



CONNECTICUT STATE COLLEGE & UNIVERSITY SYSTEM

NAUGATUCK VALLEY COMMUNITY COLLEGE MASTER PLAN

JUNE 2016



PERKINS+WILL



CONNECTICUT STATE COLLEGE & UNIVERSITY SYSTEM
NAUGATUCK VALLEY COMMUNITY COLLEGE
MASTER PLAN

JUNE 2016

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ACKNOWLEDGEMENTS

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TECHNICAL APPENDIX (SUPPLEMENTAL DOCUMENT)





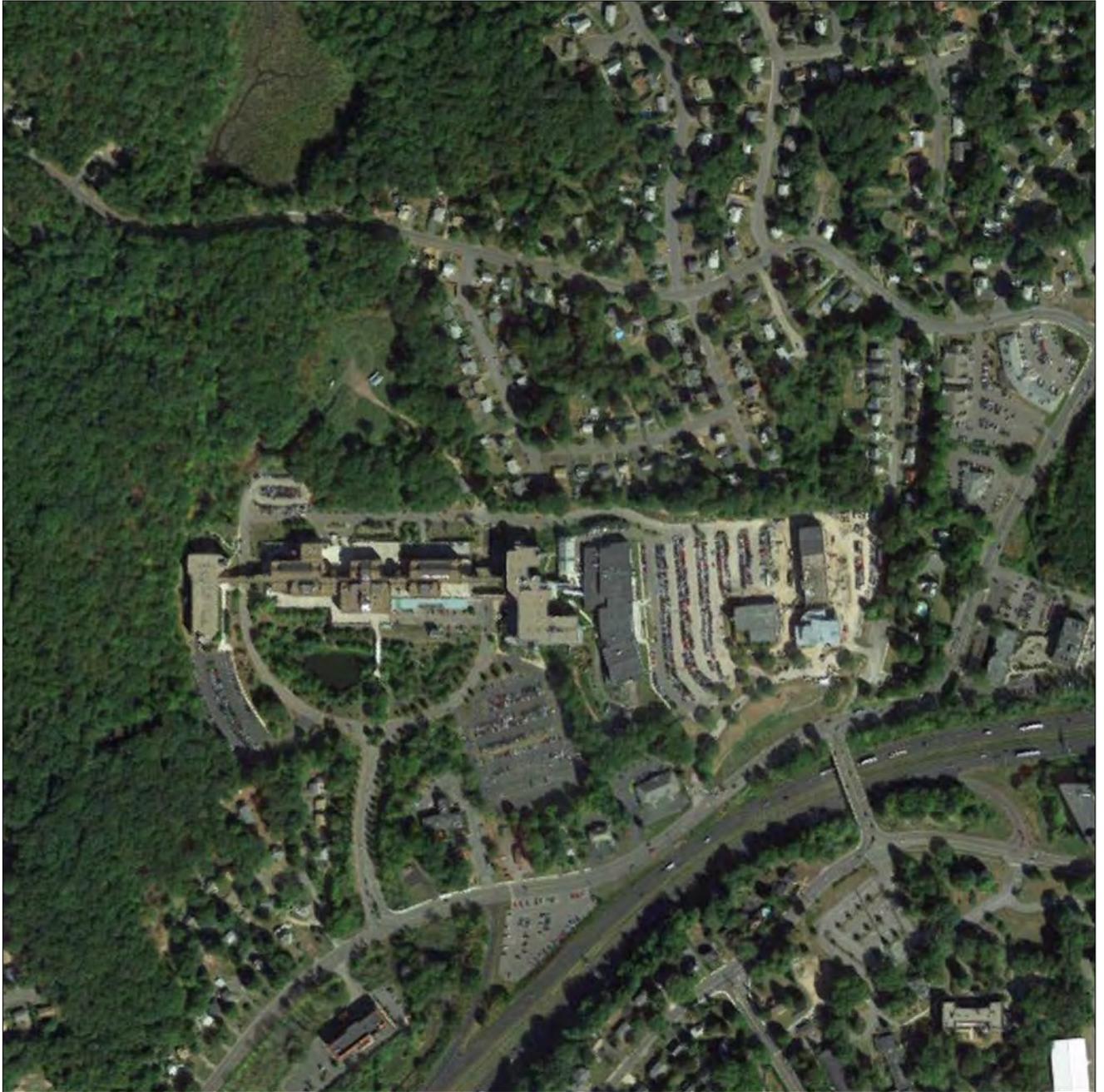
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EXECUTIVE SUMMARY



The Campus Today

EXECUTIVE SUMMARY

The Master Plan for Naugatuck Valley Community College reflects a collaborative, interdisciplinary effort that engaged leadership and stakeholders from across the College and CSCU for seven months. A core goal for the Plan is to optimize the use of existing facilities and identify the most important projects needed for new and renewed buildings. Promoting sustainability in land use, buildings, operations, energy and resource use was also fundamental.

The Master Plan Team comprehensively assessed Naugatuck Valley's existing main campus – its context, access, land use, buildings, circulation, landscape and infrastructure. The team also assessed the existing and projected 10-year enrollment figures and the range of academic and other programs. This work served as a foundation for understanding current constraints and for framing capital projects in the Master Plan to meet the College's high priority needs in the next 10-year period.

Naugatuck Valley's main campus in Waterbury is well located off I-84 and Route 8, and is fronted by Chase Parkway. It has significant open space both in the core and Glacier Ridge natural area to the west. The west entrance serves as the primary access point, with the crescent-shaped access drive serving Kinney Hall, the ASL / Core complex, and Ekstrom Hall. The east side of campus includes Technology and Founders Halls, and has a secondary vehicle entrance. The generic character of several of the 1980's era buildings is largely offset by the green setting, including twelve themed gardens.

EXISTING CONDITIONS

Key Facts

- Campus: 115 acres total / 49 acres in core area
- 2015 Enrollment: 3,950 (FTE, degree credit)
- 2025 Projected Enrollment: 4,898 / +24% (FTE, degree credit)
- Development: 5 Buildings* / 616,450 GSF
- A new Health Sciences building is in construction at Founders Hall. This project was considered an existing condition for the purpose of projecting space needs
- Parking: 1,777 spaces in 2 garages, multiple surface lots
- Transit: bus access, campus and proposed Danbury shuttle

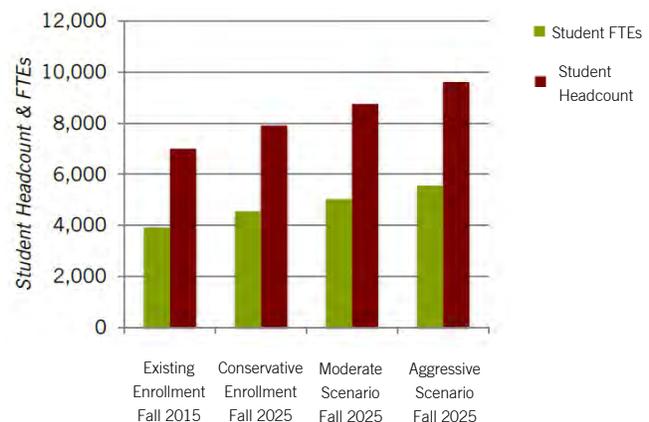
*Assuming the Core and ASL Complex as one building.

Key Findings: Existing Conditions

- Miscellaneous businesses occupy much of the College's Chase Parkway frontage.
- The College would benefit from greater visibility along Chase Parkway
- Entrances to buildings in the west campus are difficult to identify
- The arrival experience should be more clearly organized and welcoming
- "Fifth Avenue" is NVCC's defining circulation spine which connects the complex of buildings at Level 5
- NVCC's space per student compares favorably to its sister CSCU Colleges
- Building accessibility and space quality need significant improvements
- There is an acute need to upgrade classrooms and science labs
- The campus has remaining development capacity
- The campus lacks a defining, focal open space to support the campus community
- Parking is sufficient for the current population, but must expand when enrollment grows
- NVCC is a leader in advanced manufacturing technology training, allied health partnerships and industry partnerships

ENROLLMENT

In preparation for the Master Plan, the College prepared three enrollment scenarios. The conservative scenario projected 13% growth in the next 10 years; the moderate 24% and the aggressive 36%. The College proposed the moderate scenario as the basis for physical planning for the next 10-year period. The Board of Regents reviewed and approved the projected enrollment.



SPACE NEEDS

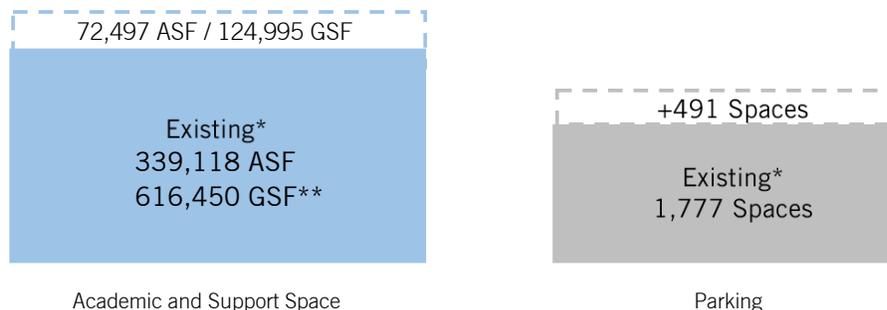
The space projection for academic, support and administrative needs reflects a comprehensive process that factored strategic and academic goals, current and projected approved enrollments by department, analysis of existing space utilization and benchmarking, and over 26 interviews with faculty, students, staff and industry partners. The work was led by an experienced academic space programming consultant. For the current enrollment, there is a space surplus of 693 assignable square feet (ASF). For the projected enrollment, there is a need for an additional 72,497 ASF / 124,995 gross square feet (GSF). A significant portion of this expansion for library, student services and student activities.

The quality of space was considered as much as the quantity. Providing new science laboratory space to replace obsolete facilities and support the College's mission in STEM education is a very high priority. Another high priority is modernizing classrooms throughout NVCC to provide more suitable, flexible space for 21st Century teaching with supportive technology, furnishings and infrastructure.

Parking

As the enrollment grows 24%, a proportional increase will be needed in the parking supply for 491 additional spaces to meet the projected demand for students, faculty and staff. This is based on current parking utilization and benchmarking parking to enrollment at other regional community colleges. Additional spaces will be needed to replace those lost to development.

EXPANSION NEED



*Including Founders Hall

**As calculated through building floor plan takeoffs

MASTER PLAN RECOMMENDATIONS

The Master Plan Recommendations comprise of the following project for new buildings, building renovations, open space, parking and infrastructure projects. Project priorities, phasing, and implementation considerations are described more fully in the main report.

Math and Science Building

This new 110,000 GSF building will address key needs for the Math, Biology, Chemistry and Physics departments that are now housed in obsolete space in Ekstrom Hall. The building will also have a student lounge space and a significant amount of classroom space. The proposed site is between Tech Hall and the newly renovated Founders Hall. The building will bridge the east and west campus divide and include a new quadrangle. Demolishing the vacant Founders Annex building will clear space for some replacement parking and for better setting off the new STEM Quadrangle.

Middle College (Location Recommendation)

NVCC would like to initiate a new Middle College to host high school students interested in STEM education. This facility has proven invaluable for preparing at-risk children for academic success elsewhere by immersing them in an environment that supports learning. The Master Plan identified a preliminary space program and locations for the Middle College. Funding would be separate from CSCU BOR, likely from the State Department of Education once the project is approved.

Maintenance Garage

This 1-story maintenance garage would be adjacent to a new parking lot at the north campus "Bone Yard." The 2,700 sf footprint would include a 5-bay vehicle garage, office area and a restroom.

Classroom Renovations

Classrooms in Kinney and Ekstrom will be upgraded and in some cases reconfigured to provide more flexible space with updated furnishings and technology to support a range of teaching methods.

Ekstrom Renovations

The sixth floor of Ekstrom will be largely vacated once Founders Hall opens. Repurposing this vacant space for classrooms, expanded IT and other functions is a first phase renovation. After the new Math and Science Building is completed and many spaces are vacated, a comprehensive renovation of Ekstrom is recommended to address accessibility, upgrade building systems and to relocate and expand the library.

Kinney Renovations

Kinney Hall requires comprehensive upgrades to replace HVAC systems, install sprinklers and address accessibility deficits. This work should be done concurrently with reconfiguration of spaces to accommodate programmatic needs, including expanding student service functions, select administrative areas.

ASL Renovations

This building complex requires comprehensive renovations to upgrade building systems, improve accessibility and reconfigure space to address functional needs. Once the Math and Science Building is completed and the Library relocated to Ekstrom, the vacated library space will be repurposed to be the bookstore on Level 5. The Bookstore on Level 3 will be repurposed as an art gallery, directly off the main lobby. Other areas will expand to increase student activity space and provide needed expansion for academic departments. The Public Safety Department will also need to be relocated from its current facilities in the Core building.

Parking Garage

A new 645-space garage is recommended to accommodate the 24% enrollment growth. The preferred location is Lot D south of Ekstrom. This project is not needed for the current enrollment.

Terrace Gardens

Building on the success of NVCC's gardens supported by the Horticulture Program, the Master Plan recommends planting areas to enhance the expansive concrete deck over the Core parking podium. This deck serves as the entrance level to the ASL Building. By converting underutilized hardscape areas to gardens with perimeter seating, this project will continue to enhance the College's setting and visual appeal.

Glacier Ridge Trail Improvements and Amphitheater

This project will strengthen the use of this natural area west of the College core for teaching, recreation and events. The existing trail system would be improved and a new outdoor amphitheater built to host events, performances and other activities.

Relocate Cooling Tower

To create a more appropriate appearance at the “front door” to the campus core, this project will relocate the large, double cell cooling tower from south of the Core to north of the Core in a concealed wooded area.

The team carefully considered implementation and feasibility in framing the Master Plan recommendations. Some projects require swing space or other enabling projects to be built first. These projects were identified in a phasing plan. The team also worked with the College Master Plan Advisory Committee to assign projects to two priority categories. The Master Plan includes order-of-magnitude construction cost estimates and estimated total project costs to serve for capital budgeting purposes.

A separate Technical Appendix supplement this volume with an Energy Master Plan component for Naugatuck Valley and other background data for future reference by facilities staff.

The Master Plan for Naugatuck Valley aims to blend vision and pragmatism, flexibility and guidance. The strategy, principles, approach and projects together will serve as a roadmap for capital investment for the next 10-year period and beyond to meet the College’s most pressing needs and thereby support its strategic goals and mission.



Concept Rendering: Math Science Building and New STEM Quadrangle

MASTER PLAN RECOMMENDATIONS

New Buildings

- 1. Math and Science Building
- 2. Vehicle / Maintenance Garage
- 3. Middle College High School, potential location

Building Renovations

- 4. Kinney / Ekstrom Classroom Renovation
- 5. Kinney Comprehensive Renovation
- 6. Ekstrom L6 Renovation
- 7. Ekstrom Comprehensive Renovation
- 8. ASL Renovations, Phase 1
- 9. ASL Renovations, Phase 2

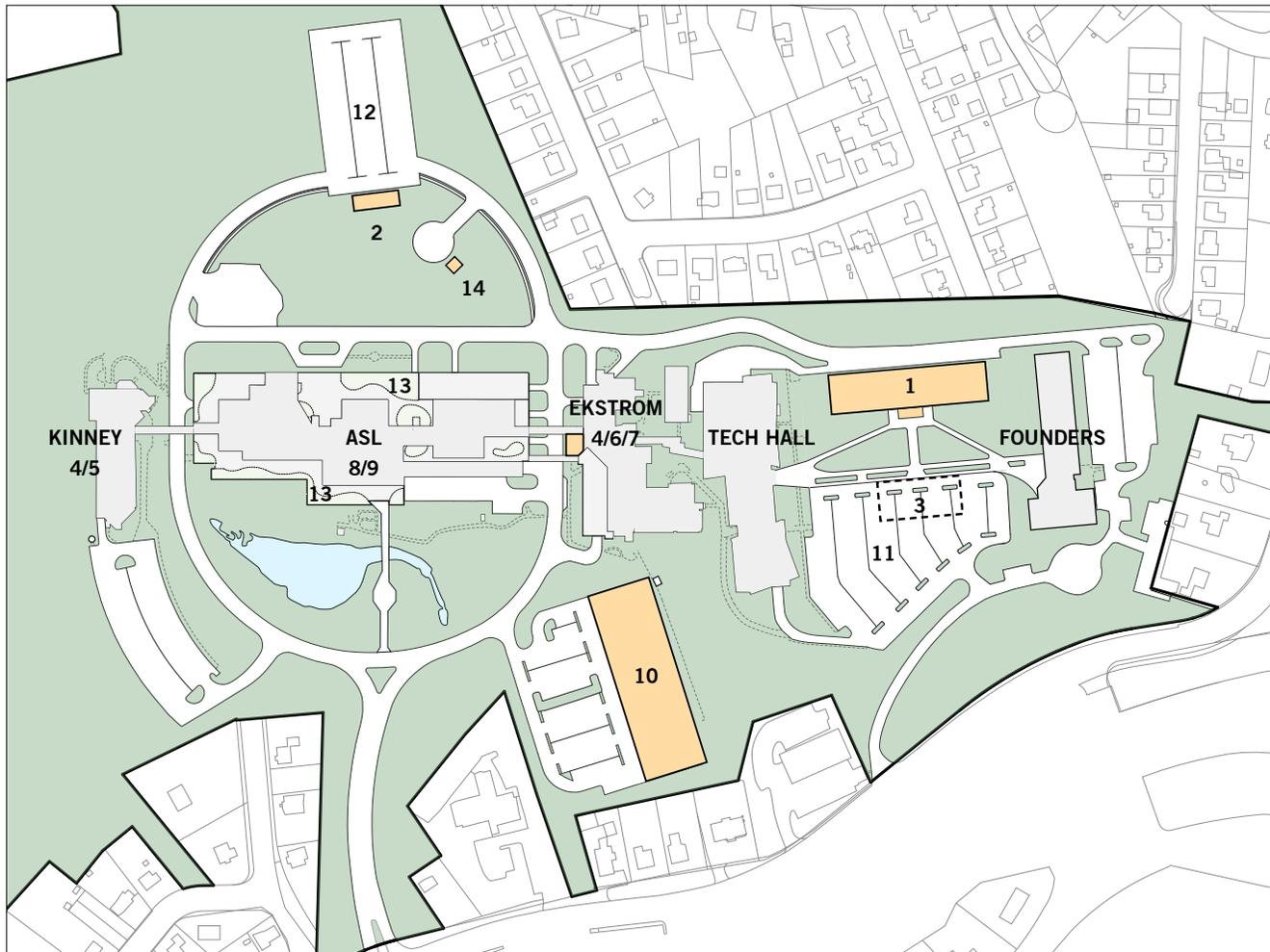
Roads / Parking / Open Space

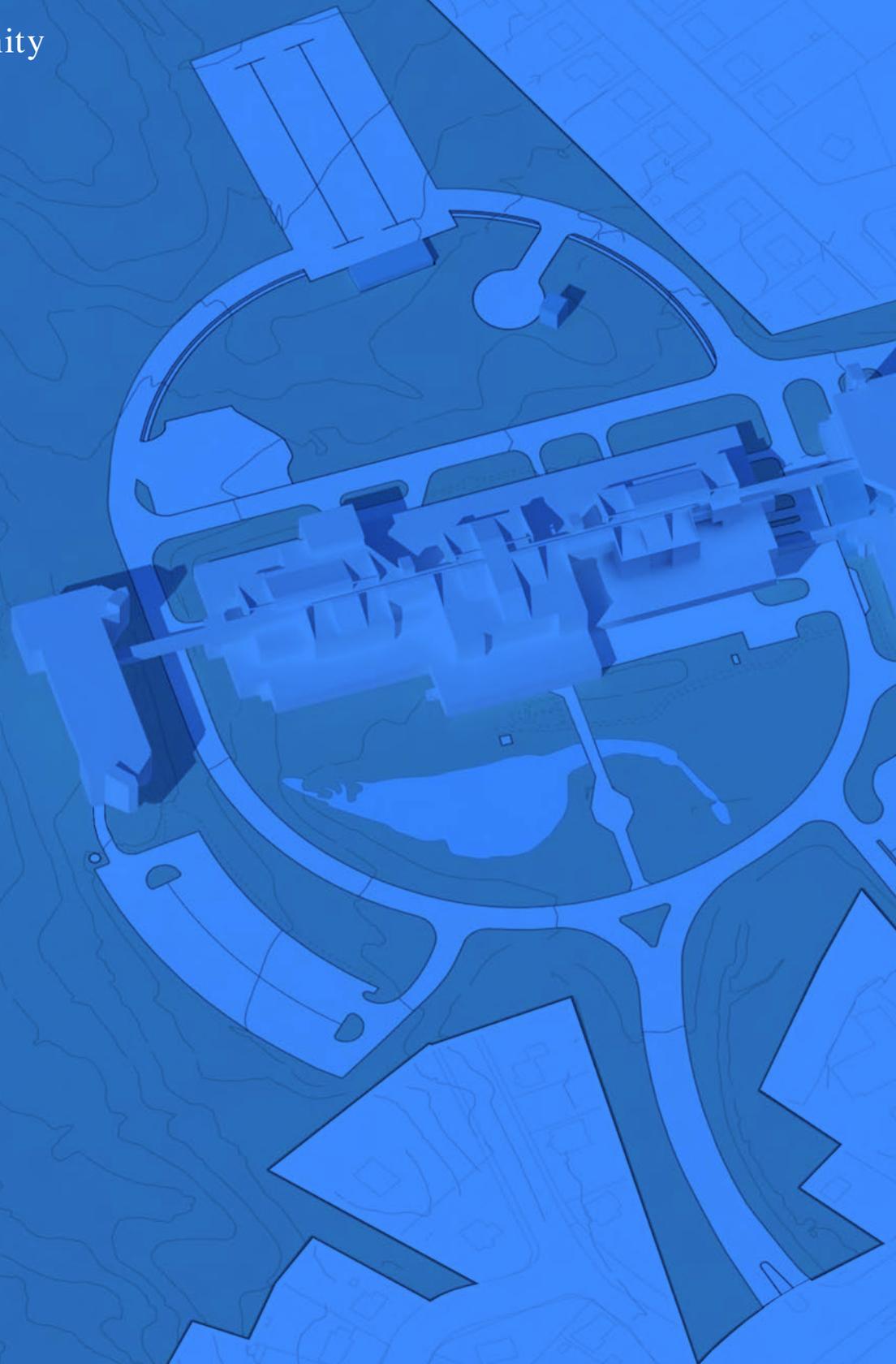
- 10. Parking Garage
- 11. Demolish Founders Annex, Expand Parking Lot
- 12. Overflow Parking Lot
- 13. Roof Garden(s) above Core Garage

Infrastructure Projects

- 14. Relocate Cooling Tower

(Projects not listed in order of priority or intended sequence)







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CSCU SYSTEM CONTEXT

The Master Plan for Naugatuck Valley Community College responds to the vision and mission of the Connecticut State Colleges & Universities (CSCU) Board of Regents, as well as NVCC's Mission Statement. As one of the twelve community colleges, Naugatuck Valley was the first to prepare its plan.

Naugatuck Valley's main campus is located 2 miles from downtown Waterbury and 32 miles from Hartford. The College has a satellite campus in Danbury, in leased facilities. The focus of this master plan is on capital needs for the main campus.

Our Vision for CSCU

The Connecticut State Colleges & Universities will continually increase the number of students completing personally and professionally rewarding academic programs.

CSCU's Mission Statement

The Connecticut State Colleges & Universities contribute to the creation of knowledge and the economic growth of the state of Connecticut by providing affordable, innovative, and rigorous programs. Our learning environments transform students and facilitate an ever increasing number of individuals to achieve their personal and career goals.

Connecticut Community Colleges Mission Statement

As part of the CSCU system, the twelve Connecticut Community Colleges share a mission to make excellent higher

education and lifelong learning affordable and accessible. Through unique and comprehensive degree and certificate programs, non-credit life-long learning opportunities and job skills training programs, they advance student aspirations to earn career-oriented degrees and certificates and to pursue their further education. The Colleges nurture student learning and success to transform students and equip them to contribute to the economic, intellectual, civic, cultural and social well-being of their communities. In doing so, the Colleges support the state, its businesses and other enterprises and its citizens with a skilled, well-trained and educated workforce.

NVCC Mission Statement

Naugatuck Valley Community College offers quality, affordable education and training in response to evolving community needs by providing opportunities to individuals and organizations to develop their potential.

NVCC Vision

At NVCC, the word "community" is central and our students are considered our most sacred trust and finest asset. Collaboration within and outside the confines of our immediate surroundings defines our actions and is the base for the rich intellectual, educational, cultural and civic-minded experiences we provide our students.



GOALS AND OBJECTIVES

Intent

The Master Plans for the Connecticut State College and University System will derive capital needs based from space utilization, academic and student life program projections and facility conditions projected over the next 10-year period. The Master Plan for each college will reflect system-wide goals and projected demographics.

Goals

Through a collaborative effort between college stakeholders, the Board of Regents and the consultant team, the Master Plan will integrate the system-wide Strategic Plan and the college mission into a comprehensive vision that promotes the advancement of higher education through state-of-the-art planning projections over the next decade. Concepts will reinforce current and institute new long-term strategies that guide university decision making for capital investment.

Objectives

The following objectives will guide the Board of Regents Master Plan at each college:

- The Master Plan will respond to the institution's mission, demographics and projected future enrollment
 - Program space needs will reflect best practice standards and address emerging higher education goals
 - Land planning will balance guidance and flexibility, long-term development capacity and stewardship
 - The Master Plan will optimize the use of existing facilities in the utilization of space, the location of functions, and the renewal of buildings to meet future needs.
 - Proposed new buildings will reflect realistic program need and will be used to the greatest extent feasible to enable needed renovations to maximize investment benefit.
 - Site access and circulation will be addressed in a comprehensive manner to support a safe, efficient and welcoming campus.
- Future development will strengthen the architectural and landscape character of the campus to foster a cohesive, attractive setting.
 - The Master Plan will integrate sustainability throughout and identify strategies for energy conservation.
 - Major campus infrastructure needs will be addressed to support university operations.
 - The resulting Master Plan will be a comprehensive vision comprised of a series of capital projects, with associated institutional priorities and phasing strategies.



TOWARD A SPLENDID COLLEGE: NVCC STRATEGIC PLAN, 2013-2016

NVCC's Strategic Plan comprises of the following 5 goals, each with its own objectives. These guided the physical planning.

1. At NVCC, students achieve their goals

- Deepen the College-wide advising program
- Assess and fine tune first year learning communities
- Redesign remedial and developmental course offerings

2. NVCC faculty and staff make a difference

- Expand faculty and staff development
- Deepen volunteering, mentoring and service learning
- Improve equity and outcomes for underrepresented groups

3. NVCC programs meet and beat academic and industry standards

- Strengthen liberal arts, general education and transfer
- Improve job placement efforts
- Incorporate 21st C. technology inside and outside the classroom

4. NVCC is an engine of change within Waterbury and the broader community

- Build partnerships and community presence in the Waterbury, Danbury, Naugatuck and the broader service region
- Enhance pre-collegiate pathways to higher education
- Build workforce pathways in high-demand careers

5. NVCC is an effective, performance-based institution

- Fashion a comprehensive development and communications strategy
- Link data to decision-making for greater institutional effectiveness
- Build campus infrastructure and access



PLANNING PROCESS

PROJECT TIMELINE

The Master Plan is organized in three main Tasks.

Task 1. Initiation	July to September 2015
Task 2. Assessment	October to December 2015
Task 3. Recommendations	December to April 2016

PROJECT OBJECTIVES

Task 1

- Establish the Advisory Committee, confirm project objectives and communications protocol.
- Collect data on the College today
- Establish the project schedule and milestones.

Task 2. Assessment

- Understand the history, mission and academic objectives of the College.
- Analyze buildings and grounds to understand space use, physical conditions, constraints and opportunities for campus development
- Undertake a needs analysis and project 10-year space needs based on approved enrollment projections and academic goals.

Task 3. Recommendations

- Develop guiding design principles strategy.
- Assess pros and cons of potential development alternatives and assist the Advisory Committee in selecting the preferred approach
- Refine the master plan elements for buildings, landscape and infrastructure.
- Prepare cost and phasing information.
- Document and present final recommendations to the College

CAMPUS ENGAGEMENT

The Master Plan was a collaborative process, informed and guided by significant input from College stakeholders.

COLLEGE MASTER PLAN ADVISORY COMMITTEE

The consultant team met five times with the CMPAC, a group which included President DeFilippis, other senior administrators, faculty, staff and students. As a broad cross section of the College, the Committee provided invaluable insights into programmatic, functional and aesthetic aspects of the Plan. The student representatives also contributed important insights for how College facilities could be further strengthened to support student success.

PROJECT STEERING COMMITTEE

The consultant team conferred regularly with James Troup, Provost and Senior Dean of Administration of NVCC and Keith Epstein and Ahmed Beerman-Ahmed of CSCU to review the progress of the work and provide timely input to advance the work and maintain the project schedule.

PROGRAM INTERVIEWS

The consultant team conducted over 26 program interviews with a broad range of college stakeholders, including students, faculty, staff, industry partners and senior administration. The input informed the space need projections and the functional needs assessment.

FOLLOW UP MEETINGS

The team conducted several follow up meetings, in particular with the STEM faculty, to confirm the methodology for the space projections for the new Math and Science Building.



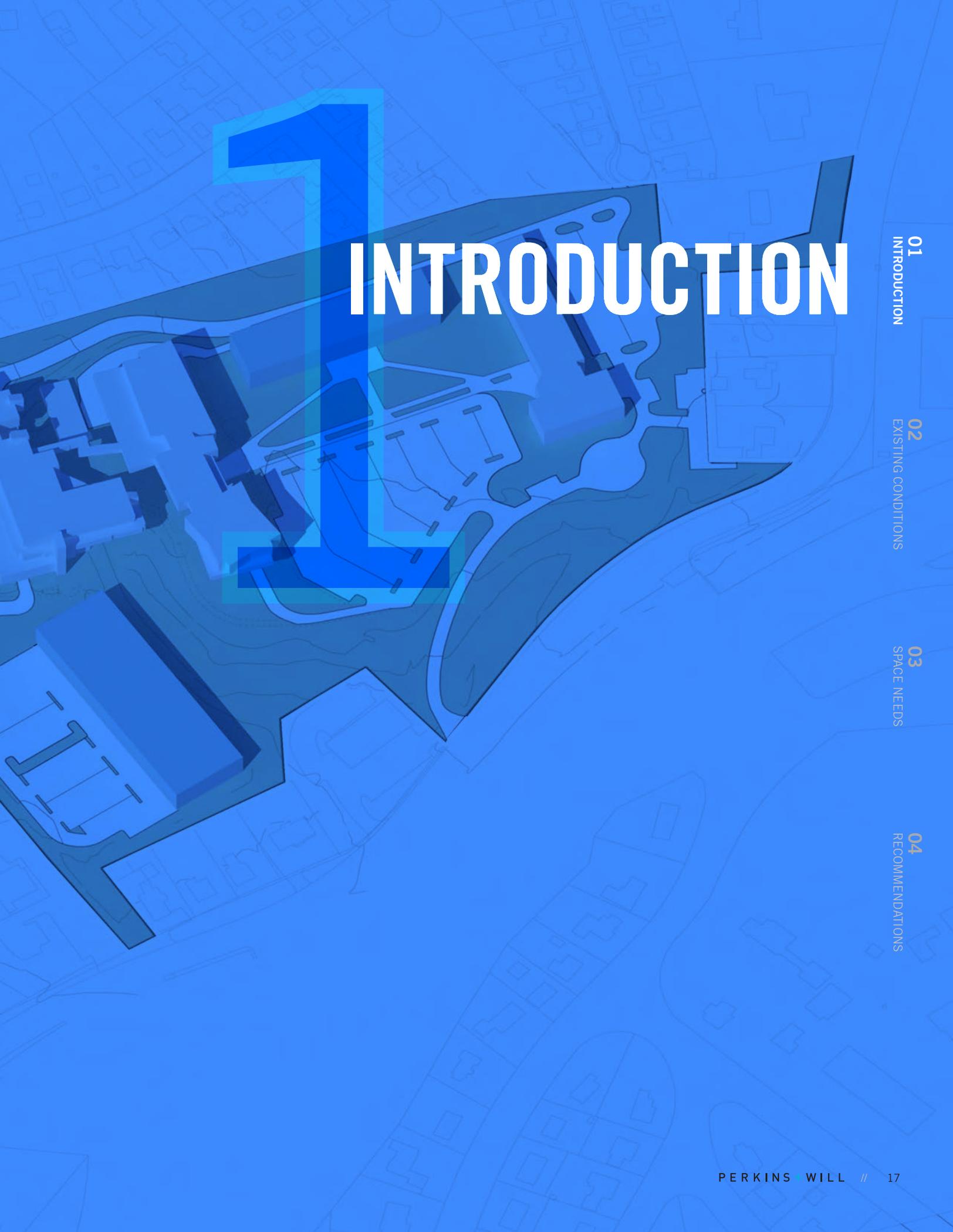
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- NVCC ACADEMIC STRUCTURE

THE CAMPUS

- CONTEXT
- LAND USE AND ZONING
- CAMPUS STRUCTURE AND SCALE
- CIRCULATION AND ACCESS
- ELEVATION AND TOPOGRAPHY
- FLOODPLAINS
- LANDSCAPE CHARACTER AND COLLEGE GARDENS
- PARKING
- CAMPUS SECURITY

THE CAMPUS

- ARCHITECTURAL CHARACTER
- BUILDING INVENTORY
- BUILDING USE
- BUILDING CONDITION
- CLASSROOM UTILIZATION

COMMITTEE SURVEY

ENERGY AND INFRASTRUCTURE

- HVAC
- ELECTRICAL SYSTEMS
- WATER SYSTEMS
- SEWER SYSTEMS
- NATURAL GAS

SUSTAINABILITY

OPPORTUNITY SITES

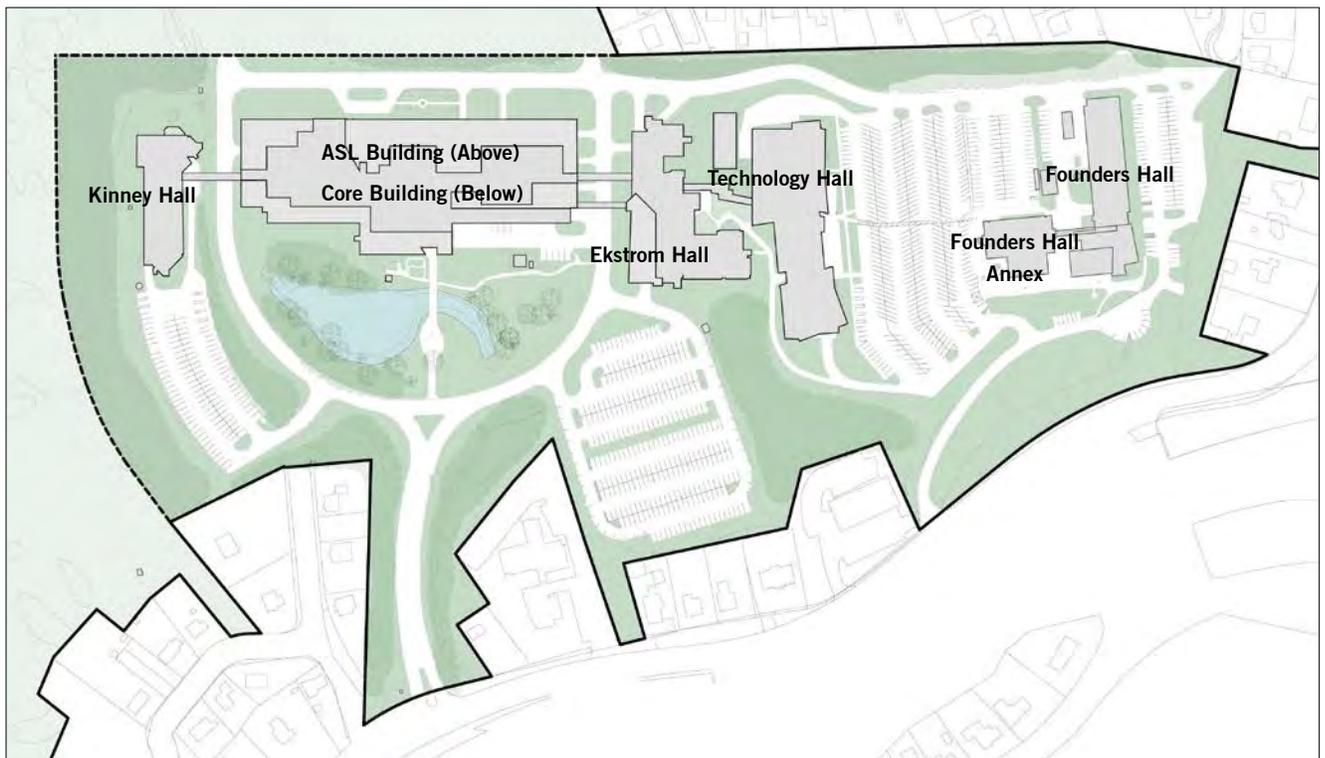


FIGURE 02.1 The Campus Today

THE INSTITUTION

HISTORY OF THE PHYSICAL CAMPUS

“Public college efforts in Waterbury date back to the 1930’s post-Depression era that idled high school graduates who were eager for jobs through education and training...”

The Works Progress Administration (WPA), in collaboration with the YMCA and Board of Education, offered classes at the YMCA. When funding was depleted, Waterbury Higher Education, Inc. was organized to campaign for the establishment of a University of Connecticut Branch in Waterbury. In 1955, the campaign succeeded and a branch campus was established at Hillside Avenue.

Waterbury, nicknamed *The Brass City*, began to see rampant growth in the area’s industries sector. In 1964, the Waterbury Technical Institute was opened in response to the parallel need for engineering technicians.

In 1967, it was announced that Waterbury would open a community college. With the intent to increase efficiency through shared resources, this step was intended to be the first in the creation of a Higher Education Center to house the new community college, the University of Connecticut (UConn) Waterbury branch and Waterbury State Technical College (WSTC).

Building began in 1972 for the Central Naugatuck Valley Higher Education Center. Construction of Phase II began in 1987. The years 1971 and 1972 saw the offering of the early childhood education and the nursing programs. By the fall of 1977, with the exception of some classrooms and labs, the Mattatuck Community College Building was opened to house students, faculty, administration and staff at a single campus site.

In 1992, Waterbury State Technical College and Mattatuck Community College merged, and officially renamed Naugatuck Valley Community College (NVCC).

NVCC ACADEMIC STRUCTURE

NVCC offers 90 degrees and certificates, as well as non-credit courses, seminars and workshops for professional development, career training and new technologies. NVCC includes a satellite campus, NVCC Danbury Campus, which is a degree-granting campus.

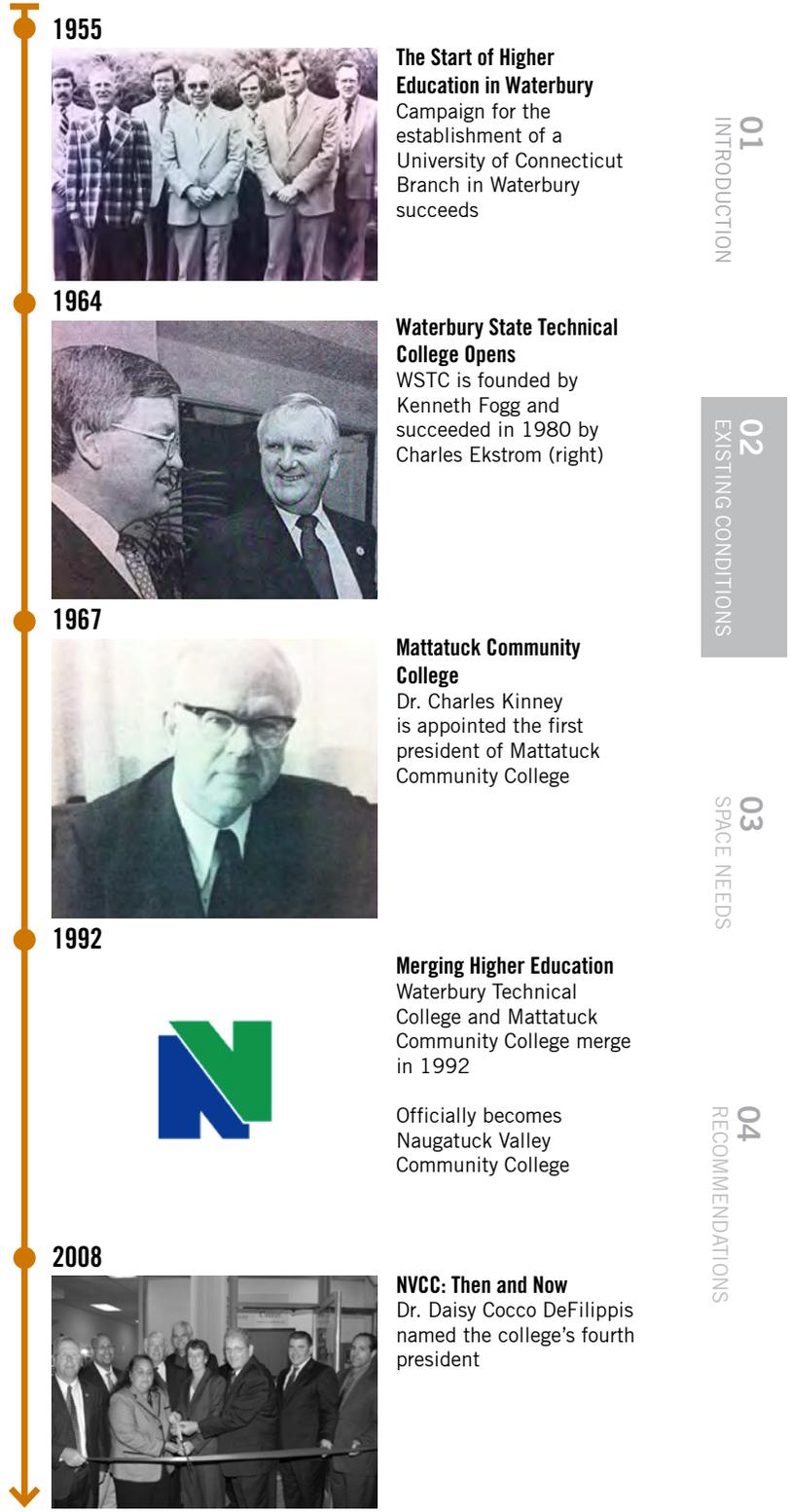


FIGURE 02.2 Historic Timeline

THE CAMPUS

CONTEXT

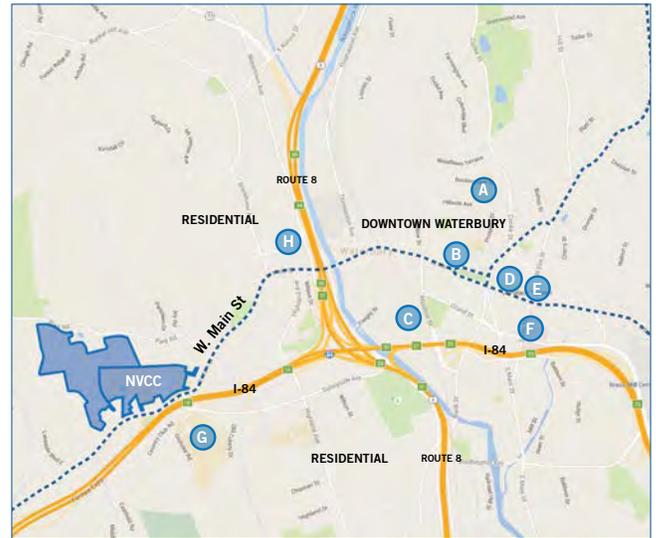
Regional Context

NVCC's campus is located in Waterbury, CT in the county of New Haven. It is situated off I-84, a major interstate highway that connects the campus to two of Connecticut's largest cities, Hartford and Danbury. Hartford lies 35 miles northeast, while New Haven lies 30 miles southeast. NVCC's satellite campus in Danbury, a recently leased and soon-to-be expanded space, is roughly 30 minutes southwest.

Downtown Waterbury is approximately a 20-minute bike ride and 10-minute drive. It is central to the Waterbury train station, Mattatuck Museum, Waterbury Hospital, Saint Mary's Hospital, as well as other institutions.

Area Context

NVCC's Waterbury campus is largely surrounded by single-family residential areas and open space. I-84 and Chase Parkway run parallel along the southern edge of campus. Professional offices, retail and other low-density uses line the Chase Parkway frontage.



- | | |
|--------------------------------------|----------------------------------|
| A Yeshiva K'tana of Waterbury | E Waterbury Police Dept. |
| B Mattatuck Museum | F Saint Mary's Hospital |
| C Waterbury Train Station | G Chase Collegiate School |
| D UCONN Waterbury | H Waterbury Hospital |

FIGURE 02.3 Area Context: Downtown Waterbury

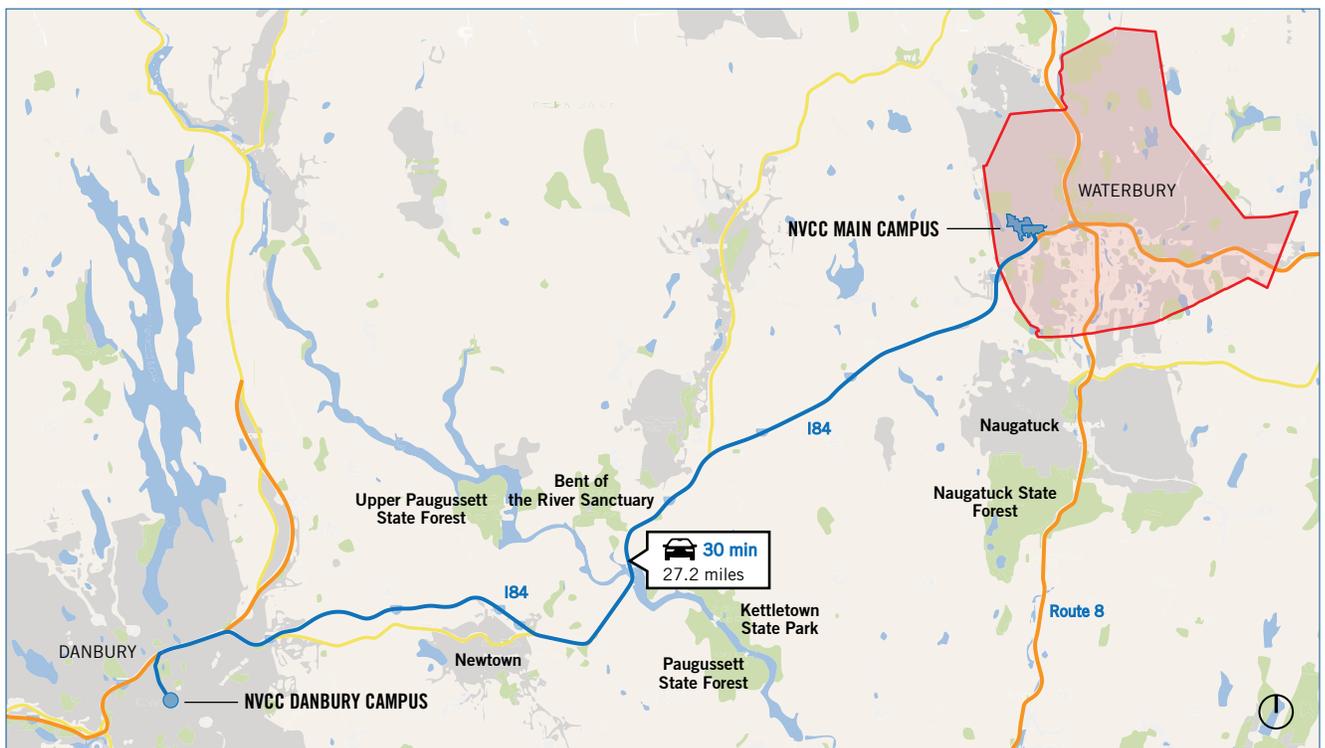


FIGURE 02.4 Regional Context

Public Transportation

NVCC has made efforts to improve accessibility and public transportation options for both Waterbury and Danbury students.

In 2015, NVCC partnered with the City of Waterbury and Saint Mary's Hospital to add a bus shelter and sidewalks along Chase Parkway to enhance the safety of pedestrians. Plans to extend the sidewalks farther east are ongoing

The CT Transit shelter serves the local 42 Chase Parkway line that connects NVCC to Downtown Waterbury and the Waterbury Metro-North Station.

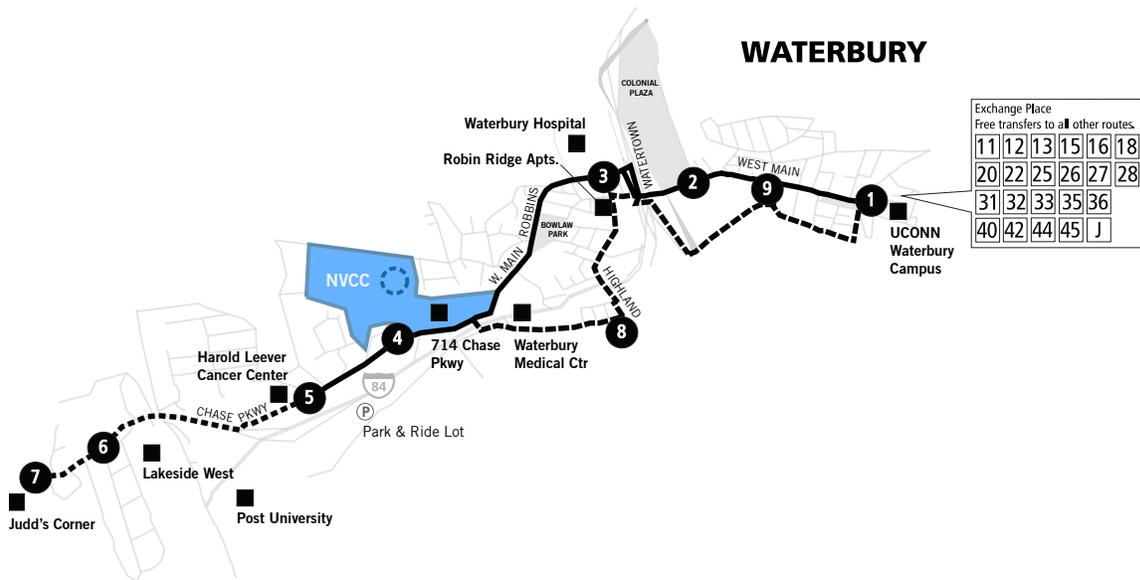
Evening bus service was initiated for the Waterbury campus and entire city as a result of college efforts in 2011.

Also in the Spring of 2015, the Student Government Association voted to extend the student-funded U-Pass program to the college's Danbury campus. NVCC Danbury students enrolled in credit courses are eligible for free and unlimited rides across the HARTransit system.



FIGURE 02.5 NVCC Bus Shelter on Chase Parkway

42 CHASE PARKWAY



MIDDLEBURY

FIGURE 02.6 CT Transit: 42 Chase Parkway Line

- Part-time Routing
- Evening Routing

LAND USE AND ZONING

The 115-acre campus comprises two main parts: the Glacier Ridge Trail area and the “Core Campus”.

The Glacier Ridge Trail area has considerable topography, existing tree cover and recreation areas, making it unsuitable grounds for future campus expansion. At 70 acres, it captures roughly two-thirds of the campus’s land. The Core Campus occupies the remaining 40 acres and is a dense mixture of academic buildings, gardens/landscape areas, roads, and parking.

The Campus occupies RS and CO Waterbury zoning districts. As a state-owned institution, the campus is exempt from zoning. Areas surrounding the campus are zoned a mixture of RS - 12 - Large Lot Single Family Residential and CO - Commercial Office.

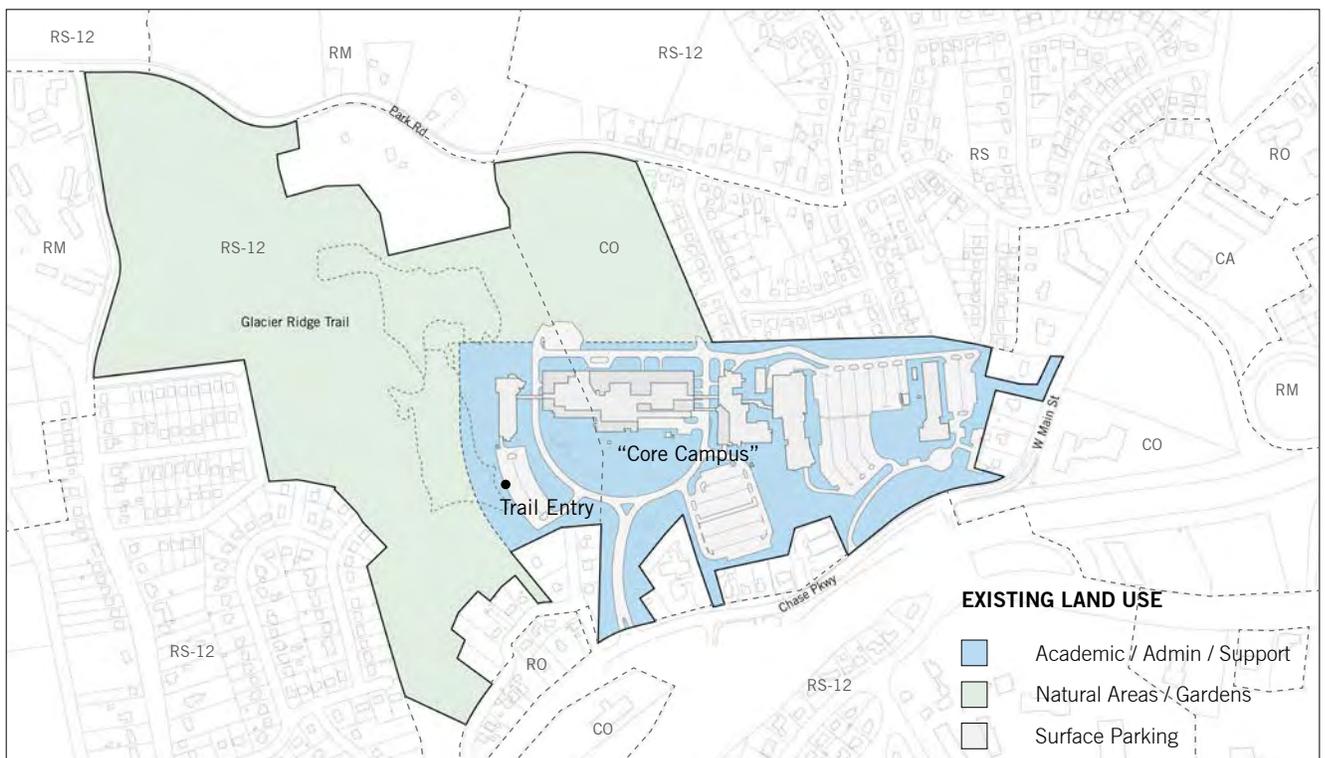


FIGURE 02.7 Existing Land Use and Zoning Districts

CAMPUS STRUCTURE AND SCALE

The Core Campus is arranged along a continuous east-west line. Each building, from Kinney Hall to Tech Hall, is connected along “5th Avenue”, a 1/4-mile-long uninterrupted interior circulation spine.

Over time, programs have been relocated, and spaces renovated, to transform 5th Avenue into the social and student spine of the Campus. Informal gathering spaces, student services and amenities are located on this level to maximum their use and visibility.

Future landscape improvements to the parking lot between Tech Hall and Founders Hall will extend the 5th Avenue axis further east, completing the spine from the west to the east side of Campus.

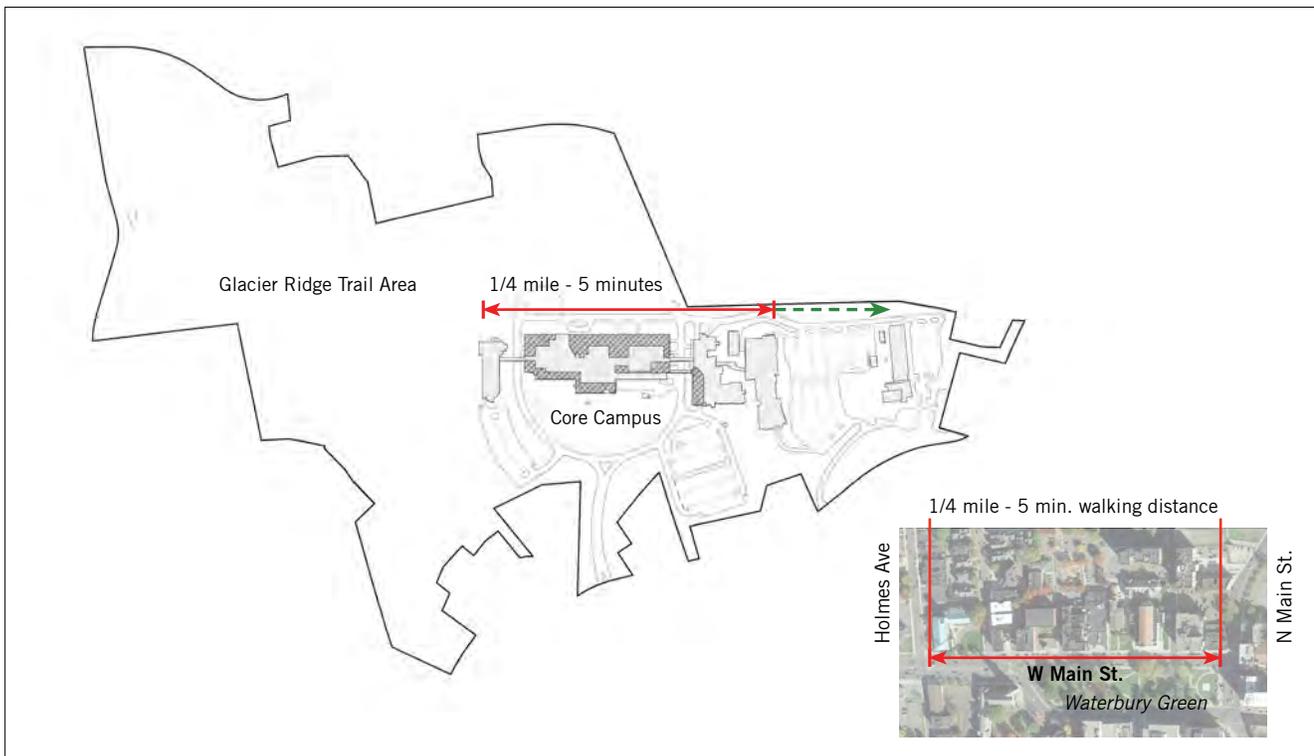
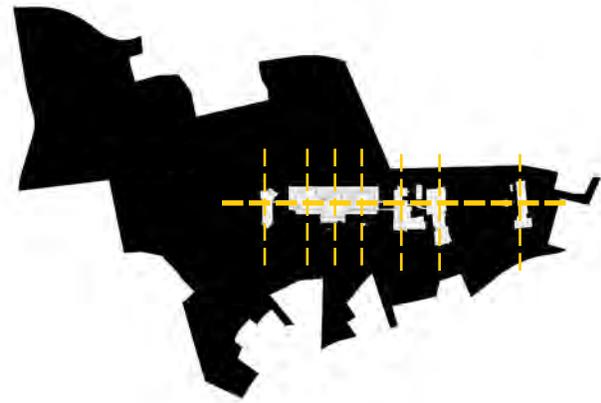


FIGURE 02.8 Campus Scale and Comparison to Downtown Waterbury

CIRCULATION AND ACCESS

NVCC has two primary entries to Campus from Chase Parkway. To the west, Ruth Parsons Drive is the ceremonial entrance to campus. This tree-lined drive is on axis with a horseshoe loop road that forms the southern edge of the Arboretum. Future planned improvements to this area will include new sidewalks that will provide safe passage for pedestrians between campus and Chase Parkway. To the east, an access road leads to Founders Hall and Lot E.

The east entry off Chase Parkway brings traffic directly to the parking lot between Tech Hall and Founders Hall. The main advantage of this entry is that this parking lot delivers visitors to Founders ground floor, which is the east end of 5th Avenue. All other access points to 5th Avenue require vertical circulation from ground level. This disorients many visitors to campus and is another barrier to engaging with the social and student amenities on 5th Avenue.

The Campus was originally conceived with building “front” doors located on the north side of the campus. Evidence of this northern entry concept remain in the drop-off and parking garage entries on the north side of the ASL building. Despite the original intentions, space constraints, service entries and topography have forced most building entries to east and west sides of the remaining buildings. This is likely to be the pattern moving forward.

LEGEND

- ✱ Campus Main Entry
- Building Entries
- S Service / Loading
- - - - - Pedestrian Connection
- — — — — Campus Road
- - - - - Arterial Road

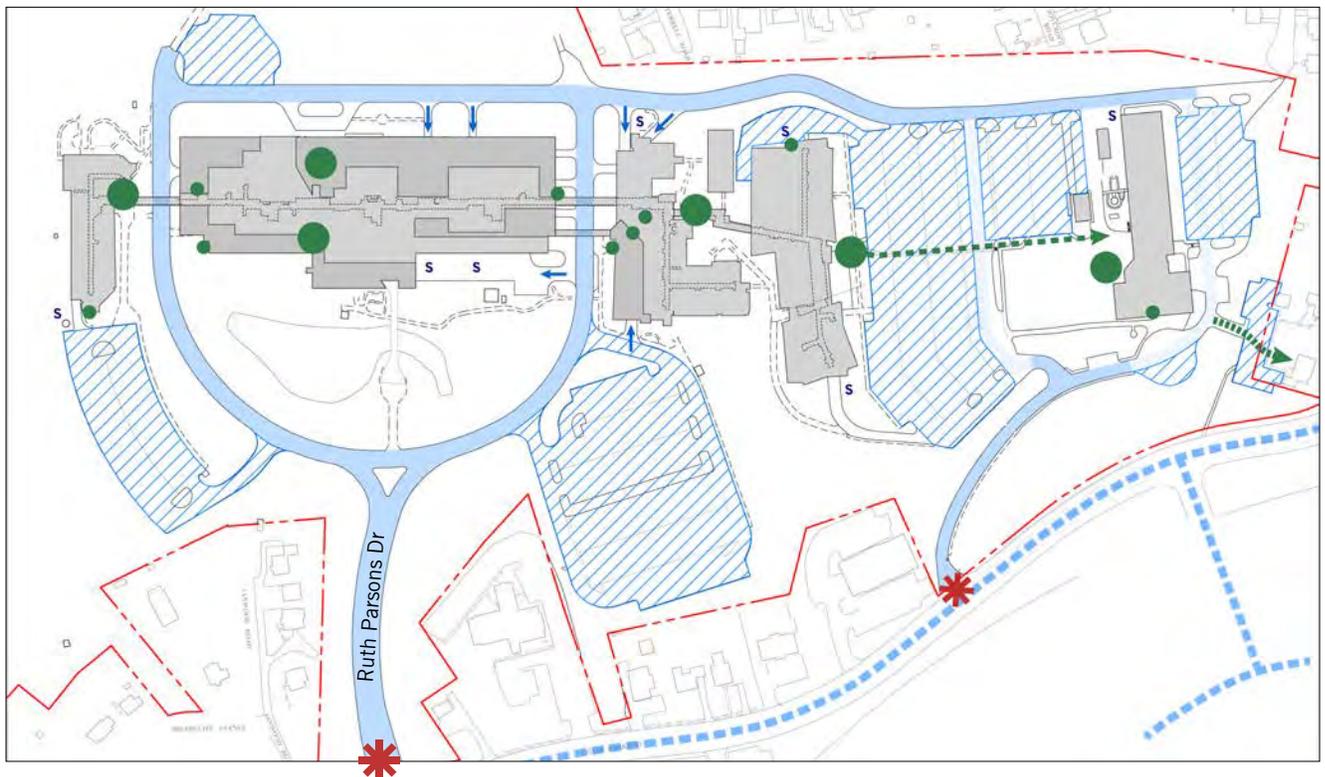


FIGURE 02.9 Existing Circulation and Building Access

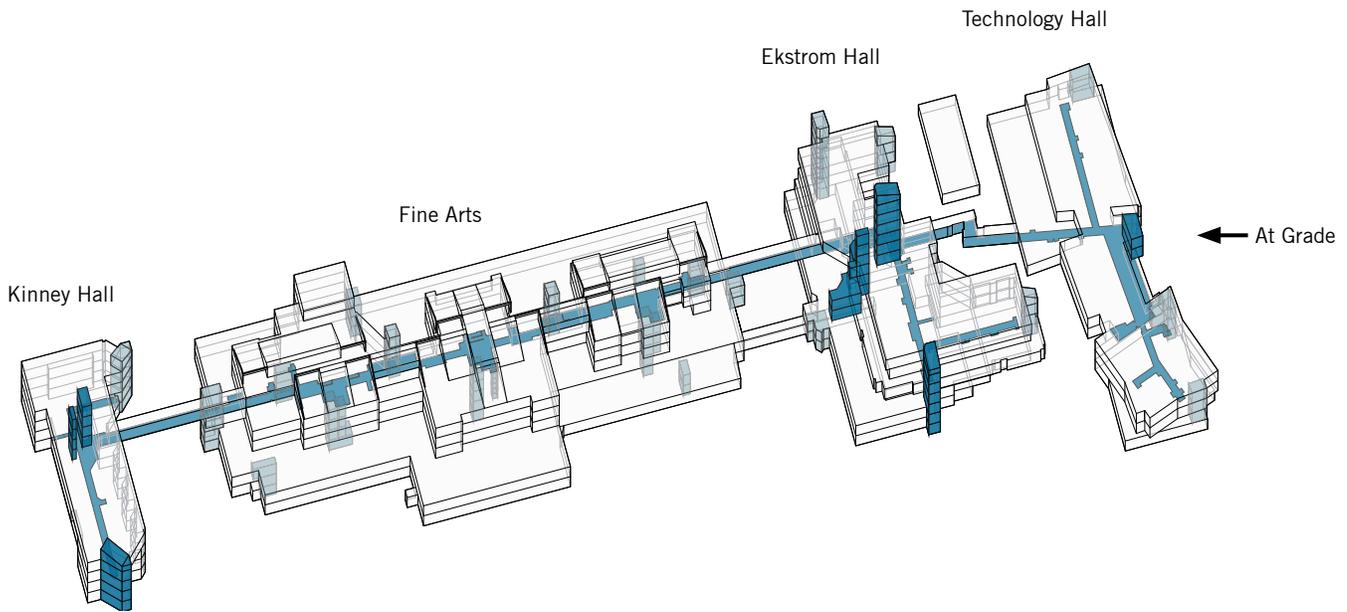


FIGURE 02.10 5th Avenue and Vertical Circulation



Kinney Hall Entry



Ekstrom Hall Entry



Tech Hall East Entry

ELEVATION AND TOPOGRAPHY

Buildings at the core of campus generally sit along a plateau at the northern edge of campus. Buildings vary in height and base elevation, rising and falling with existing grade, while staying connected by bridges along the length of 5th Avenue. 5th Avenue is defined by 5th floor of the ASL building.

Grade falls from the buildings south towards Chase Parkway, with Lot D and the Arboretum pond occupying flat areas between changes in elevation. Elevation gains more intensely and consistently to the north and west into the Glacier Ridge Trail Area with the exception of the “Bone Yard,” a large flat area to the north of the ASL building. The lowest topographic point is south of the ASL Building and Ekstrom Hall, where the pond is located, and where floodplains enter the Campus.

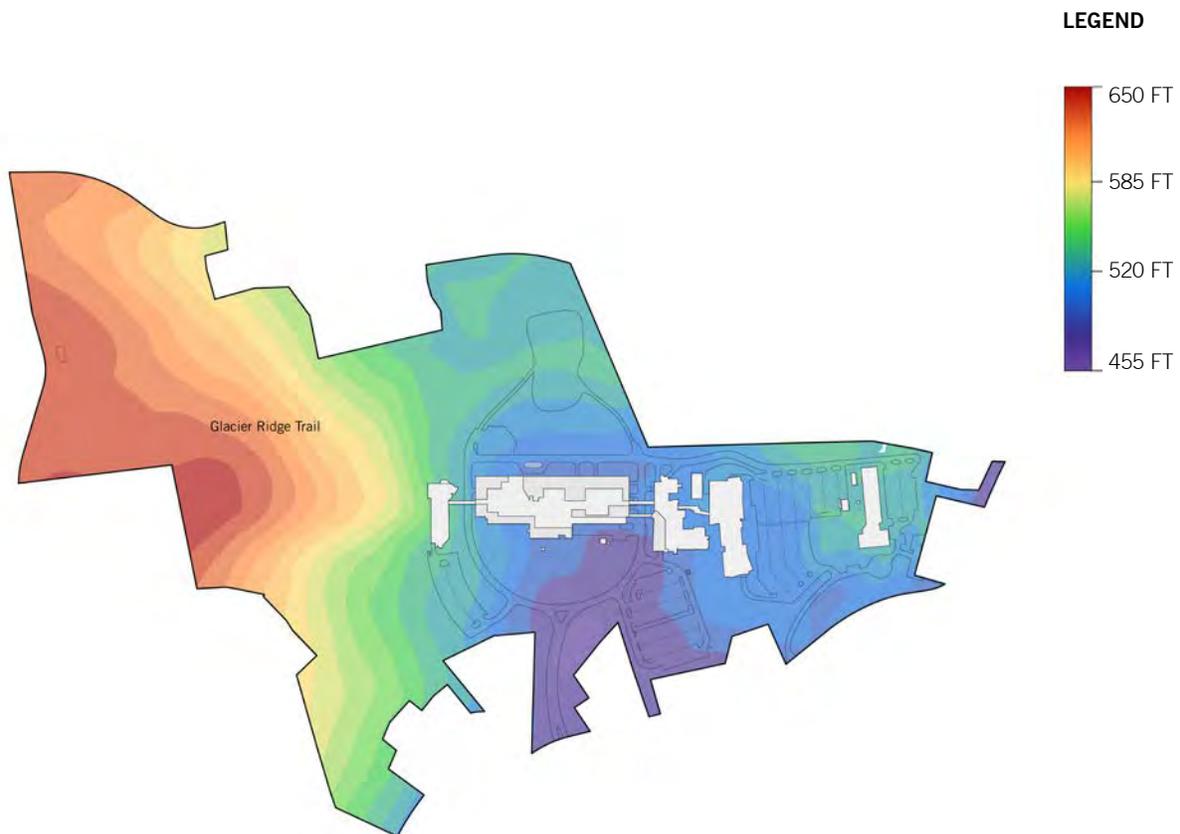


FIGURE 02.11 Existing Topography

FLOODPLAINS

A FEMA 100-year floodplain area occupies part of the Arboretum and Ruth Parson entry drive. This area is subject to inundation by the 1% annual chance flood, and extends further south past NVCC's property line. Considering their existing uses and lack of development potential, neither of these areas present significant flood risk to the College.

LEGEND

 Special Flood Hazard Areas (SFHAs) subject to inundation by the 1% annual chance flood

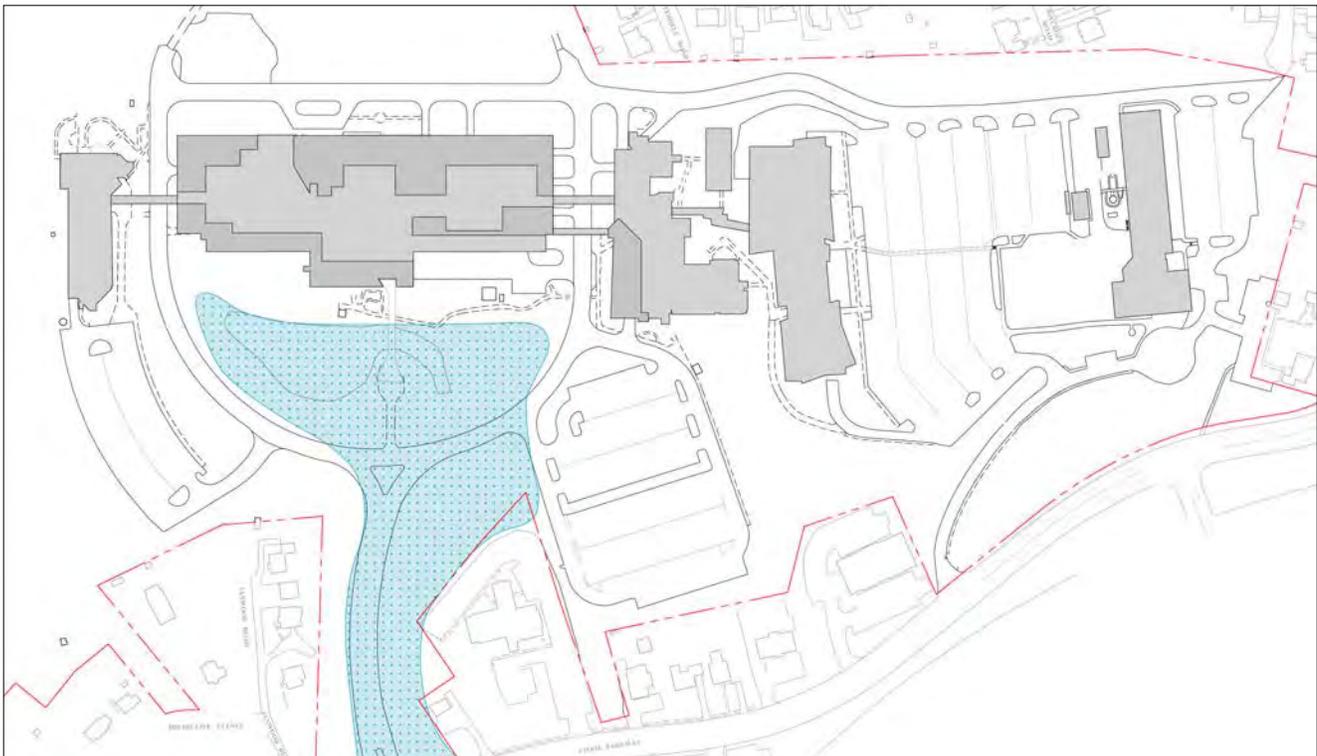


FIGURE 02.12 Existing Floodplains

LANDSCAPE CHARACTER AND COLLEGE GARDENS

“Gardens are powerful representations of human values and aspirations. The gardens of Naugatuck Valley Community College inspire respect for nature and support learning about our earth and our environment. As teaching tools, they also embrace the concept of giving, nurturing, engagement and love that extend beyond the self.”

- Dr. Daisy Cocco De Filippis, President

The gardens at NVCC are a unique feature that not only enhance the campus environment, but also serve as active learning grounds for students.

In total, there are 15 gardens that are distributed throughout the core campus. Some, established as early as 1986, have continued to set the precedent for gardens created as recently as 2013. They include a diversity of themes, from rose gardens, to the medicinal or biblical gardens.

NVCC is the only Community College in Connecticut that offers an Associate’s degree in horticulture, as well as certificates in horticulture and landscape design. The gardens are particularly useful to these students, who can use the gardens as a learning grounds for employment opportunities.

The Glacier Ridge Trail System, which is also maintained by the College, with the presence of the wetland and vernal pools, is also an area for environmental and biology educational programs to conduct field studies. The trail is also a resource for environmental education exposure for all students in the Waterbury School System and surrounding region.

GARDENS

- A** Tamarack Arboretum
- B** Teaching Garden
- C** Alan J. Zinser Memorial Rose Garden
- D** Shakespeare Garden
- E** Poets Circle
- F** Horticulture Greenhouse
- G** Glacier Ridge Trail
- H** Wisniewski Japanese Memorial Garden
- I** Japanese Healing Garden
- J** Sustainable Garden
- K** Biblical Garden
- L** Medicinal Garden
- M** Alcove Planting
- N** Earth-Kind Rose Testing Site
- O** American Rose Trails for Sustainability (A.R.T.S.) Garden

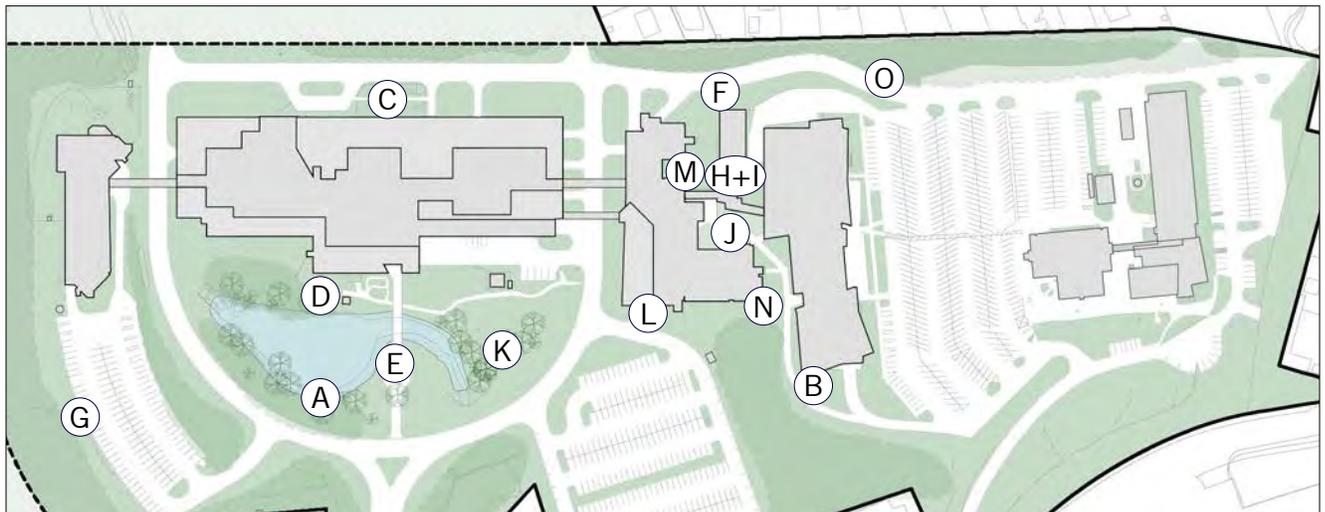


FIGURE 02.13 Existing Campus Landscape and Gardens



Poets Circle



Horticulture Greenhouse



American Rose Trails for Sustainability (A.R.T.S.) Garden



Medicinal Garden



Biblical Garden



Entry to the Glacier Ridge Trail

PARKING

Parking location and capacity are crucial to the success of any campus where the majority of visitors arrive via car, as at NVCC.

The campus has approximately 1,777 total spaces distributed throughout five surface lots and two garages. The existing overflow lot to the north of the ASL building has capacity for 49 spaces.

Parking capacity is only strained during the start of semesters or when conferences or large events are held during school hours.

EXISTING PARKING INVENTORY	
	Spaces
Ekstrom Parking Garage	136
Academic Core Garage	585
Parking Lot C spaces	116
Parking Lot D spaces	271
Parking Lot E spaces	521
Parking Lot F spaces	113
Misc spaces	35
Total	1,777

LEGEND

-  Surface Parking
-  Parking Garage Access

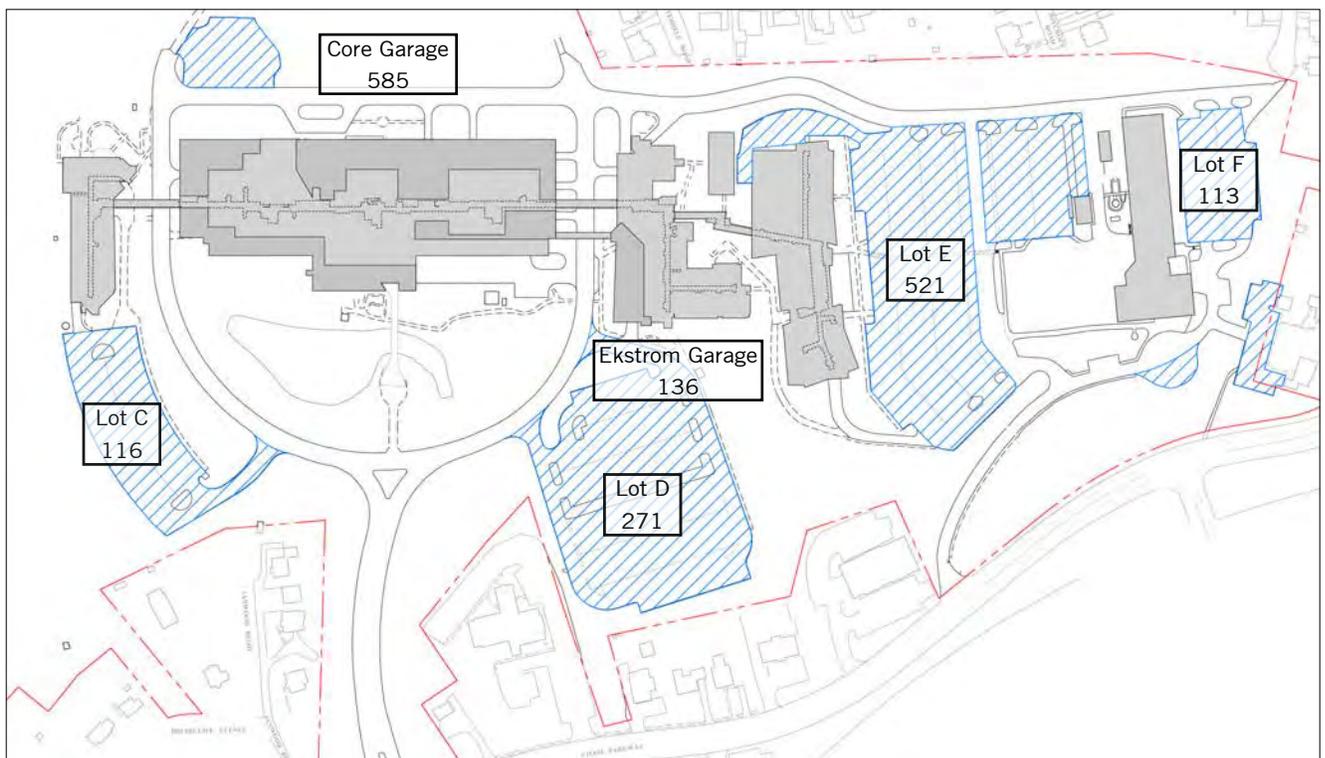


FIGURE 02.14 Existing Campus Parking

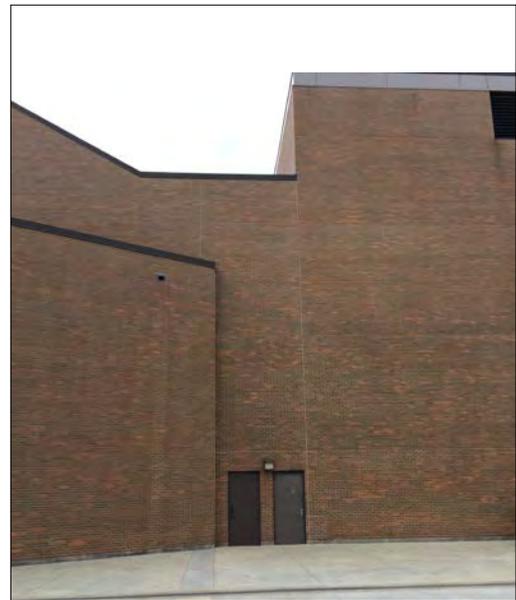
CAMPUS SECURITY

The Public Safety Department is centrally located in the Core Building. This central location is seen as a benefit from a dispatch and facilities perspective, but its relative lack of accessibility and visibility at the base of the Core Building makes it difficult to locate and doesn't provide the sense of security that more visible location could offer.

A key issue to NVCC campus security is surveillance of its building entries. There are currently a significant number of primary and secondary building entrances, making monitoring and control of building access very difficult. The campus is actively planning for a reduction in the ingress points, in an effort to increase monitoring and security of Campus visitors. Primary entry points like Tech Hall's eastern entry (left) would remain primary front doors, while secondary doors on the north side of the ASL (right) may become egress only.



Tech Hall Eastern Entry



Secondary Egress Doors, ASL Building

BUILDINGS

While all buildings on the campus provide academic space, each has a unique role on campus and program-specific identity. To the west, Kinney Hall has the most public-facing student and community services, housing the Admissions, Financial Aid, and Day Care center.

The centrally-located Core Building houses the Facilities and Public Safety Departments, campus storage. The ASL Building above the Core serves as the focal point of student life on campus. The Cafeteria, Library and various Performing Arts space and student social space bring energy and activity the core of campus.

Ekstrom was traditionally a science and teaching building over parking that over time has grown to include a broader range of spaces and student support services such as the ACE, Business Division, IT Support, and the Bridge to College office.

Founders Hall will have larger meeting and conference areas, while its academic focus will shift towards Health Sciences.

EXISTING BUILDING INVENTORY

Buildings	ASF	GSF*	Floors	Year Built
Kinney Hall	48,694	78,360	4	1977
ASL Building	74,152	134,566	3	1988
Core	15,746	77,676	2	1977
Ekstrom Hall	81,924	138,862	4	1980
Founders Hall	53,709	84,408	3	1962/2016
Technology Hall	69,950	102,578	3	2008
	339,118	616,450		

*As calculated through building floor plan takeoffs

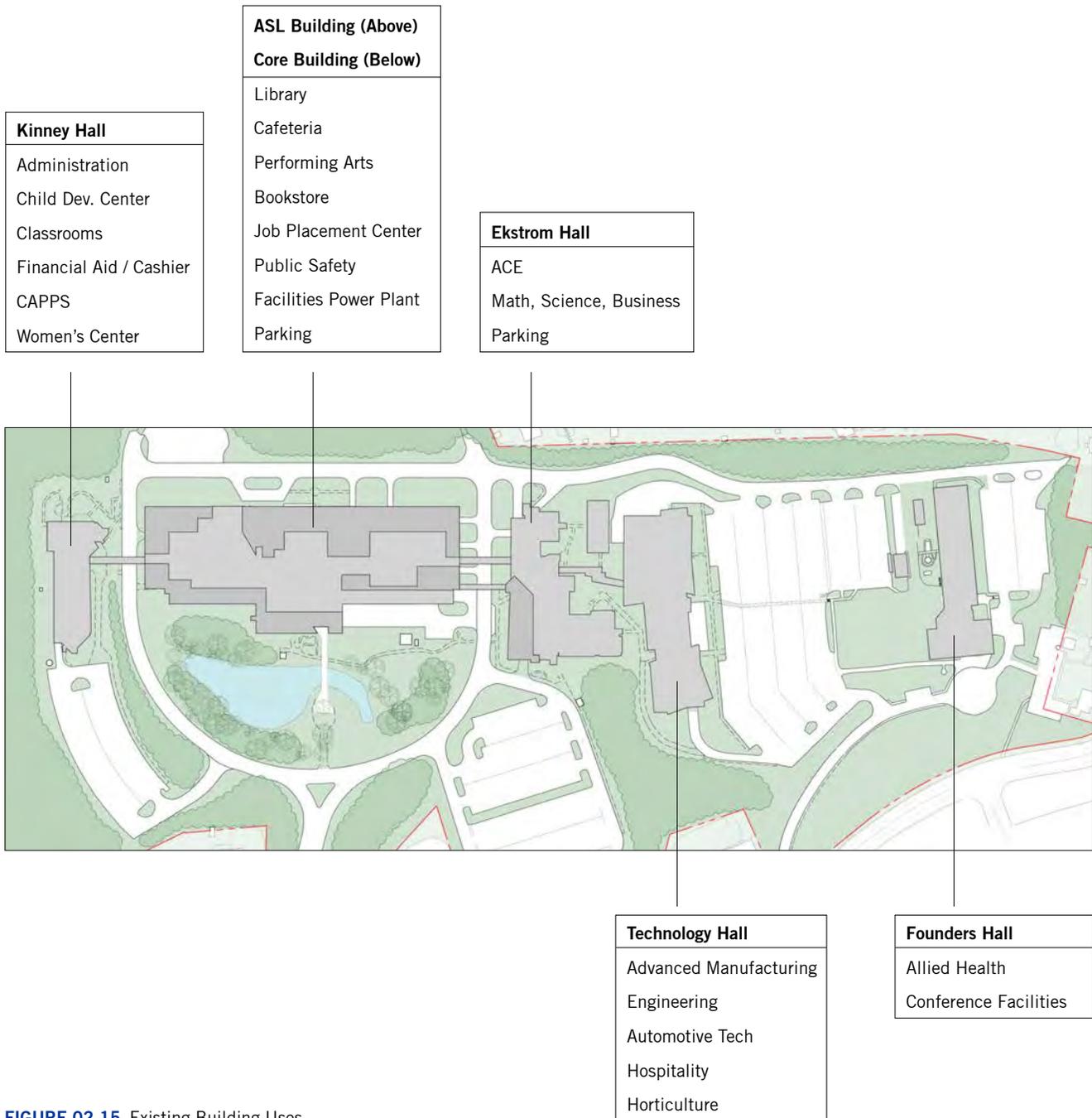


FIGURE 02.15 Existing Building Uses

ARCHITECTURAL CHARACTER

The NVCC campus was built in roughly 5 phases: Founders Annex and Founders were constructed in 1962; Kinney Hall was built in 1977; Ekstrom Hall in 1980; and the Fine Arts Center, Student Center and Learning Resources Center (ASL Building) in 1988, Tech Hall was completed in 2008. New Founders is scheduled to open in late 2016.

Founders Annex is planned for demolition, eventually leaving Kinney and Ekstrom as the two oldest buildings on the campus. Both of these buildings represent a distinctive utilitarian style of architecture. Buildings of this era are characterized by their visual weight and often have over-scaled and angular volumes. The ASL Building references these architectural themes in both scale and materiality. Tech Hall

was a major departure from this style, providing more glass, transparency and visual lightness through use of white and metallic contemporary building materials.

Founders Hall architectural expression balances more traditional red-brick academic vocabulary with glass curtain walls and contemporary exterior expression, and by doing so references both the utilitarian structures as well as its more contemporary neighbor, Tech Hall.



Ekstrom Hall



ASL Building



New Founders Hall Rendering



Tech Hall

BUILDING CONDITION

A building assessment completed by NVCC facilities staff rate all buildings as Fair with the exception of Good for Tech Hall. Structural, exterior, interior and building systems were all evaluated independently and contributed to the overall score.

A recent Americans with Disability Act (ADA) evaluation also indicates that Kinney, ASL, Ekstrom and the Core all need significant retrofits and renovations in order to meet current minimum compliance. Detailed planning and renovation needs for each of the buildings has been identified, and cost estimates generated as part of 2014 Silver / Petrucelli Report.

LEGEND

- Good Condition
- Fair Condition
- Undocumented
- Demolish

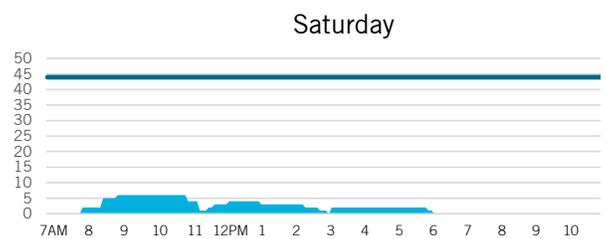
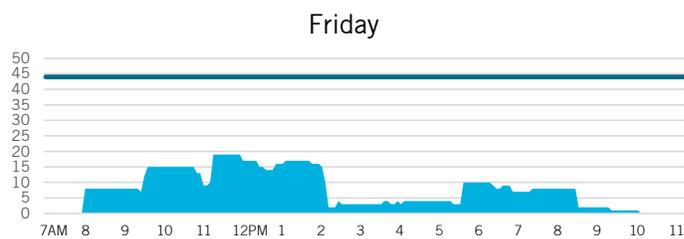
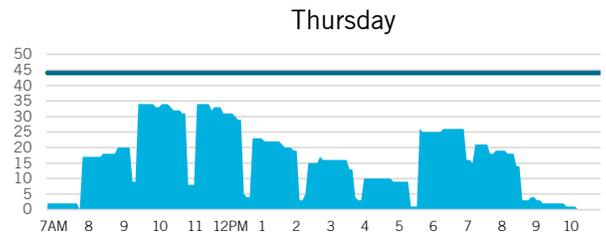
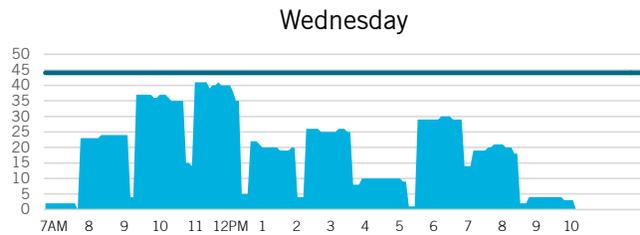
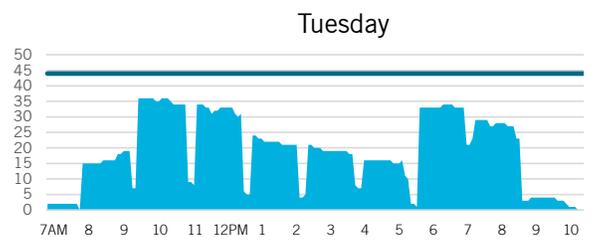
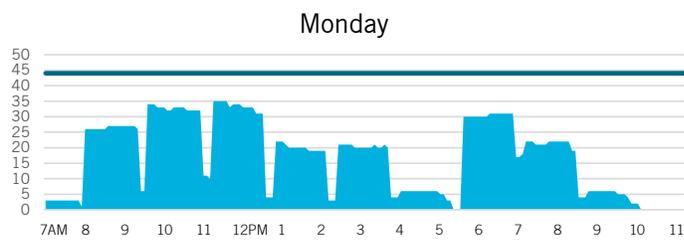


FIGURE 02.16 Existing Building Conditions

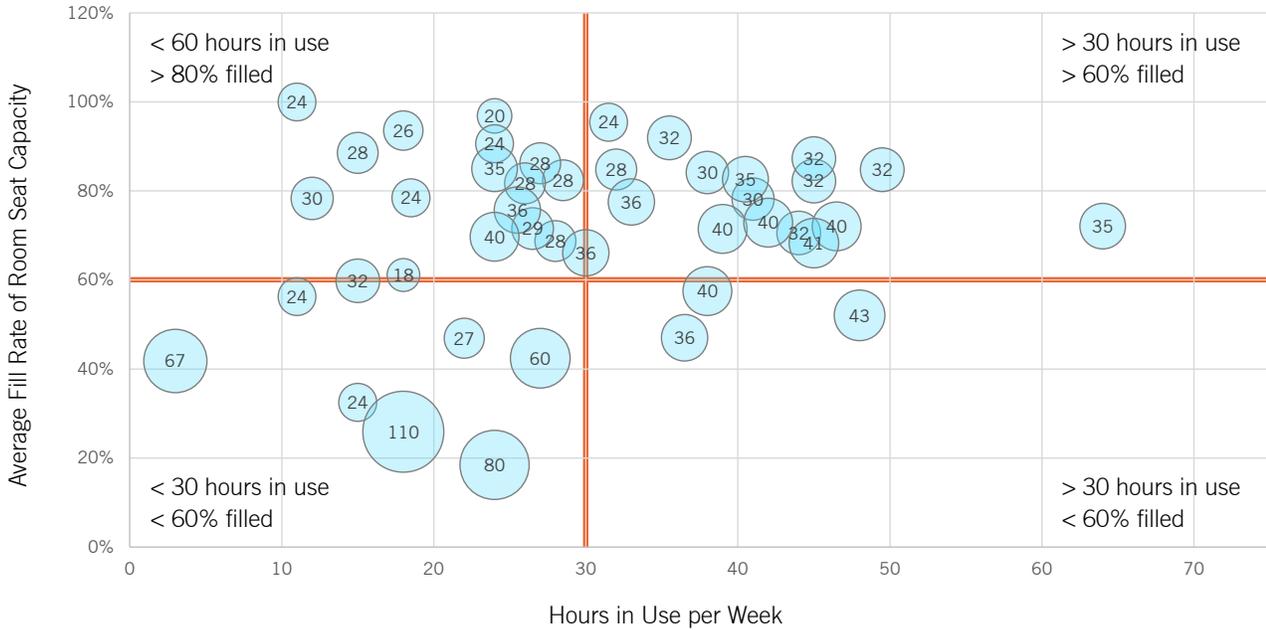
CLASSROOM UTILIZATION

The planning team analyzed the use of the existing classroom inventory over the course of the week and each day. (The projection of the additional classroom space need is included in the following chapter.) NVCC has 44 total general classrooms as of Fall 2015, with an average seat capacity of 35 (excluding Founders Hall classrooms and labs to come on line in late 2016).

CLASSROOM UTILIZATION SUMMARY: ROOMS IN USE BY DAY AND TIME



UTILIZATION HOURS IN USE VS. RATE BY ROOM



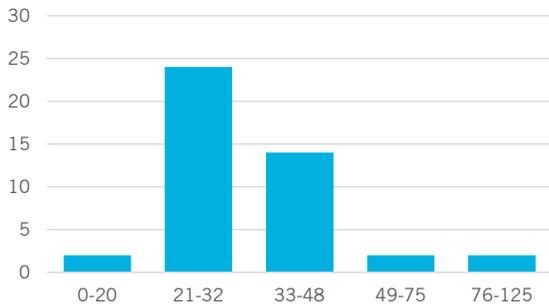
Total course delivery per the course schedule

Space Type	Number of Rooms	Total Weekly Hours	Total Weekly Student Contact Hours
Classroom	44	1,309	31,422
Lab	54	678	13,758
Off Campus / Online	14	655	16,324
Other	5	102	1,667
Grand Total	117	2,744	63,170

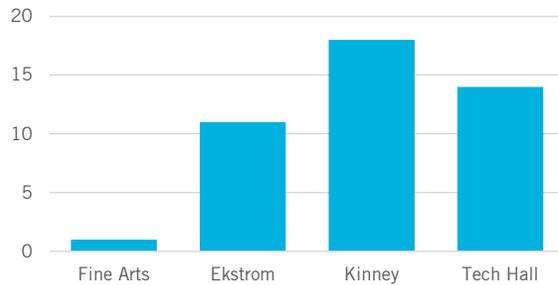
Classroom Data Summary

Total # of Classrooms: 44
Total Classroom Seats: 1,564
Total Classroom ASF: 35,451
Avg. Classroom Room Seat Capacity: 35
Avg. Classroom ASF / Station: 24

Number of classrooms by size



Number of classrooms by building



UTILIZATION SUMMARY BY BUILDING

Building	Number of Classrooms	Total ASF	Total Seats	Average ASF Per Station	Average Seat Capacity per Room	Total Weekly Hours of Courses	Average Weekly Hours per Room	Average Fill Rate Per Room	Total Weekly Student Contact Hours
Fine Arts	1	1,988	80	25	80	24	24	18%	354
Ekstrom	11	11,208	485	27	44	366.5	33	65%	8,819
Kinney	18	11,235	573	21	32	565	31	79%	14,418
Tech Hall	14	11,020	426	26	30	353.5	25	70%	7,831
Total	44	35,451	1,564	24	36	1309	30	71%	31,422

UTILIZATION SUMMARY BY SIZE TIER

Room Size	Number of Classrooms	Total ASF	Total Seats	Average ASF Per Station	Average Seat Capacity per Room	Total Weekly Hours of Courses	Average Weekly Hours per Room	Average Fill Rate Per Room	Total Weekly Student Contact Hours
0-20	2	1,160	38	30	19	42	21	79%	669
21-32	24	17,840	676	27	28	659	27	78%	15,202
33-48	14	10,652	533	20	38	536	38	69%	13,967
49-75	2	2,502	127	20	64	30	15	42%	771
76-125	2	3,297	190	18	95	42	21	22%	813
Total	44	35,451	1,564	24	36	1309	30	71%	31,422

SUSTAINABILITY

NVCC has several programs and initiatives that support sustainable learning both in and out of the classroom.

Within the classroom, the College offers an Environmental Science Degree, with either biology or Environmental Systems options. With a foundation in engineering technology, NVCC's programs also expose students to a broad array of topics and technologies related to clean energy including wind, solar, hydroelectric, biofuels, fuel cells and energy efficiency. The program serves to prepare students for entry-level employment and/or the establishment of a small business in the fields of sustainable energy.

NVCC's has a Sustainability Garden and an American Rose Trial for Sustainability (A.R.T.S) garden. A.R.T.S is a which is focused on assessing a plant's real performance, all of our evaluations are performed in a truly "no spray" environment without the application of any pesticides (including fungicides, insecticides, and miticides) or fertilizers.

As part of a Board of Regents-wide initiative, NVCC is currently part of an Energy Master Study to evaluate current energy usage and identify ways to reduce consumption and optimize existing infrastructure.



NVCC American Rose Trial for Sustainability Garden

ENERGY AND INFRASTRUCTURE

HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS

High Temperature Hot Water (HTHW)

Distribution

High temperature hot water (HTHW) for campus-wide heating is produced at the Central Plant in the Core Building, and pumped through campus-wide distribution piping. Supply water temperature in the HTHW loop is maintained at approximately 300-350°F. In each building served, HTHW is converted in heat exchangers to low temperature heating hot water (LTHW) at approximately 160-180°F supply temperature, and pumped to air handling units and terminal heating equipment. HTHW is also circulated to the Central Plant absorption chillers and several domestic hot water heat exchangers throughout the campus.

Founders Hall does not utilize campus HTHW. This building is currently under renovation and will be provided with a stand-alone boiler plant.

Boilers

The two main boilers (#1 and #2) are each rated for 31,250 MBH input and 25,000 MBH output. The boilers were manufactured by Boiler Engineering and Supply Co., model “Flo-Kontrold V-25”. They were installed in 1978. Both boilers are equipped with dual-fuel burners, which can utilize both natural gas and #2 fuel oil. According to facilities personnel,

these boilers are operational, but with limitations due to age and condition. Both boilers have blocked tubes, and Boiler #2 cannot run when a chiller is also running. Per the facilities group, a capital project has been scheduled to replace these boilers in the near future.

A third boiler (#3) was installed in 1990, PVI model “WBHE250”, rated for 10,000 MBH input and 8,300 MBH output. According to facilities personnel, this boiler was never made operational after installation, as it could not pass inspection or meet safety requirements.

High Temperature Hot Water Pumps

Pumps #1, 2, and 3 circulate HTHW through the campus loop. These were installed in 2008. Each pump has a 25 HP motor. These pumps have variable frequency drives (VFD's), but are operated at constant speed with two running and one in standby. Since automatic control valves are not currently installed at each building, and several domestic hot water heaters require flow year-round, campus loop flow cannot be substantially reduced in the summer. These pumps utilize once-through cooling for the pump casing.

Pumps #7, 8, and 9 circulate HTHW through the absorption chillers. These were installed in 2008. Each pump has a 75 HP motor and VFD's. These pumps have constant speed starters. When one chiller is running, one pump runs. These pumps utilize Central Plant condenser water to cool the pump casing. A fourth HTHW pump has been abandoned in place.



Boiler in Central Plant



Cooling Tower

Hydronic Specialties

According to facilities personnel, the HTHW expansion tank has been subject to frequent high level alarms since the campus HTHW loop was extended to Technology Hall in 2008. Facilities believe that the tank size may not have been sufficient to accommodate the increase in system volume.

Fuel Oil System

Natural gas is used to run the boilers. The fuel oil system is maintained as a backup and for emergency power.

The fuel oil system was originally designed for #6 heavy oil, but was converted to utilize #2 light oil. Per facilities personnel, the oil heating equipment has been abandoned in place, but the fuel oil pumps are functional.

Chilled Water (CHW)

Distribution

Chilled water (CHW) for campus-wide air-conditioning is produced at the Central Plant in the Central Core Building, and pumped through campus-wide distribution piping. Water temperature in the CHW loop is maintained at approximately 45°F. CHW pumps in each building served are used to circulate CHW to air handling units and terminal air conditioning equipment.

According to facilities personnel, the cooling plant has a nominal capacity of 1,400 tons, but only 630-640 tons of cooling is currently available, due to flow limitations for the boilers.

Founders Hall does not utilize campus CHW. This building is currently under renovation and will be provided with a stand-alone chiller plant.

Chillers

Central Plant CHW is produced by two York model “HW-803-46-C-X-C” absorption chillers installed in 2007. The chillers utilize Central Plant HTHW as the energy input for refrigeration, instead of electrically driven compressors. The chillers reject heat to the Central Plant condenser water system. A third older chiller has been abandoned in place. Only one chiller runs at a time.

Cooling Tower

An open condenser water (CW) system is utilized for heat rejection. A two-cell cooling tower is located outdoors near the Central Plant and utilized for Central Plant CW heat rejection. VFD's are utilized for variable speed operation of both fans. Side-stream filtration equipment is located in the adjacent shed. The cooling tower was provided with basin heaters, but facilities personnel indicated that the cooling towers are drained down in the winter.

Pumps #4, 5, and 6 circulate CW through the chillers and cooling tower. These were installed in 2008. Each pump has a 125 HP motor. These pumps have constant speed starters with soft-start capability.

Campus Loop Chilled Water Pumps

Three pumps are utilized to circulate CHW through the campus loop. These were installed in 2008. Each pump has a 100 HP motor. These pumps have VFD's for variable speed operation.

Controls

Digital Controls

Johnson Controls Metasys direct digital control (DDC) building management system (BMS) is utilized to operate a substantial portion of the campus HVAC infrastructure. The operator interface workstation is located in the Central Plant operator control room.

Pneumatic Controls

Most of the campus HVAC infrastructure still utilize original pneumatic controls. Two air compressors are located in the Central Plant. Both are operational.

ELECTRICAL SYSTEMS

Electrical Service

NVCC is currently connected to 13.8kV Medium Voltage. The Main Service entrance switchboard is located at Electrical Room next to Boiler Plant. The service entrance switchboard consists of seven (7) 600A, 13.8kV switches to energize multiple buildings throughout the campus.

Emergency Power

The campus is served by two (2) emergency diesel generators.

Generator #1 is a 500KW, diesel fired, standby, 480V, 3PH, and is located indoors at generator room next to boiler plant. Generator #1 is by Detroit Diesel and is approximately 35-40 years old and perceived as obsolete.

Generator #2 is a 200KW, diesel fired, standby, 480V, 3PH, and is located at Technology building terrace. Generator #2 is by Generac and is approximately 7 years old.

Site Lighting

Site lighting consists mainly of metal halide pole light fixtures and metal halide / high pressure sodium wall mounted light fixtures. Exterior lights are generally controlled by time-clocks located throughout the campus at different buildings.

Pole mounted light fixtures are in good condition, however most of the wall mounted light fixtures are in poor condition, reaching the end of their useful life.

A project is currently underway to replace metal halide site lighting with LED fixtures. Other site lighting improvements, including along a walkway in Lot E, are also being implemented through the BI-CTC-436 project.

Fire Alarm

Fire alarm for entire campus is by Simplex Grinnell. Main fire alarm control panels are located at the Public Safety department office in the Core Building. The fire alarm system for the entire campus was undergoing a complete system upgrade at the time of the Master Plan site visit.

WATER SYSTEMS

The campus is supplied by a municipal water supply that enters from Chase Parkway and runs under the West Entrance driveway. This combined service feeds all domestic and fire services including fire hydrants on campus.

Water is distributed by street pressure at 105 psi to each building. Water use is metered at each building.

SEWER SYSTEMS

Sanitary Sewer

The campus is connected by a 12" clay line to the municipal sewer that enters from Chase Parkway and runs under the West Entrance driveway. All buildings drain by gravity.

Storm Sewer

The campus storm drainage connects from each building to a series of retention basins and underground piping network. All buildings drain by gravity.

NATURAL GAS

The campus is served by a 60psi high pressure gas main that enters from Chase Parkway and runs under the West Entrance driveway. Each building that has its own natural gas supply has its own meter (except for Kinney Hall).

Gas service is provided by Yankee Gas (Eversource).



Campus Main Electrical Room

COMMITTEE SURVEY

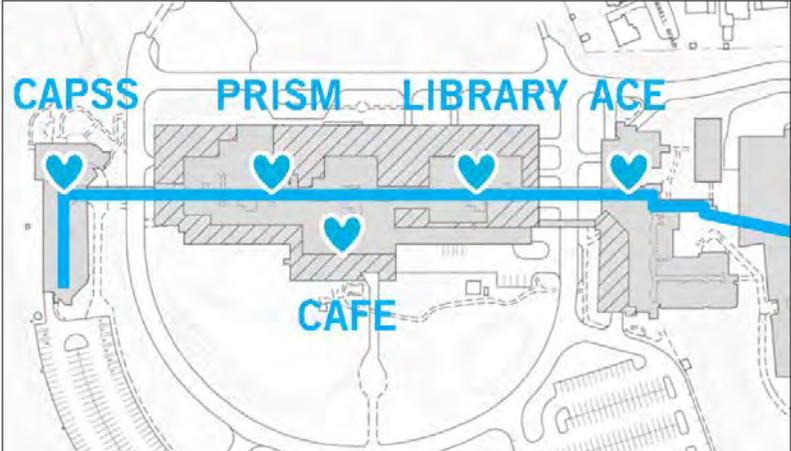
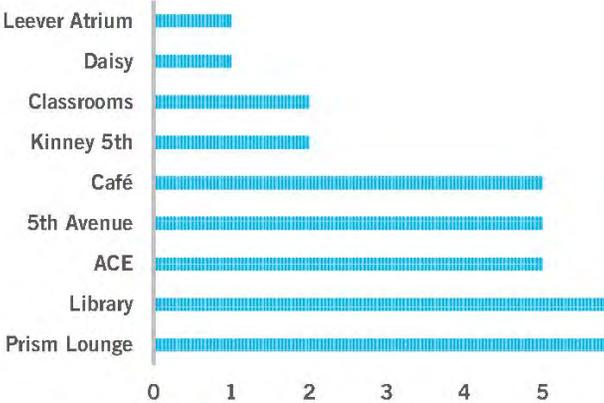
College Master Plan Advisory Committee members were surveyed on three questions to better understand their impressions and thoughts on the College facilities.

Collectively, the Committee’s responses supported the notion that 5th Avenue and the student support and social spaces it connected are the “heart” of the campus. The Committee further endorsed the significance of 5th Avenue by responding that it was the one aspect of the college facilities that works better than any other. When asked what facilities need improvements, a few themes emerged. The Library and ACE were also mentioned by multiple committee members for their critical role in supporting student academic needs.

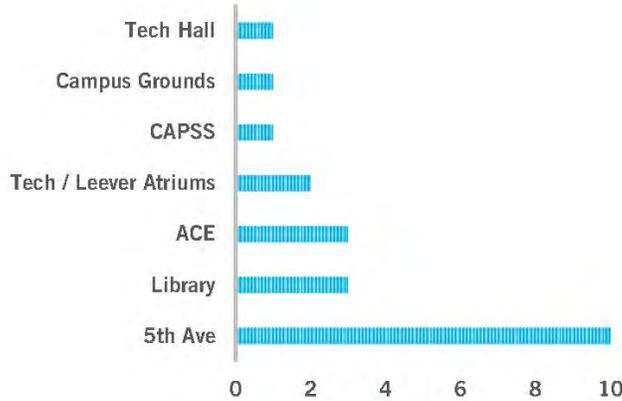
Campus signage and wayfinding was suggested by 20% of respondents, as key facility issues that need to be improved. The accessibility, wayfinding and design of main entries was identified by 6 respondents, while a wide-ranging critique of classrooms suggests that layouts, technology and furnishings need to be improved.

What is the “heart” of the campus?

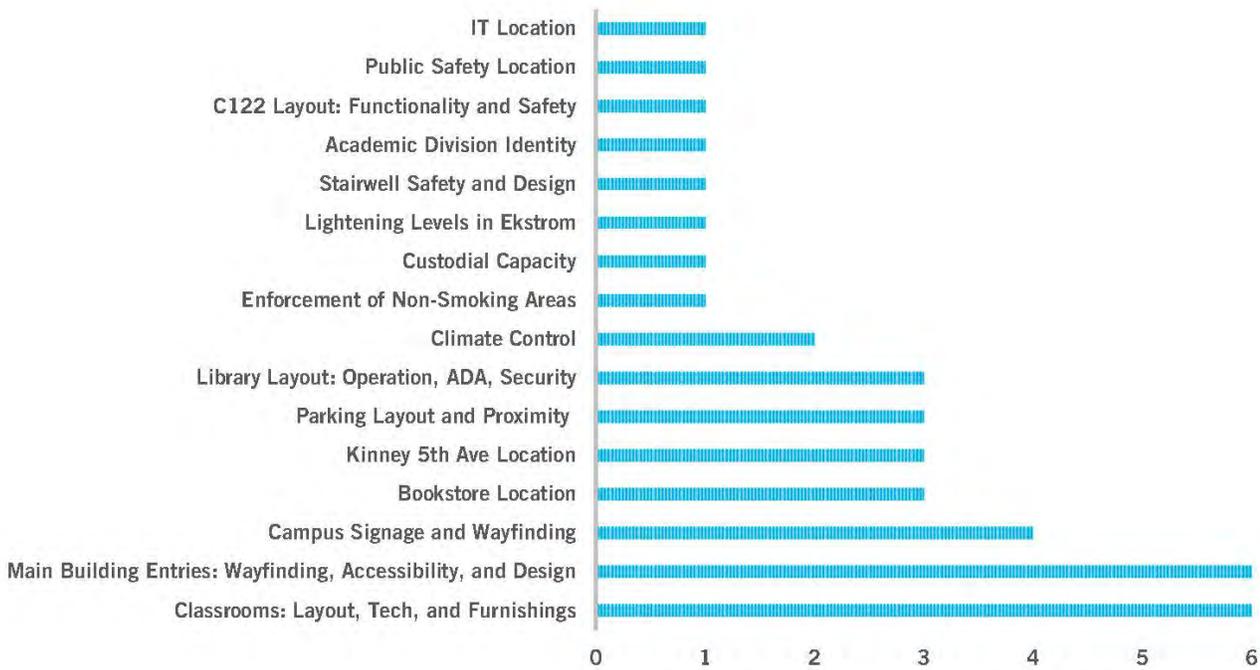
Over 17 of 20 of respondents identified 5th Avenue or Student Support space along 5th Avenue



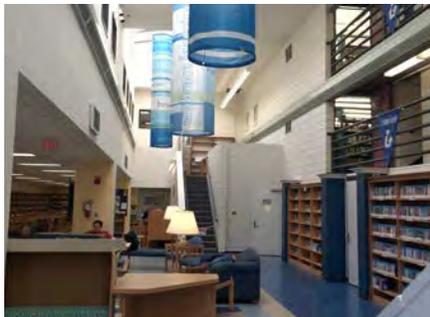
What area/aspect of the college facilities do you think works best and why?



What area/aspect of the college facilities do you think most needs improvement and why?



Campus signage along 5th Avenue



Constrained Library multi-floor layout



Antiquated NVCC classroom facilities

OPPORTUNITY SITES

A. Lot E

Lot E provides a large and relatively flat area that could accommodate a number of new buildings and open space. Development in this area should maintain a direct pedestrian connection between Tech Hall and Founders main building entries.

B. Southeast Corner of ASL Building

Locating a new building program at the southeast corner of the ASL building could provide new front door to the campus from the south, and screen the Cooling Tower from the east. Any new building in this location would have to consider current loading docks operations and parking to the north of the Cooling Tower. Bridging over the current drive lane and meeting ground on the south side may be in option.

Either new open space or a building could face the entry from the south, improving the identity and presence on the Eastern end of Campus.

C. Lot D / East

Lot D could be suitable for a parking structure. The east portion, aligning with Ekstrom and near the hill, would be the best place in Lot D for a garage.

D. The “Bone Yard”

The “Bone Yard” site is a suitable area for remote parking, support facilities, and if paved, would be large enough to house the Campus Motorcycle training program. In addition to site grading, new roads with site lighting and stormwater management would be to be installed.

E. East of Founders

The site east of Founders could be considered for development, but is constrained. Once sufficient setback is provided from the adjacent building and property line, little remains for development. Its distance from other facilities is also problematic. An easement through this area further limits development potential.

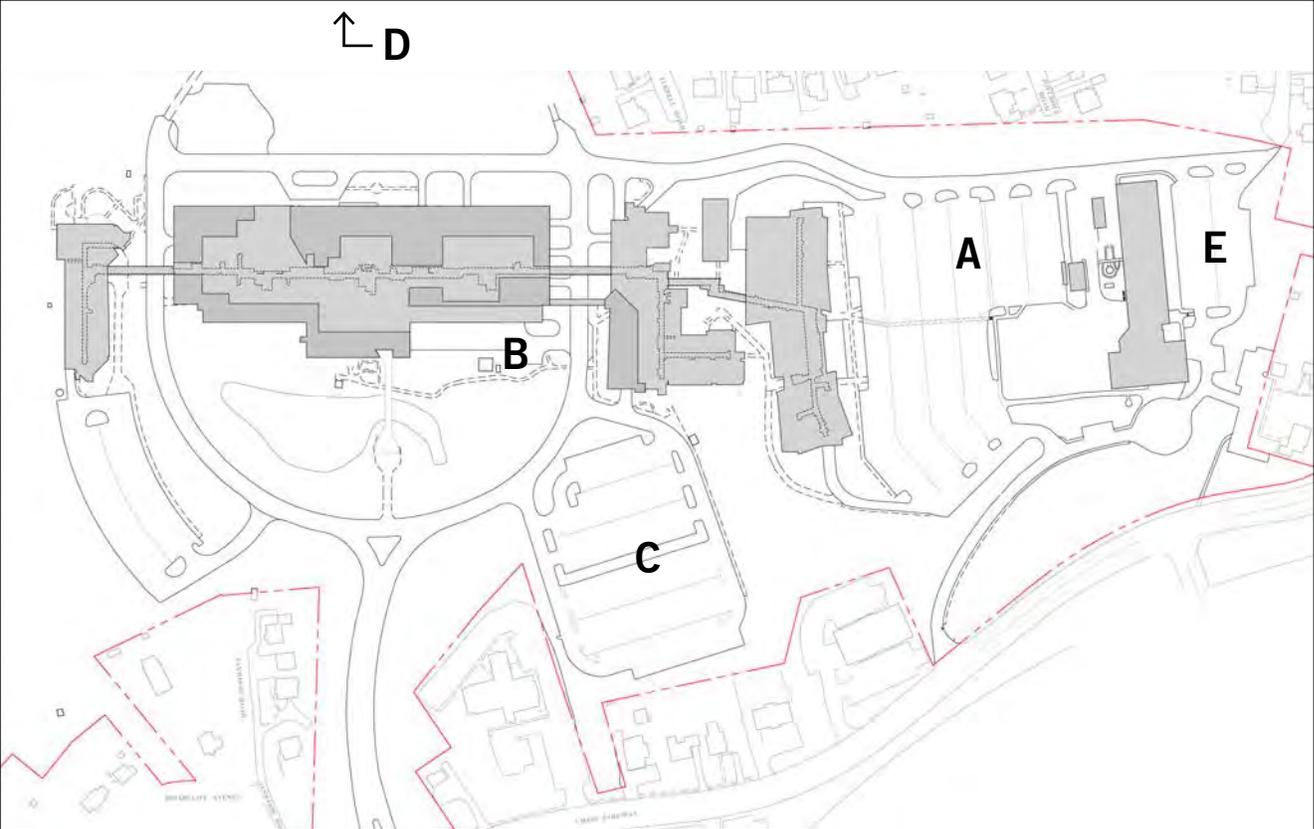


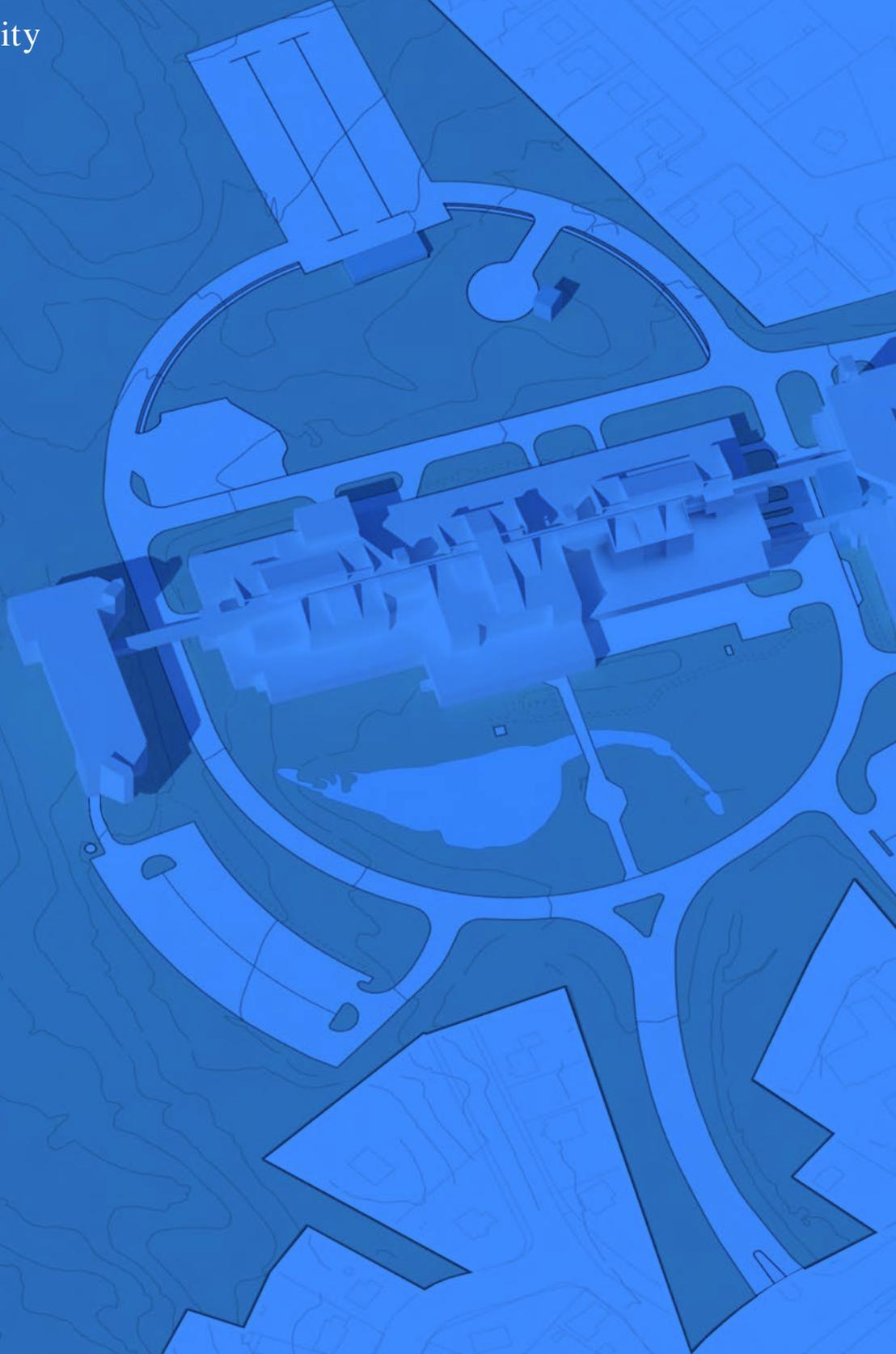
FIGURE 02.17 Opportunity Sites

01
INTRODUCTION

02
EXISTING CONDITIONS

03
SPACE NEEDS

04
RECOMMENDATIONS





01
INTRODUCTION

02
EXISTING CONDITIONS

03
SPACE NEEDS

04
RECOMMENDATIONS

SPACE NEEDS

INTRODUCTION

INTRODUCTION

BENCHMARKING

ENROLLMENT PROJECTIONS

ASSESSMENT METHODOLOGY

SPACE NEEDS SUMMARY

The foundation for the Master Plan for Naugatuck Valley Community College was a comprehensive analysis of facility requirements for the next 10-year period for academics, student life, administration, and campus service functions. This assessment was based on the 10-year enrollment projections provided by the College, and approved by BOR as detailed in the sections that follow.

The space assessment from those enrollment projections reflects needs, not wants. The space projections are based on benchmarking against peer institutions and a realistic assessment of facility needs to support Naugatuck Valley’s mission. Concepts for how to address the space needs follow in the Master Plan Recommendations chapter.



BENCHMARKING

BENCHMARKING WITH OTHER CONNECTICUT COMMUNITY COLLEGES

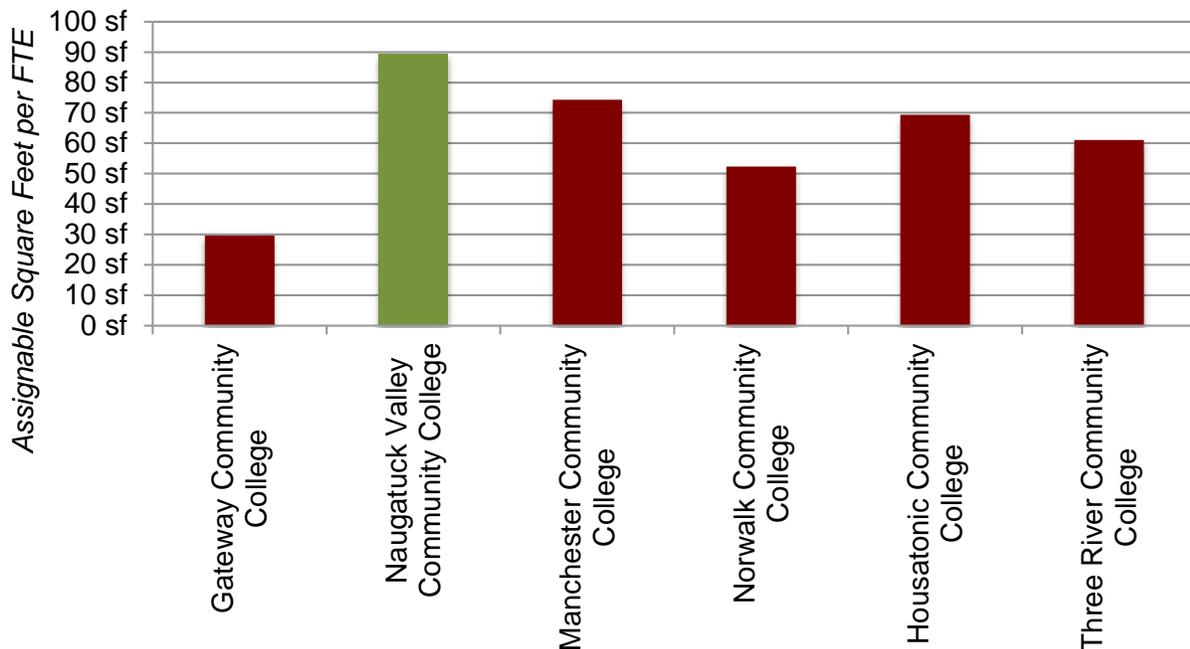
The goal of this Space Assessment Report is to explain the methodology for the space analysis for Naugatuck Valley Community College, the result of that analysis, and how that analysis compares to other institutions in the Connecticut State College & University System. The assessment, developed at the departmental level, includes faculty and staff lines. The assessment is far closer to a design program than a typical FTE based assessment. The effort is intended to allow the College and the System to be better positioned to implement the projects identified and developed coming out the options study.

With total campus enrollment in student full-time equivalents (FTE) projected to grow by 29 percent from 3,919 in 2015 to 5,040 by 2025, the analysis identifies the need for an

additional 72,497 assignable square feet (ASF). Requiring 124,995 gross square feet (GSF), the assessment projects a total need of 82 ASF per student FTE. That number is 17 square feet above the current Connecticut State College median of 65 ASF for community colleges that have 3,000 student FTEs or more. Currently the College has 87 ASF per FTE.

The next chart illustrates the projected need by student FTE and how that compares to the other Connecticut Community Colleges. The assessment for NVCC exceeds the current assignable square feet per FTE for all community colleges with enrollments over 3,000.

FIGURE 03.1 ASF PER STUDENT FTE FOR COMMUNITY COLLEGES OVER 3,000 FTEs

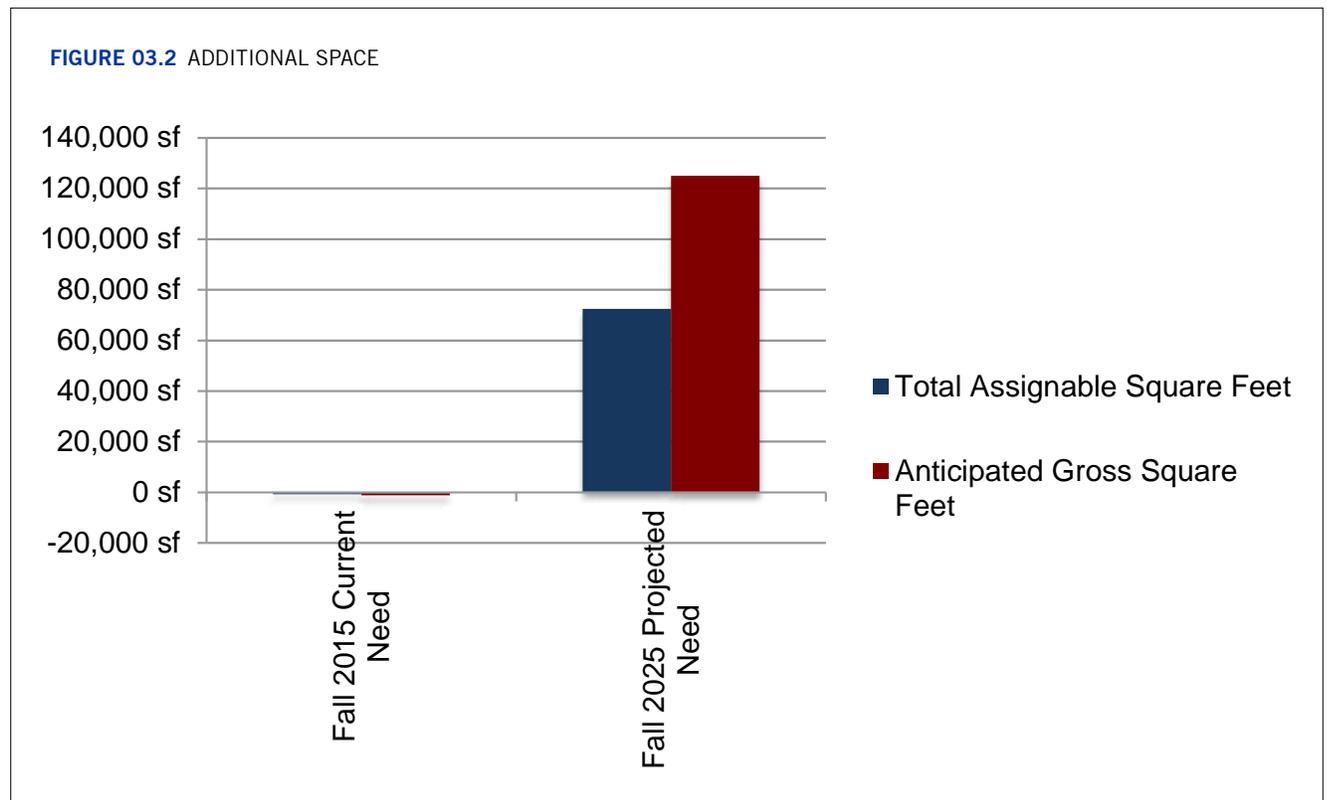


TOTAL ASSIGNABLE SQUARE FEET TODAY

Currently the College has an adjusted total assignable square feet of 339,118. This number excludes the structured parking facilities. The current assessment based on Fall 2015 enrollment is 338,425 for a current space surplus of 693 ASF.

LONGER TERM NEED

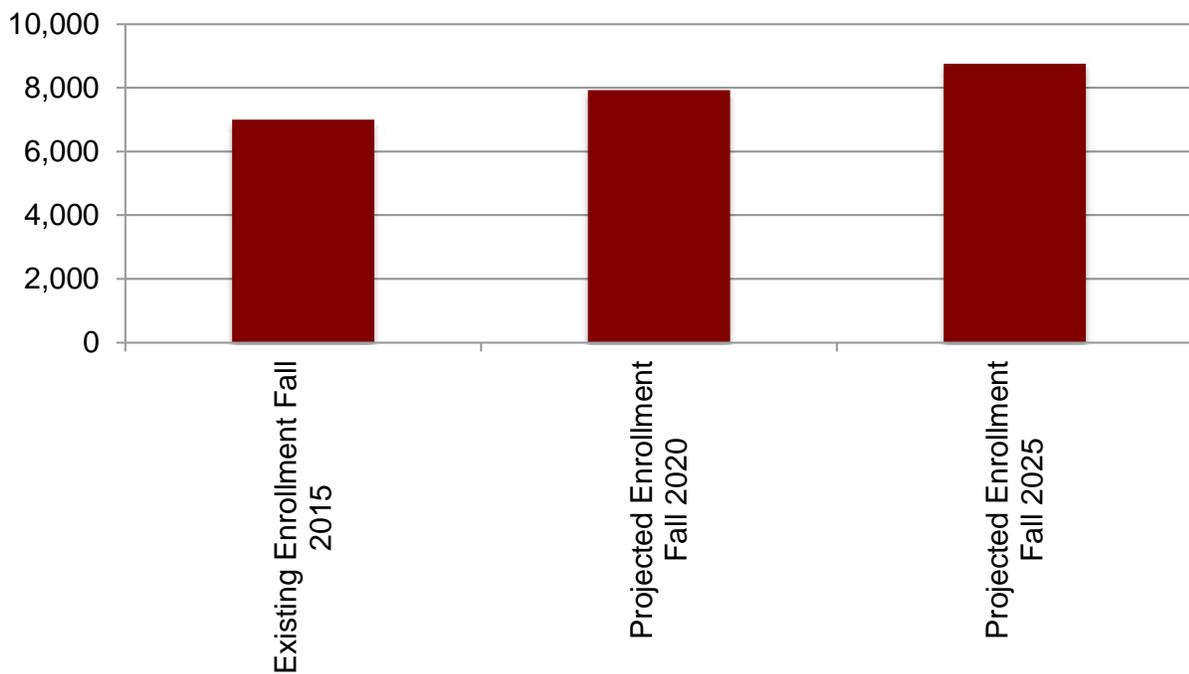
The majority of the total space required at the College is driven by the anticipated enrollment growth. The chart below represents the aggregate space assessment through 2025. By 2025, total gross square feet required will grow from a surplus to almost 125,000 gross square feet. Once again these numbers exclude parking facilities.



ENROLLMENT PROJECTIONS

In preparation to initiate the Master Plan, the College, in conjunction with the System, developed a student head count projection by major. In 2015, the College had 7,001 total undergraduate students. The projection for 2025 is 8,759 students. The resulting growth rate for the undergraduate student population is 25% by headcount.

FIGURE 03.3 STUDENT HEADCOUNT PROJECTIONS

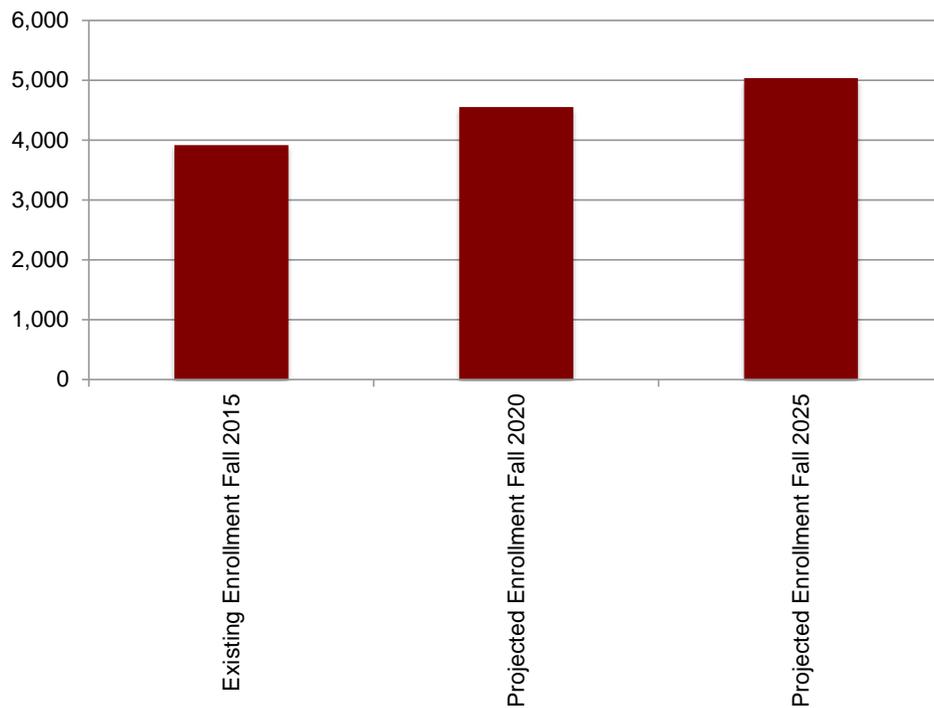


FTE PROJECTIONS

As part of the analysis, the Master Plan Team converted the head count and FTE projections provided by the College to Full Time Equivalents (FTEs) by content. Based on 15 credits per

undergraduate student, the result is a Fall 2025 projection of 5,040 undergraduate FTEs. These numbers represent a 29% expansion over current undergraduate enrollment by FTE.

FIGURE 03.4 STUDENT FTE PROJECTIONS



UNDERGRADUATE STUDENT PROJECTIONS

NVCC as a community college has a combination of both full time and part time undergraduate students. The average credit load per student is currently 8.40 ASF per student. The projections include the increase in that credit load to 8.63 ASF

per student. The result is a projected 25% growth in student headcount. When converted to student FTEs, this results in an enrollment growth of 29%.

	Existing Enrollment Fall 2015	Projected Enrollment Fall 2020	Projected Enrollment Fall 2025
<i>Student FTEs</i>	3,919	4,553	5,040
<i>Student Headcount</i>	7,001	7,924	8,759

ASSESSMENT METHODOLOGY

While most space assessments function as a square footage “cost estimate”, the intent of the assessment for Naugatuck Valley Community College is to provide a greater level of analysis closer to a quantitative takeoff estimate that a cost estimator might provide for either the design development or construction documentation phases of a building project. Square footage estimates or approximations are useful in the early stages for setting gross area, but are inadequate for the detail management of scope in the later stages of a project’s development. The goal of this assessment is to establish sufficient specificity to enable the assemblage and execution of projects going forward.

The strategy is to focus on the time utilization and design standards rather than individual instructional space factors. By developing the assessment at the departmental level including faculty and staff lines, the assessment is closer to a design program. The desire is also to make the assessment more accessible.

To that purpose, the assessment utilizes extensively weekly student contact hours (WSCH). The consultant utilized 24 WSCH per station for all lecture hall and classroom and 19.2 WSCH per station for all teaching lab and studio analysis. Space factors play a much more diminished role in providing corroborating evidence rather than being the primary driver of space. While much of the detailed analysis in the assessment will not be utilized, the Master Plan Team doesn’t know which elements will be pivotal in their development of options.

STANDARDS

While there are various standards including CEFPI, many work with FTE space factors. This is something the Master Plan Team is trying to avoid. Both the standards and research studies of the Post Secondary Education Commission of California and the Texas Coordinating Board, both oversight agencies for the allocation of capital in their respective states, inform the consultant’s approach to the assessment.

CLASSROOM ANALYSIS

In 2004 the California Post-Secondary Education Commission (CPEC) commissioned a study addressing CPEC’s concern about the “tight” scheduling imposed by their state legislature. The tables in that study make references to classroom hours and occupancy rates related to a 40 hour per week utilization target. But there are no references as to how that was derived. The Master Plan Team considers this appropriate because the original 40 hours is both irrelevant and difficult to utilize.

So when one looks for a consistent “frame” such as 40 hours, it doesn’t really exist. The CPEC study just disregards it in favor of just setting an hour per classroom, avoiding the “frame” altogether. Now there are systems such as Maryland that calculate on the basis of daytime and nighttime FTEs. The assumption is that you build for the day and the nighttime enrollment is “free”, at least from a space standpoint.

The Master Plan Team sees a daytime and evening WSCH target per seat and it is up to the institution to utilize that resource effectively. Noted for its small sections, NVCC has few sections that exceed 40 students. The assessment assumes that the classroom inventory should be designed both for a daytime traditional student population and an evening part time enrollment. To that purpose, the average classroom station size has been set at 22 ASF.

SPACE NEEDS SUMMARY

The analysis is broken into two major components: Academic Space and Support Space. The Academic Space includes classroom space, class laboratory space and faculty office space. The Support Space includes two broad categories of space. The first are those spaces such as the Library and Student Activity Space give character to the campus, affording students space for study and socialization. The second category are elements like Campus Services and Student Services, essential elements for running a campus.

The Master Plan includes the new Founders Hall project as existing space for planning purposes, since this project (in construction during preparation of the Master Plan) will be completed soon.

ACADEMIC SPACE

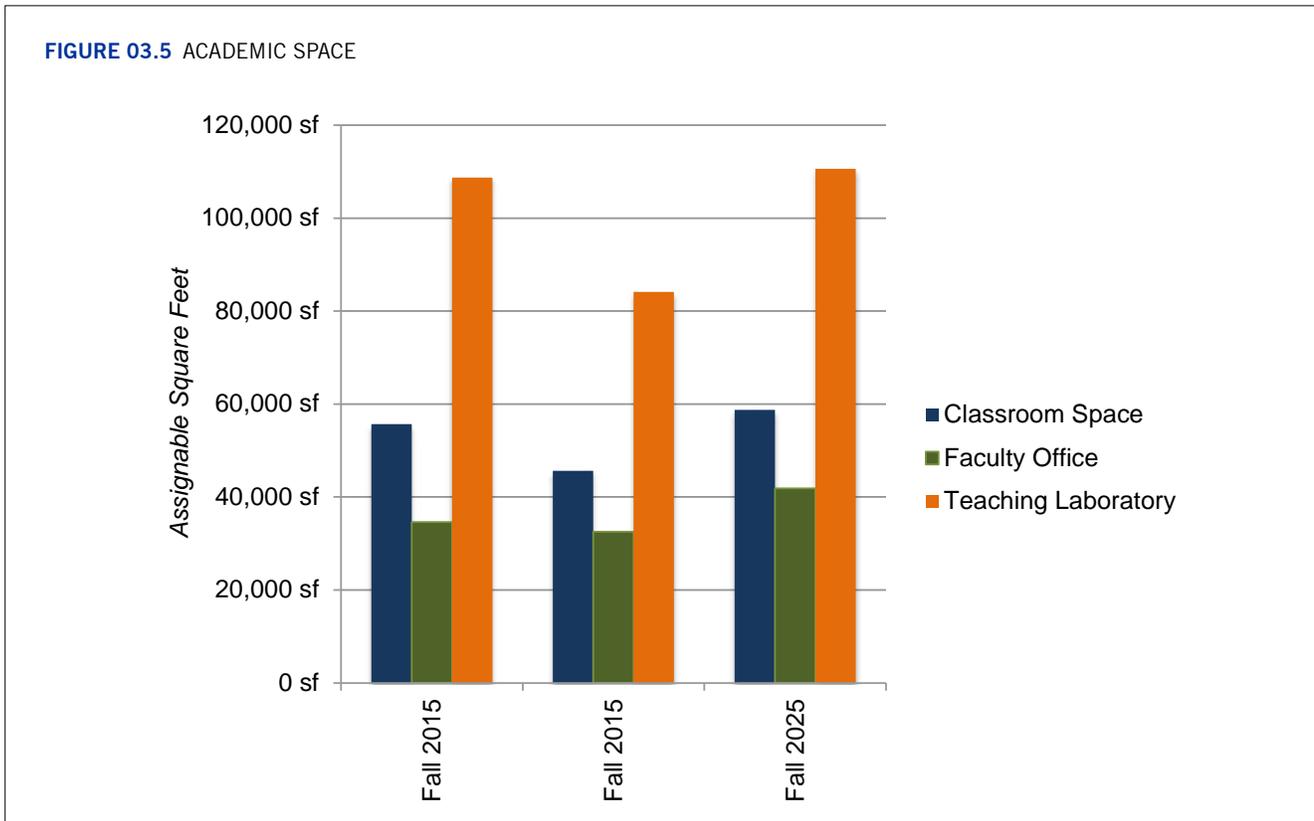
The space assessment indicates the most modest need for additional space is in the Academic Category. This appears consistent with recent capital investments in Tech Hall and the renovation of Founders Hall—several of the key academic categories.



BY FUNCTIONAL CATEGORY

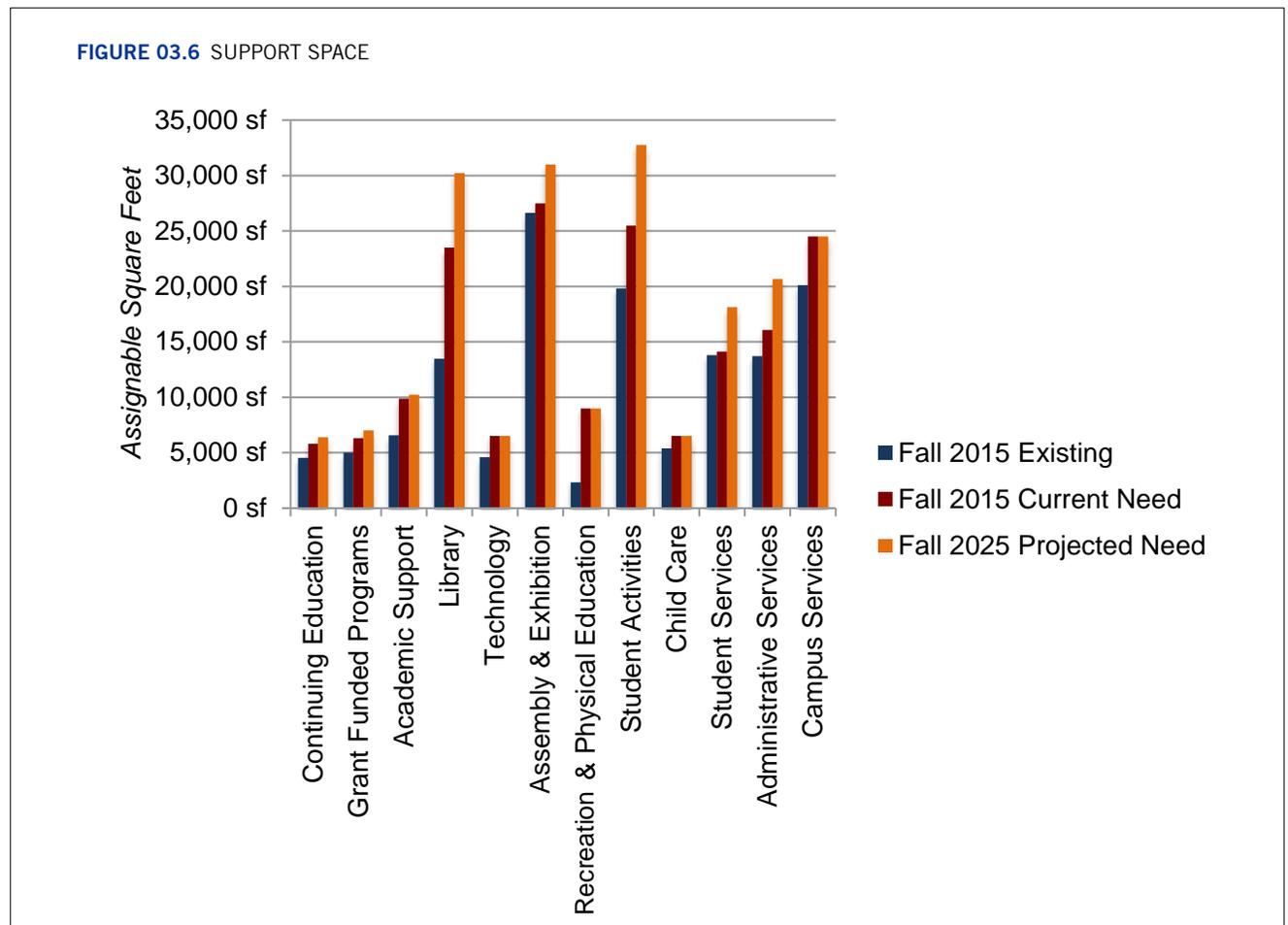
The chart below is an assessment of the Academic Space based on functional type. The space is broken into three categories: classroom space, faculty office and teaching lab. The classroom deficit was determined based on the course schedule, an average of 22 ASF per station and a 35-hour per week utilization goal. The faculty office space is inclusive of offices for full-time faculty, adjuncts and support staff. The teaching lab space is based on instructional content and a utilization criteria of 28-hours per week. The next chart is an assessment of the Academic Space based on functional type. The space is broken into three categories: classroom space, faculty office and teaching lab. The classroom deficit was determined based on the course schedule, an average of 22 ASF per station and a 35-hour per week utilization goal. The faculty office space is inclusive of offices for full-time faculty, adjuncts and support staff. The teaching lab space is based on instructional content and a utilization criteria of 28-hours per week.

The assessment results in 41 ASF per FTE for the current need and 42 ASF for the projected 2025. This number will still place Naugatuck Valley Community College in the high range of Connecticut Community Colleges, though substantially less than the current 51 ASF per FTE.



SUPPORT SPACE

The Support Categories at Naugatuck Valley Community College comprise three out of every six square feet. This is typically the norm for a comprehensive college. The broad category includes Centers & Institutes, Grant Funded Programs, Academic Support, Library, Technology, Assembly & Exhibition Space, Athletics & Recreation, Student Activities, Child Care, Student Services, Administrative Space and Campus Services.



Continuing Education

Non-credit Lifelong Learning supports community and economic development with the College's Community. With offices in Kinney, the Department utilizes both classrooms and teaching labs. In addition the Department utilizes exterior facilities including two parking lots for a motorcycle program.

Grant-Funded Programs

The externally funded grant programs are currently typical in number. This number shown does not include those dollars that are funneled through the individual academic departments. This category is expected to increase as additional grants become available.

Academic Support

The Academic Center for Excellence (ACE) is located on the Fifth Floor of Ekstrom, just off Fifth Avenue. Open seven days a week, the ACE is a free tutoring center available to all NVCC students. The Center covers a wide variety of subjects including writing, math, science, English as a second language, and accounting.

The Center has recently added Supplemental Instruction sessions, where students enrolled in a developmental math or English class now also attend one hour per week of Supplemental Instruction. While occupying 6,578 ASF, and a substantive current shortfall, the ACE needs to be substantially expanded to 10,232 ASF by 2025.

Library

The Max R. Traurig Library is located in the Learning Resource Building on the Third, Fourth and Fifth Floors. The Library was recently redesigned to open off Fifth Avenue, the main organizing element for the College. Modest given the current and projected enrollment, the Library needs to more than double by 2025 to 30,240 ASF.

Technology

The campus information technology infrastructure including staff and data center is expected to remain constant over the next decade with the addition of IT support in Founders Hall.

Assembly & Exhibition Space

The Assembly & Exhibition Space is limited to the Fine Arts Center. The space assessment assumes the development of an additional large gallery space along with additional support for the theater. Currently totaling 26,637 ASF, the category will expand by approximately 5,000 ASF, totaling 31,000 ASF.

Recreational

The College is currently quite modest with respect to recreation space. With a new facility in Tech Hall, and space totaling only 2,319 ASF, the plan is to expand the total facilities to 4,000 ASF for roughly a 72 percent expansion.

Student Activities

The College has only modest facilities for students outside of the classroom and lab, so a lot more needs to be accomplished. A key element is additional student meeting space, lounge space and dining/food opportunities. Currently totaling 19,823 ASF, the assessment projects 32,760 ASF by 2025

Child Care

The Child Care facility, currently totaling 5,398 ASF, requires modest improvements resulting in an increase to 6,500 ASF.

Student Services

Student Services, which includes both intake services such as Financial Aid and ongoing services such as counseling, currently occupies 13,810 ASF. The College will need to increase this category substantially by 2025 to 18,144 ASF.

Administrative Space

Administrative Space includes all the remaining administrative functions at the College, ranging from Human Resources to the President's Office. Currently totaling 13,720 ASF, this category will be modestly increased.

Campus Services

Campus Services includes critical "infrastructure" departments including Facilities and Campus. Totaling 20,100 ASF, the Campus Services will expand by 20%, to 24,500 ASF.

FIGURE 03.7 TABULATION OF NEED

Space Category	Fall 2015 Existing	Fall 2015 Current Need	Fall 2025 Projected Need
Academic Space			
Classroom Space	55,675 sf	45,656 sf	58,716 sf
Faculty Office	34,630 sf	32,528 sf	41,832 sf
Teaching Laboratory	108,695 sf	84,102 sf	110,627 sf
	Subtotal	199,000 sf	162,286 sf
	ASF per FTE	51 sf	41 sf
Hosted Entities			
Hosted Entities	4,140 sf	6,000 sf	6,000 sf
	Subtotal	4,140 sf	6,000 sf
	ASF per FTE	1 sf	2 sf
Support Space			
Continuing Education	4,522 sf	5,800 sf	6,400 sf
Grant Funded Programs	5,005 sf	6,300 sf	7,000 sf
Academic Support	6,578 sf	9,876 sf	10,232 sf
Library	13,462 sf	23,514 sf	30,240 sf
Technology	4,604 sf	6,500 sf	6,500 sf
Assembly & Exhibition	26,637 sf	27,500 sf	27,500 sf
Recreation & Physical Education	2,319 sf	4,000 sf	4,000 sf
Student Activities	19,823 sf	25,474 sf	32,760 sf
Child Care	5,398 sf	6,500 sf	6,500 sf
Student Services	13,810 sf	14,108 sf	18,144 sf
Administrative Services	13,720 sf	16,068 sf	20,664 sf
Campus Services	20,100 sf	24,500 sf	24,500 sf
	Subtotal	135,978 sf	170,140 sf
	ASF per FTE	35 sf	43 sf
Total Assignable Square Feet			
	ASF per FTE	87 sf	86 sf
		87 sf	82 sf

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Access

Land Use

New Building Projects

- Math and Science Building
- Middle College High School
- Maintenance Garage

Building Renovation Projects

- Classrooms
- ADA
- Ekstrom Hall
- Kinney Hall
- ASL Building

Open Space, Parking and Infrastructure Projects

- STEM Quadrangle
- Terrace Gardens
- Glacier Ridge Trail and Amphitheater
- Overflow Parking Lot
- Parking Garage
- Cooling Tower Relocation
- ASL Building Electrical Service

Guidelines

- Design Principles
- Architectural Character
- Sustainability

Implementation and Cost

- Current Projects
- Phasing Considerations
- Cost Estimates
- Project Priority Categories

Alternatives Considered

Conclusion

INTRODUCTION

The Master Plan Recommendations encompass projects for access, land use, new buildings, renovations, open space, parking and infrastructure. These projects may be realized individually or bundled as related projects to optimize cost, minimize disruption and expedite the most effective solution. The Recommendations also include project phasing, cost estimates and project priority categories. Together, the Recommendations are the result of a comprehensive and collaborative process by the Advisory Committee and the Consultant Team to meeting Naugatuck Valley's most important capital needs for the next 10-year period and beyond.

ACCESS

The College will continue to have two vehicular access points – the main West Entrance and the secondary East Entrance. NVCC has plans to regularize the East Entrance Drive configuration in the near term. An earlier study to realign the East Entrance with the intersection at Chase Parkway / I-84 overpass reportedly proved not to be feasible given topography.

The College population will continue to access the campus by both car and bus. Expanded parking facilities are described below. The on-campus bus / shuttle loop is being reconfigured to create a more regular flow, to avoid dropping students off on the opposite side of the road from desired building entries, and to make all bus stops accessible.

LAND USE

Land use at NVCC will largely remain unchanged. The campus core land will evolve to add capacity and the Glacier Ridge Area being preserved and enhanced as a natural area for recreation, teaching and research.

In the core area, a new building site plus a new open space are proposed to replace some surface parking. In turn, an impervious surface overflow parking lot is proposed in the open area north of the Core / ASL Building.

Chase Parkway is occupied by a variety of commercial uses along the College's frontage. These obscure views to the NVCC, which is effectively hidden along parts of the western campus behind a jumble of different uses, until one arrives at the NVCC West Entrance. In the future, the Plan recommends that the College enhance its visibility and identity along Chase Parkway.

THE CAMPUS

- | | |
|--|----------------------------|
| 1 Kinney Comprehensive Renovation | 7 Parking Garage |
| 2 ASL Renovations | 8 Overflow Parking |
| 3 Roof Garden(s) above Core Garage | 9 Maintenance Garage |
| 4 Ekstrom Comprehensive Renovation | 10 Relocated Cooling Tower |
| 5 New Math and Science Building | |
| 6 Middle College High School, potential location | |

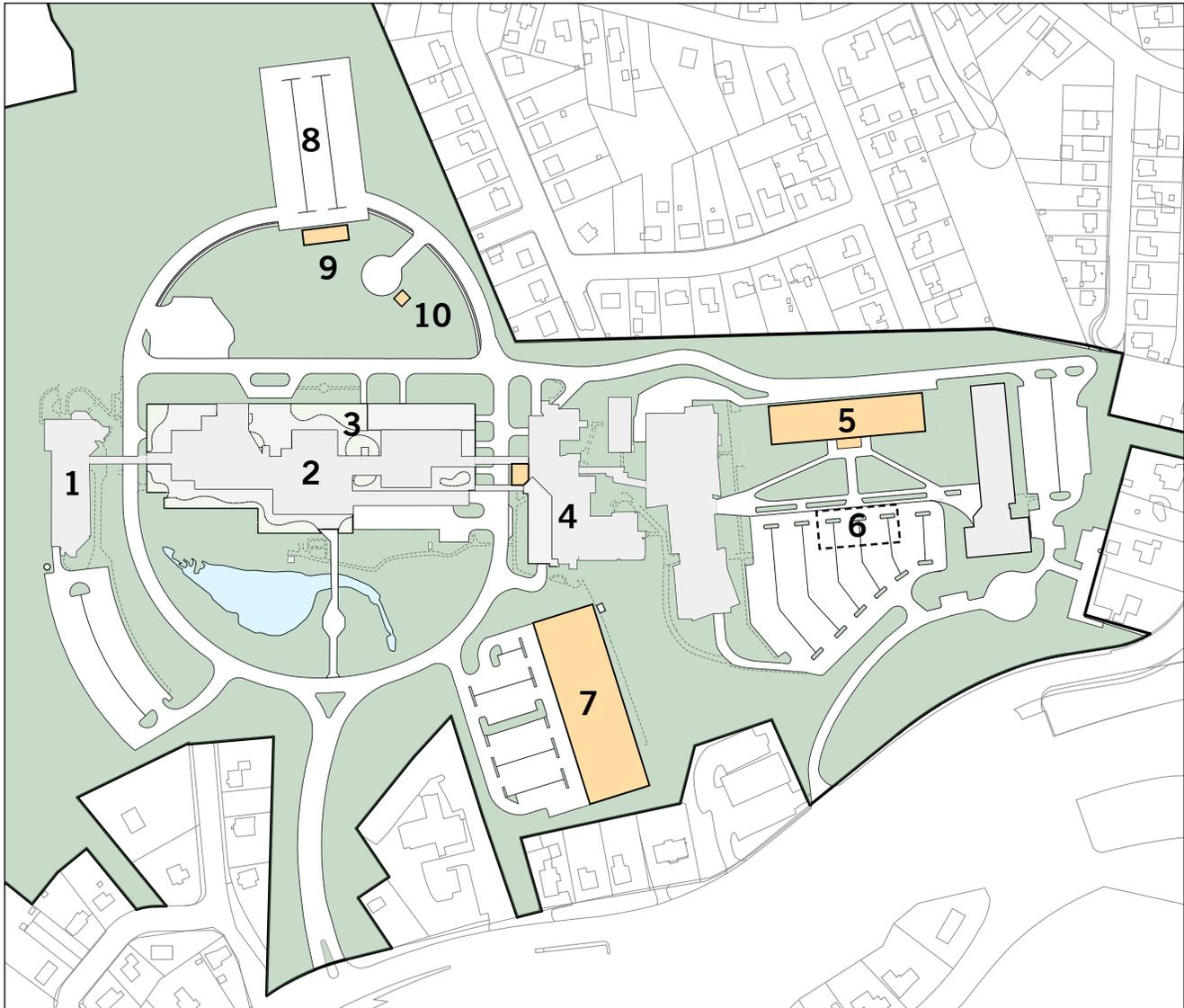


FIGURE 04.1 Master Plan Projects

NEW BUILDING PROJECTS



FIGURE 04.2 Concept rendering of the Math and Science Building



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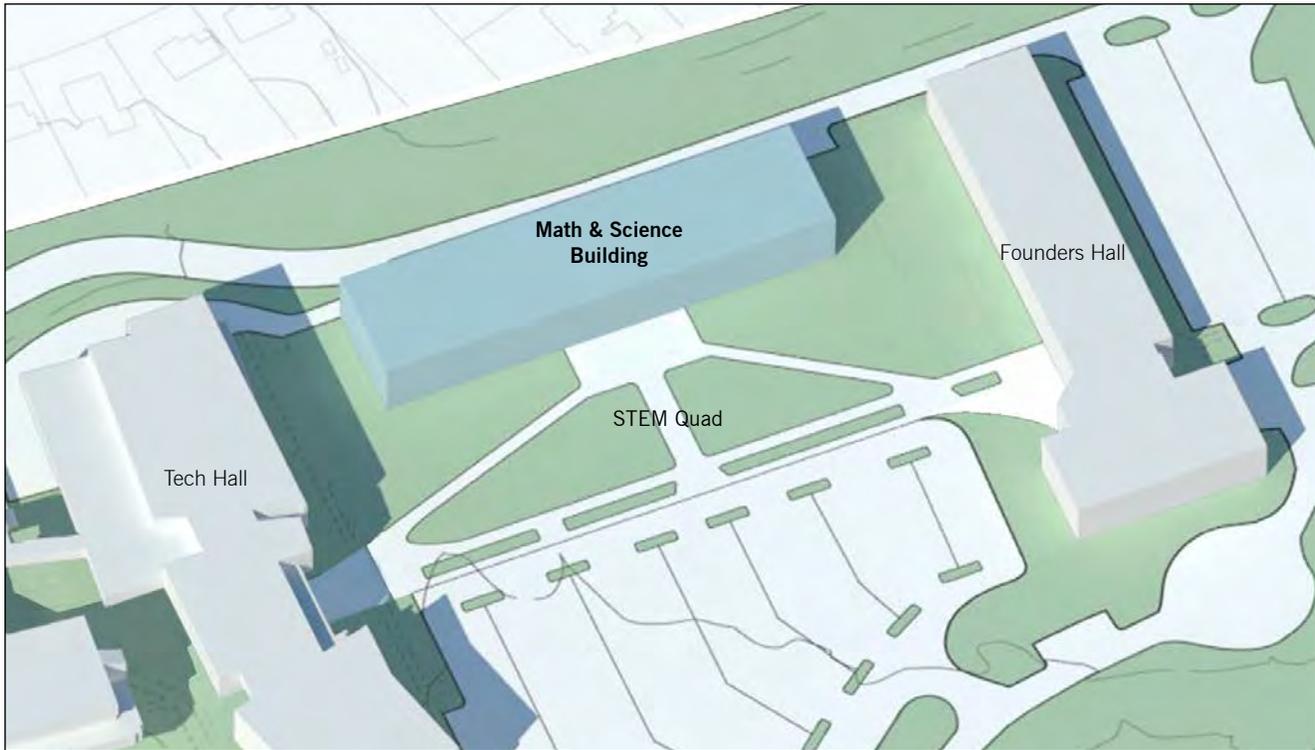
04
RECOMMENDATIONS

MATH AND SCIENCE BUILDING

The signature project of the NVCC Master Plan is a new Math and Science Building to replace long-outdated facilities in Ekstrom Hall and to complete the investment in STEM at the College following the Tech Hall project. The building will include a significant compliment of classrooms to allow modernization of teaching spaces at the College, as well as student space for gathering, study and collaboration. The preliminary program table below identifies the space needed for the projected 10-year enrollment increase of 24% by department, as well as the existing areas and areas needed for today's enrollment. The 10-year projection reflects a major increase in space by department to address the current deficit and to align with benchmarking data from similar community college programs in the region.

The recommended location for the new building on the north side of Lot E has multiple benefits. Most importantly, it concentrates the Math and Science program in proximity to Tech Hall to concentrate the STEM departments. It is also near Allied Health programs in Founders, whose majors take many science and math classes. The location also physically bridges the divide between Tech Hall and Founders Hall, to integrate the campus. Finally, it creates an opportunity to create a major significant open space for students to congregate for the first time in the STEM quad.

The Master Plan concept to accommodate the projected functional requirements is a 4-story, 110,000 GSF building with a partial basement. The massing concept reflects a footprint 80 feet by 320 feet, with a rooftop mechanical venting for laboratories. A central entrance would mark the center of the STEM quad and could include an internal atrium to vertically link the building. The concept rendering provides a vision for how the project could look. It responds to the scale of the neighboring buildings and incorporates the same brick as Founders Hall to visually unify these two buildings. The actual final design will be the result of a subsequent detailed programming and design process. The STEM quad is described more below.



Math and Science Building Summary Space Program	Existing Space	Need for Current Enrollment	Need for 2025 Enrollment (+24%)
Biological Science Discipline	9,038	16,814	22,232
Chemistry Discipline	6,120	7,336	11,851
Physics Discipline	1,579	4,090	4,246
Mathematics Department	1,735	5,893	6,517
Classrooms	NA	11,282	13,826
Student Space	NA	2,000	2,000
Subtotal (ASF)	18,472	47,415	60,672
Net to Gross Ratio Assumption: 55%			
Total GSF		86,209	110,313

MIDDLE COLLEGE HIGH SCHOOL

A key part of Naugatuck Valley’s Strategic Plan is strengthening the pathway for prospective students at risk by founding a Middle College. The Middle College will be an on-site high school with a focus on STEM education. President DeFilippis has direct experience from the Middle College at Hostos Community College creating an outstanding success story for many students. There is a precedent at CSCU – EastCONN / Quinebaug Middle College at QVCC and at Manchester Community College at Great Path Academy.

As a secondary school, the project could not be funded by CSCU BOR, and therefore is not a formal project recommendation for capital funding. The Master Plan does record the programmatic goals and confirm the NVCC campus does have capacity for a Middle College by identifying several potential locations.

President DeFilippis believes the appropriate size for the Middle College is approximately 150 students, 50 students each for Grades: 10, 11, 12. The Middle College will need significant dedicated space, as outlined in the preliminary space program table below. It can also share some College facilities like science labs, theater, greenhouses and assembly space.

PRELIMINARY SPACE PROGRAM

CORE ACADEMIC SPACES	9,900
SPECIAL EDUCATION	1,000
ART AND MUSIC (DEDICATED PORTION)	2,500
VOCATIONAL / TECHNOLOGY	SHARED
PHYSICAL EDUCATION / HEALTH	13,500
AUDITORIUM / DRAMA	SHARED
DINING AND FOOD SERVICE	3,300
ADMINISTRATION, GUIDANCE, NURSE	2,340
CUSTODIAL, MAINTENANCE	1,260
SUBTOTAL	33,800ASF
GROSSING FACTOR	1.54
TOTAL BUILDING (APPROX.)	52,052GSF

There is sufficient space in the East Campus to accommodate a new Middle College High School if some surface parking can be converted. The site plan opposite shows three potential location options. Option A is desirable since it further frames the STEM Quad. Site Option B provides more autonomy for the Middle College and may facilitate school bus flow for drop off. Site Option C is tight to the property line and may not generate the desired synergies between the programs.



Quinebaug Middle College

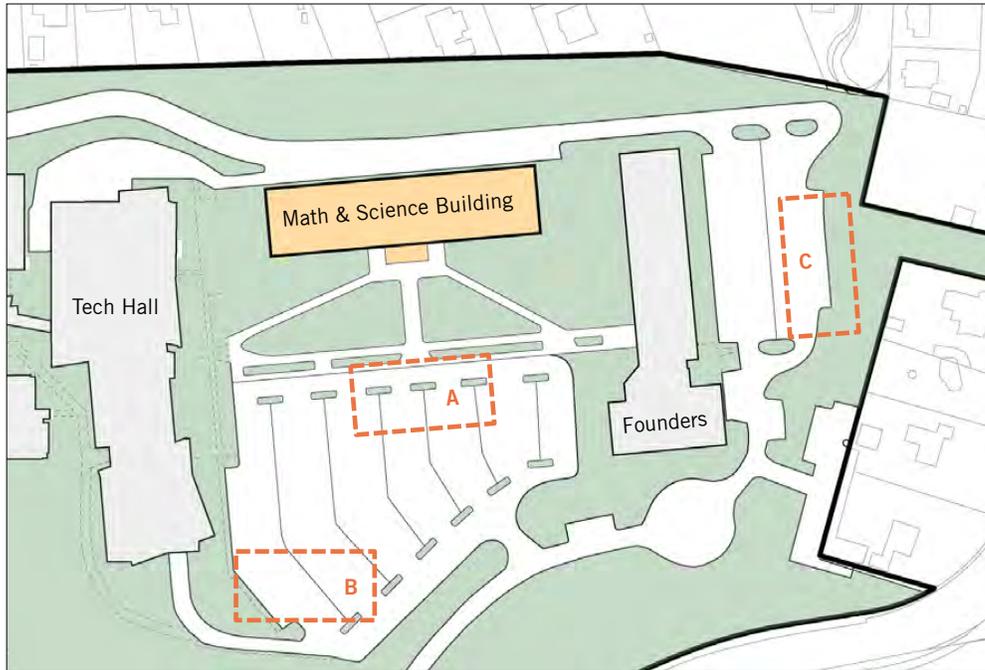


FIGURE 04.3 Middle College Potential Location Options

MAINTENANCE GARAGE

The College does not have enclosed storage for maintenance and groundskeeping equipment. Providing proper storage will prolong equipment life and ensure more reliable operations for snow removal, grounds maintenance and general campus operations. The Master Plan recommends a new Maintenance Garage to meet this need. The size will be approximately 30' deep x 90 feet long, to provide 5 vehicle bays plus a small office/storage area and restroom. The final detailed project requirements should be confirmed prior to implementation. The preferred location for the Maintenance Garage is off the Overflow Parking Lot. In this location on the campus periphery, a pre-fabricated metal building is recommended as the most cost-effective approach.



FIGURE 04.4 Maintenance Garage Location

BUILDING RENOVATION PROJECTS

INTRODUCTION

The Master Plan Recommendations include multiple renovation projects to renew the College’s facilities to meet current needs and to address deficiencies in building condition, systems and accessibility. The project scopes are preliminary and conceptual in nature. Additional detailed programming will be needed after the Master Plan before the projects can be designed and implemented.

Some renovations are smaller scale projects that can be done in the near term. Others are more comprehensive and require other projects to be done first.

CLASSROOMS

Upgrading NVCC’s older, obsolete classrooms is a high priority to meet current instructional needs. Classrooms in Kinney and Ekstrom are the focus of this project. There are approximately 13,300 ASF of classrooms in Kinney and 28,000 ASF in Ekstrom.

The existing classroom utilization analysis indicates more than half of NVCC’s classrooms are utilized less than 30 hours per week for credit classes. Once Founders Hall reopens, NVCC will have access to more classrooms than needed for the current enrollment. There will be sufficient capacity to both renovate and repurpose older classrooms. The classroom renovations will take two forms. Some spaces will be refurbished – to retain the current walls and have a comprehensive refurbishment with new finishes, lighting, technology, power and furniture. Other classrooms would be repartitioned to resize and thereby “decompress” the space. With more space per seat, classrooms can be used more flexibly for active learning as well as traditional lecture based instruction. The preliminary project scope assumes all existing classrooms in Kinney and Ekstrom would be renovated with a 50/50 mix of refurbishment / repartitioning. Classrooms in Tech Hall do not require modernization since they are relatively new. There are relatively few classrooms in the ASL Building.

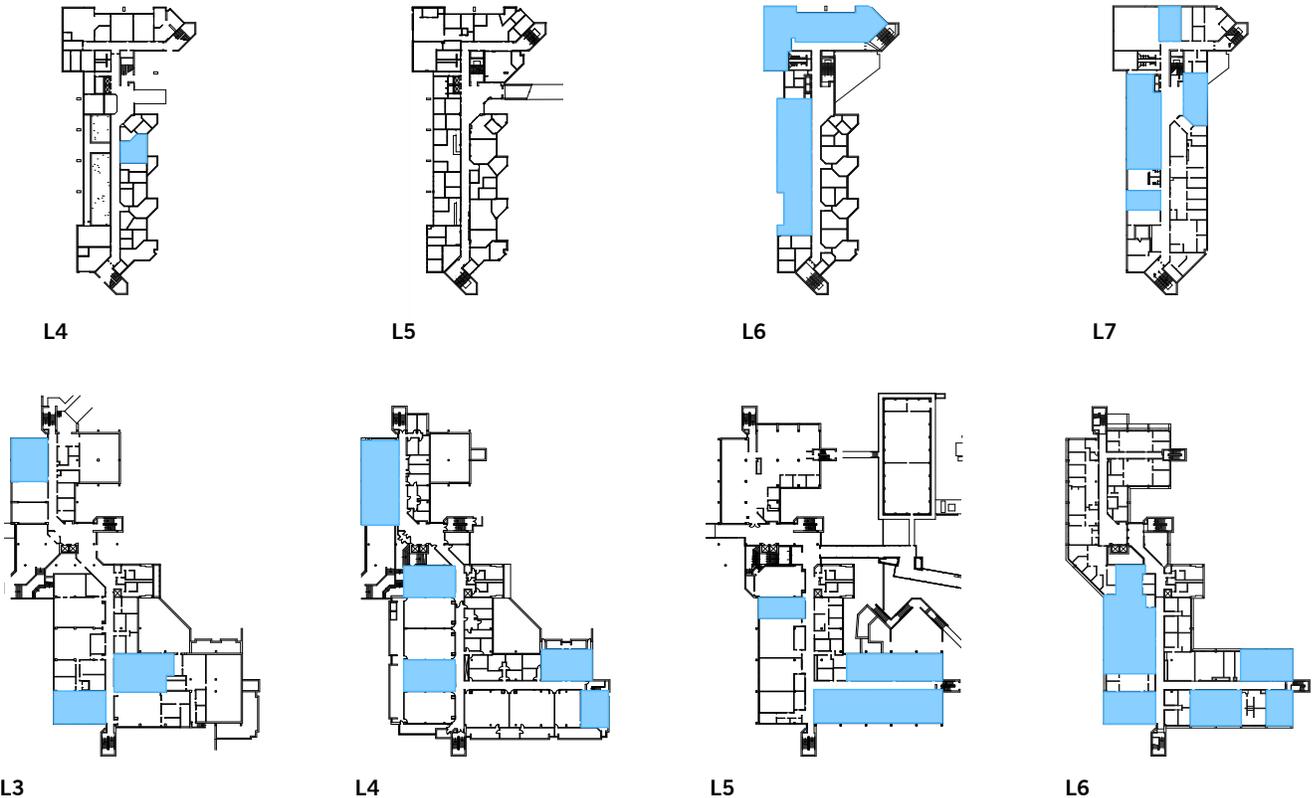


FIGURE 04.5 Existing Classrooms in Kinney and Ekstrom Halls Needing Renovation

ADA

Most buildings at the College were built prior to the Americans with Disabilities Act and the awareness of the importance of accessibility. In 2014, NVCC and CSCU BOR commissioned a comprehensive ADA Compliance Study, by Silver / Petrucelli + Associates. The study assessed all buildings at the college as well as the site. The study assessed each building in 29 categories and ranked the priority of project need. The buildings requiring the most renovation to comply are the Learning Center, Ekstrom and Kinney in that order.

Silver / Petrucelli prepared order-of-magnitude cost estimates for these projects. The Master Plan incorporates the findings of this study as well as the cost estimates, adjusted for inflation. For cost effectiveness, and to minimize disruption, the ADA projects could be implemented as part of the following comprehensive renovations by building.

TECHNOLOGY HALL

The Advanced Manufacturing Technology Center, currently located in series of classroom and lab spaces on the 4th floor of the Technology building, also requires modest expansion.

KINNEY RENOVATIONS

Kinney Hall requires a comprehensive renovation to reallocate space to meet current and projected needs and to address significant building deficiencies. Sprinklers need to be added to the building and an upgraded fire alarm system. The entire HVAC system requires replacement – equipment, distribution system and controls. Kinney also requires upgrading electrical capacity and distribution. The project should also consider window replacement and increasing insulation to improve energy performance. Restrooms will need reconfiguration to meet ADA. Elevators are not large enough to meet ADA and require enlarging the floor openings (structural feasibility analysis will be required).

The Kinney Hall comprehensive renovation addresses a number of functional needs for departments currently in the building and for Public Safety. Now located on two levels in the Core Building, Public Safety is effectively hidden away in a hard-to-find location. As a result, few students know where it is if they need to access security. A new, accessible, consolidated location on the ground floor (Level 4) of Kinney was considered, but not approved. A suitable location for Public Safety is needed. The Child Development Center must remain given its link to the outdoor play area. The spaces east of the corridor (Women’s Center, Lifelong Learning, Classroom, administrative areas) would need to relocate to other areas in the building, possibly Level 6. This can be accomplished by repurposing surplus classrooms.

On Level 5 of Kinney, Center for Academic Progress and Student Success (CAPPS) requires expansion and renovation in the current general area. Admissions, Financial Aid and Registrar also require modest expansion, more efficient layouts and condition upgrades. Level 6, is now largely occupied by the Liberal Arts Faculty, classrooms and computer classrooms. Faculty offices would remain and be refurbished and expanded and as needed. Classrooms could be taken off line to permit expansion of other functions. Finally, Administrative areas on Level 7 would be refurbished and reconfigured as needed. Together, this project scope assumes 31,000 SF of gut renovation (including restrooms) and 28,000 ASF of refurbished areas to remain.

EKSTROM RENOVATIONS

Two renovation projects are recommended for Ekstrom Hall, in addition to the classroom upgrade. The first is repurposing Level 6 after Allied Health programs are relocated to Founders Hall, vacating much of this floor. The second is a comprehensive renovation of the building following completion of the new Math and Science Building, once these departments are relocated.

Level 6 Renovation

This project represents a gut renovation of approximately 20,400 internal square feet on the upper level of Ekstrom Hall. The scope will include expansion of Information Technology, providing space for student counseling, tutoring, classrooms, computer labs and one additional science lab. The scope also includes upgrading restrooms to comply with ADA, and upgrading power distribution / capacity, technology, and HVAC distribution on this floor if this can be achieved prior to upgrades to the building as a whole.

If funding permits, the Level 6 Renovation could be combined with the Ekstrom Classroom Renovation project.

Comprehensive Renovation

Once the new Math and Science Building is completed and these departments relocate, most of Ekstrom will be vacated, except for the ACE, IT and Business Division. The Master Plan recommends a complete renovation of the building to repurpose available space and to upgrade the building systems, condition and accessibility. The project also includes an Entry / Elevator Addition on the west side to address accessibility and better control building access.

The addition will total approximately 11,500 GSF in new construction, for the elevator tower and for space to connect this to the stepped-back profile of the building. The concept is to thread this new construction between the bridges at Level 3 and Level 5 as shown on the plans below. At ground level, a welcoming new, accessible entrance will face the main parking area. This will lead to a vestibule and a new elevator lobby, connecting to all levels above, including a link to Fifth Avenue. To create this entrance, it will be necessary to create new piers to support the Level 3 exterior bridge and then remove a portion of the existing support piers to provide circulation. The existing electrical transformer under the Level 3 Bridge abutment will require replacement for electrical service

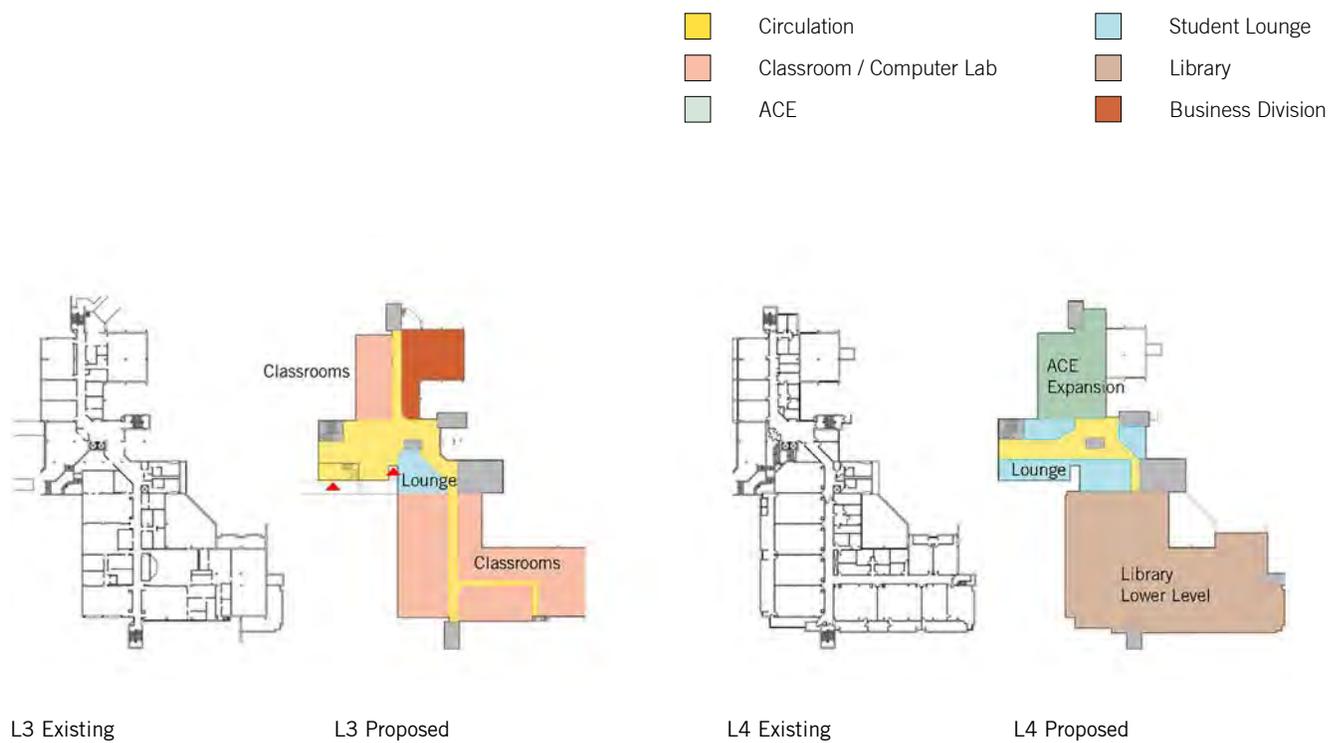


FIGURE 04.6 Ekstrom Comprehensive Renovation

upgrades and should be relocated. The addition is shown on the Ekstrom renovation plans below. It replaces exterior building entrances that now exist on Levels 3, 4 and 5.

A signature element of the project is the relocation and expansion of the Library to Ekstrom Hall. This will allow the Library much-needed expansion, will locate it centrally in the campus, and will further activate Fifth Avenue. The Library entrance will be on Level 5. By reconfiguring the current layout, a welcoming, open new entry lobby can be created. The Library will occupy much of Level 5 and Level 4 and total approximately 30,000 ASF. Creating an opening in the floor and adding a communicating stair to visually and functionally unify the Library will be desirable. A structural feasibility study will be required for this concept and more generally to confirm the load capacity for library books. Structural reinforcement of the cast-in-place concrete frame and waffle slab could be required.

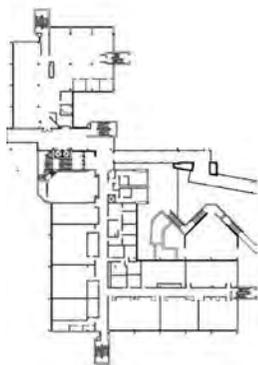
The ACE will remain on Ekstrom Level 5 and expand onto Level 6 above. ACE staff note that this location is ideal, across from the Library. The Business division will relocate to Level 3 and expand. The former science lab on Level 6 (vacated once

the Math and Science Building opens) would be repurposed as computer lab. The balance of the building would be gut renovated as state-of-the-art classrooms and computer labs (excluding classrooms already modernized). Together, this project scope assumes 80,000 SF of gut renovation (including restrooms) and 5,000 ASF of refurbished areas to remain.

The scope would also include ADA projects from the Silver / Petrucelli Study, reconfiguring the sprinkler system and adding a new fire alarm system, replacing and upgrading the building electrical service and replacing the outdated HVAC systems. The project should also consider window replacement and increasing insulation to improve energy performance.

Starbase, a program for Waterbury fifth and sixth graders, will remain in Ekstrom.

	Circulation		Library
	Classroom / Computer Lab		Computer Labs
	ACE		IT
	Student Lounge		Faculty Office



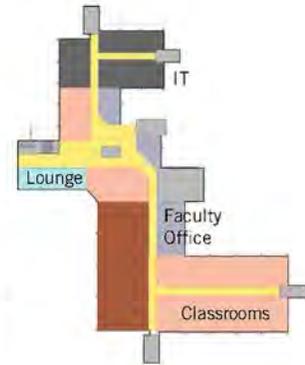
L5 Existing



L5 Proposed



L6 Existing



L6 Proposed

ASL RENOVATIONS

Following the completion of the Math and Science Building and relocation of the Library to Ekstrom, the Master Plan recommends a comprehensive renovation of the ASL Building to reallocate space and modernize building systems. ADA renovations should be addressed earlier. The complex comprises the Fine Arts Center, Student Center and Learning Resource Center.

Once the Library relocates, these areas on Level 4 and 5 would be gut renovated to remove the stack mezzanines and infill the atrium. The Bookstore would be relocated from Level 3, where it is hard to access, to Level 5 for a direct link to Fifth Avenue. The store offerings could include grab and go food for evenings, Fridays and weekends when the Cafeteria is closed and there is no other food service. The Library study area (Room L501) and the Job Placement offices can remain since their current locations serve them well. Also on Level 5, Music and Drama practice rooms could be relocated to allow this space directly facing Fifth Avenue to be used as a Student Game Room. In this way, the cafeteria dining area could be reclaimed for this use, rather than split into multiple sometimes competing uses. The Prism Lounge and student activity spaces would be refurbished. If structure permits, it would be desirable to lower the level of the Prism Lounge to be at the same level as Fifth Avenue.

On ASL Building Level 4, the vacated Library can be used for expanding Arts and Music Programs, including Digital Arts. The Veterans Center would be relocated to a larger, more visible location on the floor. On Level 3, the vacated Bookstore would be gut-renovated to become an Art Gallery / Multipurpose space. This would provide great synergy with Theater and Playbox Theater, also on this level with access from the exterior. To activate the gallery, storage areas would be relocated to the east side of the former bookstore and a gallery entrance provided directly to the main lobby. Glazing would be added to the north elevation to provide views to the planned garden terrace outside. The Playbox Theater will have its HVAC system redone to eliminate diffuser noise which currently disrupts performances. Restrooms will be renovated. The Copy Center can remain or be relocated if more space is needed. Together, the project assumes almost 30,000 SF of gut renovation and 80,000 SF of areas to be refurbished where uses will remain unchanged, including hallways, lobbies, dining, offices and performing arts spaces.

Replacing the three roof-mounted electrical substations on the ASL Building is split out as its own infrastructure project given how critical this project is for maintaining operations. The current units have experienced water infiltration, resulting in loss of power for prolonged periods. The fuses used in the substations are no longer manufactured. Replacing these in the near term is a high priority.

It is also recommended that the Public Safety Department be relocated from its current facilities in the Core Building.

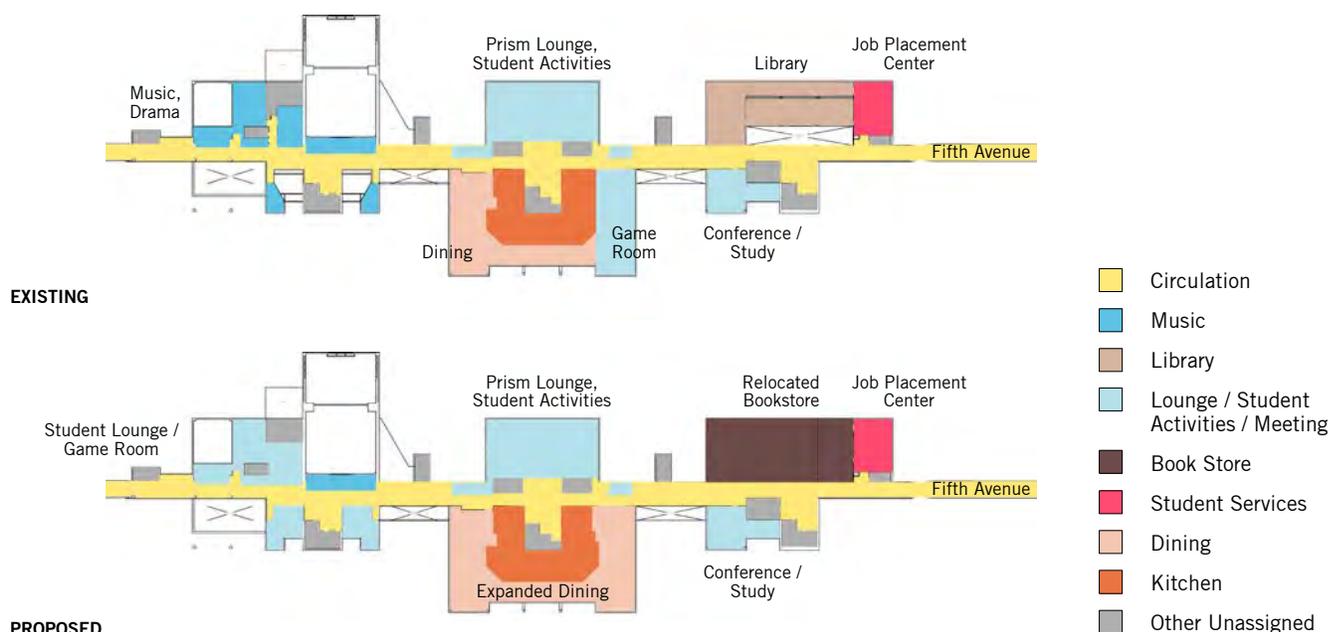
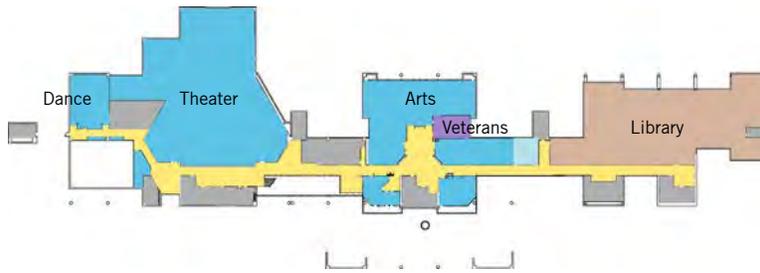
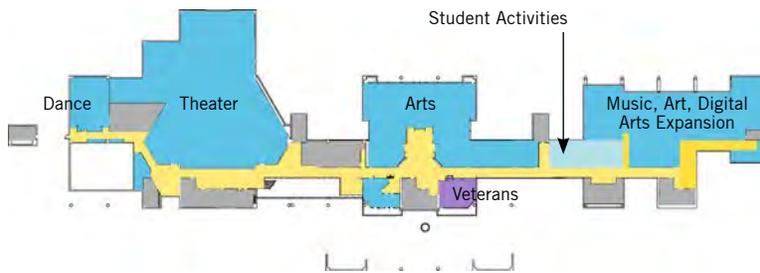


FIGURE 04.7 ASL Renovation - Level 05



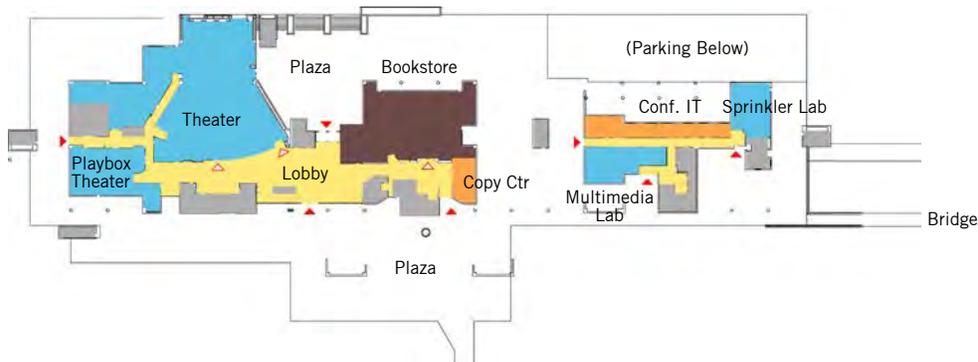
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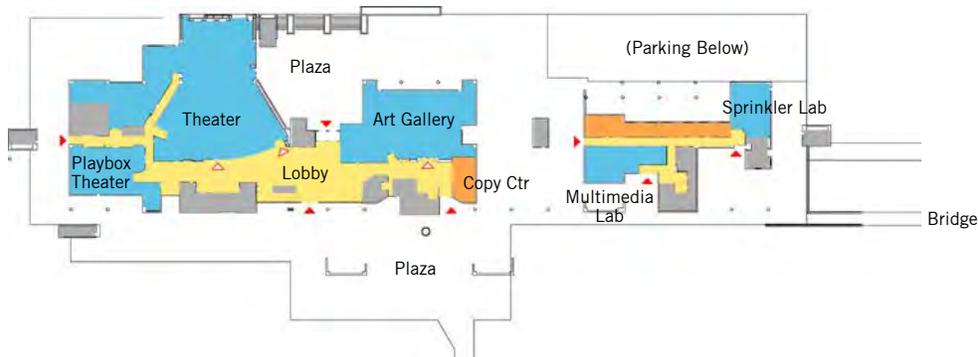
PROPOSED

FIGURE 04.8 ASL Renovation - Level 04

- Circulation
- Theater / Arts
- Library
- Veterans
- Lounge / Student Activities / Meeting
- Other Unassigned



EXISTING



PROPOSED

FIGURE 04.9 ASL Renovation - Level 03

- Lobby / Circulation
- Theater / Arts
- Bookstore
- Other Academic, Support
- Other Unassigned

OPEN SPACE, PARKING AND INFRASTRUCTURE PROJECTS

STEM QUADRANGLE

This new signature open space will provide a suitable setting for the new Math and Science Building, help unify the ends of the campus, and provide the first level outdoor space for students that is suitable for recreation and gathering. Interviews with students revealed that such as space is lacking now and desired. The project scope is integral with the adjacent new Math and Science building and included in the cost estimate. The quadrangle occupies a portion of Lot E. The Overflow Lot provides replacement spaces for those lost to the quad and the building. The demolition of the obsolete Founders Annex will clear the area southeast of the STEM Quad to provide a more complete and open overall setting.

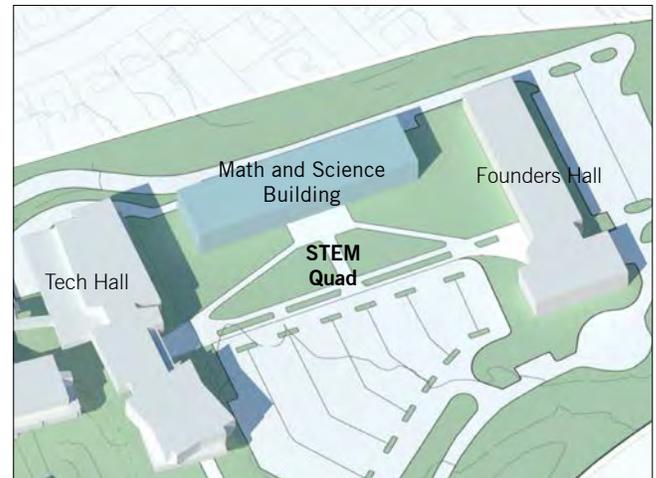


FIGURE 04.10 STEM Quadrangle

TERRACE GARDENS

The bare concrete deck above the Core Garage makes for a sterile setting at the main entrances into the ASL Building. Standing on this hardscape, one cannot experience the beautiful ground level gardens or the verdant Glacier Ridge area. To green the podium and improve the setting around the ASL Building, the Master Plan Recommendations include creating Terrace Gardens. These gardens would consist of raised planting beds installed on the existing cast-in-place concrete deck. The beds would be edged with a low wall, also suitable for bench seating. Plumbing would be needed (either as hose bibs or irrigation) for adequate maintenance. As with the other gardens, the College anticipates that the Horticulture program could assist in upkeep. The curvilinear concept shown is intended to be a relief to hard edged geometry that predominates in the ASL complex.

A first, pilot phase project could test feasibility in a select area. A second large phase could be implemented once the concept proves successful. This project could be done stand-alone or bundled with ASL renovations. A detailed feasibility study to test structural capacity and other factors is required before implementation.

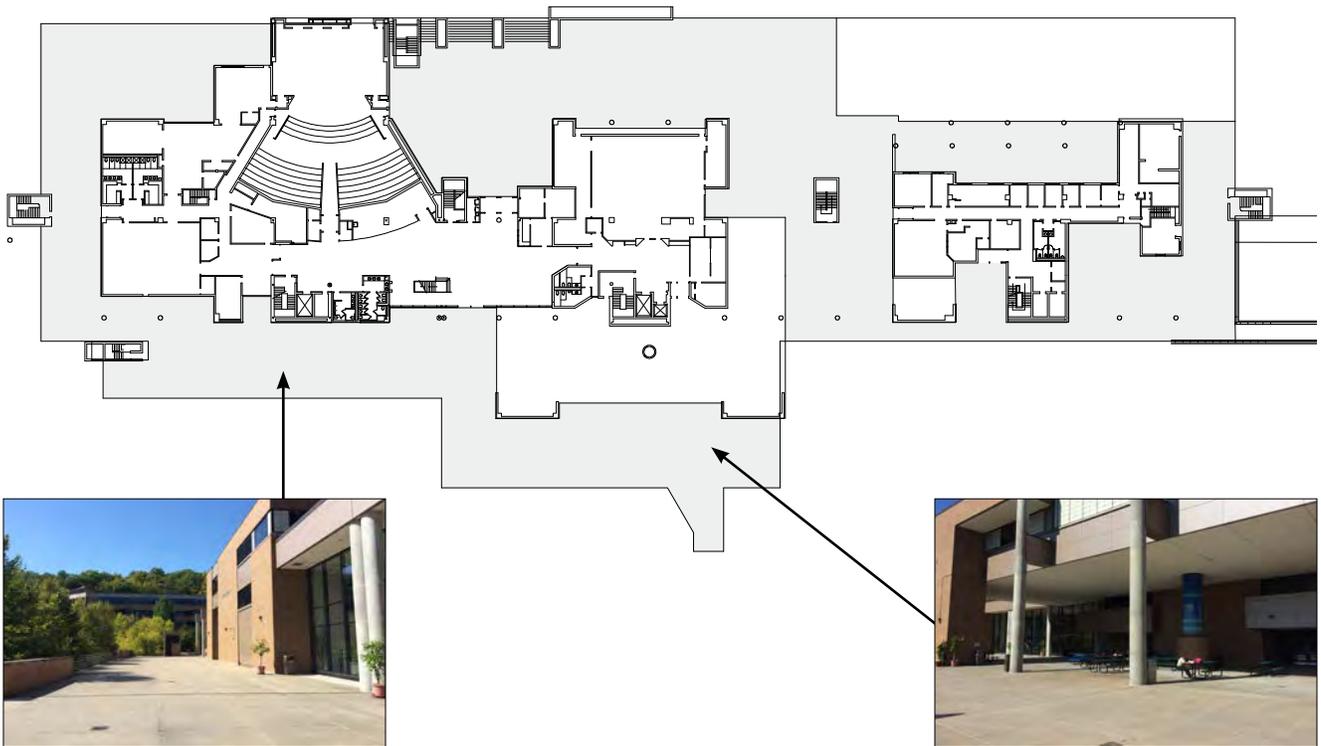


FIGURE 04.11 Existing ASL Outdoor Areas

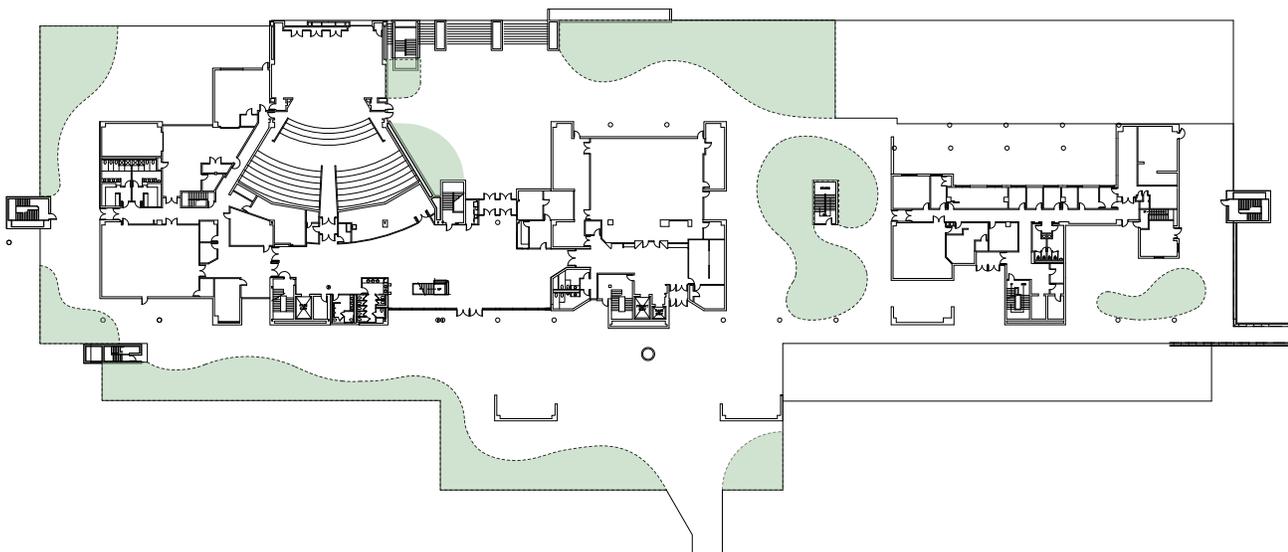
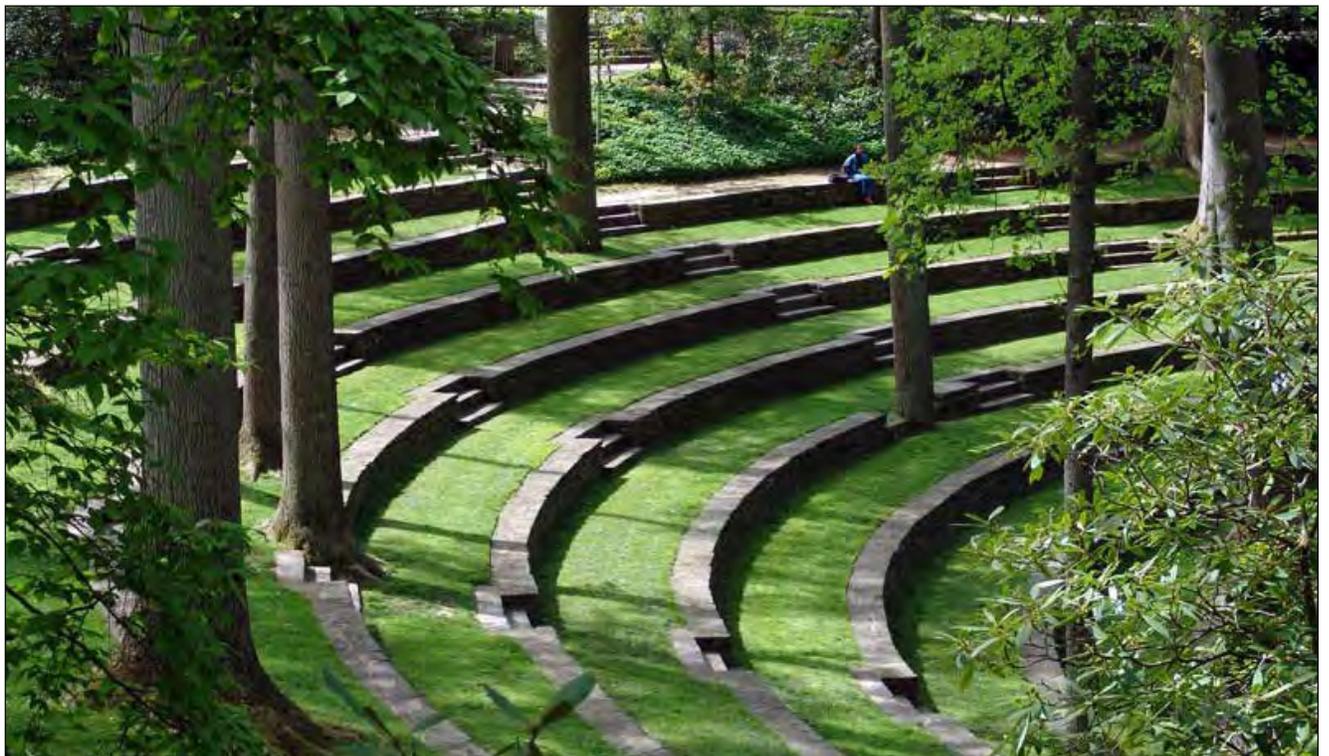


FIGURE 04.12 Terrace Garden Concept



GLACIER RIDGE TRAIL IMPROVEMENTS AND AMPHITHEATER

The Glacier Ridge Trail today provides recreation and research opportunities. But this significant area is an underutilized asset. An enhanced trail system and an amphitheater would greatly enhance the College's ability to host a variety of activities and occasional outdoor events. A detailed assessment of the landscape, topography and programmatic needs will inform the appropriate solution. The feasibility of providing wheelchair access in a rugged landscape will also require careful study. For this reason, the Master Plan recommends a detailed Landscape Feasibility Study to frame the project so a budget can be developed. The precedent images at left and below are the Scott Outdoor Amphitheater at Swarthmore College in Pennsylvania.



Swarthmore College Amphitheater

OVERFLOW PARKING LOT

This project entails leveling and expansion of the clearing known as “the Bone Yard” in the woodlot north of the ASL Complex to create a new 195-space surface parking lot. The lot would be three bays wide, approximately 180' x 325' and have a gentle slope. The existing dirt access roads would be paved to allow vehicular access from either side. Existing trees and vegetation east of the lot should be maintained to serve as a buffer for the adjacent residential area. Sustainable storm water measures are recommended at the south edge of the lot to detain and purify runoff to meet applicable regulations. Sidewalks are provided along each access drive for pedestrians going to and from the lot. Exterior lighting would be provided for security. This project should be sufficient to accommodate the current enrollment even after the loss of spaces to the new Math and Science Building and the STEM Quadrangle.

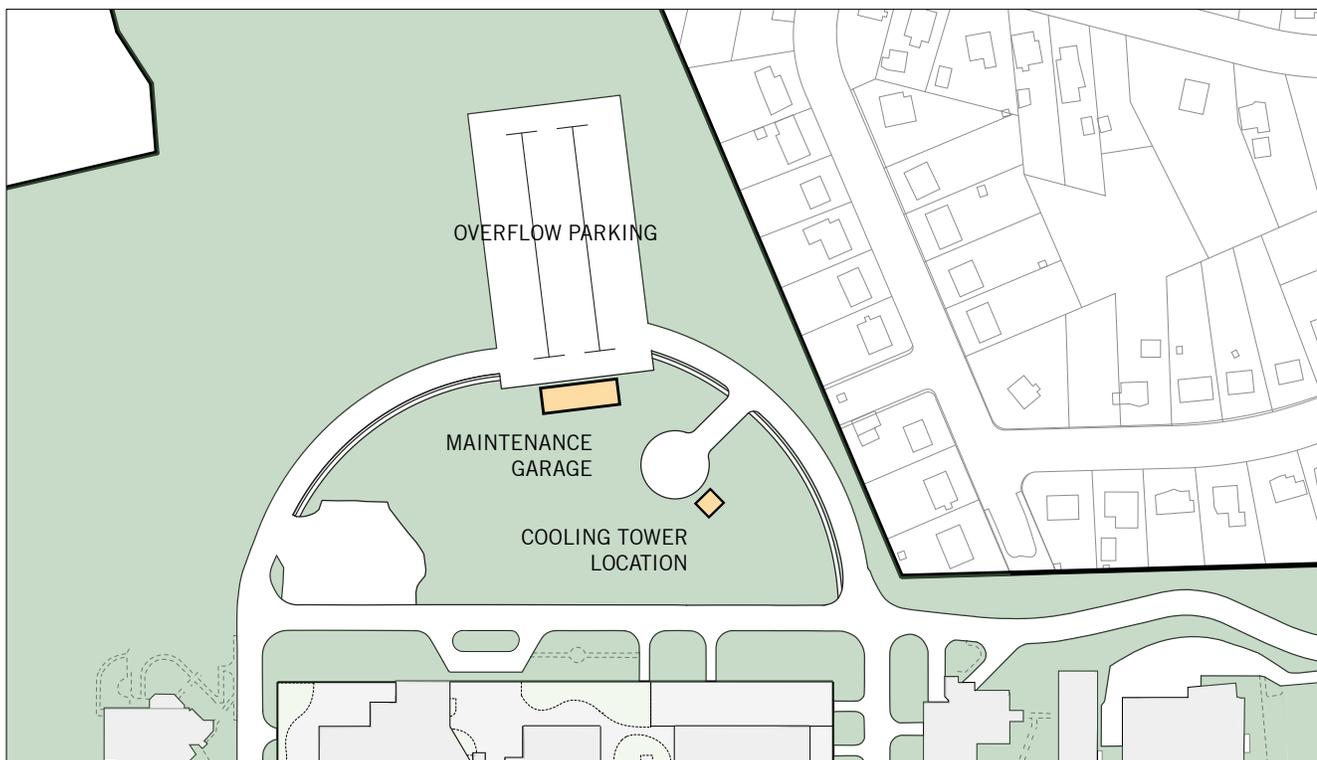


FIGURE 04.13 Bone Yard Overflow Parking

PARKING GARAGE

When the College enrollment grows 24%, it will need a 645-car garage to meet this demand, unless there is a significant shift to alternative transportation options like transit or ride shares. The table at right outlines the assumed metrics resulting in this 645-space garage.

Lot D, south of Ekstrom, is the preferred location. The garage configuration would relate to the edge of Ekstrom and parallel the adjacent hillside. Since this very large structure will be very visible, providing some architectural treatment to the elevation, likely with brick, is recommended to enhance its appearance and visually tie it together with the campus. Otherwise, this structure could greatly detract from the campus setting. Concepts for a pedestrian bridge to link the upper level of the garage either to Ekstrom or to ground level next to Tech Hall were studied, but dropped given the considerable distance and resulting cost implications. Pedestrians exiting the garage at ground level will have a clearly defined, accessible entrance in the new Ekstrom entry and elevator addition, described earlier. The Garage will displace one of two motorcycle training ranges. The new Overflow Parking lot will replace the lost range in Lot D.

For the current enrollment, a garage is not required. The overflow lot would be sufficient to replace spaces lost to the Math and Science Building.

PROJECTED PARKING NEED / 10-YEAR ENROLLMENT (+24%)

Spaces for Enrollment Growth	491
Replace Lost Spaces at Lot E to new development	244
Spaces Added when Founders Annex demolished	-45
Spaces Added at Overflow Lot	-195
Replace Spaces Lost at new Garage Site	150
Garage Size / Total Spaces Needed	645

PROJECTED PARKING NEED / CURRENT ENROLLMENT

Replace Lost Spaces at Lot E to new development	244
Spaces Added when Founders Annex demolished	-45
Spaces Added at Overflow Lot	-195
Total Spaces Needed	4



FIGURE 04.14 Proposed Parking Garage

RELOCATE COOLING TOWER

The large cooling tower south of the Core / ASL Building is an unsightly piece of utilitarian infrastructure effectively in the front yard of the west campus. To correct this problem, while maintaining the needed function, the Master Plan recommends relocating the cooling tower to the north side of the ASL Building. The modular cooling tower unit would be disassembled for transportation. A new foundation and steel dunnage will be provided to support the unit, and approximately 900 feet of new piping trenched to connect the tower to the central plant. This distance is within acceptable norms, but will require appropriately sized pumps. The location of the current cooling tower would then be restored as open space near the Biblical Garden.

ASL ELECTRICAL SERVICE

The ASL Building has three rooftop electrical distribution substations on the roof, one each for Fine Arts, Student Center, and Library Center. They were installed when those buildings were built in the late 1980's. The primary voltage is 13.8 kV which is then stepped down to 460 V for distribution to each floor of the respective buildings.

The exterior enclosures have deteriorated, resulting in water infiltration, electrical shorts to obsolete fuses, and occasional loss of power. In one case, the Student Center and Library buildings were without power for about a day and a half. Replacing these substations with upgraded, weather-proof equipment is a critical infrastructure project that could be implemented at any time.

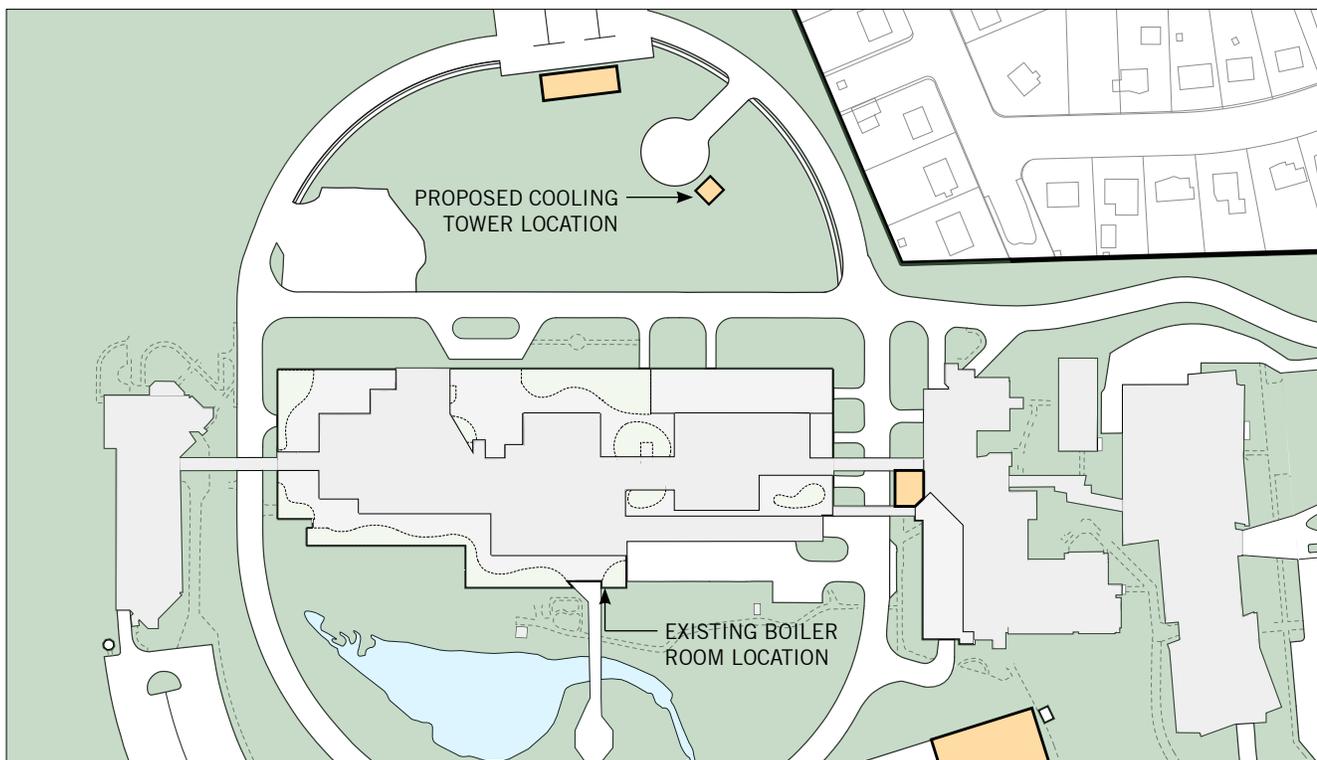


FIGURE 04.15 Proposed Cooling Tower Location

GUIDELINES

DESIGN PRINCIPLES

Based on in depth analysis of the College campus, its facilities and input from the interviews and the Advisory Committee, the Planning Team prepared the following Design Principles to guide capital investment in land, open space and building projects for the Master Plan.

- Improve the College's visibility and appearance along Chase Parkway.
- Clarify wayfinding outdoors and indoors to provide a more welcoming, supportive experience
- Activate and enhance the entire length of 5th Avenue
- Increase visibility and accessibility of student services and student life facilities
- Focus social spaces and community activities in the core of campus
- Consolidate each academic department to enhance its individual identity, wherever possible
- Continue to improve outdoor spaces and learning environments
- Strengthen and activate the connection between Technology Hall and New Founders
- Embed sustainability integrally into the design of open space and building projects

ARCHITECTURAL CHARACTER

Naugatuck Valley does not have a clearly defined architectural style to guide the design of future buildings. Kinney, Ekstrom and the ASL Building share a spare, utilitarian style, with brick, concrete and glass the predominant materials. The lighter material palette of Tech Hall is a deliberate departure from these original buildings, however, it is a style which some at NVCC do not consider appropriately “collegiate”. The current design for the retrofit of Founders Hall draws on the collegiate tradition of brick and defined window openings, rather than ribbon windows. The project also has clearly defined main entrances, including large expanses of glass and precast.

The College would like the expression of the new Math and Science Building to be sympathetic to Founders Hall, to form a cohesive ensemble around the new STEM Quadrangle. One way to achieve this could be to match brick color, and use defined window openings rather than large expanses of glass. The earlier concept rendering gives one idea of how the building could be realized.



Expansions and alterations to the original buildings could utilize metal panel and high performance glass to be distinctive from the original structures, where contrast is desired, such as in the new Ekstrom elevator tower. More modest infill projects could match the existing brick and use high performance glazing.

The extensive use of translucent Kalwall paneling in the window openings along much of Fifth Avenue represents a significant opportunity. While this material has excellent energy-efficient properties, it blocks what would be sweeping, signature views to the rolling landscape beyond. Replacing the Kalwall with high-performance, insulated vision glass would transform much of the experience along Fifth Avenue, the main artery that connects the NVCC community.



SUSTAINABILITY

The graphic below summarizes the integrated approach to sustainability in the Master Plan. New buildings and additions are required to comply with the High Performance Building Standards of the State of Connecticut. This relates approximately to a U.S. Green Building Council LEED certified rating. The Planning Team encourages Naugatuck Valley to strive for the highest level of sustainability in building design and energy use feasible within the project budget. This approach will be especially important for minimizing increases in operating costs given that science buildings are energy-intensive in use.

The Plan recommends new construction utilize a durable, high performance building envelop, energy-efficient LED lighting, low-flow plumbing fixtures, recycled materials and high efficiency heating and cooling systems. The design should also consider such strategies as rainwater and gray water reuse for irrigation and PV arrays on roofs for generating renewable energy.

A separate system-wide Energy Master Plan will address opportunities at NVCC and be included in the Technical Appendix.



IMPLEMENTATION AND COST

Project feasibility hinges not only on funding, but also a careful understanding of implementation factors. The Master Plan considered swing space, phasing and project priorities. Input from the College was central to establishing priorities. To guide the capital budgeting process, the Planning Team also prepared order-of-magnitude cost estimates for the recommended projects. The Team also took into account current projects so the 10-year vision was in sync with near-term capital planning.

CURRENT PROJECTS

The College was in planning, design or construction phase for the following projects during the development of the Master Plan. The Plan reflected and coordinated with these projects.

Founders Hall / Health Sciences Building

This project converts the old Founders Hall, the former Waterbury State Technical College Building, to a new state-of-the-art Health Sciences Facility that also includes new classrooms, a community multipurpose room, and a lecture hall. The project is a gut renovation that saves the structure and provides a new exterior and interior. The planned spaces in Founders were included in the existing space inventory for the purpose of projecting space needs since the project will be completed in the near term. Once opened, space in Ekstrom Hall occupied by Health Science departments will be vacated. Founders Hall Annex will remain vacant, pending funding to remediate hazardous materials and demolish the structure, which cannot be repurposed to meet contemporary needs.

Central Plant Upgrade

The contract to upgrade the Central Plant in the Core Building was awarded to a Mechanical Engineer and is proceeding into design in Spring 2016. This project will replace obsolete boilers, add operational redundancy to mitigate risk and increase energy efficiency.

Energy Master Plan

A system-wide Energy Master Plan for all 16 CSCU Campuses was being conducted concurrently with the College Master Plan, as part of the overall process. The EMP is being conducted by Perkins+Will and Woodard & Curran. The overarching goals of the EMP are to realize energy efficiencies through a range of actionable energy conservation measures and potentially renewable energy projects, both framed system-wide and tailored to opportunities at each campus. Once completed, the Energy Master Plan chapter for NVCC will be a section of the Technical Appendix.

PHASING CONSIDERATIONS

Many projects recommended in the Master Plan can be implemented directly once funding, detailed programming, design and approvals are in place. These could be considered “Independent” Projects since they do not require any enabling projects – swing space, demolition or relocations – before construction. These are listed as follows:

INDEPENDENT PROJECTS

- Math and Science Building + STEM Quadrangle
- Middle College (by Dept. of Education)
- Classroom upgrades in Kinney and Ekstrom
- ADA compliance projects
- 6th Floor Ekstrom renovation, ACE expansion, others
- ASL Building Condition Upgrades
- Energy Conservation Measures
- Overflow Parking Lot and Access Drives
- Parking Garage, Lot D (if needed for enrollment)
- Gardens at Core Terraces (if done independently from ASL Renovations)
- Glacier Ridge Trail enhancements, amphitheater
- ASL Rooftop Electrical Substation Replacement

Other projects recommended in the Master Plan do require either swing space, relocation of other functions and / or demolition of existing structures to be realized. These could be considered “Linked” or “Swing Space” Projects. The prior enabling tasks required are listed below each such project, as follows:

LINKED / SWING SPACE PROJECTS

- Ekstrom Comprehensive Renovation

Required Enabling Project: Math and Science Building, to vacate science and math spaces

- ASL Comprehensive Renovation

Required Enabling Project: Ekstrom renovation, to vacate library space

- Kinney Comprehensive Renovation

Required Enabling Project: Math and Science Building, to add classrooms and provide swing space

- Maintenance Garage

Required Enabling Project: Overflow Lot at “Boneyard” and Drives, to provide access

Markups

General Conditions, General Requirements, Insurance & Bond, Permits	15%
Construction Manager Fee	4%
Construction Contingency	Excluded
Escalation	Excluded
Project Cost markup on Construction Cost	45% (per CSCU Guidelines)
FFE, Technology and Equipment	5-15% (Included in Project Cost Markup)

COST ESTIMATES

The Planning Team prepared order-of-magnitude cost estimates for the Master Plan recommended projects. The estimates were based on the space program and conceptual site, building and renovation projects noted above. The basis of the estimate reflects the following approach / assumptions at right. Given the broad, preliminary scope of Master Plan projects, and the fact that needs, conditions, and priorities can change over time, it is important to review and refine program and budget assumptions prior to implementation.

Assumptions

- Project Cost
 - 45%: New Construction and Renovations
 - 35%: Parking Garages
 - 30%: Roads / Parking / Open Space
 - 30%: Infrastructure
- Labor costs included at local union rates
- Long lead items can be purchased to meet schedule requirements
- Figures in 2016 1 Qtr. dollars
- Once project bid date known, budget figures to be escalated to reflect inflation

COST ESTIMATE

New Construction / Expansion Projects *

	GSF	Order-of-magnitude Const. Cost	Project Cost
Math and Science Building	110,000	\$61,270,000	\$88,841,500
<i>Math and Science Building Alternative (current enrollment)</i>	<i>86,000</i>	<i>\$48,074,000</i>	<i>\$69,707,300</i>
Facilities / Maintenance Storage Garage	2,700	\$758,700	\$1,100,115
Subtotal (excluding Alternatives)	112,700	\$62,028,700	\$89,941,615

Renovations

Kinney Hall Classroom Upgrades	13,300	\$2,606,800	\$3,779,860
Kinney Hall Comprehensive Renovation (includes Silver/Petrocelli pricing-sect. A)	59,000	\$17,700,000	\$25,665,000
Ekstrom Hall 6th Floor and Classroom Renovations	29,258	\$7,841,144	\$11,369,659
Ekstrom Hall Comprehensive Renovation, Flrs 3, 4, 5 (includes Silver/Petrocelli pricing except elevators-sect. A)	76,200	\$22,479,000	\$32,594,550
Ekstrom Hall Comprehensive Entry Addition	11,500	\$6,497,500	\$9,421,375
ASL ADA Renovations (pricing from Silver/Petrocelli Study)	1	\$6,259,447	\$9,076,198
ASL Comprehensive Renovation	109,500	\$28,032,000	\$40,646,400
Subtotal	298,759	\$91,415,891	\$91,738,523

Roads / Parking / Open Space Projects

Overflow Parking Lot, North of ASL (195 spaces)	58,000	\$3,422,000	\$4,448,600
Parking Garage, 5 levels (649 spaces)	237,500	\$27,312,500	\$36,871,875
Demolish Founders Annex, Surface Parking Lot (41 spaces)	27,934	\$1,452,568	\$1,888,338
Terrace Garden, Phase 1 (12,000 SF)	12,000	\$876,000	\$1,138,800
Terrace Garden, Phase 2 (60,000 SF)	60,000	\$3,600,000	\$4,680,000
Subtotal	395,434	\$36,663,068	\$49,027,613

Infrastructure

Relocate Cooling Tower	1	\$2,914,162	\$3,788,410.60
ASL Electrical Substation Replacement (cost provided by owner)	1	\$959,836	\$1,247,786.80
Subtotal	1	\$3,873,998	\$5,036,197

General Fund Totals	806,894	\$193,981,657	\$235,743,949
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* Not in sequential or priority order. Including associated sitework, landscape and infrastructure projects. Excluding building demolition where applicable.

PROJECT PRIORITY CATEGORIES

The College Master Plan Advisory Committee considered the relative need and urgency of the full range of recommended projects. The Committee with the Planning Team arrived at these two priority categories:

Priority 1: Projects with the greatest need

Priority 2: Projects to follow

The CMPAC confirmed projects to be assigned to the two categories listed to the right. The lists are not intended to be in order of relative priority or implementation sequence. Given typical funding cycles for major projects, the College may receive General Fund capital for some but likely not all of the listed projects in the next 10-year period. Other projects could be funded from other sources like annual capital improvement funds for maintenance and repairs and for the Middle College, Department of Education funding.

Priority 1 Projects

- Math and Science Building, STEM Quadrangle
- ASL Rooftop Electrical Substation Replacement
- Classroom Renovations in Kinney and Ekstrom
- Central Plant / Boiler Upgrade
- Renovate vacated Ekstrom 6th Floor
- Relocate / Expand Library, other Ekstrom Renovations, Entry Addition
- Renovations for ADA
- Renovations for Major Building Deficiencies
- Energy Conservation Measures
- Middle College (by CT Dept of Ed.)

Priority 2 Projects

- Relocate Bookstore / Create Gallery, Garden Terraces, Other ASL Renovations
- Kinney Renovation
- Maintenance Garage
- Glacier Ridge Trail and Amphitheater
- Overflow Parking Lot
- Parking Garage, Lot D

ALTERNATIVES CONSIDERED

As part of the Recommendations phase, two alternative development approaches were considered. While they were not approved by the College Master Plan Advisory Committee, or by President DeFilippis because of additional cost and logistical challenges, these alternatives are summarized for context and as a record of the process.

RENEW EKSTROM HALL FOR MATH AND SCIENCES

The Planning Team considered an alternative to building a new Math and Science Building in which Ekstrom underwent a phased, gut renovation for Math and Sciences. Growth to meet the College's overall needs would have been met with a separate 110,000 GSF expansion project for a new Library, classrooms and other academic spaces, student activity and student services.

The challenge in this alternative was upgrading Ekstrom to meet contemporary laboratory needs. As in the recommended plan, Ekstrom would need a comprehensive renovation to

replace HVAC systems and upgrade electrical service. The restricted vertical clearance (11' – 8" floor to floor dimension) in the building would make retrofitting wet labs in levels 3, 4 and 5 problematic. This would not permit enough headroom to install ductwork needed for laboratory exhaust. The overall wet lab need in the 10-year space program for the sciences has a range of lab types however. All chemistry labs and most biology labs requiring overhead exhaust could be accommodated on Level 6 with direct access to rooftop ventilation. Level 6 will largely be vacated once Founders Hall opens and Nursing relocates. A first phase renovation of Level 6 to provide state-of-the-art science labs could begin as soon as funding was available.

Renovating the remaining floors in Ekstrom would present a significant challenge. A phase renovation would be needed, with occupants in place. Swing space would be needed and some areas might have to be relocated from the building to other areas to allow expansion in place of Science and Math spaces. This could trigger the need to build the associated expansion project. This project was conceived as an addition to

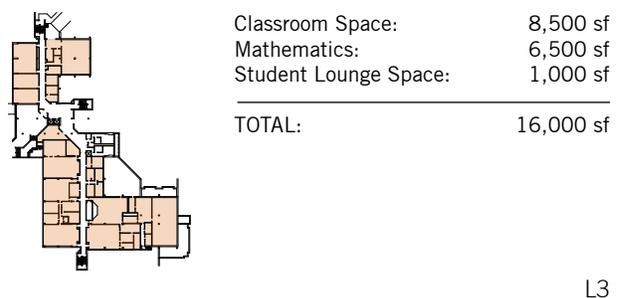
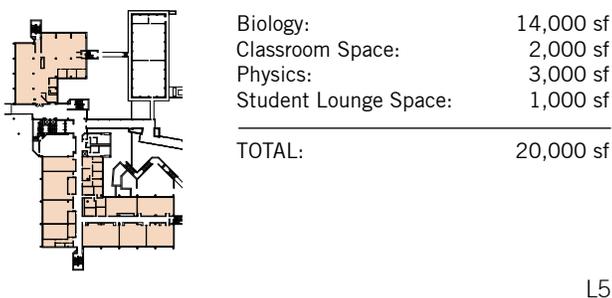
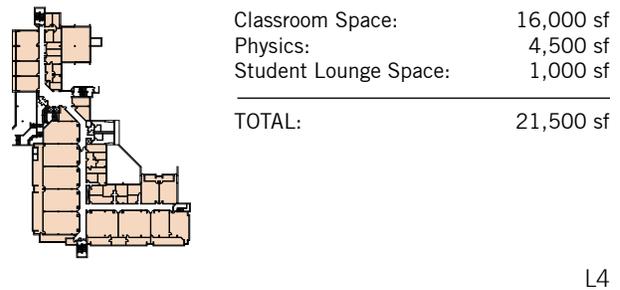
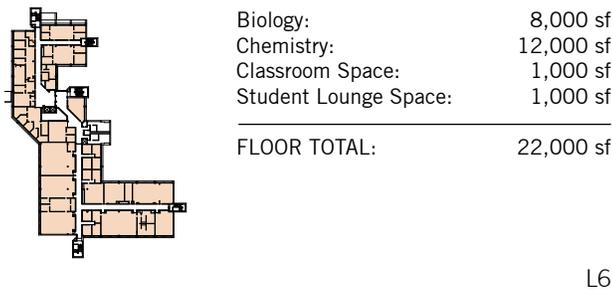


FIGURE 04.16 Ekstrom Stacking Scenario

the south side of the Learning Resource Center (ASL Building), as shown in the massing concept below. The 110,000 GSF expansion would extend from grade to Level 5. It would provide a new, accessible entrance to the College at grade. It would bridge across the loading area, to keep this area operational and provide full floorplates at Levels 3, 4 and 5. The new, expanded library would have an entrance off Fifth Avenue. The ACE could relocate to be directly opposite.

The CMPAC decided that a phased renovation of Ekstrom would be too disruptive and not fulfill the objectives to provide a new identify and up-to-date, purpose built facilities to meet the academic needs for the Math and Science Departments.

LIBRARY ADDITION TO ASL BUILDING

The Master Plan Recommendation is to relocate and expand the Library in Ekstrom once the Math and Science Department spaces are vacated after the new building opens. This approach requires the completion of the new Math and Science Building before the Library can get its needed expansion. The Consultant Team developed an alternative for providing Library expansion sooner, without a prior enabling project. It would be an addition to the south side of the

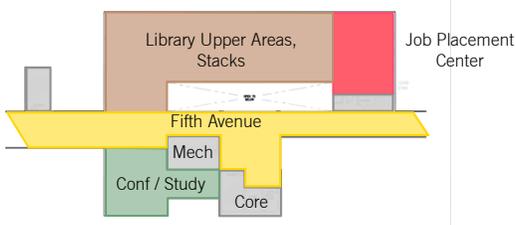
Learning Resource Center (ASL Building) of approximately 33,000 GSF, as shown in the plans on the opposite page. It would require new structure to be threaded through the existing concrete slabs in some areas. Unlike the 110,000 GSF ASL Building Addition outlined in the alternative above, the Library Addition would have a significantly smaller footprint. It would not provide a new ground-level accessible entrance. The conceptual layout plans are shown on the following page. The Library is replaced and expanded south of Fifth Avenue on two levels. The main entrance would be on Level 5, with others below on Level 4. An opening could provide an atrium to visually connect the two levels and unify the Library. Building the Library new to the opposite side of Fifth Avenue would avoid the disruption of expanding and renovating the Library in its current location. Once the addition is completed, the former library spaces would be gut renovated to remove the congested layout of the old library with its stack mezzanines and atrium. The space could be repurposed as an expanded ACE. The current ACE location in Ekstrom could become the relocated Bookstore.

The College did not endorse this alternative since it conflicts with the preferred approach to implement the new Math and Science Building as the first priority, and then move the Library to Ekstrom.

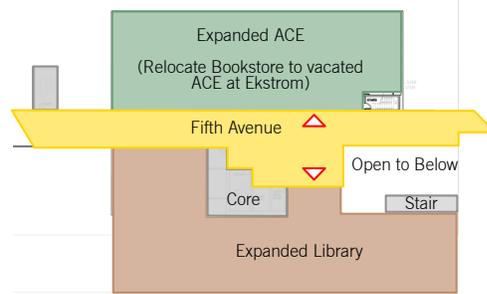


FIGURE 04.17 Alternative considered for Ekstrom renovation for Sciences and ASL expansion

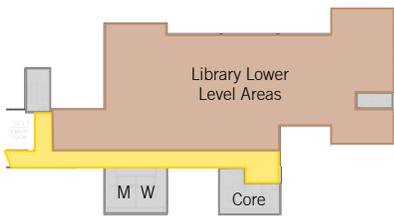
- Lobby / Circulation
- Library
- ACE
- Student Services
- Other: Unassigned



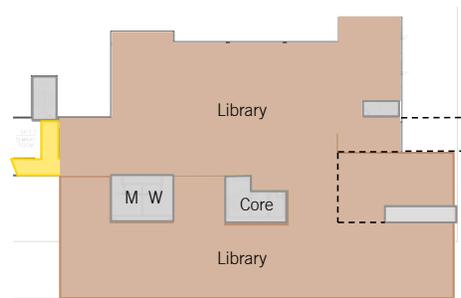
Existing L5



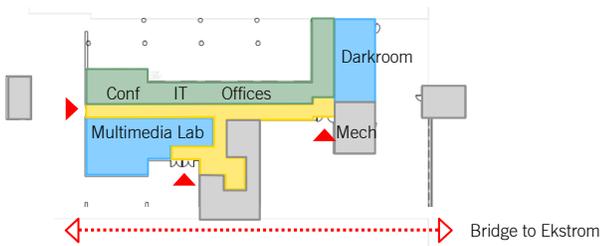
Proposed L5



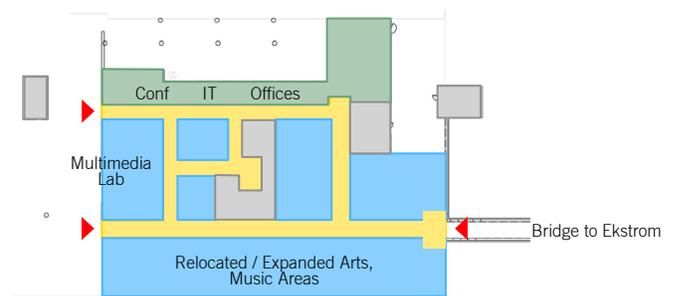
Existing L4



Proposed L4



Existing L3



Proposed L3

- Lobby / Circulation
- Digital Arts / Music
- IT / Conf. / Distance Learning
- Other: Unassigned

FIGURE 04.18 Library Addition Alternative

CONCLUSION

The Master Plan responds directly to Naugatuck Valley's strategic goals and highest priority needs. The Recommendations have been framed so they can be implemented in a flexible manner as funding permits over time. The projects embed sustainability throughout in guidelines for new buildings and upgrades to existing buildings to address outdated systems and to support programmatic objectives. Key among these are providing modern, flexible classrooms and science laboratories. Together, the Recommendations reflect a collaboration that embodies the College's vision for the next 10-years and beyond.

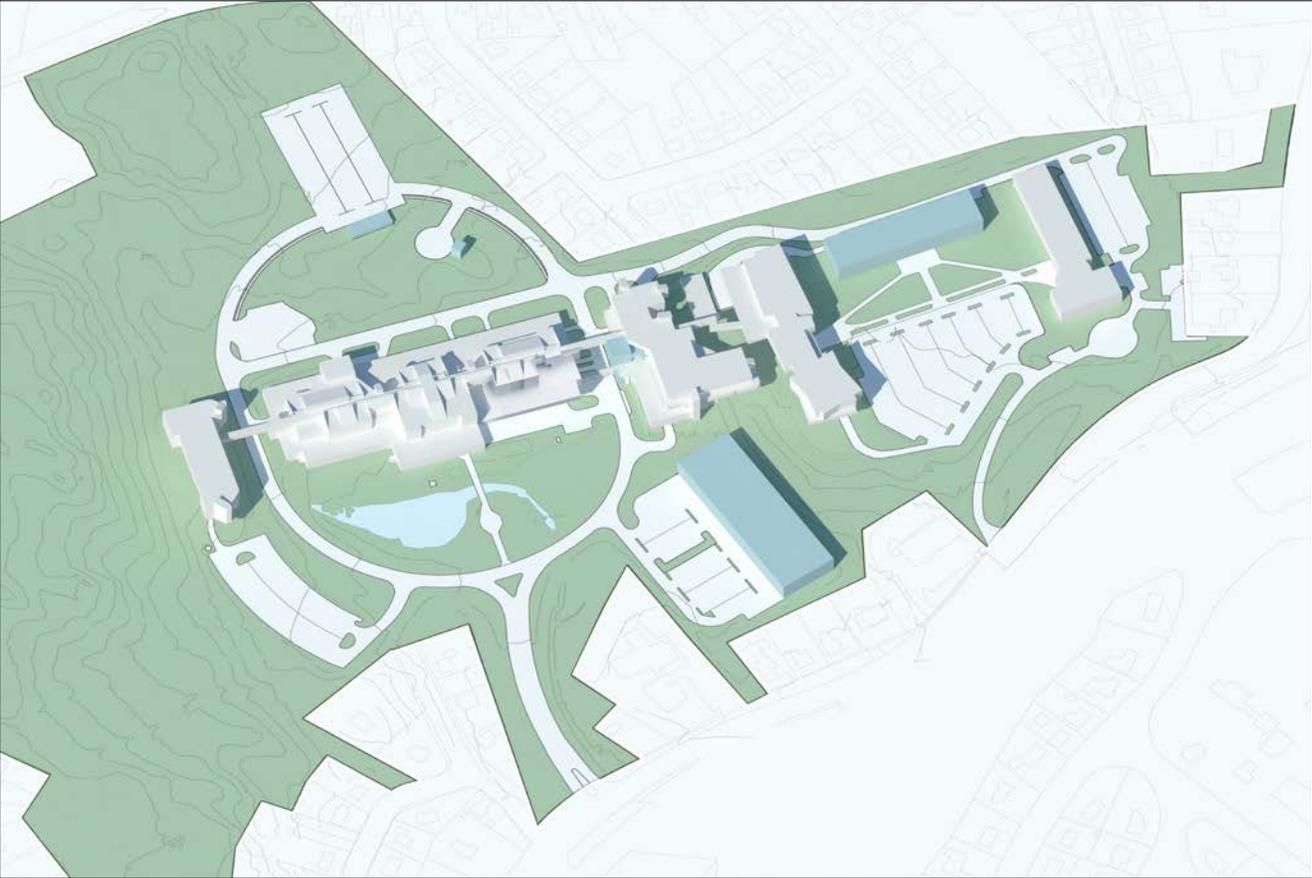


FIGURE 04.19 NVCC Master Plan

MASTER PLAN TEAM

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