

LANDSCAPE **TYPLOGIES** + STANDARDS

Office of the Architect, University of Virginia 2011
updated 2024

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INTRODUCTION

At the University of Virginia, Thomas Jefferson created an icon of American campus planning, a village of modest buildings set around the perimeter of a green commons of grass and trees, open to west facing mountain views and incorporating new ideas of pedagogy. The power of this special place derives from the seamless integration and balance of architecture and landscape. Over the ensuing years, the Grounds have expanded from a forty-acre village to a small city of over 1,100 acres, containing a rich mosaic of landscape spaces varying in character and size from urban plazas to cloistered garden courtyards to rooftop terraces and connecting corridors.

Jefferson's utopian vision is a legacy that requires stewardship of the landscape of the University. As the University continues to expand the academic and support facilities needed to serve future generations, this document has been developed to articulate the special qualities of general landscape categories - or typologies - and provide some material standards appropriate to each, as a means to encourage ingenuity and diversity while preserving continuity with existing landscape contexts.

PRESERVED LANDSCAPES

Natural/ Undisturbed

Natural landscapes are those that have not been disturbed in significant time and have matured into a stabilized forest or wetland habitat. For example, Observatory Hill is an upland forest with mature trees of oak and hickory and understory of mountain laurel and highbush blueberry. This woodland is important as it protects water quality in the upper reaches of the Meadow Creek drainage basin and provides wildlife habitat. Moreover, the preservation of existing mature tree canopy in these woodlands contributes to the University's carbon footprint reduction. The University seeks to protect the remaining woodland, by not allowing development on any undisturbed portion.

MATERIAL STANDARDS (see Appendix)

Lighting

Usually None;
If required, Bega wedge pole standard

Paving

Mulch if trails are needed

Plantings

Plants native to immediate area



The University of Virginia contains a number of landscapes that are to be preserved for their historic or environmental significance. These landscapes are to remain intact and undisturbed; any adjacent development should be sensitive to the existing context.

Historic

The University of Virginia Grounds contain a number of historic landscapes requiring preservation. These landscapes include not only the Lawn and Pavilion Gardens but other significant landscapes identified in the Historic Preservation Framework Plan. Any modifications to these landscapes should be designed to preserve historic fabric and character. Historic plans and photographs should be consulted during the design process. For landscapes listed as “Fundamental” or “Essential” in the Framework Plan, Cultural Landscape Reports should be prepared. On a case-by-case basis, archaeology may be required prior to construction.

MATERIAL STANDARDS (see Appendix)

Lighting

Edgewater or ELA globe pole fixtures or Hevilite path lights

Paving

Predominantly brick; however, matching existing historic paving where appropriate

Landscape amenities

Traditional selections from material standards palette or match existing plans where available

Plantings

Follow original plans where available; otherwise, utilize species appropriate for era; dwarf selections desired where safety/security is an issue



NATURALISTIC LANDSCAPES



Naturalistic landscapes are those that are purposefully designed and maintained in a state that emulates native habitat while adapted to the functional requirements of a University setting. Such landscapes offer an alternative to more formalized public landscapes and provide biodiversity and habitat for a variety of species. Naturalistic landscapes are appropriate for development of stormwater management facilities and where a project is adjacent to a natural or undisturbed area, such as Observatory Hill. Safety and security issues must be accommodated if naturalistic landscapes are designed for human access.

Stream/ Wetland

Streams, wetland and bioretention landscapes, such as at the Dell and Ivy Corridor, are appropriate for low-lying areas to provide stormwater management, water quality treatment, wildlife habitat as well as daytime public enjoyment/use. Plantings should be low-maintenance species that are native to a mesic environment. Consideration should be given to plants that benefit wildlife and provide ornamental interest for visitors. Although designed as a naturalistic landscape, safety & security consideration needs to be given for daytime visitors to such spaces; dead ends and hiding places are to be avoided.

MATERIAL STANDARDS (see Appendix)

Lighting

If required, Bega pole standard for natural areas

Landscape amenities

Hyde Park teak bench
Gretchen picnic table
Victor Stanley Ironsites waste receptacles

Plantings

Will consist largely of native species that are low-maintenance and durable



NATURALISTIC LANDSCAPES

Woodland + Grove

Woodland and groves are naturalistic landscapes inspired by native forests but managed to accommodate use and enjoyment by the University community. They are particularly appropriate landscapes where a site is adjacent to a natural area, such as Observatory Hill, or where an informal landscape in the shade of a high canopy is desired. Woodlands contain a diverse native species palette whereas groves are more open, cultivated areas with widely scattered high-canopy shade trees, of fewer species and turf grass or groundcover. Plantings for woodlands are to be comprised of canopy and understory trees; tough groundcovers and mulch. Drifts of shrubs are acceptable so long as they do not create hiding places or are so dense and extensive as to be perceived as a dangerous area. Shrubs adjacent to paths or seating areas must be low-growing.

Safety and security is paramount, especially for woodland landscapes and especially near residence halls. Paths are to be adequately lit and designed to lessen contrast of lit and unlit areas. (In some cases, judiciously placed pole fixtures can be located within woodlands.) Major pathways through woodlands or groves will be lit.

MATERIAL STANDARDS (see Appendix)

Path Lighting

Woodland: Bega wedge pole standard
Grove: Edgewater if in historic or urban area; otherwise, Bega wedge pole standard

Paving

Dependent on context;
concrete, brick, asphalt, stone dust

Landscape amenities

Hyde Park teak bench
Gretchen picnic table
Victor Stanley Ironsites waste receptacles

Plantings

Woodland: low-maintenance native canopy + understory trees, native shrubs + groundcover
Grove: high-canopied shade trees & lawn



Informal Trails, Paths + Passive Recreation

Informal paths and areas for passive recreation can be integrated into naturalistic landscapes, as exemplified by the trail around the pond at the Dell and the nearby open grass areas along its restored stream which are used for picnics, frisbee, and pick-up football. The intention of such landscape features is to provide access to natural areas for individuals and groups as an alternative to more formal and urban places. Path materials can vary but should blend into a natural setting.

MATERIAL STANDARDS (see Appendix)

Lighting

If required, Bega pole standard for natural areas

Paving

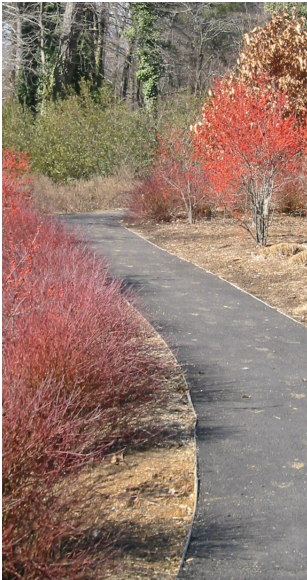
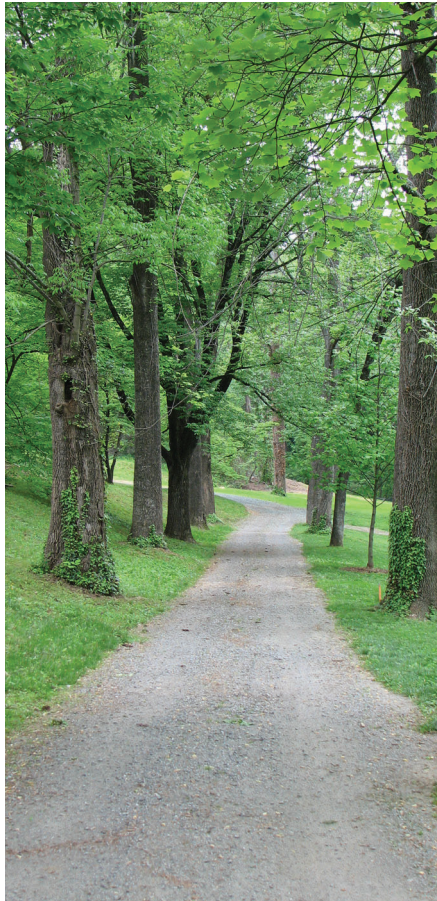
Asphalt, concrete, flexipave, stone dust, mulch

Landscape amenities

Hyde Park teak bench

Gretchen picnic table

Victor Stanley Ironsites waste receptacles



PUBLIC SPACES

Streets/Pedestrian Corridors

Pedestrian corridors are connections that accommodate those walking or biking (and occasional service/emergency vehicles, not regular vehicular traffic or transit); streets allow for transit only or transit and vehicles. Both streets and pedestrian corridors are to be designed with generous walking zones. Paving materials will depend upon context. For example, brick will be used for pedestrian corridors in historic areas and concrete largely elsewhere; but porous pavers, brick and concrete combinations as well as asphalt pavers may be used, depending upon application, context and approval by University Landscape Architect. Bike zones may be integrated into walking areas provided enough room is available for bikes and pedestrians to co-mingle safely. Designated bike zones within pedestrian areas encourage speeding and entitlement and are therefore discouraged. Bike lanes should be accommodated within streets, unless streets are limited access. Trees will be planted in tree lawns or pits detailed to optimize root growth and drainage. Drive lanes will be adequate for transit buses; 12' is optimum.

MATERIAL STANDARDS (see Appendix)

Lighting

Edgewater for Primary Paths
Bega wedge pole standard for Secondary Paths

Paving

Dependent on context and function; brick, concrete, asphalt pavers, permeable concrete pavers, asphalt

Landscape amenities

Traditional or contemporary standard selections depending on context

Plantings

High-canopied, urban tolerant, non-invasive shade trees



A University campus is composed largely of public spaces- those that are places and those that are corridors that link destinations. Exterior public places for gathering and interaction are important organizational and social elements of a campus. Successful public places are defined by edge elements, such as buildings, walls or corridors and are inviting and usable. Corridors and streets provide connection between public places for pedestrians and cyclists and may accommodate transit and vehicles. Accommodation of pedestrians, cyclists and transit is of highest priority; a street or corridor must be designed to be a safe and pleasant experience for those who walk and bike.

Plazas + Quadrangle

Plazas and quadrangles are outdoor hubs that provide space for seating, socializing and studying. They often are also important intersections of pedestrian routes, needing to accommodate a wide variety of movement and direction. It is therefore important to anticipate pedestrian movement and make sure these are accommodated with appropriately aligned paved surfaces. Plazas are largely paved with judiciously located planters or tree pits to provide shade and ornament. The use of permeable paving for stormwater benefit and integration of cisterns for storage of non-potable water for irrigation is encouraged wherever feasible. Planters and tree pits must provide for optimal root growth and drainage and sized according to what plants they will contain; planters should be irrigated. As most plaza vegetation occurs in planters, plants must be specified that are tolerant of containerized culture and urban settings. Plazas may be either traditional or contemporary in appearance, depending on location and context. Quadrangles are typically found in the historic areas of Central Grounds where outdoor spaces are framed by buildings on three or four sides. Trees for quadrangles will be large, non-invasive shade trees of proven durability. Both plazas and quadrangles will provide seating areas and landscape amenities such as waste and recycling containers.

MATERIAL STANDARDS (see Appendix)

Lighting

Plaza: traditional or contemporary standard, depending on context;

Quadrangle: Edgewater

Paving

Plaza: concrete, brick, concrete permeable paver or asphalt pavers, depending on context;

Quadrangle: brick for traditional areas; concrete for contemporary

Landscape amenities

Plaza: traditional or contemporary standards, depending on context;

Quadrangle: traditional selections from material standards palette

Planting

Plaza: urban tolerant, non-invasive trees;

Quadrangle: high-canopied, non-invasive, durable shade trees



PUBLIC SPACES

Public Green

Public greens are less formal and urban than quadrangles and are typified by wide open sweeping expanses of lawn edged with shade trees and walks. Public greens provide open space for informal gathering, picnicking, passive recreation and study. Examples include the Brooks Hall triangle and the green outside of Observatory Hill Dining Hall. Often, public greens are not level, but slope gently or form grass bowls. Seating is best located at the edges of public greens, so as not to obstruct wide open views of green. Plantings at the edges of public greens will be predominantly a diverse shade canopy with some understory trees for ornament. Where irrigation of lawn grass is sometimes necessary, irrigation from non-potable cistern sources is highly encouraged.

MATERIAL STANDARDS (see Appendix)

Lighting
Edgewater

Paving
Brick for traditional areas; concrete for contemporary

Landscape amenities
Traditional selections from material standards palette

Plantings
Durable, non-invasive shade trees and understory ornamental trees; lawn



Active recreation/athletic fields

Sports are an important part of University life. While varsity sports are best accommodated in large complexes, intramural recreation can be accommodated throughout a University campus rather than located remotely. Sports fields can provide long views to buildings and landscapes as well energize an area with a variety of popular sports. The courts and/or fields themselves should be designed to optimize performance in the specific sports that will be played in the area. Athletic fields should be designed to include areas beyond the actual play field, including walkways to and from, integral seating and gathering spaces. Plantings should reinforce the structure of the field and its amenities for visitors and will include low-maintenance shade trees and shrub plantings. Evergreen trees are inappropriate due to their year-round dropping of leaves and needles. Examples of intramural fields integrated into the University's landscape include Madison Bowl and Lambeth Colonnades, and the Park.

MATERIAL STANDARDS (see Appendix)

Lighting

Other than field lights, Bega wedge pole standard for secondary paths

Pathway Paving

Concrete or asphalt

Landscape amenities

Traditional or contemporary selections from material standards palette, depending on context

Plantings

Low-maintenance, non-invasive shade and understory ornamental trees; lawn



REFUGE + RETREAT

Gardens + Courtyards

Gardens and courtyards provide small-scale, secluded outdoor spaces for individual study, private conversation, small class gatherings and social events. Gardens are more informal in layout, and are more horticulturally intensive, with benches for seating. Courtyards typically have more extensive paved surfaces, usually in the form of a central space. Plantings, while ornamental, are used at the edges as a green border, and in containers for emphasis. While a garden will have a variety of plant species and types, a courtyard will have less diverse and numerous plantings. Trees may enforce the geometry of the courtyard with shrubs, groundcover and limited annuals helping to further define the space. Lighting is often provided by building-mounted or path lights. Where free-standing fixtures are needed, scale should be considered in the fixture selection. Integration of cisterns into the design is highly encouraged to provide a non-potable water source for irrigation.

MATERIAL STANDARDS (see Appendix)

Lighting

Garden: path light or globe
Courtyard: globe or Edgewater

Paving

Garden: brick or stabilized aggregate
Courtyard: brick or bluestone

Landscape amenities

Traditional or contemporary selections from material standards palette depending on context

Plantings

Garden: Non-invasive, low-maintenance ornamental trees, shrubs, groundcover, perennials, annuals and bulbs
Courtyard: Non-invasive, durable trees of appropriate scale, ornamental, low-maintenance shrubs and groundcover



University campuses are energetic and populous places with dynamic public spaces. Within these settings, however, it is important to provide more intimate outdoor spaces for reflection and retreat for individuals and small groups. Gardens and courtyards can provide this space for the benefit of the University community. Due to the higher maintenance required for such spaces, they should be limited in number and judiciously located across Grounds. The Pavilion Gardens provide the most iconic example of the refuge/retreat setting.

Landscape on Structure



Building roofs provide opportunity to maximize outdoor space while also benefitting stormwater quality and quantity and mitigating the heat island effect. Where possible, rooftop gardens should be integrated into a building's design, thereby providing exterior garden space for the enjoyment and benefit of building occupants and visitors. Intensive roof gardens will be composed of areas for seating and gathering and planted areas. Planters will need to be irrigated, preferably by non-potable sources, and contain growth media specifically designed for intensive green roofs. Roof gardens may contain areas of extensive or semi-intensive planting, especially where roof loading is an issue. Extensive plantings will be integral, a minimum of 4" in depth, and be comprised largely of sedums of proven success in the mid-Atlantic region in a growth media designed specifically for extensive systems. Lighting will largely be provided by building mounted or in-wall lights appropriate to the building's design. Plants that provide year-round interest, are not invasive and have wildlife habitat benefit are desired. Seating, tables and other landscape amenities will be appropriate to the building's design. Shade structures are important to design with the project as it is structurally and financially challenging to add later.

MATERIAL STANDARDS (see Appendix)

Paving

Concrete pavers, typically a pedestal system

Landscape amenities

Contemporary or traditional selections from material standards palette

Planting

Use only plants that are low-maintenance with proven success on a rooftop environment, either extensive, semi-intensive or intensive systems



APPENDIX: MATERIAL STANDARDS

Waste Receptacles

Throughout the majority of Grounds, waste receptacles need to be sturdy and functional- heavy enough to deter theft and other mischief and with sufficient capacity to meet demand. More lightweight, modern versions are appropriate for limited areas of contemporary landscapes associated with a building plaza. Waste receptacle materials are metal, steel or aluminum, and will contain considerable percentages of recycled content.



Traditional, Victor Stanley Ironsites, tavern square green



Contemporary, Landscape Forms Petoskey, mercury

Lighting, paving, bollards, waste receptacles, bike racks, tables with chairs and benches are important components of a University's landscape by way of providing critical functions such as illumination and waste disposal as well as amenities such as seating. Paving, bike parking, bollards and walls play functional roles for operations and maintenance while enhancing the appearance of a landscape. It is important that landscape components such as these are consistent throughout Grounds so that the University has a coherent material palette, rather than one that differs from building to building, project to project. At the same time, it is useful to establish a palette of materials for contemporary landscapes and another palette for traditional and historic landscapes. It is important that the transitions between are carefully considered to avoid odd contrasts of materials.

Recycling Receptacles

Recycling containers for metal, glass and plastic need to be dispersed throughout Grounds in association with waste receptacles to maximize the amounts of recycled content collected from the waste stream. In general, recycling receptacles throughout Grounds will be of durable steel construction. Lighter, aluminum containers are acceptable for limited areas of contemporary landscapes associated with a building plaza. All containers will be clearly labeled as to desired content: metal, glass and plastic (comingled). Recycling receptacles materials will contain considerable percentages of recycled content.



Contemporary, Landscape Forms Petoskey, mercury



Traditional, Victor Stanley Ironsite, tavern square green

MATERIAL STANDARDS

Picnic Tables

Picnic tables offer individuals and groups a place to sit, eat, work and collaborate. It is important that picnic tables are ADA accessible. Natural, wooded or grove areas allow for a more informal style of table while urban, terraced or paved areas allow for a more formal style. Tables should avoid being placed in turf areas as this results in a maintenance burden. Paved surfaces or mulch areas are acceptable for table placement. Wood surfacing tends to be cooler but can be subject to staining and may require sanding over time. Metal surfacing tends to absorb heat so a medium to light grey color is recommended.



Urban, Landscape Forms Charlie table, mercury



Urban, Landscape Forms Mingle table, mercury



Informal, Landscape Forms Gretchen table, ipe wood, mercury



Marneaux top table, Landscape Forms, mercury base

Tables and Chairs

Groupings of tables and chairs provide versatile seating for groups and individuals, for eating, meeting, study, work. Tables and chairs must be durable and not too lightweight, otherwise such outdoor furniture risks unintended relocation, storm damage, vandalism and theft. Square tables have the advantage of being able to be set side by side for a larger group. It is preferred for tables and chairs to not be fixed to allow for versatility. However, when an umbrella is used with a table, the table must be fixed for stability. Easy cleaning surfaces such as resin or metal are designated as opposed to wood. To avoid uncomfortable hot surfaces, metal tables should be light gray or of similar reflectance. Umbrellas should match table finish.



Neoliviano 24" bench, thermally modified ash



Landscape Forms umbrella, Cygnus, perforated metal, mercury



Landscape Forms Chipman table and chairs, mercury



Landscape Forms umbrella, Disc, mercury

MATERIAL STANDARDS

Benches

Benches provide opportunities on Grounds for students, staff and visitors to rest, read, eat and/or converse. Such activities enliven and energize outdoor spaces and are important components of places, as well as paths. Wood from sustainably harvested sources will be the primary material for University benches. Unlike metal, wood maintains a more constant and comfortable temperature. In general, teak traditional benches with backs and arms will be used throughout Grounds. More contemporary benches without backs or with metal arms and legs may be used for contemporary landscapes associated with a contemporary building or in a more urban setting. Benches will be fastened securely to paved surfaces with exceptions made for garden areas where they may be secured with duck-bill anchors.



Traditional, Victor Hyde Park bench by Kingsley-Bate, sustainably harvested teak



Contemporary, Palisade by Landscape Forms, thermally modified ash



Contemporary, Neoliviano by Landscapae Forms, thermally modified ash

Bike Racks

Providing sufficient and functional bike parking is an important goal for the University to encourage alternate means of transportation and reduce greenhouse gas emissions. Bike parking needs to be conveniently located to destinations but should not be located so that bike routes conflict with pedestrian routes. Durable surface-mounted hoops are the University's standard, set a minimum of 24" apart with a desired spacing of 30". Black, powder coat painted hoops will be used generally but stainless or powder coat silver hoops may be used in limited areas associated with contemporary landscapes.



Traditional, 2" diameter galvanized steel pipe Bike-Arch, surface mounted, black thermoplastic coat



Contemporary, Dero heavy duty hoop, stainless or powder coat silver

MATERIAL STANDARDS.



Poured concrete with Canvas colorant by Soloman, joint sealant Sikaflex capital tan



Bluestone pavers, thermal finish



Brick pavers, 4x8 modular Pinehall, flash range

Paving

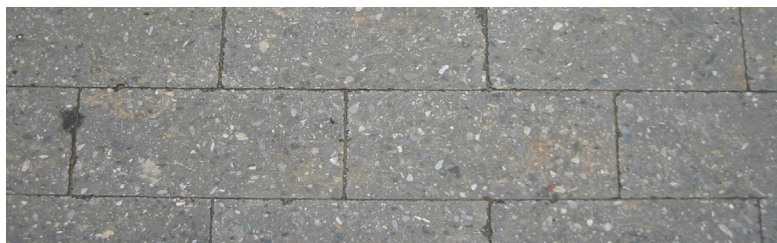
The University has a wide variety of paving materials used for pedestrian areas. Brick and thermal surface bluestone are used primarily in historic and garden areas in Central Grounds while tinted concrete is used predominantly in West and North Grounds and the Health System. Bluestone pavers are an appropriate way to emphasize a special zone, such as a courtyard or building entry. Sandstone has occasionally been used as a paved surface with brick as banding or edging. Concrete pavers can be used on roof decks or for contemporary landscape paving. Asphalt pavers are a versatile paving system that can be applied to pedestrian and vehicular drop-off areas alike. Other paving materials may be considered at specific buildings if there is justification. Permeable paving systems for large areas should be implemented where possible to benefit stormwater management or for providing underground cisterns for a non-potable irrigation source. Pavers that contain recycled content are encouraged. Addastone Resin Bounded Surface System is an attractive, durable treatment for areas that would otherwise be paved in asphalt. This system is currently deployed in the Pavilion Alleys. Flexipave is an appropriate pedestrian surface for natural areas, parks and picnic areas.



Addastone Resin Bounded Surface System. Above picture taken after rain in Poe Alley.



Concrete Pavers for roofs and decks, Hanover Prest roof paver



Asphalt Pavers



Flexipave

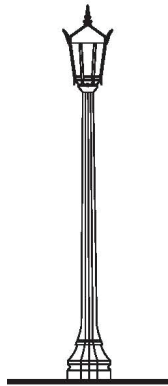


Permeable Pavers, Aquapave Holland paver, Desert Blend

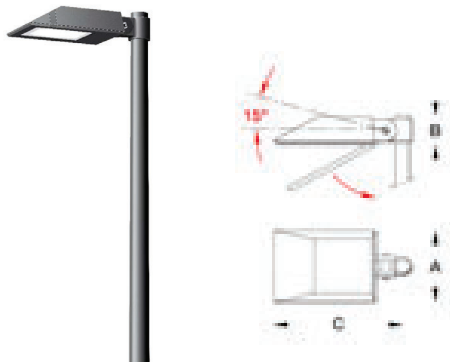
MATERIAL STANDARDS



Parking/Roadway, Philips Garco GL 18 LED Gullwing
20' height typ., dark bronze finish



General Path Lighting, King Edgewater K-56 metal halide or LED luminaire on 12' cast aluminum or cast iron octagonal pole, Rookwood shutter green, pebbled lenses



Secondary Path Light/Natural Areas/Observatory Hill, Bega LED pole top
14' height typ., dark bronze finish



Traditional, small-scale, paths and gardens, ELA UVA cast aluminum pole and globe, metal halide, Rookwood shutter green, frosted globe



Contemporary handrail light, Klik LEDpod



Step Light, Winona LED Step03, black or brushed stainless steel trim finish



Non-architectural building mounted, Philips Garco 121 LED sconce with motion response, dark bronze or silver finish



Contemporary plaza, Bega metal halide or LED pole top with indirect cutoff optics, standard silver finish



Path light, solid brass LED HeviLite, dark bronze finish



Bollard (limited use), Philips Gardco bevel top LED, dark bronze or silver finish



Bollard (limited use), Bega shielded LED, dark bronze finish

Lighting

The University has an established palette of exterior lighting standards for various applications. Primary path lighting is generally provided by “Edgewater” style fixtures: cast aluminum, octagonal poles and luminaires that are based on a fixture present on Grounds from the 1930’s.

Secondary paths where the signature Edgewater pole is not warranted may be lit by the Bega LED pole top. Natural areas and the Observatory Sensitive Zone will use this same fixture.

Where a smaller-scale fixture is needed in historic areas or gardens, the globe fixture is used. This is a fixture also based on an historic one used in the Academical Village and along McCormick Road in the late 1800’s.

For parking lots and roadways, the simple, full cut-off Gardco LED Gullwing post fixture will be employed. Contemporary plazas associated with modern buildings may use the Bega round-top pole fixture.

Path lights may be used in limited garden applications.

Bollard lights may be used in limited areas. Bollard lights do not effectively light for safety and security. University Landscape Architect must approve locations for bollard lights.

Building-mounted lights for utilitarian and non-architectural applications such as loading docks and emergency exits will be the full cut-off, LED Gardco sconce with motion response capability.

Exterior steps comprise a large part of the University’s path system due to topographical variation. Where steps depend on in-wall lights for illumination, the Winona Step03 LED light will be used.

See the 2011 University Exterior Lighting Study for more detailed information on lighting standards.

MATERIAL STANDARDS

Bollards

Bollards are used to control vehicular access in pedestrian zones. Bollards may be locking or fixed, depending on the need for occasional service or emergency access. Placement of bollards in pavement must consider how vehicles are controlled adjacent to them so that vehicles do not circumvent the intended barrier by travelling through adjacent landscape. Bollards for traditional landscapes will be cast aluminum octagonal; simple cylindrical metal bollards are appropriate for contemporary or utilitarian areas. Bollards will be composed of metal with recycled content. Traditional ball top 3" round post with chain are used in historic areas to control pedestrian or service vehicle traffic. Parking sign bollards will be 4" metal base with metal sign post in a protective HDPE sleeve.



Traditional, Newburyport
Octagonal, rookwood shutter green



Utilitarian, Traffic Protector,
4" round metal bollard sign,
HDPE sleeve, gray



Contemporary, 4" round, 36" high
padlocking removable, stainless or
thermoplastic paint, moon shadow gray



Contemporary, fixed 4" round, 36"
high stainless or thermoplastic
paint, moon shadow gray



Traditional, ball top post and
chain, rookwood shutter green

Site Walls

Site walls, whether free-standing or retaining, are an important landscape component in the manner in which they define edges of exterior spaces or walks. Where feasible, site walls should be a height that encourages seating. Fieldstone is the standard veneer for University site walls, although brick may be used if appropriate to context. Concrete is a less expensive wall option, appropriate to contemporary landscapes, but the surface treatment must be thoughtfully detailed to result in a smooth, consistent finish.



Fieldstone



Concrete



Brick

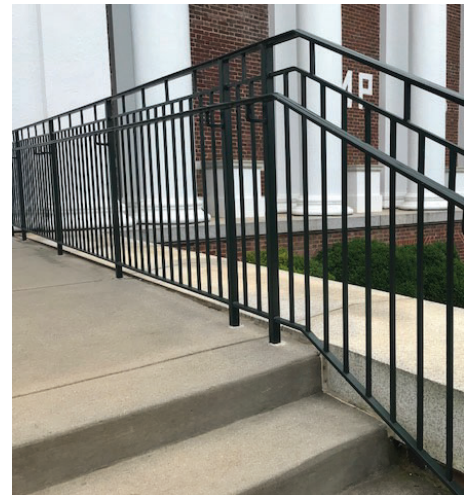
MATERIAL STANDARDS

Handrails and Guardrails

Given the University's variable topography, handrails and guardrails are a common landscape component. The most common handrail is a traditional metal rail that terminates in a "lamb's tongue", appropriate to historical areas and Central Grounds. Guardrails of this style have simple 1/2" square pickets. This handrail can be adapted to receive LED string lights within its "C" channel. Traditional handrails and guardrails are painted Charleston green. For contemporary settings, guardrails have simple frames of 1/2" x 1.5" bars and 1/2" square pickets and are painted moon shadow gray. The corresponding handrail is a 2" tube that can be adapted for LED KlickPod lights for stair applications. Handrail and guardrail designs must be approved by the Office of the Architect.



Contemporary, Arts Precinct



Traditional, Academical Village

Vegetated Walls

Whether screening undesired views or adding texture and interest to a wall, climbing vines provide dynamic visual appeal and contribute to diversity.

Metal Screen Walls

Such systems are composed of metal mesh or cables, which allow clinging vines to grow upon. These systems come in a number of sizes, shapes and materials, however aluminum or stainless steel in a light silver finish is preferred to prevent excessive heat adsorption. The system employed at the Culbreth Road Garage comes from GreenScreen, a company specializing in support structures for climbing vines. Metal Omega Architectural fencing has been used to effectively screen service and utilitarian areas.

Suitable Plants

There are a variety of climbing plants that can be used either on a lattice structure or a blank wall. For masonry walls, vines with aerial root structures are best suited. Examples of these species include:

Hydrangea anomala	Climbing Hydrangea
Parthenocissus tricuspidata	Boston Ivy

For metal structures, vines with a 'twining' growth habit are best suited. Examples of these species include:

Bignonia capreolata	Crossvine
Gelsemium sempervirens	Carolina Jessamine
Lonicera sempervirens	Coral Honeysuckle

The Office of the Architect encourages the selection of non-invasive and zone 7 hardy vines. The selection of English Ivy is highly discouraged as it is an invasive exotic plant.



Bignonia 'Tangerine Beauty' vine on Omega fence



GreenScreen with Bignonia 'Tangerine Beauty' at the Culbreth Road Garage



Climbing Hydrangea on a brick garden wall

MATERIAL STANDARDS

Miscellaneous

Miscellaneous amenities are nonetheless important standards to establish to ensure consistency across Grounds. Bus shelters will be Tolar gable roof metal and glass, metal finish dark bronze. Emergency phones will be the same as those installed at the Orthopedic Center. There is an option for an AED device, an example is at Memorial Gym/Snyder tennis. Elkay bottle fill and water fountain stations will be the same as installed on McCormick Road, west. Both the emergency phone and the bottle fill/water fountain station will be Jefferson blue.



Bus Shelter, Tolar gable roof



Elkay bottle fill and water fountain, Jefferson blue



Talkphone emergency phone tower, Jefferson blue

Invasive Plants

What makes an Invasive Plant?

Invasive plants are most often exotic plant species which have escaped cultivation and become detrimental to agricultural practice, native plant populations, and wildlife habitat. Invasive plants often exhibit the following characteristics, according to the Virginia Department of Conservation and Recreation (DCR):

- 1) Rapid growth and maturity
- 2) Prolific seed production
- 3) Highly successful seed dispersal, germination and colonization
- 4) Rampant vegetation spread
- 5) Ability to out-compete native species
- 6) High cost to remove or control

The University of Virginia strongly discourages the planting of exotic invasive plants.

More information can be found at: http://www.dcr.virginia.gov/natural_heritage/documents/invlist.pdf



English Ivy



Burning Bush



Mimosa Tree

Invasive Plants

List of Plants Formerly Ornamental, Now Considered Invasive

Ailanthus altissima	Tree-of-heaven
Ampelopsis brevipedunculata	Porcelian-Berry
Celastrus orbiculata	Oriental Bittersweet
Eleagnus umbellata	Autumn Olive
Euonymus alata	Winged Burning Bush
Ligustrum sinense	Chinese Privet
Lonicera japonica	Japanese Honeysuckle
Lonicera morrowii	Morrow's Honeysuckle
Lonicera standishii	Standish's Honeysuckle
Lythrum salicaria	Purple Loosestrife
Polygonum cuspidatum	Japanese Knotweed
Ranunculus ficaria	Lesser Celandine
Rosa multiflora	Multiflora Rose
Sorghum halepense	Johnson-Grass
Acer platanoides	Norway Maple
Akebia quinata	Five-leaf akebia
Albizia julibrissin	Mimosa
Berberis thunbergii	Japanese barberry
Euonymus fortunei	Wintercreeper
Festuca elatior	Tall fescue
Hedera helix	English Ivy
Humulus japonicus	Japanese Hops
Ligustrum obtusifolium	Blunt-leaved privet
Lonicera maackii	Amur honeysuckle
Lonicera tatarica	Tartarian hoeksuckle
Lysimachia nummularia	Moneywort
Melia azedarach	China-berry
Paulownia tomentosa	Princess tree
Phyllostachys aurea	Golden bamboo
Wisteria sinensis	Chinese wisteria
Ajuga reptans	Bugleweed
Coronilla varia	Crown-vetch
Eleagnus angustifolia	Russian olive
Eleagnus pungens	Thorny elaeagnus
Miscanthus sinensis	Silver grass
Wisteria floribunda	Japanese wisteria

