



THE
FLAGSHIP
CAMPUS

Facilities Master Plan 2011-2030
Executive Summary

**A FIRST CLASS CAMPUS
FOR A WORLD CLASS UNIVERSITY:
AN ACADEMIC PARK IN THE CITY**



**Building for the Future,
Connecting to our Land,
our Heritage and our Neighbors**

The 2011-2030 Facilities

Master Plan offers a vision of a campus commensurate with the aspirations and expectations of a world-class research university. It sets forth guidelines for future campus development that are practical, appropriate and inspiring. Up-to-date technology and modern facilities will permit faculty and students to undertake creative work of the highest caliber in all disciplines. The campus itself will be the pride of the State of Maryland with great aesthetic appeal, full of intrinsic learning possibilities. The campus' large and beautiful grounds have served us well over the past 150 years. We envision a campus that will inspire future generations to new heights of achievement, continue to attract the best students and faculty, and become an even more welcome destination for the citizens of the State. Our aspiration is to build a green campus that is an oasis in an increasingly urban area, "an academic park in the city," green in the abundance of plants, trees, and open spaces that are a defining signature of the University of Maryland and green in its commitment to leadership in sustainability practices and environmental stewardship.

The land on which our campus rests is an invaluable resource. The strategies in the 2011-2030 Facilities Master Plan fully embrace our desire to conserve, preserve, develop and restore our land in the best interests of the University community, the citizens of the region, and the State and global environment.

The land is also limited in its extent, a finite space, challenged by growing and multiple demands for land use to meet the needs of a thriving research university. This Facilities Master Plan presents a long-range framework for responding to the increased needs of our educational and research missions through targeted and creative development and renovation of facilities.



Morrill Hall c.1900

The Flagship Campus

The University of Maryland is the Flagship Campus of the University System of Maryland (USM). Driven by an unrelenting pursuit of excellence, the University has enjoyed a remarkable rise in accomplishment and reputation over the past two decades. By any measure, Maryland is ranked as one of the nation's preeminent public research universities and among the world's best. Its influence is local, regional and international. The Flagship Campus is a major asset for the State of Maryland, educating the leaders, researchers, and entrepreneurs of tomorrow, providing a first-class education to generations of the most talented Maryland high school graduates, supporting key Maryland industries, and strengthening the State's competitive capacity.

The University of Maryland is located in the City of College Park, within Prince George's County. The campus is 30 miles west of Annapolis, 25 miles southwest of Baltimore, and 5 miles north of the border to Washington, D.C. The region's concentration of cultural, scientific, research, political, economic, and agricultural activities and facilities offers unique advantages to the University's academic and research programs.

The University of Maryland's main campus consists of approximately 13.5 million gross square feet (GSF) in 263 buildings on approximately 1,250 acres. With the inclusion of off-campus facilities, including leased facilities, the building inventory totals nearly 14.7 million GSF in 460 buildings on approximately 5,100 acres.

Projections of Future Growth

In accordance with the USM Strategic Plan and the State's goals to increase degree production and expand the economic base, the University System of Maryland intends to grow its student body and its research production significantly over the next decade. Meeting these goals at the University of Maryland will require additional faculty and staff. Hiring additional faculty and staff is dependent in turn on new resources from the State that may be available as the economy improves. These new demands call for a creative approach to multiple land uses and balance of new building construction as well as critical renovation of buildings and renewal of the physical plant.

Student Enrollment, Faculty, and Staff Projections

Consistent with the USM plan for enrollment growth and funding, student enrollment is projected to increase by 7% from 2010 to 2020, from a total of 37,641 to 40,145 over the decade. The data represent the campus' contribution to meeting the goal of having 55% of Marylanders have a college degree by 2025.

Faculty headcount from 2010 to 2020 is projected to increase by 6%, from 4,123 to 4,357. Staff headcount increases are projected to rise during the same time period by 15%, from 9,034 to 10,369.

Serious Space Shortfall

The University of Maryland has a strong research program, with \$427 million of external research grants won by faculty in FY 2011. Continued strength in our research program is vital to ensure the State's continued economic growth and international competitiveness.

Based on the application of the 1999 Maryland Four-Year Public College and University Space Planning Guidelines and calculations generated by the Space Guideline Application Program, the base year (Fall 2010) inventory reflects a total space deficit of 1.7 million net assignable square feet (NASF). All of the major room use categories (classroom, class laboratory, research laboratory, office, and study space) show deficits.

If the USM plan for enrollment and funding is implemented, the deficits are projected to increase during the 10-year period in all major room use categories totaling more than 2.7 million NASF. Approximately \$2.8 billion (2011 dollars) in capital funding are needed to alleviate the shortage. The deficit is equal to approximately 24 buildings. The research laboratory deficit is more than 40% of the campus-wide space deficit.



Space Shortfall

Fall 2010 space deficit is 1.7 million NASF or equal to the buildings shown around and near McKeldin Mall.

From 2010 to 2020 the deficit is projected to grow to 2.7 million NASF

All of the major room use categories (classroom, class laboratory, research laboratory, office, and study space) show deficits.

Failing Infrastructure That Threatens Our Aspirations

Facilities renewal and deferred maintenance requirements continue to have a major impact on our ability to meet our teaching and research mission and achieve University goals. Twenty seven percent (1,443,130 NASF) of UMD's state-supported space has not had major renovation for more than 40 years, and 16% (850,627 NASF) has not had major renovation for more than 50 years. Our deferred maintenance backlog is about \$750 million (2011 dollars). Deferred maintenance also contributes substantially to energy consumption and limits our ability to reduce our carbon footprint. Given that our buildings are aging, expending 2% of the building and infrastructure replacement value annually will help avoid increasing the deferred maintenance backlog.

The 2011-2030 Facilities Master Plan

The 2011-2030 Facilities Master Plan builds on the vision put forth in the 2001-2020 Facilities Master Plan and the advances that flowed from it in the last decade. The current plan continues and refines that vision and lifts the campus and facilities to a new level of beauty and function.

The 2011-2030 Master Plan incorporates and exploits new opportunities, such as the designation of the campus as an Arboretum and Botanical Garden, the establishment of the Purple Line light rail, and the East Campus Development Initiative. It also responds to challenges, including new state and federal regulations regarding stormwater and wastewater, demands for increased space based on specific mandates for expanded research activity and enrollment growth, and the need for an increase in recreational space for students.

This Plan is built on four strategic priorities: excellence, connectivity, stewardship and sustainability. The *commitment to excellence*

is the basis for planning at the University over the past two decades and remains the impetus behind the current document.

Connectivity — within the campus between its districts and communities, with the regional ecology, and to the surrounding neighborhoods — is a priority. The porous boundaries of the campus are reinforced in this plan that supports President Loh's initiative to build a dynamic and thriving surrounding community. An important commitment of this Plan is *stewardship*, the valuing and nourishment of the architectural, cultural, and environmental heritage that have determined the special character and sense of place of the University.

Leadership in sustainability is a campus-wide goal and a significant component of every section of the Plan. As sustainability continues to be defined and measured, the University can serve as a laboratory and model for best practices.

The Plan takes a holistic approach to the campus, looking at the multiple layers of land use: Arboretum and Botanical Garden, transportation systems, recreational spaces, and district build-outs. Consideration of the interactive functioning of these systems and uses is the basis for a cohesive, long-range plan for the development of our valuable physical resources.

Future development sites have been identified that could accommodate an additional 7.1 million GSF of new construction on the main campus. Although the program demands for the 20-year period can be met on the main campus land, sites for new facilities are located further from the Campus Core. As opportunities exist, University functions that can be located on campus edges and peripheral properties should be examined to keep the concentration of student and academic functions as close to the Campus Core as possible.



ADMINISTRATION



Physical Planning Principles

Strategies, recommended actions to meet the goals, and proposed development projects are guided by twelve planning principles that were established in the 2001–2020 Facilities Master Plan, embraced, and updated in this plan.

Support the Institutional Mission.

The land and other physical resources of the University of Maryland campus will be used to support the University’s mission and programmatic needs and help achieve its strategic plan and academic aspirations.

Practice Environmental Stewardship in Landscape Design and Maintenance.

The campus plan will protect and enhance existing natural environments (woodlands, wetlands, and floodplains) and create connections with adjacent habitats; new development will be guided by principles of smart growth and environmental stewardship.

Enhance Environmental Performance of Buildings and Utilities on Campus.

Long-term environmental and economic sustainability will continue to be primary goals in the planning for new facilities, renovation of existing buildings and (the location of) supporting utilities and infrastructure. LEED silver certification will remain the campus’ minimum standard for new construction and major renovation; facility siting and development will maximize solar orientation and natural lighting, maximize energy efficiency, incorporate smart energy technologies, and minimize natural resource depletion and environmental degradation.

Encourage the Use of Transportation other than Personal Vehicles.

Plans for development will reduce the number of automobiles on campus and encourage alternative modes of transportation — shuttle busses, bicycles, new light rail or Metro in order to minimize vehicular congestion and support the Climate Action Plan and campus sustainability priorities.

Increase the Access and Appeal of the Campus for Pedestrians.

Campus planning will encourage pedestrians to move easily and safely across the campus through appropriate design in and between campus areas and careful management of vehicular flow.

Strengthen Community Relations.

Planning and design patterns will strengthen connections to the surrounding neighborhood communities and ensure the campus is an important and attractive destination for residents of the region and all citizens of the State.

Create an Attractive, Coherent Design for the Campus.

Circulation patterns, a landscape framework, an open space network, and prescribed building placements will connect the spaces, corridors, and districts within a unified campus setting. The coherent campus design will recognize and reinforce natural environmental patterns, campus planning traditions, and neighborhood organizational patterns, and increase operational effectiveness.

Achieve Appropriate Development Patterns.

Strategies for long-term development, land use, redevelopment

and renovation will balance available land and financial resources effectively. Projected development patterns will emphasize appropriate building densities and configurations, e.g. compact or spread out, that accommodate goals such as walkability, connectivity, community, and campus carbon neutrality.

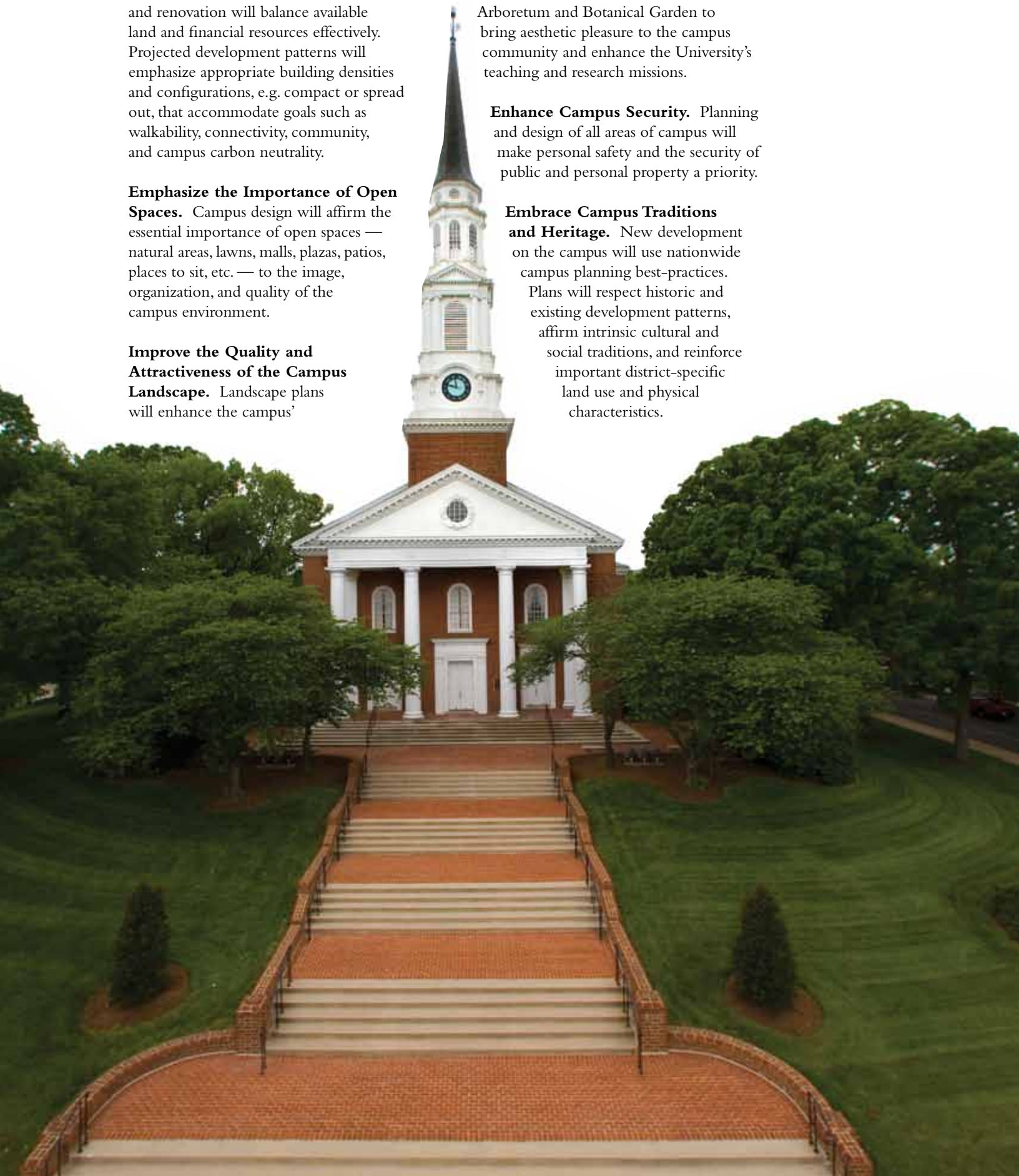
Emphasize the Importance of Open Spaces. Campus design will affirm the essential importance of open spaces — natural areas, lawns, malls, plazas, patios, places to sit, etc. — to the image, organization, and quality of the campus environment.

Improve the Quality and Attractiveness of the Campus Landscape. Landscape plans will enhance the campus'

Arboretum and Botanical Garden to bring aesthetic pleasure to the campus community and enhance the University's teaching and research missions.

Enhance Campus Security. Planning and design of all areas of campus will make personal safety and the security of public and personal property a priority.

Embrace Campus Traditions and Heritage. New development on the campus will use nationwide campus planning best-practices. Plans will respect historic and existing development patterns, affirm intrinsic cultural and social traditions, and reinforce important district-specific land use and physical characteristics.



The Plan

The Facilities Master Plan 2011–2030 focuses on both the campus as a whole and on its components in order to strengthen the sense of community, the effective functioning, the aesthetic impact, and the future development of the physical campus as a home to a major research university. It offers plans to support the University's position as a leader in sustainability and foster its distinction as a university arboretum; integrate pedestrian, bicycle, and public transportation systems; build connectivity across a sprawling campus of districts and neighborhoods; and enhance the connectivity between the campus and the surrounding communities.

Three global issues receive special emphasis in this plan: Environmental Stewardship and Sustainability, Landscape Design and Land Use, and Vehicular and Pedestrian Circulation Systems, with goals and recommendations for each.

1. Environmental Stewardship and Sustainability

For the past decade the University of Maryland has been recognized for its leadership in environmental stewardship and sustainability. Its goal is to meet and exceed pertinent regulations governing the environment and to aim for the strategic goal of carbon neutrality. Projects and activities are designed to educate students, faculty, and staff and encourage a paradigm shift in the behavior and attitudes of members of the University family. The goals and recommended actions promote sustainability in all facets of University life, emphasize control of carbon emissions, and fully support regional efforts to maintain low levels of pollutants in the water and air.

Representative goals and recommended actions:

- Conserve and manage water use and wastewater efficiently.
- Decrease the amount of impervious surfaces on campus and incorporate

stormwater management technologies and strategies into landscape design.

- Promote and educate campus users on sustainable practices.
- Build and outfit buildings according to high LEED standards and best practices for sustainability.

2. Landscape Design and Land Use

The campus was designated as an Arboretum and Botanical Garden in 2008, and the University has used this special opportunity to create a comprehensive plan for the entire campus. The landscape defines the campus as a unique and attractive place for students, faculty, staff, alumni, and visitors. The visual images of iconic landscape settings – the white oak on the Chapel Lawn, the willow oak allées on the McKeldin Mall, the Wooded Hillock, the Garden of Reflection and Remembrance, and myriad other settings – form a common bond for all those who have made the campus their home. The aim of this plan is to organize landscape and carefully designed open space, together with campus architecture, in ways that promote community and social interaction, facilitate outdoor learning, contribute to the regional environment, and provide spaces for recreation. The existing and proposed gardens, urban forest canopy, natural forest stands, protected streams, and pedestrian walkways will increase the aesthetic appeal of the campus and preserve the campus as an oasis of green in a complex urban environment.

Representative goals and recommended actions:

- Plan the campus around a series of open spaces connected by green pedestrian corridors and links.
- Extend the urban tree canopy connections.
- Add to and highlight the Arboretum and Botanical Garden collections.
- Increase the space for recreational opportunities by creative and layered land uses.



- Establish well-defined campus edges and enhance campus gateways to announce arrival at the University.

3. Vehicular and Pedestrian Circulation Systems

The University of Maryland is an urban campus with students, faculty, and staff who live both on campus and throughout a large metropolitan area. As a result, the University requires a multi-modal system of vehicle and personal circulation systems for those who need to access the campus and to move across it. Safe, pleasant, and efficient ways to move around the campus are a priority. Equally important is the integration of campus systems with the transportation systems that serve the neighborhood and surrounding communities. This plan calls for universally accessible walkways, campus roads, and transportation systems that create a positive experience for pedestrians, bicyclists, and those using scooters, motorcycles, or other motorized vehicles.

Representative goals and recommended actions:

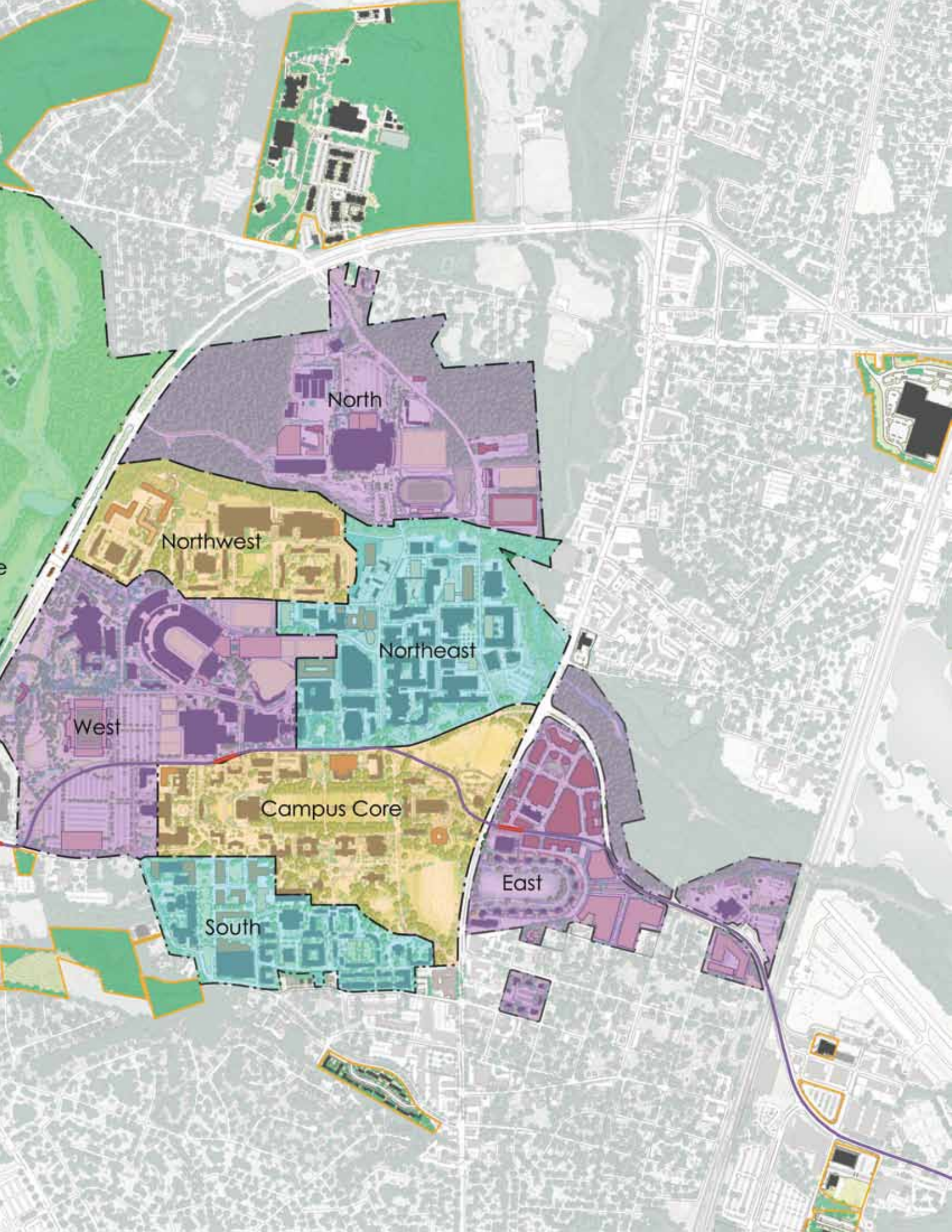
- Increase the opportunities and awareness of alternative ways to travel to the campus.
- Link the campus transportation system to surrounding neighborhoods and to surrounding regional transportation systems.
- Support a Purple Line alignment and location of stations which facilitate connectivity on campus, encourage use of multi-modal transportation, and serve the highest campus population.
- Significantly improve opportunities for bicyclists to commute to and transverse the campus and increase the amenities for bicyclists throughout campus.
- Create a network of pleasant pedestrian walkways that link all areas of campus.
- Redesign parking lots, sidewalks, and roadways to improve the safety, access, and comfort of pedestrians and bicyclists.
- Support a high-quality Shuttle-UM system that provides service to and across campus.

District Build-out

The development of individual districts within the campus is the core of the plan, with build-out scheduled to follow the pattern set forth in the 2001-2020 Facilities Master Plan: academic and residential buildings surrounding open spaces and linked to the Campus Core by pedestrian corridors.

All capital improvement projects are organized within eight districts. Additionally, the building program is broken into two phases: Planning Period 1 (2011-2020) and Planning Period 2 (2021-2030). A framework plan for the period beyond 2030 has also been established to protect important long-range thinking for the maximum development of the campus. The goal is to strengthen existing campus spatial relationships as new development is required.





North

Northwest

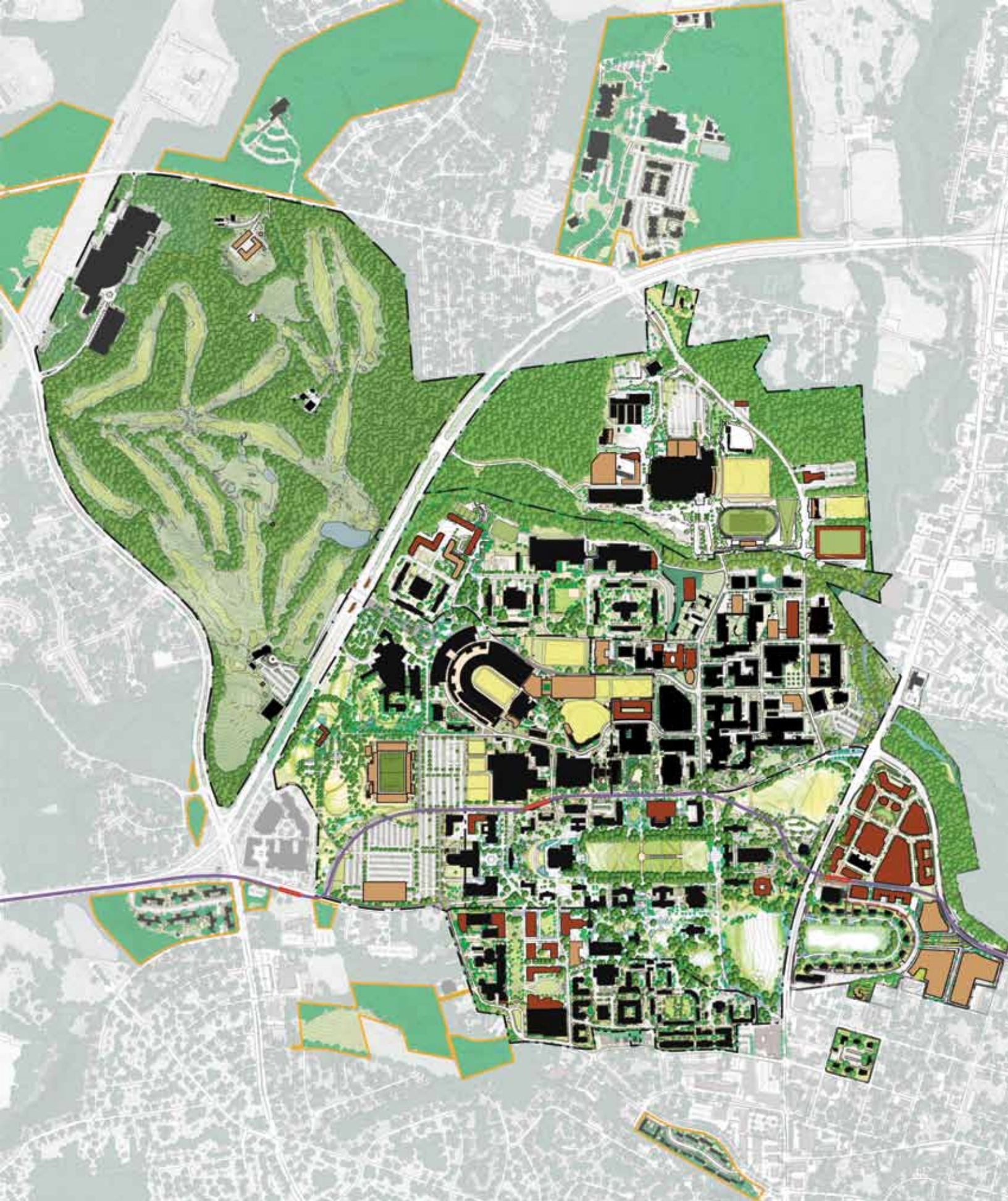
Northeast

West

Campus Core

South

East



660 ft 1,320 ft
1/8 mi 0 1/4 mi



Key Features of the Plan

Construct critically needed buildings and other facilities in ways that follow smart growth and make the most efficient use of the limited land.

Planning Period 1 (2011-2020): 4.2 million GSF

Planning Period 2 (2021-2030): 3 million GSF

Develop a rational transportation network that connects to the larger regional network:

- Integration of public transit, Shuttle-UM and Purple Line light rail system.
- Reduction and limitation of vehicular congestion on and around campus and creation of a more pedestrian and bicycle friendly campus.

Expand and nurture the Arboretum and Botanical Garden:

- Enhancement of urban tree canopy, open spaces, and gardens.
- Emphasis of the park-like atmosphere of the campus.

Support a model green campus that leads in sustainability of all natural resources.

LEGEND

- EXISTING ● PLANNING PERIOD 1 ● PLANNING PERIOD 2

Major Projects Completed Since Last Plan



Comcast Center



Chemistry Teaching Building



Stamp Student Union Renovation



Jeong H. Kim Building



Riggs Alumni Center



and Moxley Gardens



Washington Quad



Tawes Hall Renovation



Mayer Mall



John S. and James L. Knight Hall



New Student Housing



Garden of Reflection and Remembrance



Peace and Friendship Garden



Important Future Projects

- Facilities Renewal
 - Underground Infrastructure Replacement and Building Systems Renovations
- Physical Sciences Complex
- Edward St. John Learning and Teaching Center
- East Campus Development Initiative
- Bioengineering, Biosciences and Research Support Facilities
- New Residential Housing

Implementation

Planning is an ongoing process. Any planning document should be viewed as a snapshot of the institution, capturing a particular moment in time. The plans, principles, and projections must be continuously and systematically reviewed and updated. In the future, the University administration will adjust the plan in response to new issues or programmatic changes.

This Facilities Master Plan is flexible and general in its scope. It is not a detailed implementation, operations, logistical or budgetary blueprint for projects. Time required for full realization of the Facilities Master Plan will be determined separately as a result of annual reviews of the capital budget process. The University will continue to improve and refine the Master Plan as a community-wide effort. As projects are carried out, University planners will be guided by the spirit and the vision of this plan with its emphasis on creating a place of natural and architectural beauty, collegiality and community, and utility. In implementing the vision of a modern first-class university campus, planners will be expected to balance a variety of complex systems and their interactions in a manner that takes into consideration special concerns of all members of the University community. The coordinating agency for the Facilities Master Plan is the Department of Facilities Planning.

The current fiscal constraints on the University constitute an overarching challenge. Many of the projects will be implemented slowly over time as funding allows. Partnerships will be sought with private entities and city, State, or federal agencies for funding of some goals. Transportation projects such as parking garages will likely require some selected increases in parking fees or the acquisition of grants. In addition, opportunities will be expanded for alumni and friends to leave their personal mark on the University by their support and contributions for trees, shrubs, flowers, outdoor furnishings, irrigation systems, gateway enhancements, and any other projects that add to the beauty and function of their alma mater.



Oehme, van Sweden &
Associates, Inc
Landscape Architects

For a detailed look at the
Facilities Master Plan 2010-2030 go
to www.facilities.umd.edu/masterplan

Photo credits: UMD Staff
(John Consoli, Luis Alfonso,
and Sam Bahr) and Worrell
Water and Living Machine.

Rendering credit:
Design Collective

