

five | design guidelines

Introduction

Purpose Statement



Postcard illustration of East Carolina Training School for Teachers, 1909

The purpose of these guidelines is to provide a framework for managing the development of the campus environment for ECU. The goal is for the campus fabric to become unified, reinforcing a distinct physical campus identity for ECU.

These guides are infused with an open appreciation on behalf of the University stakeholders for the historic structures and spaces on campus, particularly those in the “Colonial Revival” and “Mission Revival” styles; this preference is central to all of the guideline’s principles.

The guidelines are a blend of descriptive recommendations and prescriptive direction. In general, the intent

is not to dictate particular overall solutions or designs. The intent is to help guide decision-making for each aspect of the composition, and to provide a basis for evaluation of development proposals. For each development, the extent to which the design guidelines should be employed will be influenced by many factors including building function and relevance, site and existing context, and location on campus.

University policies and construction and technical performance standards are developed and documented separately, and should be referenced concurrently with these guidelines.

The guidelines are organized into two primary aspects of development on campus: “Buildings” and “Grounds”. “Buildings” provides guidance for the development of buildings and structures. “Grounds” provides guidance for the development of the campus spaces between buildings and structures.

The development of the guidelines relied on the valuable review and input of the Architectural Standards Committee as well as scores of individuals, both designated and volunteer, whose commitment to the continued realization for excellence in campus development and for East Carolina University is unsurpassed.

Introduction

Sustainability



Sustainability

East Carolina University is committed to developing a sustainable campus, and to contributing to an enhanced environment for Greenville and the region. Signed by Chancellor Ballard in 2006, the ECU Safety and Environmental Policy Statement establishes the University's commitment to pursuing environmental sustainable design initiatives for campus activities and developments. North Carolina Executive Order 156 and State of North Carolina Senate Bill S581 and S668 establish additional energy conservation goals and requirements for state-owned facilities.

These guidelines provide numerous recommendations which promote sustainable design and user well-being. The University Construction Standards recommend using the U.S. Green Building Council's LEED evaluation system to guide designers for all developments.

The ECU Campus Master Plan emphasizes several issues particular to East Carolina University that should be considered in the design of any development. These include:

- Endeavor to reduce greenhouse gas emissions and promote healthy lifestyles by reinforcing pedestrian and bicycle connections on campus and to the community.
- Similarly, automobile circulation should be considered carefully on

campus and only provided where essential for service an emergency access

- Located between the Tar River and Green Mill Run, Main Campus is prone to flooding and requires active stormwater management; facilities should manage and treat stormwater on site, to reduce discharge volume and contribute to the restoration of natural systems.
- The campus should be viewed in the context of the Coastal Plain Ecosystem and development should respect, and where possible, regenerate this ecosystem
- Designers should aggressively pursue energy conservation, consider high-efficiency building mechanical and ventilation systems, and use life-cycle-cost analysis to establish the value of energy-use reduction over time.
- Buildings should utilize recycled-content and regionally-sourced materials. Designers are encouraged to evaluate building envelope thermal performance, and design and select systems that reduce energy consumption for building heating and cooling.

Currently, a Greenhouse Gas Emissions Study is under consideration by the University. When completed this Study will provide a definitive understanding of the impact of campus developments, both existing and new, to the environment.

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Buildings

Overview

Origins



C.C. Hook, in the early years of his career.

Origins

The earliest buildings on the East Carolina Teacher's Training School campus were products of Charlotte-based architects Hook & Rodgers. The designs are attributed to the region's leading architect of the era, Charles Christian Hook.

Born in Wheeling, West Virginia, C.C. Hook graduated from Washington University, St. Louis, in 1890. Recruited to teach "mechanical drawing" in North Carolina's public schools, Hook relocated to Charlotte. He taught for two years before becoming the city's first full-time, professional architect.

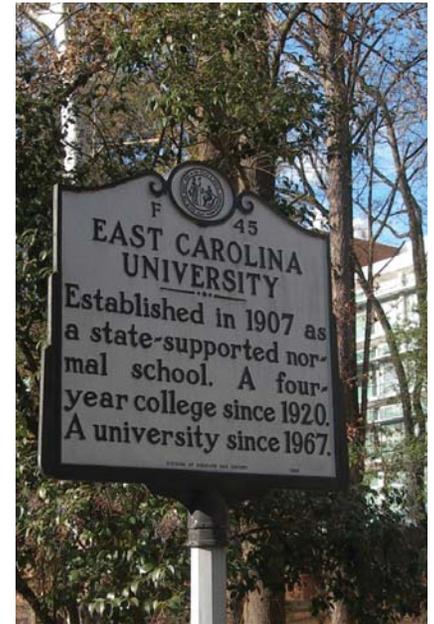
Hook's early commissions were residential, and located predominantly in the street-car community of Dilworth. His early work reflected his clients' tastes and included late-Victorian, Queen Anne homes. As Hook matured he revealed a preference for Neoclassicism, acknowledging the influence of the "White City" assembled for Chicago's 1893 Columbian Exposition, and the work of New York architects McKim, Mead, and White.

Rejecting Victorian complexity, ornament, and romanticism, proponents of Neoclassicism advocated simple massing, symmetry, and restrained use of classical decorative motifs. The resulting "purity" of expression was perceived as sufficiently sober



for civic and institutional structures, as well as for the homes of business and community leaders. At the turn of the 20th century, southern cities emerged from the extended period of poverty following the civil war, and embraced both Neoclassical and Colonial Revival styles. Hook wrote:

"Out of all this chaos we again have a revival of the colonial. Its symmetry, restfulness, and good proportions generally caused it to be superior to all other schools of design. Beyond doubt the colonial style in its purity expresses more real refined sentiment and is more intimately associated with our history than [other] styles ... it is not only an association of English history with our own, but expresses authentic memoirs of the American people themselves."



Despite his ideological stance, Hook's work exhibits surprising variety, and a nearly post-modern affection for allusion and borrowing. Of particular relevance, he demonstrates an affinity for the Mediterranean: rusticated or encrusted stone bases, hipped-roofs with mission-style tile in terracotta or green glaze, and syncopation of arched openings and fenestration.

In 1908 when Hook and Rogers received the commission for Jarvis Dormitory, Hook's vision had become unique: he was operating within a cultural sensibility that valued stability and order, yet accented his work with components both distinct and idiosyncratic. The result has been described as "Mission Revival," but is significantly more: it is a regional style with noteworthy manifestations at East Carolina University.

Overview

Historical Significance



Jarvis Dormitory



Messick Theatre Arts Building



Wright Auditorium



Mamie E. Jenkins



Flanagan Building



Graham Building



Fleming Dormitory



Spilman Building



Ragsdale Hall



Whichard Building



Cotten Dormitory

Historical Significance

Several historical structures and properties on and adjacent to ECU's campus are under the purview of specific committees and commissions responsible for the review of any proposed changes.

In 1995, the East Carolina Board of Trustees established the Campus Historical Preservation Committee. The Committee, now defunct, designated several buildings on campus designated as historically significant. Today, the Facilities Engineering and Architectural Services is responsible for reviewing and approving proposed revisions to these designated historically significant buildings.

Additional information regarding historical structures can be found in the "Additional Resources and References" portion of these guidelines.

Historically Significant Buildings:

- Jarvis Dormitory, Hook & Rogers, 1908-09
- Fleming Dormitory, H. A. Underwood, 1922-23
- Spilman Building, George Berryman, 1930
- Whichard Building, H. A. Underwood, 1923
- Wright Auditorium, H. A. Underwood, 1925
- Ragsdale Hall, H.A. Underwood, 1923
- Graham Building, George R. Berryman, 1929
- Cotten Dormitory, H. A. Underwood, 1925
- Mamie E. Jenkins, Hook & Rodgers, 1909
- Messick Theatre Arts Building, George R. Berryman, 1927
- Flanagan Building, Eric G. Flanagan, 1939

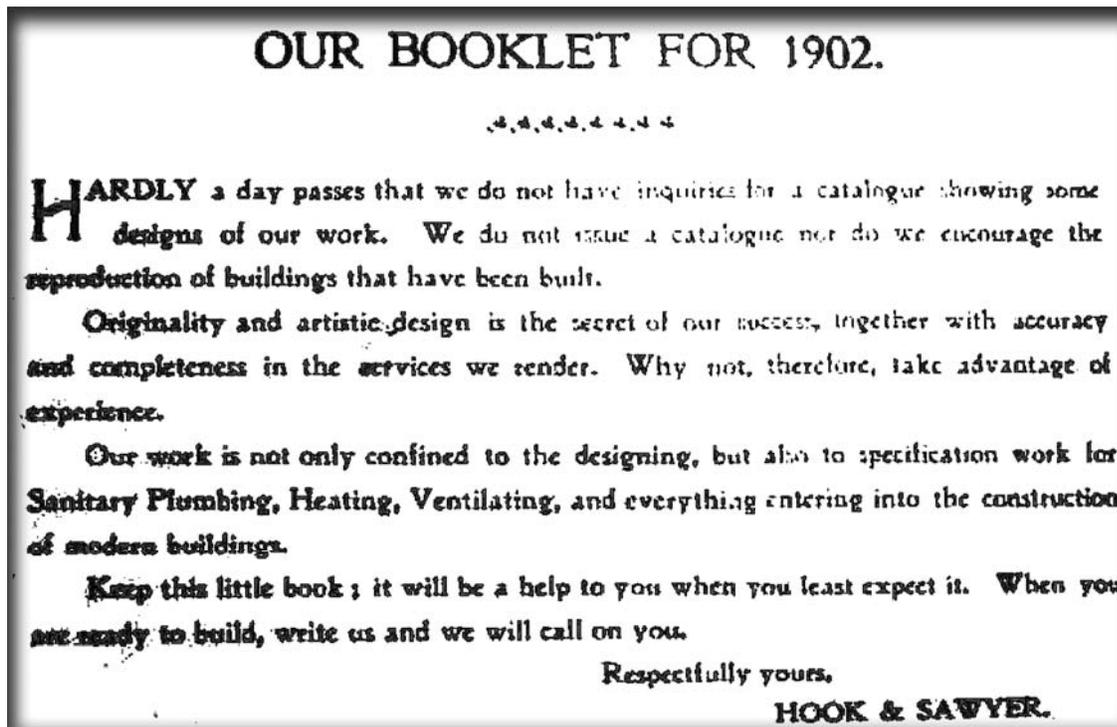
Located adjacent to campus is the College View Historic District, a National Register Historic District. The North Carolina Historical Commission and the Greenville Historic Preservation Commission are responsible for reviewing and approving proposed revisions to properties within and in viewing range from this district.



College View Historic District, May 19, 2006

Overview

Unity or Uniformity



Publication of Hook & Sawyer, 1902:

Hardly a day passes that we do not have inquiries for a catalogue showing some designs of our work. We do not issue a catalogue nor do we encourage the reproduction of buildings that have been built.

Originality and artistic design is the secret of our success, together with accuracy and completeness in the services we render. Why not, therefore, take advantage of experience.

Our work is not only confined to the designing, but also to specification work for Sanitary Plumbing, Heating, Ventilation, and everything entering into the construction of modern buildings.

Keep this little book; it will be a help to you when you least expect it. When you are ready to build, write us and we will call on you.

*Respectfully yours,
Hook & Sawyer.*

Unity or Uniformity

The physical campus environment has many important responsibilities: it is the institution brand; the recruitment tool for students and faculty; an intellectual and economic harbor; and a resource for alumnus. As the emergence of the virtual campus continues to evolve, the importance of the physical campus environment has become reinforced, serving as the tangible differentiator.

The grounds and buildings of a campus are the physical manifestation of the institution. Thematic and contextual developments can reinforce the history and stability of an institution, while modern developments can embody the innovative future of an institution. Balancing these sometimes competing themes through physical development can be difficult. At the same time, the institution is constantly evolving and maturing; this change is similarly reflected in the development and growth of the campus physically.

The ECU campus has harbored many exceptional historic structures which serve as the organizational foundation for campus and are reminiscent of the longevity and stability of the University. As the institution has grown, developments to the campus have generally been representative of the technology, design trends, and institutional ambitions current of their time. Some of these developments are noteworthy examples of their architectural era; others successfully complement the existing historic structures; and a few developments are undesirably incongruous on campus, neither contextual nor

representative. The resulting variation in architectural character, quality, and style has resulted in a disjointed campus fabric.

As stated in the “Purpose Statement,” the goal for these guidelines is to provide a development framework to unify the campus fabric. However, the intent is not to mandate uniformity or replication of design. Unity of the campus fabric can be achieved through careful understanding of context, and sensitivity to the environment, both existing and future. A unified campus fabric includes nuanced variation that results from function, site, building technology advancements, and design expression.

C. C. Hook, while practicing in partnership with Sawyer, published an advertisement for their services in which they emphasized the importance of originality in their work. Though representative of popular styles of the time, his work subtly deviated from the tradition and standard of the style with skillful and clever inclusion of idiosyncratic elements. This sensibility remains relevant today and should continue to be embraced while progressing towards to unification of the campus fabric.

East Carolina University has given evidence to the ambition for the campus through the undertaking of these Design Guidelines. Developments on campus should reflect and respect the inspiration and ambitions of the institution: to promote beautiful design that contributes to the unification of the campus fabric.

Overview

Influencing Factors



For each development on campus many factors are expected to influence the extent to which these guidelines are to be implemented

Adherence to these guidelines should never compromise satisfying University and development-specific requirements, goals, and conditions such as:

- Function
- Sustainable Design
- Security
- Accessible Design
- University Construction Standards
- Budget
- Context
- Site and Location

Throughout the guidelines, preferred recommendations are provided and lower-cost alternatives are presented where appropriate. The expectation is that each development evaluate and balance design decisions to be responsive to established budgets and to cost-effectively meet the quality expectations of the University.

The existing buildings on campus provide a wide range of varying precedence; these guidelines attempt to distill from the existing precedent, the preferred aspects to be considered for new developments. For renovations or additions to existing buildings, the existing building context should always take precedence. Finally, it is expected that the guidelines will

be implemented to varying degrees based on the development's location on campus and the development's relevance and significance. For example, a new library centrally located carries a greater burden for implementation of the guidelines than a service building located at the campus perimeter. In these cases, explicit and notable deviation from these recommendations may be approved by the University after review.

Organization of Design Guidelines for Buildings

The recommendations for the Design Guidelines for Buildings is organized under three headings:

- **Attributes**
- **Components**
- **Materials**

Attributes

Beginning with the most general characteristics of building design, the Attributes section addresses recommendations relevant for decision-making early in the development process. These early decisions are related to overall building planning and organization.

- Form
- Symmetry
- Proportion
- Height
- Hierarchy and Order
- Repetition and Scale

Components

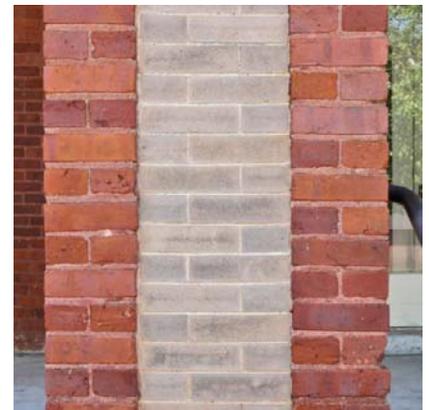
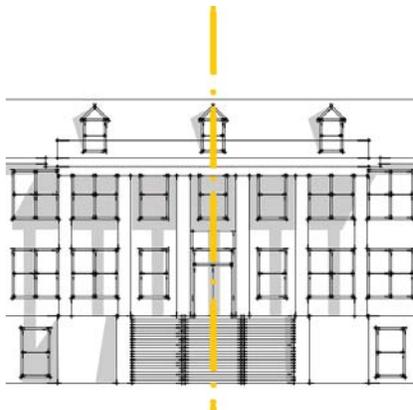
Moving from general characteristics to discreet building elements, the Components section addresses formal design recommendations for specific building elements.

- Roof Form
- Entrances, Porticos, Arcades, and Balconies
- Fenestration
- Ornamentation and Pattern
- Service Areas
- Structured Parking

Materials

Finally, the Materials section addresses recommendations for the selection of materials for visible aspects of building exteriors. These recommendations, while detailed, are to be generally applied to all appropriate building Components.

- Masonry
- Stone Materials, Natural and Fabricated
- Doors, Windows and Glazing
- Roofing
- Metals and Miscellaneous Materials



Attributes

Form



An important distinction of the early buildings on campus is the relationship of the building to the outdoor environment. The form of the building simultaneously defined outdoor space while being shaped by the landscape environment.

Outdoor areas, intended to be actively used for gathering and interaction, were developed and embraced by the building form. Views of the building through the landscape foreground were crafted by the designer and influenced the building form. The experience of the pedestrian and outdoor occupant was fundamental to the form of the building.

As the examples from ECU's campus illustrate, these formal developments are intuitively recognized, and are applicable to the full range of campus typologies and buildings. Today, the pedestrian experience remains an important aspect of the campus environment. The building design should emphasize forms that shape outdoor space and provide for the pedestrian experience.

Green Effect

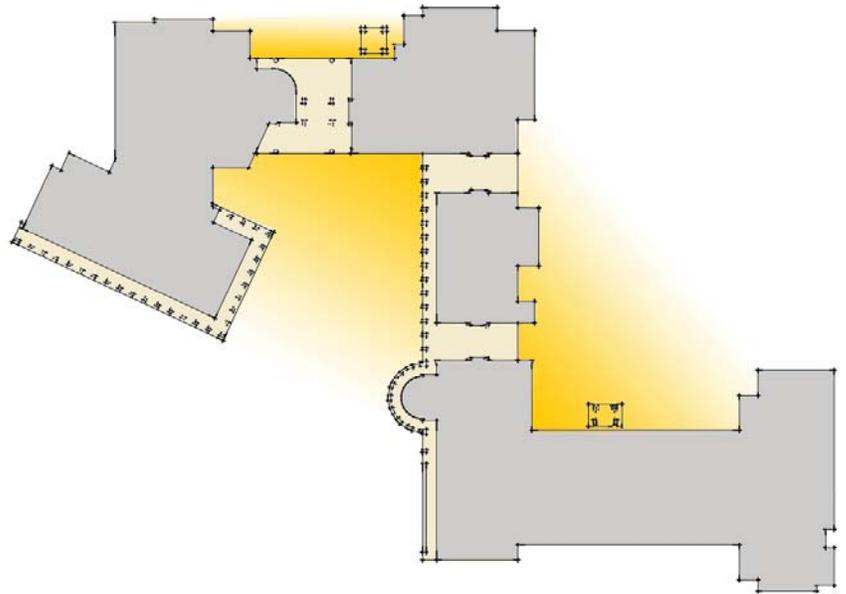
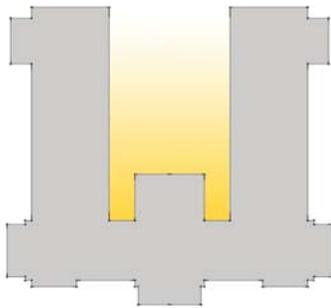
Developments integrated with their sites can contribute to green design initiatives:

- *Opportunity for vegetated open spaces*
- *Allows for protection of existing habitats*
- *Help to reduce heat island effect*

Form

Right:
Plan diagram of Health Sciences Building
highlighting shaped outdoor space.

Below:
Plan diagram of Jarvis Dormitory
highlighting shaped outdoor space.



Outdoor Space

Building forms should make and give shape to pedestrian activated outdoor spaces. Plazas and courtyards should be developed through the building form, and should function in concert with overall campus circulation patterns.

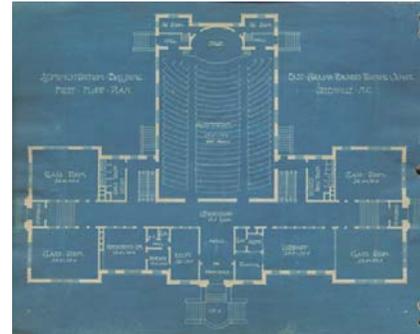
Landscape Collaboration

Building forms should respond to the site and landscape conditions to provide an integrated development.

Attributes

Symmetry

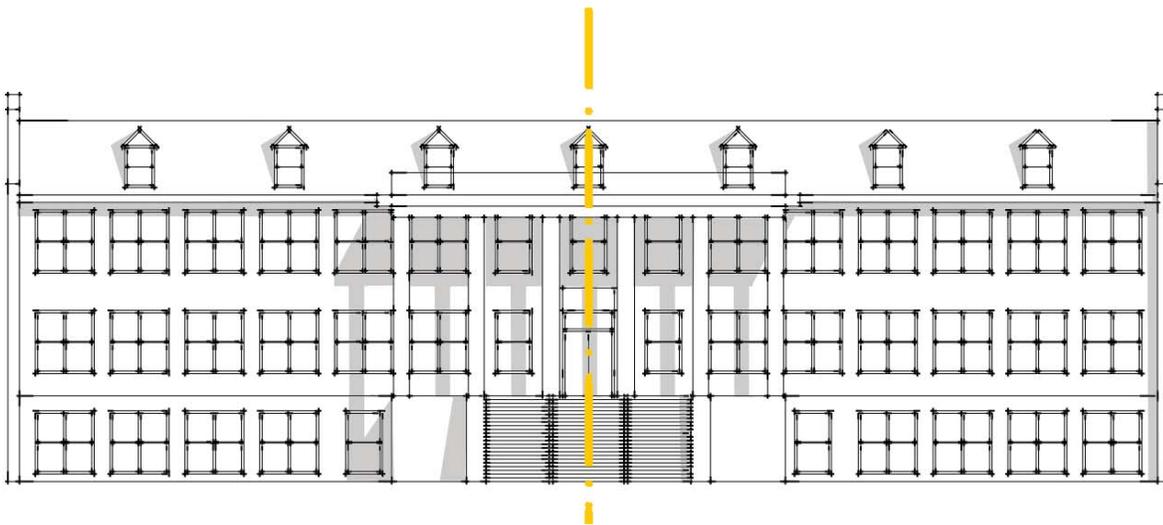
Floor plan of Old Austin (1908, razed in 1968) Plan Symmetry



The neoclassical influence on the mission revival style of the early ECU buildings established the formal constraint of symmetry. With symmetry, building compositions exhibited clarity, balance and restraint; attributes that were at the core of the neoclassical movement. Interior development, relegated in the design process, was manipulated to fit the symmetrical composition.

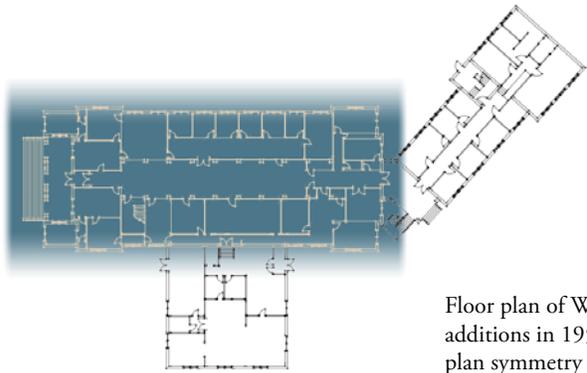
As the needs for buildings evolved, the constraint of symmetry could not always be satisfied. Addressing growth, functional requirements, and site conditions were often prioritized over maintaining the symmetry of the building. As such, several early buildings on campus, which were once symmetrical, are no longer. Recognizing this historical pattern and inevitability of future develop-

ment, the application of symmetry for new developments, including renovations and additions, should be similarly evolved. Attributes of clarity, balance and restraint in conjunction with limited symmetry should be applied in lieu of strict adherence to overall building symmetry.



Flanagan Building Elevation Symmetry

Symmetry



Floor plan of Whichard Building (1923 with additions in 1958 and 1959)
plan symmetry altered

Clarity

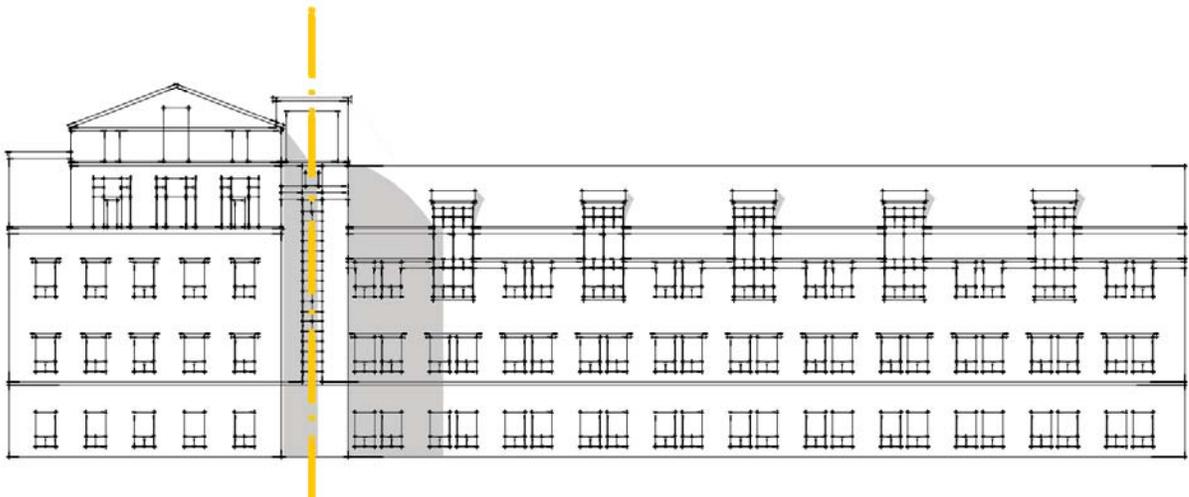
Provide building compositions that emphasize primary aspects of the exterior such as the entrance.

Balance

Symmetrical compositions by nature are balanced, but visual balance can be achieved with asymmetrical compositions as well. Consider the visual weights of materials, building forms, fenestration and other façade elements.

Limited Symmetry

Consider symmetrical organization of elements for limited building areas or components. For example, symmetrically organize window openings within a façade area.



Health Sciences Building Facade: Overall asymmetry, but with balance, clarity of elements, and limited use of symmetry.

Attributes

Proportion



Health Sciences Building

Proportion, similar to symmetry, was critical to building designs rooted in the neoclassical style. Every aspect of the building design, from the overall building mass to the columns and windows, followed rules established for their respective proportions.

These rules included geometric analysis of designs that were considered “pleasing.” The proper proportion, fundamentally a stylistic preference, was also determined by the constraints of building technology of the time. For example, floor plates were generally narrow to maximize

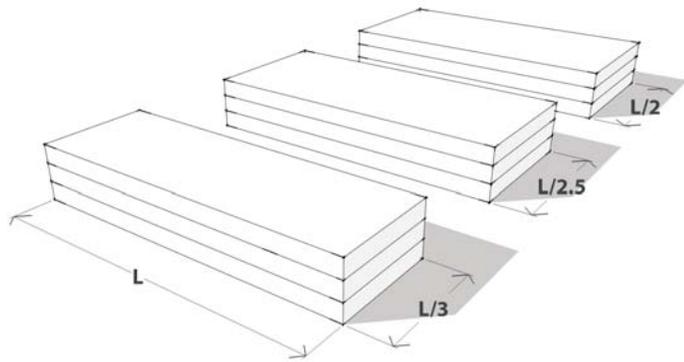
natural ventilation and to support simple sloped-roof structural designs. These proportions also provided an overall building mass that reinforced the attribute of human-scaled, pedestrian-focused form.

For new developments, massing should be developed to provide human-scaled proportions to the overall building composition and facades.

Proportion

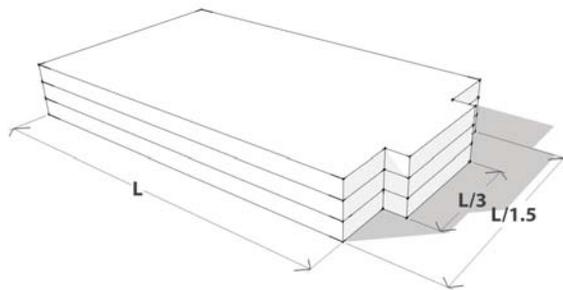
Narrow Floor Plate

Where programmatically feasible, floor plates should have 1:3 to 1:2.



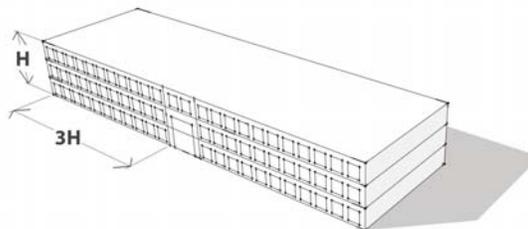
Articulated Plan

Where large, deep floor plates are a programmatic requirement, or where a narrow floor plate cannot be achieved otherwise, the plan perimeter should be articulated or subdivided to develop the 1:3 to 1:2 proportion.



Facade Length

The façade lengths should be broken into composition elements that should not exceed three times the vertical façade height, excluding roof forms.



Green Effect

Providing a narrow floor plate can contribute to green design initiatives:

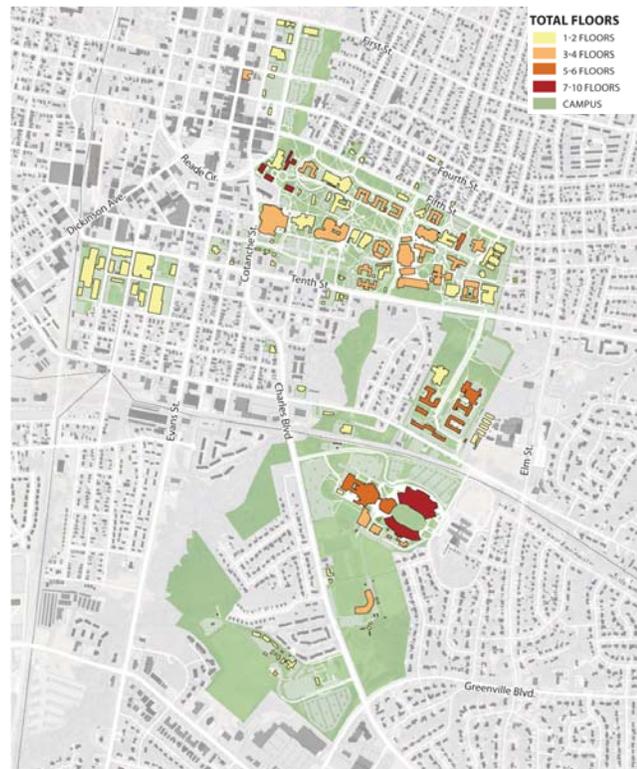
- *Improved access to outside views for occupants*
- *Increased use of daylighting, reducing day-time energy consumption for lighting*
- *Opportunity to provide effective natural ventilation*

Attributes

Height

The early buildings, constructed in the first quarter of the 20th century, were predominantly 2 to 3 stories in height, exclusive of roof. During this same time, advancements in steel construction and elevator technology allowed 10- to 13-story tall buildings to become increasingly common in urban settings. This advanced building technology provided increased density and maximized economic potential particularly where available land was constrained. Where land was more readily available, constructing taller buildings provided little value and was often beyond the community's ability to provide fire safety. Designed in concert with the narrow floor plates, lower-height buildings produced human-scaled development.

Increased density on ECU's campus is an inevitable aspect of development today and for the future. New construction should endeavor to preserve campus real estate, and may be substantially taller than early campus buildings. Although taller, new developments should be designed with sensitivity to the pedestrian and with human-scale applied to the components.



Main Campus existing building heights.
Image from master plan report



Health Sciences Campus existing building heights.
Image from master plan report

Height

Height based on Location

In general building heights are to be primarily guided by the building's location on campus and existing building height context.

Main Campus

- Typical: 3-4 floors
- Along 10th Street: 5-6 floors
- Along 5th Street and non-campus residential areas: 1-2 floors
- Along Cotanche and Athletic Area: 5-6 floors
- North Downtown District and the Warehouse District: 3-4 floors

Health Sciences Campus

- Typical: 5-6 floors
- Along Moye and 5th Street: 3-4 floors

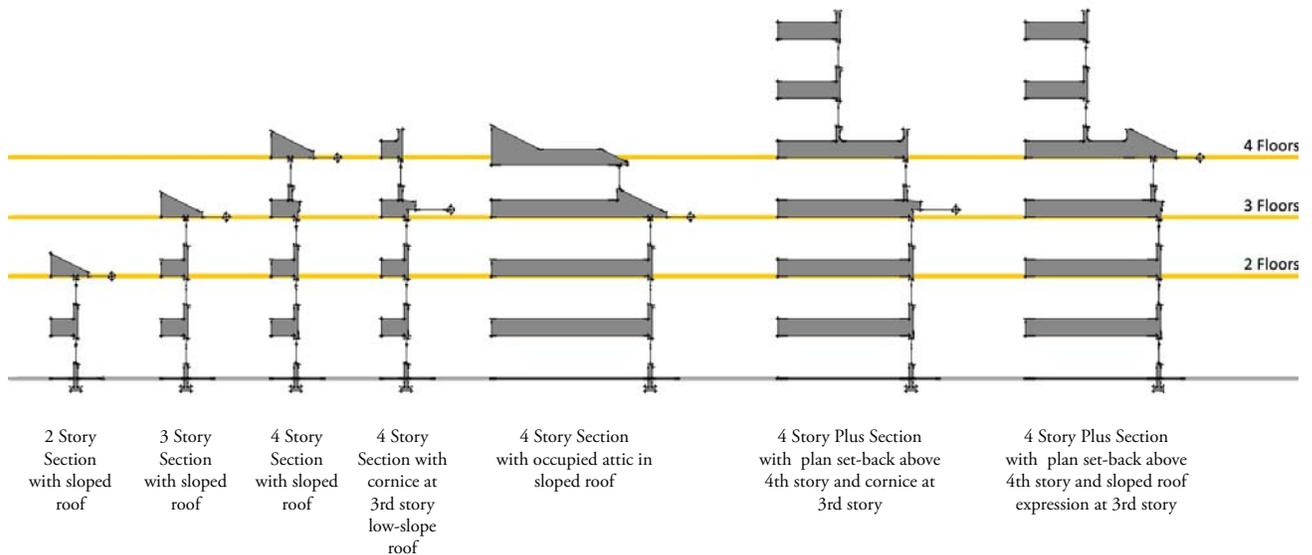
Pedestrian Context

Developments should endeavor to relate positively to the pedestrian experience. Building heights of 3-4 floors best achieves this objective. However, programmatic needs may require that actual building heights exceed 4 floors. For buildings 4 floors or taller, the perceived and experienced building height should be established by reinforcing a pedestrian datum at the third or fourth story. Architectural elements such as a cornice, an occupied "attic", or a plan set-back can mark the pedestrian datum and help to reduce the overall perceived and experienced height.

Maximum Height

Buildings should not exceed the height criteria for "high-rise" buildings as defined by applicable codes except in cases with compelling programmatic requirements and as approved by Facilities Engineering and Architectural Services.

[At the time of printing, the applicable code defines High-Rise Buildings as those with an occupied floor level located more than 75 feet above the lowest level of fire department vehicle access.]



Attributes

Hierarchy and Order

Following the early tradition of classical design, early campus buildings were articulated vertically through the hierarchical expression of Base, Middle and Top. The expression of this in the mission revival style was restrained and nuanced. As the building heights were generally low, the opportunity to develop each layer was limited. The expression of base was often a simple projection of the masonry as a water table near grade. Occasionally the base expression was taller, including a full or garden story. The expression of top was often simply the sloped roof mass, which also frequently included an occupied story or attic.

For new developments on campus, hierarchical expression should be articulated. In general, this expression should be proportional to the overall massing of the building. For buildings with narrow and smaller footprints, this expression should be applied only to the pedestrian-scaled portion of the overall building height, or limited to the vertical facade of the lower 3-4 floors.

Consideration should also be given to the surrounding context and existing hierarchical expression of adjacent buildings; where appropriate provide relational continuity across adjacent structures.

Top

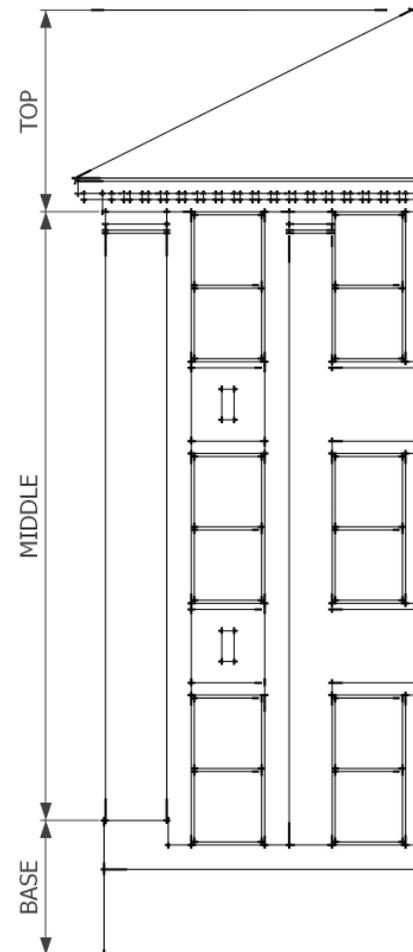
The top expression should generally consist of the sloped roof form. For buildings with low-sloped roof systems, the top layer should be expressed by a set-back in plan and a change in predominant exterior material from the middle expression.

Middle

The middle expression should be the predominant layer, consisting of 2 to 3 stories vertically. Generally this layer should be refined, simply articulated and patterned simply with window openings. Distinctive building features, such as entrances or towers, should rise vertically through the middle layer from the base.

Base

Provide a base expression through use of a water table, accent stone course, or occupied garden level element; base expression should always include a projection in the vertical plane from the middle expression above.



Graham Building Detailed Elevation



Graham building

Repetition and Scale

The revival styles relied on repetition of building components to craft the restrained and austere image preferred for building designs. Major facade areas were often only articulated with repeated, unadorned and narrow window openings.

Unique and proportionally more elaborate components were reserved for more limited, sometimes singular, use within the building composition. These elements frequently marked significance for the building, in many cases denoting the building entrance.

The scale of elements reinforced the restrained expression for the building design. Repeated elements were generally human-scaled, while distinctive elements were of a grander scale.

Repetition

Use repetition of components in major building facades. Variation should be subtle applied to the different levels of building hierarchy.

Scale

Building components should be human-scaled. Significant building elements may have increased scale but remain proportional to the overall building composition.



Jarvis Dormitory



Cotten Dormitory

Components

Roof Forms



Ragsdale Hall, 1923

Perhaps the most distinctive feature of the notable early buildings on campus is their roof.

The predominant roof form of the mission revival style buildings is hip. Good examples of this roof form can be seen on Jarvis and Fleming Buildings. These roofs have a pitch of about 1:2 and typically overhang the building face with a solid horizontal soffit. The horizontal projection of the soffit is generally proportional to the building height measuring between 1 foot to 4 feet in length.

Gabled roof forms are common to several campus buildings designed in the colonial revival style. These roofs generally did not include a significant overhang to the building face and were framed by a masonry gable wall at each end.

Ludowici clay tile was the predominant material used on both hip and gabled roof forms of the early campus buildings. Dormers, both shed and gabled, were frequently incorporated into the sloped roof form. Gutters and downspouts were generally exposed, made of copper, and used as refined ornamentation to the facade.

Green Effect

Using green technologies, such as solar water heating, photoelectric panels, vegetated roof, or high-albedo roofing, is encouraged. These should integrate visually with the roof form, and can contribute to green design initiatives:

- *Reduced heat-island effect*
- *Reduced building energy consumption*

Roof Forms



Hip roof forms: Main Campus



Hip roof forms: Health Sciences Campus



Gabled roof form

Sloped Roof

It is preferred that all buildings have sloped roof forms expressed at the building perimeter for buildings and structures 4 floors or less in height. Hip roof form should be used as the predominant roof form; gabled forms may be considered where adjacent buildings provide that context.

Low-sloped Roof

For buildings and structures with heights greater than 4 floors, low-slope roofs may be used provided there is articulation of the building form. For these buildings, consider sloped roof forms at focal building elements, such as arcades or stairwell towers, at the recommended building height step-back, or as a means of screening rooftop equipment.

Low-slope roofs areas should have parapets or expression of sloped roof form at building perimeters. If the

low-sloped roof area is visible from above, consideration should be given to the color and materiality of the low-sloped roof area. Analysis of the exterior envelope is recommended in order to determine membrane color or benefits of vegetated roofs.

Refer to the materials section for color and finish properties.

Components

Roof Forms



Main Campus roof overhang and accessories

Roof Elements

It is preferred that sloped roofs incorporate dormers, either shed or gabled, into the roof form. Dormers should not be decorative; when included these should serve a function. Possible functions could include providing daylight for an occupied area within the roof form, or providing ventilation for equipment or areas within or behind the roof form.

Roof Accessories

Gutters, downspouts, conductor heads and nozzles, should typically be exposed and considered refined ornamentation. For gabled roof forms, gutters may be integral type, with exposed conductor heads and downspouts. Exposed through-wall scuppers are discouraged; conductor heads with downspouts should be provided at scuppers. Roof rainwater should always be managed through roof accessories; free-fall of roof drainage is not acceptable.

Equipment and Penetrations

In general, there should be no penetrations through or equipment located on sloped roof forms. Rooftop equipment should be concealed within or behind sloped roof forms. Unavoidable penetrations should be expressed as chimneys or towers with attention given to location relative to the building perimeter. Where mechanical equipment is located on a low-sloped roof outside a penthouse, ensure that the parapet can provide screening. For low-sloped roof systems, rooftop equipment should be concealed.

Overhangs and Soffits

For hip roof forms, provide solid horizontal soffit roof overhang. Soffit projections should be at least 1' or larger in proportion to the vertical building facade height. Soffits may include refined detailing such as dentils, brackets, or trim. For gabled roof forms, roof overhang projection may be minimal.



Example of laboratory venting expressed as a chimney (Murray Hall, UNC-Chapel hill. Wilson Architects)

Roof Forms



Historic Main Campus



Health Sciences Campus overhangs and soffits

Roof penetrations at the Health Sciences Campus



Recent construction; Main Campus

Components

Entrances, Porticos, Arcades and Balconies



Whichard Building

Generally at the centerline of symmetrical facade compositions, building entrances featured prominently on the facades of early campus buildings. Entrances were often defined by raised porches with grand stairs, porticos, arcades, and balconies. Typically between 1- and 2-floors high, porticos were nearly always covered with flat roofs, while arcades were covered with both sloped and flat roofs. In general, porticos and

arcades were composed of masonry piers supporting arched openings. In some instances, buildings in the colonial revival style utilized Tuscan or Doric order columns to support the portico roof which often also served as a balcony. While not always functional, balcony areas were always framed by railings.

Entrances, Porticos, Arcades and Balconies

Entrances

The building entrance should be emphasized as a primary facade component in new developments. While early buildings utilized grand staircases to elevated ground levels, new developments should only include this if equally-grand barrier-free access can be seamlessly integrated into the entrance design.

Porticos and Arcades

New developments may include porticos, arcades or other similar compositional elements. If included, these should be composed of masonry piers with rounded arches, or simply supported with columns. Columns may be rectilinear or round; rectilinear columns and piers may be of masonry or stone while round columns should be made of stone. Columns should be simple, similar to Tuscan or Doric order. Compositions should be refined with only subtle ornamentation and complexity. A refined entablature should be provided above columns.

Detail

If arches are used, the spring line or impost, and archivolt may be articulated with accent brick or stone. Spandrels may include refined ornamentation, such as pattern development through contrasting masonry. Columns and entablature should include sufficient, but refined, detailing to establish an expression of capital, shaft, and base for columns and cornice for entablature. Railings used for porches, stairs, or balconies should be stainless steel or brushed aluminum to minimize maintenance requirements.



Fleming Dormitory



Messick Theatre Arts Building



Mamie E. Jenkins

Balconies

While more prevalent in the colonial revival styled buildings, balconies may be included in new developments when used in conjunction with entrance or arcade components. If expressed, balconies should be defined by railings.



Flanagan Building

Components

Fenestration



Jarvis Dormitory

The fenestration of the facades on the early campus buildings was limited and restrained. Facades were generally more solid than transparent with window openings comprising as little as 15-25 percent of the facade. The resulting opacity of the facade reinforced principles of clarity and refinement of the style.

Windows were narrow, sometimes ganged into larger openings, but still framed within punched openings. Lites divided the windows into smaller rectangular proportions. Window units were single-hung style, typically also operable to provide natural ventilation.

Masonry openings for fenestration typically included stone lintels or rounded or segmental masonry arches

and stone sills. In some cases ornamental stone was added as keystones and imposts associated with the arch.

Fenestration openings on facades were arranged repetitively and often symmetrically. Doors and windows were treated similarly, except for doors at primary buildings entrances which were afforded more ornamentation and often presented in conjunction with a portico or porch.

Window walls, or curtain wall, was not commonly presented in the colonial or mission revival styles. Later renovations and additions introduce limited use of small window walls, generally used in conjunction with multi-story interior areas such as entrances or stairs.

Green Effect

In determining the extent of fenestration, daylighting objectives should be balanced with improved thermal performance of the building envelope. Reducing the percentage of openings through the insulated envelope compliments the colonial and mission revival style and can help to reduce heating and cooling based energy consumption.

Fenestration



Main Campus

Type, Size and Proportion

Windows for new developments on Main Campus should generally have narrow vertical orientation and proportion located within punched openings. Horizontal ribbon windows should not be used. Units may be ganged together to create larger openings when used in the “top” layer or vertical element of the building composition. Window units should be subdivided into lites that reinforce a narrow vertical proportion. The percentage of fenestration should be limited, but should not compromise daylighting and sustainable design goals for the project.

Windows for new developments on the Health Sciences Campus may be larger in response to overall building scale and proportion increases on this campus. Curtain walls, window walls, and multi-story fenestrations in service of optimal daylighting are encouraged.

Operable windows should generally not be used except where programatically and functionally appropriate.

Arrangement

Windows should be repetitive elements on the building with subtle variation vertically to distinguish hierarchical order. Openings should generally be symmetrically arranged within facades.

Ornamentation and Trim

Use stone trim and masonry arches at openings. University technical and functional requirements, such as security screens, should be considered in the design and incorporated to minimize their visible impact.

Health Sciences Campus



Components

Ornamentation and Pattern

Despite being considered ostentatious, ornamentation and pattern were still used, although sparingly, on early campus buildings. Ornamentation was provided through four primary means: stone and masonry; roof; inscriptions; and lighting. New developments should include subtle ornamentation and pattern, generally in locations to denote significance.

Stone and Masonry

Stone and masonry quoins at building corners was commonly used, and was both matched and contrasted to the adjacent material field color. Contrasting masonry or stone was also used as accent fields and bands. When used, quoins and accents had limited application on the facade. On several recent buildings, decorative contrasting horizontal banding has been included as a continuous expression on all facades. This represents a departure from the colonial revival and mission revival styles into the more heavily ornamented baroque style, and is encouraged to be examined on a case-by-case basis.

For the purposes of these guidelines stone refers to both natural quarried materials and fabricated materials made to replicate natural stone.



Ornamentation and Pattern

Roof Accessories and Detail

Roofs offer many opportunities for refined ornamentation. On early buildings, soffits and overhangs included refined trim such as dentils. Recent buildings have also included brackets as visual support to soffits and overhangs. Gutters, conductor boxes, downspouts and overflow nozzles were typically exposed on early buildings; these were afforded subtle pattern to serve as utilitarian decoration to the facade.



Inscriptions

Early buildings showcased their namesake prominently. Today, it is less common that buildings are named in honor of an individual. New developments should still consider inscriptions as a form of ornamentation, however as building's function and assignment may change over time, less specific inscriptions, such as construction date, should be considered.



Building Lighting

Several early buildings on campus incorporated exterior building light fixtures. Generally limited to entrance areas, these light fixtures provided another opportunity for utilitarian ornamentation to the building. If used for new developments, exterior building light fixtures should harmonize with the building aesthetic and be historically rooted.



Components

Service Areas



Service areas for buildings, including service vehicle access, loading docks, and required external building equipment, should be an integrated aspect of the overall design of the development. The service area should be located with attention to Campus Master Plan objectives, such as minimizing vehicle and pedestrian conflicts. To the extent possible, service areas should be located to share access, site, and screening with adjacent building's service needs, both existing and proposed by the Master Plan.



Service areas should be enclosed with a masonry wall that provides visual and acoustic screening. The wall should be of an appropriate height to fully conceal all equipment and stacks from near-range pedestrian view. Access gates should be metal and match the character of the associated building fenestration or railings. Screening vegetation may be considered only in conjunction with the masonry wall. This may be accomplished directly with a non-destructive creeping species or indirectly through the additional layer to the masonry of a 'green screen'.

Where practical, equipment required for building function should be integrated within the building footprint and facade treatment. All equipment that must be located outside of the building footprint, should be within the development service area.

Loading docks and building service equipment such as dumpsters should be visually concealed by the service area wall.

Structured Parking

Vehicles are an integral aspect of campus development. Surface parking on campus has historically satisfied all functional as well as economic needs. However, as campus growth and development continues, surface parking, existing and new, will consume valuable physical and visual real estate. For new development on campus, structured parking should be evaluated, and if determined viable, be provided. Refer to the Campus Master Plan for recommendations regarding parking development.

Although no precedent exists among the early campus buildings on campus currently, structured parking developments should be sympathetic to the context of the early campus buildings and follow the general building design principals outlined in these guidelines.

Structured parking may be provided in a stand-alone structure, or be incorporated into multi-use buildings with compatible functions, such as retail campus services or residence life.

Masonry should be the predominant visible exterior cladding. Exterior wall openings should follow building fenestration guidelines, while meeting code requirements for natural ventilation. Sloped roof forms should be considered for building elements when feasible. Building components such as entrances, arcades and ornamentation are recommended and, if provided, be in accordance with other portions of these guidelines.



Green Effect

Providing structured parking can contribute to green design initiatives:

- *Reduced site development area to maximize open space*
- *Reduced impervious area for improved stormwater management*

Materials

Masonry

Brick masonry is the predominant facade material found on early campus buildings. The preferred predominant material for facades of new developments on campus should be brick masonry.

Following are recommendations and preferences for brick masonry use on new developments. For renovations or additions to existing buildings, the existing building material and context should be considered and should most frequently be matched.

Brick masonry used on Health Sciences Campus should match masonry used on recently constructed projects completed on this campus.

Brick masonry material selections should be mocked up for approval by the University prior to specification.

Green Effect

North Carolina has a rich history of producing high-quality brick masonry. Unless an exception is sought and approved, brick should be sourced from within the state. Reclaimed or recycled should be pursued when applicable

Use

- Predominant exterior cladding material

Color - Field brick

- Red, reddish-brown, or brown; mostly uniform color or with subtle, or no, color blends. Color and blend alternatives may be considered where existing context establishes precedent.

Color - Accent brick

Accent brick should only be used in limited application as ornamentation.

- Grey, buff, or similar neutral hue

Size

- Modular size or of similar length-to-height proportion

Texture

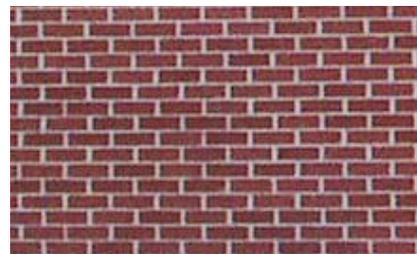
- Smooth or velour texture

Bond pattern

- Common (American), Flemish, or English bond

Mortar

- Color preferred to contrast with the brick masonry color in which it is located. Color alternatives may be considered where existing context establishes precedent.



Stone Materials, Natural and Fabricated



For the purposes of these guidelines stone refers to both natural quarried materials and fabricated materials made to replicate natural stone.

Use

- Limited application as an accent to the brick masonry and as trim at fenestration
- Larger applications for developments taller than 4 stories as a predominant “top” expression material
- Set in relief relative to the masonry plane

Material

- Natural limestone, natural granite, architectural precast, cast stone, or fiber reinforced plaster

Color

- Buff, grey, white or similar hues or blends of these hues to match natural limestone or natural granite

Texture

- Smooth



On early campus buildings, stone was applied in limited use as an accent material and for its special weathering characteristics. As keystones, quoins, masonry insets and horizontal banding, window sills and lintels, stone added refined ornamentation to buildings.

Stone ornamental and trim elements should be considered on new developments. Their use should be limited and refined in keeping with the colonial revival and mission revival style principles.

On the Health Sciences Campus, fiber reinforced plaster has been applied with limited use. FRP should be considered for limited use at upper portions of buildings, above levels of pedestrian interaction.

Green Effect

North Carolina quarries produce commonly used building granites. Providing locally sourced building stone can contribute to green design initiatives and is encouraged for all new developments.

Materials

Doors, Windows and Glazing



Color - Framing Systems and Trim

- Window and door system framing members (mullions, muntins) and surrounding trim should be light-color paint (white, cream, off-white) to contrast with masonry. Silver painted or clear anodized may be considered in areas of matching context, particularly on the Health Sciences Campus.

Glass and Glazing

- Clear or low-iron glazing in conjunction with high-performance coatings to optimize performance. Glass units with coatings should be evaluated in the field for reflectivity and color rendition.
- Tinted glazing may be considered as a lower-cost alternative to clear, low-iron glazing. If used, grey hue tints are recommended. Blue or green hue tints should be avoided.
- Reflective glazing should be avoided.
- Spandrel units are discouraged. If used, it is recommended that painted metal infill to match the framing system be considered first. Glass spandrels, back-painted or shadow-boxes, should be avoided, and only used after samples are field-reviewed and approved by the University.



For a review of the campus precedents and general recommendations for fenestration components, refer to Components - Fenestration portion of these guidelines. This portion of the guidelines reviews the materials, colors and textures recommended for doors, windows and glazing for new developments.

The University Construction Standards should be referenced for additional information regarding door and window system materials and requirements.



Roofing



For the purposes of these guidelines clay tile refers to both natural materials and fabricated materials made to simulate natural clay.

Sloped Roofing - Clay Material

- Natural or simulated barrel tile (Refer also to University Construction Standards)

Color

- Red

Shape

- Pantile shape with coordinating system hip, ridge, and arris tiles



Sloped Roofing - Metal Material

- Metal standing seam, painted or natural zinc, copper, aluminum, or stainless steel, coated or uncoated
- Roofing materials used on Health Sciences Campus should match those used on recently constructed projects completed on this campus

Color

- Painted: Neutral hue
- Natural metal: finished or patinated to grey or similar neutral



Profile and Size

- Standing seam, 12 to 18 inches max spacing with minimal reinforcing ridges

Early buildings on campus of both the mission revival and colonial revival style predominantly utilized clay tile roofs for sloped roofs. On several more recent buildings, standing-seam metal roofs have been successfully integrated into the design. For sloped roofs on new developments, clay tile material is preferred, however metal can be considered if the adjacent buildings provide that context or as a lower-cost alternative to clay tile.

If clay tile is provided, it is important to include special tile shapes for ridges and hips to complete the design aesthetic. Ludowici clay tile has been used extensively on campus.

For developments or portions of developments with low-sloped roof areas, refer to the Components - Roof Form portion of these guidelines.

The University Construction Standards should be referenced for additional information regarding roof system materials and requirements.

Materials

Metals and Miscellaneous Materials

Metal Wall Panel Systems

There is little precedent on existing campus buildings for use of metal as an exterior cladding material. However, consideration of metal wall panels may be appropriate for limited application such as spandrel conditions, or as the primary material for “top” expression of developments greater than 4 floors in height. These uses should be implemented only after review and approval from the University. The following recommendations should be considered with its use.

Material

- Painted metal or natural zinc, copper, aluminum, or stainless steel, coated or uncoated

Color

- Painted: When integral with fenestration framing, light color to match window framing. Other uses: grey or similar neutral hue
- Natural metal: Finished or patinated to grey or similar neutral

Texture and Detail

- Smooth or embossed, with concealed fasteners, and refined expression of trim in profile

Miscellaneous Metals

In general, the material and color of miscellaneous metals exposed to view should follow the recommendations associated with their use; for example, louvers installed within window framing should follow the recommendations for fenestration.

Uses

- Railings, louvers, downspouts, gutters, conductor heads and nozzles

Material

- Painted metal or natural zinc, copper, bronze aluminum, stainless steel, coated or uncoated. (*Railing components should not be painted metal.*)

Color

- Painted: When integral with fenestration or precast, light color to match window framing. Other uses: grey or similar neutral hue
- Natural metal: Finished or patinated to grey or similar neutral

Unavoidable metal items exposed to view, such as sidewall vents, should be painted to match the adjacent wall.

Miscellaneous Materials

For each development several other materials may be required or considered for use. These uses should be implemented only after review and approval from the University. The following recommendations should be considered with their use.

Wood

Wood should only be considered in associated with fenestration systems and should not be considered for exterior cladding. If used, the material should be clad and follow the guidelines recommendations associated with fenestration.

Stucco and Plaster

Existing buildings on campus offer a handful of precedent examples for use of stucco and plaster as an accent material. As a lower-cost alternative, stucco or plaster material may be considered in lieu of stone where stone is recommended by these guidelines. If used, stucco and plaster should otherwise follow the recommendations provided for stone.

Exterior Insulation Finishing System (EIFS)

As a lower-cost alternative, EIFS material may be considered in lieu of precast or metal wall panel systems where these materials are recommended by these guidelines. If used, EIFS should otherwise follow the recommendations provided for precast or metal wall panels. (*Recommendations for use of precast can be found under the Materials - Stone Materials, Natural and Fabricated portion of these guidelines.*)

Grounds

Introduction

Introduction and Significant Landscapes

These Open Space Design Guidelines recognize the current diversity of landscapes at East Carolina University. The intent of these guidelines is not to create visual homogeneity, but to provide an overall conceptual framework for the development of open spaces, establish a high level of quality in the design of open space, create an order and structure to the campus, and link eclectic building styles through common open space design. Sustainable open space techniques are incorporated into these guidelines.

Significant Landscapes

Several open space areas on the ECU campus have special significance and have endured the development of campus throughout the decades. New York landscape architect Louis Miller drew up plans and renderings of what he envisioned for the future of then East Carolina Teachers Training School and his vision was carried on with the future development of the campus. As the campus has developed, new spaces have been constructed and have become memorable and iconic places on campus. These areas are considered sacred and therefore, should not be encroached, redeveloped, or built upon.

The Mall and 5th Street Edge

These areas are concentrated on the central core of the Main Campus and off of 5th Street, where some of the first campus buildings were constructed. The development of these buildings between the 1920s through the 1950s shaped these open spaces by providing a linear pattern

and forming a central green mall now flanked by mature trees and vast lawn areas. Located within this mall is a replica of the Old Austin Cupola, which was originally located atop the University's first Administration Building. This area also includes the landscaped setback off of 5th Street which features several stone wall gateway entrances. This setback follows the entire north campus boundary along 5th Street.

The Fountain in Wright Circle

The original fountain was dedicated in 1932, and a major restoration occurred in 2007 to replace the crumbling feature. The fountain was originally named after Robert H. Wright, the first University president. After the construction of the new fountain, it was dedicated as Trustees Fountain and is still a major landmark of the University.

Sonic Plaza

Sonic Plaza is located between the Joyner Library and Joyner East. This is a significant plaza space and a gateway into the heart of the Campus Core. The plaza is heavily traveled by pedestrians and includes seating areas, and four visual arts components.

Wright Student Plaza

A major pedestrian corridor through the north side of the Academic District of campus provides opportunities for demonstration, events and people-watching.

Other Areas of Significance

Additional landscape areas are Wendell Smiley Way, which is an

entrance loop drive off of 10th Street. This drive was constructed as a part of the Joyner Library addition and Sonic Plaza installation which was completed in the late 1990s. This drive is an important "front door" entry from the south side of campus.

Significant tree stands are also of importance to the campus landscape fabric. A sloping landscape area on the corner of 5th and Reade Streets showcases several majestic red oaks. A stand of beech, oak, holly and birch lie between Wendell Smiley Way and Slay Hall. Another important stand of trees is located between the Science and Technology Complex and 10th Street. As a low area and located within a floodplain, this tree stand contains cypress, beech, oaks, hickory, and sycamore.



The plan for East Carolina Teachers Training School, circa 1907, as illustrated by Louis Miller, a New York landscape architect.



The Cupola located on The Mall



Sonic Plaza



The Fountain in Wright Circle



Wright Student Plaza

Defining Open Space

Building Placement

New facilities, buildings and open spaces combined, should be located and aligned to establish the campus framework, reinforce pedestrian routes, and form clear, identifiable edges for public spaces and walks. Building and open space entries should front onto positive outdoor space and major pedestrian walks.

Wherever possible, shared programming and active uses should be located fronting onto public spaces to help activate and animate gathering spaces, and create more opportunities to interact. Building placement,

wherever possible, should respect the natural environment of campus, including mature tree locations, floodplains and historic campus open spaces. Building footprints, in general, should create open spaces.

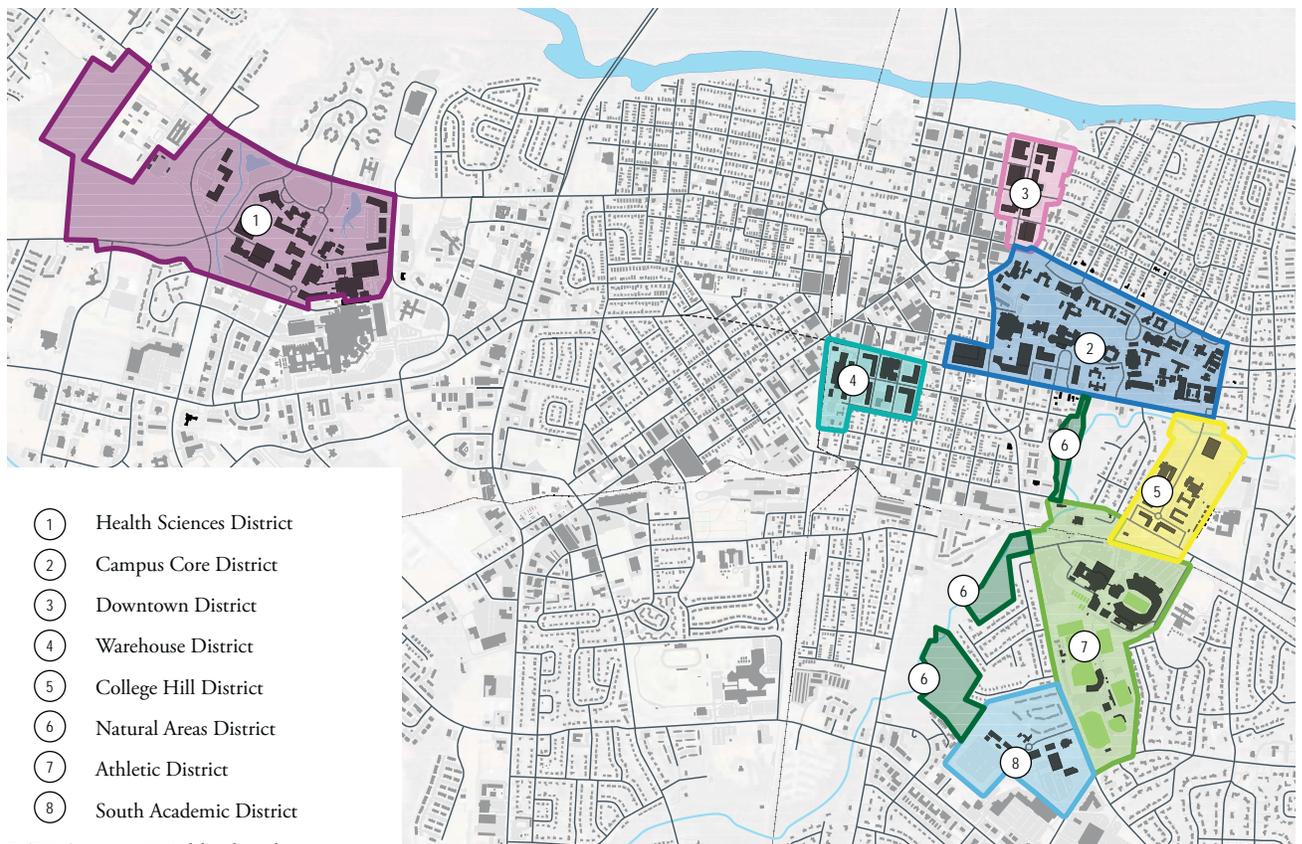
Building placement should also take into consideration microclimate conditions, such as sun and wind patterns, as described in the sustainability portion of this Master Plan Report.



Future roadway and building framework for campus

Landscape Character and Neighborhoods

As part of the Master Plan recommendations, specific districts were delineated for the campus. Within these district descriptions, landscape character was described for the existing site as well as for future planning initiatives. Site descriptions include directives for campus gateways and edges, plaza and courtyard spaces and road cross-sections. Refer to the Master Plan for more information on these recommendations.



ECU Campus Neighborhoods

Landscape Areas

Campus Entrances

Campus entrances are significant areas on campus that identify to the visitor and the community that one is entering University grounds. Campus entrances can be both vehicular and pedestrian orientated.

The University should enhance and beautify the landscape treatment at designated campus entrance locations to create significant and memorable portals. Entrances should be appropriately reinforced with landscape and architectural features to signify an arrival on campus.

Two entrance scales should be created for campus: primary and secondary scales. A primary campus entrance is defined as a main pedestrian and vehicular gateway for campus, much like the entrance at 5th and Reade Streets. This entry signals a clear arrival on campus and is scaled appropriately for its location. A primary entry element can also be located on one or both sides of the street and should have the ECU name included within the element. A secondary campus entry is one that is also used for pedestrians and vehicles. Secondary entry examples are located along 5th Street, at every entrance. This entry element can also be placed on both sides of the drive or street, should reflect a scaled down version of the primary gateway, and maintain a presence of campus identity. The ECU campus name should also be located within the secondary gateway elements.

The materials/colors should be uniform and consistent throughout campus and be based on the palette of stone that has already been established on the main campus



This is an example of a primary campus entrance at 5th and Cotanche Street.



This entry portal element wall on 5th Street is an example of a secondary type entrance for pedestrians and vehicles.

5th Street Corridor and at the intersection of Cotanche/Reade and Cotanche/5th. Plant material should be used in accordance with the scale of the entry and to soften the hard lines of the elements.

Signage at the campus entries should prominently introduce visitors to the campus. Campus entry elements are best implemented when viewed as a distinct “system” on campus. A unified campus entry design standard should be developed campus-wide as soon as possible.

The Athletic District should also follow the recommendations for campus entry elements as described within this report. Entry elements in

this district should be implemented at the time when renovations in this area are necessary.

Campus entry elements and wayfinding signage at the Health Sciences Campus should be studied to include potential partnership entry elements and wayfinding with PCMH. A strategy to include both PCMH and ECU within one wayfinding system of signs will make both entities within this large complex easy to navigate for visitors. The materials and colors should be unified to coordinate with the Main Campus, but wayfinding elements should be clear and concise for campus visitors.

Campus Entrances

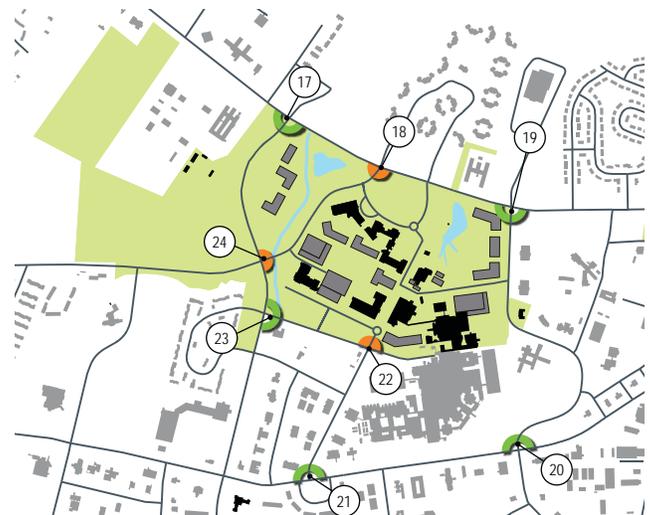
LEGEND

- Proposed Primary Campus Entrance
- Proposed Secondary Campus Entrance
- Proposed Partnership Entrance
- Existing Campus Entrance
- Proposed Campus Buildings
- Existing Campus Buildings

Key	Status	Entrance Name
1	Proposed	South of 1st, east and west side of Reade
2	Proposed	North of 5th, east of Reade
3	Existing	South of 5th, east of Reade Circle
4	Existing	South of 5th, at Trustees Way
5	Existing	South of 5th at Chancellors Way
6	Existing	South of 5th at Founders
7	Existing	South of 5th at Beckwith, Leary and Cleary
8	Proposed	South of 10th, west of S. Washington
9	Proposed	North of 10th, east and west of Cotanche
10	Proposed	North of 10th, east and west of Wendell Smiley Way
11	Proposed	North of 10th, east and west of Founders
12	Proposed	North and south of 10th, and east and west of College Hill and Bennett Way
13	Proposed	West of Charles, north and south of Oglesby
14	Existing	East of Charles at Athletics entrance
15	Proposed	West of Charles, north of Greenville Boulevard
16	Existing	East of Charles, north of Greenville Boulevard
17	Proposed	South of 5th, east and west of W. Arlington
18	Proposed	South of 5th, east and west of MacGregor Downs
19	Proposed	South of 5th, east and west of Moye
20	Proposed	North of Stantonsburg, east and west of Moye
21	Proposed	North of Stantonsburg, east and west of Service Dr.
22	Proposed	North of Heart Blvd., east and west of Service Dr.
23	Proposed	East of W. Arlington, north and south of Heart Blvd.
24	Proposed	East of W. Arlington, north and south of MacGregor Downs



Main Campus proposed and existing entry portals



Health Sciences Campus proposed and existing entry portals

Landscape Areas

Campus Edges

The image and identity of the campus is expressed in the consistency of the campus edges, and the treatment of public and campus rights-of-way. The north edge of Main Campus (on 5th Street) and the west edge of the Athletic District (on Charles Boulevard) have clear edge treatments and establish the campus identity. Campus edges should create a distinctive, positive image for the University.

Each edge should have its own character, yet use materials that are complementary to each other and to the surrounding campus context. Some edge treatments that can be utilized are fences, walls, and landscaping such as a low hedge similar to the hedge along 5th Street. If low walls are used, materials should reflect the campus entrances along 5th Street. Walls should be at a height that maintains clear visibility in and out of the site.

Concurrently during this plan, the Athletic District established its own edge treatment, which coordinates with the architecture within this area. This edge treatment is acceptable for this portion of campus.

For campus edges that are directly adjacent to residential areas, urban streetscape design techniques should be utilized and allow for complementary landscaping and not screen out, but interface with the surrounding neighborhoods. Common setbacks and streetscape characters are defined within the neighborhoods section of the Master Plan Report.



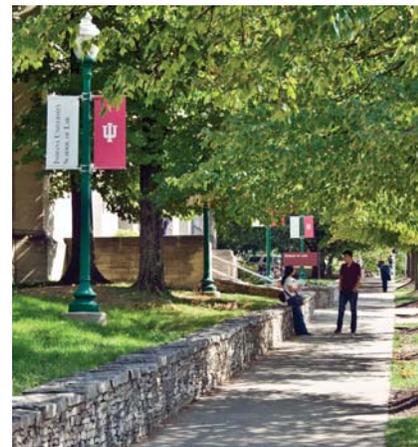
Edge treatment along Charles Boulevard, at the Athletic District



At Penn State, this retaining wall edge also serves as a pedestrian gateway.



Edge treatment along 5th Street



This edge treatment retains topography at Indiana University

Campus Edges

LEGEND

- Campus Edge
- Proposed Campus Buildings
- Existing Campus Buildings

Key	Status	Edge Name
1	Proposed	North side of 5th, between Reade and east campus boundary
2	Existing	South side of 5th, between Cotanche and Rivers Building
3	Proposed	East side of Cotanche, between 5th and 8th
4	Proposed	East and west side of Cotanche, between 8th and 10th
5	Proposed	North side of 10th, between Evans and Bennett Way
6	Proposed	South side of 10th, along College Hill District
7	Existing/ In-progress	East side of Charles, between railroad tracks and Greenville Blvd.
8	Proposed	West side of Charles, along South Academic District boundary
9	Proposed	South side of 5th, between W. Arlington and Moye Blvd.
10	Proposed	West and east side of W. Arlington, between 5th and Heart Blvd.
11	Proposed	North and south side of Heart Blvd., between W. Arlington and PCMH
12	Proposed	West and east side of Moye Blvd., between 5th and south to the campus boundary



Main Campus proposed and existing campus edges



Health Sciences Campus proposed campus edges

Landscape Areas

Quadrangles

The central open spaces on campus are quadrangles, locations for formal and informal outdoor circulation and activities. They form the campus' iconic and organizational open spaces.

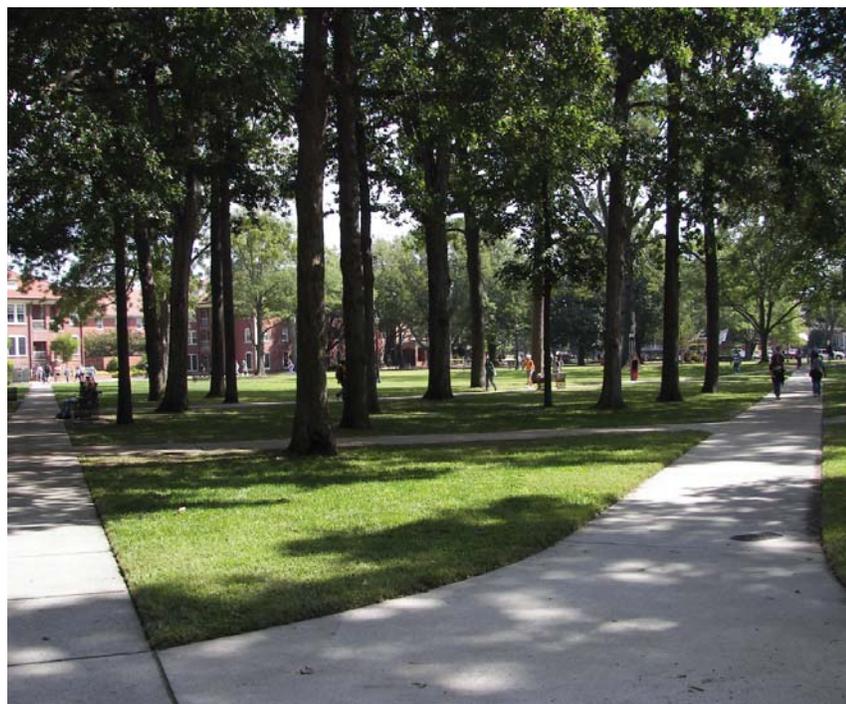
The ECU campus has established distinctive quadrangle areas that should be maintained. Within the core of Main Campus, The Mall around the Old Austin Cupola contains a traditional campus landscape character of mature trees with lawn and walks. As the Campus Master Plan recommendations suggest, the area west of the Old Cafeteria should also reflect this traditional quadrangle setting with tree planting enhancement, lawn restoration and concrete walks that are utilized for ease of pedestrian movement. The area surrounding Wendell Smiley Way, off of 10th Street, also should be preserved and enhanced as a traditional campus quadrangle as this could be developed as a major front door to the University in the future. As growth on the Health Sciences Campus occurs, quad areas can be implemented, especially between the central academic and institutional portions of the campus. This iconic space on the Health Sciences Campus is lacking today.

Landscape treatment in quads should be simple, utilizing walkways that parallel and define the boundaries of the quadrangle and diagonal walkways respecting desire lines. Simple, open, grass areas and tree massing should reinforce the open space and shrubs and other small pockets of landscape should be avoided in

quadrangles. Tree groupings can be formally or informally spaced, but the overall treatment should be to reinforce qualities of space and place within the quadrangle. Since they form the edges of the quadrangle, individual landscape treatment of buildings should reinforce the character of the quadrangle. Features such as fountains, monuments, art, and special site furniture can occur at selected intersections of walkways and in expanded pavement areas.

Quadrangle landscaping should also reinforce significant visual straight lines, points of connections, axial relationships, and building entrances. Pedestrian lighting, site furniture, and signage should all complement and reinforce the sense of a unified open quadrangle space.

The Main Campus Mall and elements contained within and immediate surroundings are regarded as an economic value to the campus and are used in branding ECU's unique campus identity. Therefore, protective measures of this historic Mall should be implemented by the University. For example, permission to host events, hang banners, place tents or accommodate groups of individuals should be permitted through an events committee. A designated area within The Mall should be utilized for events to ensure protection of mature trees and reduce compaction of soils. Banners, signs and other items should not be hung from trees as damage can occur, which will invite disease and ultimately loss of life to these campus gems.



The Mall on Main Campus

Courtyards

While quadrangles are a larger part of the campus landscape fabric, courtyards are secondary spaces that serve as adjuncts to a building or a cluster of buildings. These spaces function with a close relationship to the building landscape. Courtyards should be considered as part of the building programming for any new construction project.

Landscape treatment in these zones can be more flexible and relate more to individual building design. These areas should include seating areas for informal study and should provide areas of sun and shade. Courtyard areas should offer a variety of landscape treatments that responds to the scale and use of the space and sets it apart from quadrangles. Consistent site furnishings and signage should be included when designing these spaces.

Numerous courtyards currently exist throughout the ECU campuses. On the Main Campus, the area between Jarvis and Fleming Residence Halls, and the courtyard at the Old Cafeteria Building. The Health Sciences Campus also has courtyard spaces such as the area on the northwest side of the Cardiovascular Institute.



Courtyard at Fleming Hall



An informal courtyard at Delta College



Courtyard seating is nestled into this space at The University of Michigan.



A courtyard gathering area adjacent to a building entrance

Landscape Areas

Plazas

Plazas function as primarily paved areas for gatherings in areas of heavy and frequent pedestrian use. Plazas are usually located near building entrances and at the intersections of primary pedestrian walks.

This primarily open paved area should be located where the heart of campus activity occurs, the place where students instinctively gather. It should be designed attract different kinds of people for different purposes. It should offer many choices of things to do – socializing, protesting, eating, reading, raising consciousness, rallying for an impending game, playing, and interacting with art. These areas should not impede the motion of pedestrian traffic crossing through the site.

Some of the existing plazas on the Main Campus include Sonic Plaza, located at the Joyner Library, Wright Plaza, and the plaza in front of the main entrance at West End Dining. A new plaza could be incorporated with the new Student Union on

Main Campus. The Health Sciences Campus should incorporate a plaza adjacent to the new Student Life Center.

A program and intended use for the plaza should be clearly defined during the schematic design phase of the project.

Understanding how students are using or will use campus plazas is critical to designing them. All campus plazas should have:

- Clear definition of space through plantings, seating, elevation changes, or other landscape elements.
- Ability to move through plazas while maintain the intent of the plaza activities.
- Minimal stairs.
- Views into and out of plazas, with clear sight line.
- Special surface textures and materials that define the space.
- Interactive and stimulating sculpture elements.
- Seating arrangements that

support a variety of activities – intimate discussions, people-watching, quiet studying, group gatherings, etc.

- Plantings to bring a human scale and intimacy, define the space, and provide shade and incorporate stormwater infiltration strategies if conditions allow.
- Sufficient energy-efficient lighting.
- Trash and recycling containers.
- Power receptacles and internet accessibility.
- Slopes that are at least 1 percent for drainage but not more than 2 percent to meet ADA requirements.
- The relationship between the plaza and the surrounding buildings and significant landscape features should be an important consideration in the plaza design.
- The design should consider the microclimate of area, including sun exposure and seasonal conditions.

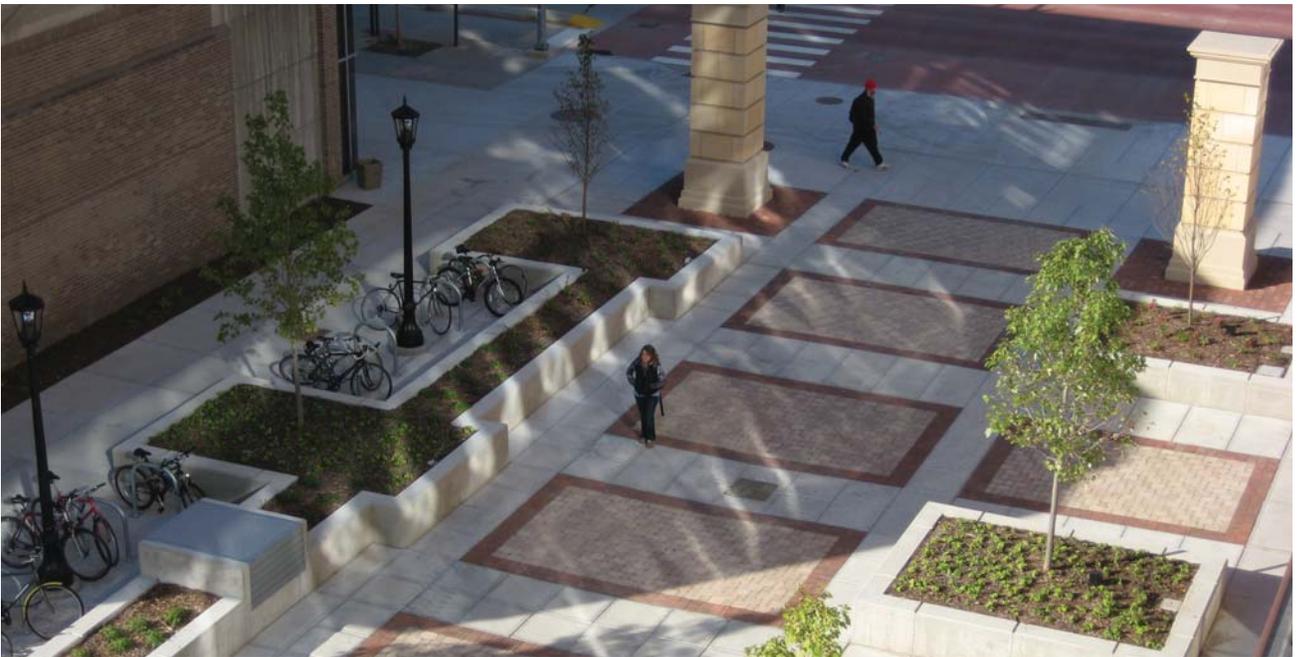


Plaza spaces are located at primary walk intersections.

Plazas



Sonic Plaza at ECU



University of Wisconsin-Madison, University Square

Landscape Areas

Athletic Fields

The landscaping around the athletic fields within the Athletic Complex on Main Campus and on the North Recreational Complex should consist of large grassed areas defined by large tree massing. The planting of trees around fields should create large, outdoor rooms that serve to scale down the expansive open space. Deciduous tree leaves can interfere with athletic facilities, therefore, trees should be kept a minimum of 50 feet away from athletic or recreation fields. Landscaping should also serve as a transition from the fields to the adjacent neighborhoods.

Sustainable irrigation practices should be incorporated into the design of any new or restored athletic field. Stormwater ponds or underground detention should be used for run-off captured from these expansive areas. Water from these facilities should then be used for irrigation, or be filtered and treated before release into the regional stormwater system.

Site furnishings should be consistent with campus design guidelines. In regards to parking, plazas and courtyards, refer to those section within these guidelines.



North Recreational Complex at ECU

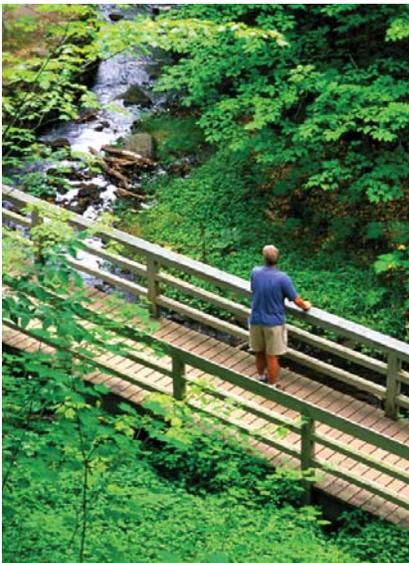


Tree massing should be incorporated around athletic fields to break up expansive lawn areas.

Natural Areas

ECU is fortunate to have some beautiful natural wooded areas on campus. As directed in the Campus Master Plan, existing plant materials should be cleared selectively to make way for a recreational pathway system. Wooded areas should be managed to control invasive species and removal of dead trees that encroach on pedestrian facilities.

As new buildings are incorporated into the campus fabric, the architect should consider placement of low-mow, native or a prairie type ground plane instead of traditional sod. Placement of these types of plant materials is intended to reduce maintenance. This would only be intended in perimeter areas of campus that are not intensively used.



Recreational pathways should meet ADA requirements.



Paths should be wide enough to accommodate bikes and pedestrians.



Perimeter area of a parking lot, with native and low-mow grasses



The Lake Laopus path is a valued commodity on the Health Sciences Campus.

Landscape Areas

Stormwater

The quality of stormwater leaving a watershed is at its highest when the land is in a pre-developed state. The Campus Master Plan recommends that new development on campus should mock run-off coefficients of pre-settlement conditions. However, the campus should utilize Best Management Practices for stormwater management for all University projects, including new and existing buildings, roads, sidewalks, and landscaping or where significant run-off is expected. Any changes to the existing stormwater run-off or the storm sewer system should also employ Best Management Practices for stormwater management.

When planning a project, the University should consider the long-term health of regional streams and rivers such as the Tar River and Green Mill Run. Stormwater design should

follow requirements at state and local levels. Two documents for review are the *City of Greenville Stormwater Management Program (2004)* and the *North Carolina State Rule 15A NCAC 2B .0258 Tar-Pamlico River Basin - Nutrient Sensitive Waters Management Strategy: Basinwide Stormwater Requirements*

Principles for stormwater management are:

- The infiltration of stormwater should be captured close to where it falls. Infiltration along street corridors, parking lots and buildings can provide infiltration capacity while directing heavier rainfall flows toward larger treatments systems such as detention ponds, and rain gardens.
- Untreated stormwater should not be discharged directly into the Green Mill Run, the Tar River or any other water course.
- New development on campus should aim to meet the pre-settlement run-off coefficient as described in the overall master plan section.
- Stormwater run-off should be made into a visible and visual amenity on campus.
- Provide opportunities to collect and store rainwater for irrigation.
- Use stone and other materials to slow rainwater run-off at discharge pipe locations to settle out particulates and larger debris before subsequent treatment practices.
- Utilize native plantings whenever possible and appropriate to further filter stormwater run-off, removing excess nutrients, contaminants, and organic materials that can impact water bodies.



An inlet from the curb allows water to enter the infiltration planter.



Rain garden detention area with native plant material

Stormwater

Stormwater management techniques attempt to slow down the quantity of stormwater run-off from large rainfall events, mimic pre-development run-off conditions by managing small stormwater events at or close to where rain falls, and minimize impervious surfaces. In order to do this, several strategies are described below.

Rain Gardens

Rain gardens, infiltration planters, bioswales, and constructed wetlands are examples of infiltration facilities that will help to filter stormwater from small rainfall events. By encouraging and assisting infiltration, these facilities enhance water quality, reduce run-off rates, recharge the groundwater system, and create habitat.

Pervious Pavements

Pervious pavements allow the infiltration of stormwater in areas that would otherwise be impervious. Pervious pavements allow groundwater recharge by infiltrating water directly back into the underlying soils. Pervious pavements can be applied to walks, parking lots, and plaza areas. The materials for pervious pavement can be concrete, asphalt and paver units. The design architect or engineer should insure that underlying soils can tolerate infiltration.

Green Roofs

Green roofs have proven effective at managing small rain events while slowing run-off for large rain events. These systems utilize plant materials

for otherwise impervious surfaces. The plant materials capture most of the rainwater and prevent it from entering the stormwater system, mimicking pre-development conditions.

Detention Basins

Detention basins manage large storm events by providing added capacity to a drainage system. At-grade basins within the open space can be an added amenity on campus, while solving stormwater needs. A detention basin restricts stormwater flow, creating benefits downstream due to reduced run-off rates.

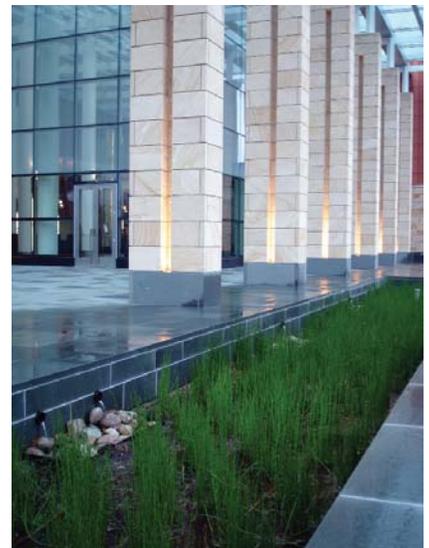
Underground Detention

Underground detention is an option when space is limited for open systems. Underground detention usually works best when covering a larger footprint such as an athletic field or parking area. Underground detention can also be used for irrigation applications.

The methods described above should not limit the palette of the designer of these stormwater systems. As new Best Management Practices are developed, these methods should be evaluated and considered as options for reductions in stormwater run-off.



Bioswale infiltration in parking lot



Infiltration basin close to building



Greenroof application

Landscape Areas

Building Landscaping

Plantings should not mask building entrances, but enhance and focus attention to the entrances and other architectural features. Public entrances to buildings should be easily found and accessed.

Outdoor transition space should be designed between the building approach and indoor lobbies. This transition space should include materials that relate to the materials used in the building interior or on the exterior walls. This space should also provide some protection from rain, sun, and wind.

Small landscaped areas should be located near the building entrance to serve the building occupants during lunch breaks and between classes. These areas should be relatively intimate in scale and should frame views out of the space.

Landscape treatment adjacent to buildings should be simple with a limited plant palette. Planting beds and foundation planting should be in areas that serve to transition open space areas to individual buildings. Massing and size of planted areas should be in scale with buildings and complement or reinforce the landscape of the open space areas and the campus landscape character.

Plantings should not be located in a way to create hazardous conditions and should not create dark pockets near entrances or along sidewalks at night. To maintain safety, heights of shrubs and small trees should be limited to ensure adequate sight availability.

Large plantings should be located far enough from building walls so to allow for air movement. Plantings should not completely obstruct views from building windows. Plants located near windows should be near enough to filter glare and bright sunlight, but distant enough from windows to maintain views. To protect building façade from lawn mower damage provide mulched planting beds or gravel borders around buildings.



Foundation plantings should be low to enable views in and out of building windows.



Building entrances should not be masked by plantings.

Tree Preservation

Large and significant canopy trees contribute to East Carolina University's special character and add interest to the campus. Such trees take 30 years or more to develop and cannot be easily replaced. Therefore, all significant trees should be protected. The architect should work with the ECU Grounds Services department through all phases of a design project to ensure all trees are protected during a construction project. Trees (existing vegetation) must be shown at the correct scale on all phases of site and utility drawings. The designer must coordinate construction with the locations of Heritage trees on campus (list authored by the University Environment Committee).

Tree protection must be in place to protect trees from the beginning to the end of the construction project to avoid any damage to low branches or compaction to the roots due to placement of construction materials and equipment. Protective fencing

must be at least 4 feet tall, extend to the outer perimeter spread of the branches (drip line) except when prohibited by existing structures or pavement, and be comprised of a sturdy material such as PVC or chainlink fence. Gaps between fence posts must be filled with a material such as orange safety fence to prevent penetration from equipment or materials. Proper signage must be posted on tree fencing. Trees (existing vegetation) must be shown at the correct scale on all phases of site and utility drawings.

Construction crews should be prohibited from storing materials under tree canopies during construction and campus staff should monitor activity to prevent any negative instances. The contractor should maintain the integrity of the tree protection fence during the duration of the project and damaged fence should be repaired immediately. A tree protection fence should not be

relocated unless with consent from the University landscape architect.

Maintenance and construction projects may cause damage or require the removal of existing vegetation. However, these instances should be thoroughly evaluated and only permitted when absolutely necessary. In cases where trees must be removed, a minimum of 3:1 replacement ratio must be included in the project depending on quantities. The designer should use like varieties, caliper sizing must be between 2 ½ to 6 inches depending on location. Tree replacement must be in close proximity to the removed trees.

Finally, the campus community must be discouraged from hanging or nailing banners or other items onto any campus tree. Locking bikes to trees is also discouraged. Bark perforations and damage can cause an entry point for disease and bug infestation, which will cause tree weakness, deterioration and ultimately tree death.



Typical tree protection prior to the start of a construction project at Michigan State University.

Landscape Areas

Plant Palette and Design

Tree, shrub, and perennial plantings should reflect the existing character of the campus. The campus landscape architect should direct the design team specifically as to what plants are successful on campus based on past experience. Native plants or cultivars of native plants should be used as a primary palette. These plants should be chosen to reflect a local and regional context. Invasive species (exotics) should never be used. Along with the University's non-preferred taxa list on the following page, other publications are worth noting. The designer should refer to the state University extension and the state forest

service for a current list of plants that should be avoided. *Landscaping for Wildlife with Native Plants*, published by the North Carolina Cooperative Extension Service is another useful guide.

Generally, planting design should also take in to account the following considerations:

- Planting design should incorporate planting in masses, but offer enough variety that if disease should occur, replacement is economical and not devastating to the campus.
- Plant sizing should take into account safety of pedestrians and maintain clear sight lines whenever possible. For example, large shrubs should be avoided that obstruct building entrances and enable hiding places.
- Consider canopy tree growth and the placement of lighting fixtures and surveillance cameras.
- Vegetation (except lawn areas) near walkways should be designed to not encroach onto the path of pedestrian travel.
- Refer to the Building Landscaping section of this report for more information.



Site lights lining this walkway are visible below the tree canopy.



Color massing in planting design should be used where appropriate.



An example of mass planting creates a bold statement that is appropriate on campus landscapes.



This walk junction is enhanced by ground cover and ornamental shrubs. Plantings are maintained to maintain safety and provide clear views through the junction space.

Plant Palette and Design

In general, the designer should use canopy trees whenever possible, focusing on long lived trees that will reduce the heat island effect in parking lots and urban settings. This section is not meant to provide a comprehensive list of approved species; creativity in the planting design and plant palette is encouraged by the University. However, the following trees have been successful on campus:

- Elm Trees - Bosque, Allee and Princeton Elms are varieties that are extremely urban and drought tolerant. They produce limited seeds/fruits that have been issues

in parking lots with other trees.

- Oak Trees - Nutall, Overcup, and Willow Oaks are deciduous varieties that ECU has had very good luck with. They do produce acorns so try to limit their use in parking areas. Live Oak is an evergreen oak that is sometimes difficult to get established. Consider using Highrise for consistent form and upright habit.
- Maples – use October Glory Maple in irrigated, well drained soils for fall color in limited quantities. Trident Maple is a

drought tolerant variety that does not get as large as other shade/canopy trees.

- Zelkova – Can be used in limited quantities where an upright tree is required.



Allee Elm



Bosque Elm



Princeton Elm



Trident Maple



October Glory Maple



Highrise Live Oak



Nuttall Oak



Overcup Oak



Willow Oak

Landscape Areas

Plant Palette and Design

This list is a guide for preliminary plant selection. It is a representation of certain material that ECU has not had success with in the past. New varieties might become available that could be considered in the future. Additional plants might be dis-allowed at design review due to site location, sun exposure, soil conditions, etc. As a rule, historically present/native vegetation should be used when at all possible. All planting plans must be approved by the University landscape architect.

East Carolina University Non-preferred Taxa

Botanical Name	Common Name	Notes
Trees		
<i>Acer saccharinum</i>	Silver Maple	
<i>Acer rubrum</i> 'Bowhall'	Bowhall Maple	
<i>Acer rubrum</i> 'Armstrong'	Armstrong Maple	
<i>Cupressocyparis x leylandii</i>	Leyland Cypress	
<i>Fraxinus</i> var.	Ash	
<i>Gleditsia triacanthos</i>	Honey Locust	newer varieties might be considered in small quantities
<i>Liquidambar styraciflua</i>	Sweet-Gum	may be used in native areas
<i>Malus</i> var.	Crabapples	especially older varieties
<i>Pinus strobus</i>	White Pine	
<i>Pyrus calleryana</i> 'Bradford'	Bradford Pear	
<i>Tilia cordata</i>	Linden	
Shrubs		
	Bamboo	certain varieties in confined applications would be considered.
<i>Buddleia</i> var.	Butterfly bush	
<i>Cotoneaster</i>	Cotoneaster	
<i>Hibiscus</i>	Hibiscus	
<i>Hypericum</i>	St. Johnswort	
<i>Kalmia</i>	Mountain Laurel	
<i>Prunus laurocerasus</i>	Laurel	
<i>Liriope spicata</i>	Creeping Lilyturf	may be used if root barrier installed
<i>Photinia</i>	Red-Tip	
<i>Yucca</i>	Yucca	

Pedestrian & Vehicular

Pedestrian Walks

The ECU campus should be developed to prioritize pedestrian travel over other motorized transportation methods. The campus should establish a hierarchy of networks, typology, scale, consistency of materials, and structure of pedestrian walkways to help to define and articulate open spaces and enhance campus wayfinding. The campus should also promote and encourage a lively urban pedestrian environment in the streets surrounding the campus.

Network

The pedestrian walk network should be continuous and aligned so that it connects major destinations and offers pedestrians a safe, interesting, and relatively direct means of travel across campus. Pedestrian walks should generally follow the natural “desire lines” between destinations, with the recognition that in most cases 90-degree turns are not comfortable and therefore not realistic for pedestrian movement. However,

with the Campus Master Plan in place, this may not be applicable in the Downtown District and Warehouse District in which the character here relies on the existing urban fabric grid. Landscaping can be used to encourage a certain pedestrian movement, but will not be adequate to force an action that does not approximate the desire line. Students and faculty will always discover new and apparently more direct routes. It is impractical to add new walks in all such instances, but where pedestrian volume is greater than the width of the existing walk, additional pavement should be added. Conversely, walkways not being used should be removed rather than be repaired. Short-path segments that are repetitive of other nearby paths and do not follow pedestrian desire lines should be removed.

Sidewalks should parallel all vehicular circulation routes. Pedestrian walks should connect major pedestrian

origin/destination points and major building entrances. Pedestrian walks should interconnect with existing and proposed quadrangles, respecting major desire lines across open spaces, but otherwise preserving large unbroken lawns.

To the extent possible, all pedestrian walks should meet ADA requirements and should not have stairs. The topographic changes between 5th Street and the North Residential District, for example, will require some use of stairs, but pedestrian walks within each sub-campus district should be accessible or facilitate a secondary accessible route if a primary route is not currently incorporated.

Service drives should not cross pedestrian walks and should be minimized. Service vehicles should never park directly on walks, but at designated service parking spaces located adjacent to walks with appropriate landscaping to minimize the negative visual effect to pedestrians.



This pedestrian network shown above allows plaza spaces integrated into a main thoroughfare. Secondary walks are shown cutting through the open space.

Pedestrian & Vehicular

Pedestrian Walks

Hierarchy

The campus should implement a hierarchy of walks. Select few primary pedestrian walks should connect all areas of campus and collect large volumes of students. These primary walks should be given dominance over other walks in width and materials. Secondary walks should connect the primary walks with destinations. Some examples of existing primary pedestrian thoroughfares on campus are:

Main Campus

- Between West End Dining Hall and Cotten Hall
- Between Christenbury Memorial Gymnasium (transit stop area) into the Academic Core
- Between the South Residential District and Christenbury Memorial Gymnasium/Academic Core (transit stop area)
- Between the Student Recreation Center and the Academic Core
- The walk between Croatan and the Wright Annex

Health Sciences Campus

As the Campus Master Plan recommends, proposed walkways will be incorporated at the perimeter of campus as well as the interior of campus, between buildings and parking facilities.



This Mall walkway is a secondary path for students crossing through the Campus Core.



Wright Student Plaza is a high-use pedestrian thoroughfare.

Pedestrian Walks

Junctions and Crossings

Junctions of primary pedestrian paths should accommodate a significant volume of pedestrian traffic and function as major collection points. At significant intersections and connecting points, expanded plazas can serve as focal points and meeting places (see plaza design guidelines). Landscaping around junctions should be more urban in character, with tree pockets, art installations, seating and special features, such as specimen plant material, a wayfinding element, a fountain, or a kiosk.

Walks should merge when approaching roads, to condense the number of street crossings. When pedestrian walks cross vehicular roads, it should always be at a right angle with an open view of the street. Standard pavement markings or special street pavement materials should be used to highlight pedestrian movement at major pedestrian crossings, including each location where primary pedestrian walks end at a road or other vehicular route. Crosswalks and barrier-free ramps that are constructed to meet ADA, state, and local code requirements should be constructed at roadway intersections. Mid-block crossings should be avoided. Landscape plantings within these areas should meet requirements to maintain visual site lines for pedestrian safety. Vegetation should be designed and installed to avoid encroachment onto walkways.



Pedestrian crossings should be perpendicular to the street and be delineated.



Pedestrian junctions should handle larger volumes of pedestrian traffic and can contain iconic elements.

Pedestrian & Vehicular

Pedestrian Walks

Width and Materials

The width of the pedestrian circulation routes should vary and be established by hierarchy, usage, and urban design considerations. Walks must be wide enough to accommodate anticipated pedestrian volumes. Consistent walkway widths should be maintained across campus. Primary pedestrian walks should be at least 12 feet wide, and secondary walks should be 8 feet wide. In cases where primary pedestrian walks accommodate an unusually large number of people or multiple transportation types or are an emergency vehicle access route, the walks should be wider to accommodate these types of vehicles, it is recommended that these types of walks be at least 18 feet wide.

Consistent walkway material is a critical element for achieving campus unity. Existing paving materials and patterns should be continued as a means of maintaining visual continuity and quality. As a base material, concrete should be the dominant walkway material for durability and ease of maintenance and repair. The finish, scoring, and connection details should be consistent and uniform. Heavily articulated and patterned pavement is discouraged. Paved pedestrian building entrance areas should be simple and relate to overall campus walk pavement. Walkways and special pavements should not become subservient to individual buildings and their materials.

Paving materials of contrasting color and texture should only be used in special areas, such as junctions and

termination points of primary paths and at major building entrances. Special materials, patterns, banding, etc., may be used to articulate these special areas. These special paver walks should ideally utilize a flexible base system, due to its lower initial cost, proven durability, and ease of accommodating future alterations. Brick may be utilized on a project-specific basis. In addition, a permeable pavement system may be utilized (such as brick pavers) where soils and usage allow this type of application.

ADA codes require that all walks should have no more than a 2 percent cross slope. Walks should be engineered to provide water run-off, and prevent ponding water, and have no more than 5 percent longitudinal slope.

All primary and some secondary pedestrian paths may be used by maintenance and emergency vehicles. In addition, walks near residence halls need to be designed to also accommodate move-in and move-out vehicle traffic. Increased pavement thickness and reinforced thickened edges should be used to support these vehicles.

The primary pedestrian walks should have a single row of regularly spaced canopy trees along both sides of each walk. Use of a singular species for each street with a spacing of 30 to 40 feet on center is recommended. The trees should be regularly spaced in a consistent alignment to distinguish them from adjacent landscape treatment and to reinforce the major pedestrian walks.

Recreational trails should have different materials and widths depending on the type of recreation. However, multi-use paths/regional connecting trails, such as those along the Green Mill Run, should be at least 8 feet wide or wide enough to accommodate bicycles and pedestrians. Trails can be asphalt or crushed stone.



Brick paving is utilized on several pathways within The Mall on Main Campus.



Special pavers should be used in concert in plaza spaces.



This main pedestrian path is mostly concrete, and special pavement is used judiciously.

Shared-Use Paths

As suggested in the Campus Master Plan, several vehicular roads in the heart of campus will be converted to shared-use paths that accommodate pedestrians but also bicycles, service vehicles and an occasional emergency vehicle. These pathways will maintain a width to accommodate service and emergency vehicles, but be pedestrian focused with amenities that reflect the scale of the pedestrian user. Service vehicles should limit their travel time on these pathways to non-peak class changing times if possible.

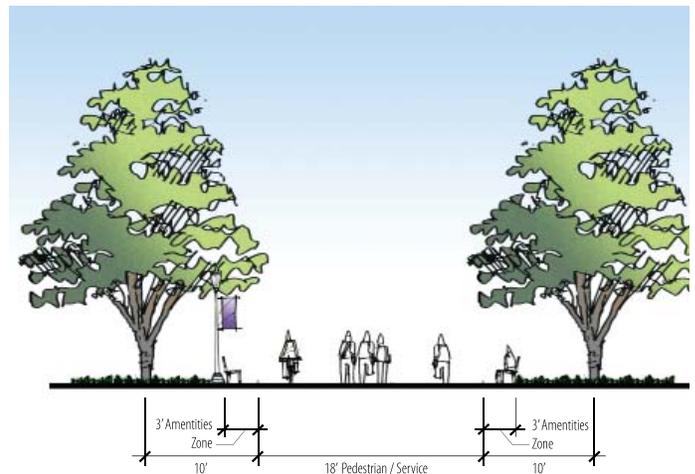
These pedestrian-focused thoroughfares include:

- The partial removal of Founders Drive from South Wright Circle to Duncan Court.
- The removal of Faculty Way from Founders Drive west to Dowell Way.

- Alumni Lane in its entirety.
- Dixon Drive in its entirety from Shady Lane.
- Student Plaza from west of the Rivers Building to Wright Annex.
- Service Drive on Health Sciences Campus, from North Campus Loop, south to the ECU Heart Institute.

Shared-use paths will be incorporated in a limited fashion on the Health Sciences Campus, this is due to the fact that a strong internal road network does not presently exist here. However, Service Drive south of the Heart Institute and to south of the Utility Plant will be replaced with a shared-use path to accommodate pedestrian movements between the new Medical Education Building and other proposed uses within the central core of this campus.

These paths should be at least 18 feet wide, contain no curbs, and be delineated with a combination of special pavers and concrete, include landscape elements such as canopy trees spaced 30 to 40 feet apart. Benches, lighting and other appropriate site amenities should be included and reflect a pedestrian scale. Bench pads or seating areas must be set back at least 3 feet from the edge of the main path. Care must be executed in the design of these pathways to not inhibit the safe passage of emergency vehicles. See the "Width and Material" section that follows for additional guidance.



Shared-use path cross-section

Pedestrian & Vehicular

Bicycle Network

Bicycle commuting and circulation are important contributors to reducing the negative impacts from vehicle trips and parking, including impervious surfaces, emissions, and the heat island effect.

The campus should have a connected and complete bicycle network. The network should consist of off-street recreational trails (where appropriate), bicycle friendly streets with on-street bicycle lanes, and primary pedestrian walks. Bicyclists should not be permitted to use secondary pedestrian walks. The bicycle

network should contain no stairs. Bike lanes should be incorporated in the 10th Street Connector project from Main Campus to the Health Sciences Campus.

The bicycle network should connect major bicycle origin/destinations, outdoor bicycle parking areas, access points to indoor bicycle storage areas, and bicycle access points from off-campus (see also Bike Parking section). The bicycle network should connect directly and seamlessly to the City of Greenville and any regional existing and future bike route plans.

Bike routes and paths should employ and follow recommendations from the American Association of State Highway and Transportation Officials Guide for the Planning, Design and Operation of Bicycle Facilities.

Bike planning should also include a facility to store bikes long-term (over the summer for example, for a fee), and self-service bike maintenance stations.

Providing a complete network of routes, paths and facilities will promote a successful bike friendly campus.



Recreational paths, as proposed along Green Mill Run, should provide necessary signage for the safety of users.



Delineated bike lanes on the michigan state university campus (image: MSU Bikes)



Air fill up/repair station

Bicycle Parking

Bicycle parking should be a vital part of the design of each new building and facility, not an afterthought. The campus should have two levels of bicycle parking: short-term and long-term. Short-term bicycle parking will serve students and others making frequent stops. Students are expected to use a bike throughout the day, biking between residence halls, other campus buildings, and to off-campus services. Short-term parking should be located near each public non-residential building. All short-term parking should be secure, and at least 25 percent of short-term bicycle parking should also be weather-protected (where more than ten short-term spaces are required). See the Site Amenities Standards for more information on criteria and location for short-term parking.

A second type of bicycle parking is long-term parking, which provides faculty, staff, and off-campus student bike commuters a secure and weather-protected place to store their bicycles. Commuters are expected to park their bike in long-term parking once a day, walking the campus throughout the day. At least one centralized long-term bicycle parking location is needed on both the Main and Health Sciences Campuses, since bicycle commuters are generally willing to walk a short distance if they are confident the parking is secure. At centralized long-term bicycle parking locations, all parking should be secure, and at least 25 percent of long-term parking should also be weather-protected.

Long-term parking should also be located at every residence hall. Each residence hall should provide secure bicycle parking for 15 percent of hall residents, with at least 50 percent weather-protected. Long-term parking may occur within residence halls such as in a basement. Wall-mounted racks are well suited to indoor storage.

Secure bicycle parking should include a bicycle rack and will be well-lit. Additional security is possible when long-term bicycle parking is located in highly visible locations such as within view of streets and pedestrian walks. If necessary, areas enclosed by a fence with a locked gate provide additional security.

Weather-protected bicycle parking shelters bicycle frames, seats, and tires from damaging rain and sun and further encourages bicycle use. The cover should be designed to protect the bicycle from rainfall and be at least 7 feet above the floor or ground. Cover can be provided by bike lockers or locating bicycle parking under existing overhangs or awnings

or under overhead building connections. Sheltered parking can also be located inside parking structures at an accessible, ground level area, close to a main entrance point. Free-standing bicycle shelters are also acceptable and should be designed to withstand wind loads, be well lit, and not obstruct visibility from streets and pedestrian walks.



Interior bike parking



Weather protected exterior bike parking



Bike parking can be concealed near building entrances with the creative use of site walls and landscape

Pedestrian & Vehicular

Mass Transit and Facilities

The bus service on campus provided by ECU is very robust and provides service on Main Campus and to the Health Sciences Campus. Increasing transit use is an important contributor to reducing the negative impacts of vehicle trips and parking.

ECUSTA should be involved in any bus stop design and in the specific location of transit stops for the most efficient service around campus. The bus stop locations should be followed as recommended in the Transportation Element Needs Assessment report dated September 1, 2010 (Martin, Alexiou, Bryson). Major campus buildings that service students, including residence halls and dining commons, should have a nearby transit stop within 500 feet of the entrance.

The shelter should be a single consistent design standard throughout campus, and easy to build. It should be constructed of metal, with a standing metal seam roof and follow the architectural building guidelines for campus (see Figure 1). The color of the shelter should be the same for all campuses, with a bronze painted base and a grey metal standing seam roof. Bus stops should include shelters to offer waiting riders protection from the weather, and be enclosed with glass on three sides. Benches are not necessary at most stops as wait times are relatively short, however ADA access into the shelter is mandatory.

Bus stops should be well lit on the interior of the shelter and clearly signed. A new trend in shelter design is to include a solar powered light source for any lighting needs within the shelter.

Bus stop amenities should include an emergency phone, an information kiosk, trash receptacles, and benches. Bus stops should also have enough paved area around it to provide adequate waiting/queuing space; 5 square feet/person is typical. Pathways leading to and surrounding transit stops should be ADA accessible.

Landscaping in these areas should respect the sight lines of the bus operators and the safety of waiting passengers.



Figure 1 - This shelter follows ECU's campus architectural guidelines in terms of detail. Arched panel openings reflect the window framing details on campus.



Figure 2 - A larger shelter may be used like this at higher volume transit locations.

Vehicular Parking

As recommended in the Campus Master Plan, surface parking spaces within the Campus Core should be limited to service and barrier free parking and all other parking should occur in perimeter parking lots. A limited number of metered spaces should be provided within the Campus Core for short-term parking needs. Vehicle parking should consider the following guidelines:

- Pedestrian access to and from lots should be carefully considered to minimize vehicular-pedestrian conflicts.
- Where parking lots border major sidewalks, campus roads, or residential off-campus neighborhoods, the edges of lots should be landscaped to provide a buffer zone and vegetative screening.
- The interior should incorporate wide islands with appropriately-scaled plantings to soften the visual effect of the lot. Interior landscape islands should provide shade, reduce heat of large paved area, and allow stormwater infiltration.
- Most campus soils will support stormwater infiltration. Consider integrating stormwater treatment through permeable pavement and other infiltration best management practices.
- Lots should be appropriately lit to increase safety. Lights should be appropriately shielded to minimize glare and light pollution.
- Entryways and vehicular circulation should be easily accessed with safe viewing angles for oncoming traffic, and clear



Parking lot screening utilizing a low brick wall



Parking lot screening utilizing a berm and trees



A lushly planted stormwater management island

signage should occur at each main entrance.

- Lots should have the appropriate number of service and barrier free spaces accommodate the surrounding buildings.
- Lots should be double-loaded for the most efficient parking layout.
- A typical parking space should be 9 feet wide by 18 feet 6 inches in length (to back of curb). Current ADA standards should be followed for barrier free spaces

dimensions and accessibility in these areas.

- Adjacent walks next to head in parking bays should allow enough width for pedestrian passage in case of vehicle bumper overlaps.

Pedestrian & Vehicular

Streets and Drives

The campus should establish a streetscape consistency and street hierarchy to support identity, order, and structure for the campus. The campus should establish clarity for vehicular circulation routes by utilizing landscape treatment on the internal circulation routes. Landscape treatments should project a campus image, promote pedestrian/cyclist visibility and safety, and encourage a lively urban texture. The guidelines apply to internal streets and those surrounding the campus.

In contrast to the formal tree placement along the major pedestrian walks and within major open spaces, the landscaping for on-campus streets should be informal. The street alignment should not set the landscaping pattern, but rather intrude into the campus environment. The landscaping should emphasize the predominance of the pedestrian over vehicles.

Whenever possible and as conditions allow, sidewalks should border both sides of all campus streets. Outside the vehicle and pedestrian travel paths, the ground plane should be predominantly lawn. Street landscape treatments should be coordinated with walks, lights, and signage.

Street design should consider using Best Management Practices to infiltrate stormwater on-site. Integrated stormwater treatment reduces the volume and velocity of stormwater reaching the Green Mill Run and Tar River and improves water quality. When designing campus streets, the University should consider Best

Management Practices for stormwater, including:

- Street design: Preserve wetlands, buffers, and high-permeability soils and minimize impervious areas.
- Swales: Infiltrate stormwater and reduce flow velocity, but ensure pedestrian convenience through design.
- Bioretention curb extensions and sidewalk planters: Accept and treat street run-off in tree boxes, planter boxes, or curb extensions.
- Permeable pavement: On low-volume streets, consider permeable concrete, permeable asphalt, permeable interlocking concrete pavers, and grid pavers.
- See the Stormwater section of this manual for additional information.
- Service drives and areas should be consolidated whenever possible, and take into consideration pedestrian movements. See the Architectural Guidelines section for additional information.



This streetscape incorporates infiltration planters along sidewalks.



An example of an informal landscape along a Grand Valley State University road.

Site Amenities Standards

Introduction

These site amenities standards contribute to a positive campus character and achieve a unified and clearly defined campus. Site furnishings such as pedestrian and street lights, benches, trash/recycling receptacles, and bicycle racks enhance the functionality of campus. But when those site furnishings are coordinated, they contribute to a sense of orientation and achieve an increased sense of order.

Like the overall campus design guidelines, the site amenities standards, recommended design family, and specific units should be used throughout campus and at all off-campus University facilities.

The campus should limit its site furnishings to only one family if possible. A single-family of furnishings works together in terms of their materials, style, detailing, color, and scale so that they establish a unified, cohesive image. The family of site furnishings recommended in these guidelines preserves and enhances the aesthetic characteristics of the existing campus by extending the bronze finish of existing furnishings while better coordinating design and improving materials. Some sections recommend other furnishing manufacturers as an alternative source.

Existing campus site furnishings vary in age, condition, style, and material. Existing furnishings that are outdated, vandalized, or deteriorated should be replaced as needed with the recommended style until all site furnishings conform to the design guidelines. Implementa-

tion of these recommendations will occur over time through separate physical improvement projects and regular replacement. It is important that University representatives take advantage of opportunities to replace damaged or worn-out units with the recommended replacement units so that consistency is maintained.

The site furnishing standards should increase the efficiency and efficacy of limited site facilities campus budgets. The selection and installation criteria will minimize maintenance efforts and costs. Limiting site furnishings to a single-family will reduce the need of storage of spare parts and reduce staff training needs, thus achieving a higher level of cost effectiveness. To ensure that current site selections will be long-term investments, the site furnishing standards recommend traditional designs that are not fads and suggest styles and sources that will be available for the long-term. The standards simplify and expedite purchasing decisions.

The site furnishing standards are organized under the following headings:

Criteria:

General design considerations to follow in selecting equipment.

Location:

Special considerations regarding where the specific unit should be used in the campus setting

Source

Recommended sources and styles.

Site Amenities Standards

Site Lighting Standards

Criteria

- Lighting design should organize, articulate, and enhance the campus setting and enhance safety and security.
- Pedestrian lighting should be of a different scale from street and parking lot lighting.
- In all other areas of campus, the style of the fixture should be neither traditional nor contemporary but a blend of the two to both reflect the past as well as look ahead to the future.
- Bollards are discouraged for path lighting due to potential for glare, lack of usable vertical light on faces and difficulty of maintenance. A full cutoff fixture should be utilized to reduce light pollution in the night sky and to reduce glare.
- The campus should choose lamp types that have superior lamp life ratings.
- Judicious facade lighting is encouraged.
- For pedestrian lighting, the campus should also consider a LED or induction bulb for long-term life and aesthetic reasons. This type of light emits a white light which allows better recognition of facial characteristics at greater distances and provides better color representation of architectural materials, cars, clothing, etc.
- LED lighting has many benefits, including a longer and more durable life, use of less electricity (up to 80 percent less) and are more cost effective in the long run.

- The University should do a complete study of the costs and benefits of each source to determine what is best for campus safety, longevity, reduced maintenance, and energy consumption.

When selecting a fixture, the maintenance and cost effectiveness considerations should include:

- Limiting the number of luminaire and pole types;
- Ease of maintaining, servicing, and replacement; and
- Pole/luminaire height.
- To facilitate lawn maintenance, a concrete maintenance collar should be created at the base of the pole. The collar should be slightly above ground level to allow for mower overhang during lawn cutting, thus minimizing hand-trimming.
- To avoid long-term maintenance concerns, light fixtures imbedded in the ground or in paving should not be used except in extraordinary lighting designs and locations.
- Attached banner mounts should be utilized in specific areas to identify special University events, campus entry or edges, or designate other special use areas.
- Smooth round poles are recommended since square poles are not as strong and aligning multiple square poles is difficult.

Location

- Strategic placement of units will optimize light distribution and minimize the number of units required.

- Pedestrian lighting should be located along pedestrian paths and spaced as determined by a photometrics plan. Care should be taken in locating the poles to ensure consistent alignments and setbacks (5 feet) from walkway edges. All fixtures should be set plumb and level at a 14 foot height.
- Light locations should also coordinate with tree placement, as canopy trees should not interfere with light placement.
- Luminaires can be located on top of brick columns such as in gateways, in plazas, on curbs, or in paved areas.
- Multiple luminaire configurations should be utilized for special effects where a greater level of detail and attention is desired.

Source

For Main Campus:

Lumec Contemporary Lantern Series, L80-SF80, post top mount; Pole style: RTA906, traditional, tapered pole; Color: textured bronze

For Health Sciences Campus:

Architectural Area Lighting, Spectra Series, SP1-STR post top mount; Pole style: PR4, straight pole; Color: bronze

Street and Parking Lot Lighting

Criteria

- Lighting design should articulate the campus vehicular circulation system (streets and parking lots) for user orientation and safety.
- Units with standardized style, color, height, diameter, and location should be simple and unobtrusive. Since luminaires and poles are visually prominent during the day, a coordinated system compatible with other site furnishings is needed.
- Concealed light sources for street and parking lot lighting are desired. Distracting glare is to be minimized; the lit surface is important, not the source itself.
- Light distribution should be controlled to optimize intensity and ensure uniformity of illumination.
- Illumination appropriate to the vehicular use should be selected. Driving requires recognition of vertical objects in the field of vision; therefore, vertical illumination is equally important as horizontal illumination. Intersections require higher levels of illumination.
- See the chart on the following page for recommended vehicular footcandle (FC) levels.
- Smooth round poles are recommended since square poles are not as strong and aligning multiple square poles is difficult.
- Maintenance and cost effectiveness considerations include:
 - A limited variety of luminaires is desirable to simplify maintenance requirements and stocking of replacement

parts and units.

- A quality lighting plan will improve cost effectiveness by optimizing intensity and distribution with the least number of fixtures.
- Lighting fixtures must be safe to maintain in difficult locations.
- The campus should choose lamp types that have superior lamp life ratings.

Location

- Streetlights are to be regularly spaced along major streets and offset from the road a consistent and safe distance.
- Parking lot lighting should be at sufficient levels of intensity for safety; the poles should be located in planting islands so they are less visually obtrusive, however to maximize parking efficiency, the poles should be set on 3 to 4 feet high concrete bases to protect them from damage by vehicles.

Source

Street and parking areas

All campus:

Kim Lighting, Archetype Series, SAR or AR Series; Pole: round aluminum pole as per manufacturer recommendation; Color: dark bronze

Site Amenities Standards

Site Lighting Specifications



Lumec Contemporary Lantern Series
Main Campus site light standard



Architectural Area Lighting Spectra Series
Health Sciences Campus site light standard



Kim Lighting Archetype Series
All campus street and parking lot light standard

Illuminance Guidance Chart

Area Type	Target maintained illuminance at night	Max:Min not to exceed
Building entrances	10 FC at entrance within 15 feet of entrance, 5 FC transition lighting	3:1
Building facades	0.5 - 2 FC (vertical)	8:1
Pedestrian paths and trails	1 FC min., horizontal, 0.8 FC min. vertical (not associated with parking) 6 FC, associated with parking	4:1
Parking areas and driveways	2.8 FC min. horizontal, 0.8 vertical	4:1
Maximum illuminance on paths or parking areas at night	10 FC maximum	
Parking Decks	0.5 FC minimum 2 FC average	8:1
Maximum trespass outside perimeter of parking decks	0.5 FC maximum	
Maximum illuminance on focal objects such as art or featured landscape objects	20 FC maximum	
Unoccupied spaces	1-2 FC	6:1

Emergency Call Boxes

Criteria

Emergency Call Boxes (ECB's) have the following functional requirements: (as per Protective Engineering Group recommendations):

- Equip ECB stanchions with a blue light strobe that is lit at night and will strobe when in alarm.
- Hardwire communication wire and cable to ECB; wireless communication is only authorized with prior approval by ECU security.
- The ECB area should be lit to provide adequate illumination at night.
- Coordinate with existing and planned video coverage to ensure the ECB is under video surveillance.
- Mounting the ECB so that it is easily visible (no trees or scrubs obscuring line of sight)
- Have eight hours of battery back-up.
- Each unit should be properly ground. For tall pedestal units, install a ½ inch by 8 foot grounding rod and tie it to the steel bollard
- The ECB should be activated by just the push of a button, and it immediately calls emergency responders.
- Coordinate with Security Management System to automatically identify location of ECB when in alarm.
- Provide hands free communication on the caller's part.
- ECB's should be located so that they can be ADA accessible per the Americans with Disabilities

Act, Accessibility Guidelines for Buildings and Facilities.

Location

- The placement of ECB's will depend on several factors:
- ECB's should be no further than 250' apart.
- Provide ECB's at outdoor areas such as parking lots and garages, pedestrian walkways, and gathering areas such as courtyards and plazas.
- A person should be able to reasonably see an ECB from anywhere on campus. If a call box is not in the line of sight, because of either location or visual obstruction a new ECB shall be placed.
- A minimum of one ECB is required for each level of a parking garage.

Source

Talk A Phone, Radius Emergency Phone Tower with CCTV and WEBS®: Model number WEBS-MT/R OP5; Color: purple to match existing emergency call boxes on campus. Yellow "Emergency" decal shall be used as shown in photo (right).



An existing Talk A Phone emergency call box on Main Campus.

Site Amenities Standards

Benches

Criteria

- Style should be clean and simple, and add to the atmosphere of its surroundings.
- Benches should be structurally adequate to withstand extensive student use, inclement weather conditions, and most vandalism.
- Benches should be comfortable and functional.
- Benches should require little or no maintenance and be surface mounted.
- Benches should have backs for maximum comfort.
- Material of the bench should be powder-coated steel on a steel base for resistance to moisture, insects, splinters, cracks, and vandalism.
- Benches should contain mostly recycled material and be easily recyclable at the end of their useful life.
- If benches are placed on a separate concrete pad (adjacent to a walk for example), there should be sufficient room at the edge of the pad to accommodate a wheelchair. The bench should be offset at least 2 feet from the edge of the walk.

Location

- Along pedestrian corridors especially where major pedestrian traffic is noted.
- In plazas and courtyards, benches should be organized with other site elements such as light poles, trash receptacles, etc.

Source

Victor Stanley:
Metal, backed, armed bench: Steel-site RB-28 Series, Color: bronze

Victor Stanley:
Metal backless, armed bench:
Steelsite RB-12 Series, Color: bronze



Victor Stanley Steelsite RB-28 Series backed bench



Victor Stanley Steelsite RB-12 Series backless bench

Cafe Table Ensembles

Criteria

- Style should be clean and simple, and add to the atmosphere of its surroundings.
- Cafe tables should be structurally adequate to withstand extensive student use, inclement weather conditions, and most vandalism.
- Seat area should be comfortable and functional and can be backed or backless.
- Umbrellas can be added if the tables are in an exposed environment.
- Cafe tables should require little or no maintenance and be surface mounted.
- Material should be powder-coated steel on a steel base for resistance to moisture, insects, splinters, cracks, and vandalism.
- Cafe tables should contain mostly recycled material and be easily recyclable at the end of their useful life.
- There should be an appropriate amount of ADA accessible tables available in the dining area.
- Free standing tables and chairs are not recommended.
- Umbrellas, if used, should be metal.

Location

- In outdoor eating areas or plaza spaces directly connected to a facility that provides a food service.
- Cafe table ensembles should be coordinated with other site amenities.

Source

VictorStanley: Steelsite Series; Color: Bronze or Landscapeforms Carousel Series (with optional Solstice Sunshade), Color: seat and table base to be bronze or black, umbrella color to match or another color is acceptable such as purple, gold, black, or green.



Victor Stanley Steelsite Series



Landscapeforms Carousel Series with Solstice shade

Site Amenities Standards

Trash, Recycle Receptacles and Urns

Criteria

- Trash and recycle receptacles should be located where needed, but should remain visually inconspicuous.
- Receptacles should have a simple design style, be an appropriate size for anticipated use levels, collect trash, glass, and paper, and have an internal canister with lid for trash control and ease of trash removal.
- The unit should be sturdy and secured to discourage vandalism and to extend the life of the unit. Installation will vary according to location.
- Trash and recycle collection schedules should reflect waste

receptacle capacity and use levels.

- Glass and paper recycling receptacles should be integrated into the trash receptacles or be located adjacent to trash receptacles.
- Ash urns should be part of the trash unit.

Location

- Receptacles should be located at the intersections of major pedestrian walks, in plazas, in courtyards, in vehicle and bicycle parking areas, at building entries, and where groups of pedestrian seating are provided.
- Receptacles within athletic areas should be located adjacent to bleachers, fence gates, restroom

facilities, and other building entrances.

- The units should be placed contiguous to walks and on a concrete surface extending outward from the walk. The unit should be level and firmly secured to the ground.

Source

Victor Stanley Ironsites Series Receptacle SD-42 with side door opening; Color: Bronze for trash disposal. Pirate Purple for recycling with added custom decal as pictured below.



Victor Stanley Ironsites Series receptacle in bronze



ECU recycle receptacle in custom purple color, with "ECU Recycles" plaque

Bicycle Racks

Criteria

- A simply designed bicycle rack having little visual impact is preferred. When bicycles are not present, the rack should be relatively inconspicuous.
- The rack should accommodate a wide range of bicycle frame types, sizes, wheel sizes and locking apparatuses including a U-shaped shackle lock. The unit should allow the frame and both wheels to be secured. The rack should hold the bicycle frame, not just a wheel.
- The unit must be structurally adequate to withstand most vandalism, extensive student use and inclement weather conditions. It should be covered with material that will not chip the paint of a bicycle, and not have sharp edges.
- To promote year-round biking, some bicycle parking should be covered through a roof or similar covering, using bicycle lockers, or within a building.
- Most bicycle racks should be permanently secured to the ground per manufacturer's recommendations. In some locations where bicycle usage is low, or lessens during colder seasons, bicycle racks may be removed.
- Grouping the storage units allows for a greater level of aesthetic control and policing. Grouped bicycle storage areas should utilize a contrasting paving color or texture surface differentiating it from the main pedestrian walkways.

- Bicycle parking areas are ideal environments for pervious pavement. These areas should be properly illuminated and visually screened by a low hedge or site wall.

Location

- Bicycle parking may be provided in floor, wall, or ceiling mounted racks.
- Bicycle racks need to be conveniently located, yet separate from major pedestrian walks and building entrances. Wherever feasible, bicycle racks should be located contiguous to, but set back from, major pedestrian corridors since these corridors also serve as bicycle routes. Short-term bicycle parking should be located within reasonable and convenient and prominent proximity to building entrances.
- The "U" style unit should be used in a grouped arrangement. This unit should be used where there is adequate space and the volume of bicycles requiring storage is high. If possible, they should be conveniently located to serve multiple buildings.
- If a bicycle rack layout includes two or more aisles, the design should assume a bike length of 72 inches, and allow a minimum of 48 inches for aisle space.
- Aisle width should be increased to 72 inches in high traffic bicycle parking areas where many racks might be located, such as the Student Center or Joyner Library. These large parking areas should also have at least

two entrances to ease congestion during times of high turnover. Bike racks should be spaced 3 feet apart. Bike racks should have at least 3 feet of clearance at the end of each row to allow for unobstructed passage of pedestrians.

Source

Madrax Co. "U" Rack Model U238 (or similar from local fence or metal fabricator): Color to be bronze.



Madrax Co. "U" rack

Site Amenities Standards

Bollards

Criteria

Bollards are used to mainly control the movements of vehicular traffic. Bollard choice should be based on the design program which may include issues such as unauthorized vehicular access into a plaza space or parking area.

- Other bollard types include those for loading dock areas which should be chosen mainly for driver visibility and durability.
- Bollard criteria should meet the program requirements. The aesthetic value of the bollard should be decorative in nature especially in highly visible and public spaces.
- Bollards with incorporated lighting should not be used unless the light source is completely hidden

Location

- Used in areas to control vehicular movements and to protect pedestrians. Bollard use and placement should be accessed by the design consultant.

Source

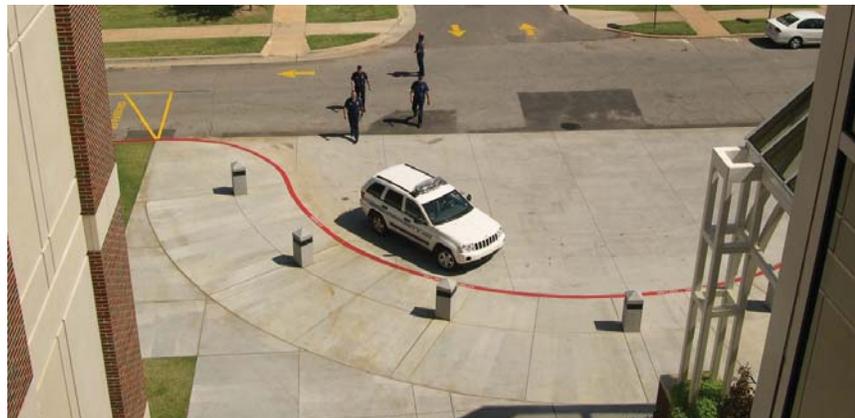
Maglin, 650MTB Series bollard, cast aluminum, color to be bronze. Bollards located at service dock areas can be of a different manufacturer and color to remain visible to drivers and durable for use in these types of areas.



Maglin 650MTB Series bollard



Bollards can be used where large pedestrian crossings intersect with vehicular roadways.



Bollards should be used at drop-off areas to prevent vehicle penetration into pedestrian zones.

Planters and Pots

Criteria

Planters and pots can be used to add another layer of texture and color to a courtyard, plaza space or walkway. Planters should be added when planting beds are not possible around building entrances and to break up vast amounts of pavement.

- Planters could be used in place of bollards if they meet the criteria of preventing vehicle penetration. Planters and pots should not impede pedestrian traffic.
- Planters selection should consider the scale of the space.
- When designing plazas, courtyards or other areas that will

contain planters or pots, the architect should include a quick coupler irrigation device so watering is efficient for maintenance staff.

Location

- Can be used in plazas and courtyards or along walkways.
- Planters should be placed next to building entrances where planting beds are not possible.
- Planters can be placed in groups of various sizes, but should be of the same family of planters.

Source

Planters should be simple in design, and be free of unnecessary ornamentation. Planters should be composed of sustainable or recycled materials such as concrete or recycled plastics. Colors should reflect and complement the design of the space, such as earthtones or neutral colors that do not compete with the plant material.

Suggested sources for planters are Wausau Tile, Landscapeforms and Longshadow.



Landscapeforms Rosa planter



Wausau Tile planter TF4144 at a building entrance



Grouping of Landscapeforms Rosa planters



Wausau Tile planter TF4353



Large planters keep vehicles away from this building entrance.

Site Amenities Standards

Irrigation

Criteria

Irrigation systems are important for the establishment of newly installed landscapes on campus and in areas that require watering during drought events. Athletic fields also require permanent irrigation systems.

- Each project must have an irrigation plan for Grounds Services to review – design/build systems are not acceptable, for any project.
- The university should set a goal of designing planted areas to succeed without irrigation and plants should be selected for their suitability to non-irrigated areas.
- Soils for all lawn and landscape areas should be supplied with adequate moisture retention capacity.
- The use of rainwater collection systems are becoming a necessity especially with Senate Bill 668. The designer needs to explore different rainwater harvesting techniques to follow the senate bill yet still succeed in the establishment of the proposed landscape.
- The use of a supplemental watering system during the establishment period (first two years) is recommended as either a part of the landscape installation contract or as part of the in-house maintenance schedule.

Location

- Irrigation should be installed in newly planted landscapes as directed by the ECU project representative.

Source

Irrigation: Rain Bird Grounds Services also utilizes a Rain Bird Maxi-com system (a central control irrigation system with weather station). For ease of operation, repair and planning, Rain Bird should be the continued source for irrigation on campus.

In general, rotor heads should be used in turf areas (6 inch pop-up heads in tighter areas) and drip zones in planting beds. All systems not tied into the weather station must have a rain sensor.

Harvesting tanks and systems: Tank specification should be as per recommendations from the designer.



Underground rainwater harvesting tank



Rain Bird drip irrigation example



Rain Bird drip irrigation installation



An above ground rainwater cistern can become a visual amenity for campus.

Fences and Gates

Criteria

Fences and gates are important site items that are incorporated into areas that need to be secure when not in use, yet be aesthetically pleasing and coordinate with the campus palette.

- Fences and gate materials should take into consideration the place on campus where the fence system is to be used. For example, a fence that is being incorporated into a high visibility area, may require higher quality materials opposed to a fence that may be securing a site that is not easily visible.
- The opacity of the materials is also another factor for design consideration depending on site factors security, and program.
- Ornamental fence must be placed on a base element (see picture, top, right) to facilitate landscape maintenance. Follow material guidelines in the site wall section of these guidelines.

Source

- Ornamental and chainlink fence components should be locally sourced if possible.
- Ornamental fencing should be galvanized steel, primed, and painted with a Tnemec type paint, with the color to be black.

- Chainlink fence heights and color should follow regulations for the use of the field. Otherwise, chainlink fence should be black vinyl coated. Design consultants should address wind loads associated with the height of the fence.



Brick site wall with piers and ornamental fence panels bound the Athletic Campus off of Charles Boulevard.

Location

- Ornamental fencing should be placed in high visibility areas, like on campus boundaries or other areas where definition is needed.
- Chainlink fence should be used only in a minimal fashion and not along campus boundaries or vehicular thoroughfares.
- Chainlink fencing may be required around certain athletic fields.



Ornamental fence can be used to screen a parking lot, or keep pedestrians on track.

Site Amenities Standards

Site Walls

Criteria

Walls can be an important aesthetic and functional addition in site design. The design should take into account any site security and safety issues and allow for clear site views into the area.

Seat Walls

- Seat walls are to be designed to meet structural criteria for soils and winds. Seat walls should compliment surrounding architectural features and materials.
- Most seat walls on campus are of a brick or stone material and this should be a continued material of choice. It is preferable that seat walls have a cap that is either cast stone, stone or limestone, however, a brick cap can be used, but must be designed to prevent water penetration. Brick caps that allow water to penetrate will have issues with efflorescence,

which is not acceptable. Capped walls need to be discussed with an ECU representative during the design process.

- Seat walls can contain piers if appropriate, but must be scaled in relation to the wall.
- Concrete seat walls may be used in instances where durability or cost is an issue, however, beveled edges, surface treatments and other detailing should be incorporated.

Free standing walls

- Free standing walls should take into consideration the bearing capacity of the soils and wind loads.
- These walls should use the same types of materials as described in the seat wall section and not block views or impede the safety of pedestrians.

- Free standing walls can also be combined with ornamental fencing and piers.

Location

- Seat walls can frame a courtyard or plaza and retain topography.
- Free standing walls are of various heights depending on the program of the site. These walls can be used as gateway elements, serve a function of security, or delineate campus boundaries.
- Stone walls shall be used at the campus edges as they have traditionally been used on campus. Brick walls shall be located on the campus interior.

Source

Materials for walls should be locally sourced if possible and be coordinated with the architectural guidelines for brick and stone materials within this report.



This site wall hides mechanical equipment with a creative brick pattern.



The stepped wall detail in Sonic Plaza uses a textured concrete cap.



Seatwalls should be capped with limestone or cast stone.



Stone materials similar to this wall off of 5th Street should be used in addition to brick.

Signage and Wayfinding

Criteria

The development of a comprehensive signage and wayfinding plan that addresses the University's graphic design identity objectives in a unified and consistent manner should be implemented as soon as feasible. The comprehensive signage and wayfinding plan should address all sign types. ECU should direct the designer and fabricator on current ECU branding standards as this should be reflected in the design.

- Wayfinding signs adjacent to sidewalks
- Free-standing building name signs
- Exterior building name graphics
- Dedication plaques

Source

Fabricators for signage should be sourced locally if possible. Materials should be durable, and of weather resistant quality.



Location

- Regional signage directing to and from campus
- Entrance monument campus identifying signs
- Campus area or "neighborhood" identification signs
- Parking lot identification and regulatory signs
- Campus map directory signs
- Visitor destination signs
- Street name signs
- Light pole banners
- Electronic signs (free-standing, mounted to building exterior, internal)



Campus maps should be incorporated throughout the campus in central locations. Map architecture should be simple, and relate to the campus fabric in materials and color.



Other wayfinding signs should be simple in design, create a family of signs, and be easily spotted, but not obtrusive, in the landscape.



The flavor of the 5th Street and Cotanche Street entrance gate should be replicated at other campus gateways.

Site Amenities Standards

Information Kiosks

Criteria

Kiosks are important furnishings for the campus environment. They allow a means of presenting information and announcements relative to student groups and University activities.

- They also serve to reduce the amount of litter by providing a means of posting announcements, both student posting and official notice functions.
- The kiosk unit should reflect architectural materials and design that are common to the campus fabric and complement recommended building materials. The materials should be durable or easily replaceable.
- Kiosks should be maintained by a specific campus entity. Many institutions place this responsibility on a student government subcommittee.
- Lighting for the unit can be handled by adjacent pedestrian fixtures.
- Kiosk units should be of one design throughout campus.

Location

- The kiosk should be placed within an area of pavement adequate to allow circulation around all sides.
- The minimum dimension of pavement out from the kiosk should be 6 feet. Ideally the pavement should be comprised of unit pavers to differentiate it from adjacent walkways.
- Information kiosks should be located at a major crossing points on major pedestrian walks and

where there will be large volumes of pedestrian traffic.

- Kiosks can also be located within major organizational exterior open spaces adjacent to significant student gathering areas or buildings, such as the proposed Student Union on Main Campus, West End Dining, or the proposed Student Life Building on Health Sciences Campus.
- Units with maps should be located at designated visitor parking areas

Source

Materials for kiosk construction should be locally sourced if possible and should be made of simple, but durable materials.



This kiosk is durable, yet simple in design and allows various campus groups to promote their activities.

Public Art and Monuments

Criteria

Public art is an important ingredient in the campus landscape and can broaden the cultural perspectives of the University community.

- Public art and monuments promote social gathering and discourse, and contribute to the character of the campus.
- Public art can serve as a memorable touchstone and orientation feature in the campus context.
- As a totality, the University's public art collection should speak to diverse cultural and aesthetic viewpoints.
- The work should be vandal-resistant, appropriately lighted, and not require on-going and significant maintenance needs.
- Planning and strategies to maintain installations are recommended as part of a comprehensive maintenance plan.
- Signage for public art and monuments should be consistent and recognizable across the campus setting. Signage should be discrete to not obstruct nor interfere with the work of art.
- Signage should include the artist's name; the work of art's title, date, and material; a concise design statement, and donor recognition. Signage should be durable; cast bronze or stainless steel are suitable signage materials. and mounted to a concrete or stone base. Signage placement should not conflict with landscape care and maintenance activities.

Location

Care needs to be given to the placement and execution of each piece of art. The work must be sensitively sited in relation to its context within the campus.

- Although the Campus Master Plan does not directly address art placement, the creation a stand-alone Public Art and Monument Master Plan is recommended to comprehensively document existing public art and monuments and suggest new locations for new works of various types and scales. This would provide the University with a guide to use in discussions about siting and types of new artwork and monuments. This document could also develop guidelines for displaying student and faculty art as well as artist selection policies for donor or campus funded works.

Source

Funding for art is usually from donors of the University to memorialize an event or individual of campus significance. The University receives many requests for art, monuments, and memorials to recognize an event or individual. Additional funding may be available on a periodic or rolling basis from regional or state level programs. The Campus Art Master Plan should research this sources and document them within the report.



Campus artworks should follow a master plan for appropriate placement in the landscape.

Implementation

In addition to specific building and site improvements, the Campus Master Plan identifies goals, intents, and planning principles. In order for these goals, intents, and principles to be realized, the University must establish a process for reviewing all design and construction projects that will impact the campus' physical setting.

These design guidelines should be followed for all campus improvements, from major building construction to routine landscaping and maintenance.

The ambassadors of the Campus Master Plan and its design guidelines will be Campus Facilities Planning staff, Grounds Services, and University landscape architects.

These staff must represent the Campus Master Plan continuously and consistently at all levels:

- In daily decision-making, Campus Facilities Planning staff must communicate the intent, principles, and requirements of the design guidelines internally to campus staff and campus leadership.
- For routine campus maintenance, these staff must train campus maintenance staff and service providers regarding these design guidelines so that they are integrated into the everyday work of facilities and maintenance staff.
- For major building design and construction projects, these staff must educate and guide the members of ad hoc committees that oversee major building projects, University

staff and project managers, as well as design and documentation consultants. Adherence to these guidelines should begin at a project's identification, site selection, and programming, extend through preliminary and final design stage, and ultimately through project construction and completion.

Even when specific design decisions are not directly addressed in these design guidelines, the design character of every campus project should strive to meet the Master Plan's goals, intents, and principles. Interpretation will be required periodically and consultation from SmithGroupJJR should be sought as required.

These guidelines are not intended to restrict creative expression. Rather, they are intended to guide physical planning and design to unify the campus image and enhance livability.

Additional Resources & References

ECU Resources

ECU Facilities Engineering and Architectural Services

http://www.ecu.edu/cs-admin/campus_operations/facilities_engineering_and_architectural_services/

ECU Construction Standards and Guide

http://www.ecu.edu/cs-admin/campus_operations/facilities/construction_standards.cfm

ECU Safety and Environmental Policy Statement

<http://www.ecu.edu/cs-admin/oehs/Safety-and-Env-Policy-Statement.cfm>

Regional Resources

College View Historic District

http://www.greenvillenc.gov/departments/community_development/information/default.aspx?id=1089

City of Greenville Historic Preservation Commission

http://www.greenvillenc.gov/departments/community_development/information/default.aspx?id=1281

Historic Campus Buildings and C. C. Hook References

Charlotte-Mecklenburg Historic Landmarks Commission

<http://www.cmhpf.org/personalities/cchook.html>

North Carolina Architects & Buildings

<http://ncarchitects.lib.ncsu.edu/people/P000211>

ECU Joyner Library Archives for Buildings and Campus

<http://media.lib.ecu.edu/archives/buildings.cfm>