

ULM FACILITIES MASTER PLAN  
**DESIGN STANDARDS  
AND STRATEGIES**



# 7.0 DESIGN STANDARDS AND STRATEGIES

Design / Accessibility / Sustainability / Landscape / Infrastructure

## 7.1 General Design Standards

The purpose of these Design Standards is to provide general guidelines for architects, builders, planners, engineers, and landscape designers commissioned to work within the University campus boundaries. The standards are intentionally broad, flexible, and open to interpretation so as to foster innovative design solutions that are responsive to program requirements and contextual influences. The standards are intended to be applicable to improvements of all types: new construction, additions, adaptive reuse, alterations, and the expansion and modification of open space and streetscape. Projects should strive to support the objectives of the Campus Facilities Master Plan and respect the positive qualities of the existing campus while producing new development that embodies contemporary aesthetic values, functional practices, and environmental awareness.

### 7.1.1 Contextual Responsiveness

- Within the historic core of the campus, bounded by Desiard Street, University Avenue, Northeast Drive, and Bayou Desiard, maintain continuity with the context of nearby structures and open spaces.
- Outside the core, contribute to the formation of new contexts while integrating materials, fenestration patterns, and other design elements to reinforce overall campus unity.
- Conserve distinctive features of existing buildings and open spaces. Enhance these qualities through new development without literal historic interpretation.

### 7.1.2 Site Development

- Building placement and site development should prioritize pedestrian circulation and universal access.
- Structures adjacent to open space should be sited and configured to mitigate potential impacts of shading, glare, bulk, and height.
- To facilitate orientation, express building entrances, inside/outside transitions, courtyards, and other gathering places in the architecture.
- Building configurations should be developed in alignment with circulation patterns, streetscape, and landscape to frame new usable open spaces.
- Plan for future expansion capabilities.

### 7.1.3 Building Design

- The scale of new structures should be considered at multiple levels. The overall height, massing, and footprint must be studied relative to existing or planned adjacent buildings and landscaping. Appropriate scale at the human level should be addressed through elements such as entrances, windows, materials, and component details.
- New buildings may be background or foreground, visually dominant or recessive, stand-alone or part of a grouping in response to existing textures and patterns. Consideration of these factors must be integrated with the design solution.
- In adaptive reuse, emphasize the contrast between contemporary functions and the existing historic structure housing them.
- Additions to existing historic buildings may be similar to the existing or may contrast. Avoid mimicry of historic detailing and ornament. Achieve unity and harmony through like proportions, visual rhythm, color, and material choices.
- Building form and organization should be flexible, expressive of function, and considerate of possibilities for expansion and repurposing.

### 7.1.4 Materials

- Material selections, colors, and details should respond to programmatic functions, contemporary technology, climate, and building performance. Materials should convey a sense of permanence and durability and should permit buildings to age well with normal maintenance.
- Within the campus core, exterior envelope materials should respond to the direction set by the existing historic buildings. Masonry cladding should match in color, mix, and unit size. Window/wall proportions, glass color, and trim should resemble the existing.
- Low-slope roofing materials should be durable and light in color for energy efficiency.
- Hardscape, planting materials, benches, and site amenities should adhere to the Landscape Design Standards included in this document.

### 7.1.5 Building Systems

- Select systems and equipment for energy efficiency and low maintenance and operating costs.

- Rooftop equipment should be screened from view at the ground plane and from adjacent buildings.
- Exterior lighting should be configured to minimize light pollution while serving basic needs of safety and security.

## 7.2 Landscape Design Standards

### 7.2.1 Conceptual Landscape Goals and Guidelines

- Preserve and enhance view corridors on campus
- Integrate pedestrian-scaled connections
- Create and enhance green spaces on campus
- Create portals and gateways at entrances to campus
- Preserve and enhance existing tree canopies
- Create hierarchy of spaces, paths and roads
- Enhance and unify wayfinding elements
- Create unified palette of materials, amenities, and signage
- Enhance visual and literal bayou and preserve recreational use of bayou
- Enhance and unify campus lighting

### 7.2.2 Create View Corridors to Bayou

- Landscape shall strive to preserve and/or enhance existing view corridors on campus
- The master plan shall preserve axial relationships between buildings and walks, and emphasize them by unifying the edges of the view corridors
- Planting and path layout shall create new views at ends of walks to focal elements to connect campus visually and create interest using existing and proposed buildings or landscape elements to create visual interest
- Create green pedestrian malls that link focal elements
- Major spaces with axial or linear arrangement shall be designed to terminate with plaza, building axes, or large open lawn to facilitate and direct movement of pedestrian traffic
- Pedestrian malls shall have clear circulation paths with adequate lighting, seating and signage appropriate for wayfinding along the path
- Design of pedestrian walks and malls should accommodate large volumes of pedestrian traffic
- Surface of paths are to be detailed with linear, pedestrian scaled paving accents that emphasize its function as a major circulation device

- Malls shall be planted with a single species of large canopy trees, spaced regularly to form shaded esplanade
- Where major paths intersect, malls shall expand to form plazas with focal element scaled appropriately for its surroundings
- Placement of seating and paving details shall reinforce linear aspect of green spaces and shall allow for unimpeded pedestrian traffic flow
- Landscape and pedestrian paths shall connect athletic facilities to the rest of campus
- Landscape design shall use major athletic facilities as focal elements within design of vehicular and pedestrian paths, creating pedestrian corridors leading to major entrances and/or primary facades of athletic facilities in order to organize pedestrian and vehicular traffic.

### 7.2.3 Pedestrian Connections

- Walks shall have a consistent hierarchical relationship to each other
- Hierarchy shall remain consistent and unified across the campus plan in order to provide clearer and more effective pedestrian circulation
- Pedestrian paths shall be integrated into campus landscape
- Paths and adjacent planting shall be scaled appropriately to hierarchy of scale and circulation
- Pedestrian and vehicular traffic shall be separated wherever possible to provide safer environment for pedestrian circulation and clear delineation of crossings and plazas.
- Pedestrian crosswalks shall feature details to facilitate traffic calming including changes in paving elevation and material/color along with adequate, legible, consistent signage at both pedestrian and vehicular scale
- Paths shall define boundaries of open spaces. Planting around pedestrian paths shall aid in defining the open spaces, using materials and planting of an appropriate scale and type for the context.

### 7.2.4 Creating Campus Green Spaces that Connect to Bayou

- Landscape design shall preserve green spaces
- Design elements should consider principles of urban planning, preserving views, creating spaces, reinforcing a sense of place, visual buffering and screening, adjacent land use and natural features

- Along major vehicular circulation peripheral to campus, planting shall screen and buffer unwanted views and traffic noise
- Particular attention shall be paid to screening open spaces from unwanted traffic or event noise
- Screening and buffering can also aid in creating outdoor rooms for smaller groups to gather outdoors and meet or relax
- Vehicular circulation on campus shall be reinforced with street tree planting of consistent spacing and size. Trees shall be of a singular species for the length of each street, but shall not be the same universally; street trees will reinforce circulation hierarchy and enhance visual continuity.
- Trees used to reinforce circulation will predominately consist of large canopy legacy trees of differing species, appropriate to their location in size, form, and aesthetic impact
- Landscape design shall be appropriate to character of adjacent uses
- When planting adjacent to buildings on campus, landscape shall activate and enhance entrances, enhance architectural elevations and be of appropriate scale to adjacent structures
- Planting palette near existing or proposed buildings shall remain simple, using masses of a small number of carefully selected plants appropriate to the conditions
- Planting of Campus Greens shall consist of large drifts of naturalistically planted trees, reinforcing the edge and buffering adjacent uses. The plantings in these areas shall create a park like setting within the campus, and should contain large, open spaces and a variety of smaller spaces for a multitude of recreational activities and sizes of gatherings
- Planting along bayou shall consist of native trees and under planting to enhance edge of bayou and prevent erosion of bayou bank. Bayou planting shall be an extension of the natural environment, and serve to activate the edge for recreational use and gathering spaces.
- Landscape design shall create small gathering spaces for meditation, eating and meeting around campus.
- Small gathering spaces should be in keeping with character of surroundings in scale, material palette and landscape palette.
- Landscape design shall preserve clarity of connections between spaces on campus, reinforcing overall circulation.
- Landscape palette shall help create distinctive regional, distinctive qualities of campus, aiding in wayfinding and creating a campus identity. Attention shall be taken to

placement and selection of plant material to preserve and enhance existing and proposed connections and features of the site.

- Green spaces on campus shall accommodate a variety of types of student activities with smaller spaces for meeting and meditation and larger spaces for recreation and larger student gatherings with detailing and materials appropriate for these activities that remain consistent with the overall campus identity

#### 7.2.5 Gateways, Portals and Campus Edges

- Major entrances to campus shall be marked with gateways reinforced by architectural and landscape elements that signify entry at a vehicular scale
- Existing gateways shall be supplemented with landscape improvements, architectural interventions and/or lighting improvements
- New gateways shall be placed at major arterial connections from campus to surrounding infrastructure, noting entry and arrival with detailing and materials consistent with signage, lighting and wayfinding details throughout campus
- Other entrances to campus shall consist of intermediately scaled portals that signal entry into campus that are reinforced with architectural and landscape elements detailed appropriately for their scale and context
- Portals to campus shall give consideration to wayfinding, screening and view corridors where appropriate
- Portals are to be scaled appropriately to pedestrian and vehicular scales, with emphasis on the pedestrian
- Portals shall also be sensitive to existing conditions of adjacent neighborhoods
- New portals shall not provide physical or visual barriers to entry or views
- Landscape details, architectural interventions and lighting shall remain appropriate in detail, material, color and scale to similar structures around the campus
- Campus edges to be reinforced without creation of visual or physical barrier in order to maintain connection to existing neighborhoods and infrastructure and facilitate interaction with the existing community

#### 7.2.6 Wayfinding

- Campus shall have consistent and legible signage scaled

appropriately to its context and use

- Outdoor spaces should facilitate ease of navigation by maintaining hierarchical relationship with similarly scaled and detailed spaces
- Paths, trees and under planting shall be arranged based on hierarchy of space and relationship to surrounding infrastructure
- Paving and planting details should aid in wayfinding through consistent, hierarchical detailing and scale across the campus, creating districts with distinctive, yet unified palette of material, detail and planting based on scale, microclimate and use
- Planting should be appropriate to its location, and also serve to orient the user to his/her surroundings by being distinctly part of the district in which they are located and scaled appropriately to the space they are containing
- Signage shall consider aesthetic impact on surroundings in reference to scale, material and finishes, assuring that finished product is aesthetically pleasing and clear and relates to existing architectural character
- All signage is to be of a consistent size, text is to be legible and concise, and directions are to be clear and easy to follow without being oversized, unattractive or obtrusive
- Signage should be located so as to be clearly visible, yet respect view corridors and designed spaces

#### 7.2.7 Lighting

- Lighting for the campus shall create an environment without deep shadows, maintaining a safe and secure atmosphere throughout campus
- Design of lighting shall conform to CPTED (Crime Prevention Through Environmental Design)
- Fixture choice should be based on light quality and intensity, durability, ease of maintenance, but should also take into consideration the fixture's aesthetic impact upon the campus as a whole
- Due to periodic storms, fixtures should be durable and easy to maintain to assure continued function and long term use
- Lighting should be consistent across the campus and aid with way finding to assure a unified feel to the entire campus
- Attention should be paid to fixture selection so that a similar fixture, mounting system and detail can remain consistent across the campus.
- If possible, fixture details, color, material and manufacturer shall be consistent to provide maximum cross compatibility

and ease of maintenance in the long term

- Fixture size, location and intensity shall be scaled to the surroundings in order to provide appropriate lighting for security and visibility
- Fixture placement and tree canopy shall be coordinated to assure conflicts do not arise, rendering the lighting ineffective
- Fixture selection should also assure a minimum of light pollution and shall, where applicable, eliminate glare for vehicular traffic.
- Intensity of lighting should remain consistent at ground level to assure adequate visibility for all types of circulation
- Lighting should also announce building entry and or exits

#### 7.2.8 Enhancing Existing Tree Canopy / Activation of Bayou for Recreational Use

- Reinforcing the existing tree canopy by supplementing the planting of naturalistic, native tree plantings in campus green spaces
- Trees used to supplement existing canopy shall be appropriate for their microclimate and their use
- A Legacy Tree Plan will help unify the campus, placing new, long lived, large canopy trees along vehicular and pedestrian paths in order to emphasize the traffic corridors
- Tree selection shall be appropriate to the scale and hierarchy of circulation it is adjacent to
- Existing bayou edge shall be reinforced with native trees and wetland plants at shoreline in order to preserve bayou bank and emphasize and activate the edge of the bayou as a recreational area with boardwalks and pedestrian bridges
- Under planting along bayou shall pay close attention to microclimate, using appropriate species to control erosion, but provide visual interest at bayou edge
- Where water skiing and wakeboarding is a frequent activity, erosion control systems (planted gabions) will be placed along the shoreline to help break up wave action and preserve the bayou edge
- Bayou edge shall be reinforced with gabion basket system in order to mitigate damage to bayou bank by regular wave action
- Once established, gabions can be planted with native aquatic or riparian plants to reduce visual impact of gabions
- Green spaces along the bayou shall be reinforced and activated for use as gathering spaces with walking trails and small meeting areas for meditation, study or small

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gatherings with interpretive plaques at ends of walks protruding into under planting

## 7.2.9 Site Amenities

- Site amenities shall be durable and low maintenance while being sensitive aesthetically to their impact on the overall campus image.
- Benches shall be made of materials that are well suited for outdoor use and require little maintenance, but are comfortable
- Other amenities shall also be constructed of materials that complement overall palette of materials, yet are durable, attractive, and easy to maintain
- Placement and design of architectural and landscaped interventions on site shall have a unified and appropriate material and detail palette, enhancing the overall master plan for the site

## 7.2.10 Other Considerations

- Loading zones, dumpsters, service entrances and other service areas of campus shall be screened off using landscape or architectural interventions that are appropriate in scale, material and detail, and main pedestrian circulation shall maintain separation from service areas of campus wherever possible.

## 7.2.11 Suggested Plant List

### TREES

#### Large

- Live Oak – *Quercus virginiana*
- Shumard Oak - *Quercus shumardii*
- Claudia Wannamaker Magnolia – *Magnolia grandiflora* ‘Claudia Wannamaker’
- Sentry Ginkgo – *Ginkgo biloba* ‘Fastigiata’
- Bald Cypress – *Taxodium distichum*
- Pond Cypress – *Taxodium ascendens*

#### Medium

- ‘October Glory’ Red Maple – *Acer rubrum* ‘October Glory’
- ‘Red Sunset’ Red Maple – *Acer rubrum* ‘Red Sunset’
- ‘Autumn Blaze’ Red Maple – *Acer rubrum* ‘Autumn Blaze’
- Patriot Elm – *Ulmus americana* ‘Patriot’
- Allee Elm - *Ulmus parvifolia* ‘Emer II’ P.P.# 7552
- River Birch – *Betula nigra*

#### Small

- Crape Myrtle – *Lagerstroemia indica* ‘Natchez White’ or ‘Watermelon Red’
- Silverbell – *Halesia diptera*
- Saucer Magnolia – *Magnolia x soulangiana*
- Green Japanese Maple – *Acer palmatum*
- Red Japanese Maple – *Acer palmatum* ‘Bloodgood’
- Vitex – *Vitex agnus-castus*
- Fringetree – *Chionanthus virginicus*

### TURF GRASSES

- Zoysia – *Zoysia* spp. ‘El Toro’ or ‘Cavalier’
- St. Augustine - *Stenotaphrum Secundatum*
- Centipede - *Eremochloa Ophiuroides*

### SHRUBS

#### Large

- Nellie R. Stevens Holly – *Ilex x* ‘Nellie R. Stevens’
- American Holly – *Ilex opaca*
- Teddy Bear Magnolia – *Magnolia grandiflora* ‘Teddy Bear’
- Eastern Red Cedar – *Juniperus virginiana*
- Emily Bruner Holly – *Ilex x* ‘Emily Bruner’

#### Medium

- Mock Orange – *Philadelphus coronarius*
- Clara Indian Hawthorne – *Raphiolepis indica* ‘Clara’
- Louisiana Dwarf Palmetto – *Sabal minor* ‘Louisiana’
- Maiden’s Blush *Sasanqua Camellia* – *Camellia sasanqua* ‘Maiden’s Blush’
- Azaleas – *Rhododendron indica* ‘George L. Tabor’ or ‘Mrs. G. G. Gerbing’

#### Small

- Carissa Holly – *Ilex cornuta* ‘Carissa’
- Shi Shi Gashira *Sasanqua Camellia* – *Camellia sasanqua* ‘Shi Shi Gashira’
- Pink Coastal Muhly Grass – *Muhlenbergia capillaris*
- Yellow Flag Iris – *Iris pseudacorus*
- Louisiana Iris mix – *Iris fulva*, *Iris brevicaulis*, *Iris nelsonii*, *Iris giganticaerulea*
- Creeping Rosemary - *Rosmarinus officinalis* ‘Prostratus’
- Carmen’s Grey Blue Rush – *Juncus patens* ‘Carmen’s Grey’
- Indigo – *Indigofera kirilowii*
- Cedar Fern - *Selaginella braunii*

## 7.3 Security Conscious Design and Emergency Preparedness

Concerns about security and emergency preparedness on college campuses have been heightened by the events of recent years. Many colleges and universities have adopted the guidelines of the Crime Prevention Through Environmental Design organization ([www.cpted.net](http://www.cpted.net)). CPTED is a multi-disciplinary approach to deterring criminal behavior by using established strategies for site development and building configuration. An evaluation of the UL Monroe campus has resulted in the following recommendations.

### 7.3.1 Natural Surveillance

- Design streets and walks to encourage pedestrian and bicycle traffic. Use passing vehicular traffic as a surveillance asset.
- Create landscape designs that allow clear views of designated entry points and opportunistic entry points.
- In new construction, place windows overlooking sidewalks and parking areas. Leave window shades open.
- Design lighting to avoid blind spots, glare and deep shadows.
- Place lighting along pathways at proper heights for face-to-face interaction.

### 7.3.2 Natural Access Control

- Use a single, clearly identifiable point of entry to buildings.

Use design elements to route visitors and users through a reception area.

- Provide signage and hardscape to support clear and direct wayfinding.
- Eliminate unauthorized access to roofs or unoccupied levels.
- Use low, thorny bushes adjacent to ground floor windows. Use rambling or climbing thorny plans along fences to discourage intrusion.
- Within campus, use non-opaque fencing materials. Keep fence heights as low as possible to achieve objectives.
- At campus edges, use substantial, high, closed fencing such as masonry.
- Incorporate maze entrances to public restrooms instead of double door vestibules.

### 7.3.3 Territorial Reinforcement

- Emphasize the location and visibility of the campus security office.
- Place emergency kiosks throughout the campus.
- Maintain buildings and landscaping to communicate an alert active presence controlling the premises.
- Schedule activities in common areas. Identify private areas for private functions.
- Avoid chain-link fencing and barbed wire, which communicates the absence of a physical presence.
- Display security system signage at access points.

### 7.3.4 Maintenance

- Establish a quick response program for repairs such as broken windows, graffiti removal, and lighting fixtures.
- Manage growth of foliage by removing dense plant growth along walkways.
- Maintain exterior lighting and surveillance cameras by trimming plant growth, and establish a regular lamp replacement schedule.

### 7.3.5 Communications and Building Operations

- Develop a campus emergency preparedness and response plan. Resources can be found through the International Standards Organization ([www.iso.org](http://www.iso.org)), particularly ISO 14001.

- Design telecommunications systems, security control systems, and building management systems in support of the emergency preparedness plan.
- Design vehicular access and circulation to facilitate emergency response.
- Provide education and awareness training for faculty, administration, maintenance personnel, and student leadership organizations.
- Plan for short-term and long-term backup and redundancy of critical systems and equipment.

## 7.4 Accessibility and Universal Design

The University has emphasized diversity and social responsibility as core values. In support of these objectives, the Campus Facilities Master Plan proposes the application of the principles of Universal Design and barrier removal. The primary goal is to establish a program for barrier removal, access to existing program spaces, and eventual full compliance with the Standards of the Americans with Disabilities Act (ADA). These guidelines apply to new projects, renovations, and site developments relative to students, faculty, University employees, and visitors.

### 7.4.1 Universal Design Principles

- Equitable Use: useful to people with diverse abilities.
- Flexibility in Use: accommodate a wide range of individual preferences and abilities.
- Simple and Intuitive Use: easy to understand regardless of the user's experience, knowledge, language skills, or current concentration level.
- Perceptible Information: communicate necessary information effectively to the user regardless of ambient conditions or sensory abilities.
- Tolerance for Error: minimize hazards and the consequences of accidental or unintended actions.
- Low Physical Effort: use is efficient and comfortable with minimum fatigue.
- Size and Space for Approach and Use: provide appropriate size and space for approach, reach, manipulation, and use regardless of body size, posture, or mobility.

### 7.4.2 Barrier-Free Design and Program Access

- New development, additions, and renovations must comply fully with the standards of the Americans with Disabilities Act (ADA).
- Existing facilities not scheduled for renovation should be altered to improve access to program spaces according to a prioritized plan.
- Priority One: Provide access to facilities from public sidewalks, parking, and public transportation.
- Priority Two: Provide access within facilities to areas where goods and services are made available to users.
- Priority Three: Provide access to restroom facilities.
- Priority Four: Take any other measures necessary to provide access to goods, services, facilities, advantages, or accommodations.

## 7.5 Infrastructure Notes and Standards

The infrastructure standards address the most recent development strategies for the growth of the campus, focusing on application of sustainable systems and including life-cycle cost assessments.

### 7.5.1 Infrastructure Goals and Guidelines

- Robust, reliable, redundant systems
- Inform strategies for energy distribution (central or distributed) and how these systems should be sized and located
- Understand interim servicing of existing facilities to inform construction phasing
- Reduce carbon footprint
- Develop a carbon-neutral (or carbon-negative) master plan option with innovative and informative sustainable strategies
- Consider campus security (exterior lighting, surveillance)
- Explore alternative fuel options
- Use natural systems to mitigate run-off
- Demonstrate innovations of systems to promote leadership and education within the campus community

### 7.5.2 Utility Systems

Campus utilities are currently routed via a combination of overhead 13.8 kV lines and underground ducts of power cables. Natural gas, water, telecommunications, storm water drainage and sewer discharge utilities are via underground ducts.

### 7.5.3 Civil Infrastructure

- In order to maintain reliable water service to the campus over the next twenty-five years, older pipes are recommended to be replaced with current technology piping systems of adequate size to provide recommended flows for fire protection to each facility. Fire hydrants should be replaced or added as recommended by an engineering study and collaboration with the city water system department and fire protection department.
- To reduce waste generation, mitigate storm water runoff, and provide alternatives to purchasing potable water, the capture and reuse of storm water and grey water is highly recommended. This means that for demands such as toilet flushing or grounds and landscaping irrigation, storm water or grey water could be used instead of potable water. Greater use of the Bayou DeSiard water for these purposes should be studied.
- The storm water run-off drainage system should be improved to eliminate any flooding or ponding issues. The sewer system has been known to have problems in some areas that need to be addressed with improved routing and/or pumping stations.

### 7.5.4 Mechanical Infrastructure

A recommendation for mechanical infrastructure development is the implementation of one or more chilled water loops. In this system, chilled water produced in an electrical powered chiller plant in four locations central to a group of two to six buildings, should be considered. Direct buried and insulated PVC piping with loop pumps would circulate chilled water to each of the buildings. The number of chillers could be reduced improving energy efficiency and maintenance functions. The infrastructure to support this option can be phased.

### 7.5.5 Natural Gas Distribution System

- The campus is dependent upon the underground natural gas distribution system with the two utility sources which gives benefits of lowest cost gas supply and redundancy.
- Recommendations:
- Install natural gas meters with communications to the central electrical metering system to be able to track use at individual facilities
- Continue the use of natural gas to provide heat to buildings and domestic hot water
- Study the cost effectiveness and maintenance issues with maintaining natural gas-driven chillers at some facilities
- Study all safety aspects of continuing to operate and maintain the natural gas distribution system, and make improvements as necessary

### 7.5.6 Electrical Infrastructure

- Electrical power distribution system improvements are needed to increase reliability, maintainability, and safety. The current system utilizes overhead lines fed from the southeast area Warhawk Drive metering point from the local utility, Entergy, with service drops to facilities on the east side of the campus and an underground dual feeder to an underground loop for the west side of the campus needs some improvements.
- Recommendations:
- Improve the older underground loop, medium voltage switches, and transformers to Entergy standards
- Transfer ownership of the underground loop to Entergy
- Develop an engineered project to eliminate all the overhead lines on the east side of the campus and provide an interconnect of the two campus systems for redundancy
- Fully develop a current metering plan for the entire campus to be able to monitor all facilities and track energy use for analysis to develop a comprehensive energy management program for the campus
- Provide natural gas fired emergency generators of sufficient capacity at each campus facility to power critical systems and total power requirements to facilities which can serve as hurricane and emergency evacuation centers.
- Provide upgraded grounding and lightning and switching surge protection to all transformers and facilities
- Provide an electrical system coordination and short circuit study to incorporate an arc flash study

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## 7.5.7 Telecommunications Infrastructure

- The current fiber optic system main router and computing room located in Walker Hall is vulnerable to disruption and loss of critical network systems on campus. A new, off main campus computing center with data and hardware backup is needed. The fiber optic system routed throughout the campus and to remote facilities requires a project to route the cables to provide a self-healing ring arrangement.
- Use of voice over internet should be studied to eliminate telephone cabling.

## 7.5.8 Lighting Infrastructure

- Exterior lighting on campus is varied. A lighting plan needs to be developed to upgrade the light levels for safety and security. Newer technology LED type fixtures should be considered for energy efficiency, much longer life, more uniform light levels, and lower maintenance.
- Interior lighting should be given careful consideration to utilize daylight harvesting reducing energy use and providing light levels to enhance classroom and office employee efficiency. LED technology with automatic light level sensing and control should be utilized.

- Performance exceeding the minimum should be encouraged, incentivized, and rewarded to the extent feasible.

## 7.6.2 Site Development and Land Use

- New development should be sited to preserve existing greenspace and outside floodplains or wetlands areas.
- Developments should attempt to maintain a minimum of 40% open space within property boundaries. Hardscape materials should be light in color with high solar reflectance or should be shaded by vegetation or structures.
- Buildings should be oriented as much as possible to minimize east or west solar exposure.
- Building roofing materials should be light in color with high solar reflectance. Vegetated roofs are encouraged.
- Exterior lighting should be configured to minimize glare and light pollution on adjacent properties.
- Buildings should be sited to promote pedestrian and bicycle access and circulation.

## 7.6.3 Water Use Efficiency

- Native adapted planting materials should be selected to alleviate irrigation requirements.
- Consider using reclaimed graywater or harvested stormwater for irrigation.
- Plumbing fixtures and equipment should be specified to meet or exceed minimum standards for water efficiency.
- Sub-metering should be installed to monitor water use by building.

## 7.6.4 Energy Efficiency

- Designers should set as a goal to achieve 30% or more reduction in energy use from the code minimum. Consider funding energy modeling services for every new and existing building on campus.
- New projects should allocate space and pathways for future installation of on-site renewable energy systems such as photovoltaic and ground source cooling systems.
- Sub-metering and energy management systems should be installed to monitor and control energy use by building. Develop a program for building commissioning and long term performance monitoring and evaluation.

- Exterior envelope and fenestration should be designed and specified to support the 30% minimum energy reduction target.
- HVAC equipment should be selected and specified, at a minimum, to Energy Star standards.
- Lighting and electrical loads should be designed and specified to support the 30% minimum energy reduction target. Designers should set as a goal to achieve Lighting Power Density of 25% below the standard baseline.

## 7.6.5 Indoor Environmental Quality

- Ventilation systems should be designed to introduce recommended quantities of conditioned outside air and to provide adequate filtration of mechanical systems.
- Tobacco smoking should be banned from building interiors and from within 25 ft. of building entrances.
- Building entrances should be fitted with mats or grates to mitigate outside pollutants.
- Occupied spaces should be designed or altered to comply with standards for thermal comfort. Users should be able to control temperature and airflow within individual spaces.
- Learning spaces and other occupied spaces should be provided with adequate glare-free natural daylight. Consider funding daylight modeling services for new construction and additions.
- Classrooms, learning spaces, meeting rooms, and offices should be designed or modified to meet established standards for speech intelligibility, exterior noise, and mechanical systems noise.
- Finish materials; paint and coatings; adhesives and sealants; flooring, wall and ceiling materials; and furnishings should be selected and specified to minimize harmful emissions. Consider a program to replace existing furnishings with “Green Guard” certified inventory.

## 7.6.6 Material Resource Conservation

- Establish a program for collection and storage of recyclable materials. Allocate and maintain space for recyclables in or near every building on campus. Consider a program for composting food service waste products.
- Require construction projects to divert a minimum of 50% of non-hazardous construction and demolition waste products from landfill. Consider a bonus compensation program for

contractors exceeding 75% diversion.

- Ban the use of CFC refrigerants and establish a program for retrofitting and disposing of existing ozone-depleting substances.
- Select and specify materials that contain reclaimed or recycled content and that are produced or assembled within a 500 mile radius. Consider a goal of 10% recycled and 15% regional with bonus compensation for exceeding 20%.
- Consider funding a program for developing Lifecycle Cost Assessment and Inventory alternatives for new building designs.

## 7.6.7 Operation and Maintenance

- Develop a program for basic energy systems commissioning by independent agents for all new construction and renovations. Consider funding a program for whole-building commissioning for new projects and post-occupancy commissioning for existing buildings.
- Require indoor air quality (IAQ) management and moisture control during construction and IAQ measurement and verification after substantial completion immediately prior to occupancy.
- Electronics, appliances, lighting, office equipment, and other equipment should be selected and specified, at a minimum, to Energy Star standards.
- Develop a program for measurement, assessment, monitoring, and documentation, of energy and water consumption post-occupancy.
- Develop a building maintenance plan including Green Seal certified cleaning products.
- Develop a campus transportation management program including preferential parking for vans and carpools, bicycle transportation plan, and future provisions for hybrid and electric powered vehicles. Consider using electric or bio-fuel vehicles for campus maintenance personnel.

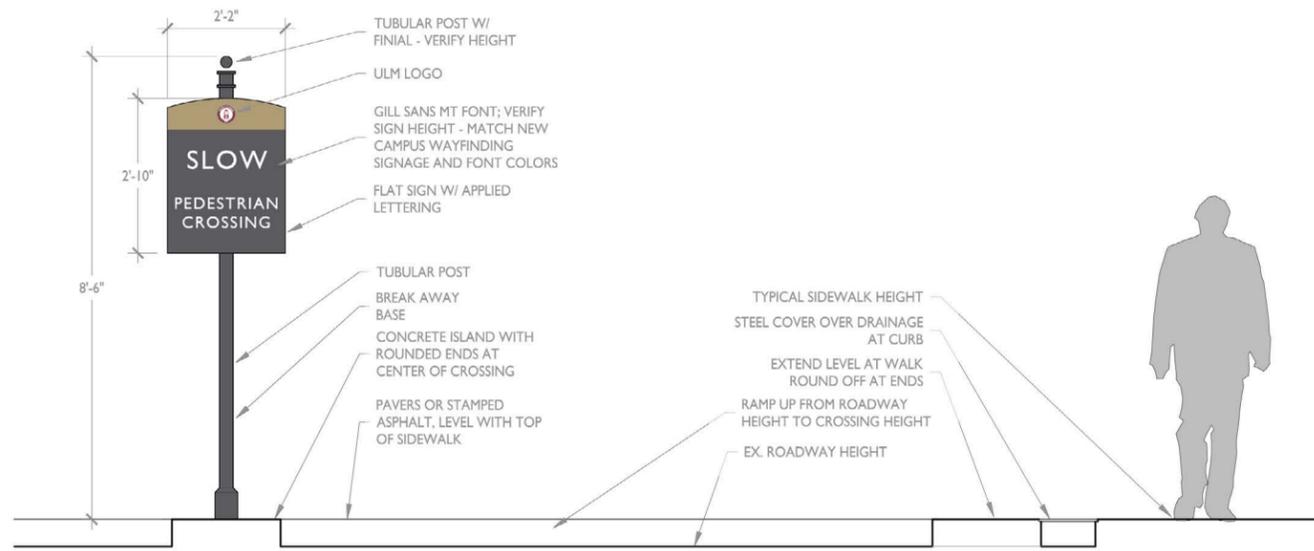
## 7.6 Environmental Sustainability

The University has identified objectives to enhance the academic learning environment and deliver an effective operating environment. Accomplishing these goals will include cultural and intellectual endeavors but also will involve physical facility planning and construction. Environmental responsiveness through design at the comprehensive and detail levels, balanced by budgetary feasibility, will support the stated objectives.

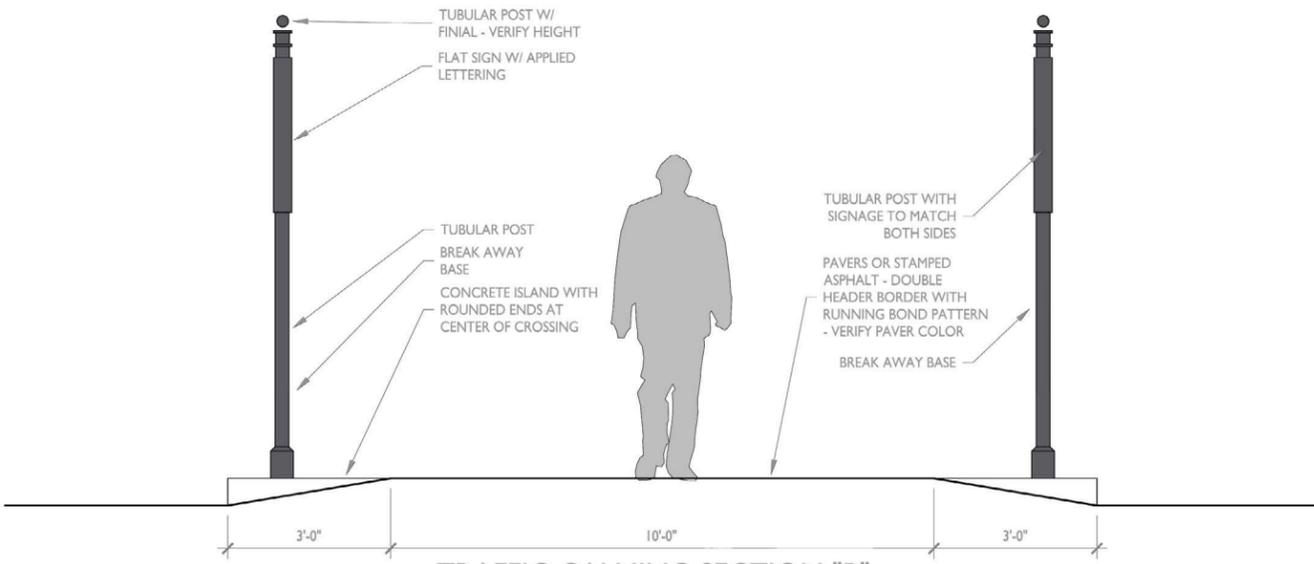
### 7.6.1 Sustainability Goals and Guidelines

- The purpose of these standards is to provide recommendations for designers, contractors, and University administrators to guide future development in a responsible way.
- New developments, major renovations, and additions must, at a minimum, comply with the State of Louisiana Office of Facility Planning and Control Environmental Building Rating Checklist based on ANSI Standard 189.1-2011.

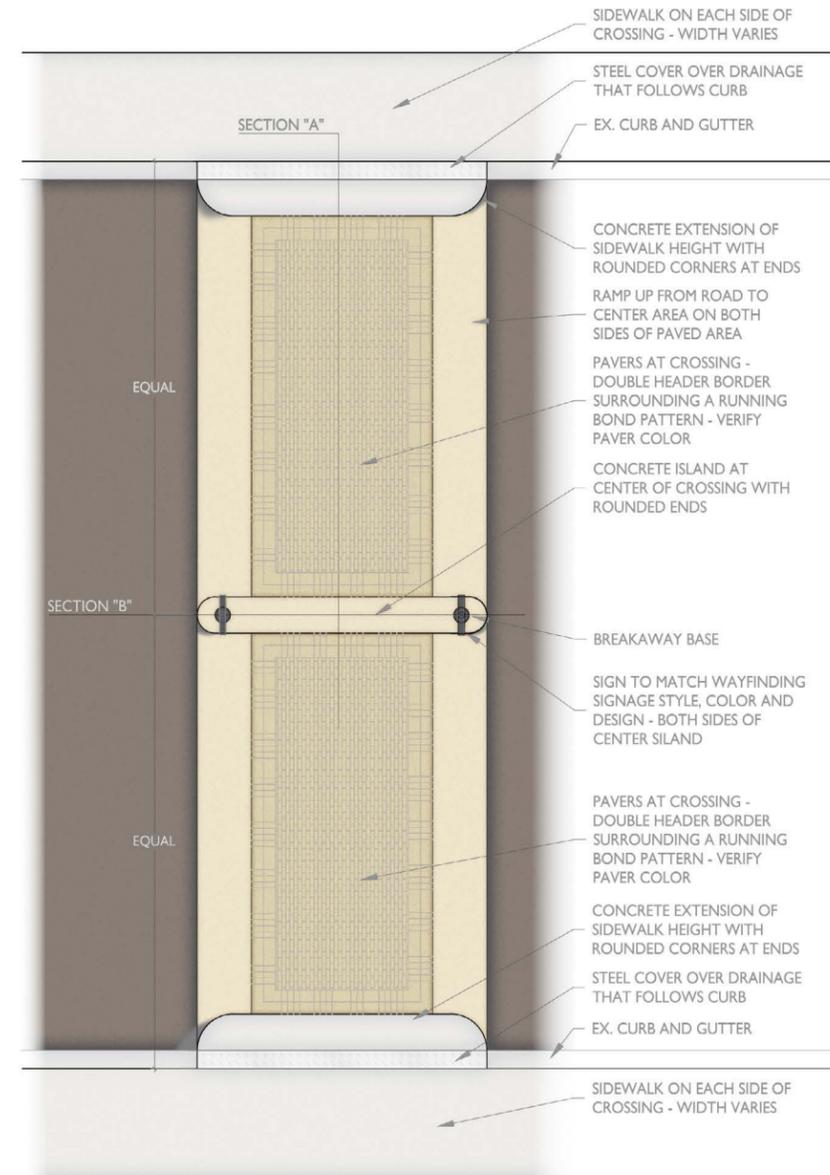




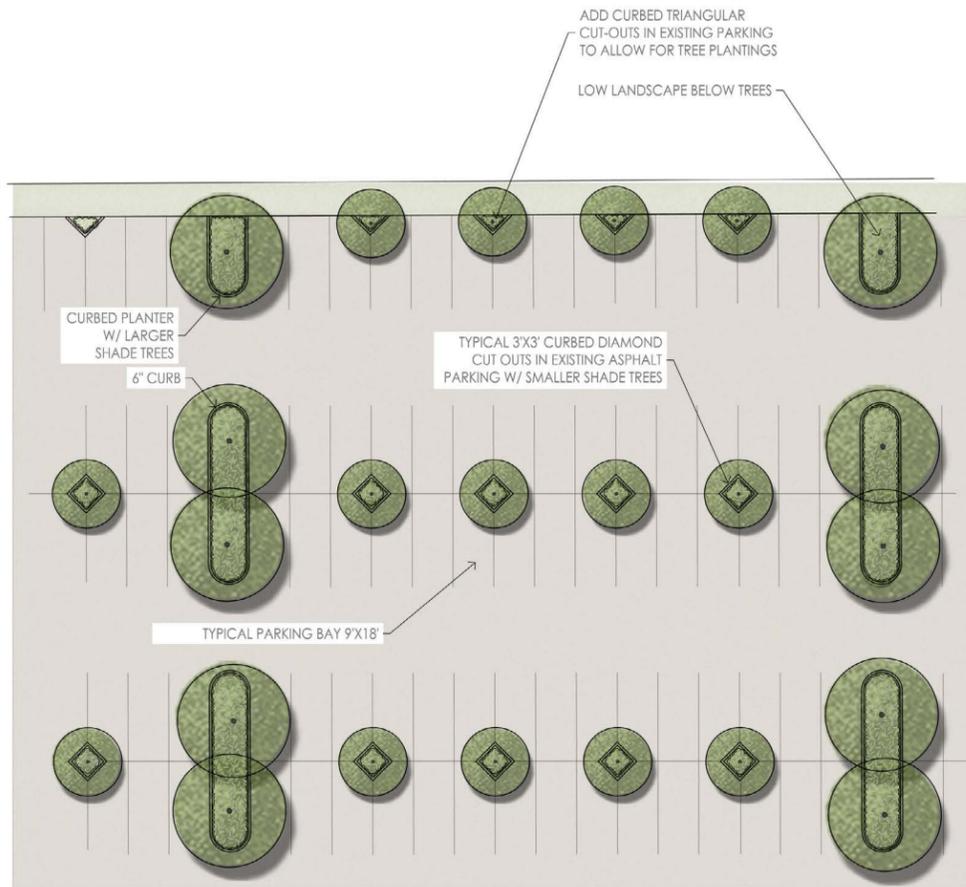
**TRAFFIC CALMING SECTION "A"**  
 SCALE: 3/4"=1'-0"



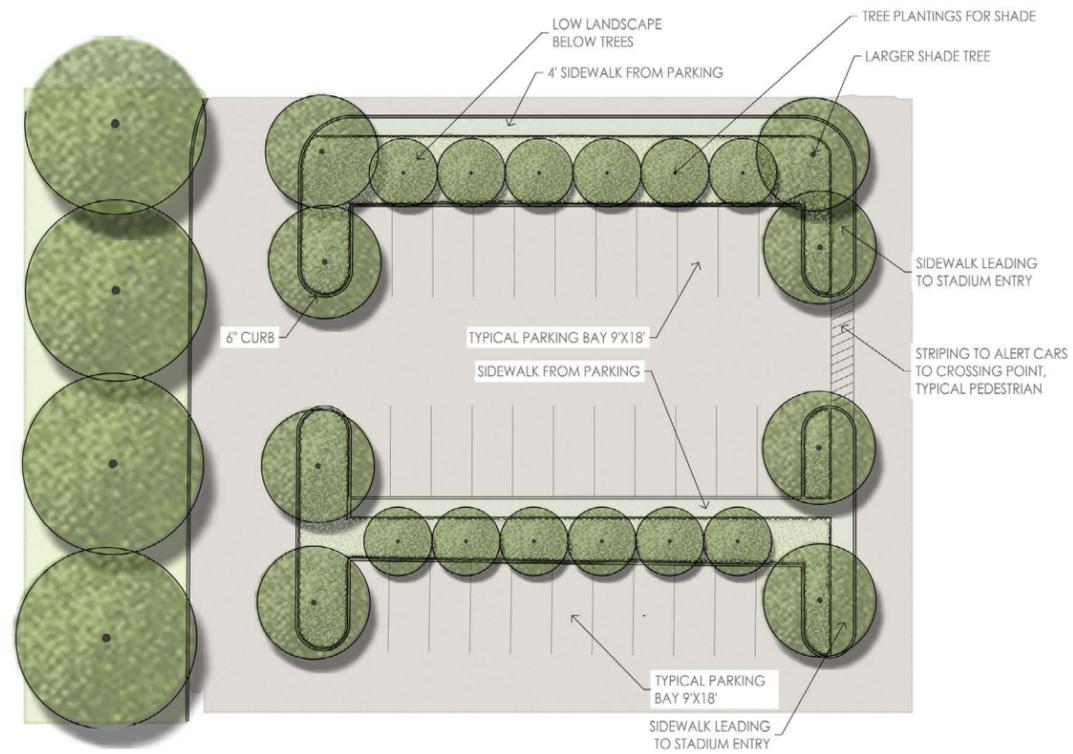
**TRAFFIC CALMING SECTION "B"**  
 SCALE: 3/4"=1'-0"



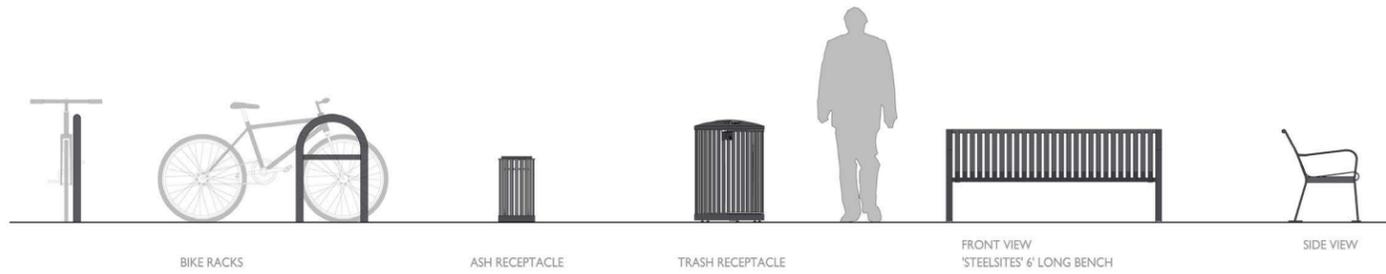
**TRAFFIC CALMING PEDESTRIAN CROSSING**  
 SCALE: 3/4"=1'-0"



Existing Parking Renovation Concept  
SCALE: 1/16"=1'-0"



Proposed New Parking Concept  
SCALE: 1/16"=1'-0"



BIKE RACKS

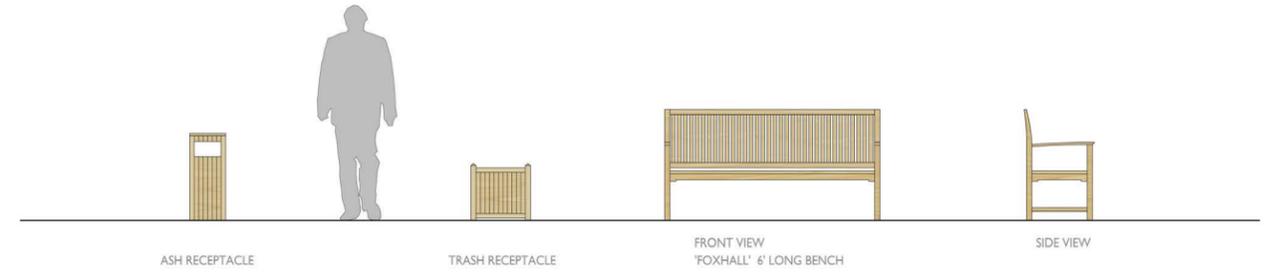
ASH RECEPTACLE

TRASH RECEPTACLE

FRONT VIEW  
'STEELITES' 6' LONG BENCH

SIDE VIEW

VICTOR STANLEY  
SITE FURNISHINGS (POWDERCOATED STEEL)  
SCALE: 3/4"=1'-0"



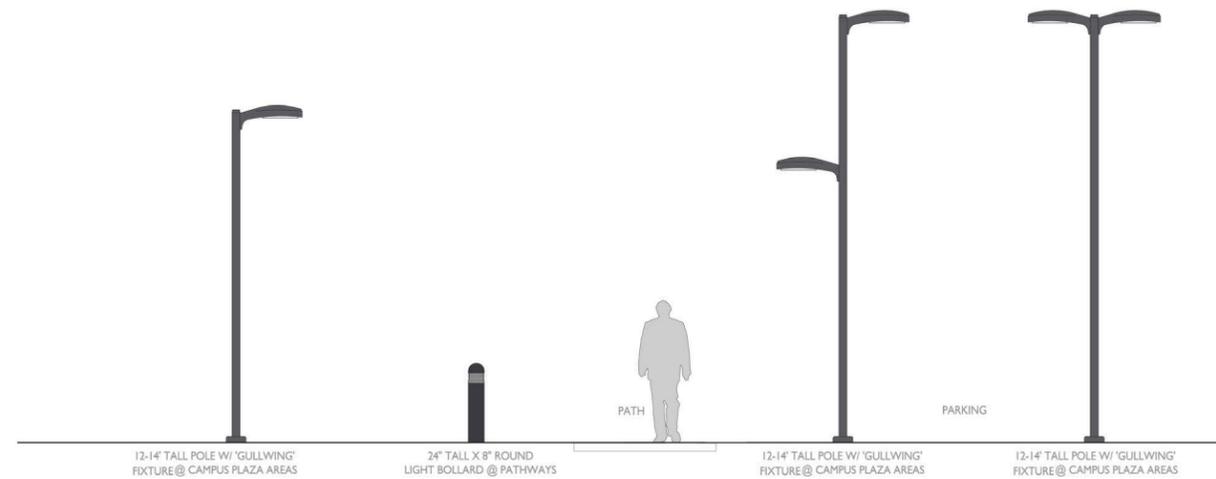
ASH RECEPTACLE

TRASH RECEPTACLE

FRONT VIEW  
'FOXHALL' 6' LONG BENCH

SIDE VIEW

COUNTRY CASUAL  
SITE FURNISHINGS (TEAK WOOD)  
SCALE: 3/4"=1'-0"



12-14' TALL POLE W/ 'GULLWING'  
FIXTURE @ CAMPUS PLAZA AREAS

24" TALL X 8" ROUND  
LIGHT BOLLARD @ PATHWAYS

PATH

12-14' TALL POLE W/ 'GULLWING'  
FIXTURE @ CAMPUS PLAZA AREAS

PARKING

12-14' TALL POLE W/ 'GULLWING'  
FIXTURE @ CAMPUS PLAZA AREAS

GARDCO  
SITE LIGHTING OPTION "B"  
SCALE: 1/2"=1'-0"



18-20' TALL POLE W/ HIGH/LOW 'LARGENT'  
FIXTURES @ CAMPUS PARKING LOTS

24" TALL X 18" ROUND  
LIGHT BOLLARD @ PATHWAYS

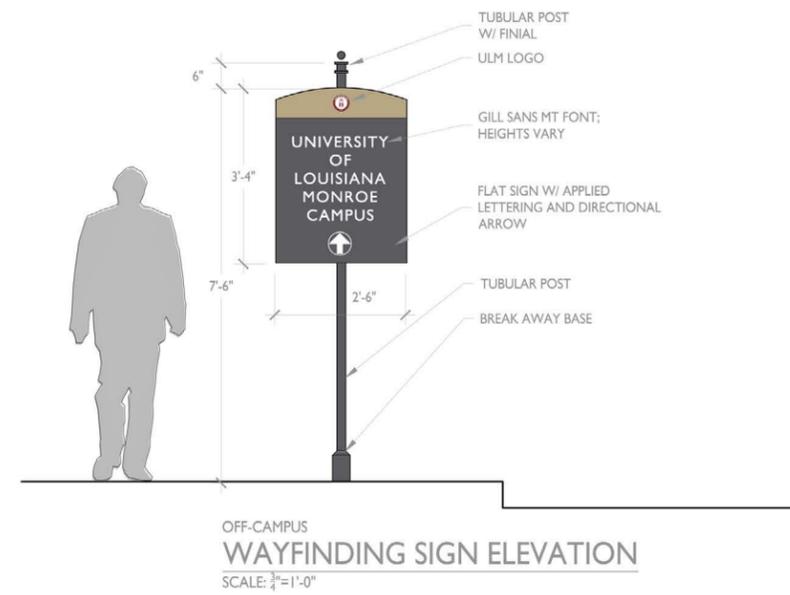
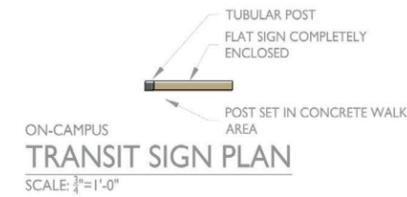
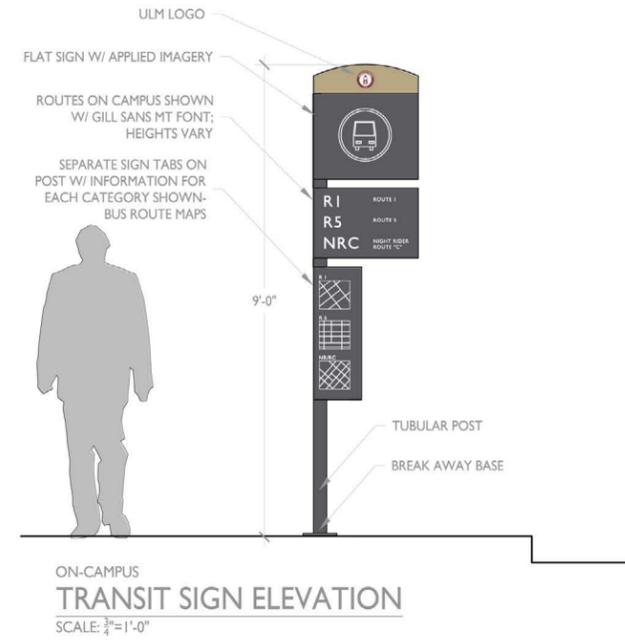
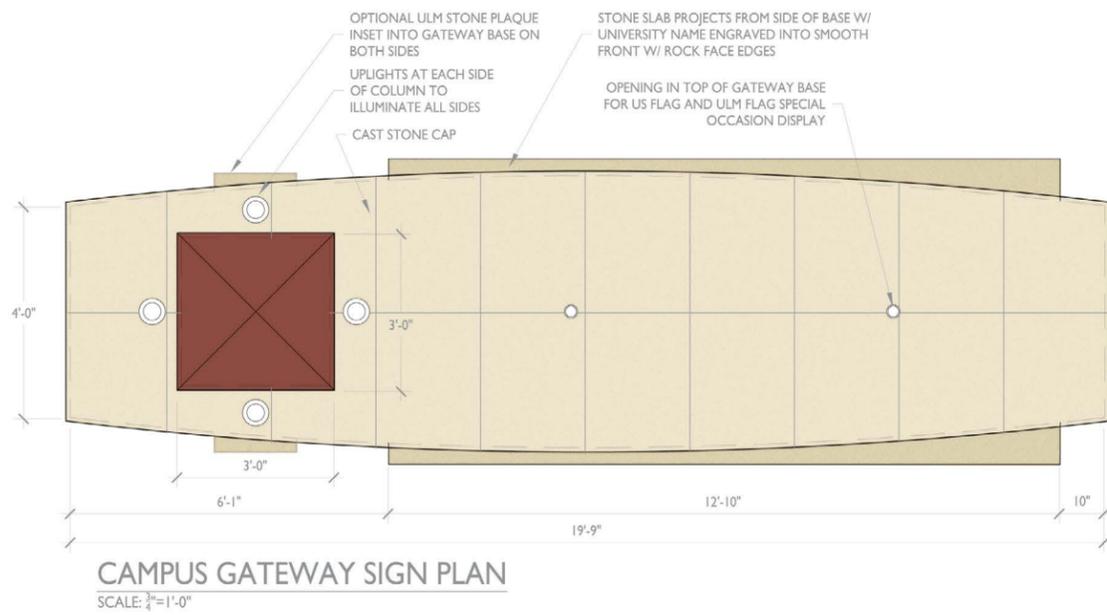
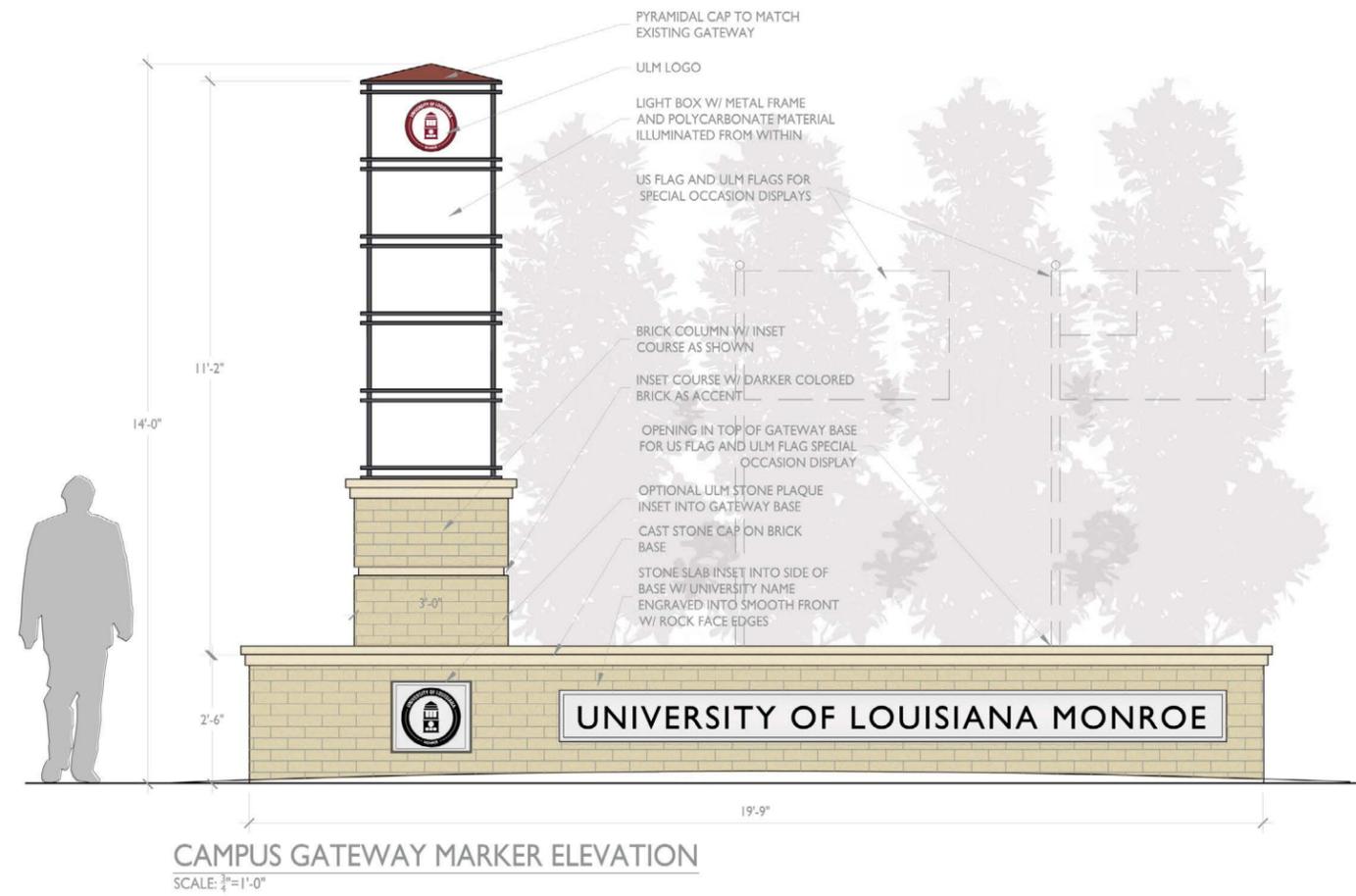
PATH

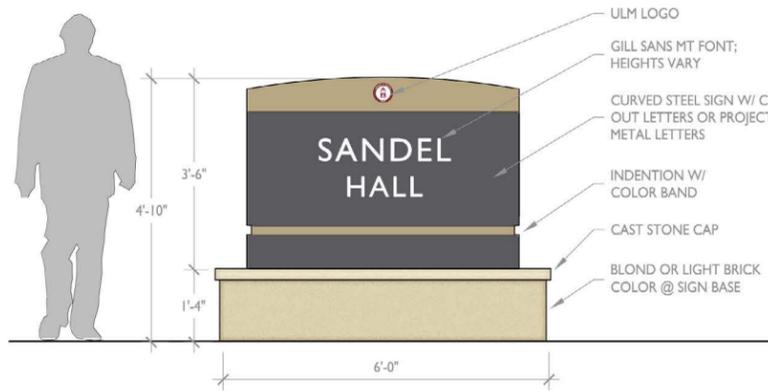
18-20' TALL POLE W/ HIGH/LOW 'LARGENT'  
FIXTURES @ CAMPUS PARKING LOTS

PARKING

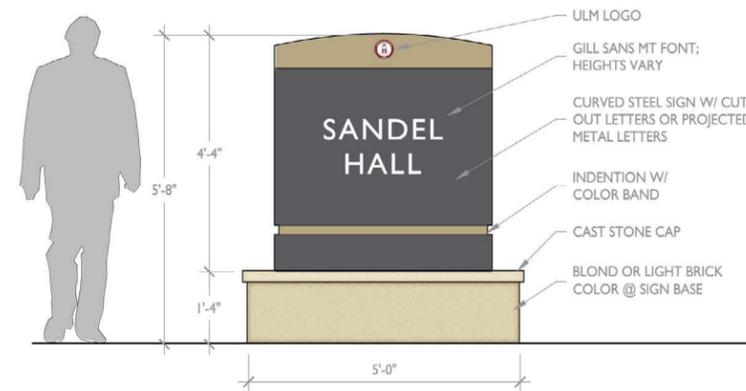
18-20' TALL POLE W/ HIGH/LOW 'LARGENT'  
FIXTURES @ CAMPUS PARKING LOTS

ARCHITECTURAL AREA LIGHTING  
SITE LIGHTING OPTION "A"  
SCALE: 1/2"=1'-0"

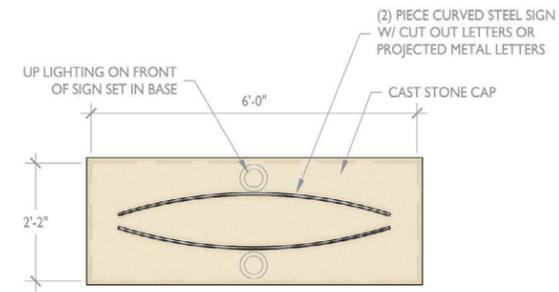




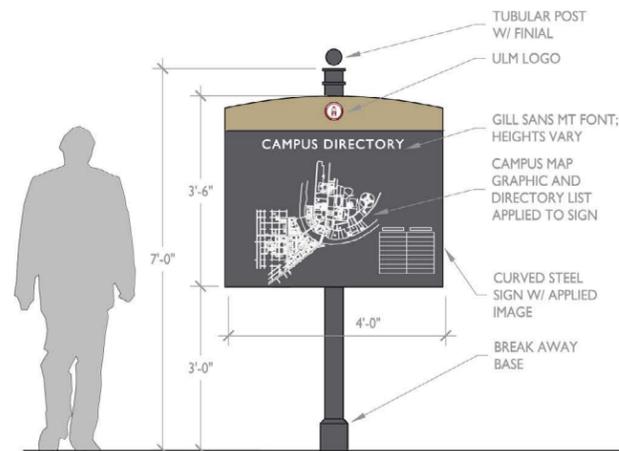
HORIZONTAL OPTION  
**MONUMENT SIGN ELEVATION "A"**  
 SCALE: 3/4"=1'-0"



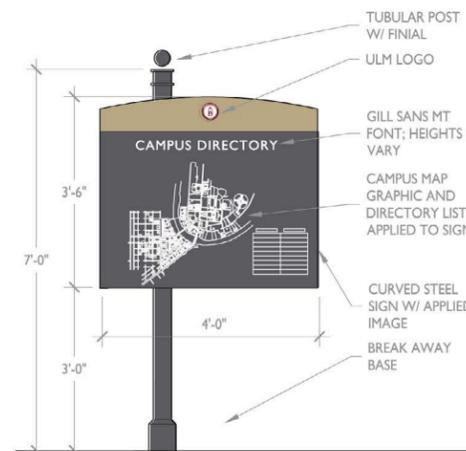
VERTICAL OPTION  
**MONUMENT SIGN ELEVATION "B"**  
 SCALE: 3/4"=1'-0"



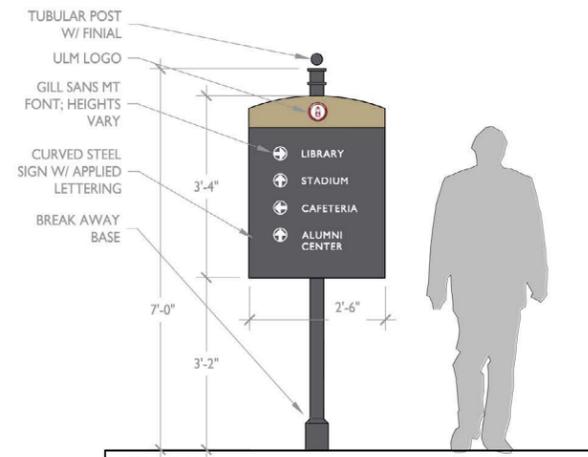
**MONUMENT SIGN PLAN**  
 SCALE: 3/4"=1'-0"



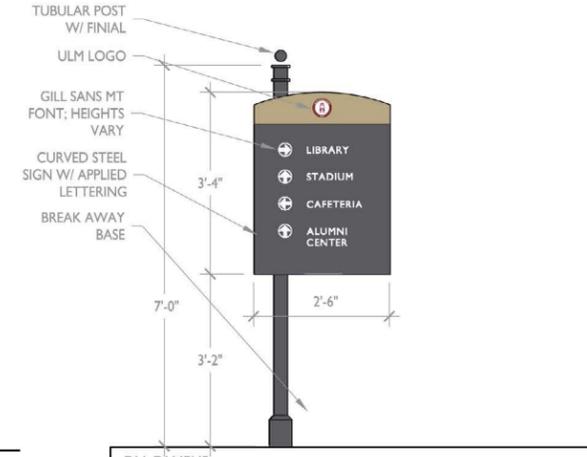
ON-CAMPUS  
**KIOSK SIGN ELEVATION "A"**  
 SCALE: 3/4"=1'-0"



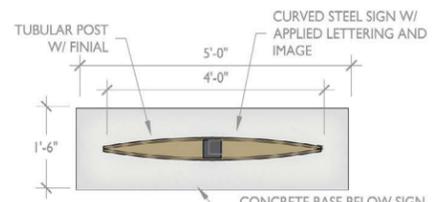
ON-CAMPUS  
**KIOSK SIGN ELEVATION "B"**  
 SCALE: 3/4"=1'-0"



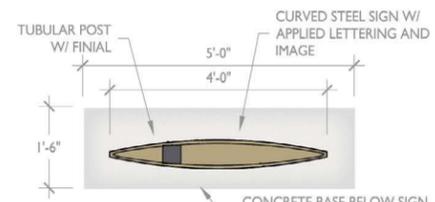
ON-CAMPUS  
**WAYFINDING SIGN ELEVATION "A"**  
 SCALE: 3/4"=1'-0"



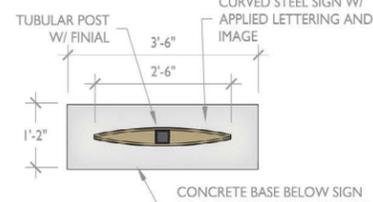
ON-CAMPUS  
**WAYFINDING SIGN ELEVATION "B"**  
 SCALE: 3/4"=1'-0"



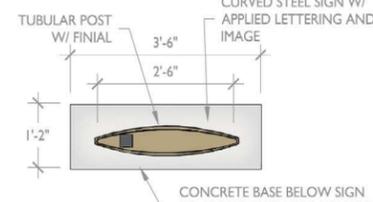
ON-CAMPUS  
**KIOSK SIGN PLAN "A"**  
 SCALE: 3/4"=1'-0"



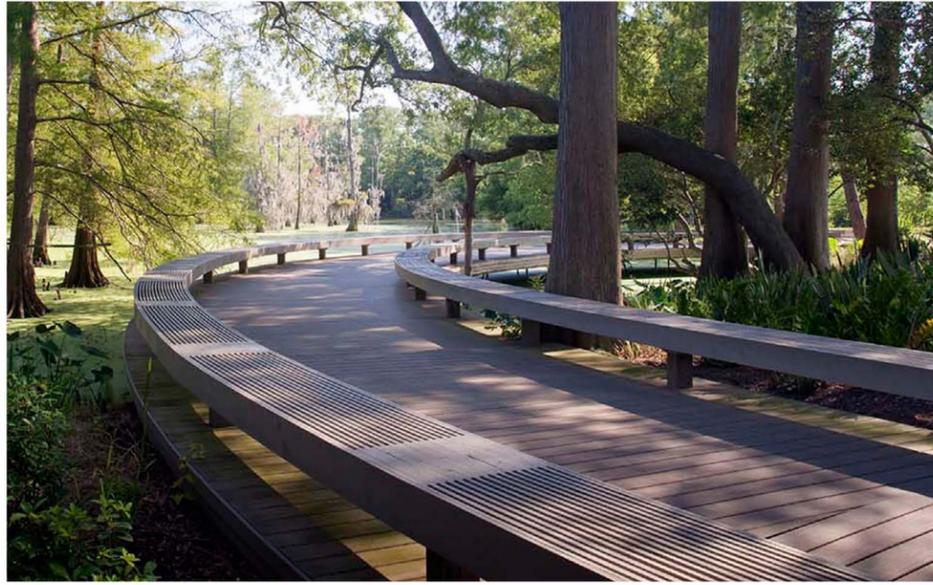
ON-CAMPUS  
**KIOSK SIGN PLAN "B"**  
 SCALE: 3/4"=1'-0"



ON-CAMPUS  
**WAYFINDING SIGN PLAN "A"**  
 SCALE: 3/4"=1'-0"



ON-CAMPUS  
**WAYFINDING SIGN PLAN "B"**  
 SCALE: 3/4"=1'-0"



Boardwalk along Water and adjacent Wetland Plants



Boat House



Amphitheater



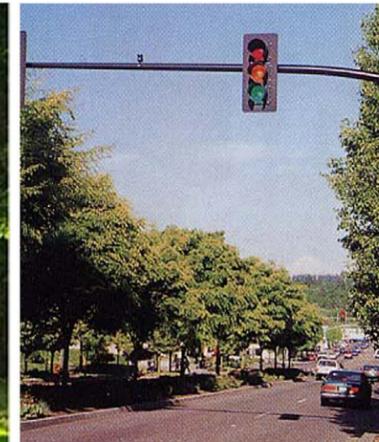
Native Plants and Trees in Parking on Axis



Tree Diamonds in Parking



Campus Oak Allee



Street Planting



Stamped or Accent Paving at Street Crossings - Traffic Calming



Native Tree Buffer at Native Edge



Open Lawn with adjacent Plantings of Native Trees and Plants



Campus Gateway Light Towers

Landscape Precedent Images

