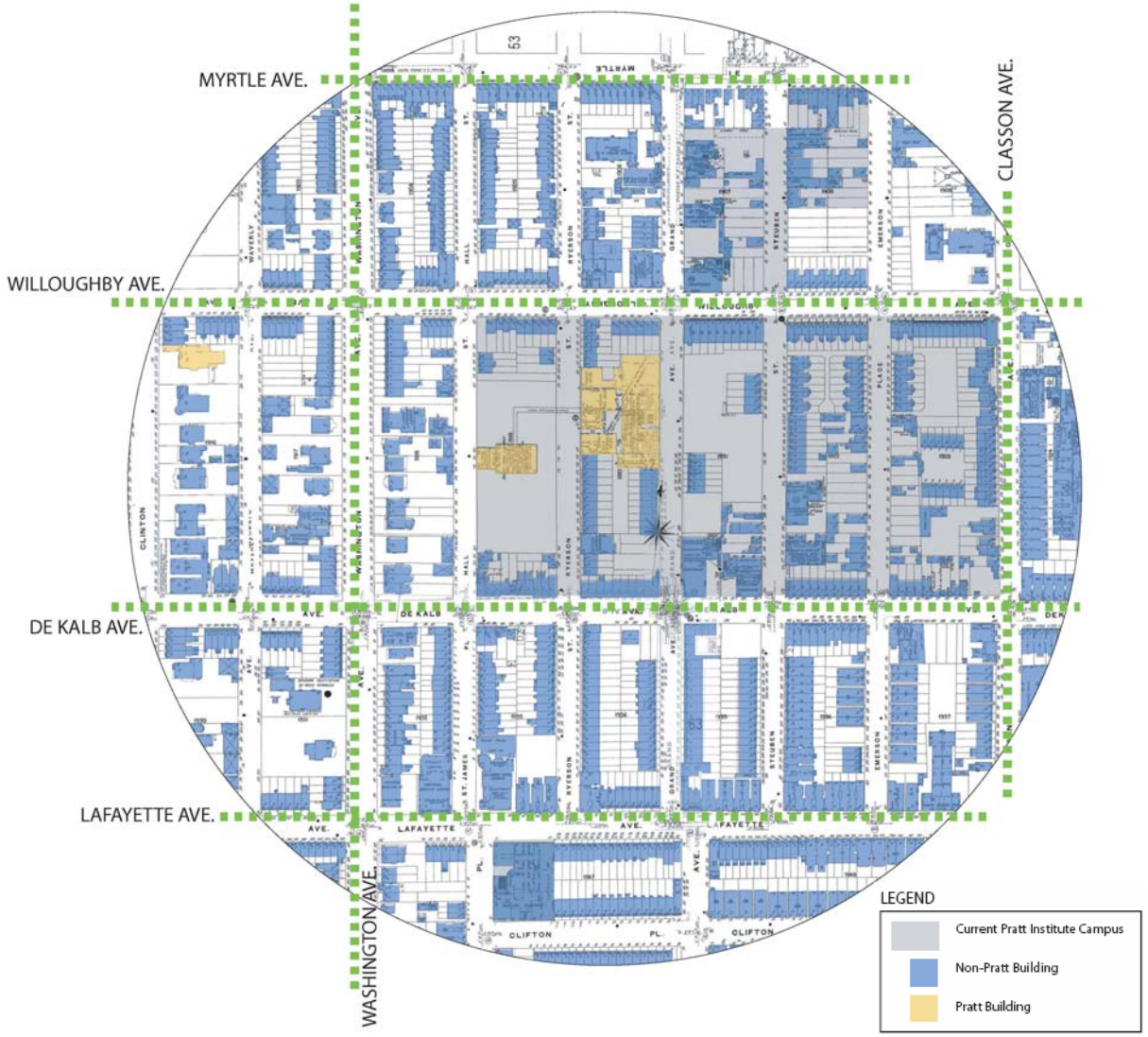
Brooklyn in the Clinton Hill area in 1887 was typical in many ways of formerly rural land in transition to an urban landscape. What most characterized the Clinton Hill transitional area was the free mix of residential buildings - both of the well to do and the working classes - light industrial buildings, crafts shops and remnant farm buildings. In addition to Main Building, and the Mechanic Arts Building (East Hall), the Pratt Institute area had scattered development of rowhouses along its streets, and detached, one and two-story, single family frame houses with farm outbuildings – a horse shed was on the site of the Pratt Studios in 1887. There were many open lots, and here and there small businesses such as a currier and a beer bottling shop on Emerson Street. The small businesses were supportive of the larger complex of industries which included breweries, boot and shoe manufacturers elsewhere in Brooklyn. In 1887the area also included the north building of Adelphi Academy.



V–2. Pratt Morphology (1887)

1904

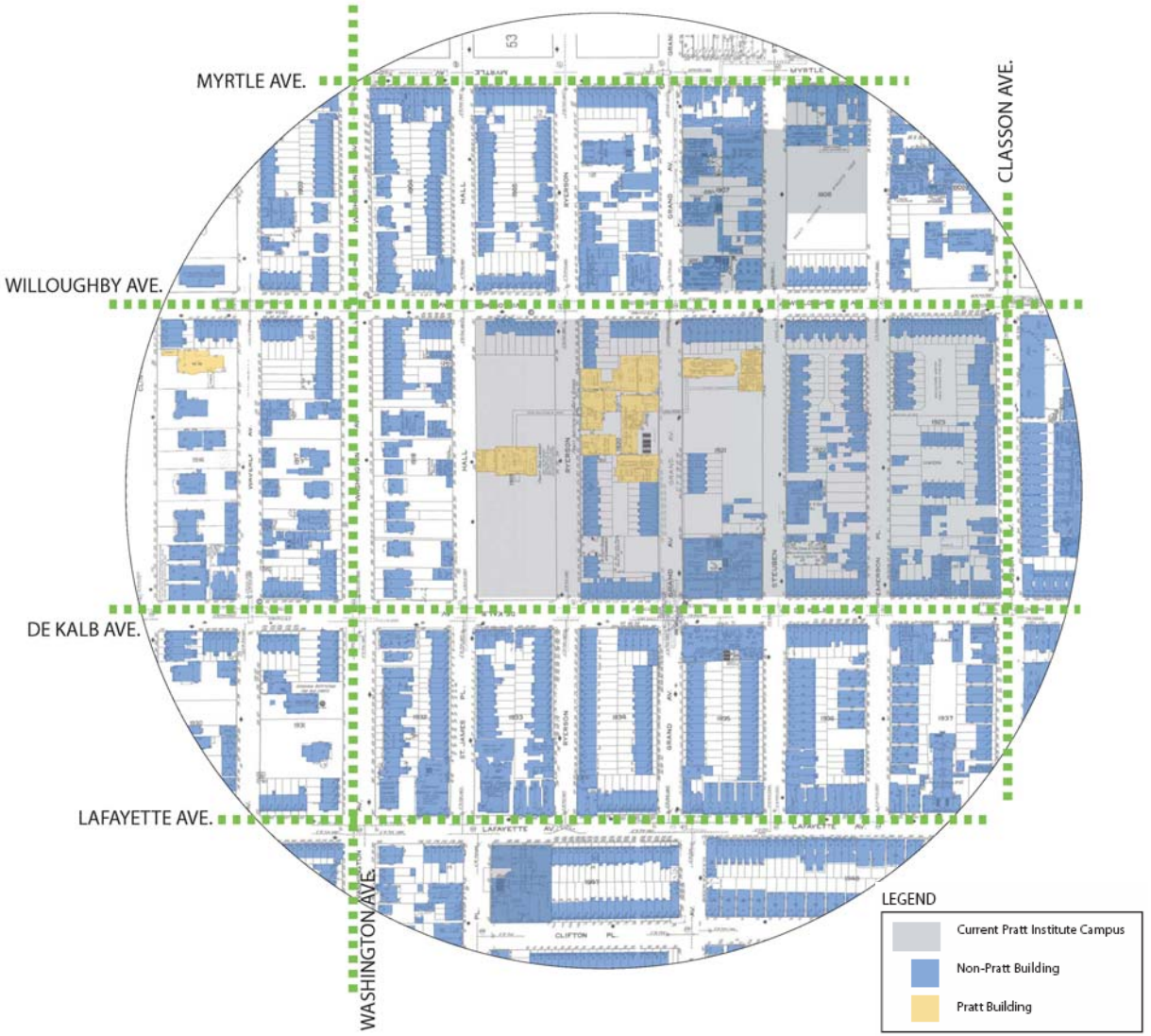
Between 1887 and 1904 Pratt Institute added the Trades Building (Student Union), the High School (South), the Library, the Old Thrift Building (now gone), a building that was in use as the Heffley Commercial School (now gone), the Mechanic Arts Annex building (now gone), and in 1901 the Pratt family began construction of thirty-eight rowhouses (Faculty Housing) for workers. Open lots on DeKalb, Ryerson, Grand and Willoughby Streets gradually filled in with rowhouses and remained, some of them, well into the 20th century. By 1904 the library occupied the center 2/3 of the block while at the DeKalb and Willoughby ends of the block were rowhouses, and at the Willoughby end there were houses that turned the corners on both Hall and Ryerson Streets. This mixture of housing was important to students who began coming from beyond Brooklyn, as they boarded in many of them, and the diversity of building uses facilitated the school's integration into the neighborhood. The Pratt Institute neighborhood became industrialized between 1887 and 1904. Two millconstruction buildings were put up on DeKalb, which have now become the Pratt Studios and a portion of Steuben Hall, and in the block of the ARC building were two factories: a stationery manufactory Cooke and Cobb Company and the J. Cramer and Son shoe manufactory. At Adelphi Academy the south section of the building had been added by 1904.



V–3. Pratt Morphology (1904)

1915

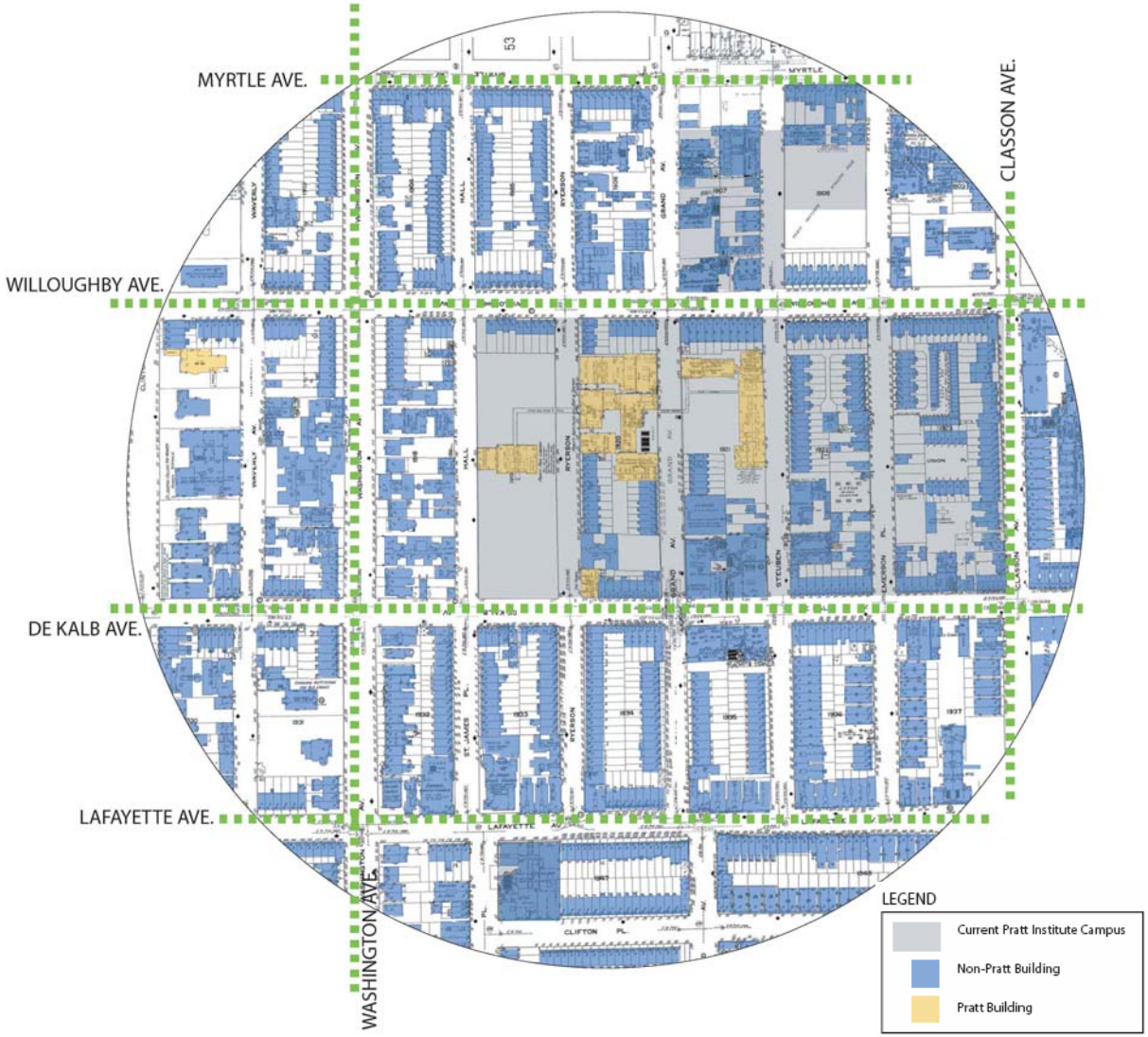
Between 1904 and 1915 Pratt Institute demolished a large block of rowhouses to add the Chemistry and Machinery Buildings and had laid out a plan for a quad in the area with a third building planned for the south side. A row of houses on Grand Street, however, blocked this plan. The new Thrift Building was constructed in 1915. By 1915 the houses on DeKalb between Hall and Ryerson had been removed as had those that turned the corner on from DeKalb on to Hall and Ryerson Streets. Near the Library, only the houses on the Willoughby end remained, so the Library had substantial park on its north and south sides. It was set off from Ryerson by an iron fence erected in 1915 with brick and granite posts.



V–4. Pratt Morphology (1915)

1939

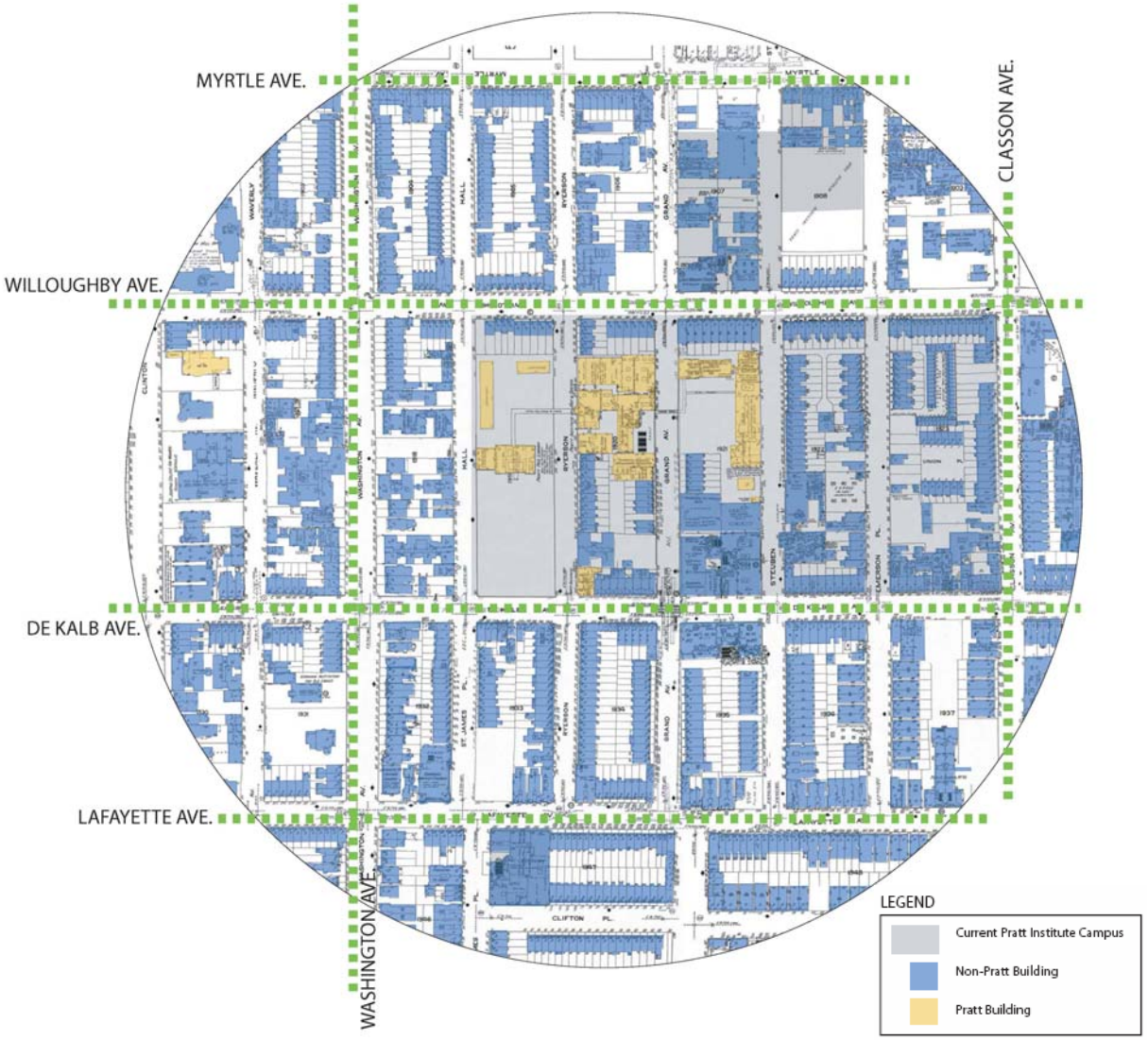
Pratt Institute by 1939 had erected its new Memorial Hall on the site of the old Thrift, and had constructed the Engineering Building on Grand Street. The row of houses that blocked construction of the third side of this quad remained, however. The school divested itself of property during this period and sold its Heffley building. On the lot was a new privately owned apartment building (Esther Lloyd-Jones Hall) and between the High School and the apartment building, Ryerson was completely filled in with rowhouses. This was a relatively quiet time in the Pratt Institute area for other construction. A new garage was went up on Grand Street north of the manufacturing buildings.



V–5. Pratt Morphology (1939)

1950

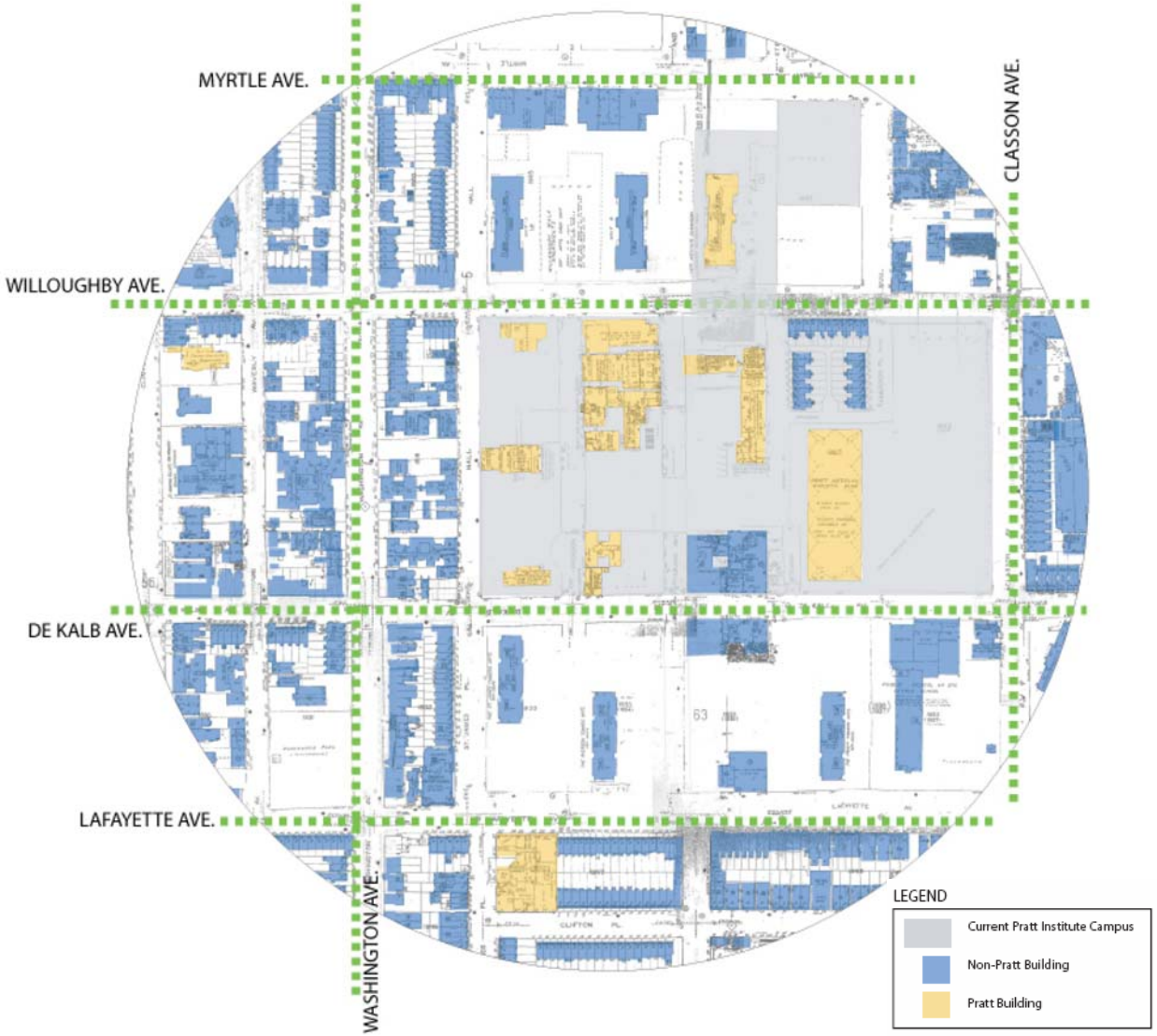
Between 1939 and 1950 the school built no new buildings, however, temporary barracks for returning soldiers were put up on the Library grounds by the government. Just prior to commencement of the urban renewal efforts, the neighborhood also shows no grand changes, rather a certain stasis is evident between 1939 and 1950. A new factory was added as a cardboard container manufacturing company was in the garage. The rowhouses blocking the quad completion were still in place.



V–6. Pratt Morphology (1950)

1979

Economic depression and physical deterioration of the urban fabric in this area of Brooklyn led to dramatic urban renewal projects near the middle of the twentieth century and specifically the "Pratt Area Slum Clearance Project." In the 1950's, the rowhouses along Willoughby Avenue were removed, making room for North Hall and the Information Science Center. DeKalb Hall was also constructed at this time. Rowhouses near the center of the current Pratt campus were removed, and the central mall took shape as one of the major open spaces on campus and an internal link across the adjacent blocks that comprised the campus. Furthermore, the eastern-most block of the campus was cleared during this time, and the ARC was constructed to the south of the townhouses (or workers' housing). The urban fabric to the north and south of the Pratt campus also changed dramatically as the Willoughby Walk and University Terrace apartment complexes were constructed. These were built by private developers on superblocks formed as a result of the destruction of numerous rowhouses. Beyond the urban renewal project immediately south of Pratt, the school acquired Higgins Hall (formerly Adelphi Academy) in 1963.



V–7. Pratt Morphology (1979)

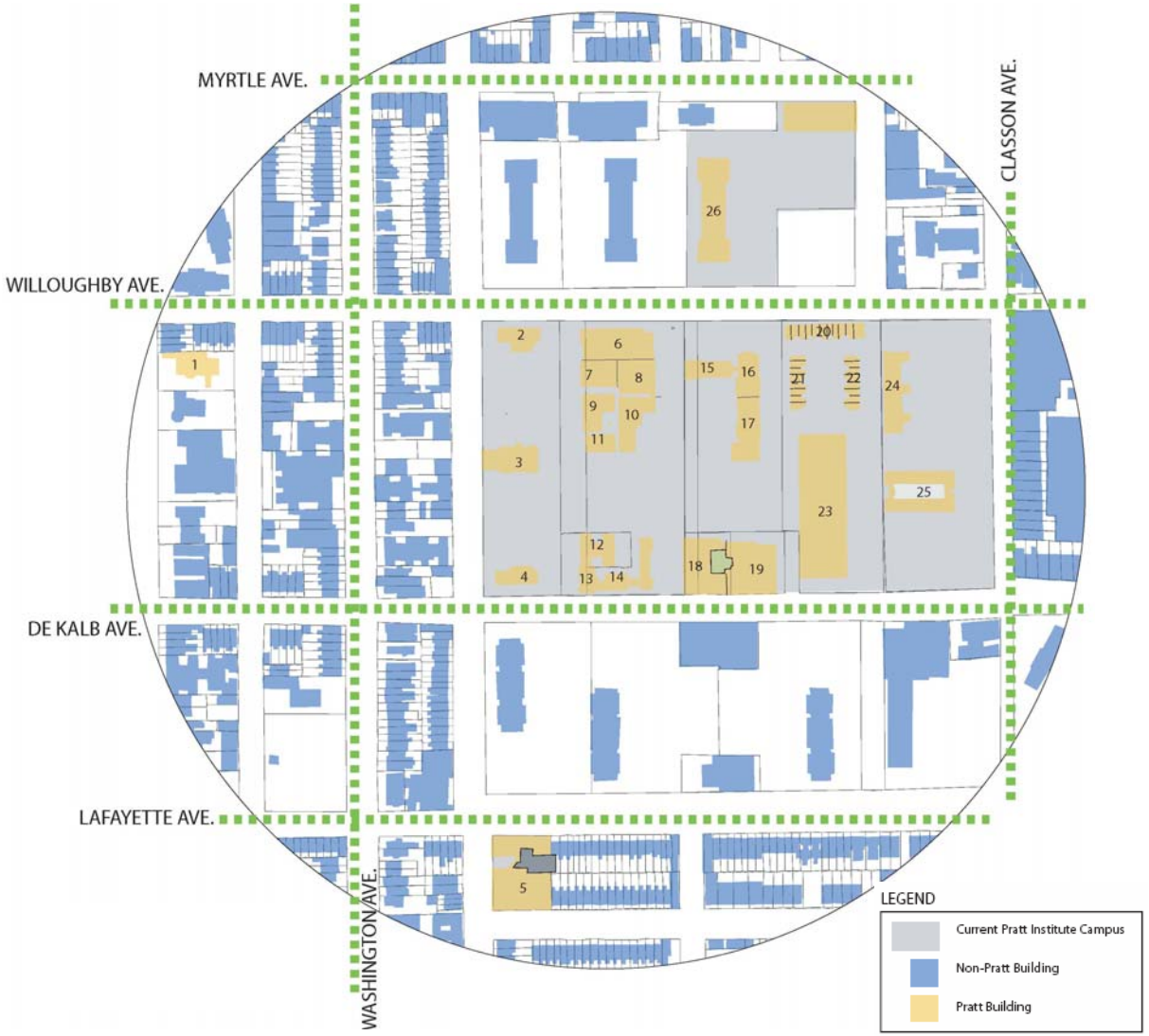
2006

Building Index

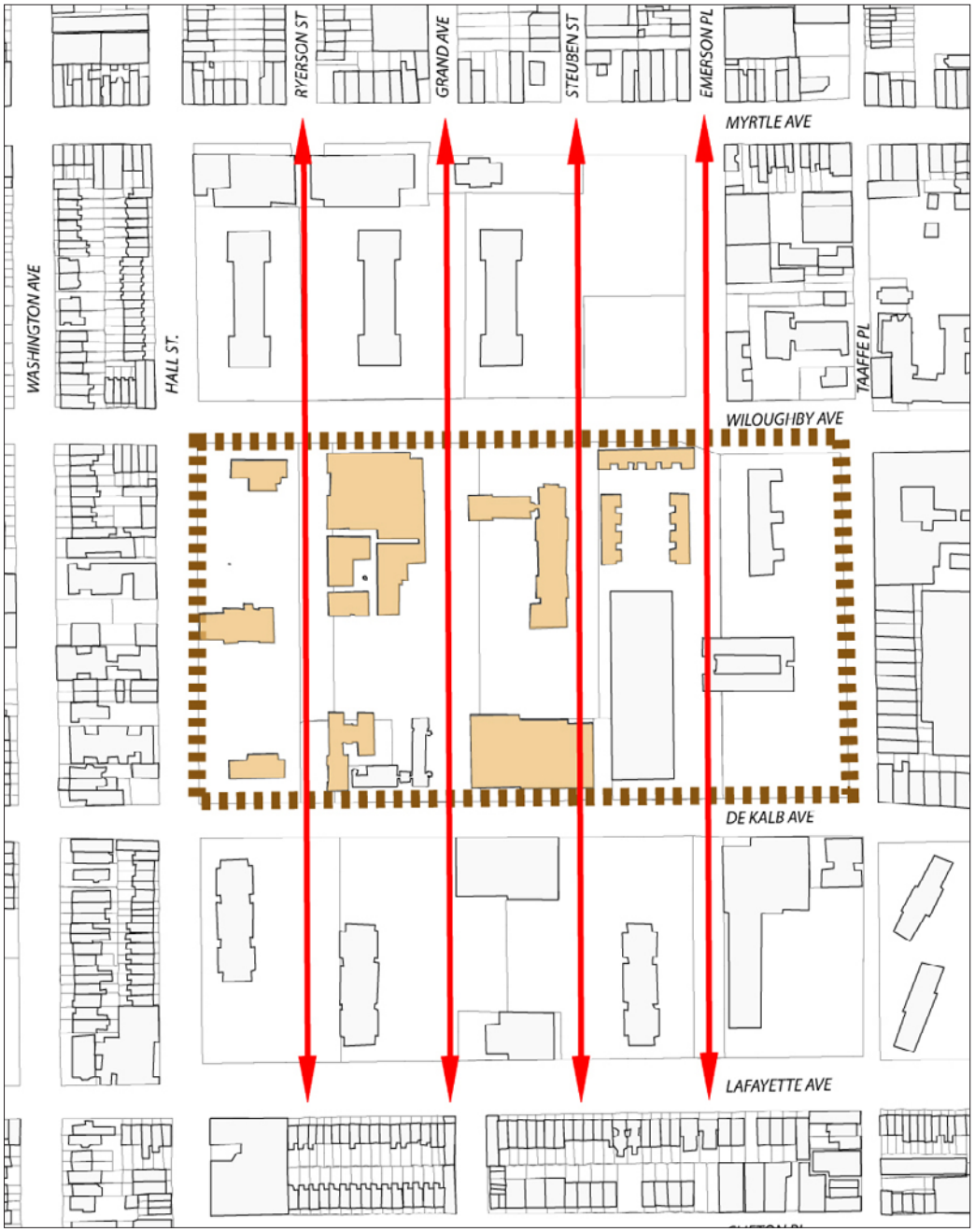
1. Caroline Ladd Pratt House
2. ISC Building
3. Library Building
4. Dekalb Hall
5. Higgins Hall
6. North Hall
7. Memorial Hall
8. Student Union
9. Main Building
10. East Building
11. South Hall
12. Jones Hall
13. Thrift Hall
14. Pantas Hall
15. Chemistry Building
16. Machinery Building
17. Engineering Building
18. Pratt Studio
19. Steuben Hall

20-22. Townhouses

23. ARC Building
24. Stabile Hall
25. Cannoneer Court
26. Willoughby Hall



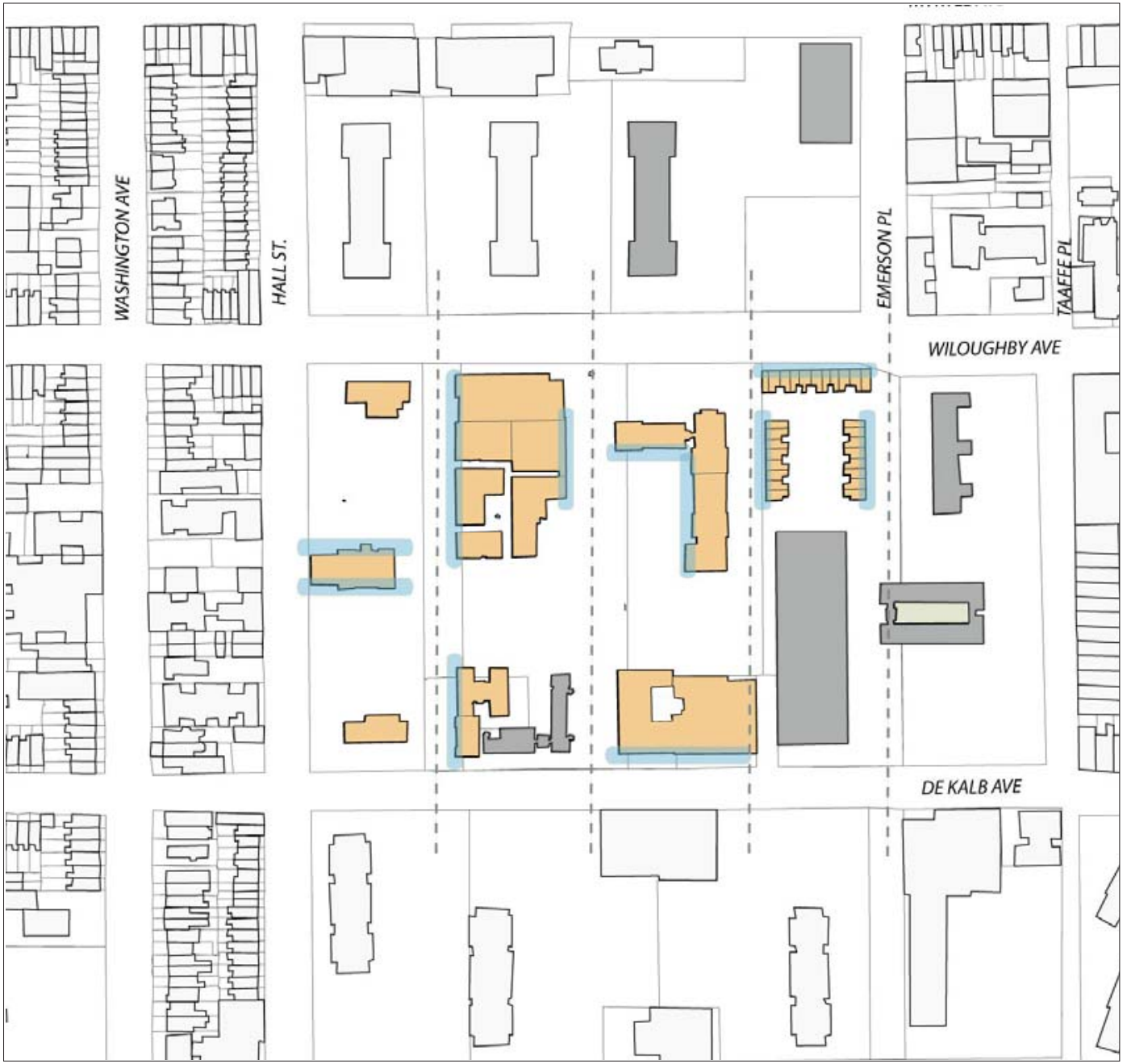
V–8. Pratt Morphology (2006)



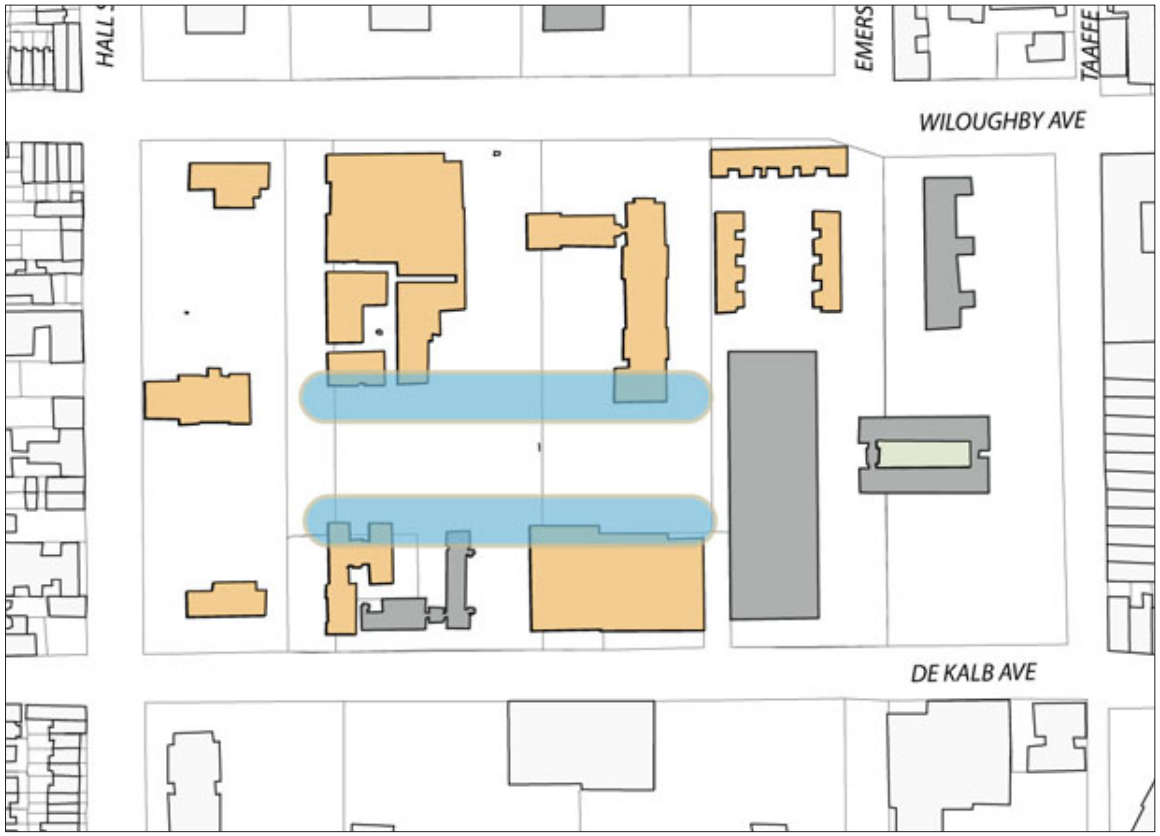
V–9. Historic Street Pattern

V–10. Pratt Landscapes and Open Spaces

V–11. Pratt Viewsheds



V–12. Building "Fronts"



V–13. "Unresolved edges" along the Central Mall

VI. Principles for Campus Preservation

Recognize and preserve architecturally and historically significant campus resources, including buildings, structures, open spaces and landscape features.

Perform necessary repairs and continued maintenance on significant resources according to the Secretary of the Interior's Standards.

Reinforce open spaces through new buildings, landscape or public art, particularly along the central mall.

Recognize the original street pattern. Any new building that intersects this historic street grid must serve to reinforce or enhance important campus characteristics such as open space, existing buildings or views.

Identify and preserve significant views within, into and out of the campus.

Ensure new construction is sympathetic to existing campus buildings in overall design, scale, materials and details.

Encourage continued study and a greater awareness of campus history and historic resources.

VII. Campus Lighting Concepts

The analysis of the Pratt Institute campus exterior lighting began with a visual inventory of all existing exterior lighting, both freestanding poles and lighting attached to buildings. This inventory was presented to and discussed with the preservation team, campus security, facilities and maintenance personnel. Secondly, night-time horizontal lighting levels were taken throughout the contiguous Brooklyn campus, city streets and sidewalks adjacent to the campus and used to create a base lighting level plan..

An analysis of industry standards for lighting and brightness levels (LEED[1], IESNA[2] and CPTED[3]) led to establishment of the recommended Pratt campus levels and contrast ratios (Table VII-1). These standards were then compared to the base lighting level plan to establish areas in need of attention as the master lighting concepts were developed.

This information provided a backdrop for the lighting concepts which appropriately track the overall campus master plan and the other findings of this study. The principals guiding the development of the lighting concepts were:

- Reinforce the major elements which define the campus, its context, and its history.
- Clarify pedestrian way finding and improve orientation.
- Respect and reinforce the historic development of the campus buildings which represent a range of architectural styles.
- Address areas where present lighting levels are inadequate or inappropriate.

1. LEED: Leadership in Energy and Environmental Design
2. IESNA: Illuminating Engineering Society of North America
3. CPTED: Crime Prevention Through Environmental Design

fig. VII-1. Grand Avenue Street Light

fig. VII-2. Fixture at Main Building Entry

		Industry Standards			Recommended as Pratt Standards			
Area	**Detail**	**LEED**	**IES**	**CPTED**	**TARGET**	**METRIC**	**MAXIMUM RANGE**	**NOTES**
PEDESTRIAN								
ATM								
	Surrounding Machine	20.0 fc	5.0 fc	5.0 fc	5.0 fc	AVG.	12.0 fc - 1.5 fc	30' Radius
Building Entry/Stairs								
	Active		5.0 fc	5.0 fc	5.0 fc	AVG.	12.0 fc - 1.5 fc	15' Radius
	Inactive		1.0 fc		1.0 fc	AVG.	2.0 fc - 0.25 fc	
Park-like Settings								
	Pre-curfew/some occupancy	0.8 fc			0.8 fc	AVG.	1.8 fc - 0.25 fc	
	Post-curfew/low occupancy	0.2 fc			0.2 fc	MIN.	1.6 fc - 0.2 fc	
Important Pathways								
	Adjacent to Roadway	0.2 fc			0.2 fc	MIN.	1.6 fc - 0.2 fc	
	Away from Roadway	0.4 fc	0.3 fc	0.5 fc	0.3 fc	MIN.	2.4 fc - 0.3 fc	
VEHICULAR								
Intersections								
	Collector to Local Road	1.4 fc			1.4 fc	AVG.	2.8 fc - 0.4 fc	
	Pedistrian Crossings		1.5 fc		1.5 fc	AVG.	3.0 fc - 0.5 fc	
Parking Lots								
	Auto Storage	0.2 fc	0.2 fc	0.5 fc	0.2 fc	MIN.	1.6 fc - 0.2 fc	
	Enhanced Security	0.5 fc	0.6 fc	0.5 fc	0.5 fc	AVG.	1.8 fc - 0.23 fc	In Driving Lanes
LIGHT LEVEL RATIOS								
	Maximum to Minimum	15 to 1	8 to 1	6 to 1	8 to 1	Max/Min		
	Average to Minimum		4 to 1		4 to 1	Avg/Min		

Table VII-1. Recommended Lighting and Contrast Levels

- Consider standardization of equipment and sources to improve maintainability.
- Respect present day environmental and energy standards.

The Beginnings of the Campus Lighting

In line with its beginnings as an urban campus, exterior lighting occurred as two distinct types: illumination equipment provided by the municipality on the urban streets and Pratt Institute equipment affixed to the building at their entries.

The municipality street lighting evolved over time, with equipment and light sources following the technology and standards of the day. When urban renewal from the 1950's through the 1970's integrated city streets into the campus proper, many of the municipality's street lights became the property and responsibility of Pratt Institute. Numerous fixtures from this period remain on campus today, specifically on Grand Avenue (Figure VII-1).

As campus buildings were developed in the urban fabric, lighting was sometimes affixed to or placed in close proximity to entries in the prevailing architectural style. Some buildings were never announced with entry lighting, while others have historically appropriate fixtures that may or may not be original to the building. For example, the

fig. VII-3. Entry to South Hall


fig. VII-4. Entry to Memorial Hall

fig. VII-5. Engineering Quad Acorn Style Fixture


fig. VII-6. White Pole Top Globe at ISC

Main Building has low fixtures flanking the entry steps (Figure VII-2) while South Hall appears to have never had exterior entry lighting (Figure VII-3). Still other buildings appear to have had exterior fixtures applied at some point after their original construction as shown by this "out of scale" single fixture at the entry to Memorial Hall (Figure VII-4). This inconsistent treatment of facades has continued to the present day.

Transition to Park and Garden

The construction of the Chemistry, Machinery, and Engineering Buildings from 1905 to 1928 created a pedestrian quad (Engineering quad) and park to the east of Grand Avenue. The installation date of the "Acorn Style" post top fixtures in this park are unknown and several variations of the same fixture exist, but they appear to be the starting point for the Institute's involvement in pedestrian lighting for its evolving park setting (Figure VII-5).

In the mid-1950 with the beginning of urban renewal, the architectural vocabulary of new buildings started to extend - via lighting - into the surrounding campus landscape. These white pole top globes, a common lighting icon of the 50's, are adjacent to the Information Science Center (Figure VII-6) and demonstrate this phenomenon. Other examples surround Willoughby Hall, and the Activities Resource Center (Figures VII-7, 8).

The raised terrace addition to the Library in 1982 and renovation of the preceding "Library Park" in mid-1990 signal the use of lighting to celebrate buildings as defining participants in a park like campus. The Library addition used façade floodlights, mounted in terrace level skylights (Figure VII-9) to uplight the building's south façade. Additionally, historically styled pedestrian poles (Figure VII-10) were placed along pathways in the park to create night-time security for pedestrians entering the campus through the main gate on Hall and Dekalb Avenues.

The brick repaving and landscaping of Ryerson Street within the campus proper in the late 1990's allowed lighting to help re-establish the campus connection to the urban grid. Bishop's Crook poles (Figure VII-11) were selected and located on both sides of this promenade. These fixtures help re-establish the relevance of some of our most important historic buildings—Main, Memorial Hall, and South Hall—to our urban grid.

During the last ten years, two developments have driven the exterior lighting: increased attention to night-time security and the establishment of "garden" areas on campus. Security needs, and requirements of low-light security camera, have led to

fig. VII-7. White Pole Top Globe at Willoughby Hall

fig. VII-8. Quad Head at ARC

fig. VII-9. Library Façade Floodlighting from Skylights

fig. VII-10. Pedestrian Poles in Library Park

widespread installation of a variety of building mounted floodlights (Figures VII-13 to15). These are used to provide "infill" lighting on the campus grounds where the existence of pole or building mounted entry fixtures are insufficient. They represent over 30 types of campus fixtures.

Two recently created garden areas, adjacent to Leo Pantas Residence Hall and the Newman garden (on the south side of South Hall) show different lighting strategies for treatment of these garden areas. The garden outside of Pantas uses a new contemporary pole fixture (Figure VII-16), while the "Acorn Style" pole fixture found in the Engineering quad (Figure VII-17) has been intermittently installed along the Newman garden. The Newman lighting installation fails to support the garden's identity because of the height of the fixtures and their unresolved placement.

Clarity and Standards

The evolution of exterior lighting at Pratt followed the same trajectory as the initial evolution of the campus, individual decisions lacking cohesion. The establishment of clear concepts and parameters for lighting standards will allow each component to support the three major campus elements identified in this historic plan:

- Visual connection of the campus to it's historic urban grid
- Celebration of the variety of buildings and building styles within that grid.
- Creating identity for developing garden areas within the campus

A comparison of existing lighting levels against light level standards proposed by this study (Figure VII-18) indicates that light levels are problematic (too low or too high) at virtually all building entries (Figure V-12) and along the North-South historic street pattern (Figure V-9). This fortuitous coincidence suggests that appropriate lighting investment in these areas will at once support these two major elements of the historic plan, as well as solve many of the lighting level issues on campus.

The "Unresolved sides" along the central mall (Figure V-13) provides a lighting opportunity to treat the south side of the mall as a vehicular/pedestrian pathway – with its existing paved walking/driving surface- and resolve the north side through a series of garden environments with appropriate lighting.

Existing exterior light sources are inconsistent. Pole and entry fixtures are lamped with various versions of High Pressure Sodium (Yellowish – Orange), Metal Halide (Bright White), and Fluorescent (Warm to Cool White). This variation interferes with visual cohesion and pedestrian way finding. While a single type of "white light"

fig. VII-11. Bishop's Crook Pole

fig. VII-12. Acorn Pole Fixtures on East West Roadway

fig. VII-13. Building Mounted Infill Light

fig. VII-14. Building Mounted Infill Light

source would provide the most aesthetically pleasing and consistent visual product, environmental and energy considerations suggest a mixed system. The use of very high efficiency high pressure sodium (yellowish-orange) sources for all pole mounted, infill, and garden lighting; and white light sources (Metal-Halide or 35K fluorescent) for building entries. Besides the obvious energy savings, this system offers two other advantages. The lighting of the "urban grid" connector streets will match the light color used by the city in its street lights. Secondly, pedestrian way finding will be enhanced a by clear light color distinction- white sources at all building entries and yellowish-orange sources for the grounds.

Connecting to the Grid

Figure VII-19 shows a composite of the major recommended lighting elements that are a part of this plan. The north-south path/road ways are shown in solid yellow and represent the connection to the urban grid. A division line (dotted-black) is shown running east-west along Willoughby Ave and extending north and south. This provides a demarcation for lighting purposes between the historic campus areas and the contemporary campus areas. The intention is to create two families of pole mounted lighting equipment (traditional and contemporary) serving the walkway/ roadway connection to the urban grid.

In the traditional zone, it is recommended that the Bishop's Crook Pole, Figure (VII-11) already partially established along Ryerson Street, become the standard for this purpose. Fixtures should be consistently located on only one side of the four path/ roadways as shown to reduce visual clutter and improve identity and way finding. The rows of fixtures are placed on the opposite side from the major building entries. This minimizes visual interruption of the historic facades and allows clearer understanding of building entries.

The dotted yellow lines running east and west in two locations in the traditional zone indicate lighting for the internal campus path/roadways. This proposed lighting would use 12 foot fluted poles with an Acorn Style heads to match those presently used in the Engineering quad and around the Newman garden. A recently completed addition to our design center has allowed us to proceed with installation on this basis. Five of these fixtures are shown in Figure VII-12. The fixtures are once again used only on one side of the path/roadway as shown.

fig. VII-15. Building Mounted Infill Light

fig. VII-16. Pantas Hall Garden Fixture

fig. VII-17. Acorn Head on 12' Fluted Pole

Both fixture heads for the Bishop's Crook and the Fluted pole would be replaced with fixtures matching the appearance of the existing, but using cut-off flood optics to meet LEED's standards and prevent night sky light pollution. As stated earlier, these fixtures would use high pressure sodium sources. All existing fixtures which match these and located elsewhere on campus would be removed to insure that fixture iconography supports the clarity purpose.

In the contemporary zone north of Willoughby Avenue and east of the townhouses, contemporary pole fixtures would be used to light the proposed "extension of the urban grid" from Willoughby Avenue to Myrtle Avenue (Figure VII-19 solid yellow line). The proposed fixture would be the same as the recently installed pole fixtures adjacent to the Pratt Store on Myrtle Avenue (Figure VII-20). These fixtures employ semi-cutoff flood optics, high pressure sodium sources, and their "classic styling" will allow appropriate harmony with the 1950's Willoughby Hall and future contemporary buildings on Myrtle Avenue. A smaller head and shorter pole version of this same fixture is proposed for minor walkway areas around these buildings.

Celebrating the Buildings

The largest pitfall of the existing exterior lighting, both in terms of lighting levels and missed opportunities, are the building entries. This includes both our historic and contemporary structures. Major building entries are shown by the orange shaded areas on Figure VII-19. Many of the entry fixtures that do exist have been damaged or become dysfunctional over time. Others are appropriate in scale and historic style to their facades (Figures VII-21, 22). It is recommended that all building entries noted be lighted with fixtures that allow direct visual understanding of an important entry condition. While it is beyond the scope of this master plan to specify equipment for the 43 different entry conditions shown on the plan, the following general rules for specification are recommended:

- All fixtures should use white light sources – Metal Halide over 40 watts, and 3500K Fluorescent below 40 watts.
- Fixtures should be wall mounted to building facades where architecturally appropriate and where doing so will not cause façade damage or result in exposed electrical conduit. Otherwise, ground mounted post or pole fixtures adjacent to the entry can be considered.

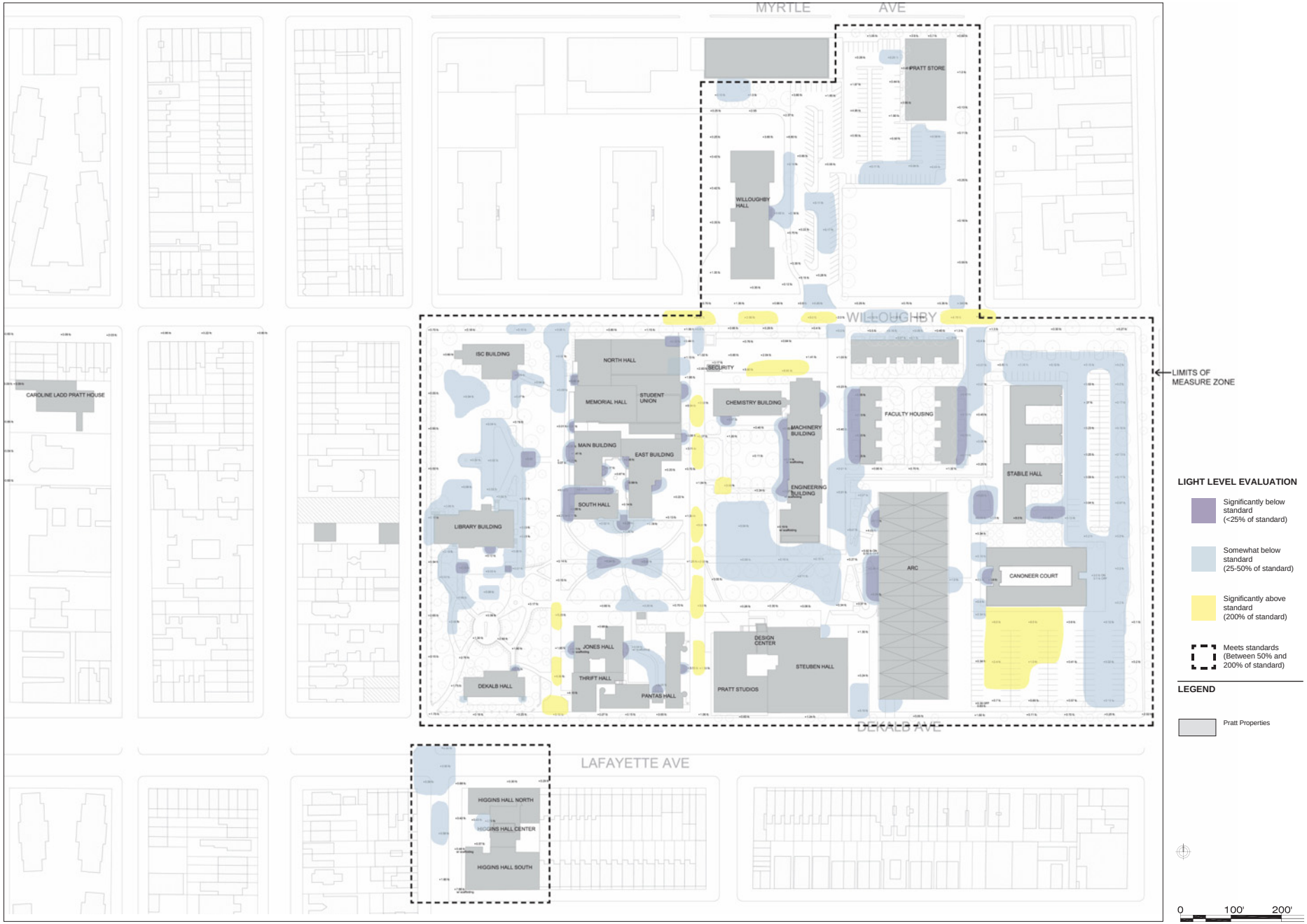


fig. VII-18. Lighting Level Analysis Plan

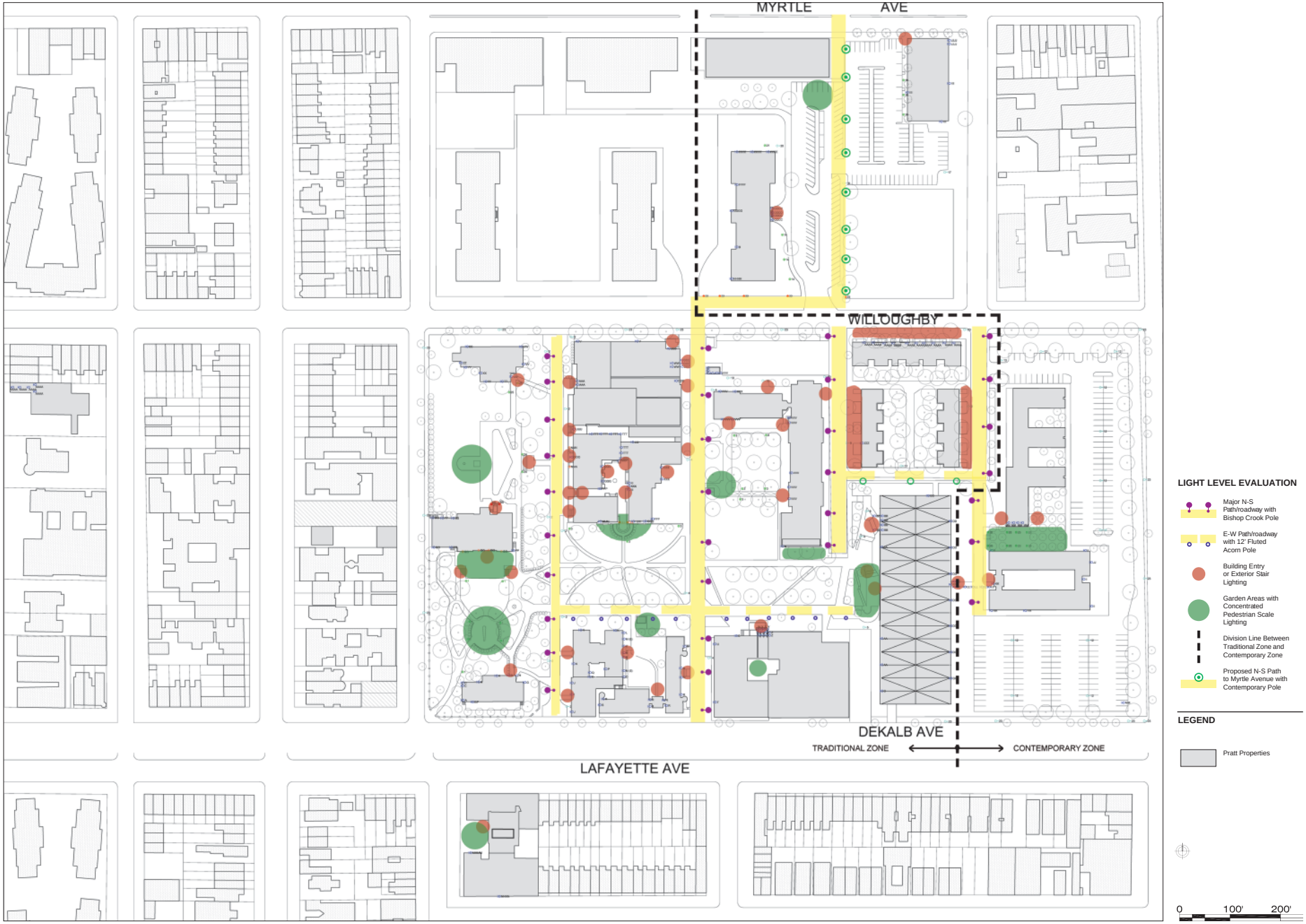


fig. VII-19. Composite of Lighting Master Plan.

fig. VII-20. Contemporary Pole Fixture

fig. VII-21. Chemistry Building Entry and Fixtures

fig. VII-22. East Building Courtyard Entry and Fixtures

fig. VII-23. Leo Pantas Garden

- Fixture iconography should relate directly to the period and style of the building. Appropriate existing fixtures should be restored.
- Fixtures should provide recommended lighting levels (5 foot-candles minimum) over a radius of 15 feet to insure that stairs adjacent to entries are appropriately lighted.
- All fixtures should be removed from manual switching, and automatically controlled to provide dusk to dawn illumination. This includes new fixtures at the entries to the townhouses.
- LEED's requirements for cut-off flood optics can be lifted for entry lighting because of the impossibility of simultaneously providing historically appropriate iconography and meeting current day "down-light only" standards.

The flood lighting of building facades or the selected lighting of architectural details is not recommended. Besides detracting from the residential and garden nature of the campus, present environmental and energy concerns question this practice. The one recommended exception is a refurbishment of the lighting behind the translucent face of the clock on the front façade of the Main Building.

The night-time visual identification of the multitude of building entries with their diversity of historic styles covering the entire history of electric lighting, are expected to provide a rich contrast to the linear and clearly defined promenades of the "urban grid".

Evening gardens

Pedestrian pathways typically proliferate on college campuses, carved by students as they seek the shortest route to their next class. Pratt is no different. A high density of paths, many paved within the last 5 years, criss-cross the campus. Strategies which light along these paths with bollards or poles often result in significant quantities of fixtures evenly distributed across the entire campus. This strategy is not recommended because it would significantly detract from the regularity of the grid lighting, and produce bright objects across the campuses that visually compete with the building entries.

Instead, high density site specific night lighting is recommended in the garden areas designated in green in Figure VII-19. Lighting for each of these "garden areas" would be specifically designed for each given site. Garden areas would not be connected to each other or to the buildings by pathway lighting. Instead, they would exist as welcome islands or meeting places in the evening hours.

Some of the garden areas exist (usually without lighting), and others are simply proposed to suggest possible locations. The existing garden adjacent to Leo Pantas Hall (Figure VII-23) provides an appropriate example—complete with lighting fixtures. Lighting in these areas would relate directly to benches, plantings, sculpture, or paving. Development of a family of garden fixtures (poles, bollards, and ground mounted) would allow for sufficient lighting variation between gardens while keeping maintenance and replacement costs within reason. All sources for the garden lighting would be high pressure sodium.

This high density garden lighting will leave certain areas of the campus with open green spaces and pathways devoid of specific lighting. The existing strategy for providing "infill" lighting from the buildings is accepted as a valid solution to this problem (Figures VII-12 to 15). This approach significantly reduces the visual clutter of lighting fixtures viewed by pedestrians by placing the equipment above the normal field of view. It thus allows for better way finding by maintaining clarity of the grid, entries, and gardens. However, the variety, placement, style, and optical distribution of most of the existing fixtures used for this purpose are inappropriate. Recommended parameters for building mounted "infill" fixtures are:

- Fixtures should be mounted at or above the building parapet if possible.
- Fixtures to be cut-off flood style with horizontal fixed heads that satisfy LEED's standards for night sky pollution.
- House side shields are to be used to prevent spill light on the building façade on which the fixture is mounted.
- Forward throw cut-off is to be controlled at the campus property line.
- Spill light on surrounding buildings is to be minimized.
- Fixture types shall visually match except wattage and optical distribution.
- Fixtures to be controlled for dusk to dawn operation.
- All light sources to be high pressure sodium.

Similar to the solutions for the grid and gardens, the standardization of this equipment will significantly reduce maintenance and purchasing costs.

Lighting Conclusion

The preceding lighting recommendations are not intended to create a distinct "lighting statement" for the Pratt Institute's historic campus, but to clarify and enrich the urban, architectural, and landscape elements of that campus. They are intended to allow for stepped implementation as funding becomes available for specific lighting renovations, façade restorations, or landscape refurbishment. They are also flexible in allowing the master lighting concepts to be maintained as campus buildings are added or replaced. The visual lighting survey of existing exterior lighting equipment identified over 150 distinct types of fixtures. This master plan will reduce this quantity by over 50% even while adding significant numbers of new fixtures to building entries. It is also expected that reductions in energy usage will accomplished as cut-off flood fixtures are used for grid and infill lighting. Significant specialized work remains in identifying, specifying, and/or renovating fixtures at building entries and for individual garden areas. The parameters for this work, however, have been defined.

VIII. Educational Component

Pratt's School of Architecture includes undergraduate and graduate architecture departments, the Construction and Facilities Management Department and a graduate program in historic preservation within the Architecture School's Graduate Center for Planning and the Environment. The restoration and maintenance of Pratt's historic buildings represents an opportunity for students of these programs to have hands-on experience with the construction and materials of older buildings.

Historic Preservation

Historic Preservation is a two year graduate program (MS) within the School of Architecture. Work is already underway to integrate the restoration work into the syllabi of two existing courses within the Preservation program: PR 513, Building Technology, and PR 521, Interventions, Additions, Alterations, and Adaptive Re-Use.

PR 513 is a semester-long study of the physical structure of historic buildings, ranging from the 18th Century to the curtain wall structures of the International Style. The course focuses on "evaluating the performance of a building and the development of the necessary repair and restoration technologies." The buildings on the Pratt campus will be used as real-world examples. Students will use specific survey data from the report as a basis for critique and comparison. The instructor, Dr. Theo Prudon, is a practicing architect with extensive experience in the restoration of historic structures, having worked on restoration and reconstruction projects on many buildings, including the Woolworth Building and the Fifth Avenue Presbyterian Church. He is the president of US DOCOMOMO.

PR 521 is a semester-long study of the "complex issue of change to historic structures and within historic districts" including "new construction, alterations, and additions."

It focuses extensively on adaptive re-use. As work begins and continues on the Pratt buildings, PR 521 will, like PR 513, use the campus buildings as examples for study and analysis. The instructor, Roger Lang, is an architect with over 25 years experience of the problems and opportunities of altering and adapting historic buildings in New York City and Boston.

Both courses are open to both undergraduate and graduate architecture students, and the graduate and undergraduate chairs are committed to encouraging students to take advantage of the courses as electives.

Students in most of our preservation courses, including Documentation & Interpretation and History & Theory, have been exposed to preservation questions through the study of Pratt's historic buildings. This will, of course, continue.

Construction Management and Facilities Management

Construction Management is a four year undergraduate program within the School of Architecture. Facilities Management is a two year graduate program (MS), also within the School of Architecture. Future work on the Pratt campus buildings provides an opportunity for students in both programs to experience first-hand projects and problems they will be facing in their respective professions. As with students in the other programs listed here, the opportunity to follow a project from survey data through to the actual performance of the work will provide real-world experience for CM/FM students

Undergraduate and Graduate Architecture

In addition to the opportunity graduate and undergraduate architecture students have to enroll in Historic Preservation and Construction/Facilities Management courses, consideration is being given to the integration of historic materials science in existing materials courses. In addition, the Undergraduate and Graduate Chairs are committed to identifying new ways to collaborate with the Preservation department on the use of new materials within a continuum of historic and contemporary contexts.

In both the graduate and undergraduate programs, the intention is to integrate this research in required and elective coursework within the respective curriculums. Funding is currently being sought to initiate a new Materials/Fabrication Assembly Institute within the school enabling Pratt to promote mutually beneficial research among the three programs. The intention would be to use Pratt Institute as a laboratory for the rehabilitation of existing buildings and for adaptive re-use as well as for new construction.

Internships

Pratt Architecture, Preservation, Facilities management and Construction Management classes frequently use the buildings of the Pratt campus for study. The information contained in the current Getty-funded survey will make this experience richer and more informed. As work goes forward, students will be able to see survey data become construction plans and then be executed, and will be able to compare the final result to that expected at various stages in the project. It is expected that, as funding allows, internships will be available for students in all three programs in the planning and execution of restoration and adaptive work.

IX. Cost Estimate

The cost estimate developed for the Pratt Institute Historic Preservation Master Plan was prepared by professional cost estimators, Federman D+C Cost Estimators, and is based upon the recommended work items for the restoration, repair and maintenance of the Pratt Institute campus resources. In Part 2 of this report, a cost estimate is included for each significant campus resource as part of the "Building Survey and Cost Estimate" table. In addition, a separate estimate was prepared for interior work for specified resources.

Note that certain items were excluded from this cost estimate, including structural conditions related to Thrift Hall (identified in a previous report). In addition, elements under construction at the time of the survey were excluded from the cost estimate, as indicated in the survey and cost estimate chart for each resource.

Methodology

The cost estimate is based upon union crews working during normal hours. Overtime and weekend work is not included in this estimate. The costs represent trade cost subcontractor pricing that would be obtained competitively under the direction of a construction manager. The pricing for this project is based upon May 2006 rates. Therefore, escalation has not been included in the unit costs or summaries. The costs reflected in the estimate summaries account for all associated construction mark-ups, including subcontractor bonds, design contingency, general conditions, general liability (GL) insurances and a construction contingency. The cost estimate does not include owner's soft costs, consultant's fees, Pratt facilities management fees, FF&E, environmental testing & monitoring, permits, site security, surveys and controlled inspections.

Cost Estimate Summary

The following is a cost estimate summary for the significant resources of Pratt Institute. For each building, the cost estimate for exterior restoration and repair work is represented as a percent of the total exterior estimate. In addition, this cost is analyzed in relation to work priorities, where Priority 1 is a safety hazard or code violation and Priority 2 is work necessary to prevent further deterioration. The interior cost estimate and percent of total interior cost is shown for each resource included in the survey of interior spaces.

				Priority			
	Building	Exterior	Percent Total Cost	1	2	Interior	Percent Total Cost
A	Main Building	$ 687,003	3.23	36.1	63.9	$ 2,951,189	14.60
B	South Hall	$ 726,856	3.42	24.0	76.0	$ 25,125	0.12
C	Memorial Hall	$ 178,799	0.84	14.9	85.1	$ 6,281	0.03
D	East Hall	$ 1,238,158	5.83	13.7	86.3	$ 27,219	0.13
E	Student Union	$ 274,654	1.29	0.0	100.0	$ 105,387	0.52
F	Townhouses	$ 3,768,477	17.74	31.2	68.8	$ 13,012,868	64.37
G	Library	$ 1,210,381	5.70	58.5	41.5	$ 71,189	0.35
H	Chemistry Building	$ 1,298,418	6.11	41.6	58.4		
I	Machinery Building	$ 1,097,225	5.17	27.9	72.1	$ 5,583	0.03
J	Engineering Building	$ 3,077,304	14.49	18.9	81.1	$ 2,094	0.01
K	Carolyn Ladd Pratt House	$ 59,324	0.28	42.5	57.5		
L	Higgins Hall	$ 1,328,023	6.25	39.0	61.0	$ 3,953,064	19.55
M	Esther Lloyd Jones Hall	$ 1,754,514	8.26	6.9	93.1	$ 9,073	0.04
N	Thrift Hall	$ 228,770	1.08	50.2	49.8	$ 41,382	0.20
O	Studios	$ 2,284,534	10.76	20.0	80.0		
P	Steuben Hall	$ 289,300	1.36	40.9	59.1		
Q	Information Science Center	$ 135,938	0.64	0.0	100.0		
R	Dekalb Building	$ 736,803	3.47	62.9	37.1		
S	North Hall	$ 95,582	0.45	29.0	71.0	$ 5,165	0.03
T	Willoughby Hall	$ 214,071	1.01	0.0	100.0		
U	Pratt Library Landscape	$ 135,766	0.64	16.0	84.0		
V	Main Building Courtyard	$ 86,318	0.41	53.6	46.4		
W	East Quadrangle Landscape	$ 84,826	0.40	0.0	100.0		
X	Children's Portico	$ 248,623	1.17	50.8	49.2		
		$ 21,239,667				$ 20,215,619	

X. Bibliography

Publications

Chickering, F. William, Margot Karp, Robert Fabbro, Vincent Valenti. *The Pratt Institute Faculty Row: a short history,* typescript, October, 2002.

_____. "For 100 Years, Pratt's Library Calls a Brooklyn Landmark Home", http://lib.pratt.edu/public/hist.html.

Glueck, Grace. Brooklyn: people and places, past and present, New York, 1991.

Jackson, Kenneth T. *The Neighborhoods of Brooklyn,* New Haven, c.1998.

Margaret Latimer, *Field of Influence: A Centennial History of Pratt Institute.* Brooklyn: Pratt Institute (Unpublished History).

J. Frederick Hopkins, "The Pratt Institute." *The New England Magazine* Vol. 19 Issue 1 (September 1895): 95-117.

New York Landmark Preservation Commission, *Pratt Institute Faculty Rowhouses.* New York: The Commission, 1981.

New York Landmark Preservation Commission, *Pratt Institute Library.* New York: The Commission, 1981.

New York Landmark Preservation Commission, *Pratt Institute Main Building.* New York: The Commission, 1981.

Pratt Institute Monthly, vol. 11, 1903.

Pratt Institute Students' Bulletin, 1904-1905; 1927.

Pratt Tech News, v.2, #3, July-September, 1927.

Snyder-Grenier, Ellen M. Brooklyn! an Illustrated History, Philadelphia, 1996.

Society of Architectural Historians. *American Architects' Biographies.* www.sah.org/aame/bioa.

The Architectural Record, vol. XLI, no. 4, April, 1917.

The Prattler, 1954 - 1958.

The 1866 Guide to New York City, New York, 1975 reprint of J. Miller publication.

Turner, Paul Venable. *Campus: An American Planning Tradition,* New York, c. 1984.

Withey, Henry F. *Biographical Dictionary of American Architects (Deceased),* Los Angeles, 1970.

Willensky, Elliot. *When Brooklyn was the World,* 1920-1957, New York, c.1986.

Wittmann, Konrad F. *Industrial camouflage manual, prepared for the Industrial camouflage program at Pratt Institute, Brooklyn New York,* New York 1942.

Studies and Reports

Cooper, Robertson & Partners, *Pratt Institute: Strategic Campus Plan Report.* New York, July 2005.

Ehrenkrantz & Eckstut Architects, PC, *Capital Investment Master Plan.* New York, August 1996.

Ehrenkrantz & Eckstut Architects, PC, *Pratt Institute: Façade Study.* New York, June 1995.

Ehrenkrantz & Eckstut Architects, PC, *Pratt Institute: Interior Condition Study.* New York, March 1996.

Super Structures Engineers + Architects, *Exterior conditions Report: Pratt Institute Various Building,* New York, June 2003.

VFA, Inc., *Facility Condition Assessment: Final Report–Pratt Institute Properties and Site Assets.* Boston, February, 2005.

Drawings

Andrew L. Pettit Architects, *Memorial Hall.* New York, 22 January 1997.

Ehrenkrantz & Eckstut Architects, PC, *Pratt Institute: Interior Condition Study.* New York, March 1996.

Ehrenkrantz, Eckstut & Kuhn Architects, *Caroline Pratt House Exterior Restoration.* New York, 7 November 1997.

Ehrenkrantz, Eckstut & Kuhn Architects, *Main Building Exterior Restoration.* New York, 15 December 1997.

Ehrenkrantz, Eckstut & Kuhn Architects, *Student Union Façade Restoration.* New York, February 1999.

Howells and Stokes Architects, *Chemistry Building.* New York, 9 June 1904.

Howells and Stokes Architects, *Manual Training School Building for Pratt Institute,* 4 September 1914.

McKim, Mead & White Architects, *Pratt Institute Residence Halls.* New York, 31 August 1954.

Rogers Marvel Architects, *Higgins Hall.* New York, September 1997.

Skidmore, Owings & Merrill Architects/ Engineers, *Ryerson Hall Renovation.* New York, 16 December 1986.

Maps

Sanborn Insurance Maps, 1897, 1904, 1915, 1929, 1950, 1979.

www.eekarchitects.com

EHRENKRANTZ ECKSTUT & KUHN ARCHITECTS

New York
212 353 0400

Washington, DC
202 861 1325

Los Angeles
323 668 7473