

NJIT

New Jersey Institute of Technology

LANDSCAPE MASTER PLAN

January 2005

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The recent construction of the East Building and the renovation of the Campus Center redefined NJIT's campus core. The impact of these buildings on campus encouraged the Institute to examine its open spaces and the role of the landscape in campus life. The need for a Landscape Master Plan was a result of this examination.

The New York City based landscape architecture firm Thomas Balsley Associates (TBA) was selected to create a Landscape Master Plan to inventory and analyze the existing landscape and develop new ideas for the future. Working closely with the Institute's staff and with the assistance of Gwathmey Siegel, architects for the East Building and Campus Center, TBA's Landscape Master Plan will provide a framework for future building and landscape development on campus.

Goals and Strategies

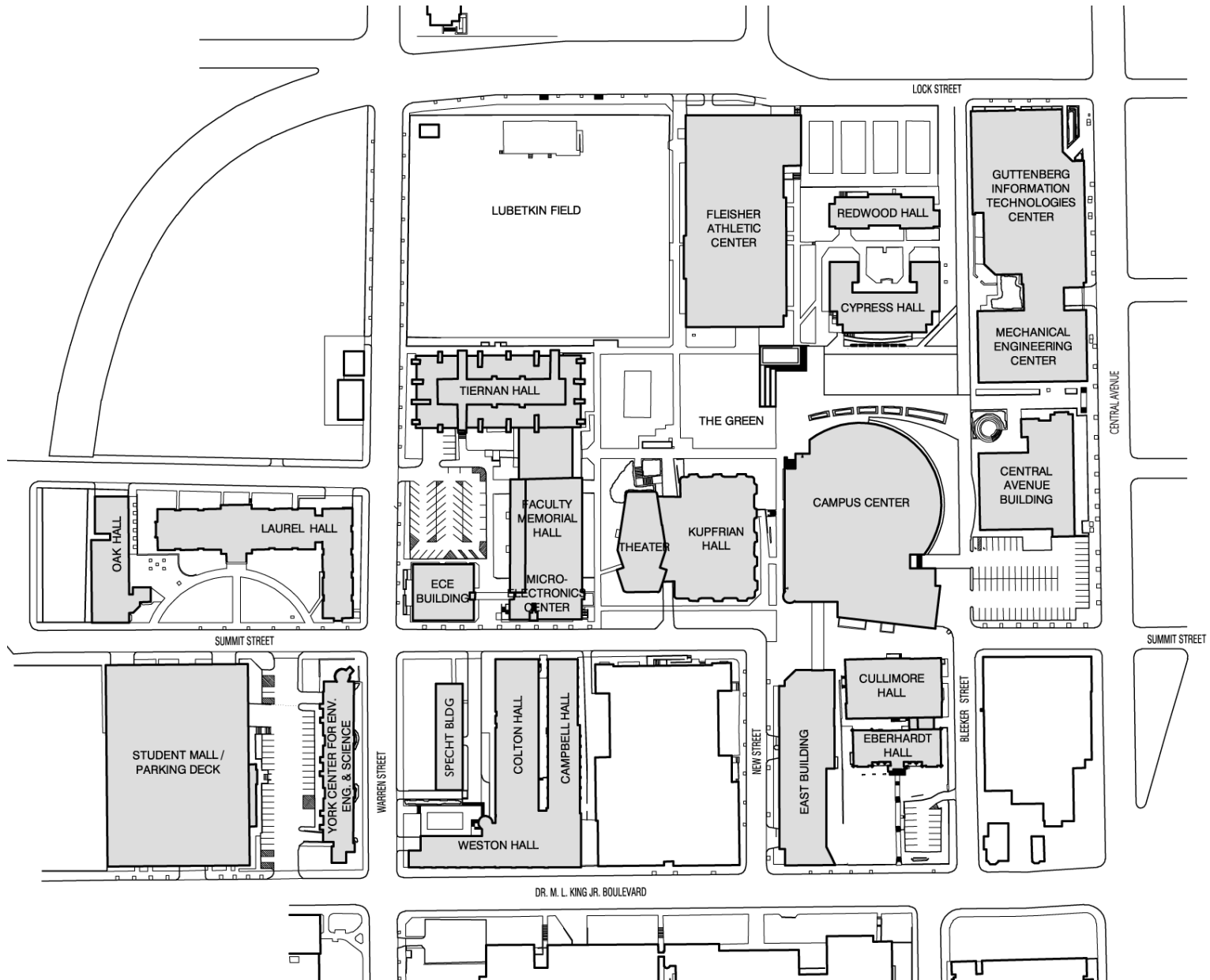
The goal of the Landscape Master Plan is to develop guidelines for future facility decision-making. It will identify campus areas requiring improvement, provide a phasing strategy to logically implement these areas, define campus standards for construction materials, and recommend site furnishing and plantings.

Though this document will reflect the current thinking of the Institute's administration, it should be revisited at least every 5 years or if there are significant changes to the long term goals of the campus. The 'vision' set forth in this Master Plan will be fully grounded in the physical realities, maintenance concerns and budgetary conditions set forth by the Institute ensuring that this Landscape Master Plan be achievable.

Process

Developing the Landscape Master Plan consists of a series of steps each building on the previous. We begin with the close examination and understanding of the existing conditions of the campus (inventory), then, we observe use patterns and their intuitive nature as they reveal themselves (analysis) and consider the Institutes' development goals to create the basis and framework for all feasible future development (concepts). Only from this groundwork, can appropriate designs be created (design).

This document traces the process accordingly.



Inventory

The inventory examines the existing physical features on the campus. The inventory maps such items as land use, building types and circulation routes. This information provides the basic understanding of the physical nature of the campus and sets the groundwork for future design.

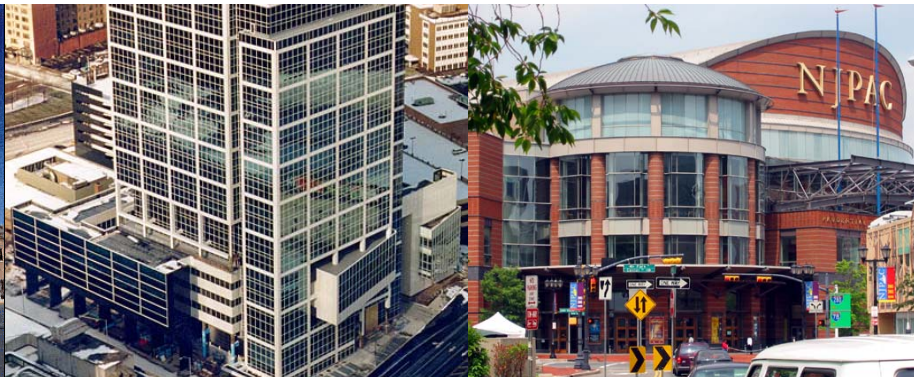
Analysis

Analysis is the subjective interpretation of factors and relationships as disclosed in the inventory process. The analysis will define issues related to the character of open spaces and use patterns allowing recognition of areas of conflict or underuse.

New Jersey Institute of Technology (NJIT) is a 45-acre campus located in the University Heights section of Newark. The campus is a short distance west of Newark's Downtown District and ten miles from Manhattan. The campus is easily accessible from several major highways and by local subway from Penn Station, Newark.

NJIT shares the 'Heights' with several other institutions including: Rutgers-Newark to the east, Essex County College and Essex County Courthouse to the south and the University Heights Science Park to the west. In addition, the Seton Law School is located nearby, downtown Newark.

Campus facilities are generally concentrated within the boundaries of: Dr. Martin Luther King Boulevard to the east, Raymond Boulevard south, Lock Street west, and Central Avenue to the north. Warren Street running east-west divides the southern third of campus.



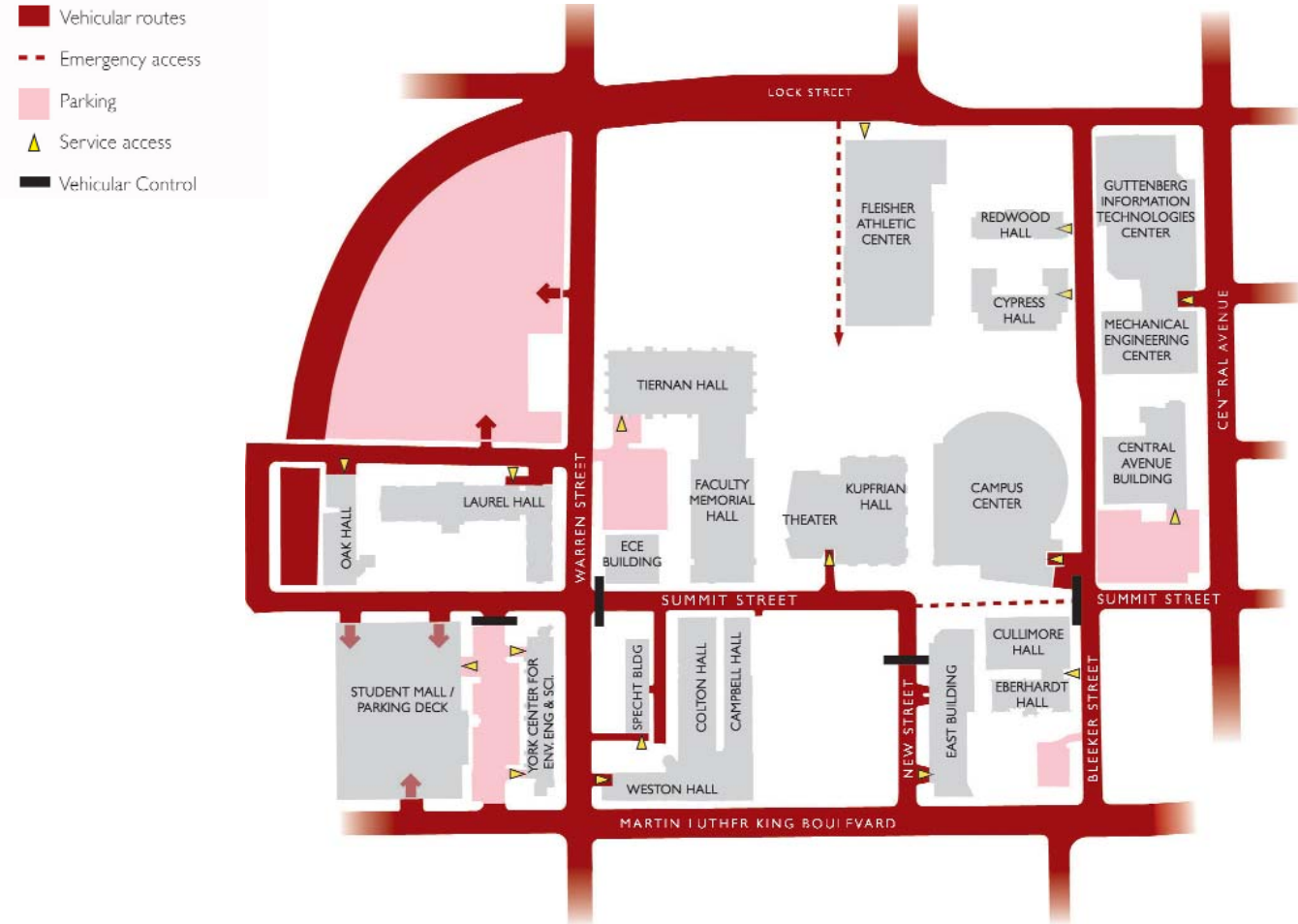
Use zones or campus precincts are evident but not required on this campus which is easily traversed from one end to another. The diagram highlights some existing relationships. Parking, appropriately, is assigned to the perimeter of the campus. Student activity uses are centrally located with classrooms scattered throughout. Outdoor athletic activities are the clustered around the Fleisher Athletic Center. There are two pairs of residential units at opposite ends of the campus. Central High School intrudes into the campus, interrupting the connection of campus activities along Summit Street.

- Academic
- Student Activity
- Administration/ Student Services
- Multi Purpose
- Housing
- Recreation/ Athletics
- Service/ Parking
- Non-University



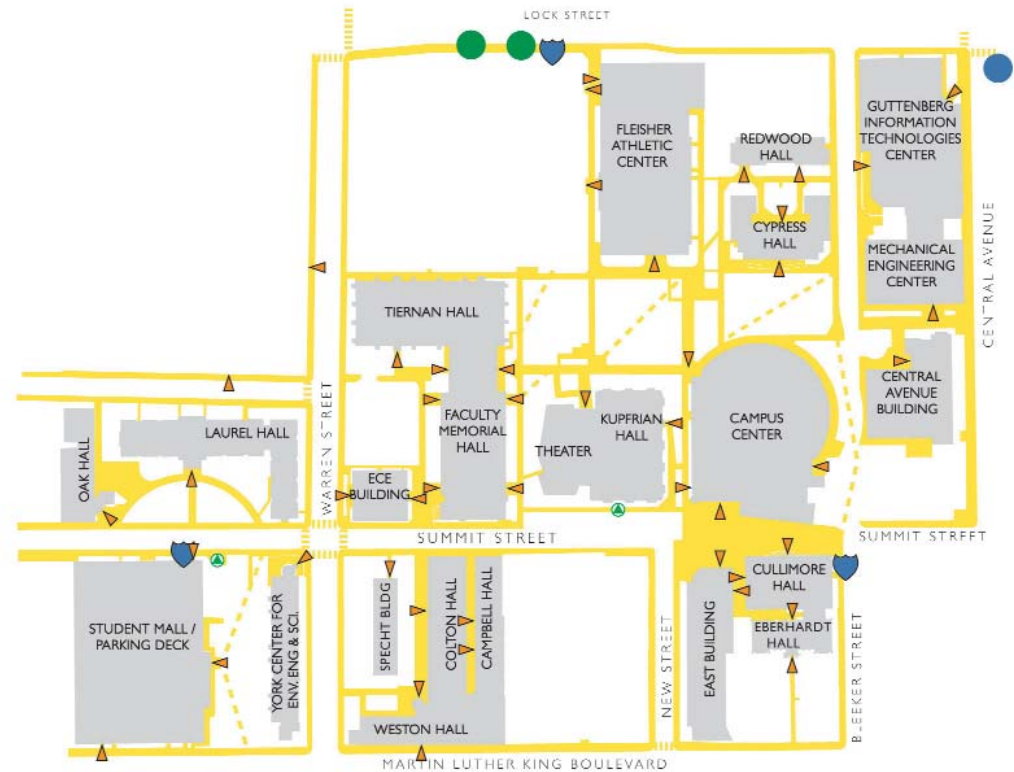
Vehicular circulation and roadways define the campus boundaries and create physical barriers dividing portions of the campus. Bleeker Street separates the north end from the main campus. Warren Street separates the south end, and Summit Street splits the campus east and west. The elimination of Bleeker Street through The Green will create a more cohesive campus and a stronger sense of place.

Parking is located on the perimeter of campus with the exception of a small lot between the ECE building, Tieman and Faculty Memorial Hall. Access to these lots are from the city streets, which helps limit pedestrian vehicular conflicts.

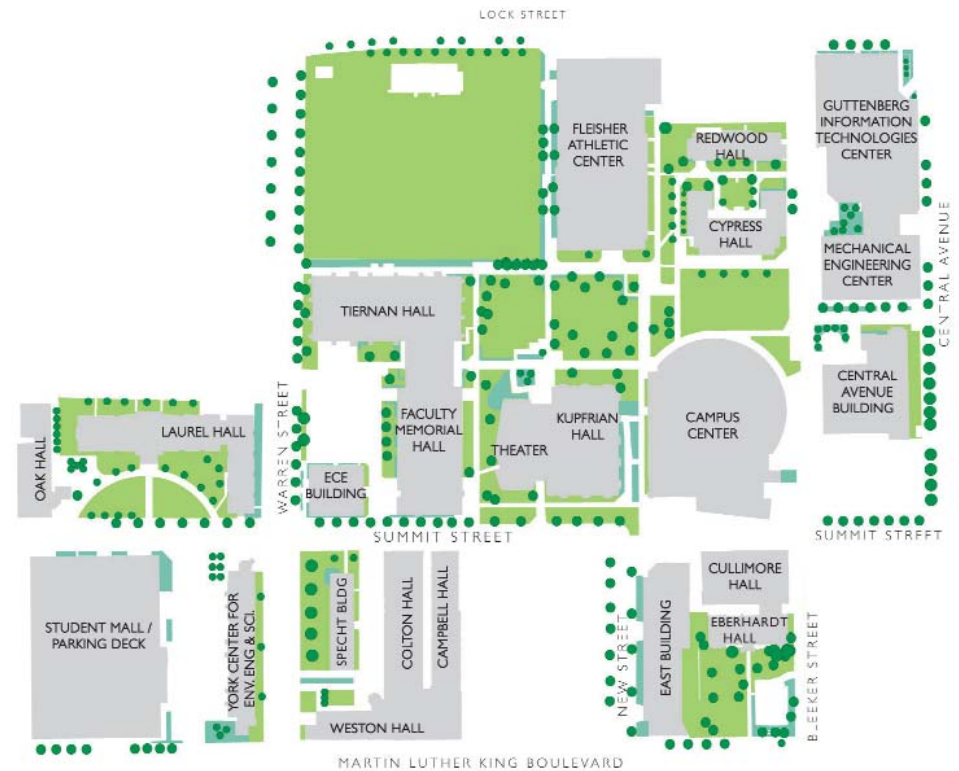
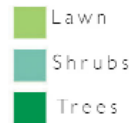


The success of campus life is dependent on the ease of pedestrian movement and the elimination or reduction of pedestrian-vehicular conflict. Circulation patterns should respect students 'desire lines' as they move through the campus. The main north-south axis is along Summit Street. The street facilitates movement from the parking deck on the southern end of Summit to the new Campus Center on the north with various classroom buildings on either side of the street along the way. A minor axis exists on the west side of The Green connecting the surface parking lot (south) to the residence halls and classroom buildings (north). The Green allows for free pedestrian movement and the paved walkways serve most movements around and through The Green.

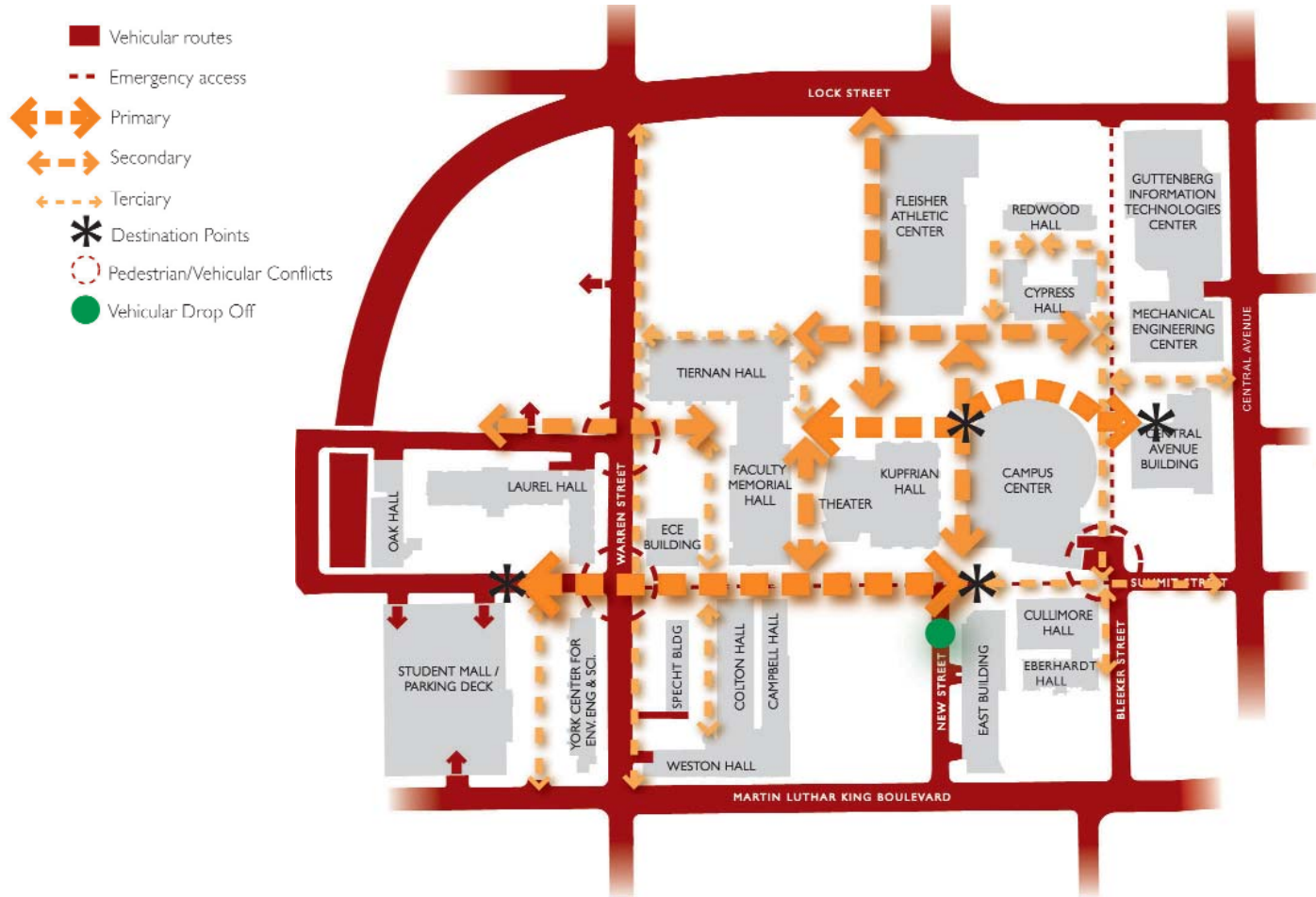
- Pedestrian Paths
- Desire Lines
- Bus Stop
- Subway Stop
- Main Entrances
- Security booth
- Wayfinding signage



Campus vegetation is primarily comprised of large areas of lawn, little shrubbery and peripheral street tree planting. Mature trees enhance the entry landscape of Eberhardt Hall and a mix of evergreen and deciduous trees fill the South Green. Summit Street has a rhythm of street trees that define its western edge. There is little use of trees as an architectural device to either create space or frame vistas, processional ways or ceremonial areas.

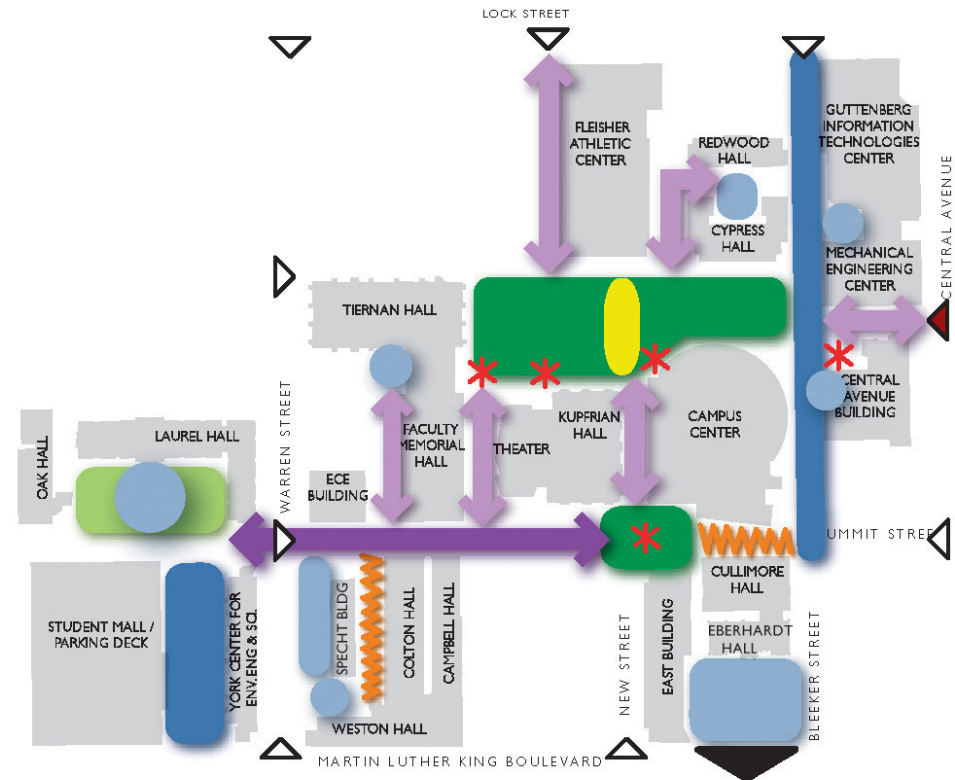


The overlay of the pedestrian and circulation diagrams identifies the hierarchy of pedestrian travel through the campus and shows the areas of pedestrian/vehicular conflicts at the various crossings of Warren and at the intersection of Bleeker and Summit. The diagram assumes the vehicular closing of Summit Street from Warren to Bleeker and Bleeker from Summit to Lock Street for use by pedestrians only with access available to emergency vehicles. Hierarchy of pedestrian circulation will help inform landscape design in defining active zones, trip origins and destinations.



The space analysis attempts to quantify the non-physical aspects of the campus open spaces by understanding user patterns and perceptions. From this, the hierarchy and character of the open spaces becomes defined. The Green as a landscaped space must be recognized as not only the physical core of the campus, but as the primary outdoor open space. Each open space plays a role in the experience of the users. This experience must be understood in order to fully inform future development on the campus spaces.

- Primary open space
- Secondary open space
- Open space - limited use
- Underutilized Open space
- Connective space
- Main Axis
- Urban corridor
- Pedestrian unfriendly zone
- Parking
- Ceremonial gateway
- Entry Points
- Slope
- View
- Gathering Areas

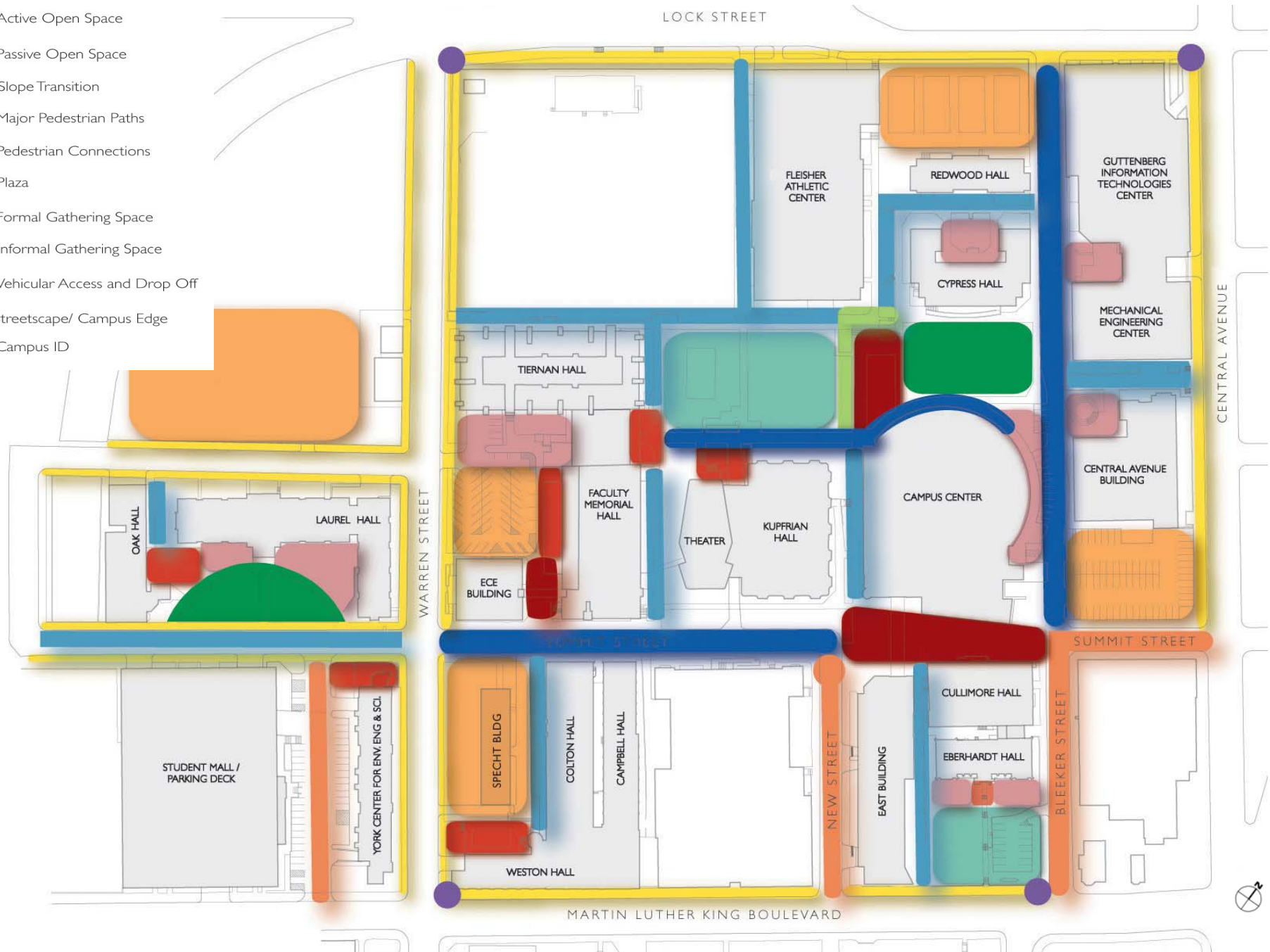


The Landscape Concept Diagram is a developed form of the information obtained from the inventory and analysis. The plan categorizes various landscape zone types on the campus that have similar uses or program. Site organization and hierarchical relationships are established which will guide the design of these areas and help define the type of paving, planting, lighting and site furnishings.

LANDSCAPE CONCEPTS

LANDSCAPE CONCEPT DIAGRAM

- Active Open Space
- Passive Open Space
- Slope Transition
- Major Pedestrian Paths
- Pedestrian Connections
- Plaza
- Formal Gathering Space
- Informal Gathering Space
- Vehicular Access and Drop Off
- Streetscape/ Campus Edge
- Campus ID

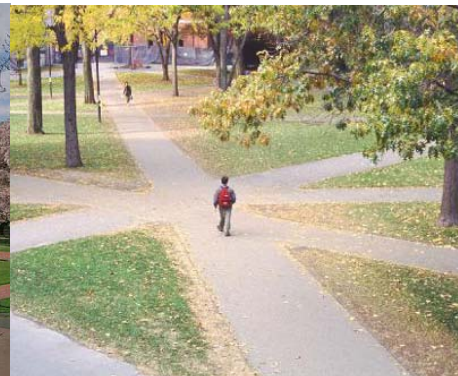


Open active lawn areas are crucial to a campus setting. They should be near high-activity areas and residence halls to be easily accessible for activities such as ROTC drill, volleyball, frisbie or ball toss. These spaces are characterized by an open lawn area, accessed and defined by perimeter pathways, trees, lights and benches.

The Green is the essence and heart of the campus. The Green provides a flexible open space that encourages a variety of activities. Though it extends from Faculty Memorial Hall to Bleeker Street, it is really composed of two distinct spaces, defined by topography and trees. The southern, upper portion, though connected visually to the lower space, should be developed into a passive open lawn area with treed edges that would allow quiet activities adjacent to the classroom buildings.

As presently configured, the sloping lawn east of Eberhardt is a lost space on campus. If properly connected to the main part of campus, it could provide a sloping lawn with views toward downtown Newark and New York City: a perfect place for reading and quiet study groups.

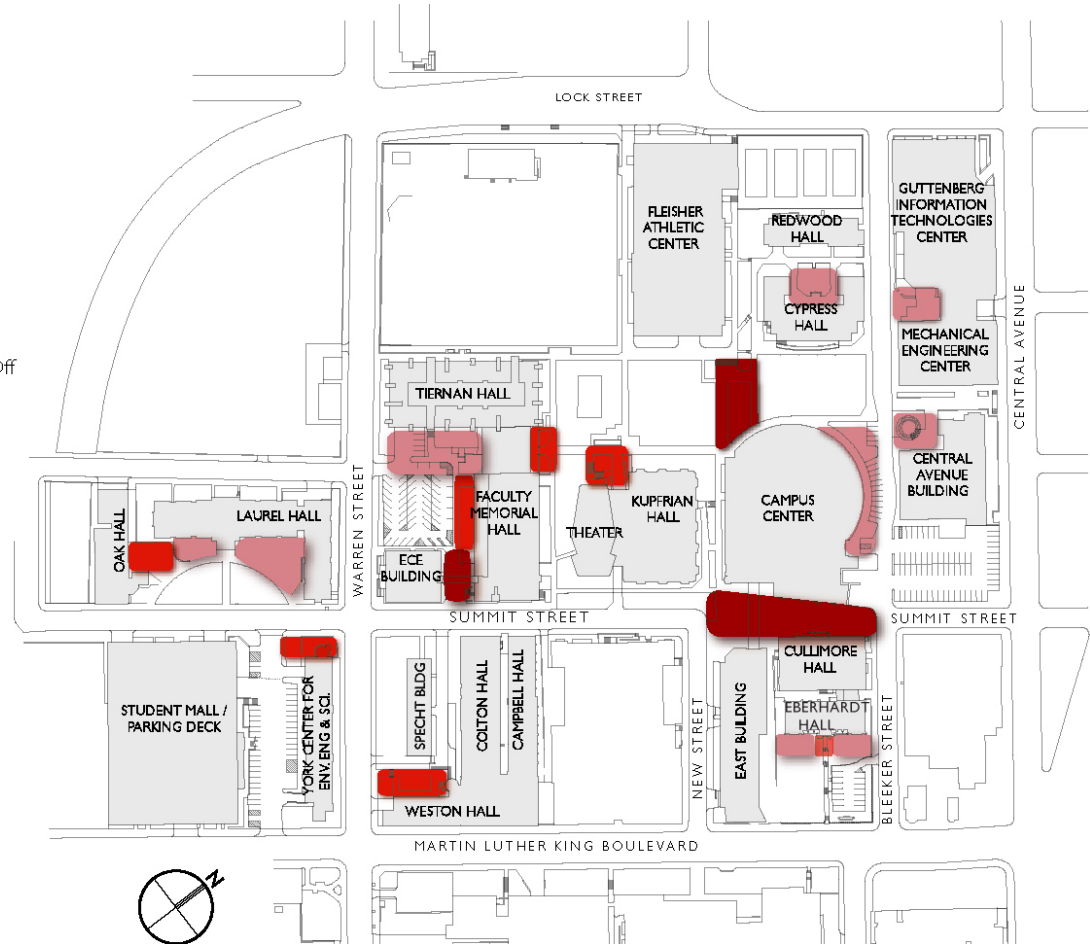
- Active Open Space
- Passive Open Space
- Slope Transition
- Major Pedestrian Paths
- Pedestrian Connections
- Plaza
- Formal Gathering Space
- Informal Gathering Space
- Vehicular Access Service & Drop
- Streetscape/ Campus Edge
- Campus ID
- Future Building Site



The plaza is primarily a hardscape space outside busy pedestrian centers. The paved areas allow for free pedestrian circulation and gatherings of large numbers of students.

These spaces will be defined by concrete pavers and will incorporate benches, tables, chairs, and other site furnishings for users who wish to congregate, sit or eat outside the dining areas. These spaces can also be designed to incorporate unique landscape features that further define their special nature within the campus.

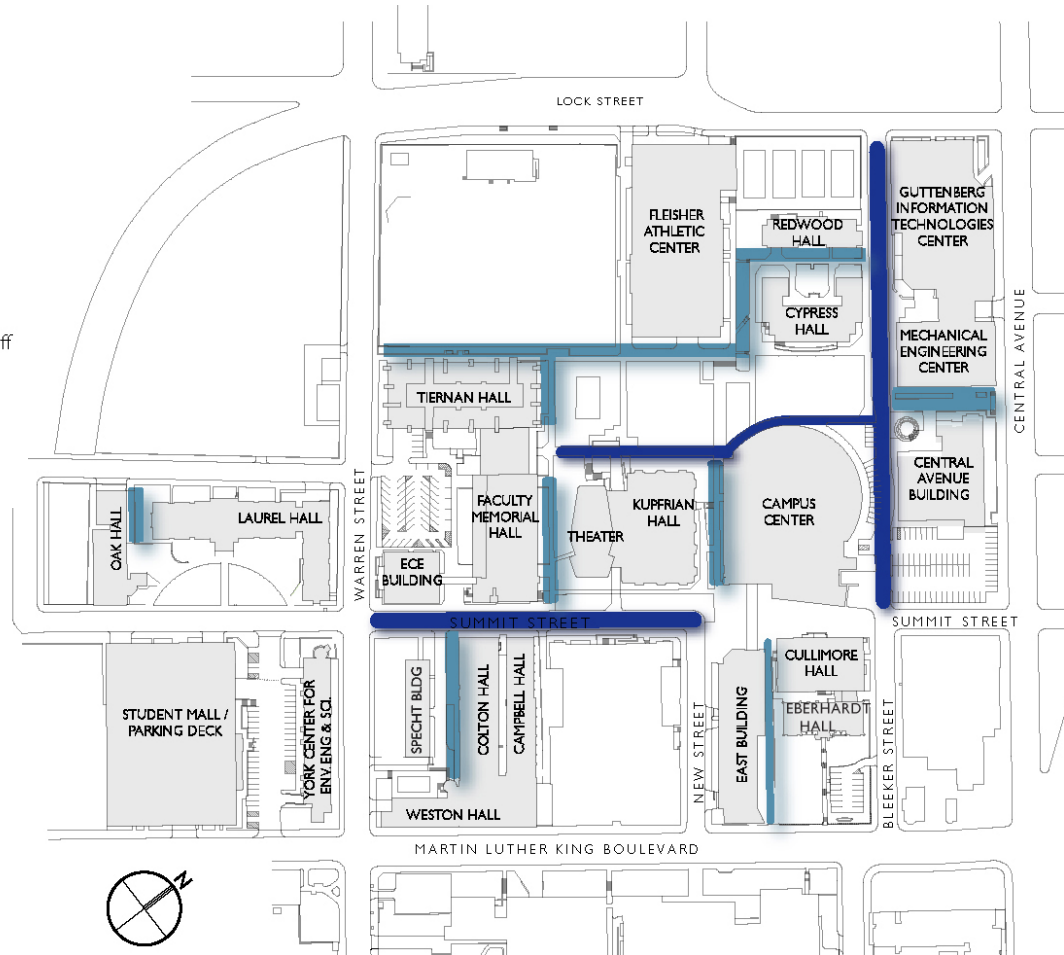
- ☐ Active Open Space
- ☐ Passive Open Space
- ☐ Slope Transition
- ☐ Major Pedestrian Paths
- ☐ Pedestrian Connections
- ☒ Plaza
- ☒ Formal Gathering Space
- ☒ Informal Gathering Space
- ☐ Vehicular Access Service & Drop Off
- ☐ Streetscape/ Campus Edge
- ☐ Campus ID
- ☐ Future Building Site



Transforming Summit Street and Bleeker Street into pedestrian only paths will create safe pedestrian corridors along major circulation axis. With this transformation, primary circulation routes are accommodated and iconic campus spaces are defined.

East-west pedestrian paths are located primarily between buildings and provide connections to larger open spaces. These pass-thru zones should encourage movement and are not designed for lingering.

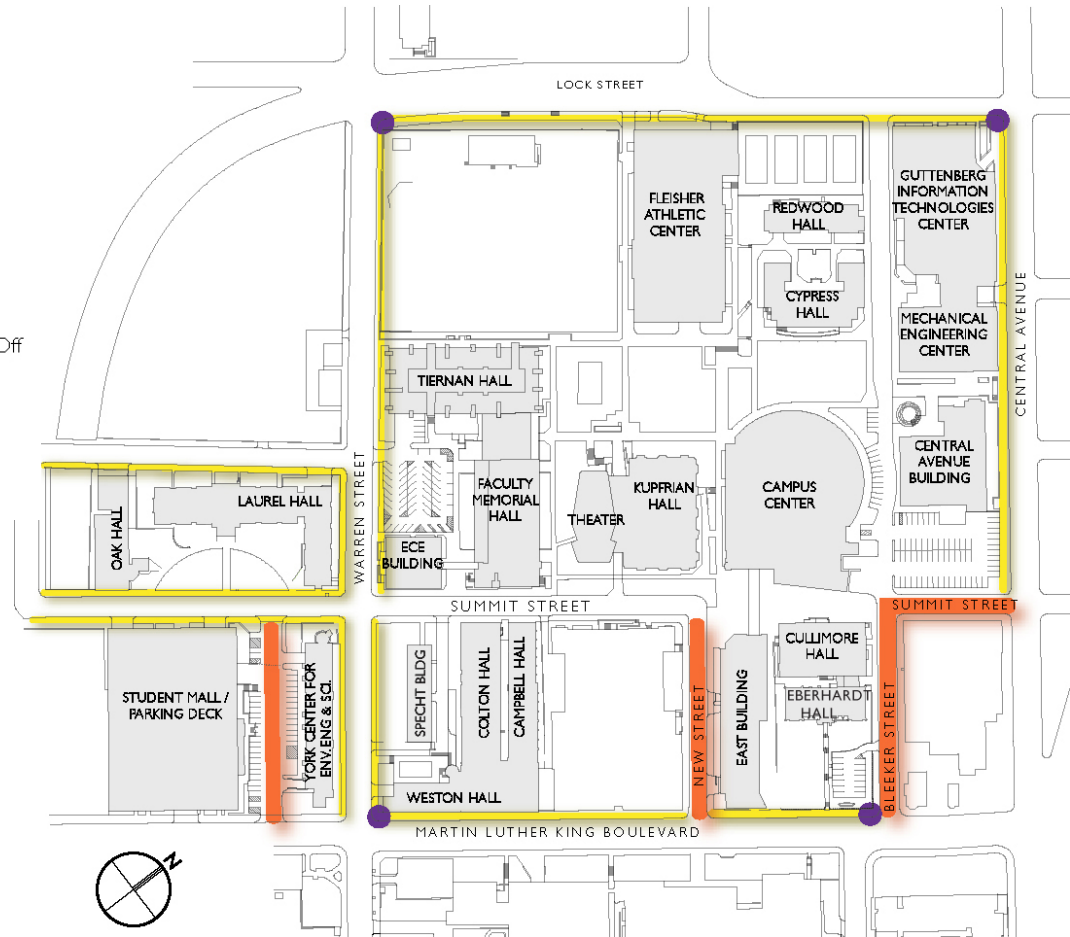
- ☐ Active Open Space
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- ☐ Slope Transition
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- ☐ Streetscape/ Campus Edge
- ☐ Campus ID
- ☐ Future Building Site



Local streets define the campus boundaries with the majority of the public viewing the site as passing motorists. The buildings on campus have an appropriate inward orientation, but present their backs to the public. Lubetkin Field is enclosed by fencing but allows views into the campus.

There are many opportunities to create gateways for the campus. At present there is only one major gateway and that is centered on Central Street. Our plan proposes gateway signage and campus identity at the four major campus corners to strengthen the Institute's presence and project a compelling, cohesive public image.

- ☐ Active Open Space
- ☐ Passive Open Space
- ☐ Slope Transition
- ☐ Major Pedestrian Paths
- ☐ Pedestrian Connections
- ☐ Plaza
- ☐ Formal Gathering Space
- ☐ Informal Gathering Space
- ☐ Vehicular Access Service & Drop Off
- ☐ Streetscape/ Campus Edge
- ☐ Campus ID
- ☐ Future Building Site

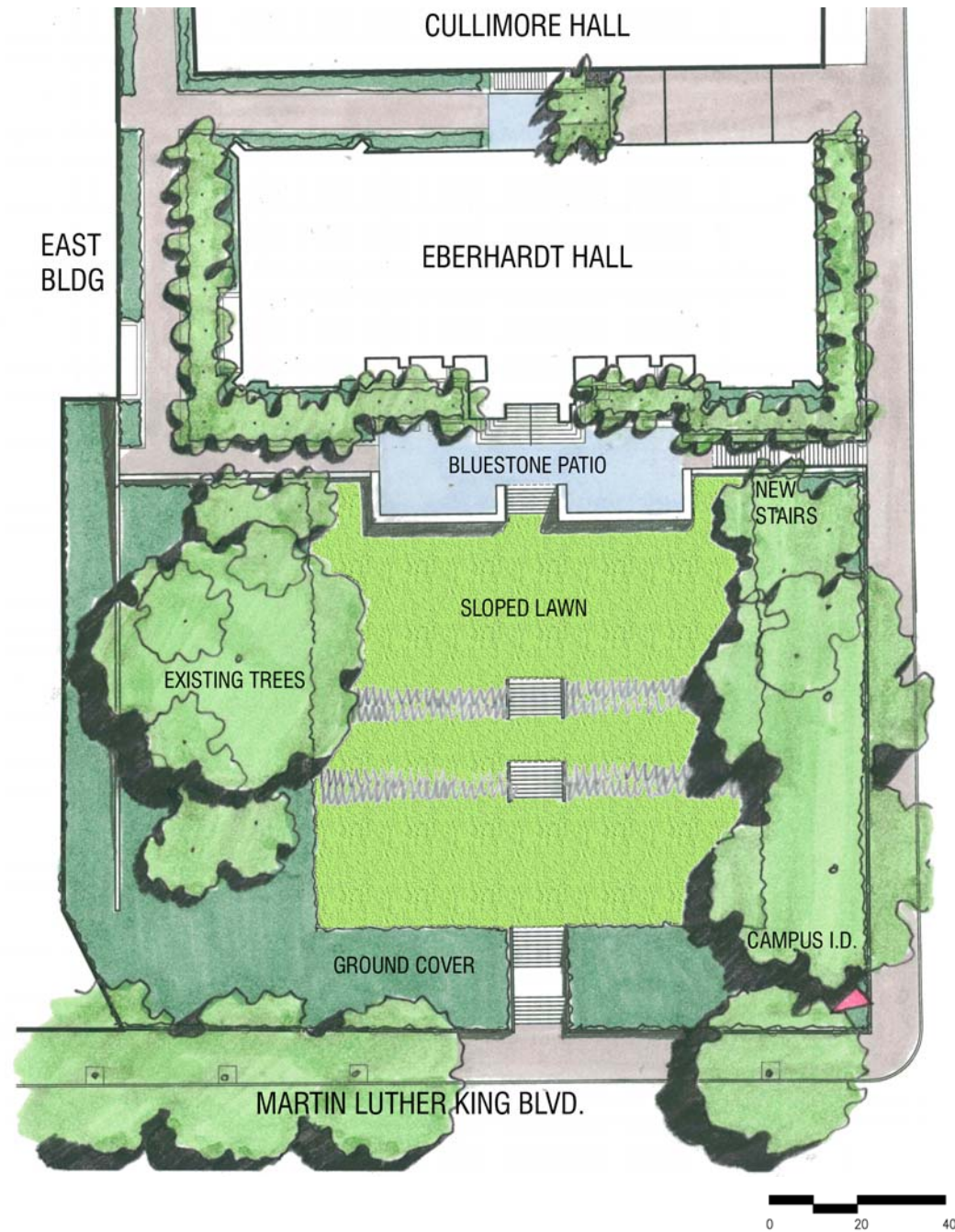
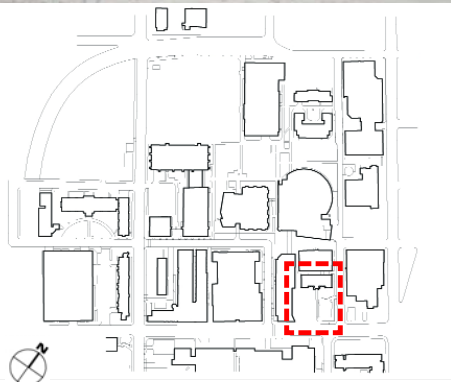


The Overall Illustrative Plan develops conceptual ideas to produce specific recommendations for the campus. It creates a cohesive vision while celebrating the uniqueness and character of the individual spaces. A language of forms, colors, materials and plantings is defined and utilized throughout the campus.

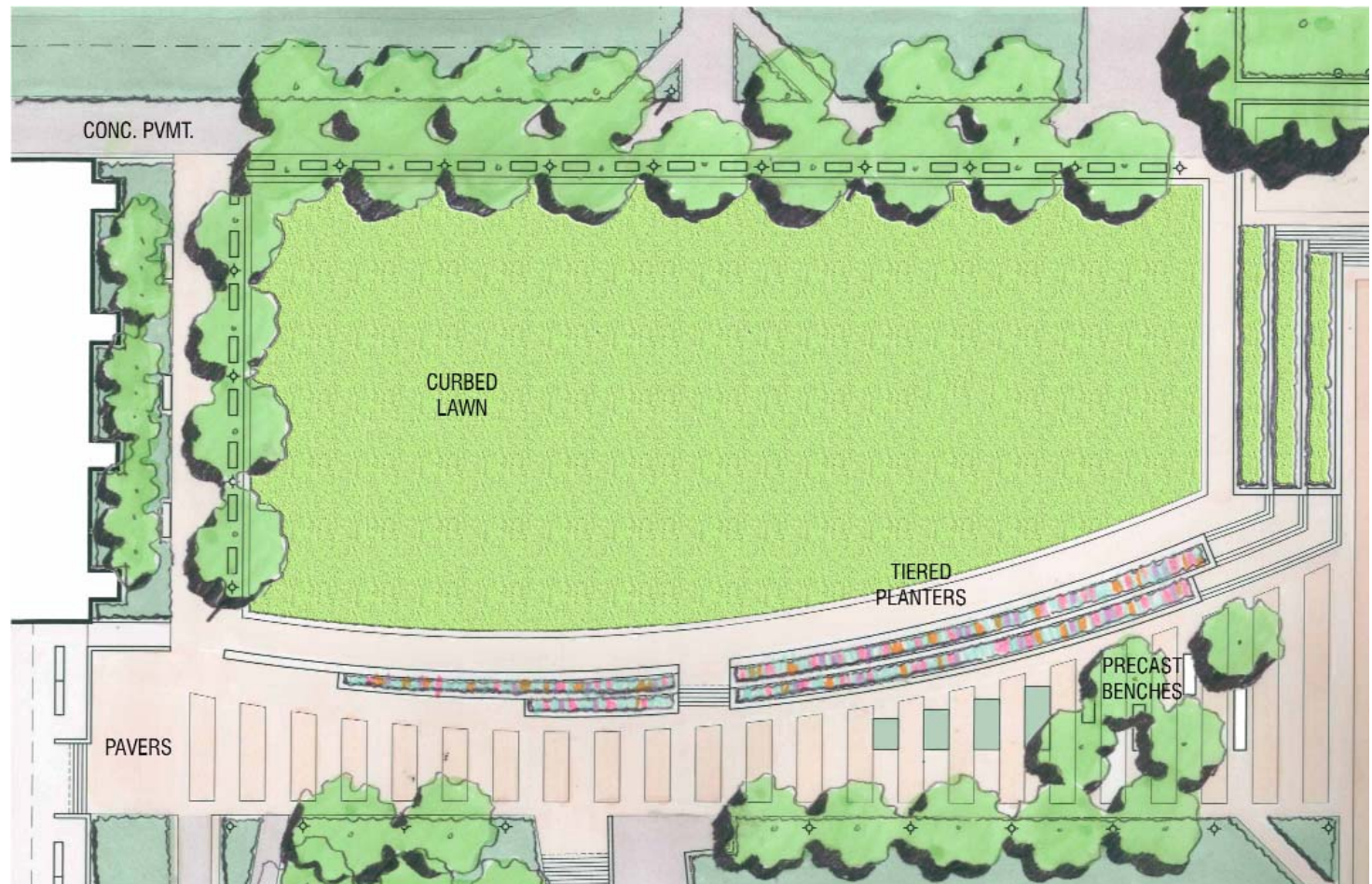




The soon to be renovated, grand old building defines the historic tradition of NJIT. By thinning the mature trees in the front yard, Eberhardt's grandeur will again be visible from the campus approaches to the east. The front yard will be transformed into a formal forecourt by removing the parking lot and creating a terraced green. Flowering trees frame the building and a new bluestone forecourt is placed between the Hall and the green to host various events. The path to the west entry is softened by planting and announced by bluestone paving. A marker will be placed near the intersection of Bleeker and MLK Boulevard for campus identity.







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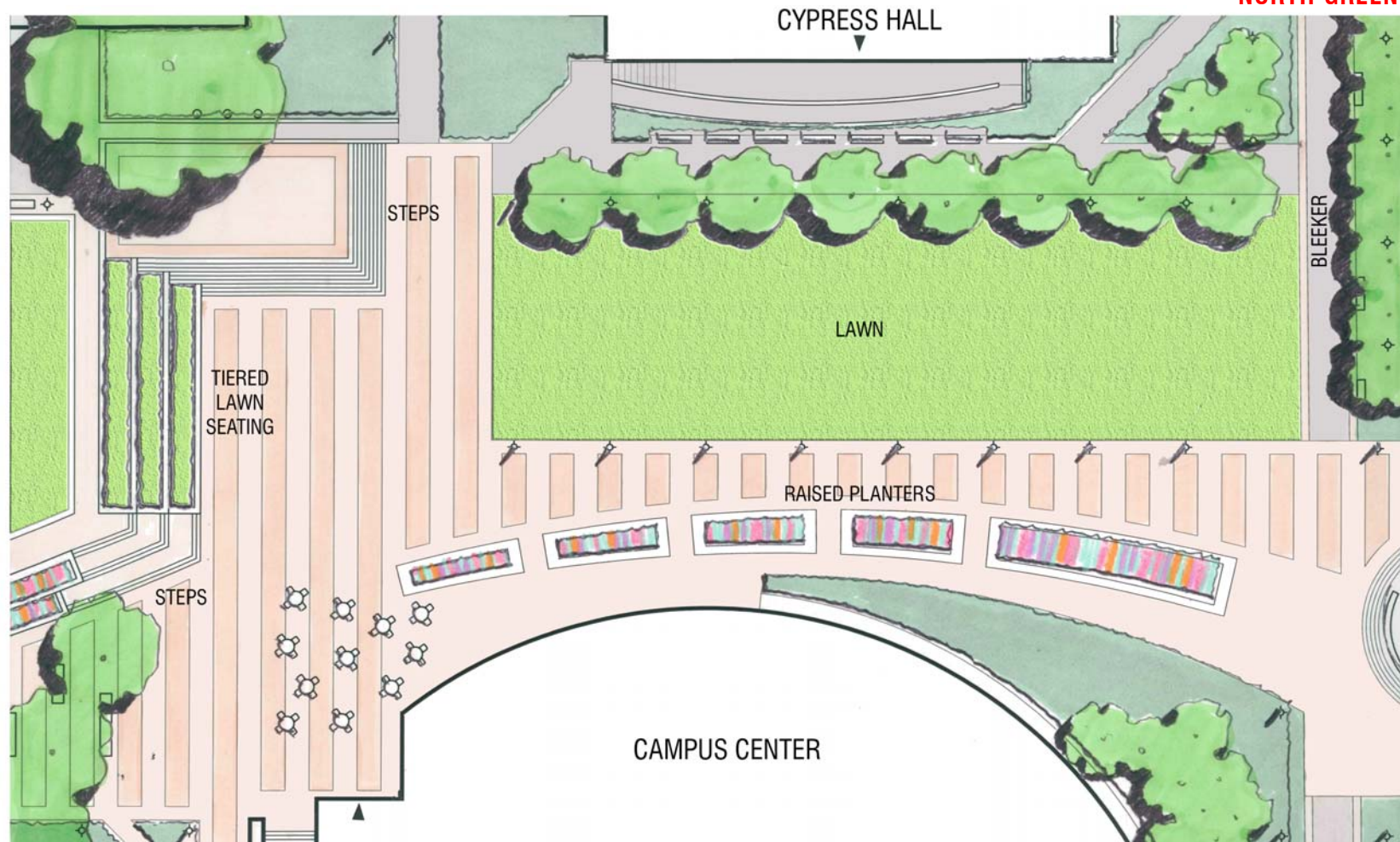


The South Green, North Green and Central Avenue Building Plaza and North Entry combine to create the major open space of the campus.

The South Green provides a large curbed lawn area suitable for the Institute's ceremonial use as well as for active and passive student recreation. Canopy tree planting with benches and light poles frame the lawn to the south and west, while a sweep of tiered planters cascade to the area below. The

sweeping forms of the tiered planters carry through to the North Green and create a seamless continuity between all spaces.

Precast concrete pavers create a cadence of bands that morph into garden panels, precast benches and specimen tree plantings as one travels north.



The elevation change between the north and south green provides a natural separation of these two spaces. Taking advantage of this, the proposed design incorporates a tiered lawn seating that overlooks a large, performance-oriented paved plaza. This plaza resides at a central point in The Green landscape while accommodating the desired pedestrian movements through this active part of campus. A variety of seating opportunities enhance the use of the plaza.

Taking a cue from the circular geometry of the Campus Center the 'sweep' continues in the form of raised planted gardens and a wave of ornamental grass plantings on the far northeast.

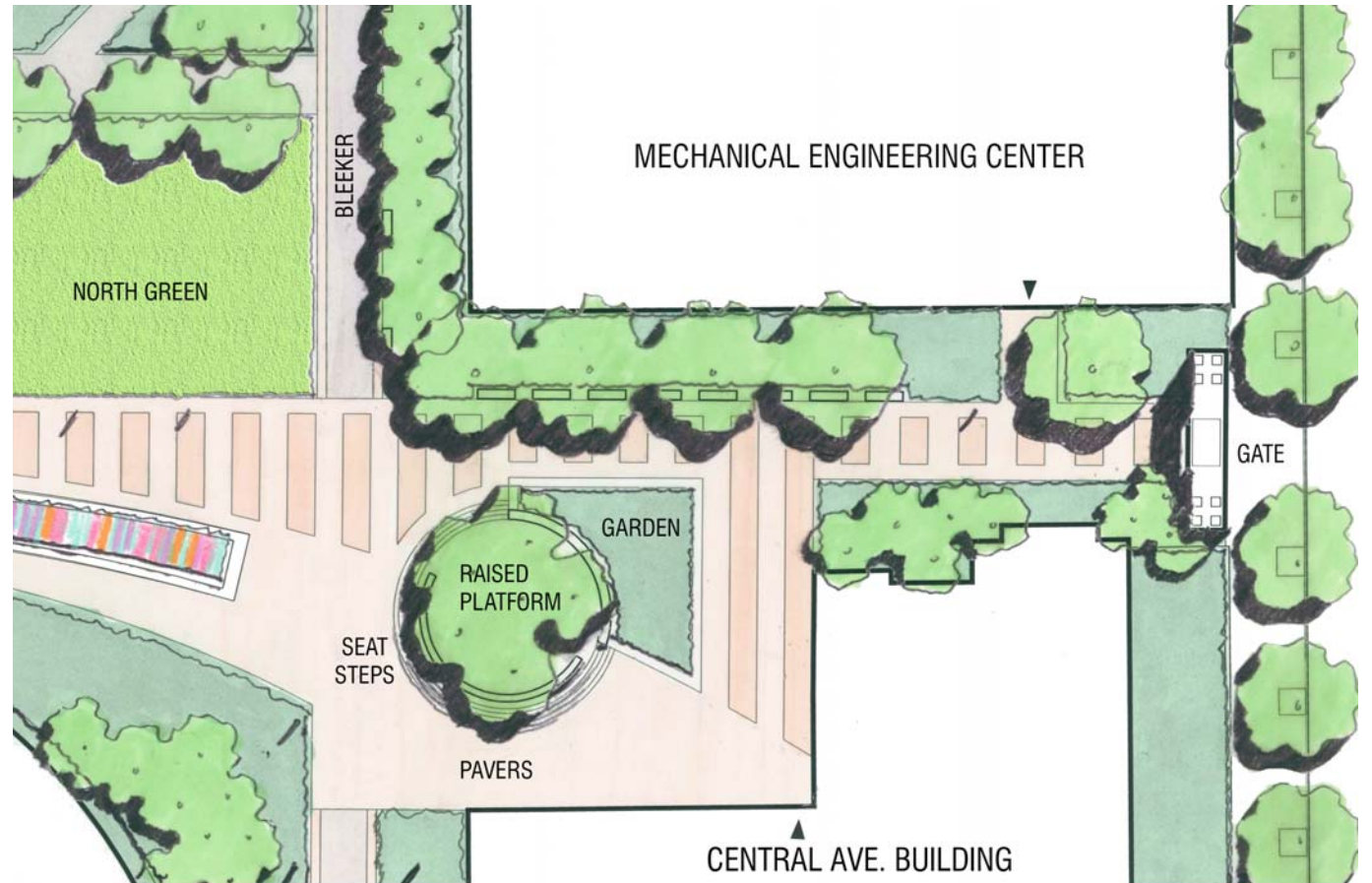
The large lawn provides active/passive recreation potential for students, and ceremonial use for campus events.

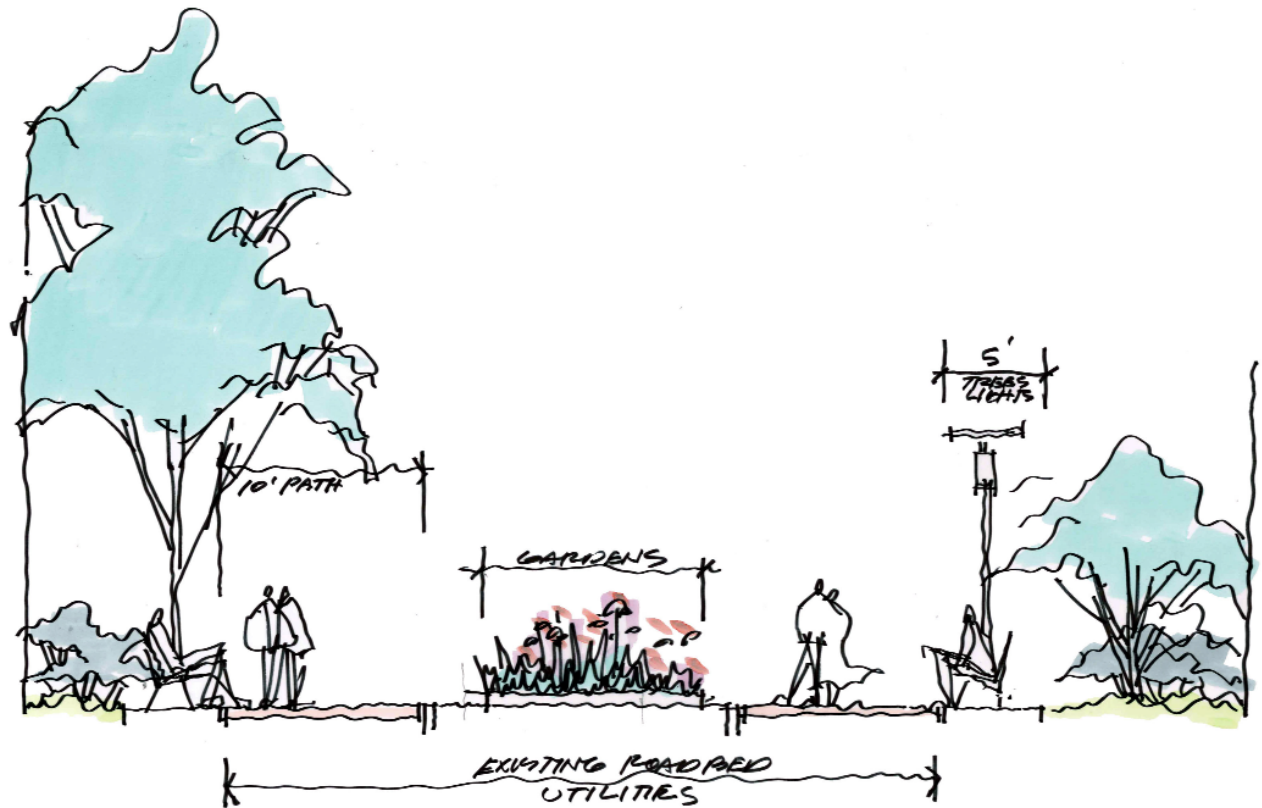
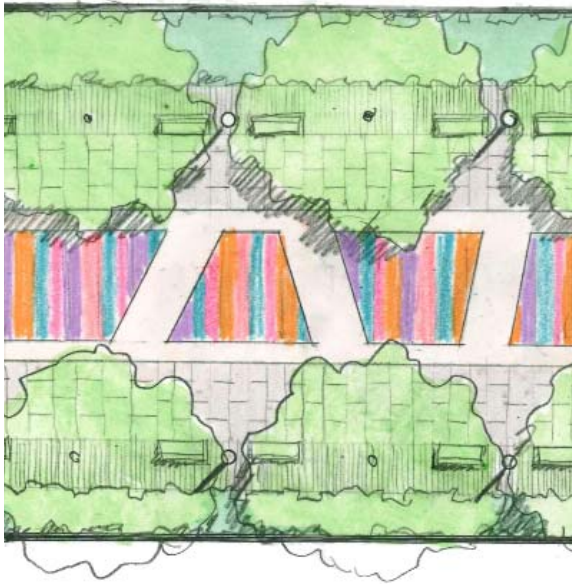
CENTRAL AVE. BUILDING PLAZA AND NORTH ENTRY

The South and North Greens culminate in the circular raised platform at the Central Avenue Building. Formerly a sunken plaza, the space has been lifted to create a more dynamic form and a better-used amenity. Steps climb to the platform level, a circular bosque of trees creates a canopy over bench seating and a garden rims the north edge.

Mature trees at the Mechanical Engineering Building have been retained. Classic bench seating and a carpet of groundcover cleanly define the area.

Views from the North Gate into the Green now show an elegant, sinuous landscape articulated with compelling forms and colors.

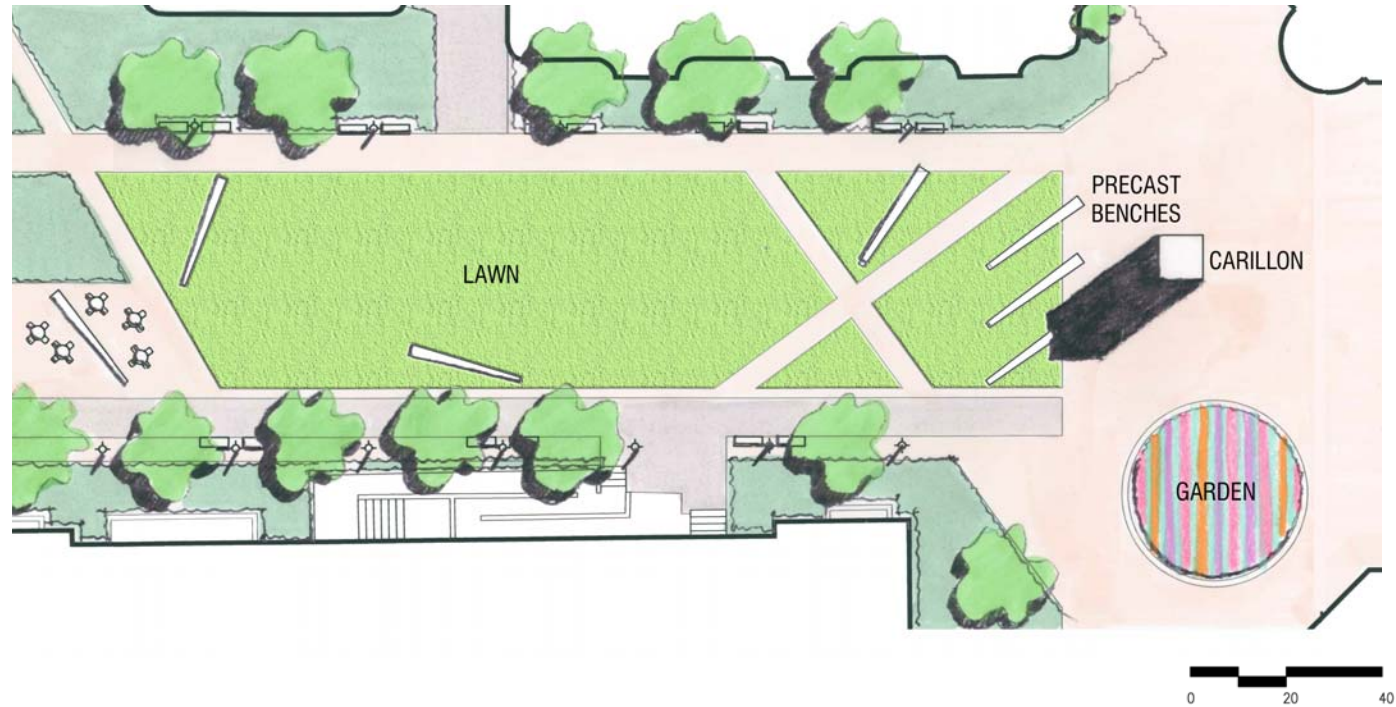


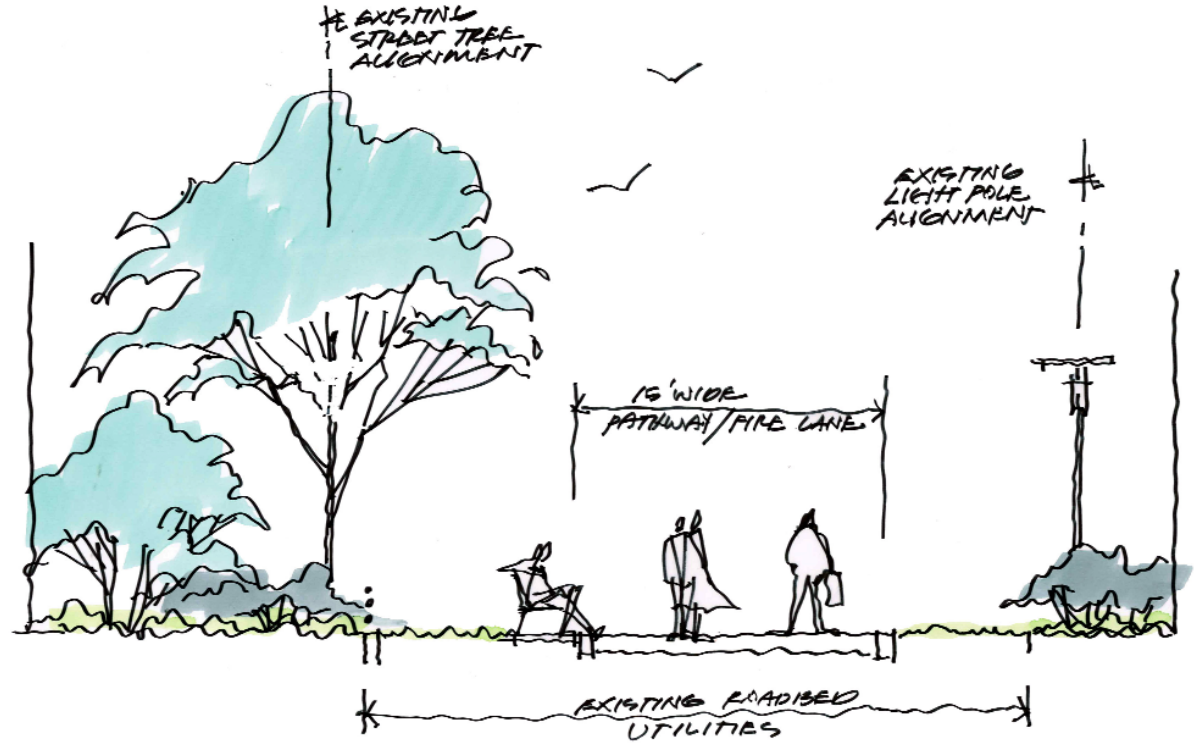
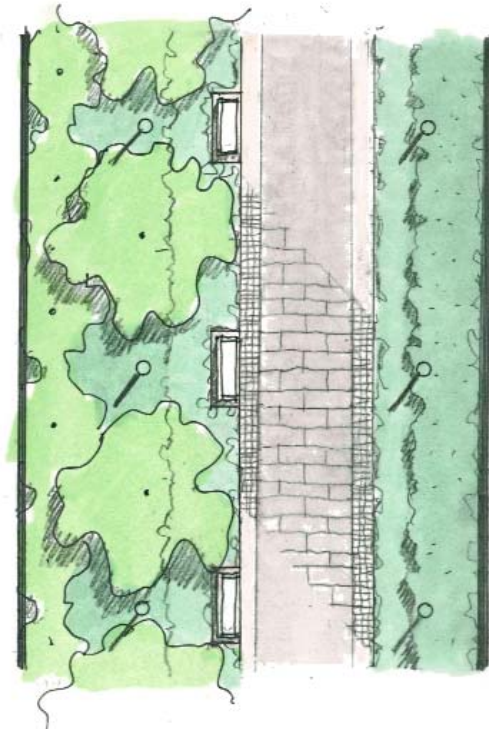


The new Summit promenade transforms a vehicular roadbed to pedestrian use creating a major north-south campus path. Colorful garden beds located in the center of the roadbed separate flanking pathways located inside the existing zelkova tree line. The concrete pathways will be sized to allow for emergency and service vehicle access. The zone within the tree line, outside the pathways will

contain rows of lights and benches facing the promenade. Spaces along the buildings will be planted. Diagonal pathways of precast pavers crisscross the center planters allowing free pedestrian movement to either side of the promenade.

One of the elements of the new Summit Promenade is Summit Quad. Recognizing the vast number of students that will travel through this area, a multifaceted design response is required. Summit Quad provides a passive recreation lawn, café tables and chairs, sculptural precast concrete bench seating, traditional bench seating under tree canopy and a circular garden of seasonal color. The Carillon at the far north end of the Quad creates a focal point for the interstitial space at the Campus Center and provides for what will likely become the designated meeting spot on campus.

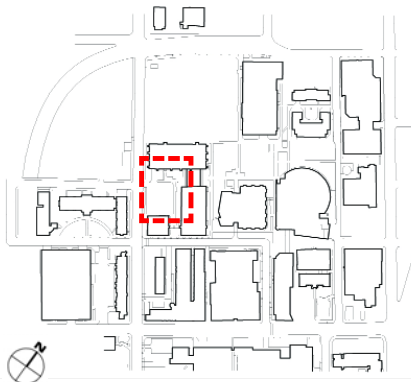
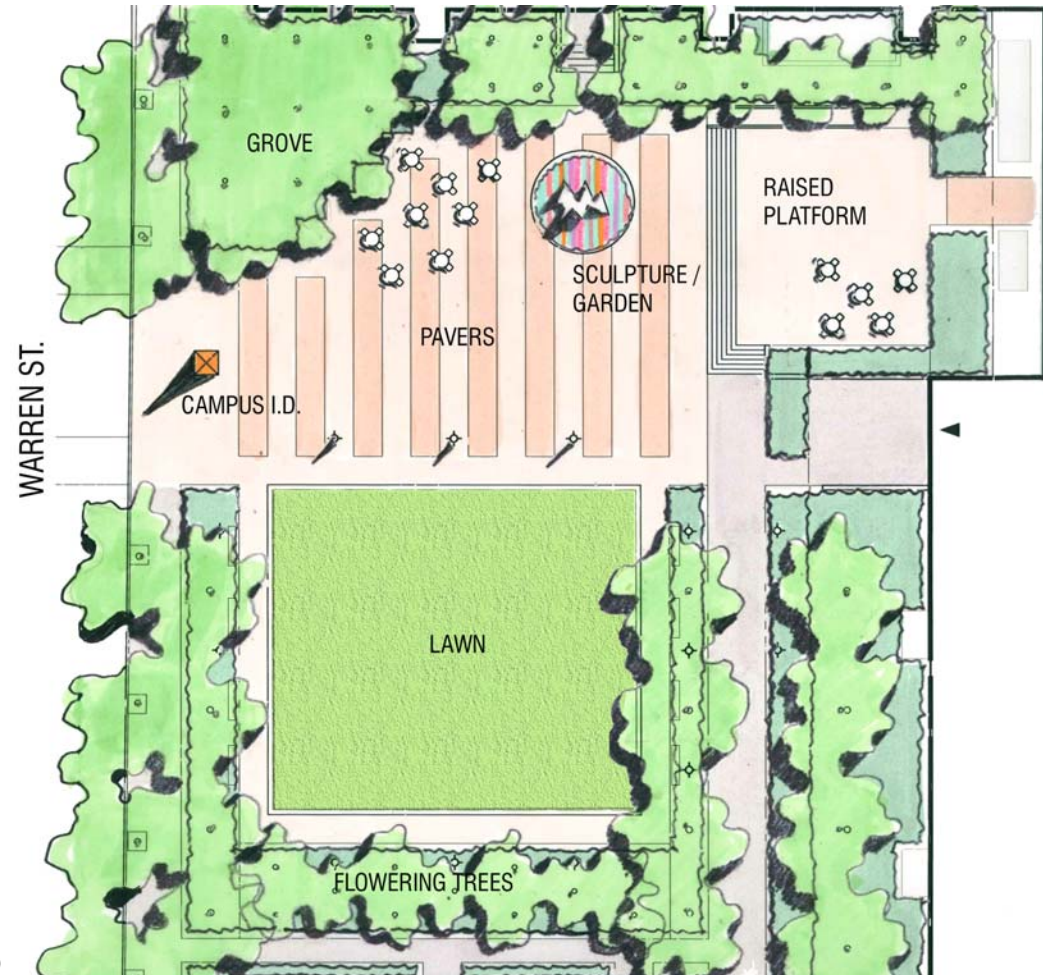




The closing of Bleeker Street to vehicular traffic will transform the roadway into a pedestrian promenade. The Green will no longer be bisected and will be able to extend to the Central Avenue building, unifying the central core of the campus. The centered single pathway will collect east-west pedestrian traffic and be lined with lawn and benches with shrub and tree beds extending to the adjacent building.

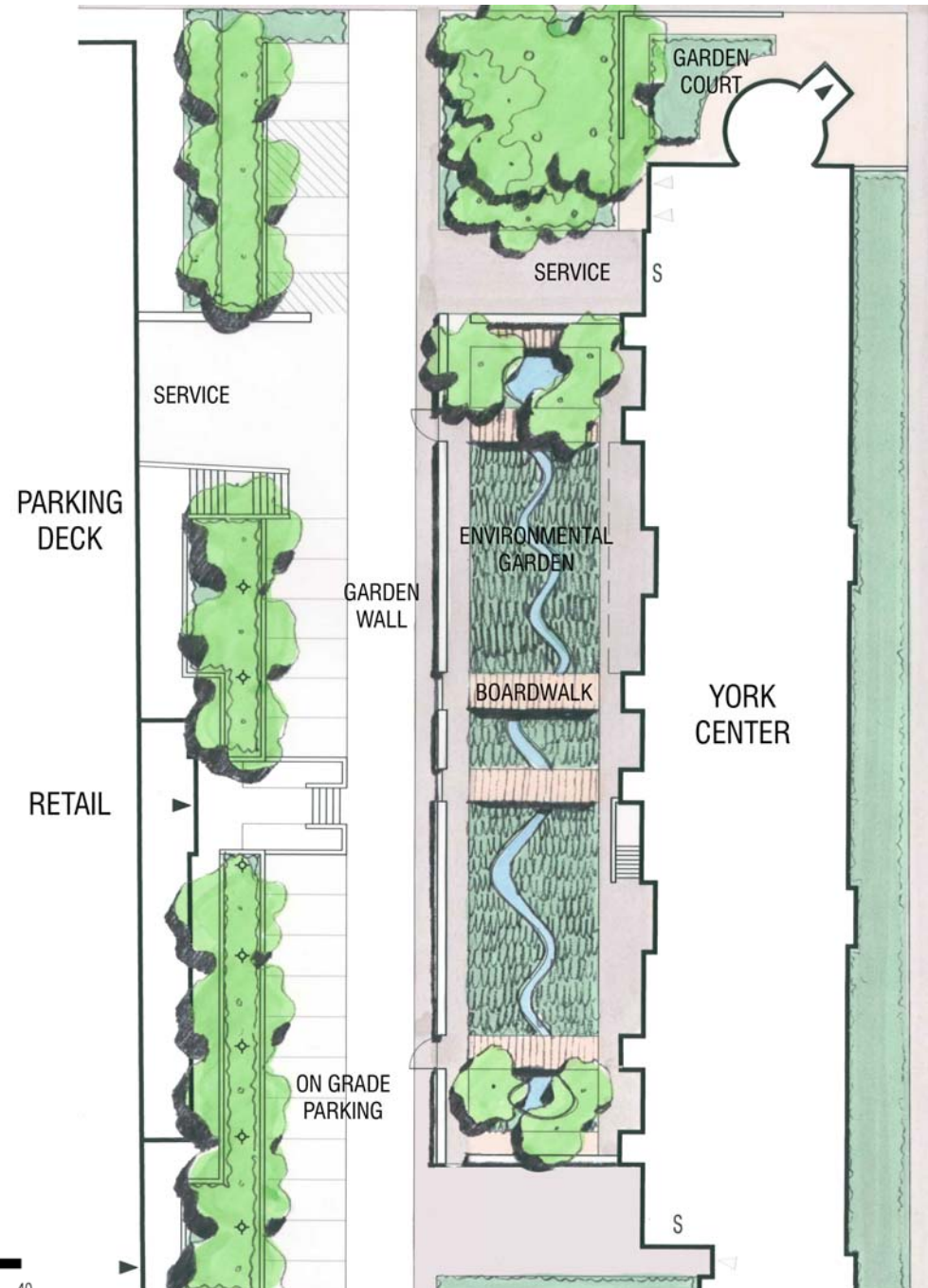
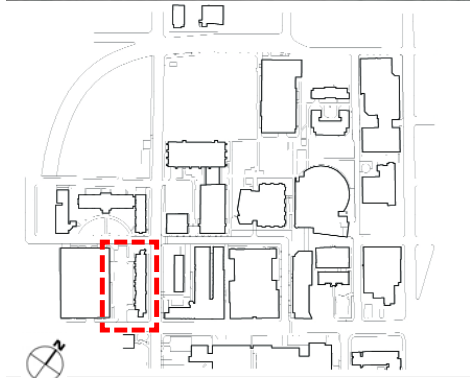
The 'greening' of Technology Plaza, presently an existing parking lot framed by the ECE building to the east, Faculty Memorial Hall to the north and Tiernan Hall to the west, recaptures a multifaceted open space for the Institute. The space provides a new entry to the campus along Warren announced by campus ID along the sidewalk. The plaza will create an important, direct pedestrian connection between the parking lot/future building site to the north with The Green, through Tiernan Hall.

The Plaza's alternating precast concrete paver banding creates a pedestrian gathering space furnished with café tables and chairs. Groves and allees of canopy and flowering trees frame the open space, and a passive recreation lawn provides a soft alternative for students. An iconic sculpture set in a colorful garden bed provides a visual focus for the surrounding spaces as well as creating a visual beacon from other campus areas.

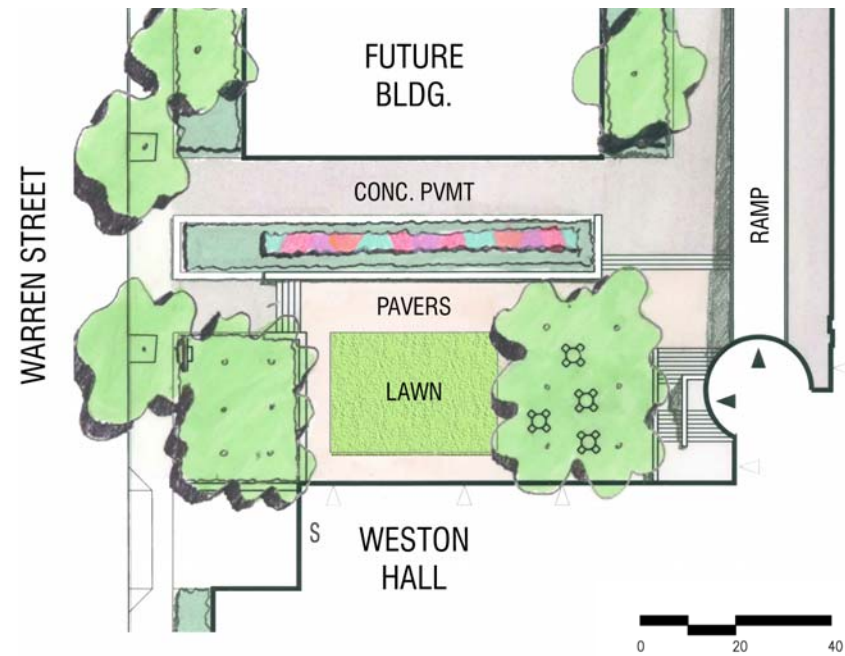


Taking an opportunity to reduce the double loaded parking area and oversized parking aisles between York Center and the Parking Deck, this recovered area strives to create a unique laboratory for environmental studies.

The design suggests narrowing the on-grade parking to one parking aisle and its circulation space. The area captured will provide a planted strip to soften the edge against the Parking Deck on the south and be used to create an environmental garden against the York Center. Working with the steep east-west gradient the garden is design to create a filtration landscape that flows through various phytoremedial plant species resulting in a clean water basin at the east. Viewing boardwalks bridge the garden laboratory and a gated garden wall secures the area.



The new plaza maintains the lawn spill out space for ground level meeting room for Weston Hall and adds cafe tables and chairs for seating. Stairs still connect to Warren Street and a linear garden creates a colorful buffer between this plaza and the anticipated entry of the future building to the west.

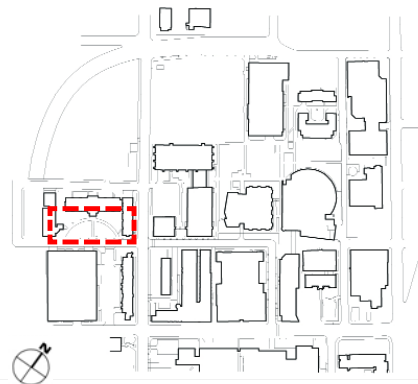
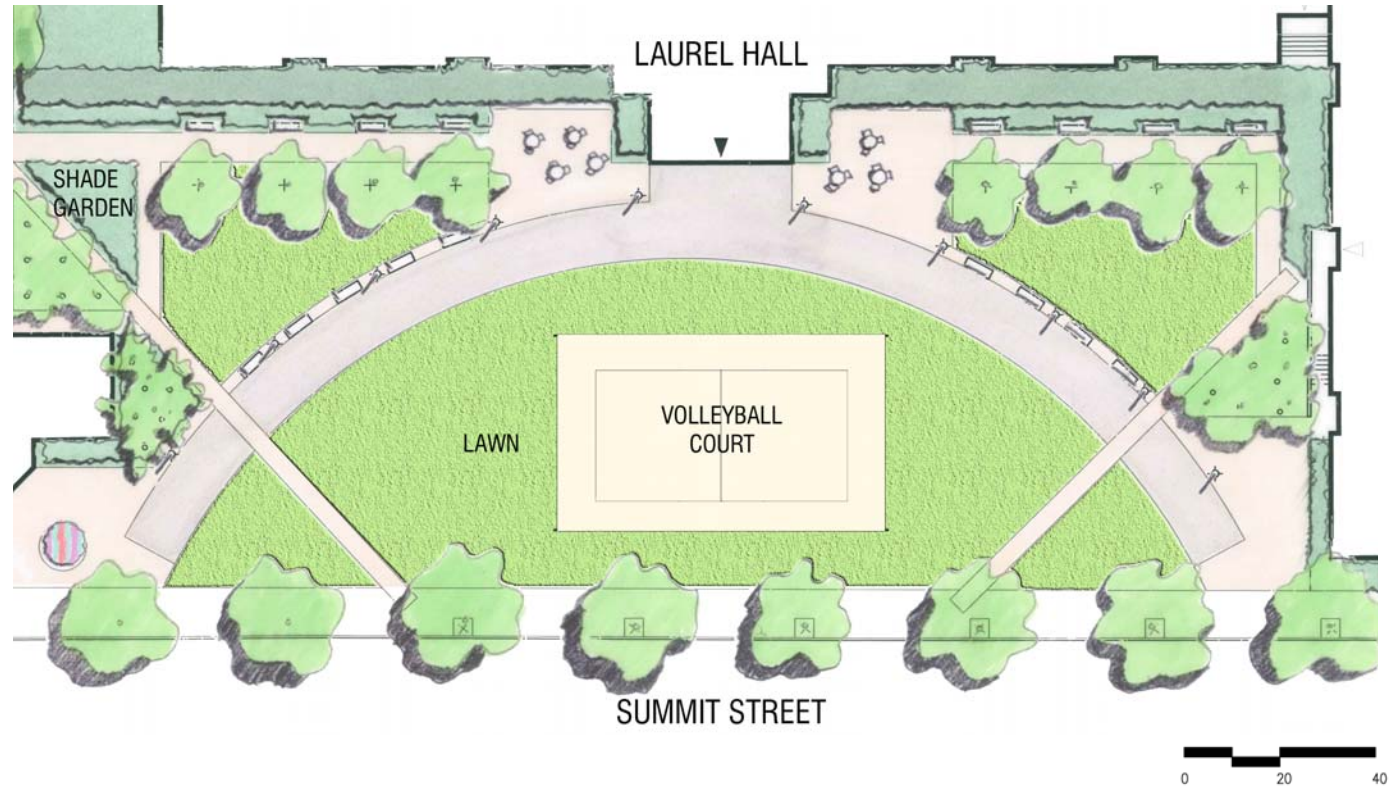


The plan proposes to breathe new life into this space by providing for multiple potential uses. Here active and passive recreation merge to create an environment that offers peaceful areas for study and quiet such as shade gardens, bosques of trees and passive lawns for sunning. These areas are located closest to the buildings.

The essence of the semicircular lawn is retained with the addition of a new volleyball court directly in the center of the lawn creating the opportunity for active recreation within the residential quad.

Diagonal pathways score the semicircle, creating direct links to previously underused areas of the landscape and create a geometry for smaller garden areas to frame the active lawn.

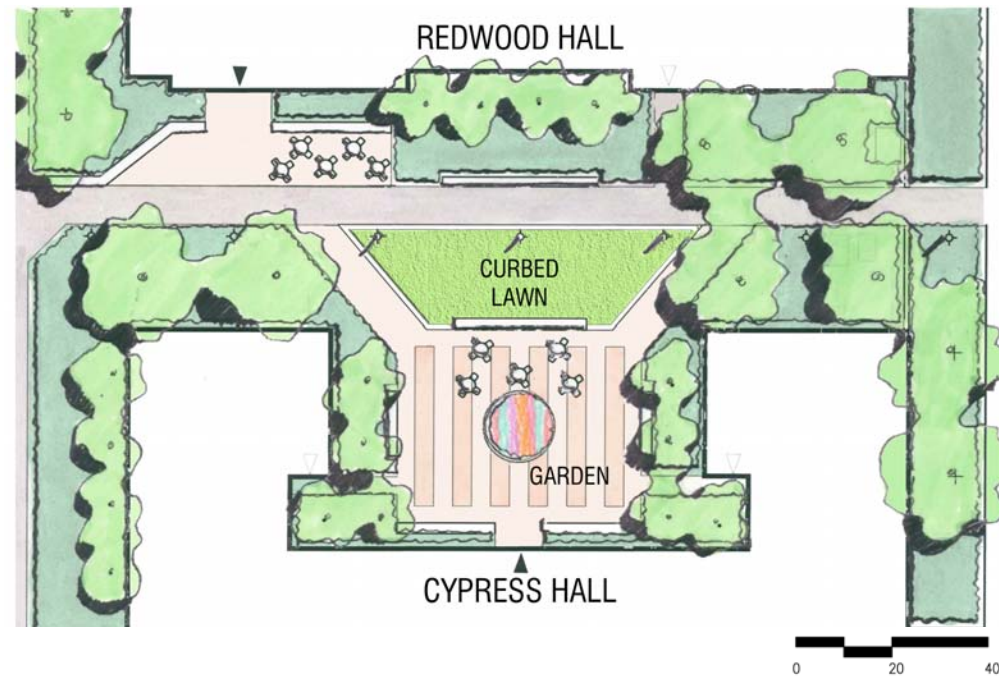
Two plazas border the entry to Laurel Hall. Furnished with café tables and chairs, precast paver patterns enhance the special nature of the plazas and link them to the passive recreation enclaves on both sides of the quad.



NORTH RESIDENTIAL COURTYARD

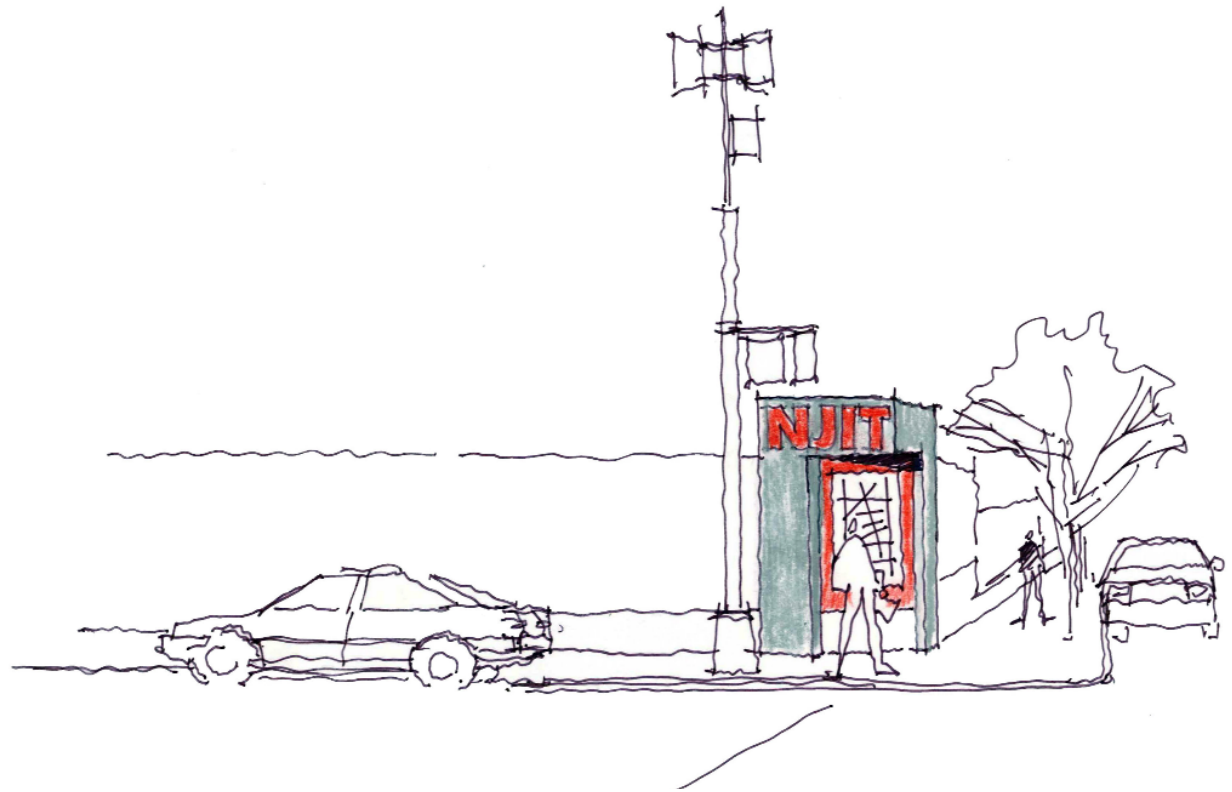
The space between Redwood and Cypress Halls has been redesigned to adapt to the various needs of the resident students. More light has been allowed into the courtyard by the removing some of the canopy trees that had created a dark, humid environment.

New plaza areas are edged with colorful flowering trees to create a sense of vitality and intimacy. Circulation routes are paved with concrete. Café seating is provided in two open plaza areas near the building entries, defined by precast paving. A centralized curbed lawn provides a soft surface for sunning, etc. Bench seating is located along the walkways, plazas and lawn for seating options throughout the courtyard. A large circular garden adds seasonal color throughout the year.



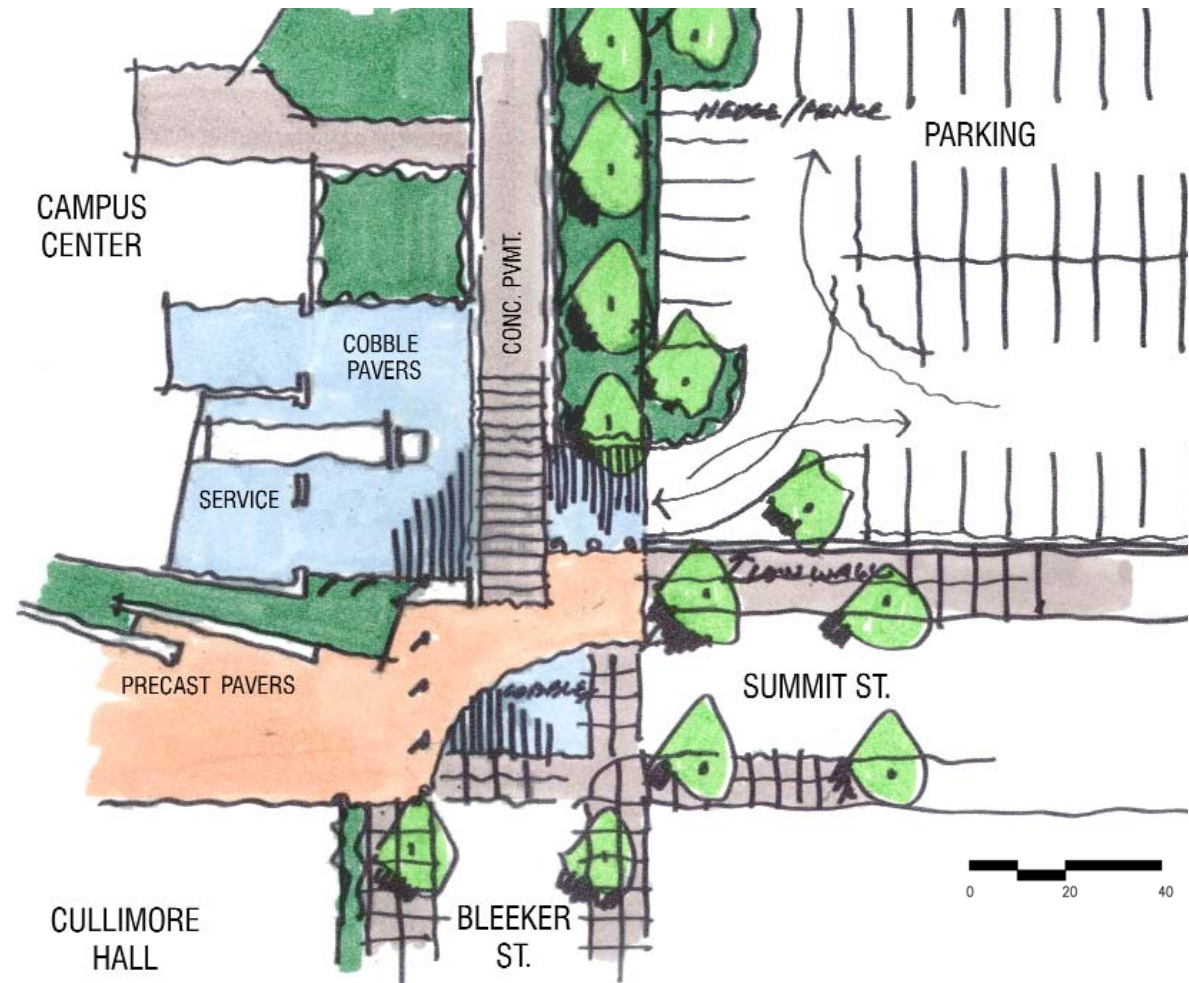
The boundaries of the campus should be identified to announce and create a definable entity within the community. Campus identification can take many forms and serve a multitude of uses including wayfinding, security devices and interactive displays.

Distinctive, iconic elements will define the campus corners and become the most identifiable symbol of the Institute for the general public.



The design seeks to create a safer, more pleasant pedestrian environment while preserving the necessary service-related functionality of the space. Conflicts between truck movements and pedestrian traffic cannot be avoided. It is the intent to minimize these conflicts. By bringing trucks through the parking lot, conflicts at the Bleeker Promenade occur only during truck backing in and pulling out. The extended Academic Plaza to the north controls pedestrian movement through the service area. The service area will be paved with cobblestone to further deter pedestrian movement.

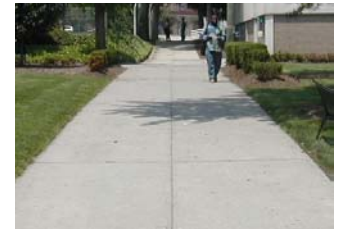
Traffic calming devices, such as narrowing the neck of Summit Street, changing pavements to visually and palpably define pedestrian crossings, setting bollards to inhibit pedestrian/vehicular conflicts, signage and the strategic use of planting are designed to create a safe pleasant environment.



PHASE PROJECT

- I ■ Eberhardt Hall
- South Green/ Volleyball Court
- II ■ Central Ave Bldg. Plaza
- Campus Center Service Area
- Bleeker Street
- III ■ Summit / New Street
- Campus ID / Gateway
- IV ■ Technology Plaza
- V ■ S. Residential Courtyard
- N. Residential Courtyard
- VI ■ York Center
- VII ■ Colton Hall
- VIII ■ Guttenberg Corner
- IX ■ Streetscape
- Completed Projects





PAVING



SITE FURNISHINGS



FENCE, HANDRAILS AND BOLLARDS



CONCRETE STAIR AND PRECAST WALLS



LIGHTING



TREES



EVERGREEN TREES



ORNAMENTAL TREES



EVERGREEN SHRUBS



DECIDUOUS SHRUBS



GROUND COVER AND GRASSES



FLOWERS

The development of this Landscape Master Plan has been an extremely successful effort through which NJIT and Thomas Balsley Associates have collaborated to create a new and exciting campus environment.

This document sets forth guidelines for site work on campus that will ensure rational, effective and cohesive implementation of all future phases.