Architecture and Landscape
Design Guidelines

Tools for creating a cohesive, beautiful, productive, accessible and sustainable campus environment

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Architectural and Landscape Design Guidelines

PURPOSE

The waterfront campus of the University of Massachusetts Boston is undergoing a physical transformation as called for in its 25-year Master Plan. In an effort to ensure that the redevelopment of the campus reflects the overarching goals of the Master Plan, a set of architectural and landscape design guidelines has been established to help realize a cohesive, beautiful, productive, accessible and sustainable campus environment. While each new project will present its own set of unique circumstances, these guidelines or principles are intended to be prioritized by architects, engineers, and planners in the design of future buildings, facility renovations, and open spaces. They will help create a unified campus while also allowing flexibility for designer innovation and creativity.

OVERALL MASTER PLAN GOALS

As the UMass Boston campus prepares for future growth and development, there are some overall goals and priorities that will guide our vision for how the physical campus is designed. A few primary goals from the master plan include developing a strong sense of place and enhancing the student experience. Creating a variety of open spaces, new gateways to campus, active ground floors of buildings and improving pedestrian connections will help to achieve that goal.

The master plan also aims to make more connections—both between the campus and its neighbors, as well as between buildings and their surrounding environment. Some design principles that will insure these goals are met include improved visual and physical access to the water, views into and out of buildings, natural light, and designing buildings in conjunction with their landscapes. Wayfinding will become increasingly important as well.

An overarching goal for all projects on campus is a strong commitment to sustainability and environmental protection, which will be campus-wide and consistent among projects. Proposed design principles range from native plants, permeable paving, to the natural treatment of stormwater.

Universal access is another campus-wide goal and it will be achieved through universal design and ground level entrances so that all users can easily navigate on campus. Safety on campus is another high priority.

New landscapes and buildings will also provide increased opportunities for art placement both inside and outside, and should be considered early in a project’s development.

DESIGN PRINCIPLES

I. SUSTAINABILITY

A. Value and Incorporate Sustainability Campus-wide

- All new buildings should be at a minimum LEED Silver certified and LEED Plus. UMass Boston aims for Silver certification and state guidelines mandate LEED Plus, but the University aspires to reach even higher sustainability goals.
• Sustainability goals should be campus-wide and consistent among projects, which will help anticipate requirements, features, and associated costs.
• Sustainability and low impact design should be integrated in a practical and fiscally responsible manner throughout all aspects of project planning and design beginning with building siting, and continuing through decisions on building materials and systems, energy consumption, and material re-use.
• Campus landscapes should be in line with low impact development and foster natural stormwater treatment.
• Landscape designs should specify native plants, which are sustainable because they are adapted to the local climate (can help reduce watering demands), pest and disease resistant (reducing need for pesticides and fertilizers), help clean the soil, water, and air, and they can help restore ecosystems and teach about the local bioregion. Plants should be colorful and beautiful year round when possible.
• Landscape designs should incorporate sustainable materials such as permeable paving and furniture from recycled content.

B. Use Sustainable Features for Educational Purposes

• A building’s sustainability features should be highlighted for educational and research purposes through signage, demonstration, and hands-on investigation.
• Sustainable landscape elements such as stormwater retention, rainwater harvesting, teaching gardens, should be highlighted with signage for educational opportunities.
• Teach through our coastal habitats and ecosystems, and use them as living laboratories.

II. ACCESSIBILITY

• The university is committed to creating a fully accessible and welcoming environment for all visitors to campus, in both open spaces and buildings.
• The principle of universal design should be applied to the design of all buildings, including finding buildings, entering them, moving within them, and connecting from one building to another.
• Consider accessibility issues when designing future connections between buildings.
• Arrangement of spaces should be simple and logical to facilitate wayfinding by people of all abilities.
• All new construction must comply with federal and Massachusetts state laws that govern accessibility standards related to the design and construction of public facilities and accommodations.
• Paving materials should be selected to accommodate people who use mobility devices.

III. CONNECT TO WATER

• Maximize visual connections to the water from buildings, roads, and open spaces.
• Campus open spaces should help improve pedestrian access to the Harborwalk through pathways, views, and signage.
• The design of buildings and open spaces should plan for rising sea level. Water features should be considered for both gateway sites and landscapes on campus to further reference the campus’s relationship to the harbor.

IV. BUILT ENVIRONMENT

A. Promote Connections between Campus and Community

• New buildings should respond to and respect neighboring institutions and residences. This may include preserving or creating views and integrating pedestrian paths and connections.
• New buildings should respond to and respect their natural surroundings and capitalize on specific site amenities such as connections to the city skyline, waterfront and campus open spaces through materials, height, and views.
• Buildings should be situated to respond to the broader community as well as the campus community, and entrances and windows should face and welcome both.
• Buildings serving as gateways to the campus should be architectural and visual symbols through height, scale, and distinctive building elements, and be permeable and accessible by our neighbors.

B. Balance Building Architecture and Character with User Needs

• Building architecture should be reflective of the facility’s use and activities.
• Each building should provide for the physical and psychological needs of its users including provisions such as thermal comfort, indoor air quality, and access to daylight and views.
• Campus buildings should provide gathering spaces and communal facilities such as study areas, lounges, and other spaces that promote formal and informal interaction between faculty, students, and staff.
• Offices and work areas must have doors and interior glazing where necessary in order to provide privacy for building occupants and minimize unwanted noise.
• Buildings should use architectural elements and materials to create both large-scale and human-scale experiences for building occupants and for those experiencing them from a distance.

C. Create Connections between the Interior and Exterior of Buildings

• Buildings should be active on the ground floors either through programmed spaces, placement of entrances, or transparency.
• Building entrances should be clearly identifiable and highlighted through architectural and landscape elements. Entrances should also provide space for transition from outside to inside (i.e. vestibules) to shelter building occupants from the weather and mitigate energy consumption.
• Buildings and landscapes should connect to one another through their design and are ideally designed together. Buildings near pre-existing natural features should preserve and highlight those landscapes.
• Develop outdoor rooms (e.g. courts, plazas) and provide continuity of public gathering spaces from the outside of buildings to public spaces on the inside so that visitors can flow into a building’s interior and continue to gather.
• Buildings should incorporate windows, glass, skylights and floor plan layouts that allow for natural light to enter interior spaces, and to maximize views from inside to outside, taking into account the potential impact of storm winds on large panes of glass.
• To the extent feasible, a building’s academic activities should be visible to passers-by.
• Consider programmed uses for building rooftops such as gardens, athletics, and solar panels.
• Evacuation from buildings should be facilitated through easy-to-determine routes of egress identified by appropriate signage. There also should be safe gathering places for people to assemble following a building evacuation.

D. Respond to Existing Buildings and Surrounding Environment

• New buildings should be designed to reference and respond to the materials, scale, proportion, and design elements of adjacent buildings and must consider surrounding existing or planned open space.
• The scope of building projects should include open space and landscape improvements including site furnishings such as lighting, benches, waster receptacles, bicycle parking, signs and fences.
• Given that the UMass Boston campus sits on the flight path of Logan Airport, Federal Aviation Administration regulations mandate that the height of campus buildings cannot exceed 200 feet.
• Buildings should provide maximum noise mitigation for occupants’ comfort.
• Building loading and service functions should be designed so that their visibility from public areas is minimized and conflicts with pedestrian movement are limited.
• Building air intakes shall be located as far as possible from sources of air pollutants and not near building exhaust.

E. Prioritize Maintainability, Standardization and Flexibility

• All new buildings and structures should be designed for ease of maintenance and long term maintainability and durability.
• New buildings should incorporate to the extent possible standard purchasing of equipment, furniture, appliances, fixtures, etc. for all buildings in Master Plan. Each building should be flexible enough to respond to future changes in program, technology, types of learning, as well as changing research and academic priorities, without the need for extensive structural renovations.

V. LANDSCAPE AND OPEN SPACE

A. Enhance Campus Gateways and Campus-wide Landscape
• Campus entrances should be recognizable as such, and create a sense of arrival by using signage, landscaping, lighting and other site elements.
• Consider water features in the design of gateways and landscaped areas.
• Careful consideration should be given to preserving existing trees and enhancing the tree canopy on campus.
• Plantings should be aesthetically pleasing and include trees, as well as perennial shrubs and flowers.
• Crime Prevention through Environmental Design (CPTED) principles should be consulted when planning campus-wide landscaping.

B. Create a Range of Open Spaces

• Landscape designs should accommodate a range of different sizes, types of activities, and user groups.
• Large open spaces should be designed to accommodate student recreation and campus and community events.
• In addition to larger landscaped spaces for recreation or ceremony, smaller scaled gathering spaces should be designed for students and other campus members to meditate, eat, study or meet.
• Care should be given to the selection of exterior furniture that contributes to the visual appearance of public areas. These elements should be durable, relatively simple in style, comfortable, and consistent with the overall character of the landscape. Selection of outdoor furniture should also take into consideration the high-winds experienced on our campus.

C. Combine Visual Attractiveness and Functionality of Athletic Fields

• Enhance the visual attractiveness and welcoming character of athletic fields by incorporating landscape elements such as vegetation and site furnishings into the design.
• Athletic fields should physically connect to the broader campus pedestrian network through pathways and signage.

D. Define Entrances and Edges of Buildings

• Landscape design should help define entrances to buildings, as well as their site boundaries if appropriate, through pathways, materials, and plantings. Entrances, exits and routes to emergency assembly points should be included as part of the planning and signage for buildings.

VI. CAMPUS CIRCULATION

A. Enhance the Pedestrian Experience

• Create and maintain a hierarchy of walkways and paths that link open spaces on campus and provide a safe and accessible mode of travel to campus destinations.
Where possible, internal pedestrian walkways should connect to surrounding neighborhood walking paths and sidewalks making it easier for the public to access the campus.

- Walkways that intersect with roadways should be designed to promote safe vehicle and pedestrian circulation.
- Develop circulation system between buildings that is enclosed and weather-protected.

B. Wayfinding

- Outdoor open spaces should be easy to navigate and provide comprehensive, consistent, easy maintenance, high quality signage and maps for all types of visitors to find their way around campus to every destination.
- There should be consistent and easy to understand signage and numbering systems for buildings and rooms within them.
- The design and location of signage should consider its aesthetic impact on campus landscapes, open spaces, and buildings.
- Wayfinding signage should be reinforced through the use of paving materials, plantings, lighting.
- Emergency evacuation routes and assembly points should be included in both indoor and outdoor signage.

C. Design Multimodal Green Streets

- The streets should place pedestrians, bicyclists and transit users on equal footing with motor-vehicle drivers. This will improve the quality of life on campus by creating streets that are both great public spaces and sustainable transportation networks. Green streets will also embrace innovation to address climate change and promote healthy living.
- The needs of pedestrians, people with disabilities, bicyclists, transit users, and motor vehicle drivers should be incorporated into the design of campus circulation routes. Multimodal level of service (LOS) informs roadway design to ensure that streets are shared by all users and not dominated by cars.
- Incorporate street trees, rain gardens, bio-swales, paving materials and permeable surfaces, with plants and soils collecting rain water to reduce flooding and pollution. Green design elements promote an environmentally sensitive, sustainable use of the public right-of-way.
- Incorporate technology for applications such as intelligent signals, smart meters, electric vehicle sharing, car and bicycle-sharing, way-finding and social networks for greater system efficiencies and user convenience.

VII. SAFETY

- Buildings, landscapes and lighting should be designed to promote personal safety both inside and outside of buildings, following the principles of Crime Prevention through Environmental Design (CPTED)
• Landscape elements should avoid areas of concealment around building entrances, pedestrian walkways, and parking facility perimeters.
• New buildings should incorporate security and access systems and technology as specified by the university.
• Emergency evacuation routes and assembly points should be clearly marked.
• All digital signage and indoor speakers should be linked, via CAP-feed, to the UMass Boston Alert System.
• All safety initiatives should be ADA-compliant and take into consideration the needs of all occupants and potential visitors.
• Appropriate security measures, including cameras, alarms, and locking mechanisms, should be provided, in accordance with the campus-wide security and safety effort advanced by the Department of Public Safety.
• Special consideration should be given to the security of labs that do animal research.

VIII. ART

• Both buildings and landscapes should provide opportunities for art placement and appreciation.
• Artworks should be considered early in a project to accommodate appropriate views and seating.
• Artworks placed on the campus landscape should be carefully considered within the context of the specific site and its character and be complementary to surrounding buildings and architecture.
• Promote the campus as a major site and regional destination for public art in Boston.