



Construction Site Safety and Perimeter Control Standards

May 25, 2022

Background

Most issues with current construction site safety and perimeter controls are:

- Inappropriate use of devices
- Devices are damaged and deteriorated
- Devices are inconsistent within a specific site
- Device installation is not maintained
- Lack of site plans and/or enforcement of plans

This leads to unsightly appearance and unsafe conditions.

Following are specific examples of issues on campus:

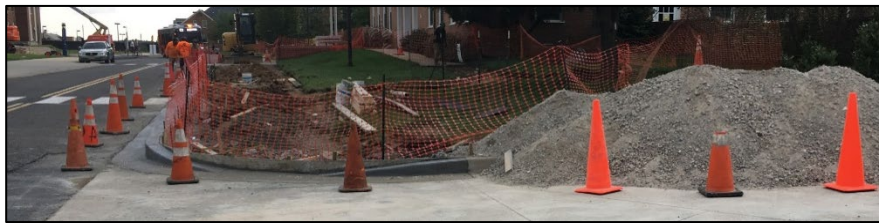
Vehicle Barricades/Vectoring

- Improper device use creating inadequate control
- Inconsistency
- Lack of site maintenance and miscellaneous parts left behind
- Poor condition



Cones & Delineators

- Inconsistency in styles
- Poor condition
- Improper locations and uses
- Onsite storage of extra devices
- Apparent abandonment



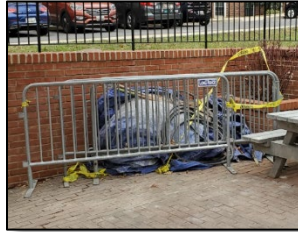
Cones Bars & Toppers

- Inconsistency in styles
- Poor condition
- Improper locations and uses
- Lack of site maintenance



Pedestrian Barricades

- Inconsistency in styles
- Poor condition
- Unauthorized storage
- Installation not maintained



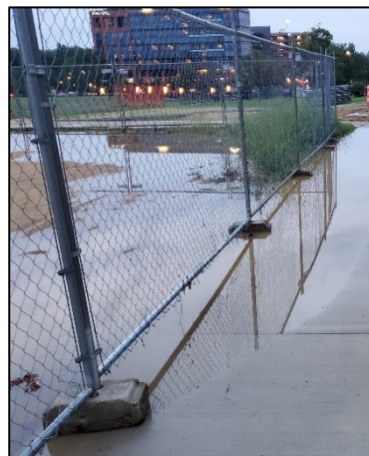
Type II & III Barricades

- Inconsistency in styles
- Poor condition
- Unauthorized storage
- Installation not maintained



Site Fencing & Screening

- Inconsistency in styles
- Incorrect installation
- Lack of site maintenance



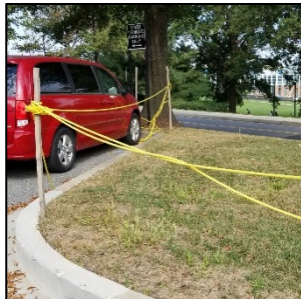
Temporary Safety Fencing

- Inconsistency in styles
- Incorrect installation and device use
- Lack of site maintenance



Tree Protection Fencing

- Inconsistency in styles / lack of conformance to UMD standards
- Incorrect installation and device use
- Incorrect area of protection
- Lack of site maintenance



Directional & Site Signage

- Inconsistency in styles
- Conflicting information
- Lack of installation maintenance
- Lack of planning for accessible route



Campus Standards

General Requirements – The contractor shall ensure the following:

- Construction Site Safety and Perimeter Controls shall be identified in site safety plans.
- Only approved devices are to be utilized.
- Devices shall be utilized appropriately.
- Temporary devices, such as caution tape can be used during an emergency but must be replaced with approved devices if needed beyond the period of the emergency.
- All devices deployed shall be:
 - In good condition free of significant marring, damage, deformation or deterioration.
 - Marked neatly (not hand-written), clearly and prominently with owner's name or logo.
- Damaged and deteriorated devices shall be removed and replaced.
- Extra / unused devices shall be removed to avoid unsightly storage.
- Maintenance of device installation shall be enforced.

For specific device standards, the following specific control devices shall be used. (If conditions or site-specific situations require a different device or modification to these requirements, approval by the UMD Project Manager must be obtained):

Vehicle Barricades/Vectoring

Orange Drum for Temporary, Low-Speed Channelizer/Barrier:

- Orange base with reflective white bands
- Minimum of 29” tall
- Weighted base appropriate for application
- All drums on a site are to be consistent in size, color, and type



K-Rail/Jersey-Shaped Semi-Permanent Channelizer/Barrier:

- Polymer Shell
- Orange
- Linkable
- Fillable



Cones & Delineators

- Orange with reflective white bands and base
- Minimum of 29'' tall
- Weighted base appropriate for application



Cone Bars & Toppers

Expandable, drop-on, temporary, low rail to raise awareness and restrict broader spans:

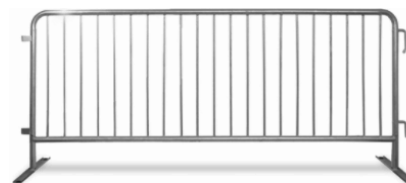
- 4' to 10' span, 2'' diameter
- Black and Yellow reflective
- Acrylonitrile Butadiene Styrene (ABS) composition or comparable (no PVC) to prevent sagging and allow hanging of sign panels.



Pedestrian Barricades

Galvanized Steel Pedestrian Barricade

- Vertically picketed, "bike rack" style
- Swing foot/swivel base
- 8.5' long, 43'' Tall
- 40-45 pounds
- Linkable



Type II & III Barricades

Type II

- Collapsible, 24" wide (min) galvanized steel A-frame
- Lightweight HIP or Diamond grade orange and white panels



Type III

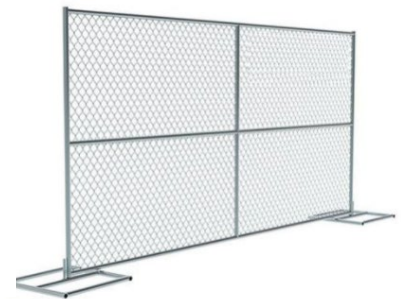
- 4' to 12' wide, galvanized steel, fully footed frame
- Lightweight HIP or Diamond grade orange and white panels
- thickness/rating in keeping with apparatus width



Site Fencing – Self Supporting

Chain-link

- 6' tall x 8'- 12' wide panels with welded frame
- All hot-dipped or pre-galvanized steel components
- Footed with welded tubular galvanized base weighted with pre-formed element



Narrow walkways & constricted pedestrian pathways:

- 36" x 12", 7lb
- ADA-compliant, low-profile
- Suitable for lower fencing/shorter runs



Wide walkways, open ground and non-constricted pedestrian pathways

- 30" x 15", 29lb
- Stackable and relatively easy to carry/deploy



Site Fencing – Ground Set

- 8' galvanized chain-link mesh supported at 8' (min) by galvanized verticals, stretched and maintained as taut
- Full top rail clamped/bonded to verticals



Site Fencing – Screening

- Required on all sites except when approved otherwise.
- Black in color and applied to public-facing side of fencing
- Knitted, UV-treated/inhibited, High-Density Polyethylene. 50lb/foot or greater filament rating. 85% or higher visibility/blockage rating with moderate to high air flow rating
- Full perimeter and height attached via brass grommets at 24" O.C.
- If not ground-driven posts, fencing must be properly braced to withstand wind loads
- Additional project graphics shall be approved by owner



Temporary Safety Fencing

4' Woven, Heavy-Duty, Rectangular-Mesh Polyethylene or Polypropylene Safety Fence

- Mesh is to be supported by vertical posts every 8' (min), at corners, and at openings.
- Posts are to be ground driven, plum, and properly capped.
- All mesh is to be kept taut and in neat lines for the duration of work



Safety Orange for work in or in close proximity to vehicle traffic.



Green for work sites not in, adjacent to, or in close proximity to vehicle traffic.

Tree Protection Fencing

The use of the following tree protection applications are project specific and are to be coordinated with and approved by the UMD project Manger and UMD Arborist:

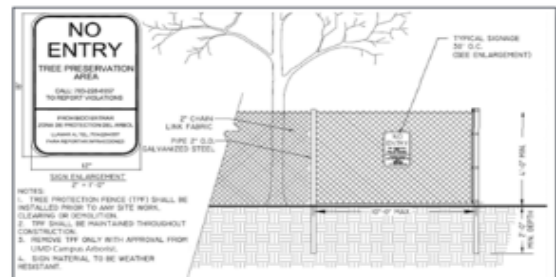
Applications for 2 weeks to 6 months:

Safety orange, 4', poly-fence with T-posts



Applications exceeding 6 months:

Galvanized or green vinyl-coated 4' (min) chain-link mesh fencing with 1-1/4" posts/rails set in movable bases



- If application is less than 2 weeks, panelized construction fencing in surface-mounted bases is preferred.
- UMD Arborist to make determinations on perimeter / distance outside of tree canopy.
- Care is to be taken if posts are to be ground driven as to not disturb sensitive root zones.

Directional & Site Signage

DIRECTIONAL SIGNAGE



- 24" x 18" corrugated plastic
- White background with CAUTION yellow / black
- Interchangeable (hook and loop) panels / arrows
- Grommets in all four corners for versatile attachment
- Utilize A-frame for support where signs cannot be ground set

SITE SIGNAGE



- 24" x 18" or 36" x 24" (larger sites) corrugated plastic
- White with red standard DANGER configuration
- Grommets in all four corners for versatile attachment