UNIVERSITY OF MICHIGAN

SITE FURNISHINGS STANDARDS MANUAL



Campus Planning

Architecture, Engineering & Construction

University of Michigan

Revised July 2018
Original January 2011
http://www.umaec.umich.edu/

Table of Contents

Introduction	page 3
Campus Landscape Design Elements	page 4
A. Seating	page 4
B. Tables	page 7
C. Umbrellas	page 10
D. Trash and Recycling Receptacles	page 11
E. Ash Receptacles	page 11
F. Site Lighting	page 12
G. Bike Racks	page 13
H. Emergency Telephones	page 14
I. Fencing/Railing	page 15
J. Informational Kiosks and SORC Posting Boards	page 17
K. Plazas	page 18
L. Skateboard Deterrents	page 18
M. Screen/Retaining/Seat Walls	page 19
N. Bus Shelters	page 20
O. Bike Shelters	page 20
P. Moped Parking	page 21
Q. Bollards	page 21
R. Signage	page 21
S. Public Art	page 21

The “Site Furnishings Standards Manual” is a companion to the “AEC Design Guidelines”, which designers must also adhere to (http://umaec.umich.edu/for-vendors/design-guidelines/).

Introduction

Intent: The "Site Furnishings Standards Manual" identifies design considerations and recommends specific products to be used on the University of Michigan Ann Arbor (U-M) campus. Unification of campus environment can be achieved through common landscape furnishings, colors and materials. The intent of these guidelines is to provide clear direction concerning site furnishings for the U-M campus and to promote consistent and predictable use of public art, lighting, furnishings and fencing.

Flexibility: The recommendations presented are strongly preferred; however, furnishings and materials might vary slightly from project to project and over time. It is recommended that the degree to which landscape features vary be minimized and that shared attributes, such as forms, materials, patterns, style, application-spacing and color be consistent. In special situations, alternatives may be evaluated on a case-by-case basis to ensure that the design standards are followed.

Exceptions: Any exceptions to the guidelines will require review by the Campus Planner's Office (CP) and the Exterior Elements Review Committee(EERC).

Principles: Standard campus furnishings can help to integrate the campus environment and can further advance the sense and legibility of the place. The following principles summarize the intent of the guidelines.

1) Unification with common design elements
    a. Develop uniform landscape and site treatments for common problems and issues.
    b. Establish a more unified palette of materials for lighting, site furnishing and landscape and hardscape elements.
    c. Enhance campus legibility and structure of campus.
2) Beautification and appearance of the campus
    a. Maintain and improve the visual quality of campus landscape.
    b. Establish a more visible and compelling public art presence.
    c. Develop signature amenities and improvements throughout the campus areas.
    d. Cluster furnishings to maximize effective use and minimize the negative visual impact within landscape.
3) Others
    a. Minimize and standardize maintenance requirements.
    b. Provide a safe and comfortable campus.
    c. Consider the limitations and needs of persons with disabilities to minimize potential obstructions and hazards.
    d. Minimize life-cycle costs by utilizing high quality products that are durable, backed by a solid warranty and vendor reputations and are comfortable and aesthetically pleasant.
    e. Provide furnishings where there is an existing demonstrated or potential future need.
    f. Install per U-M campus standards.

1. Campus Landscape Design Elements

The following section describes the recommended site furnishing material selection and design detail opportunities that will comprise the campus landscape design vocabulary. It is intended that repetitive use of this design vocabulary in the various campus development projects will result in a more organized, unified and beautiful campus. A single style of furnishings for each element described in the manual should be used exclusively to establish a unified and attractive campus character.

A. SEATING

1) Surface-Mounted/In-Ground Benches

a) Design Considerations

- Select bench locations in potential gathering areas to create comfortable settings conducive to conversation and security.
- Locate in a comfortable setting protected from vehicles/elements, and preferably with some landscaping and shading from the sun.
- Backless benches may be used in places where two-sided access and use are expected.
- Metal is preferred for durability.
- Complement existing standard furnishings, and landscape context and architectural features.
- Locate on and anchor to pavement. Benches should be set with a minimum setback of 12"-16" from edge of lawn to reduce damage from maintenance equipment.

b) Design Recommendations

- Plexus II collection from Landscape Forms is recommended as standard.



- Black powder coat is preferable.
- Alternative products on similar lines, including Forms + Surfaces, Sitescapes, and Victor Stanley, may be considered when approved by CP.

2) Wall-Mounted Benches

a) Design Considerations

- Wall-mounted benches are preferred when snow removal and other maintenance is a concern.
- Select bench locations in potential gathering areas to create comfortable settings conducive to conversation and security.
- Locate in a comfortable setting protected from vehicles/elements, and preferably with some landscaping and shading from the sun.
- Metal is preferred for durability.
- Complement existing furnishings as appropriate, and landscape context and architectural features.

b) Design Recommendations

- Plexus II collection from Landscape Forms is recommended as standard.



- Black powder coat is preferable.
- Alternative products on similar lines, including Forms + Surfaces, Sitescapes, and Victor Stanley, may be considered when approved by CP.

3) Chairs

a) Design Considerations

- Freestanding chairs should be considered in courtyards, atriums or places that can be secured. They should not be considered in public or unsecured areas.
- Select chair locations in potential gathering areas to create comfortable settings conducive to conversation and security.
- Locate in a comfortable setting protected from vehicles/elements, and preferably with landscaping and shading from the sun.
- Complement existing furnishings as appropriate, and landscape context and architectural features.
- Metal is preferred for durability.
- Locate on the pavement with a minimum setback of 12"-16" from edge of lawn to reduce damage from maintenance equipment.

b) Design Recommendations

- Verona collection from Landscape Forms is recommended as standard.
- Black powder coat is preferable. The recommended specification is a Verona freestanding arm chair.



- Alternative products on similar lines, including Forms + Surfaces, Sitescapes, and Victor Stanley, may be considered when approved by CP.

4) Memorial/Commemorative Benches

a) Design Considerations

- A limited number of options have been approved for use as memorial or commemorative benches; see Guidelines for Standard Memorial or Commemorative Benches.
- Consult with CP regarding requests for memorial or commemorative benches.

B. TABLES

1) Café Tables

a) Design Considerations

- If patio areas will be plowed in the winter, coordinate placement with U-M Grounds Services (Grounds) depending upon the type of equipment to be used.
- Complement existing furnishings as appropriate, landscape context and architectural features.
- Provide trash receptacles in close proximity.
- Locate tables near dining and food vending areas.
- Consider umbrellas for shade wherever appropriate. Umbrellas must be permanently anchored to table; tables with umbrellas must be anchored to the ground.
- Locate on and anchor to pavement. Benches should be set with a minimum setback of 12"-16" from edge of lawn to reduce damage from maintenance equipment.
- Tables must be anchored on a clear, paved pathway in order to be wheelchair accessible.
- Five-seat table with an open space for wheelchair access is preferred.

b) Design Recommendations

- The recommended standard is Carousel by Landscape Forms. Back and backless seats are acceptable. Traditional rectangle picnic table styles are not preferred.



- Black powder coat is preferable.
- Alternative products on similar lines, including Forms + Surfaces, Sitescapes, and Victor Stanley, may be considered when approved by CP.

2) Freestanding Tables

a) Design Considerations

- Freestanding tables should be considered in courtyards, atriums or places that can be secured. They should not be considered in public or unsecured areas.
- If patio areas will be plowed in the winter, coordinate placement with Grounds depending upon the type of equipment to be used.
- Complement existing furnishings as appropriate, landscape context and architectural features.
- Provide trash receptacles in close proximity.
- Locate tables near dining and food vending areas.
- Locate on the pavement. Tables should be set with a minimum setback of 12"-16" from edge of lawn to reduce damage from maintenance equipment.
- Tables must be located on a clear, paved pathway in order to be wheelchair accessible.

b) Design Recommendations

- The recommended standard is a 36" Catena top by Landscape Forms with freestanding base.



- Black powder coat is preferable.
- Alternative products on similar lines, including Forms + Surfaces, Sitescapes, and Victor Stanley, may be considered when approved by CP.

3) End Tables

a) Design Considerations

- Select locations to create comfortable and multi-functional spaces.
- If patio areas will be plowed in the winter, coordinate placement with Grounds depending upon the type of equipment to be used.
- Complement existing furnishings as appropriate, landscape context and architectural features.
- Provide trash receptacles in close proximity.
- Locate end tables in potential gathering spaces and near existing buildings.
- Locate in a comfortable setting protected from vehicles/elements, preferably with landscaping and shelter to the back and shading from the sun.
- Locate on and anchor to pavement. End tables should be set with a minimum setback of 12"-16" from edge of lawn to reduce damage from maintenance equipment.

b) Design Recommendations

- The recommended standard is the backless Plexus II series bench by Landscape Forms.



- Black powder coat is preferable.
- Alternative products on similar lines, including Forms + Surfaces, Sitescapes, and Victor Stanley, may be considered when approved by CP.

C. UMBRELLAS

a) Design Considerations

- Consider umbrellas for shade wherever appropriate.
- Umbrellas must be permanently anchored to table.
- Complement existing furnishings as appropriate, landscape context and architectural features.

b) Design Recommendations

- The recommended standard is an 8" Equinox umbrella from Landscape Forms.



- Metal umbrella is preferred.
- Black is the preferred color for umbrella and pole; however, on certain occasions the color can complement surrounding architectural or site features. The powder-coated pole should match the color of the umbrella.
- Alternative products on similar lines, including Forms + Surfaces, Sitescapes, and Victor Stanley, may be considered when approved by CP.

D. TRASH AND RECYCLING RECEPTACLES

a) Design Considerations

- Trash receptacles should be compatible with benches, other furnishings and building architecture.
- Group with other furnishings to mitigate visual impact.
- Place in unobtrusive locations with a minimum 3’ setback along main pathways.
- Receptacles should be located in areas of high pedestrian traffic, such as sitting areas, building entries, patios, bus stops and campus plazas.
- Ensure trash receptacles design is simple, unobtrusive and easy to service.
- Provide removable insert to dump trash.
- Locate on and anchor to pavement. Set receptacles 12"-16" from edge of lawn to reduce damage from maintenance equipment.

b) Design Recommendations

- The recommended standard is Victor Stanley S-424, fabricated metal receptacle, 36-gallon capacity, with domed lid. This is the same standard for the recycling receptacle, except with a rain bonnet lid DSS-2A.



- Black powder coat for trash receptacles and blue powder coat with recycling labels for recycling receptacles are recommended.
- Alternative products on similar lines, including Forms + Surfaces, Sitescapes, and Landscape Forms, may be considered when approved by CP.

E. ASH RECEPTACLES

- Because the University of Michigan is a smoke free campus (as of July 2011), ash receptacles will not be installed on university property.

F. SITE LIGHTING

a) Design Considerations

- Establish lighting theme to complement nearby campus facilities.
- Develop landscape lighting in parking lots that complements street and pedestrian lighting.
- Select and install a uniform lighting equipment style to reinforce campus design theme. Coordinate selection of lighting equipment with campus standards.

b) Special Lighting Criteria

- Public art and landscape features may be accent lighted in conformity with campus standards and the lamp must be shielded from offsite view.
- Accent lighting equipment shall be of sufficient quality to resist vandalism and minimize maintenance. Preferred luminaries shall be flush to grade.
- Backlit, reverse pan channel signage systems are preferred for optimum readability of signage. LED systems are encouraged.
- Façade lighting shall require special review by EERC.
- Refer to U-M AEC's Master Specifications Section 265600 – Exterior Lighting for further details http://umaec.umich.edu/for.archs/masterspec/26/MS265600.pdf

G. BIKE RACKS

a) Design Considerations

- Select a bicycle rack or hoop style that complements other furnishings and is attractive within the campus environment.
- The design should be simple, space efficient and serviceable.
- Racks should be placed to avoid conflicts with pedestrians. Locate bike loops close to building entrances wherever possible.
- Locating bike hoops under building overhangs or other sheltered areas is preferable.
- Locate bike hoops close to bike paths if there isn't space close to a building entrance.
- Bike parking areas should be well lit.
- Work with CP to decide the appropriate quantity of racks for the site.
- Racks should be installed usually on a wide sidewalk with 8 or more feet of clear sidewalk space remaining.
- Space 3' on center or 2'9" if absolutely necessary. Offset 4'-5' from walks and 2' on ends and back-to-edge pavement.

b) Design Recommendations

- For general campus use, Matte Black PVC coated 1 and a 1/2" SCHD 40 1.9 O.D. bike hoop by S&G products 5117-546-9240 or approved equal.



H. EMERGENCY TELEPHONES

1) Free standing (kiosk)

a) Design Considerations

- Each new exterior project shall consider the installation of additional blue light emergency phones. Designers shall work closely with Division of Public Safety & Security (DPSS).
- Locations should be easily accessible to pedestrians, easy to maintain, and reviewed by DPSS prior to finalizing design.
- Stagger the emergency phones throughout pedestrian corridors and locate at major road and walk intersections, especially in areas with poor visibility from roads.
- Locate on a concrete pad paved up to walkway for accessibility per university construction standard detail.

b) Design Recommendations

- All telephone stanchion, telephone backbox, beacon, stanchion light, phone and phone line should be furnished and installed by U-M Information and Technology Services.

2) Surface Mounted

a) Design Considerations

- Locations should be easily accessible to pedestrians, easy to maintain, and reviewed by DPSS prior to finalizing design.
- Stagger the emergency phones throughout pedestrian corridors and locate at major road and walk intersections, especially in areas with poor visibility from roads.
- Surface-mounted phones should be considered when the surface below is occupied and creates limited conditions. Surface mounted is also preferred when a pedestrian way is located adjacent to a building, when trying to avoid any obstruction in snow removal from pedestrian ways, and where tunnels/vaults are located.

b) Design Recommendations

- All telephone stanchion, telephone backbox, beacon, stanchion light, phone and phone line should be furnished and installed by U-M ITCOM.

I. FENCING/RAILING

1) Ornamental Fence

a) Design Considerations
- Utilize along campus periphery, especially along roads and main corridors.
- Use within campus when aesthetically appropriate.

b) Design Recommendations
- Railing should be anodized aluminum with dark brown bronze powder coat finish. Other finish colors may be utilized depending on the location but require approval from CP.
- Railing should be J.G Braun company series 950 style B heavy-duty aluminum railing or any equivalent approved by CP.

2) Chain-Link Fence

a) Design Considerations
- Use minimally and with discretion for enhancing safety, for a special area that needs protection from pedestrian traffic and to restrict a vehicle from illegally leaving a parking lot.
- Minimize use along major pedestrian and vehicular thoroughfares.
- Use 2" spacing for general purpose and smaller openings for high-security areas.

b) Design Recommendations
- Black welded steel construction chain link is generally preferred.
- Use of black vinyl screen is recommended.
- Installation to follow U-M construction standards.

3) Post-and-Chain

a) Design Considerations
- Post-and-chain is generally used for pedestrian control and is not intended for security and safety. However, this should be used as a last resort when it is not possible to redesign the landscape to direct pedestrians away from a sensitive area.
- Use single-chain for vehicular control and double-chain design for pedestrian control.
- Used in areas where portable separation is needed, as it can be moved when necessary.

b) Design Recommendations
- Post and hardware available from South Lyon Fence. Chain is 5/16” black metal.

4) Exterior Hand Rails for Stairs and Ramps

a) Design Considerations

- Fabricate tube handrails with dimensions, spacing and anchorages that comply with requirements of Michigan Building Code, unless otherwise indicated.
- Comply with ADA, including that handrails shall have a continuous grab surface.
- Preferred shape for general campus exterior stair and ramp handrail is round. The preferred shape of cover flanges at the base of embedded rails is round.
- Embedded rail is preferred to surface mount at grade or slab level, and side mounting on retaining walls is preferred to top mounting. For outdoor installations, a weep hole is to be drilled in embedded posts to prevent water from collecting below ground level. Follow manufacturer's recommendations.
- Consider expansion joint locations in the concrete vs. rail post placement due to the potential for differential movement of the concrete and the rail to crack the concrete

b) Design Recommendations

- The recommended standard is Julius Blum Carlstadt System.
- Rail material/color shall be contextual to the building elements and to be approved by CP. If stainless steel, specify a minimum of Type 316 Grade Stainless Steel for any exterior element to protect against pitting and corrosion due to potential exposure to deicing agents.
- Alternative self-fabrication or products on similar lines may be considered when approved by CP.



J. INFORMATIONAL KIOSKS AND SORC POSTING BOARDS

1) Informational Kiosks for Flyers

a) Design Considerations
- Locate on top of vents that are along major pedestrian corridors.
- Location should not be an obstruction during snow removal.
- Placement to be approved by CP and EERC.

b) Design Recommendations
- The information kiosk is custom designed and built, see CP for details.



2) Student Organization Resource Center (SORC) boards

a) Design Considerations
- Locate along major pedestrian corridors and at major pedestrian gathering spots.
- Incorporate surfaces that display variety of information in a variety of directions.
- Location should not be an obstruction during snow removal.
- Placement of SORC boards is to be approved by CP.

b) Design Recommendations
- The posting board follows a specific design that requires custom construction.



- Provide appropriately sized space and furnishings that promotes social gatherings, sitting and group gatherings.
- Create visual interest and encourage design responses that consider incorporation of appealing pavement patterns, seating, artwork, walls and spatial organization.
- Avoid designs that create too much enclosure and security hazards.
- Contact CP regarding design process.

b) Design Recommendations
   - Provide amenities like lighting and furnishings from a standard palette as a component of design.
   - Contact CP for guidance.

K. PLAZAS

a) Design Considerations
- Provide appropriately sized space and furnishings that promotes social gatherings, sitting and group gatherings.
- Create visual interest and encourage design responses that consider incorporation of appealing pavement patterns, seating, artwork, walls and spatial organization.
- Avoid designs that create too much enclosure and security hazards.
- Contact CP regarding design process.

b) Design Recommendations
- Provide amenities like lighting and furnishings from a standard palette as a component of design.
- Contact CP for guidance.

L. SKATEBOARD DETERRENTS

a) Design Considerations
- Integrate deterrents into the architectural design of vulnerable hardscape elements, which can be executed in many different ways - with uneven edges, recesses, ground textures, railing design etc.
- Whenever low edges and surfaces such as planter boxes, benches and retaining walls could possibly create temptations for skateboarders, skaters and/or BMX bikers, incorporate skateboard deterrents either integral to the form of the hardscape element or on the edge surface with metal deterrents.
- Seating design should incorporate skateboard deterrents and be fabricated of durable materials.

b) Design Recommendations
- Contact CP for guidance.





M. SCREEN/RETAINING/SEAT WALLS

a) Design Considerations

- Screen walls should be placed so as to not block important views or impede visibility of vehicles.
- Retaining walls should not be higher than 18” from grade to top of slope; otherwise, a handrail will be required.
- Typical university concrete seat walls require a 1” chamfer edge. See U-M AEC Standard Details and Schedules for the Typical Concrete Seat Wall detail.

b) Design Recommendations

- For visible areas, use architectural concrete/stone or masonry.
- For less visible areas, concrete is appropriate.



N. BUS SHELTERS

a) Design Considerations
- The A/E should work with CP, Logistics, Transportation & Parking and DPSS to locate shelters.

b) Design Recommendations
- Contact CP for the standard model information.



O. BIKE SHELTERS

a) Design Considerations
- Locate in high-use areas where existing bike racks are exposed to the elements.
- Cluster bike parking in groups that serve multiple buildings.
- Ensure that the placement of the parking and shelter do not impede the flow of pedestrians or otherwise block the ingress/egress of fire and emergency vehicles or personnel.

b) Design Recommendations
- The recommended standard is Duo Guard's Parachute, modified to U-M specifications.
- Frosted glass top and black powder coat steel is preferred.



P. MOPED PARKING

a) Design Considerations
- Locate access to moped parking directly adjacent to a parking area or access drive if possible.
- Access to moped parking should not require travel along a pedestrian sidewalk path.
- Moped parking area should be separated from vehicle parking with an easily mounted curb.
- Moped parking areas will not be maintained in winter. Concrete slab shall be concrete 6" thick since snow removal equipment will not need access.
- Avoid locating near fire hydrants, fire department connections, building air intake locations or near residential windows.
- Consult with Logistics, Transportation & Parking for Moped parking sign locations and installation.

b) Design Recommendations
- Provide a center access lane 5' wide if two rows of stalls are specified.
- Stall dimensions are typically 6' long by 3' wide.
- Striping is yellow at 4" wide.
- Consult CP for direction on new parking location or with questions.

Q. BOLLARDS

a) Design Considerations
- Bollards have various uses around campus: as barriers due to loading restrictions, for public safety, to protect equipment, utilities and building facades, to separate vehicles and pedestrians or as gate control at parking lots.
- Types include fixed, removable and locking.

b) Design Recommendations
- Refer to U-M AEC Standard Details and Schedules for the Miscellaneous Bollard detail.
- Contact A/E Civil and CP when new bollards are proposed.

R. SIGNAGE

- Exterior signage follows specifications as set forth in the Wayfinding and Signage Guidelines. Consult with CP in regards to all exterior signage.

S. PUBLIC ART

- Placement of public art on the campus grounds is administered by the President's Advisory Committee on Public Art (http://www.public-art.umich.edu), with site requirements determined by CP.