

PROJECT MANUAL

(SPECIFICATIONS)

Montclair State University

The Village at Little Falls- Façade Repair

DATE: December 1, 2022

PROJECT NO. 22081.00

**Montclair State University
The Village- Façade Repair**

TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

01 5000 TEMPORARY FACILITIES AND CONTROLS

01 7800 CLOSEOUT SUBMITTALS

DIVISION 02 - EXISTING CONDITIONS

02 4120 SELECTIVE BUILDING DEMOLITION

DIVISION 06 – WOOD, PLASTICS AND CLEANING

061000 REMOVING BIOLOGICAL GROWTH FROM EXTERIOR MASONRY AND STUCCO

061510 ALL SURFACE CLEANER

060513 CLEAN AND PREP ELK

06 1100 FRAMING AND SHEATHING

061643 GYPSUM SHEATHING

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

07 21 00 PRE-COATED FOAM ARCHITECTURAL

07 7113 COPINGS AND FLASHINGS

07 92 00 JOINT SEALANTS

DIVISION 09 – FINISHES

09 220 PORTLAND CEMENT STUCCO

09 96 53 ELASTOMERIC COATING SYSTEM

**Montclair State University
The Village- Façade Repair**

TOC-
1

**Montclair State University
The Village- Façade Repair**

**SECTION 01 5000
TEMPORARY FACILITIES AND CONTROLS**

GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Temporary utilities.
 - 2. Field offices and sheds.
 - 3. Temporary controls.
 - 4. Protection of installed Work.
 - 5. Security.
 - 6. Progress cleaning.
 - 7. Removal.

PART 2 PRODUCTS

Not used

2.1 MATERIALS

- A. Cleaning Materials: Use only materials that:
 - 1. Are not potentially hazardous to health or property.
 - 2. Do not contain hazardous ingredients.
 - 3. Are non-carcinogenic.
 - 4. Are non or mildly irritating to skin, eyes, and mucous membranes.
 - 5. Have an LD50 rating above 5 grams per kilogram.
 - 6. Are non-reactive.
 - 7. Contain minimum fragrance and dye.
 - 8. Do not require respiratory protection.

PART 3 EXECUTION

3.1 TEMPORARY ELECTRICITY

- A. Provide temporary electrical service of capacity and characteristics required for construction.
- B. Existing electrical system may not be used during construction unless authorized by the owner. Provide separate temporary electric service.

3.2 TEMPORARY WATER

- A. Provide temporary water required for construction.
- B. Existing water may not be used during construction. Unless authorized by client.
- C. If connecting to existing water source is permitted.
 - 1. Regulate system to prevent interference with Owner's usage.
 - 2. Exercise measures to conserve water.
- D. Extend branch piping and provide temporary hoses so that water is available at locations needed for work.
- E. Protect from freezing.

Montclair State University
The Village- Façade Repair

- F. Maintain distribution system and provide routine repairs.

3.3 FIELD OFFICES AND SHEDS

- A. Provide temporary field offices and storage sheds required for construction.
- B. Existing building may be not used for field office and storage of materials.

3.4 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to allow Owner's use of site and premises, and to protect existing facilities and adjacent properties from construction operations.
- B. Provide barricades and covered walkways required by governing authorities for public walkways and for public access to existing facilities. The covered walkways shall provide protection from falling debris and water from cleaning operations. No building egress points shall be obstructed.
- C. Fencing:
 - 1. Provide temporary fencing for construction operations.
 - 2. Construction: Commercial grade chain link.
 - 3. Height: 6 feet.
 - 4. Locate to protect construction operations, materials, equipment and pedestrians.
 - 5. Provide pedestrian gates.

3.5 PROTECTION OF INSTALLED WORK

- A. Protect installed work from construction operations; provide special protection when required.
- B. Minimize traffic, storage, and construction activities on roof surfaces. If traffic, storage, or activity is necessary, obtain recommendations for protection from roofing manufacturer.
- C. Prohibit traffic from landscaped areas.

3.6 SECURITY

- A. Provide a project security program, to:
 - 1. Protect the Work, stored products, and construction equipment from theft and vandalism.

3.7 PROGRESS CLEANING

- A. Maintain areas free from waste materials, debris, and rubbish. Maintain site in clean and orderly condition.
- B. Provide containers for collection of waste materials, debris, and rubbish; remove and dispose of off site as required by construction activities.
- C. Periodically clean interior areas to provide suitable conditions for finish work.

3.8 TEMPORARY CONTROLS

- A. Water Control:
 - 1. Prevent puddling water.
 - 2. Maintain the walkways and entrances free of ponding water during cleaning.

Montclair State University
The Village- Façade Repair

- B. Dust Control:
 - 1. Provide dust control materials and methods to minimize dust from construction operations.
 - 2. Prevent dust from dispersing into atmosphere.

3.9 REMOVAL

- A. Clean and repair damage caused by installation or use of temporary work.
- B. Restore existing and permanent facilities used during construction to original or to specified condition.

END OF SECTION

SECTION 017800 - CLOSEOUT SUBMITTALS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Project Record Documents.
- B. Operation and Maintenance Data.
- C. Warranties and bonds.

1.2 RELATED SECTIONS

- A. Section 007200 – General Conditions: Performance bond and labor and material payment bonds, warranty, and correction work.
- B. Section 013000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- C. Section 017000 - Execution Requirements: Contract closeout procedures.
- D. Individual Product Sections: Specific requirements for operation and maintenance data.
- E. Individual Product Sections: Warranties required for specific products or Work.

1.3 SUBMITTALS

- A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.
- B. Operation and Maintenance Data:
 - 1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
 - 2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
 - 3. Provide one set of equipment manuals on site, no later than 30 days after equipment approval, to insure manuals are available during owner training.
 - 4. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.
 - 5. Submit two sets of revised final documents in final form within 10 days after final inspection.
- C. Warranties and Bonds:
 - 1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
 - 2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
 - 3. Date of Substantial Completion for Warranty Start Date shall be Date of Turnover, or Date of Certificate of Occupancy, whichever is later.
 - 4. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.
 - 5. Contractor shall supply a 1 year warranty against all defective work.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.1 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.

Montclair State University
The Village- Façade Repair

2. Specifications.
 3. Addenda.
 4. Change Orders and other modifications to the Contract.
 5. Reviewed shop drawings, product data, and samples.
 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
1. Manufacturer's name and product model and number.
 2. Product substitutions or alternates utilized.
 3. Changes made by Addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
1. Measured depths of foundations in relation to finish first floor datum.
 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 4. Field changes of dimension and detail.
 5. Details not on original Contract drawings.
- G. Project Record Documents (as-built drawings) – To Owner / Architect
1. Contractor to submit within 30 days of project Substantial Completion and prior to Final Completion.
 2. The Contractor's original and complete set of Redlined Drawings including all as-built information shall be copied into 3 complete printed and one scanned on disk sets. The original As-Built Drawing, with Contractor's mark-ups, shall be sent to the Architect.
 3. Contractor shall submit one (1) full set of the As-Built Drawings scanned on disk to the Owner's Designated Representative (Project Manager) with a copy of the transmittal letter sent to the Architect containing date, Project title, Contractor's name and address, list of documents, and signature of Contractor.
 4. All copied drawings, specifications, and O&M manuals to be presented to the Facility Manager (FM) and to be left in the Data Room as specified. For FM contact for specific region, contact Chase Project Manager.

3.2 OPERATION AND MAINTENANCE DATA (Submit within 30 days of Substantial Completion)

- A. For Each Product or System: List names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
- D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.
- E. The Contractor's Original O&M Manual(s) shall be copied into electronic portable document format (.pdf) and placed on a compact disk. The original O&M Manual(s) shall be delivered to the site and placed in the Data Room.
- F. Contractor shall submit two (2) copies of the compact disk containing the O&M Manual in electronic (.pdf) format to the Architect with a copy of the transmittal letter to Owner's Designated

Montclair State University
The Village- Façade Repair

Representative (Project Manager) containing date, Project title, Contractor's name and address, list of documents, and signature of Contractor.

- G. The electronic O&M Manual files shall be indexed or bookmarked in the same manor as the binder delivered to the site.
- H. Clearly label compact disk with Project name, location, completion date, and financial center number.

3.3 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

- A. For Each Product, Applied Material, and Finish:
- B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

3.4 WARRANTIES AND BONDS

- A. Special Warranty: Non-prorated, non-transferable, 50 year limited warranty against defective raw materials and defects in manufacturing
 - 1. Include warranty against color change due to normal atmospheric conditions that exceed the limits established by ASTM D 4726
- B. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial completion is determined. Provide a 1 year contractor warranty against defective work.
- C. Verify that documents are in proper form, contain full information, and are notarized.
- D. Co-execute submittals when required.
- E. Retain warranties and bonds until time specified for submittal.
- F. Manual: Bind in commercial quality 8-1/2 by 11 inch three D side ring binders with durable plastic covers.
- G. Cover: Identify each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.
- H. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.
- I. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
- J. Include warranties for the following items and in addition any other major items specified on the project and follow the format and order as it is given here:
 - 1. JOINT SEALANTS
 - a. Correct defective work within a five year period after Date of Substantial Completion.
 - b. Warranty: Include coverage for installed sealants and accessories which fail to achieve airtight seal, exhibit loss of adhesion or cohesion, or do not cure.
 - 2. Acrylic coating
 - A. Provide written warranty, signed by manufacturer, agreeing to replace or repair, within warranty period, (Warranty shall be 10 year material warranty.). The warranty is available only when the Acrymax system is installed by an Acrymax Approved Applicator and minimum coating thickness is achieved.
 - B. Furnish minimum 2 year contractor warranty covering defects in workmanship.

END OF SECTION

017800

**Montclair State University
The Village- Façade Repair**

**SECTION 02 4120
SELECTIVE BUILDING DEMOLITION**

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Removal of designated building construction, equipment, and fixtures.
- B. Related Sections:
 - 1. Division 01 - Administrative, procedural, and temporary work requirements.

1.2 SUBMITTALS

- A. Submittals for Review:
 - 1. Shop Drawings: Indicate areas for demolition, removal sequence and location of salvageable items, and location and construction of temporary work.

1.3 REGULATORY REQUIREMENTS

- A. Conform to applicable code for demolition work, safety of structure, and dust control.
- B. Obtain required permits from authorities.
- C. Notify affected utility companies before starting work and comply with their requirements.
- D. Conform to applicable codes when hazardous or contaminated materials are discovered.
- E. Do not close or obstruct exits, provide sidewalk bridges over building exits.
- F. Electrical disconnects shall be performed by a licensed NJ Electrician.
- G. Do not disable or disrupt building fire or life safety systems without [3] days prior written notice to Owner or as directed by MSU.

1.4 PROJECT CONDITIONS

- A. Minimize interference with streets, walks, public right-of-ways, and adjacent facilities.
- B. If hazardous materials are discovered, notify owner and await instructions.
- C. All temporary removals shall be reinstalled once work is complete.
- D. If any of the following conditions are encountered, cease work immediately, notify Architect, and await instructions:
 - 1. Structure is in danger of movement or collapse.
 - 2. Materials or conditions encountered differ from those designated in the Contract Documents.
- E. Where repairs are indicated as typical it shall apply to the entire project for a full and complete project and does not exclude an area not shown on the drawings. For example, all sealant joints are to be replaced and all failing or cracked Stucco will be repaired and recoated.

Montclair State University
The Village- Façade Repair

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

3.1 PREPARATION

- A. Erect temporary partitions, barricades, warning devices, and controls where required.
- B. All main entrances shall have sidewalk bridges installed and remain until work is complete in that area.
- C. Provide protective coverings for construction designated to remain. All existing construction damaged due to not being protected shall be replaced at the contractors cost.
- D. Remove surface mounted devices or equipment that will interfere with new coatings and reinstall when work is complete. This includes electrical disconnects for surface mounted lights, cameras, sensors, etc. Any wiring damaged during removals shall be replaced. Electric reinstallation shall abide by the NEC.
- E. Temporarily or permanently disconnect utilities as required.
- F. Temporarily remove building signage that will interfere with new coatings and reinstall once repairs are complete.
- G. Temporarily remove existing rain leaders and straps attached to façade or areas affected by scheduled work.

3.2 DEMOLITION

- A. Remove existing construction to extent indicated on contract drawings and as necessary to join new work to existing. Do not remove more than is necessary to allow for new construction.
- B. Do not damage work designated to remain.
- C. Minimize noise and spread of dirt and dust.
- D. Assign work to trades skilled in procedures involved.
- E. Plug ends of disconnected utilities with threaded or welded caps.
- F. Protect and support active utilities designated to remain. Post warning signs showing location and type of utility and type of hazard.
- G. Store items designated to remain property of Owner where directed by MSU.
- H. Remove and dispose of waste materials off site.

END OF SECTION

SECTION 061000-
REMOVING BIOLOGICAL GROWTH FROM EXTERIOR MASONRY AND STUCCO

PART 1---GENERAL

1.1 SUMMARY

- A. Erect temporary partitions, barricades, warning devices, and controls where required. This procedure includes guidance on removing biological growth such as lichens, algae, mold and mildew from masonry and stucco.
- B. Biological growths such as lichens, algae, moss and fungi growing on walls is usually an indication that there is excess moisture in or around the masonry. These growths should be removed, as they attract moisture to the masonry surface and hold it there, which can lead to more serious problems.
- C. These guidelines cover the following sections:
 - 1. Safety Precautions
 - 2. Submittals
 - 3. Quality Assurance
 - 4. Delivery, Storage and Handling
 - 5. Project/Site Conditions
 - 6. Sequencing and Scheduling
 - 7. General Protection (Surface and Surrounding

PART 2---PRODUCTS

2.1 MANUFACTURERS

- A. ProSoCo, Inc. <http://www.prosoco.com/>
- B. Or approved equal

2.2 EQUIPMENT

- A. Garden hose and nozzle
- B. Rubber or polyethylene bucket (DO NOT USE A METAL BUCKET AS IT MAY REACT WITH THE CHEMICAL CLEANER AND PRODUCE TOXIC FUMES
- C. Glass or ceramic mixing bowl
- D. Knife blade
- E. Stiff, natural bristle brushes (non-metallic)
- F. Tampico brush, roller or low pressure (50 psi maximum) spray such as pneumatic garden sprayer
- G. Rubber gloves
- H. Safety glasses

Montclair State University
The Village- Façade Repair

PART 3---EXECUTION

3.1 EXAMINATION

- A. Determine the type of stain, i.e. algae and lichens, or mold and mildew.

3.2 PREPARATION

- A. Protection:

1. Provide adequate wash solutions (i.e. water, soap and towels) before starting the job.
2. Do not spray in the immediate vicinity of unprotected people and animals.
3. Consult manufactures instructions and protect existing construction that may adversely affected by any cleaning solution.

3.3 ERECTION, INSTALLATION, APPLICATION

NOTE: DO NOT TRY MORE THAN ONE TREATMENT ON A GIVEN AREA UNLESS THE CHEMICALS USED FROM PRIOR TREATMENT HAVE BEEN WASHED AWAY.

- B. Removing Lichens and Algae (ONLY):

1. Remove as much plant growth as possible using a knife blade and stiff bristle brush.
2. Water rinse the surface to remove most of the plant material
 - a. If the substrate is sound and dense, use low to medium water pressure (100-400 psi).
 - b. If the masonry is softer, use standard water pressure from the spigot
3. Allow water to soak plant growth for approximately 30 minutes.
4. Gently scrub the surface with a stiff, natural bristle brush.
5. Thoroughly rinse the surface again with clean, clear water at low pressure from a garden hose.

- B. Removing Mold and Mildew (ONLY):

- C. For treating any of the above (lichens, algae, mold or mildew), use a proprietary cleaner such as Enviro Klean® 2010 All Surface Cleaner or Enviro Klean® EIFS Clean 'N Prep Cleaning (ProSoCo, Inc.), or approved equal. Mocks of each cleaner shall be performed to determine product for cleaning stone and stucco. Mockups shall be performed on each different

best
building

material.

1. Follow manuf. instruction for proper dilution and test on small areas to determine proper
2. Apply a flood coat of this mixture to the masonry using a low pressure spray (approximately 50 psi).

CAUTION: DO NOT USE A HIGH PRESSURE SPRAY WHEN APPLYING THIS SOLUTION AS THIS MAY CAUSE THE SOLUTION TO BE DRIVEN DEEPER INTO THE PORES OF THE MASONRY, MAKING REMOVAL OF THE SOLUTION DIFFICULT.

- a. Begin spraying at the top of the vertical surface and move across horizontally. Allow 100mm rundown.
- b. Continue the next horizontal pass across the previous run down.

Montclair State University
The Village- Façade Repair

- c. Allow the solution to remain on the surface approximately 5-30 minutes depending upon the thickness of the growth and manuf. instructions.
- d. Gently scrub the surface with a stiff, natural bristle brush.
- e. Thoroughly rinse the treated area using pressure-applied water (approximately 400 to 1500 psi) with a 40-60 degree fan spray or garden hose with nozzle adjusted to a tight stream. Rinse from the bottom of the treated area to the top.
- f. Allow the surface to dry a minimum of 24 hours

END OF SECTION

**All SURFACE CLEANER
SECTION 061510**

Masonry and Stucco Cleaner

Enviro Klean® 2010 All Surface Cleaner or approved equal Cleaning Specification

Test Area

Test a minimum 4 ft. by 4 ft. area on each type of masonry. Use manufacturer's application instructions. Let the test panel dry 3 to 7 days before inspection. Keep test panels available for comparison throughout the cleaning project.

Manufacturer: PROSOCO, Inc., 3741 Greenway Circle, Lawrence, KS 66046. Phone: (800) 255-4255; Fax: (785) 830-9797. E-mail: CustomerCare@prosoco.com

Product Description

Enviro Klean® 2010 All Surface Cleaner is a mildly alkaline product for cleaning and degreasing light-to-heavily soiled stone, tile, and masonry. It contains no harsh acids, caustics or solvents. It's concentrated for the toughest industrial cleaning jobs on concrete, metal and many other plant and warehouse surfaces but dilutable for home-use on windows, bathroom tub and tile, countertops and more.

Technical Data

FORM: Clear Green liquid

TOTAL SOLIDS: N/A

SPECIFIC GRAVITY: 1.070

pH: 10.5 Typical Rinse water 7.8 - 8.2

WT./GAL.: 8.90 lbs.

FLASH POINT: > 200 degrees F (> 93 degrees C) ASTM D 3278

FREEZE POINT: 32 degrees F (0 degrees C)

Limitation

- Repeated use may dull polished carbonate surfaces, including but not limited to limestone, marble and travertine.

Application

Before applying, read "Preparation" and "Safety Information" sections in the Manufacturer's Product Data Sheet for 2010 All Surface Cleaner. Use in concentrate or dilute 2010 All Surface Cleaner concentrate with 1-10 parts water. Refer to Product Data Sheet for recommended dilution for intended use.

1. Working from bottom to top, prewet the surface with clean water.
2. Apply the diluted cleaning solution to the masonry surface using a brush or low-pressure spray.
3. Let the cleaner stay on the surface 1-10 minutes, based on testing. Gently scrub heavily soiled areas.
4. Working from bottom to top, rinse the surface thoroughly with clean water. The best combination of rinsing pressure and water volume is provided by masonry washing equipment generating 400-1000 psi with a water flow rate of 6-8 gallons per minute delivered through a 15-45 degree fan spray tip. Equipment should be adjustable to reduce water flow rate and rinsing pressure as required for controlled cleaning of more sensitive surfaces. See also "Equipment" section of the Product Data Sheet.
5. Repeat steps 1 through 4 if necessary.

Montclair State University
The Village- Façade Repair

Note: Do not let cleaning solution dry on the surface. If drying occurs, lightly wet surfaces with fresh water and reapply the cleaner in a gentle scrubbing manner.

END OF SECTION

SECTION 060513

Masonry and Stucco Cleaner

Enviro Klean® EIFS Clean 'N Prep or approved equal Cleaning Specification

Test Area

Test a minimum 4 ft. by 4 ft. area on each type of masonry. Use manufacturer's application instructions. Let the test panel dry 3 to 7 days before inspection. Keep test panels available for comparison throughout the cleaning project.

Manufacturer: PROSOCO, Inc., 3741 Greenway Circle, Lawrence, KS 66046. Phone: (800) 255-4255; Fax: (785) 830-9797. E-mail: CustomerCare@prosoco.com

Product Description

Enviro Klean® EIFS Clean 'N Prep is a nonacidic, phosphate- and solvent-free cleaner for general maintenance and recoat-prep cleaning of exterior insulated finish systems. It removes residues of mud, algae, grease, oil and food staining from exterior insulated finish systems, but can also be used on concrete, brick, natural stone, ceramic tile, most metal, wood, plastic and most painted surfaces. Used properly, EIFS Clean 'N Prep will clean and help restore the original appearance of EIFS structures.

Technical Data

FORM: Clear light blue

liquid SPECIFIC GRAVITY:

1.01

pH: 12.0 - 12.4 (concentrate)

WEIGHT/GALLON: 8.34 pounds

ACTIVE CONTENT: not

applicable TOTAL SOLIDS: not

applicable VOC CONTENT: not

applicable FLASH POINT: not

applicable

FREEZE POINT: 32 degrees F (0 degrees C)

SHELF LIFE: 3 years in tightly sealed, unopened container

BULK DENSITY: 8.4 pounds

Application

Before applying, read "Preparation" and "Safety Information" sections in the Manufacturer's Product Data Sheet for EIFS Clean 'N Prep. Refer to Product Data Sheet for recommended dilution for intended use.

1. Pre-wet surface with clean water. Keep lower areas wet to avoid streaks.
2. Brush or spray (low pressure only) EIFS Clean 'N Prep directly on the surface.
3. Let cleaner dwell for 5 to 10 minutes. Keep people away from the surface being cleaned.
4. Thoroughly rinse surface with fresh water.
5. Reapply if necessary, depending on severity and type of stain.

NOTE: The best combination of rinsing pressure and water volume is provided by masonry washing equipment generating 400 to 1000 psi with a water flow rate of 6 to 8 gallons per minute delivered through a 15 to 45 degree fan spray tip. Equipment should be adjustable to reduce water flow rate and rinsing pressure as required for controlled cleaning of more sensitive surfaces. See also "Equipment" section of the Product Data Sheet. If pressure rinsing isn't practical, rinse and brush surface.

NOTE: Excessive pressure may damage construction materials. Refer to test area results for appropriate rinsing pressure.

Cleanup: clean tools and equipment using fresh water.

**SECTION 06 1100
FRAMING AND SHEATHING**

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Wall sheathing.
 - 2. Wood blocking and furring.
- B. Related Sections:
 - 1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

- A. American Wood Protection Association (AWPA) U1 - Use Category System - User Specification for Treated Wood.
- B. ASTM International (ASTM):
 - 1. A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
 - 2. A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process.
 - 3. E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 4. F593 - Standard Specification for Stainless Steel Bolts, Hex Cap Screws and Studs.
 - 5. F1554 - Standard Specification for Anchor Bolts, Steel, 36, 55 and 105 KSI Yield Strength.
- C. Engineered Wood Association (APA) PRP-108 - Performance Standards and Qualification Policy for Structural-Use Panels.
- D. Forest Stewardship Council (FSC) STD-40-004 - Chain of Custody Standard.
- E. National Institute of Standards and Technology (NIST) - Product Standard PS 20 - American Softwood Lumber Standard.
- F. Northeastern Lumber Manufacturers Association (NELMA) - Standard Grading Rules for Northeastern Lumber.
- G. National Lumber Grades Authority (NLGA) - Standard Grading Rules for Canadian Lumber.
- H. Redwood Inspection Service (RIS) - Standard Specifications for Grades of California Redwood Lumber.
- I. Southern Pine Inspection Bureau (SPIB) - Standard Grading Rules for Southern Pine Lumber.
- J. West Coast Lumber Inspection Bureau (WCLIB) - Standard Grading Rules for West Coast Lumber.
- K. Western Red Cedar Lumber Association (WRCLA) - Grading Rules.
- L. Western Wood Products Association (WWPA) G-5 - Western Lumber Grading Rules.

1.3 SUBMITTALS

- A. Provide manufacture cut and data sheets.

Montclair State University
The Village- Façade Repair

1.4 QUALITY ASSURANCE

- A. Lumber Grading Agency: Certified to NIST PS 20.
- B. Identify lumber and panel products by official grade mark.
- C. Fire Retardant Treated Products: Bear label of recognized independent testing laboratory indicating flame spread rating of [25] or less, tested to ASTM E84.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Store materials minimum [6] inches above ground on framework or blocking and cover with protective waterproof covering providing for adequate air circulation.
- B. Do not store seasoned or treated materials in damp location.
- C. Protect edges and corners of sheet materials from damage.

1.6 WARRANTIES

- A. Provide manufacturer's warranty.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturers -:
 - 1. Boise Cascade Corporation. (www.bc.com)
 - 2. Georgia-Pacific Corporation. (www.gp.com)
 - 3. LP Corp. (www.lpcorp.com)
 - 4. Or approved equal

2.2 MATERIALS

- A. Panel Products:
 - 1. Type: APA Plywood.
 - 2. Panel grade:
 - a. wall sheathing: APA Exterior Rated Sheathing.

2.3 ACCESSORIES

- A. Anchor Bolts: ASTM F1554.
- B. Fasteners:
 - 1. Type and size: As required by conditions of use.
 - 2. Exterior locations and treated products: Hot-dip galvanized steel, ASTM A153/A153M, or Stainless steel, ASTM F593, Type 304 or 316.

2.4 FABRICATION

- A. Preservative Treatment:
 - 1. Treat lumber and panel products in accordance with AWPA U1:

Montclair State University
The Village- Façade Repair

- a. Exterior locations above ground: Category UC3A - Above Ground/Protected. UC3B - Above Ground/Exposed.
- B. Fire Retardant Treatment; treat lumber and [panel products in accordance with AWPA U1:
 - 1. Exterior locations: Category UCFB - Fire Retardant/Exterior.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Set members level, plumb, and rigid.
- B. Make provisions for erection loads, and for temporary bracing to maintain structure safe, plumb, and in true alignment until completion of erection and installation of permanent bracing.
- C. Place beams, joists, and rafters with crown edge up.
- D. Construct load bearing framing members full length without splices.
- E. Wall Sheathing:
 - 1. Place panels perpendicular to framing members, with ends over firm bearing and staggered.
 - 2. Leave 1/8 inch expansion space at panel ends and edges.
 - 3. Secure to supports with screws spaced maximum 6 inches on center along edges and maximum 12 inches on center in field of panels.
- F. Provide blocking, nailers, grounds, furring, and other similar items required to receive and support work.

3.2 TOLERANCES

- A. Framing Members: ¼ inch from true position, maximum.

END OF SECTION

**SECTION 06 16 43
GYPSUM SHEATHING**

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: Fiberglass-mat faced, moisture and mold resistant gypsum sheathing.

1.02 REFERENCES

- A. ASTM International (ASTM):

1. ASTM C473 Standard Test Methods for Physical Testing of Gypsum Panel Products.
2. ASTM C518 Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
3. ASTM C1002 Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.
4. ASTM C1177 Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing.
5. ASTM C1280 Standard Specification for Application of Gypsum Sheathing.
6. ASTM D3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
7. ASTM D6329 Standard Guide for Developing Methodology for Evaluating the Ability of Indoor Materials to Support Microbial Growth Using Static Environmental Chambers.
8. ASTM E72 Standard Test Methods of Conducting Strength Tests of Panels for Building Construction.
9. ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials.
10. ASTM C1396 Standard Specification for Gypsum Board
11. ASTM E 136 Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C
12. ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Material.

- B. Gypsum Association (GA): GA-253 Application of Gypsum Sheathing.

1.03 SUBMITTALS

- A. Product Data: Manufacturer's specifications and installation instructions for each product specified.

1.04 WARRANTY

- A. Provide products that offer twelve months of coverage against in-place exposure damage (delamination, deterioration and decay) commencing with the date of installation of the product in such structure.
- B. Manufacturer's Warranty:
1. Five years against manufacturing defects from the date of purchase of the product for installation
 2. 12 years against manufacturing defects when used as a substrate in architecturally specified EIFS.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Georgia-Pacific Gypsum LLC or approved equal:

1. Fiberglass-Mat Faced Gypsum Sheathing: DensGlass Sheathing.
2. Fiberglass-Mat Faced Gypsum Sheathing, Type X for Fire Rated Designs: DensGlass Fireguard Sheathing.

Montclair State University
The Village- Façade Repair

2.02 MATERIALS

- A. Fiberglass-Mat Faced Gypsum Sheathing: ASTM C1177:
 - 1. Thickness: 5/8 inch.
 - 2. Width: 4 feet.
 - 3. Length: [8 feet] [9 feet] [10 feet].
 - 4. Weight: 1.9 lb/sq. ft.
 - 5. Edges: Square.
 - 6. Surfacing: Fiberglass mat on face, back, and long edges.
 - 7. Racking Strength (Ultimate, not design value) (ASTM E72): Not less than 540 pounds per square foot, dry.
 - 8. Flexural Strength, Parallel (ASTM C473): 80 lbf, parallel.
 - 9. Humidified Deflection (ASTM C1177): Not more than 2/8 inch.
 - 10. Permeance (ASTM E96): Not less than 23 perms.
 - 11. R-Value (ASTM C518): 0.56.
 - 12. Mold Resistance (ASTM D3273): 10, in a test as manufactured.
 - 13. Microbial Resistance (ASTM D6329, UL Environmental GREENGUARD 3-week protocol): Will not support microbial growth.
 - 14. Acceptable Products:
 - a. 5/8 inch DensGlass Sheathing, Georgia-Pacific Gypsum LLC or equal

2.03 ACCESSORIES

- A. Screws: ASTM C1002, corrosion resistant treated.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verification of Conditions:
 - 1. Inspection: Verify that project conditions and substrates are acceptable, to the installer, to begin installation of work of this section.

3.02 INSTALLATION

- A. General: In accordance with GA-253, ASTM C1280 and the manufacturer's recommendations.
 - 1. Manufacturer's Recommendations:
 - a. Current "Product Catalog", Georgia-Pacific Gypsum.

3.03 PROTECTION

- A. Protect gypsum board installations from damage and deterioration until date of Substantial Completion.

END OF SECTION 06 16 43

SECTION 07 2100
Pre-coated Foam Architectural Details

Part I General

A. Description

Using an state-of-the-art CNC machine, an EPS foam core is precisely cut and preformed, then is coated with a lightweight polymer modified acrylic based flexible cementitious coating, having a fiberglass mesh embedded within. The final product has a smooth finish and is ready for installation and paint, with no need for a stucco finish.

All the moldings (Pre-coated Foam Architectural Details) manufactured by Prime Stucco and Moldings or approved equal are illustrated and described in the Profiles sections as: Sills, Bands, and Trims

B. Terms and Definitions

Architects-Designers: A licensed professional under contract with an owner or a builder.

Adhesive: A material applied to the back of a molding, to attach it to a suitable substrate. Base Coat: the material applied to the shaped EPS foam core, providing a durable, flexible and weather resistant surface to apply specified primer coats and finishes.

Contractor: Qualified and experienced contractor-appliator (sub-trade), installing the moldings.

EPS: Expanded polystyrene precisely cut and used as the core for the Pre-coated Foam Architectural Details.

Expansion Joint: This is a joint through the entire building wall, designed to control building movement.

Finish: The Architect-Designer has the option to specify a suitable finish conducive to prevalent external conditions and compatible to the base coat.

Mechanical Fasteners: An approved device, used as prescribed, to mechanically attach Pre-coated Foam Architectural Details to an approved substrate.

Reinforcing Mesh: A fiberglass fabric, with a specific density. The mesh is applied on the shaped EPS core prior to coating. It improves the flexibility, and impact and tensile strengths of the final product.

Substrate: An approved wall surface where Pre-coated Foam Architectural Details can be installed with acceptable adhesion procedures.

C. Design Qualifications

The substrate wall systems shall be flat within a ¼" in (6.4mm) in a 4' (1.2m) radius, and shall have a maximum allowable wall system deflection under full flexural design loads which does not exceed 1/240 times of span.

Architectural Details will be applied to the following recommended substrates and wall surfaces:

- Clean and in good condition and structurally sound stucco finish
- Properly finished and cleaned cement board
- Poured concrete, well cleaned and free from any contaminants
- Unit masonry or veneer to be approved by Prime Stucco and Moldings

All the moldings must have 24-48 hours drying time and be completely dry prior to the installation of any sealant.

Sealant shall be a tremco 511, with primer A or Dow corning 7902 and 795 with a #1200 primer coat. Sealant shall comply with EIMA 300.01.

Performance References

ASTM Standards:

- Surface burning characteristics of building materials, test method ASTM-E84 ULC 102.
- Smoke development characteristics of building materials, Test method ASTM- E84 ULC 102.
- Vapor permeability characteristics of building materials, Test method ASTM- E96.
- Standard test method for freeze-thaw resistance of Exterior Insulation and Finish Systems (EIFS) class P modified ASTM-C67.
- Mandrel Flexibility characteristics of building materials, Test method ASTM-

Montclair State University
The Village- Façade Repair

C203 (Elasticity).

- C578 specification for performed polystyrene thermal insulation. EIMA Standards:

- EIMA 105.01 standard test for Alkali resistance of Fiberglass Reinforcing Mesh for use in Exterior Insulation and Finish Systems (EIFS).
- EIMA 101.86 standard test method for impact resistance Exterior Insulation and Finish Systems (EIFS).
- EIMA 101.83 standard test method for bond strength of adhesive base coats in Exterior Insulation and Finish Systems (EIFS).

D. Quality

Assurance

Manufacturer:

- Prime Stucco and Moldings shall manufacture all the moldings provided.
- All associated products and EIFS manufacturer involved with a designated project shall consult/work closely with Prime Stucco and Moldings, and/or their distributor-representative, in order to properly co-ordinate and complete the project by achieving the highest finished building standards possible.

Contractor:

- Contractor shall be experienced and knowledgeable in EIFS application methods and installation of pre-coated Architectural Details.
- Contractor provided job site supervision for experienced workers and suitable equipment to install pre-coated Architectural Details in compliance with manufacturer specifications, recommendations, and installation methods.

E. Product Delivery, Storage, and Handling

Architectural Details are to be picked up at the manufacturer's factory or at an authorized distributor center, or delivered to the project site in its original unopened package with labels intact.

Architectural Details products supplied by the manufacturer should be stored in a cool dry place and protected from direct sunlight, weather and damaging elements.

All Architectural Details products should be stored in a temperature of not less than 40F (5C).

F. Project Conditions

- **Job Site Conditions:** The contractor shall have access to electric power and clean potable water. The area where the materials are to be installed should be clean and reasonably accessible.
- **Environmental and Weather Conditions:** Wall surface and ambient air temperature shall be at least 40F (4C) during the installation of Architectural Details products. Wall surface and ambient temperatures must remain above 40F (4C) for at least 24 hours or longer after installation if necessary, for the materials to sufficiently dry.
- **Protection:** Supplemental heat shall be provided for application when temperature is less than 40F (4C). During and after the application of the Architectural Details products, the products shall be protected by temporary or permanent means from the weather and other potential damaging elements. To prevent damage to the products, measures should be taken to prevent condensation and/or heat build up when tarps or plastic sheets are used. When the moldings are being applied, adjacent areas/materials shall be protected to prevent damage from drops and spills.
- **Sequencing and Scheduling:** Architectural Details products installation should be coordinated with all the associated trades. Proper equipment and sufficient experienced personal shall be employed to ensure an appearance that is continuous, free of scaffold lines, cold joints and texture variations. To prevent water infiltration behind the system, finish coat and sealant should be installed as soon as possible after Architectural Details products installation.

Montclair State University
The Village- Façade Repair

G. Limited Materials and Labor Warranty

Prime Stucco and Moldings provides a one-year limited material warranty for the Architectural Details and associated products. Receipt of a properly executed warranty request and completed project form is required.

The contractor shall offer a limited one year labor and workmanship warranty.

Part II Products

2.1 Manufacturer

- Pre-coated Foam Architectural Details are manufactured by Prime Stucco and Moldings at 200 Edgeley Blvd., Unit 4-6, Concord, Ontario L4K 3Y8.
- Pre-coated Foam Architectural Details shall be supplied by and obtained from Prime Stucco and Moldings, or its authorized distributors. Substitutions or additions of materials other than specified or approved by Prime Stucco and Moldings in writing will void the warranty.

2.2 Materials

Architectural Detail Moldings

Moldings Fiberglass Mesh Self Adhesive Reinforcing Mesh weighing a minimum of

95g/m² (2.8oz/yd²). Styrofoam Core A fire-rated, rigid expanded polystyrene (EPS) foam, conforming to physical properties of ASTM-C578. Type I or CAN/CGSB-51.20 Type I, 1.00 lb/cu.ft (17.0 kg/m³) density Adhesive a high performance acrylic modified cementitious material available in Pails and field mixed with type 10 or 20 Portland cement at a 1 to 1 ratio or available in bags to be field mixed with water using a ratio specified by a manufacturer recommended by Prime Stucco and Moldings Coating The coating is a lightweight polymer-modified acrylic cementitious material applied to the EPS shapes in a climate controlled plant, with a minimum thickness of 1/8" according to EIMA 101.1.

Finishes Typically, the finishes shall be an acrylic polymer based material with a quartz aggregate having an integral color and texture. Primers The primers shall be an acrylic based and color pigmented to compliment the color of the finish coat. Mechanical Fasteners To be used if required and specified. The fasteners shall include a corrosion resistant screw, which will be suitable for penetration and attachment to substrate.

2.3 Job Site Equipment

Power and/or hand tools related to the EIFS and plastering trades.

All material to be job site mixed. Shall be mixed with a clean mixer using 1/2" drill at 400- 500 RPM or with equipment with equivalent power and performance.

A hot knife or hot Grover and a wood router (high speed) with a proper set of bits.

- Pre-coated Foam Architectural Details shall be supplied by and obtained from Prime Stucco and Moldings, or its authorized distributors. Substitutions or additions of materials other than specified or approved by Prime Stucco and Moldings in writing will void the warranty.

Part III Installation

3.1 General

3.1.1 Surface Preparation

- Both the wall surface and ambient temperature shall be a minimum of 40F (4C) or higher.
- The surface of the substrate and the surface of the moldings shall be clean, dry, and

Montclair State University
The Village- Façade Repair

free of grease, paint, oil or any foreign material.

- The surface of the substrate shall be level, plane and true, being 1/8 (3mm) within 4ft (1.2m).
- Contractor shall report unsatisfactory substrate conditions to general contractor for correction by substrate installer before application of products.

3.1.2 Attachment

- The Architectural Details shall be attached on an approved substrate with a proper adhesive and mechanical fastener.
- The adhesive should be applied as per Prime Stucco and Moldings installation instructions, or as per the EIFS adhesive manufacturer specifications.
- Apply adhesive to the entire back surface of the Architectural Detail using a 9.5mm (3/8") notched trowel. Immediately, while the adhesive is still wet, apply by firmly pressing and properly positioning the piece onto the substrate. Large pieces require temporary mechanical fasteners as a support system until the adhesive sets.

3.1.3 Sealant Application

- All sealant shall be applied as per manufacturer specifications. Any expansion joint running through Architectural Details shall have sealant systems installed as per manufacturer specifications, and exposed joint areas shall be properly treated with a base coat and reinforcing fiberglass mesh.

3.1.4 Finish Application

Finish coats shall be applied to the pieces as per the approved EIFS manufacturer specifications.

3.2. Standard Procedure for Molding Installation

This procedure is recommended for the following systems:

- EIFS
- Extruded Insulation
- Wire Mesh
- Mineral Wool
- Cement Board

1. Dry fit and/or cut on site the molding as per the architectural drawings and existing structure.

Apply adhesive of system manufacturer to the back of the molding in a vertical pattern, using 3/8" notched trowel. If skinning occurs on the adhesive, scrape off and replace it with

2. fresh adhesive before installing the molding.
3. Press the molding into place using temporary mechanical fasteners as per selected manufacturers system to secure molding while the adhesive cures.
4. Remove excess adhesive (if any) along the molding before curing.
5. Refer to system details, exhibits and follow the step by step installation procedure.
6. Apply caulking at the joint between the molding and the substrate.
7. Allow the material to cure.
8. When joining two pieces, at the junction, leave a gap of not exceeding 1/4". Cover all joints with caulking.

END OF SECTION

Section 07 7113

COPINGS AND FLASHINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Copings and flashings

1.2 RELATED REQUIREMENTS

- A. Section 07 92 00 – Joint Sealants.

1.3 REFERENCE STANDARDS

- A. Factory Mutual (FM).
- B. Miami-Dade County, Florida Notice of Acceptance (NOA).
- C. Single Ply Roofing Industry (SPRI) (www.spri.org):
 - 1. ANSI/SPRI/FM 4435/ES-1 – Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems.

1.4 SUBMITTALS

- A. Comply with Division 01.
- B. Product Data: Submit manufacturer's product data, including installation instructions.
- C. Shop Drawings: Submit manufacturer's shop drawings, including plans, elevations, sections, and details, indicating dimensions, materials, components, fasteners, finish, and accessories.
- D. Samples: Submit manufacturer's sample of materials.
 - 1. Sample Length: Minimum 5-1/2 inches (140 mm).
- E. Color Samples: Submit manufacturer's color samples of materials, consisting of complete color chart representing manufacturer's full range of available colors.
 - 1. Submit metal chips of specific colors as requested by the Architect.
- F. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.
- G. Warranty Documentation: Submit manufacturer's standard warranty.

1.5 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Manufacturer regularly engaged in the manufacturing of materials of similar type to that specified for a minimum of 10 years.

Montclair State University
The Village- Façade Repair

- B. Installer's Qualifications:
 - 1. Installer regularly engaged in installation of materials of similar type to that specified for a minimum of 5 years.
 - 2. Use persons trained for installation of materials of similar type to that specified following manufacturer's installation instructions.
- C. Testing: Meet specified testing requirements.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Delivery Requirements: Deliver materials to site in manufacturer's original, unopened containers and packaging.
- B. Storage and Handling Requirements:
 - 1. Store and handle materials in accordance with manufacturer's instructions.
 - 2. Keep materials in manufacturer's original, unopened containers and packaging until installation.
 - 3. Store materials in clean, dry area indoors.
 - 4. Do not store materials directly on floor or ground.
 - 5. Protect materials and finish during storage, handling, and installation to prevent damage.

1.7 WARRANTY

- A. Warranty Period, Product:
 - 1. Wind, 120 mph: 20 years.
 - 2. Five-year workmanship warranty covering replacement or repair of products that are defective in material or workmanship.
- B. Warranty Period, Finish: Limited 30-year warranty for prefinished coil-coated steel and aluminum coated with Kynar 500 standard colors covering fade, chalk, and film integrity.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer: Metal-Era, Inc., 1600 Airport Road, Waukesha, Wisconsin 53188. Phone 800-558-2162. Fax 800-373-9156. www.metalera.com. info@metalera.com.
- B. Substitutions: shall be approved equals.

2.2 MANUFACTURED COPINGS

- A. Coping: Metal-Era "Perma-Tite" coping.
 - 1. Version: Tapered
 - 2. Cover Material: 22-gauge (0.81-mm) galvanized steel .
 - 3. Cover Formed Lengths: 12'-0" (3.65 m).
 - 4. Concealed Splice Plates: 8 inches (203 mm) wide; with factory-applied, dual, non-curing, isocryl butyl sealant strips at each joint.
 - 5. Anchor Clips: Galvanized steel, 12 inches (305 mm) wide.
 - 6. Match existing profile and colors

Montclair State University
The Village- Façade Repair

- B. Molding flashing cap: .
 - 1. Material: 22-gauge (0.81-mm) galvanized steel]
 - 2. Cover Formed Lengths: see drawings
 - 3. Fasteners: Hot Dipped Galvanized steel self tapping screws.
 - 4. Curve: match radius of existing entry head.

2.3 FINISHES

- 1. Finish: Hylar 5000/Kynar 500
- 2. Color: Coping to match existing. Flashing to match elastomeric white coating

2.4 ACCESSORIES

- A. Factory-Fabricated Accessories:
 - 1. Miters:
 - a. Outside Miters: [90 degrees]
 - b. Inside Miters: [90 degrees]
 - c. Transition miters.
 - d. Straight transition miters.
 - e. Peak/valley miters.
 - 2. Endcaps:
 - a. Right endcaps.
 - b. Left endcaps.
 - 3. Endwall Flashings (end dams), Coping Version:
 - a. Right endwall flashings.
 - b. Left endwall flashings.
 - 4. Endwall Flashings, Splice-Plate Version:
 - a. Right endwall flashings.
 - b. Left endwall flashings.
 - 5. Pilaster caps.
 - 6. Accessory Type: Welded
- B. Joint Sealants: Specified in Section 07 92 00.
- C. Fasteners: Appropriate for intended substrate.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive materials.
- B. Verify surfaces to support materials are clean, dry, straight, secure, and of proper dimensions.
- C. Notify Architect of conditions that would adversely affect installation.
- D. Do not begin installation until unacceptable conditions are corrected.

3.2 INSTALLATION

- A. Install materials in accordance with manufacturer's instructions at locations indicated on the Drawings.

Montclair State University
The Village- Façade Repair

- B. Remove protective vinyl film immediately before installation.
- C. Install materials to provide watertight termination at leading edge of roofing material or other installed location.
- D. Install materials to allow for thermal movement.
- E. Joint Sealants: Apply joint sealants in accordance with manufacturer's instructions.
- F. Metal flashings shall be returned up behind stucco and weather barrier. Top edge of flashing shall be sealed with self adhere ring flashing tape. 40 mil York seal composite membrane.

3.3 ADJUSTING

- A. Repair minor damages to finish in accordance with manufacturer's instructions and as approved by Architect.
- B. Remove and replace with new material, damaged components that cannot be successfully repaired, as determined by Architect.

3.4 CLEANING

- A. Clean materials promptly after installation in accordance with manufacturer's instructions.
- B. Do not use harsh cleaning materials or methods that could damage finish.

3.5 PROTECTION

- A. Protect installed materials to ensure that, except for normal weathering, materials will be without damage or deterioration at time of Substantial Completion.

END OF SECTION

**SECTION 07 92 00
JOINT SEALANTS**

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:

1. Exterior silicone sealants.

B. Related Sections:

2. Section 09 96 53 "Silicone Elastomeric Coatings" for water-repelling liquid silicone elastomeric coatings for exterior surfaces.

1.2 REFERENCE STANDARDS

A. ASTM International (ASTM): www.astm.org :

1. ASTM C 661 - Standard Test Method for Indentation Hardness of Elastomeric Type Sealants by Means of a Durometer
2. ASTM C 794 - Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants
3. ASTM C834 - Specification for Latex Sealants.
4. ASTM C 920 - Specification for Elastomeric Joint Sealants.
5. ASTM C 1087 - Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems
6. ASTM C 1193 - Guide for Use of Joint Sealants.
7. ASTM C 1248 - Test Method for Staining of Porous Substrate by Joint Sealants.
8. ASTM C 1311 - Specification for Solvent Release Sealants.
9. ASTM C 1330 - Cylindrical Sealant Backing for Use with Cold Liquid Applied Sealants.
10. ASTM D 412 - Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension.
11. ASTM D 624 - Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers.
12. ASTM D 2240 - Test Method for Rubber Property - Durometer Hardness.
13. ASTM E 283 - Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
14. ASTM E 331 - Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.

B. NSF International (NSF): www.nsf.org :

1. Standard 51: Food Equipment Materials.

C. Sealant, Waterproofing, and Restoration Institute (SWRI): www.swrionline.org :

1. SWRI Validation Program.

Montclair State University
The Village- Façade Repair

- D. U. S. Environmental Protection Agency (EPA): www.epa.gov :
 - 1. 40 CFR 59, Subpart D: National Volatile Organic Compound Emission Standards for Architectural Coatings.
- E. U.S. Food and Drug Administration (FDA): www.fda.gov :
 - 1. 21 CFR 177.2600: Title 21 Part 177 Indirect Food Additives: Polymers.
- F. US Green Building Council (USGBC): www.usgbc.org
 - 1. Leadership in Energy and Environmental Design (LEED) Green Building Rating System

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate installation of joint sealants with cleaning of joint sealant substrates and other operations that may impact installation or finished joint sealant work.
- B. Preinstallation Conference: Conduct conference at Project Site.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of joint sealant product specified, including:
 - 1. Preparation instructions and recommendations.
 - 2. Standard drawings illustrating manufacturer's recommended sealant joint profiles and dimensions applicable to Project.
- B. Joint Sealant Schedule: Indicate joint sealant location, joint sealant type, manufacturer and product name, and color, for each application. Utilize joint sealant designations included in this Section.
- D. Samples for Color Selection: For each joint sealant type. Colors shall be colored match to the finishes they are being applied to. Custom color matching shall be provided when required.
- E. Samples for Verification: For each exterior joint sealant product, for each color selected.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified applicator.
- B. Sealant, Waterproofing, and Restoration Institute (SWRI) Validation Certificate: For each sealant specified to be validated by SWRI's Sealant Validation Program.
- C. Preconstruction compatibility and adhesion test reports.
- D. Preconstruction field-adhesion test reports.
- E. Field quality control adhesion test reports.
- F. Warranty: Sample of unexecuted manufacturer and installer special warranties.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Experienced Installer equipped and trained for application of joint sealants required for this Project with record of successful completion of projects of similar scope.

Montclair State University
The Village- Façade Repair

- B. Preconstruction Manufacturer Laboratory Compatibility, Staining, and Adhesion Testing: Submit [four] samples of each material that will be in contact with or affect joint sealants. Test sealants with substrate materials using ASTM C794 or manufacturer's standard test methods to determine requirements for joint preparation, including cleaning and priming. Test sealants with related materials to verify compatibility.
- C. Preconstruction Field-Adhesion Testing: Prior to installing joint sealants, field test adhesion to joint substrates using ASTM C1193 Method A or method recommended by manufacturer. Verify adhesion is adequate. Modify joint preparation recommendations for failed joints and re-test. Submit written report to Architect.
- D. Mockups: Provide joint sealant application within mockups required in other sections identical to specified joint sealants and installation methods.

1.7 WARRANTY

- A. Special Installer's Warranty: Original statement on Installer's letterhead in which Installer agrees to repair or replace joint sealants that demonstrate deterioration or failure within warranty period specified.
 - 1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer's standard form in which joint sealant manufacturer agrees to furnish joint sealants to repair or replace those that demonstrate deterioration or failure under normal use within warranty period specified.
 - 1. Warranty Period for Silicone Sealants: 20 years date of Substantial Completion.
- C. Warranty Conditions: Special warranties exclude deterioration or failure of joint sealants in normal use due to structural movement resulting in stresses on joint sealants exceeding sealant manufacturer's written specifications, joint substrate deterioration, mechanical damage, or normal accumulation of dirt or other contaminants.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Provide joint sealant products manufactured by The Dow Chemical Company, Midland MI; (877) SEALANT ((877) 732-5268); email: construction@dowcorning.com; consumer.dow.com/construction. or comparable products of other manufacturer approved equal by Architect in accordance with Instructions to Bidders and Division 01 General Requirements.

2.2 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants and accessory materials that are compatible with one another, with joint substrates, and with materials in close proximity under use conditions, as demonstrated by sealant manufacturer by testing and related experience.
- B. Joint Sealant Standard: Comply with ASTM C 920 and other specified requirements for each liquid-applied joint sealant.
- C. Stain Test Characteristics: Where sealants are required to be nonstaining, provide sealants tested per ASTM C 1248 as non-staining on porous joint substrates indicated for Project.

2.3 LIQUID JOINT SEALANTS

Montclair State University
The Village- Façade Repair

- A. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant : ASTM C 920, Type S, Grade NS, Class 100/50, for Use T, NT; SWRI validation.
 - 1. Basis of Design Product: **DOWSIL™ 790 Silicone Building Sealant.**
 - 2. Hardness, ASTM C 661: 15 durometer Shore A.
 - 3. Volatile Organic Compound (VOC) Content: 26 g/L maximum.
 - 4. Staining, ASTM C 1248: None on concrete, granite, limestone, and brick.
 - 5. Color: Match finish color, provide custom match when standard does not match.

2.6 ACCESSORIES

- A. Joint Substrate Primers: Substrate primer recommended by sealant manufacturer for application. Test substrate for bonding. Prime metal with DOW SIL 1200 primer.
- B. Cylindrical Sealant Backing: ASTM C 1330, Type B non-absorbent, bi-cellular material with surface skin, or Type O open-cell polyurethane, as recommended by sealant manufacturer for application.
- C. Bond Breaker Tape: Polymer tape compatible with joint sealant materials and recommended by sealant manufacturer.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine joint profiles and surfaces to determine if work is ready to receive joint sealants. Verify joint dimensions are adequate for development of sealant movement capability. Proceed with joint sealant work once conditions meet sealant manufacturer's recommendations.

3.2 PREPARATION

- A. Joint Surface Cleaning: Clean joints prior to installing joint sealants using materials and methods recommended by sealant manufacturer.
 - 1. Remove laitance, form-release agents, dust, and other contaminants.
 - 2. Clean nonporous and porous surfaces utilizing chemical cleaners acceptable to sealant manufacturer.

3.3 SEALANT APPLICATION

- A. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- B. Masking: Mask adjacent surfaces to prevent staining or damage by contact with sealant or primer.
- C. Joint Priming: Prime joint substrates when recommended by sealant manufacturer or when indicated by preconstruction testing or experience. Apply recommended primer using sealant manufacturer's recommended application techniques.
- D. Joint Backing: Select joint backing materials recommended by sealant manufacturer to be compatible with sealant material. Install backing material at depth required to produce profile of joint sealant allowing optimal sealant movement.
 - 1. Install bond breaker tape over substrates when sealant backings are not used.
- E. Liquid Sealant Application: Install sealants using methods recommended by sealant manufacturer, in depths recommended for application. Apply in continuous operation from bottom to top of joint vertically and horizontally in a single direction. Apply using adequate pressure to fill and seal joint

Montclair State University
The Village- Façade Repair

width.

1. Tool sealants immediately with appropriately shaped tool to force sealants against joint backing and joint substrates, eliminating voids and ensuring full contact.
2. Using tooling agents approved by sealant manufacturer for application.

F. Cleaning: Remove excess sealant using materials and methods approved by sealant manufacturer that will not damage joint substrate materials.

1. Remove masking tape immediately after tooling joint without disturbing seal.
2. Remove excess sealant from surfaces while still uncured.

3.4 PREFORMED JOINT SEALANT APPLICATION

- A. Preparation: Prepare surfaces in accordance with sealant manufacturer's written instructions. Perform field adhesion testing to determine need for application of primer. Clean surfaces to dust free, and perform solvent wipe where recommended. Mask edges of surface to be treated.
- B. Application: Apply bead of recommended liquid joint sealant to each side of joint in bead size recommended by manufacturer. Press extrusion into sealant using roller to ensure uniform and complete contact. Lap vertical and horizontal joints as indicated in manufacturer's instructions. Trim preformed joint sealant. Remove masking tape and excess sealant.

3.6 FIELD QUALITY CONTROL

- A. Field-Adhesion Testing: Perform adhesion tests in accordance with manufacturer's instructions and with ASTM C 1193, Method A.
1. Perform [5] tests for the first [1000 feet (300 m)] of joint length for each kind of sealant and joint substrate, and one test for each [1000 feet (300 m)] of joint length thereafter.
 2. For sealant applied between dissimilar materials, test both sides of joint.
- B. Remove sealants failing adhesion test, clean substrates, reapply sealants, and re-test. Test adjacent sealants to failed sealants.
- C. Submit report of field adhesion testing to Architect indicating tests, locations, dates, results, and remedial actions taken.

3.7 EXTERIOR JOINT-SEALANT SCHEDULE

- A. All exterior construction sealant joints as scheduled on the contract documents which include but not limited to, stucco joints, Door Frames, Window frames and sill perimeters, steel railings, Cast concrete, Horizontal joints in concrete.
1. Joint Sealant: Single-component neutral-curing non-staining silicone sealant DOWSIL™ 790 Silicone or approved equal.
 2. Joint-Sealant Color: Matched to finish surface- custom match when required.

END OF SECTION

**SECTION 09220
PORTLAND CEMENT STUCCO**

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Exterior Portland cement plasterwork (stucco) on metal lath.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show locations and installation of control and expansion joints including plans, elevations, sections, details of components, and attachments to other work.
- C. Samples for Verification: For each type of textured finish coat indicated; 12 by 12 inches, and prepared on rigid backing.
- D. Physical samples of control, expansion joints and other lath trims specified.

1.4 QUALITY ASSURANCE

Mockups: Before plastering the repairs, install mockups of at least 10 lf. at a vertical control joint, horizontal expansion joint, and base weep screed to demonstrate aesthetic effects, tie into and match of existing stucco, and set quality standards for materials, execution and minimizing damage to existing materials.

- 1. Install mockups to match the existing finish.
- 2. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

- A. Preinstallation Conference: Conduct conference at Project site

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic, and other causes.

1.6 PROJECT CONDITIONS

- A. Comply with ASTM C 926 requirements.
- B. Exterior Plasterwork:
 - 1. Apply and cure plaster to prevent plaster drying out during curing period. Use procedures required by climatic conditions, including moist curing, providing coverings, and providing barriers to deflect sunlight and wind. Repairs shall be flush with adjacent plaster and feathered into the existing.
 - 2. Apply plaster when ambient temperature is greater than 40 deg F (4.4 deg C).
 - 3. Protect plaster coats from freezing for not less than 48 hours after set of plaster coat has been installed.

Montclair State University
The Village- Façade Repair

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
1. Products: Subject to compliance with requirements, provide one of the products specified or approved equal.
 2. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.2 METAL LATH

- A. Self Furring-Metal Lath: ASTM C 847 with ASTM A 653/A 653M, G60(Z180), hot-dip galvanized zinc coating.
1. Manufacturers:
 - a. Alabama Metal Industries Corporation (AMICO).
 - b. California Expanded Metal Products Company (CEMCO).
 - c. Dale/Incor.
 - d. Marino/Ware; Division of Ware Industries, Inc.
 - e. Unimast, Inc.
 - f. Western Metal Lath & Steel Framing Systems.
 2. Diamond-Mesh Lath: Self-furring.
 - a. Weight: 3.4 lb/sq. yd. (1.8 kg/sq. m).

2.3 ACCESSORIES

- A. General: Comply with ASTM C 1063 and coordinate depth of trim and accessories with thicknesses and number of plaster coats required.
- B. Zinc Alloy Accessories: (all trim accessories shall be zinc)
1. Manufacturers:
 - a. Stockton Products (basis of design)
 - b. Alabama Metal Industries Corporation (AMICO).
 - c. California Expanded Metal Products Company (CEMCO).
 2. Stucco Base Weep Screed: Fabricated from zinc alloy.
 3. Cornerbeads: Fabricated from zinc.
 - a. Small nose cornerbead with expanded flanges; use unless otherwise indicated.
 - b. Small nose cornerbead with perforated flanges; use on curved corners.
 5. Casing Beads: Fabricated from zinc; square-edged style; with expanded flanges.
 6. Control Joints: Fabricated from zinc; one-piece-type, folded pair of unperforated screeds in Mshaped Configuration; with perforated flanges and removable protective tape on plaster face of control joint.
 7. Expansion Joints: Fabricated from zinc; folded pair of unperforated screeds in M-shaped configuration; with expanded flanges.
 8. Two-Piece Expansion Joints: Fabricated from zinc; formed to produce slip-joint and squareedged reveal that is adjustable from 1/4-to-5/8-inch(6.34-to-16-mm) wide; with perforated flanges.

Montclair State University
The Village- Façade Repair

2.4 MISCELLANEOUS MATERIALS

- A. Water for Mixing: Potable and free of substances capable of affecting plaster set or of damaging plaster, lath, or accessories.
- B. Fiber for Base Coat: Alkaline-resistant glass or polypropylene fibers, 1/2 inch(13 mm) long, free of contaminants, manufactured for use in portland cement plaster.
- C. Steel Drill Screws: For metal-to-metal fastening, ASTM C 1002 or ASTM C 954, as required by thickness of metal being fastened; with pan head that is suitable for application; in lengths required to achieve penetration through joined materials of not fewer than three exposed threads.
- D. Fasteners for Attaching Metal Lath to Substrates: Complying with ASTM C 1063.
- E. Building Paper: ASTM D 226, Type 1 (No. 30 asphalt-saturated organic felt), unperforated.

2.5 PLASTER MATERIALS

- A. Portland Cement: ASTM C 150, Type I.
 - 1. Color for Finish Coats: White (match existing)
- B. Lime: ASTM C 206, Type S; or ASTM C 207, Type S.
- C. Sand Aggregate: ASTM C 897.
 - 2. Color for Job-Mixed Finish Coats: White.
- D. Acrylic-Based Finish Coatings: Factory-mixed acrylic-emulsion coating systems, formulated with colorfast mineral pigments and fine aggregates; for use over portland cement plaster base coats. Include manufacturer's recommended primers and sealing topcoats for acrylic-based finishes.
 - 1. Products:
 - 2. Color: Match Existing

2.6 PLASTER MIXES

- A. General: Comply with ASTM C 926 for applications indicated.
 - 1. Fiber Content: Add fiber to base-coat mixes after ingredients have mixed at least two minutes. Comply with fiber manufacturer's written instructions for fiber quantities in mixes, but do not exceed 1 lb of fiber/cu. ft.(16 kg of fiber/cu. m) of cementitious materials. Reduce aggregate quantities accordingly to maintain workability.
- B. Base-Coat Mixes for Use over Metal Lath: Scratch and brown coats for three-coat plasterwork as follows:
 - 1. Portland Cement Mixes:
 - a. Scratch Coat: For cementitious material, mix 1 part portland cement and 0 to 3/4 parts lime. Use 2-1/2 to 4 parts aggregate per part of cementitious material (sum of separate volumes of each component material).
 - b. Brown Coat: For cementitious material, mix 1 part portland cement and 0 to 3/4 parts lime. Use 3 to 5 parts aggregate per part of cementitious material (sum of separate volumes of each component material).
- C. Base-Coat Mixes for Use over Concrete Unit Masonry: Single base coats for two-coat plasterwork as follows:
 - 1. Portland Cement Mix: For cementitious material, mix 1 part portland cement and 3/4 to 1- 1/2 parts lime. Use 2-1/2 to 4 parts aggregate per part of cementitious material (sum of separate volumes of each component material).
- D. Leveling Coat: Applied in a thin layer over base coats to embed the reinforcing mesh and provide

Montclair State University
The Village- Façade Repair

- a uniform, level surface for finish application.
- 1. Fiber reinforced, dry-blend, cementitious product, which is field mixed with water.
- E. Reinforcing Mesh: A fiberglass reinforcing mesh embedded in the leveling coat to improve crack and impact resistance.
 - 1. Balanced, open weave fiberglass reinforcing mesh weighing a minimum of 146 g/m² (4.3 oz/yd²). Mesh shall be treated for compatibility with other materials.
- F. Factory-Prepared Finish-Coat Mixes: For acrylic-based finish coatings, comply with manufacturer's written instructions. See Acrylic specification.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, casting anchors, and structural framing, for compliance with requirements and other conditions affecting performance.

- 1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Protect adjacent work from soiling, spattering, moisture deterioration, and other harmful effects caused by plastering.

3.3 INSTALLING BUILDING PAPER (for repairs)

- A. Install two layer of building paper staggering all joints between layers a minimum of 12 inches. Fasten to sheathing with corrosion-resistant staples

3.4 INSTALLING METAL LATH

- A. Expanded-Metal Lath: Install according to ASTM C 1063.

3.5 INSTALLING ACCESSORIES

- A. Install according to ASTM C 1063 and at existing locations indicated on Drawings for replacement.
- B. Reinforcement for External Corners:
 - 1. Install cornerbead at interior and exterior locations.
- C. Control Joints: remove existing and reinstall control joints at all locations, refer to drawings for further details.

Control joints shall be added if absent in order to meet the following:

- 1. As required to delineate plasterwork into areas (panels) of the following maximum sizes:
 - a. Vertical Surfaces: 144 sq. ft.(13.4 sq. m).
 - b. Horizontal and other Nonvertical Surfaces: 100 sq. ft.(9.3 sq. m).
- 2. At distances between control joints of not greater than 18 feet(5.5 m) o.c.
- 3. As required to delineate plasterwork into areas (panels) with length-to-width ratios of not greater than 2-1/2:1.
- 4. Where control joints occur in surface of construction directly behind plaster.
- 5. Where plasterwork areas change dimensions, to delineate rectangular-shaped areas (panels) and to relieve the stress that occurs at the corner formed by the dimension change.

Montclair State University
The Village- Façade Repair

3.6 PLASTER APPLICATION

A. General: Comply with ASTM C 926.

1. Do not deviate more than plus or minus 1/4 inch in 10 feet(6.4 mm in 3 m) from a true plane in finished plaster surfaces, as measured by a 10-foot(3-m) straightedge placed on surface.
2. Grout hollow-metal frames, bases, and similar work occurring in plastered areas, with base-coat plaster material, before lathing where necessary. Except where full grouting is indicated or required for fire-resistance rating, grout at least 6 inches(152 mm) at each jamb anchor.
3. Finish plaster flush with metal frames and other built-in metal items or accessories that act as a plaster ground, unless otherwise indicated. Where casing bead does not terminate plaster at metal frame, cut base coat free from metal frame before plaster sets and groove finish coat at junctures with metal.
4. Provide plaster surfaces that are ready to receive field-applied finishes indicated.

B. Fiberglass Reinforced Leveling Coat:

1. Ensure that the surface of the base coat is cured, clean, dry, and free of efflorescence, oil or other contaminants that would impair adhesion.
2. Apply leveling coat mixture to the wall surface in a continuous layer approximately 2.4 mm (3/32 in) thick. Apply a layer of reinforcing mesh into the wet mixture and trowel smooth so that the mesh is fully embedded. Lap adjoining pieces of mesh a minimum of 65 mm (2 ½ in).
3. Allow the reinforced leveling coat to cure for a minimum of 24 hours, until dry. Cool, damp weather may require longer drying time.

C. Plaster Finish Coats: Apply to provide brocade (knock-down dash) to match existing.

1. Acrylic-Based Finish Coatings: Apply coating system, including primers, finish coats, and sealing topcoats, according to manufacturer's written instructions.

3.7 CUTTING AND PATCHING

A. Cut, patch, replace, and repair plaster as necessary to accommodate other work and to restore cracks, dents, and imperfections. Repair or replace work to eliminate blisters, buckles, crazing and check cracking, dry outs, efflorescence, sweat outs, and similar defects and where bond to substrate has failed.

3.8 CLEANING AND PROTECTION

A. Remove temporary protection and enclosure of other work. Promptly remove plaster from doorframes, windows, and other surfaces not indicated to be plastered. Repair floors, walls, and other surfaces stained, marred, or otherwise damaged during plastering.

END OF SECTION 09220

Elastomeric Coating System
Section 099653 Elastomeric
Coatings

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide labor and materials necessary to install a high-build 100% acrylic elastomeric weatherproof coating system.
- B. Related Sections:
 - 1. Section 092400 Portland Cement Plastering

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM) Standards
 - 1. Volume 06.01 Paint- Tests for Chemical, Physical, and Optical Properties; Appearance
 - 2. D5324-03 Standard Guide for Testing Water-Borne Architectural Coatings
- B. Federal Specification TT-C-555-B

1.3 SYSTEM DESCRIPTION

- A. The AWS-15 system is an elastomeric acrylic weatherproof coating system for Cast-in Place Concrete, Masonry, Brick, EIFS, Stucco and other manufacturer approved surfaces. The AWS-15 System is available in a full range of architectural colors.

1.4 SUBMITTALS

- A. Product Data: Provide written technical information and installation instructions from Acrymax or approved equal coating which demonstrate that materials to be installed comply with contract documents.
- B. Verify field measurements and submit materials list, including quantities, to be applied to achieve specified coating dry film thickness.
- C. Submit contractor warranty against defects in workmanship.
- D. Submit sample copy of Acrymax warranty.
- E. Submit Acrymax Material Safety Data Sheets (MSDS).
- F. Submit manufacturers standard color chart, or if special color, prepare and submit 6"x 8" samples of each color in the productspecified.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Not less than 20 years successful experience in manufacturing elastomeric coatings of the type specified herein.
- B. Applicator Qualifications: Applicator must have at least 3 years experience in the installation of products similar to that required for this project.
 - 1. Manufacturer's certification of applicator approval is required.
 - 2. Provide applicator's completed project reference list.
- C. All details must be installed in conformance with the current Acrymax Technologies specifications and detail drawings. Any deviations from these criteria must have prior written approval from Acrymax Technologies.
- D. Inspections by an authorized representative of Acrymax may be required for warranty. Inspection shall not replace the normal responsibilities of the contracting parties. Request for inspections must be forwarded to Acrymax Technologies prior to start of the application.
- E. Provide all primers, coatings, and accessories as manufactured and/or approved in writing by Acrymax Technologies.
- F. *Acrymax Applicators Daily Log* providing project information and describing weather conditions at times of application of system must be kept by project foreman. This log shall be forwarded to Acrymax upon completion of application.

Montclair State University
The Village- Façade Repair

1.6 DELIVERY, STORAGE AND HANDLING

- A. Furnish Acrymax Coating system materials and component accessories in manufacturer's original containers clearly indicating the Acrymax label and other identifying information.
- B. Handle and store materials in accordance with Acrymax recommendations.
- C. Protect materials against freezing. Protect from extreme heat. Store materials between 50°F and 85°F.

1.7 PROJECT CONDITIONS

- A. Allow any installed sealant joints to cure according to sealant manufacturer's recommendations before application of coatings.
- B. Coats: The number of coats specified is the minimum number that is acceptable. If specified dry film thickness is not achieved with the specified number of coats, apply additional coats as necessary to provide the required dry film thickness.

1.8 ENVIRONMENTAL CONDITIONS

- A. It is the responsibility of the applicator to determine if present and forecast weather conditions are acceptable for application of Acrymax coatings. To qualify for warranty a log book of project weather conditions during application must be kept by project foreman.
- B. Do not apply Acrymax coatings when snow, rain, fog or freezing temperatures are possible within 24 hours after application or before coating can dry.
- C. Do not apply coatings when the temperature of surfaces to be coated and/or surrounding air temperatures are less than 50°F.
- D. Do not apply Acrymax coatings when the dew point can be reached before the coatings have sufficiently dried or cured. Special consideration must be given during spring and autumn applications for rapid temperature changes near sunset, shortened workdays may be required.
- E. Allow wet surfaces to dry thoroughly and to attain temperature and conditions specified before proceeding with or continuing coating operation.
- F. Wind conditions must be considered during application of products to avoid damage to adjacent surfaces or completed work. Provide for protection of other surfaces or do not spray apply coatings if overspray will be deposited on surfaces not intended to be coated.

1.9 SAFETY REQUIREMENTS

- A. Users should familiarize themselves with appropriate Material Safety Data Sheets (MSDS). MSDS must be available at all worksites where materials are being used.
- B. Materials shall be applied in accordance with all applicable local, state, and federal regulations.
- C. A respirator should be used when spraying Acrymax coatings to protect applicators from overspray particles.
- D. Handle on pails should only be used to hand carry pail and should not be used to hoist pail more than 2' from ground.
- E. All work shall be performed in conformance with all OSHA requirements including the safety procedures outlined in the current Fall Protection Guide. OSHA Standards are available on the internet at www.osha.gov.
- F. If hazardous materials such as lead paint or asbestos are encountered notify appropriate personnel and comply with all applicable local, state, and federal regulations.

1.10 WORK SEQUENCE

- A. Sequence of operations is at the Applicator's discretion providing it does not disrupt operations or activities of the occupants of the building.

1.11 WARRANTY

- A. Warranty shall be 10 year material warranty. (*Consult with Acrymax about specific Acrymax warranty requirements and conditions*). The warranty is available only when the Acrymax system is installed by an Acrymax Approved Applicator and minimum coating thickness is achieved.

**Montclair State University
The Village- Façade Repair**

- B. Furnish minimum 2 year contractor warranty covering defects in workmanship.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Manufacturer: Acrymax Technologies Inc. 221 Brooke Street
1. Contact: 221 Brooke Street; Media, PA 19063; Telephone (610) 566-7470; FAX (610) 891- 0834; email info@acrymax.com website www.acrymax.com.
- B. Substitutions: or approved equal.
- C. Primer: Concrete and other masonry surfaces may require primer. *Consult Acrymax*
- D. Elastomeric Coatings – Elastomeric coatings shall be water-dispersed 100% acrylic elastomeric coatings designed for use on masonry surfaces. Materials shall meet the following minimum specifications:

1. Liquid Coating Property Requirements

	AF-135	ASTM
Weight Per Gallon	12.1 +/- .3 lbs	D1475
Solids by Weight	66.9 +/- 2.0	D1644
Solids by Volume	50.8 +/- .5	D2697
Viscosity	95 – 115 kU	D562

2. Cured Film Typical Physical Properties

	AF-135	ASTM
Low Temp. Flexibility	Pass @ -15° F	D522
Elongation at break	245% @ 74° F	D2370
	130% @ 0° F	D2370
Tensile strength at break	240 psi @ 74° F	D2370
	660 psi @ 0° F	D2370
Accelerated weathering	No effect	D4798
Fungi Resistance	Zero rating	G21
Wind Driven Rain	Pass	TT-C-555-B

2.2 APPLICATION EQUIPMENT

- A. Acrymax coatings shall be applied by brush, roller, or spray. When applied by spray it is recommended that airless spray be used. Application by roller or brush may require additional coats, but material requirements will remain the same. In all cases, the specified minimum membrane thickness must be achieved.

2.3 RELATED MATERIALS

- A. Related Products Supplied By Acrymax Technologies:
1. AF-315 Fibrated Acrylic
2. AF-110 Masonry Primer
- B.** Sealant - *Silicone sealant unacceptable*
- C. Polyurethane Foam - Expanding polyurethane foam.
- D. Polymer modified concrete patching material

PART 3 - EXECUTION

3.1 MANUFACTURERS INSTRUCTIONS

- A. Compliance: Comply with Acrymax's product data, recommendations, and installation instructions for substrate verification, preparation requirements, and installation.

3.2 INSPECTION

- A. Inspect the surfaces to be coated and the conditions under which the Work is to be installed. Do not proceed with the Work until unsatisfactory conditions have been corrected and substrate is acceptable. Notify the general contractor, building owner, or architect in writing of any unsatisfactory conditions. Applicator shall be responsible for providing a proper substrate to receive the Acrymax coating system.
- B. Verify that the pH of all concrete surfaces to be coated is within manufacturer's acceptable level.
- C. All bond breakers and curing compounds must be removed.
- D. Verify that all sealants or caulks used are "paintable" and are fully cured in accordance with manufacturer's specifications and that the caulking system provides a clean and bondable surface.

3.3 PREPARATION

- A. Surfaces must be sound, clean and dry prior to application of coating or primer.
- B. Remove all dust dirt, mildew, loose substrate materials, or any other contaminants that can interfere with adhesion of coatings. Pressure wash, chemically clean, or mechanically prepare as necessary to provide a suitable surface for application of coatings or primer.
- C. Damaged or spalled areas shall be repaired with non-shrinking polymer modified cementitious patching mortar and shall be allowed to cure for 7 days before applying coating system.
- D. Cementitious Repair
 - 1. Damaged or spalled areas shall be repaired with non-shrinking polymer modified cementitious patching mortar and shall be allowed to cure for 7 days before applying coating system.
- E. Crack repair – All caulking, patching, crack repair materials and joint sealants should be installed prior to application of the elastomeric coating. Poly-1 Reinforcement Fabric embedded into wet coat of AF-135 shall be used where necessary.
 - 1. Static cracks up to 1/8 in
 - a. Clean crack and remove all loose materials.
 - b. Apply AF-315 directly over the crack and feather out a minimum of 3" on each side
 - 2. Static cracks from 1/8 to 1/4 in
 - a. Chip or grind out crack to 1/4 in wide by 1/4 in deep
 - b. Clean and remove all loose materials
 - c. Fill groove with AF-315
 - d. Apply AF-315 directly over the crack and feather out a minimum of 3" on each side
 - 3. Static cracks over 1/4 in.
 - a. Clean crack and remove all loose materials.
 - b. Repair crack with non-shrinking polymer modified cementitious patching mortar and allow to cure 7 days.
 - c. Apply AF-315 directly over the repaired crack and feather out a minimum of 3" on each side
 - 4. Dynamic cracks 1/16 to 1/2 in.
 - a. Chip or grind out crack so that width is equal to depth (Minimum 1/4 in.)
 - b. Clean crack and remove all loose materials.
 - c. Fill crack with high grade urethane sealant. Tool into joint and allow to cure for 24 hours.
 - d. Apply AF-315 directly over the repaired crack and feather out a minimum of 3" on each side

Montclair State University
The Village- Façade Repair

3.4 INSTALLATION

- A. Following inspection and acceptance of substrate condition, install the Acrymax AWS-15 Coating System using minimum coverage indicated in the manufacturer's guidelines.
- B. Prime masonry surfaces with AF-110 primer @ 1 gallon per 250 sq. ft. Use of primer is not a substitute for proper cleaning of surfaces to receive coatings.
- C. If and where necessary, install Poly-1 Reinforcement Fabric by embedding into wet coat of AF- 135.
- D. Apply Elastomeric Coating System
 - 1. Apply minimum of 2 coats of AF-135 to achieve minimum 15 mils dry film thickness. Minimum application rate of 1 gallon per 100 sq. ft. per coat
 - 2. Contrasting colors recommended for each coat in the system.
 - 3. Allow to dry minimum of 4 hours between coats.
 - 4. Maintain a wet edge to prevent lap marks and continue work to a natural break point such as panel edge, corner, or seam.
 - 5. If necessary apply additional AF-135 where required, to insure that the minimum 15 mils total dry film thickness is achieved.

3.5 FIELD QUALITY REQUIREMENTS

- A. Verify final film thickness as specified. If specified dry film thickness has not been achieved, application of additional coating will be required.
- B. Architect, Manufacturer, and or Building Owner reserve the right to perform post installation testing for conformance to specification.

3.6 CLEANING AND PROTECTION

- A. During the course of application, remove all discarded materials and debris from the site at the end of each workday.
- B. Any surfaces splattered with coating material must be cleaned immediately.
- C. Insure all areas that are not to be coated are clean and left in acceptable condition.
- D. Protect completed areas from damage by work of other trades.

END OF SECTION

Montclair State University

Wayfinding and Signage Manual

Version 2.0

PROJECT NOTES

This manual addresses Montclair State University sign standards

Document prepared by Exit Design

VERSION 2.0

ISSUE DATE: 3/12/21

PROJECT CONTACTS

The project is located at the following address:

Montclair State University
1 Normal Ave Montclair, NJ 07043

Michael J. Zanko
Associate Vice President Capital Planning & Project Management
zankom@mail.montclair.edu

Ellen Gallagher-Kenny
Assistant Project Manager, Capital Planning & Project Management
gallagher@montclair.edu

DESIGNER

Exit Design
1617 JFK Boulevard, Suite 1665
Philadelphia, Pennsylvania 19103

Contact: Amy Rees
(267) 479-2228
amy.rees@exploreexit.com

TABLE OF CONTENTS

PART 1 ABOUT THE SYSTEM

SECTION A – INTRODUCTION	1A.6
SECTION B – IMPLEMENTATION	1B.10
SECTION C – MAINTENANCE	1C.14

PART 2 EXTERIOR SIGNAGE

SECTION A – DESIGN OVERVIEW	2A.17
SECTION B – BUILDING IDENTIFICATION	2B.23
B1 Building Identification (On Campus)	2B.26
B2 Building Identification (Off Campus)	2B.28
B3 Building Identification (Dimensional Letters)	2B.32
B4 Building Identification (Vinyl Letters)	2B.32
SECTION C – CAMPUS MARKERS	2C.37
F1 Campus Marker Banners (Existing Pole)	2C.40
F2 Campus Marker Banners (New Pole)	2C.41
F3 Campus Gateway Lettering	2C.43
SECTION D – GARAGE & PARKING	2D.47
G1 Garage Identification (Flag with LED Display)	2D.50
G2 Garage Clearance Bar	2D.52
G3 Garage Parking Rates	2D.53
G4 Garage Orientation Panel	2D.54
L1 Parking Lot Directional	2D.56
L2 Parking Lot Identification	2D.56
L3 Parking Lot Identification (Pole Mounted)	2D.58
SECTION E – PEDESTRIAN & SHUTTLE	2E.65
P1 Pedestrian Orientation	2E.68
P2 Pedestrian Directional	2E.70
P3 Pedestrian Directional (Pole Mounted)	2E.72
S1 Shuttle Stop (Applied)	2E.74
S2 Shuttle Stop Pylon	2E.76
SECTION F – VEHICULAR & TEMPORARY	2F.83
V1 Vehicular Directional (Small)	2F.86
V2 Vehicular Directional (Large)	2F.88
X1 Temporary/Event (Vehicular)	2F.90
X2 Temporary/Event (Pedestrian)	2F.92

PART 3 GENERAL SPECIFICATIONS

SECTION A – GENERAL SPECIFICATIONS	3A.97
SECTION B – GRAPHIC STANDARDS	3B.103
Typography	3B.104
Color & Materials	3B.105
Symbols	3B.107
Map Style Guidelines	3B.108

THIS PAGE IS INTENTIONALLY LEFT BLANK

PART 1, SECTION A

ABOUT THE SYSTEM

Introduction

HOW TO USE THIS MANUAL

WELCOME TO THE MONTCLAIR STATE UNIVERSITY WAYFINDING AND SIGNAGE MANUAL.

The manual has been developed for the ongoing maintenance of the system that includes comprehensive information for the Exterior Signage program. The Wayfinding and Signage Manual consists of a vocabulary of pre-designed sign configurations that will effectively meet a broad range of sign function requirements. This manual documents the signage program and describes the entire sign family as a sign system, including descriptions of sign types and their functions.

The Wayfinding and Signage Manual facilitates the implementation of signs in new facilities, renovation projects and as a catalog to order replacements for damaged or outdated parts or signs where the program has already been installed.

This document is intended to provide project managers and other interested parties a detailed description of the primary operating characteristics of the Exterior Sign program at Montclair State University.

The manual is divided into three parts:

PART 1 ABOUT THE SYSTEM

This section provides an overview of objectives, policies and strategies that were developed and approved by the Montclair State University Signage Steering Committee. It also outlines the levels of implementation of the signage standards and the tools and processes for maintaining the Signage System.

PART 2 EXTERIOR SIGNS

Each exterior sign is shown with a drawing that specifies typography, color, materials and fabrication methods.

PART 3 DETAILS

Detailing specifications for fabrication and installation of the signs and Graphic Standards for typography, colors and materials, and symbols.

WAYFINDING SIGN PROGRAM POLICY

The Wayfinding and Signage Manual provides specific guidelines and standards to the Montclair State University community for the implementation of the Montclair State University sign system across all University campuses, buildings and environments.

The Wayfinding and Signage Manual has been developed by the Office of University Planning and Development with extensive advice and consultation from faculty, staff and students. The Board of Governors of the university will formally approve the Wayfinding and Signage Manual.

The power of a strong visual identity and consistent wayfinding system can only be realized through consistent application over time. It is the University's policy that the official wayfinding signage, as described in these pages, is the only sanctioned wayfinding and signage system across the University. No other signage may be used or created to represent the University as a whole or any part thereof.

WAYFINDING AT MONTCLAIR STATE UNIVERSITY

Wayfinding is a process of spatial orientation and decision-making along an individual's path of travel to a destination. There are points along this journey when orientation is required to make a decision about which direction to proceed. Exterior signs provide the information necessary to guide students, visitors and staff to destinations, identify areas and provide safety information. A successful sign system assists people in finding their way, enhances the campus environment and complies with the Americans with Disabilities Act (ADA) and local regulations.

In 2015, Montclair State University assessed the manner in which it moves people between, around and through its campuses to develop a new wayfinding strategy. Montclair State University engaged Exit Design, a Philadelphia-based design firm, to evaluate its campus wayfinding, access and usability. Site observations, tours, fieldwork and work sessions with University stakeholders informed the design direction of the sign program.

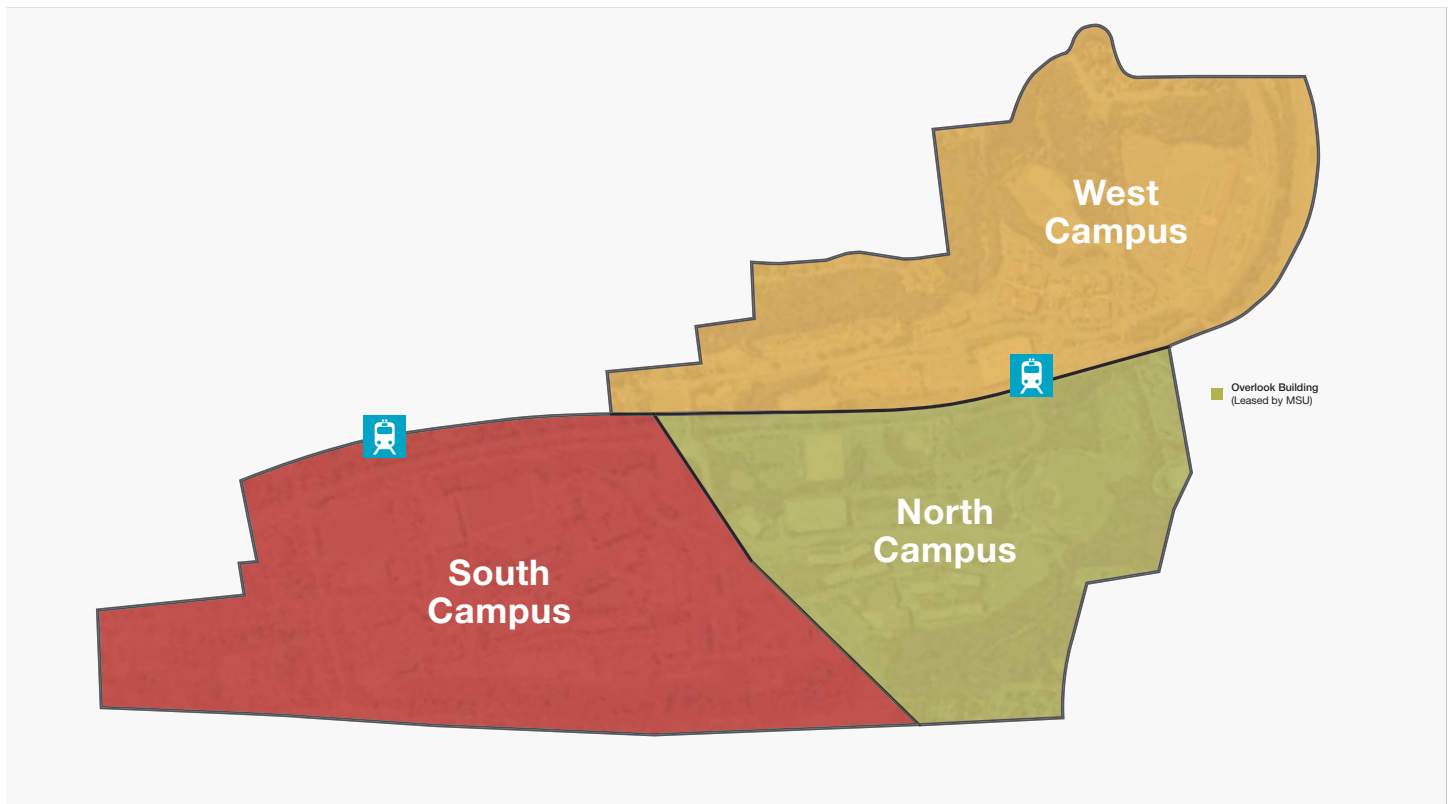
The University's visual identity system and image was translated to a new, aesthetically distinct, affordable and easily maintainable design package. New exterior signage design standards were developed. The new standards outline guidelines for signage locations, keeping in mind that campus beautification efforts include minimizing the quantity of signage in the campus landscape.

The new sign system promotes the Montclair State University commitment to standardization, yet provides the flexibility to respond to the variety of campus conditions.

For the ease of wayfinding and direction-giving, the Montclair State University campus has been divided into three zones as shown in the map below. The nomenclature for the zones aims to align with the location of each zone. Additionally, each zone has been assigned an accent color to visually reinforce the identity of each place on campus.



CAMPUS ZONE MAP



PROGRAMMING GUIDELINES

B1

To be used for on-campus buildings. Signs should be positioned at building entrance. Colleges and Schools should not be listed on these signs unless it is the official name of the building. Donor name should be not written in full (use only last name).

B2

To be used for off-campus buildings and along major roadways. Donor name should not be written in full (use only last name).

B2 and B3

Full donor name (first and last name) to be used.

F1

To be programmed along roadways. Can also be programmed along major pedestrian spines to indicate the change of zones.

L1

Use this directional only to direct to parking areas.

L2

Locate at parking lot entrance.

L3

Locate within parking lots on existing light poles.

P2

Each sign can accommodate 13 listings (including arrows). Listings should only include destinations found within the zone (exceptions can be made for pedestrian directionals programmed directly on zone boundaries). Destinations directly adjacent to the sign should be prioritized. Other close Top Public Destinations should also be listed.

Top Public Destinations

Floyd Hall	MSU Soccer Park
Yogi Berra Museum & Stadium	Panzer Gymnasium
CarParc Diem Garage	Red Hawk Garage
Softball Stadium	SCM Presentation Hall
Student Recreation Center	Sprague Field
Student Services Center	Undergraduate Admissions
Conference Center	SCM Complex
Kasser Theater	Segal Art Gallery
Memorial Auditorium	Sprague Library
Leshowitz Recital Hall	University Police

V1 and V2

Vehicular directionals should only direct to Campuses, Visitor Parking, and Exits. If there is additional room and appropriately located, signs can also direct to “Berra Stadium” and “Ice Arena”

HOW TO ORDER A SIGN AT MONTCLAIR STATE UNIVERSITY

Ordering a sign at Montclair State University can be quite easy. Follow these steps and if you need support along the way, contact

Michael J. Zanko,
Associate Vice President Capital Planning & Project Management
zankom@mail.montclair.edu

Ellen Gallagher-Kenny
Assistant Project Manager, Capital Planning & Project Management
gallagher@montclair.edu

1. KNOW WHAT YOU NEED

Determine what sign type is needed and the desired location for the sign.

2. DETERMINE MESSAGE.

Write the message for the sign. Is there another sign with similar message as a sample or do you need to create a new message from scratch?

3. SELECT APPROPRIATE SIGN TYPE.

Find the specific type of sign you need to order.

4. LOCATE RELEVANT DRAWINGS.

Use this manual to find drawings for the sign type.

5. DETERMINE IF THERE ARE ANY SPECIAL CONDITIONS.

Visit/Review the space where the sign will be installed. Does the sign need special placement or is it in a unique location?

6. ENGAGE A FABRICATOR.

Send the relevant manual drawings, copylist, and location plan in order for the fabricator to produce the sign(s) needed.

7. REVIEW INSTALLATION FOR QUALITY AND ADHERENCE TO STANDARDS. Signs should meet all standards outlined in this document.

PART 1, SECTION B

ABOUT THE SYSTEM

Implementation

DESIGN OVERVIEW

INTRODUCTION

Implementing a sign program— whether reordering existing signs or extending the sign program— takes an interdisciplinary, phased approach that considers and respects time and budget. The sign standard program and manual should be used to guide strategies, sign locations, messaging, fabrication details and installation methods.

LEVELS OF IMPLEMENTATION

Exterior signage is often required in a variety of circumstances at varying levels.

NEW CONSTRUCTION OR CAMPUS EXPANSION: Campus is reorganized, expanded or an area on campus has changed.		Estimated Lead-time for Fabrication/Installation 12–16 Weeks
PROGRAMMING Internal/External Follow strategies outlined in standards manual. New signs may need to be programmed and existing signs may have parts that need to be replaced. If custom design is required, an outside designer should be hired to create a solution using the standards as a baseline.	FABRICATION External Hire approved fabricator with knowledge of standards.	
SYSTEM UPDATE: New building is built or building function / occupant changes.		Estimated Lead-time for Fabrication/Installation 8–12 Weeks
PROGRAMMING Internal/External Follow strategies outlined in standards manual. New signs may need to be programmed and existing signs may have parts that need to be replaced. If custom design is required, an outside designer should be hired to create a solution using the standards as a baseline.	FABRICATION Internal/External Internal if it affects fewer than 8 signs. If new signs require new footers, engage outside fabricator.	
MAINTENANCE RE-ORDERING: Building function / occupant changes.		Estimated Lead-time for Fabrication/Installation 6–8 Weeks
PROGRAMMING Internal Follow strategies outlined in standards manual. New signs may need to be programmed and existing signs may have parts that need to be replaced. Orders go through wayfinding champion/facilities.	FABRICATION Internal/External Internal if no new signs are required or if attic stock needs to be replaced.	

DESIGN OVERVIEW CONTINUED

PHASED IMPLEMENTATION

Since many sign locations rely on another location or sign to create a navigational pathway or order of information, implementation phases may be divided by campus, sign purpose or campus section.

Signs along a set journey must be implemented together so that users do not experience any gaps in their wayfinding journey. While it may seem that starting on the outer edge of campus makes sense, it may be most beneficial to start with interior campus arrivals so, as the system is phased, the path is completed.

PROGRAM MANAGEMENT

The success of a wayfinding program relies on the team to plan, design, implement and manage the wayfinding signage program. An experienced wayfinding champion will be responsible for handling all communications between the Montclair State University team and consultants or stakeholders.

The University Wayfinding Champion will coordinate a series of specific procedures that have been designed and implemented to ensure the successful completion of each sign project. The University Wayfinding Champion, design team (when appropriate), stakeholders (such as architects or interior designers) and the fabricators and installers should meet throughout the project to ensure the project meets the overall goals, stays consistent with the University-approved standards, and is on time and on budget.

THIS PAGE IS INTENTIONALLY LEFT BLANK

PART 1, SECTION C

ABOUT THE SYSTEM

Maintenance

MAINTAINING THE SYSTEM

Montclair State University has the tools to maintain its sign program. This includes equipment and staff capacity to consistently produce quality signs. If there are needs that fall outside Montclair State University’ capabilities, then it is recommended to seek outside support through a bid process in order to properly maintain the program standard.

HOW TO CARE FOR THE SYSTEM

A wayfinding system is made up of two parts— the assets and tools of the system and the methodology and logic of direction-giving. Both of these parts must be maintained and cared for over the lifespan of the system. Caring for the system includes, but may not be limited to, the following strategies in the chart below:

REGULAR MAINTENANCE

Signs will need regular maintenance and cleaning. Exterior signage should be cleaned annually to prolong the life of the signs. Exterior signs should be washed to remove dirt and grime.

A strategy for quick cleaning of vandalism should be in place so these events are dealt with in a timely manner throughout the year. Poles and sign faces may get graffiti or sticker damage in high-traffic areas. These pieces can be carefully cleaned with soap and water, or Goo Gone for stickers and a mild paint thinner for graffiti. Professional or highly-trained staff should complete this cleaning to ensure that additional damage is not incurred.

MAINTENANCE MATRIX FOR PERMANENT SIGNS			
	0-4 YEARS	5-9 YEARS	9+ YEARS
DESIGN AND PLANNING	Extensive design and planning program continues even after sign system in place.	Moderate amount of design and planning.	Re-evaluate program to determine effectiveness and adjust to match campus growth.
SIGN SYSTEM FLEXIBILITY	Develop a kit of parts for maximum changeability to accommodate phased implementation and future growth of institution.	Grow and adapt system using kit of parts.	Grow and adapt system using kit of parts. Add new parts as necessary to accommodate growth.
CLEANING	Annual cleaning to maintain appearance and trust of system.	Annual cleaning to maintain appearance and trust of system.	Annual cleaning to maintain appearance and trust of system.
REPLACEMENT	Phased replacement schedule based upon roll out implementation plan.	Annual replacement based upon wear and tear and/or campus growth.	Annual replacement based upon wear and tear and/or campus growth.
MANAGEMENT	Day-to-Day management during initial roll out of standard.	Semi/Bi-Annual ongoing management or as new facilities come online.	Semi/Bi-Annual ongoing management or as new facilities come online.

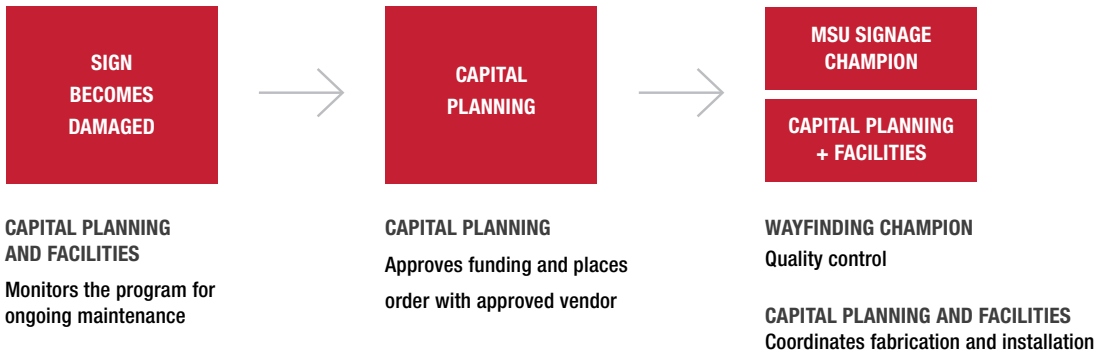
QUESTIONS?

Please contact

Michael J. Zanko, zankom@mail.montclair.edu

Ellen Gallagher-Kenny, gallaghere@montclair.edu

MAINTENANCE PROCESS FOR REPAIR OR REPLACEMENT OF EXISTING SIGNS



MAINTENANCE PROCESS FOR ADDITIONS, REMOVALS OR ALTERATIONS TO THE SYSTEM
New building, new routing, change of name



AUDIT, CONSOLIDATE AND PURGE

An audit of the existing signage and removal of what is inaccurate, unnecessary or redundant is key to maintaining a well-organized and easy to understand system. This can be done in tandem with the installation of new programs or at regular intervals throughout the year. This should be completed at least once per year, if not more frequently. Facilities staff must be diligent in removing paper signage put up by staff or students that are outside of the wayfinding system.

WHEN TO UPDATE

The Montclair State University signage standards have been designed for longevity and flexibility. Typically, signage systems of this scale have a lifespan of 10 to 15 years before the design standards must be reviewed to meet the brand requirements of the University. In addition, new codes and regulatory requirements may arise so that the signage may need to be refreshed to meet ever-changing regulations. When changes need to be made to the Standards, a qualified designer (in-house or external) should be brought into the team to revise and extend the program following the original design principles.

UNIVERSITY MANAGEMENT OF THE SYSTEM

Montclair State University Capital Planning department will ensure that the program is maintained and implemented accurately. Facilities will clean, repair and coordinate fabrication of new signage when needed. A review process to approve signage requests to update and add to the system will ensure adherence to the standards.

THIS PAGE IS INTENTIONALLY LEFT BLANK

PART 2, SECTION A

EXTERIOR SIGNAGE

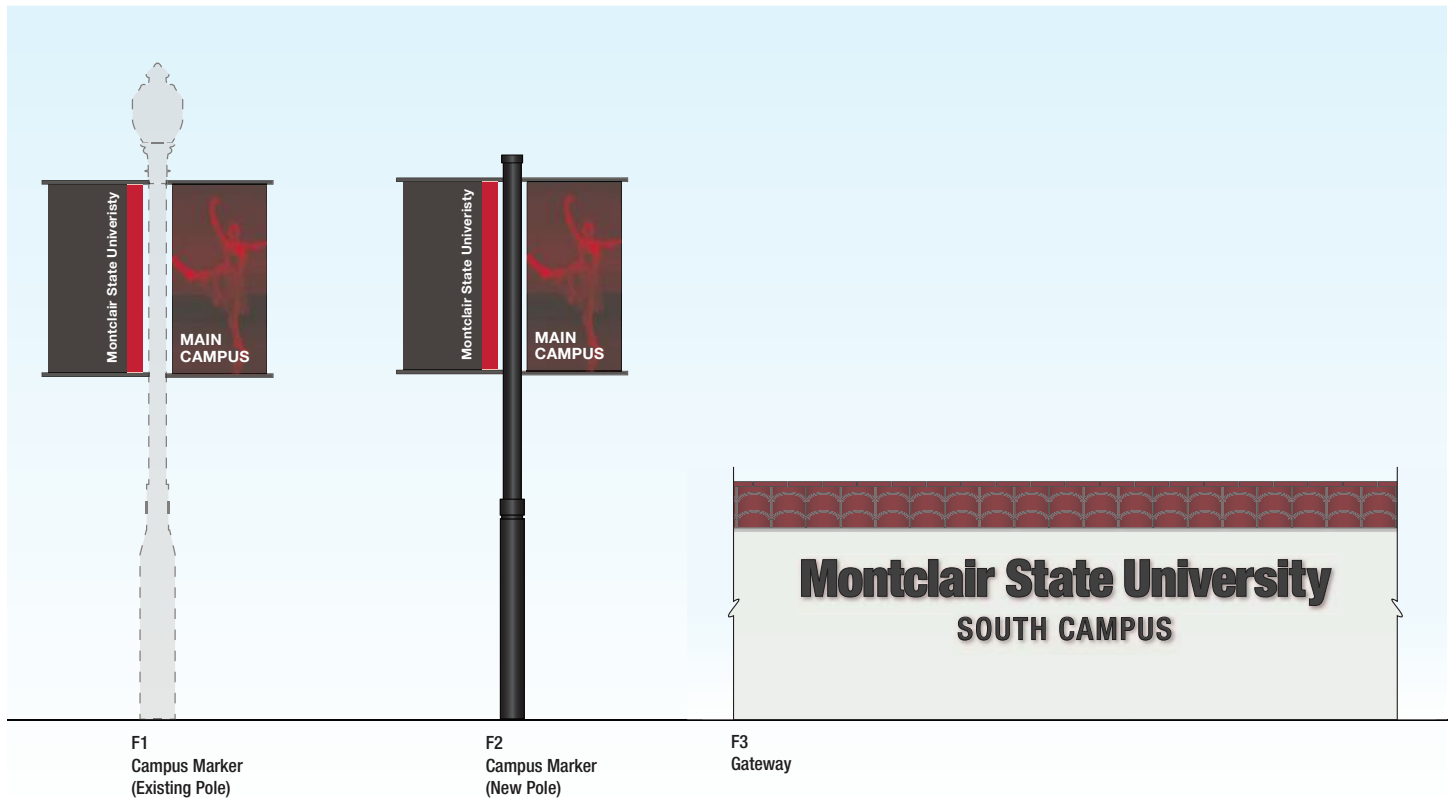
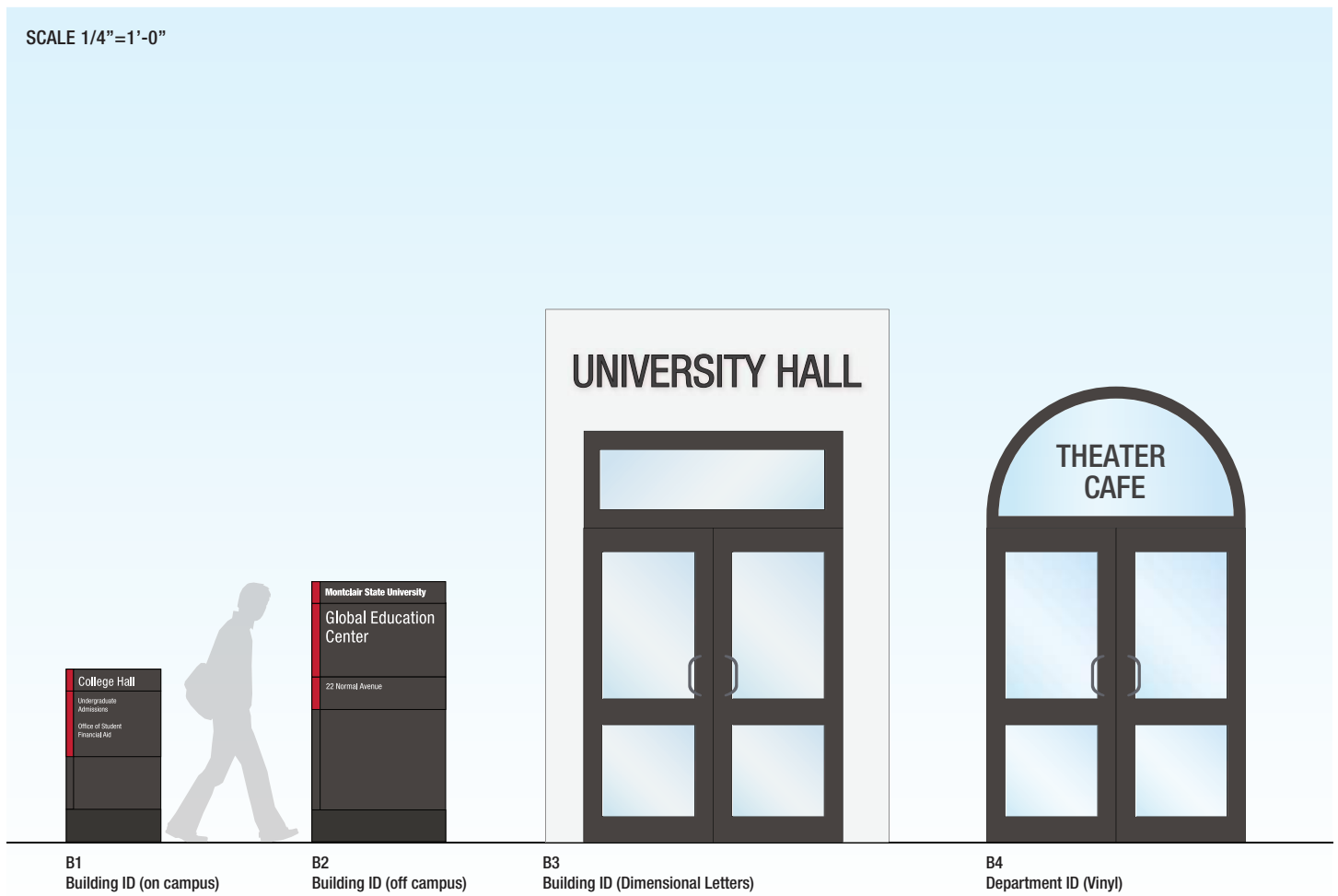
Design Overview

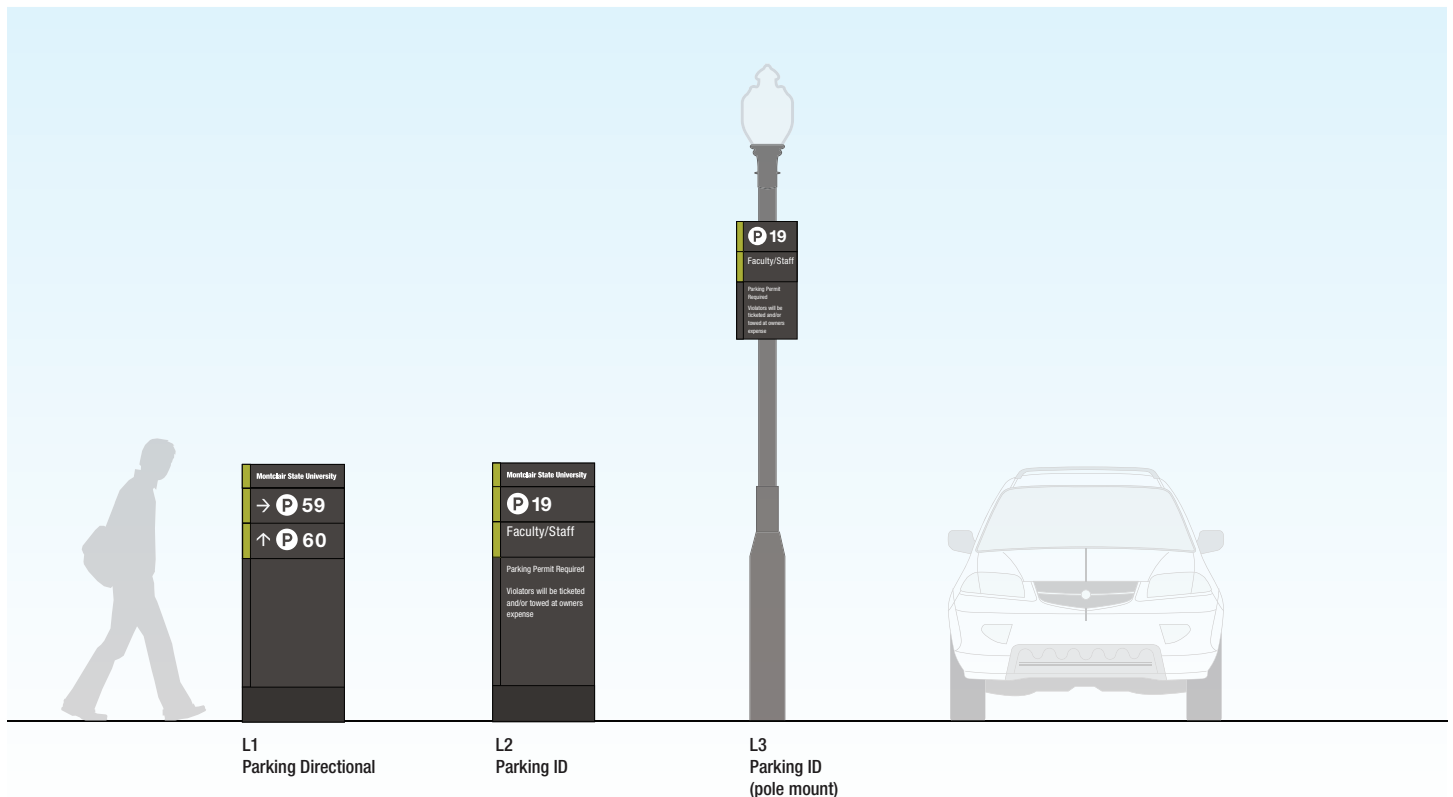
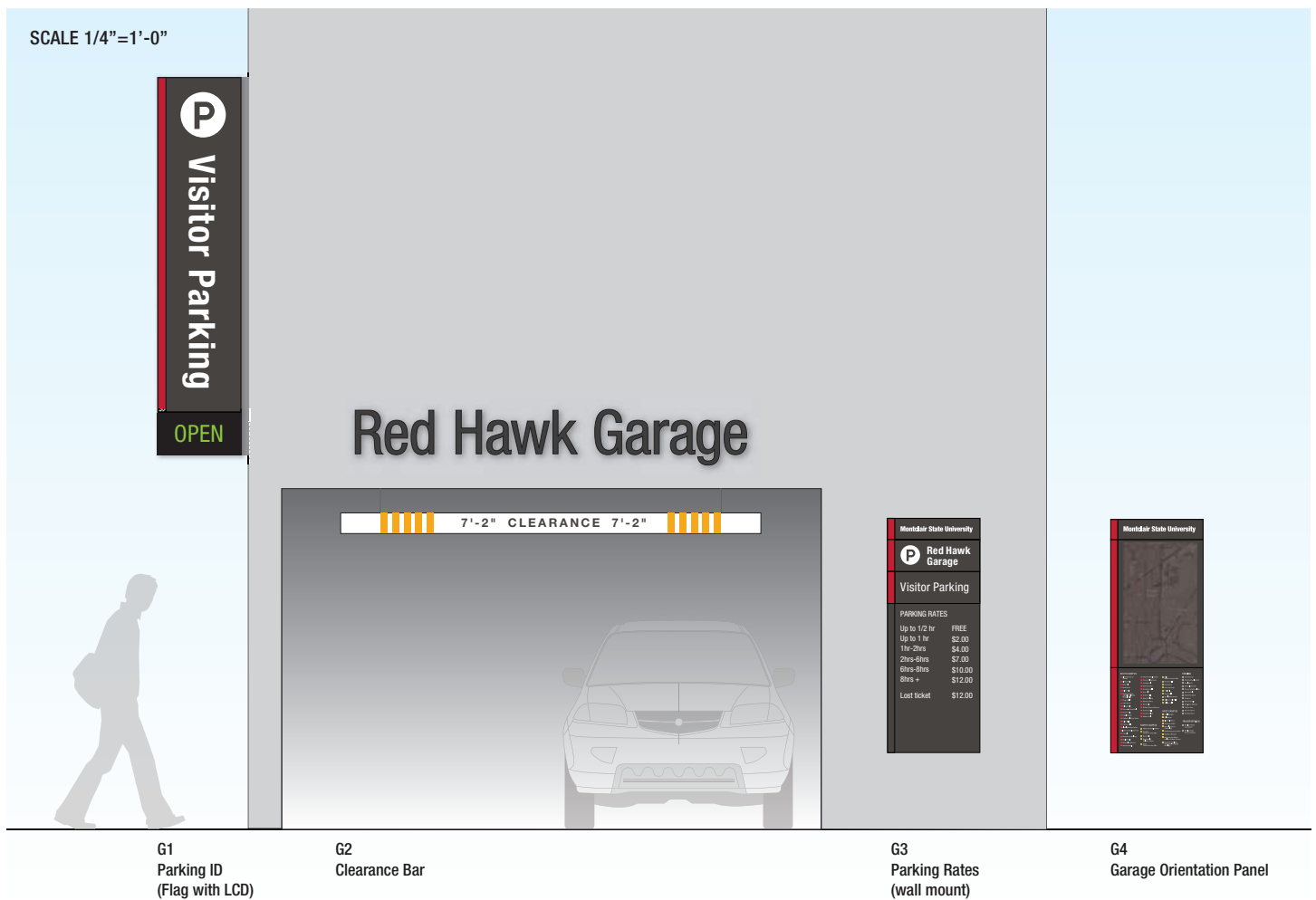
SIGN TYPE NUMBERING SYSTEM

The “Sign Type Numbering System” is designed to assist in specifying each sign type. The numbers help organize the signs by function, layout and product category. The system is organized as follows:

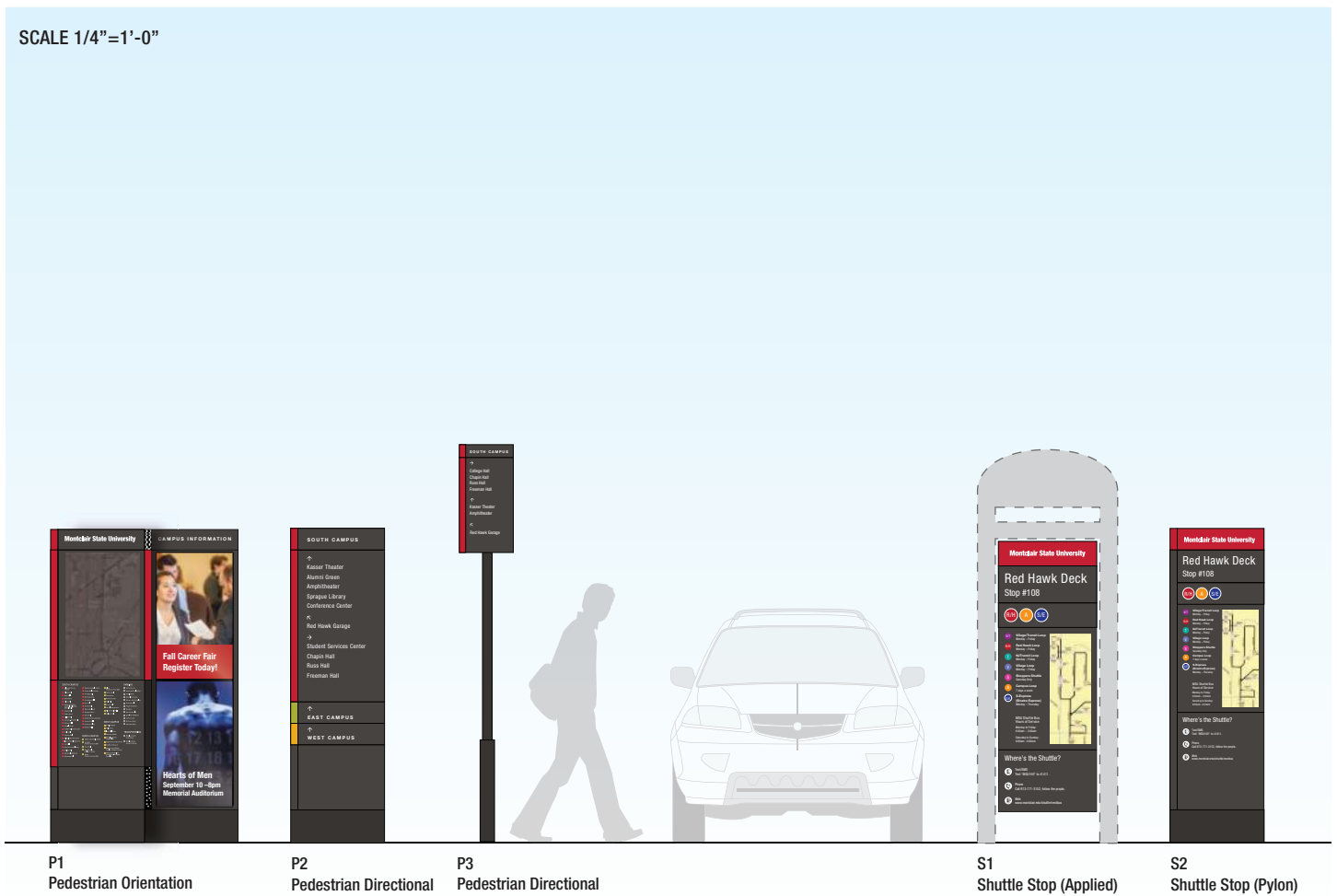
B1	Building Identification (On Campus)
B2	Building Identification (Off Campus)
B3	Building Identification (Dimensional Letters)
B4	Building Identification (Vinyl Letters)
F1	Campus Marker Banners (Existing Pole)
F2	Campus Marker Banners (New Pole)
F3	Campus Gateway Lettering
G1	Garage Identification (Flag With LED Display)
G2	Garage Clearance Bar
G3	Garage Parking Rates
G4	Garage Orientation Panel
L1	Parking Lot Directional
L2	Parking Lot Identification
L3	Parking Lot Identification (Pole Mounted)
P1	Pedestrian Orientation
P2	Pedestrian Directional
P3	Pedestrian Directional (Pole Mounted)
S1	Shuttle Stop (Applied)
S2	Shuttle Stop Pylon
V1	Vehicular Directional (Small)
V2	Vehicular Directional (Large)
X1	Temporary/Event (Vehicular)
X2	Temporary/Event (Pedestrian)

SCALE 1/4"=1'-0"





SCALE 1/4"=1'-0"



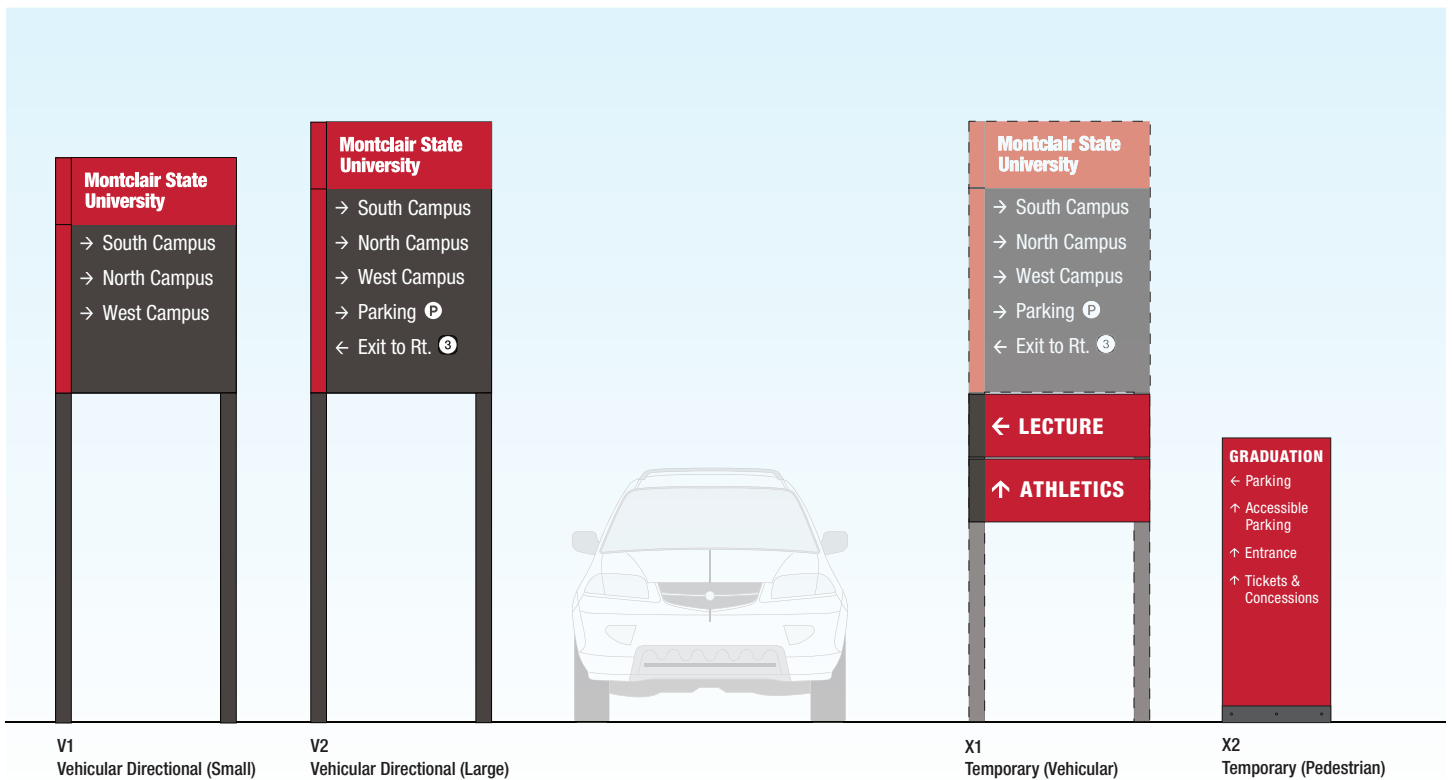
P1 Pedestrian Orientation

P2 Pedestrian Directional

P3 Pedestrian Directional

S1 Shuttle Stop (Applied)

S2 Shuttle Stop (Pylon)



V1 Vehicular Directional (Small)

V2 Vehicular Directional (Large)

X1 Temporary (Vehicular)

X2 Temporary (Pedestrian)

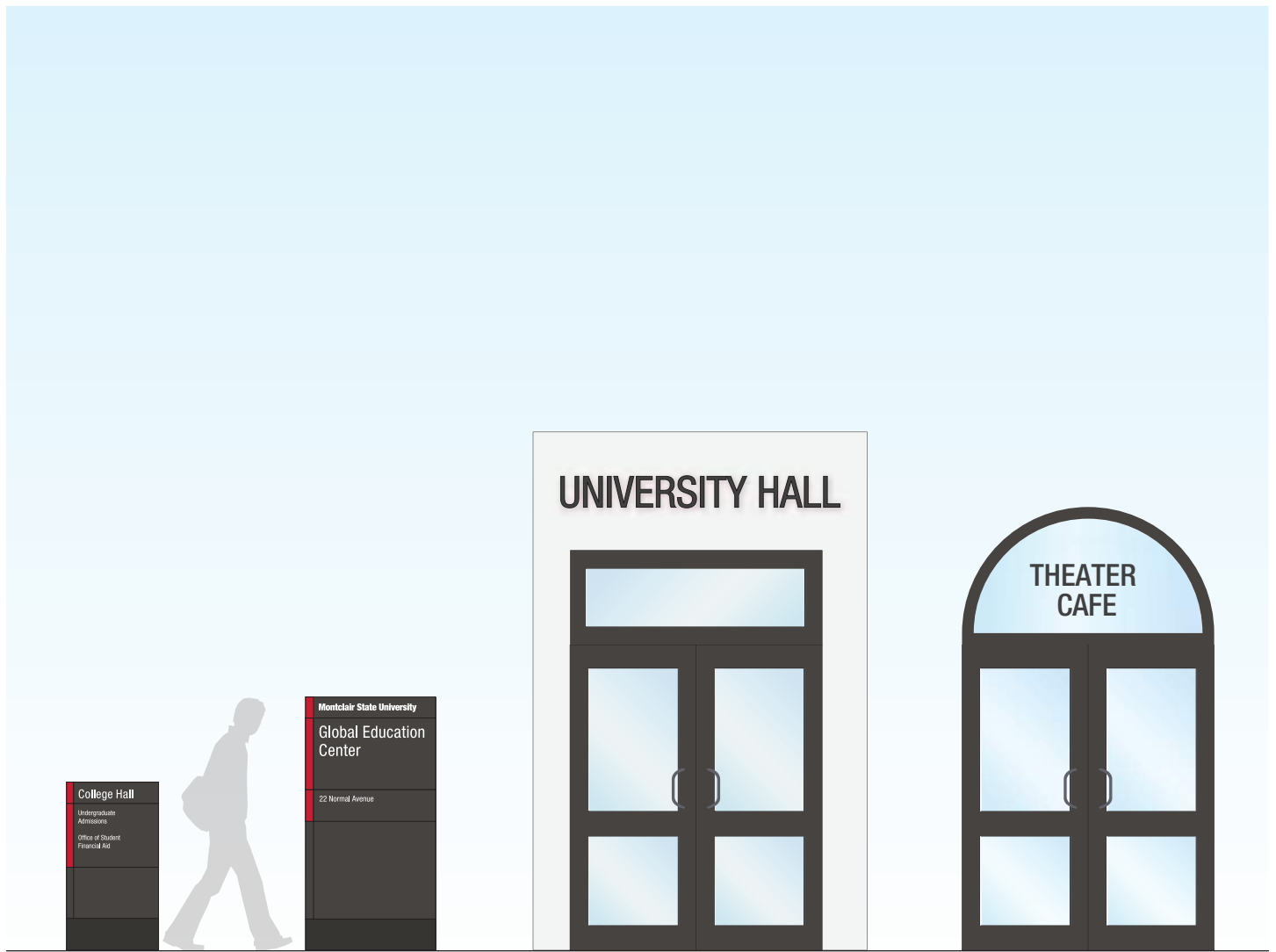
THIS PAGE IS INTENTIONALLY LEFT BLANK

PART 2, SECTION B

EXTERIOR SIGNAGE

Building Identification

THIS PAGE IS INTENTIONALLY LEFT BLANK



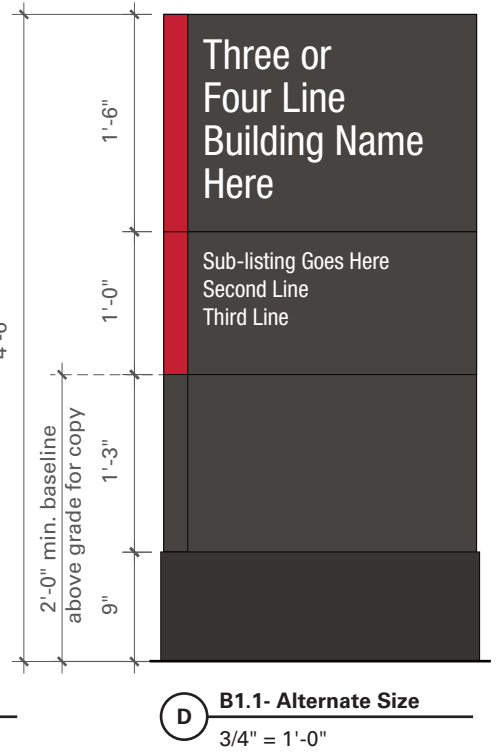
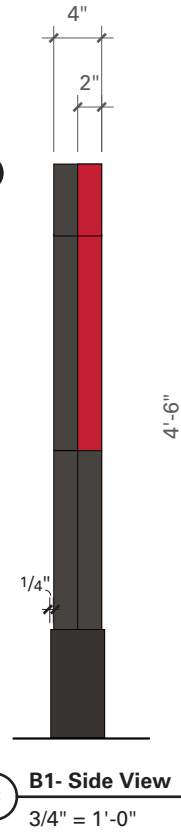
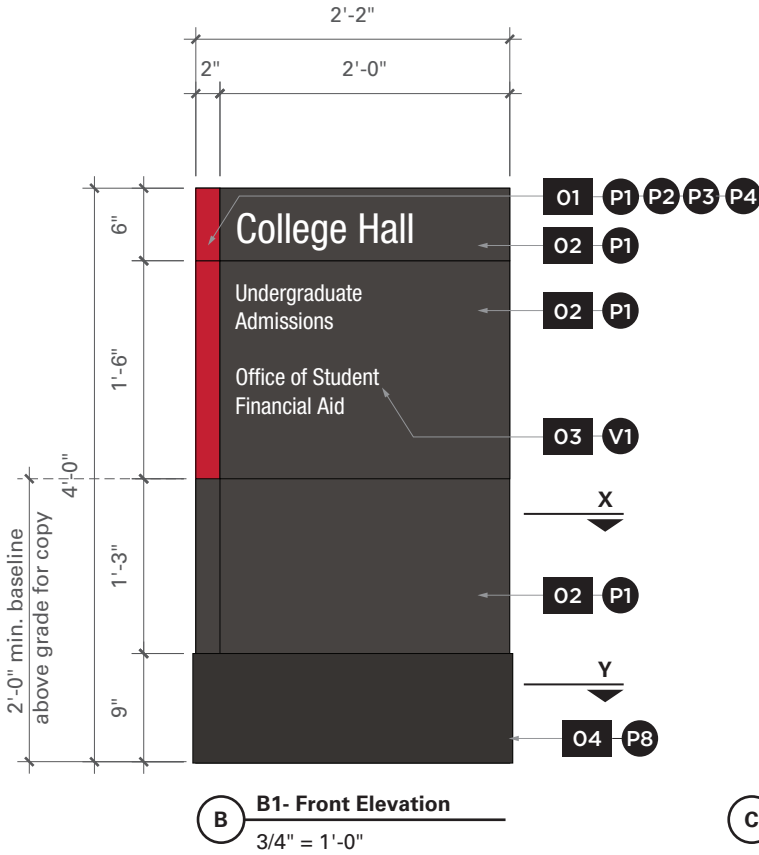
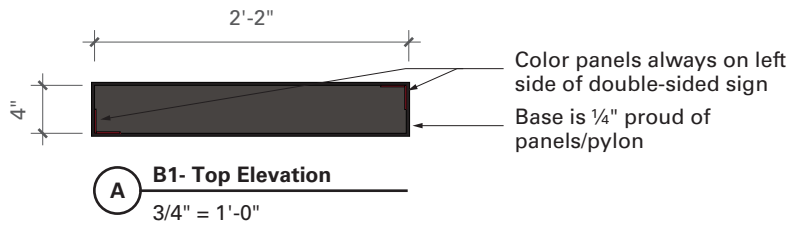
B1
Building ID (on campus)

B2
Building ID (off campus)

B3
Building ID (Dimensional Letters)

B4
Department ID (Vinyl)

SCALE 1/4"=1'-0"



Only use **B1.1** if Message Layout requires additional space. See page 2B.30 for approved Layouts.

B1 – BUILDING IDENTIFICATION

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

01 CORNER PANEL

2" x 2" x 1/8" aluminum angle painted, mechanically fastened to Structural Frame with countersunk fasteners. Color accents as per zone. Provide shims as necessary in order for first surface to be flush with Header Panel and Message Panels.

03 GRAPHICS

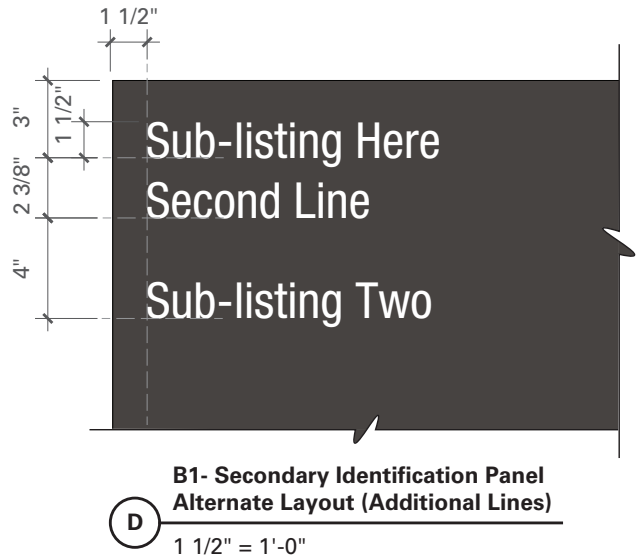
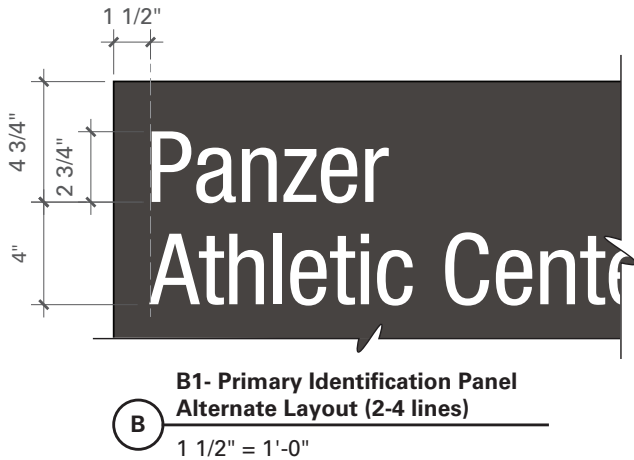
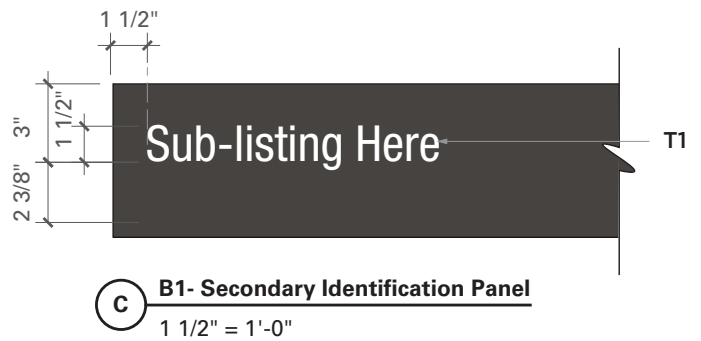
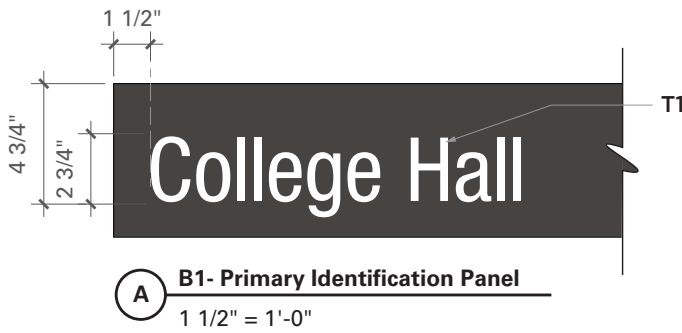
Surface applied vinyl graphics.

04 BASE

1/2" thk. aluminum plate. Miter corners at 45°. Mount to Backer Panel and Structural Frame with silicone adhesive. Match color/finish as noted.

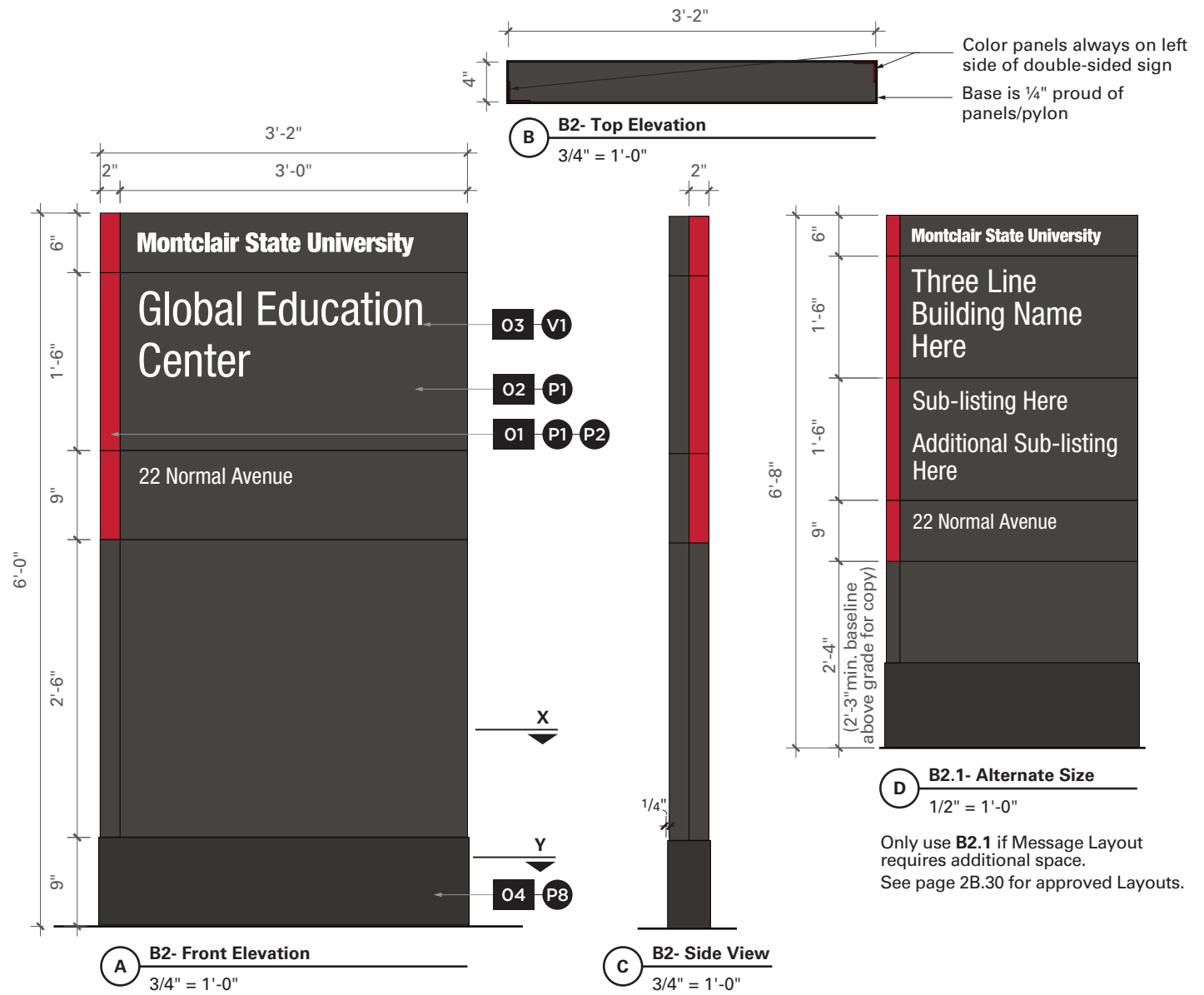
02 HEADER/ MESSAGE PANELS

1/8" thk. aluminum plates, welded as L-shaped panels. To be mechanically attached to Structural Frame with countersunk fasteners and to Backer Panel with blind studs, as necessary. No fasteners to be visible in first surface.



B1 – BUILDING IDENTIFICATION

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.



B2 – BUILDING IDENTIFICATION

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

01 CORNER PANEL

2" x 2" x 1/8" aluminum angle painted, mechanically fastened to Structural Frame with countersunk fasteners. Color accents as per zone. Provide shims as necessary in order for first surface to be flush with Header Panel and Message Panels.

03 GRAPHICS

Surface applied vinyl graphics.

04 BASE

1/2" thk. aluminum plate. Miter corners at 45°. Mount to Backer Panel and Structural Frame with silicone adhesive. Match color/finish as noted.

02 HEADER/ MESSAGE PANELS

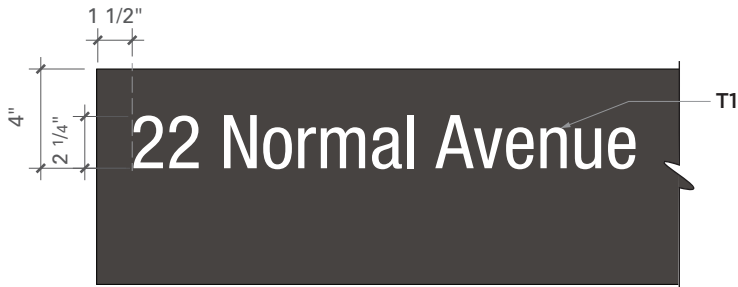
1/8" thk. aluminum plates, welded as L-shaped panels. To be mechanically attached to Structural Frame with countersunk fasteners and to Backer Panel with blind studs, as necessary. No fasteners to be visible in first surface.



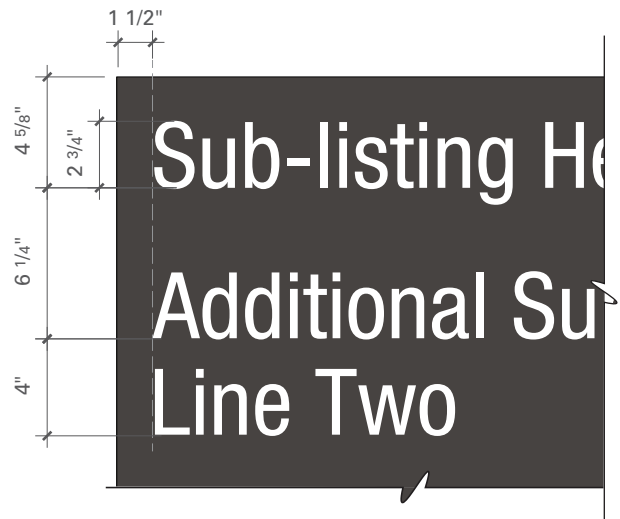
A B2- University Brand Panel
1 1/2" = 1'-0"



B B2- Primary Identification Panel
1 1/2" = 1'-0"



C B2- Address Panel
1 1/2" = 1'-0"



D B2- Secondary Identification Panel (Optional)
1 1/2" = 1'-0"

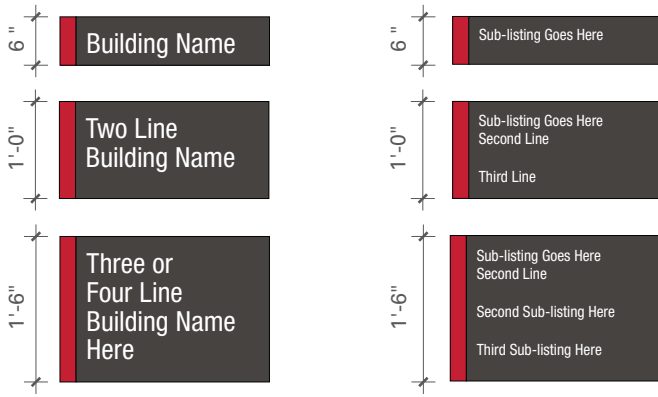
B2 - BUILDING IDENTIFICATION

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

05 MSU BRAND

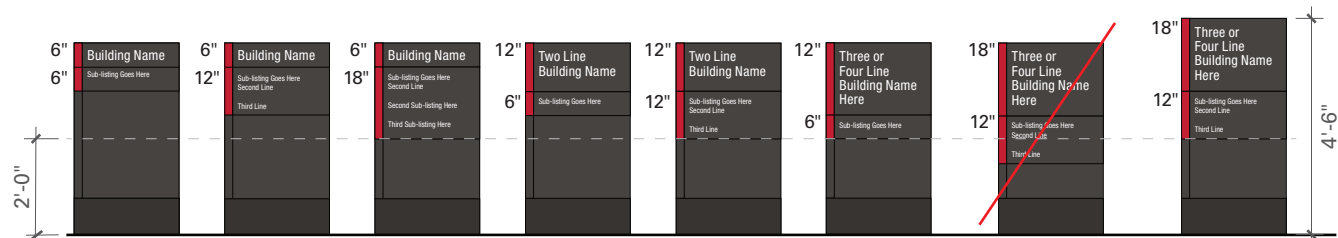
Surface applied vinyl graphics. Artwork to be provided by Designer.

*NOTE: Coordinate artwork with updated brand, TBD by Owner.



A B1- Primary Identification Panel Size Options
 $3/4" = 1'-0"$

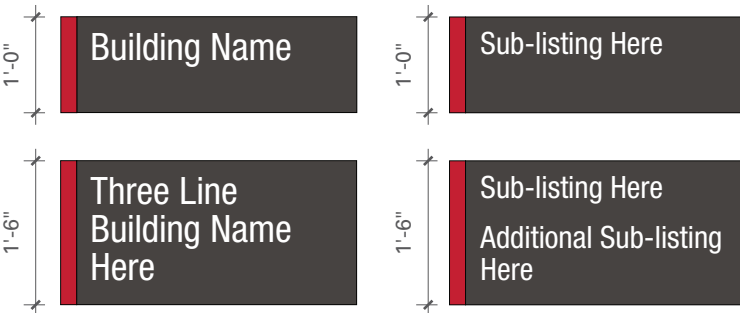
B B2- Secondary Identification Panel Size Options
 $3/4" = 1'-0"$



C B1-Panel Configuration Options
 $1/4" = 1'-0"$

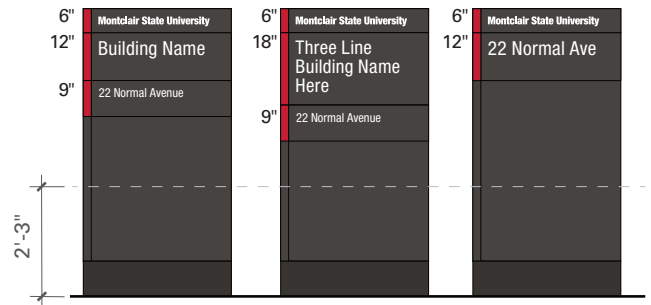
Do not use this configuration. No copy below 24" from grade.

B1.1-Alternate Size
 Only use if Message Layout requires additional space.



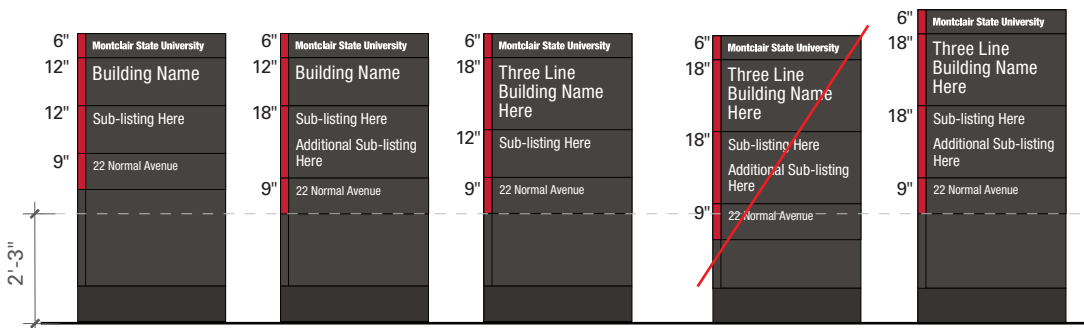
D B2- Primary Identification Panel Size Options
 $3/4" = 1'-0"$

E B2- Secondary Identification Panel Size Options
 $3/4" = 1'-0"$



F B2- Typical Panel Configurations
 $1/4" = 1'-0"$

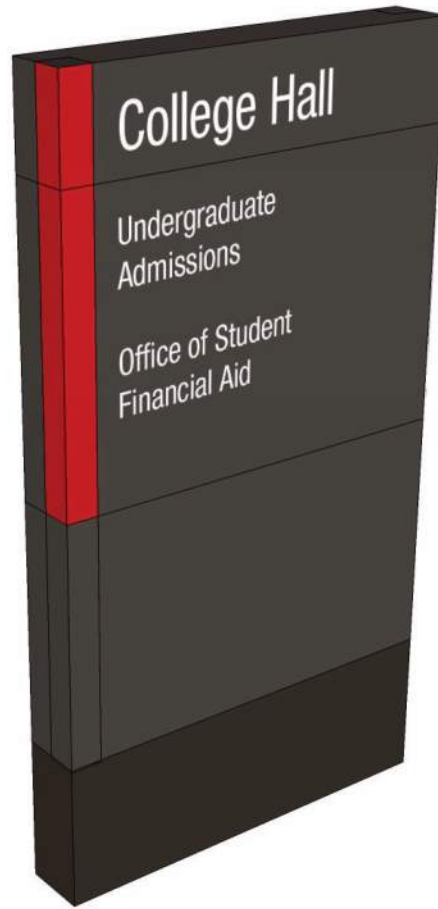
If only address is to be listed, use **Secondary ID** type size.



G B2- Alternative Panel Configurations
 $1/4" = 1'-0"$

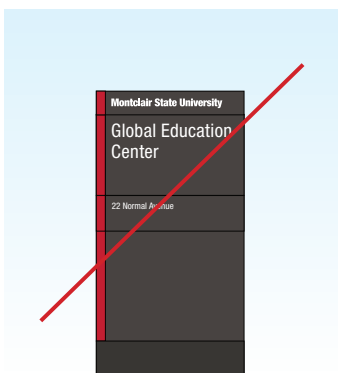
Do not use this configuration. No copy below 27" above Grade.

B2.1-Alternate Size
 Only use if Message Layout requires additional space.

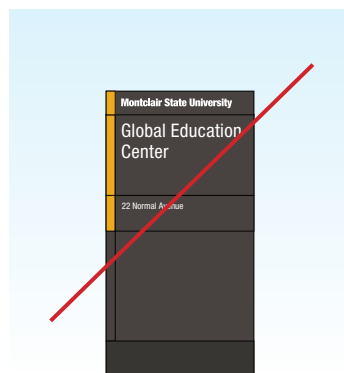


A B1- 3D View (for reference only)
N.T.S.

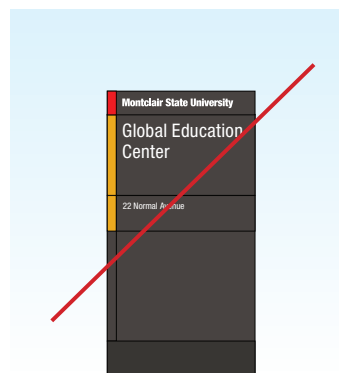
GRAPHIC DO'S & DON'TS



DO NOT extend Accent Color beyond panels with information.



DO NOT change Accent Color for B2 signs to any color besides Red.



DO NOT mix Accent Colors.

DO NOT use MSU Brand on B1. MSU Brand only appears on B2.

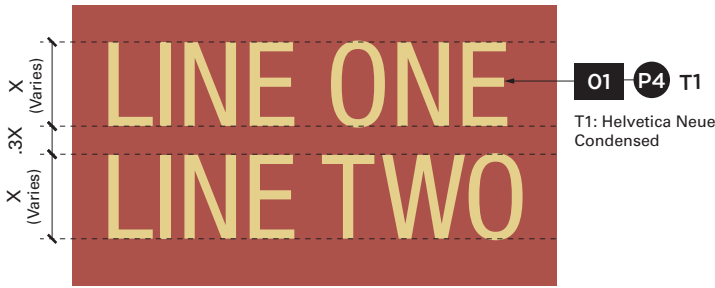
DO NOT show address on B1 signs.

DO NOT change Accent Colors for B2. All B2 signs will have red Accent.

B1 Accent Colors will change based on Zone Color.

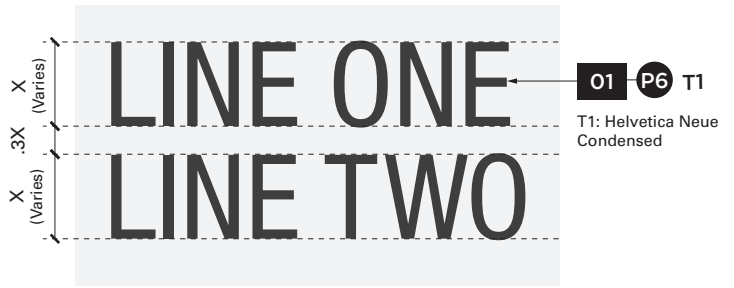
No copy lower than 24" and 27" above grade for B1 and B2, respectively. See Panel Configurations on previous page

B2 signs do not need to use Secondary Identification Panels.



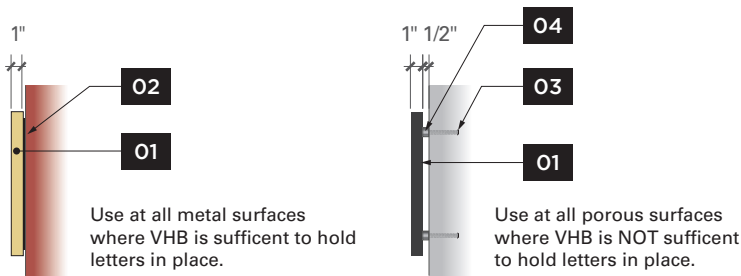
A B3- Elevation (Gold on Maroon Surface)

3/8" = 1'-0"
Use Viewing Distance Guidelines chart on page 2B.11 to determine appropriate letter height.



B B3- Elevation (Black on Light Surface)

3/8" = 1'-0"
Use Viewing Distance Guidelines chart on page 2B.11 to determine appropriate letter height.



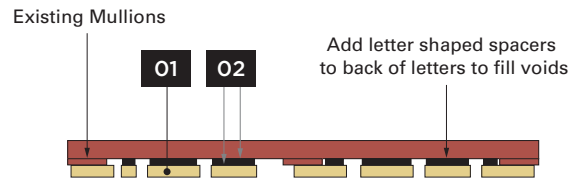
C B3- Side Views

3/4" = 1'-0"



E B4- Front Elevation

1 1/2" = 1'-0"
Used to identify areas or departments within a building.



D B3- Top View (Irregular Architectural Surface)

3/4" = 1'-0"

B3, B4 - BUILDING IDENTIFICATION

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

01 DIMENSIONAL LETTERS
1" thk. aluminum letter forms, to be laser cut and painted to match color as noted.

04 SPACER
1/2" aluminum spacer.

02 TAPE
1/16" thk. 3M Scotch VHB 4930

05 VINYL LETTERS
Second surface applied vinyl letters.

03 STUD MOUNT
Letters to be drilled and tapped to receive threaded studs. Drill wall and set with clear epoxy.

Letter Height	Best Impact	Max Readable Distance
3 inches	30 feet	100 feet
4 inches	40 feet	150 feet
6 inches	60 feet	200 feet
8 inches	80 feet	350 feet
9 inches	90 feet	400 feet
10 inches	100 feet	450 feet
12 inches	120 feet	525 feet
15 inches	150 feet	630 feet
18 inches	180 feet	750 feet
24 inches	240 feet	1000 feet
30 inches	300 feet	1250 feet
36 inches	360 feet	1500 feet
42 inches	420 feet	1750 feet
48 inches	480 feet	2000 feet
54 inches	540 feet	2250 feet
60 inches	600 feet	2500 feet

Recommended Sizes at Entrances



Gold Letters on Maroon Surface (Photo Reference)



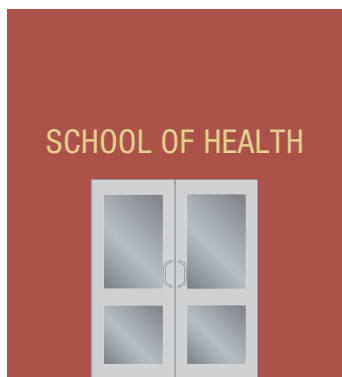
Black Letters on Light Surface (Photo Reference)

Viewing Distance Guidelines

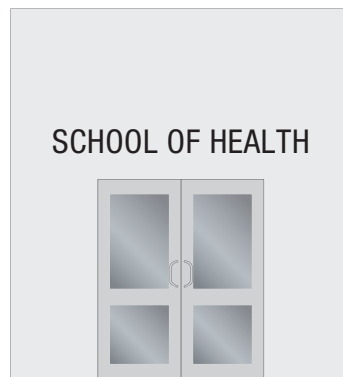
It is recommended to try to maintain consistent letter height for all building entrances throughout campus (reference and measure existing entrance letters prior to letter height determination).

Paper template testing is required for letter height and placement testing prior to fabrication and installation.

GRAPHIC DO'S & DON'TS



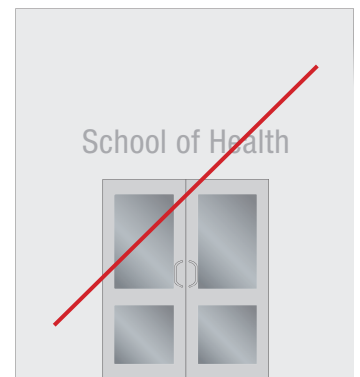
DO use all cap letters.
DO center letters over entrance.
DO use gold letters on maroon surfaces.



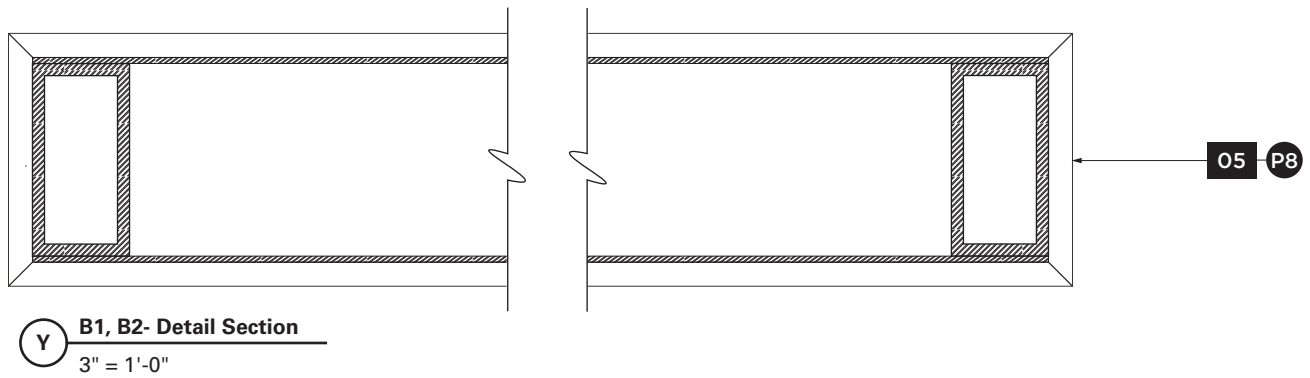
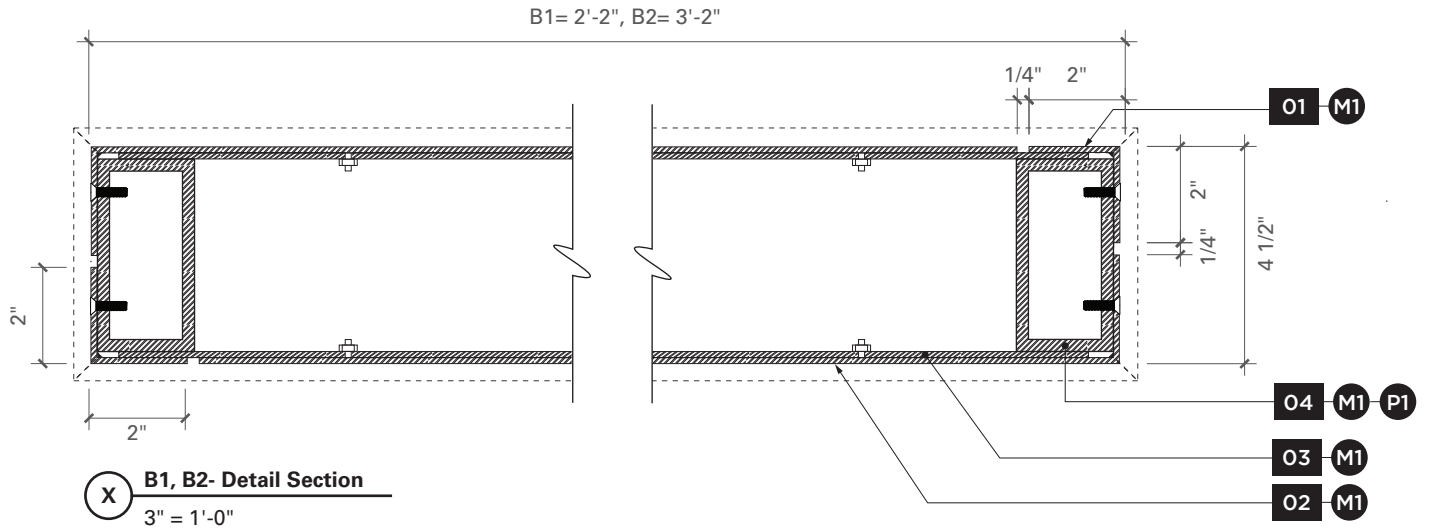
DO use all cap letters.
DO center letters over entrance.
DO use black letters on light surfaces.



DO NOT use upper and lower letters.
DO NOT left align lettering when located over an entryway.



DO NOT use upper and lower letters.
DO NOT use unapproved colors for lettering or colors with low contrast to wall surface.



B1, B2 - BUILDING IDENTIFICATION

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

01 CORNER PANEL

2" x 2" x 1/8" aluminum angle painted, mechanically fastened to Structural Frame with countersunk fasteners. Color accents as per zone. Provide shims as necessary in order for first surface to be flush with Header Panel and Message Panels.

03 BACKER PANEL

1/8" thk. aluminum plate glued to Structural Frame. Pre-drill holes for mounting message panels. Paint all exposed surfaces.

05 BASE

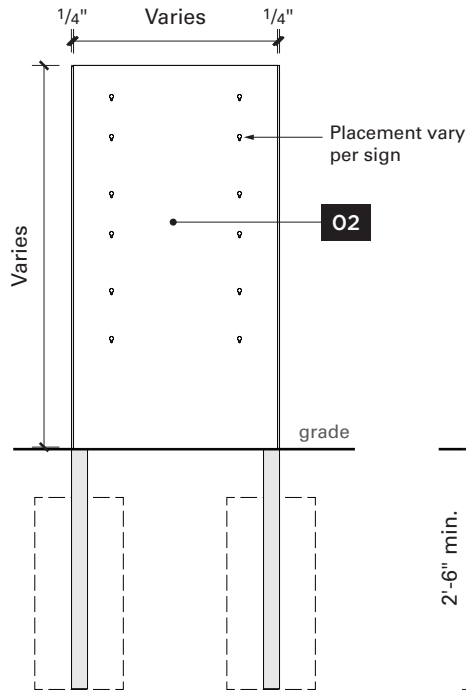
1/2" thk. aluminum plate. Miter corners at 45°. Mount to Backer Panel and Structural Frame with silicone adhesive. Match color/finish as noted.

04 STRUCTURAL FRAME

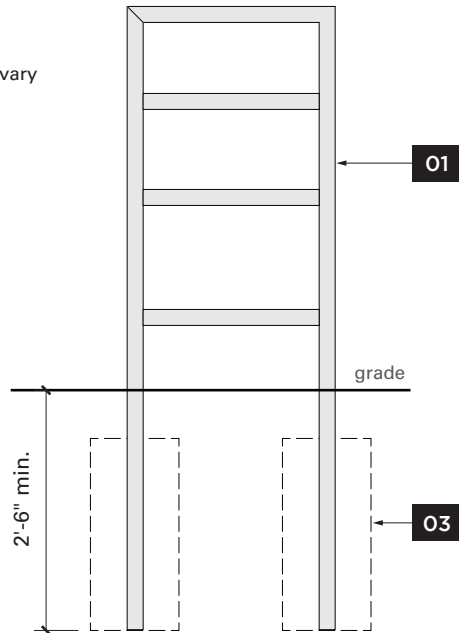
2" x 4" aluminum tube, buried into cast reinforced sonotube concrete footers. Design/depth to be confirmed by Fabricator through engineering.

02 HEADER/MESSAGE PANELS

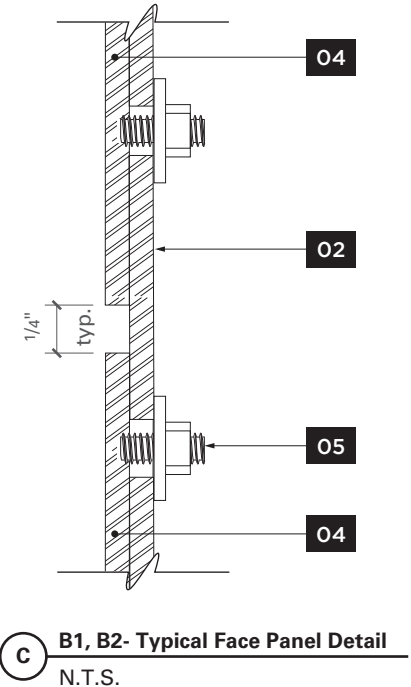
1/8" thk. aluminum plates, welded as L-shaped panels. To be mechanically attached to Structural Frame with countersunk fasteners and to Backer Panel with blind studs, as necessary.



A B1, B2- Backer Panel Elevation
1/2" = 1'-0"



B B1, B2- Framing Elevation
1/2" = 1'-0"



C B1, B2- Typical Face Panel Detail
N.T.S.

B1, B2 - BUILDING IDENTIFICATION

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

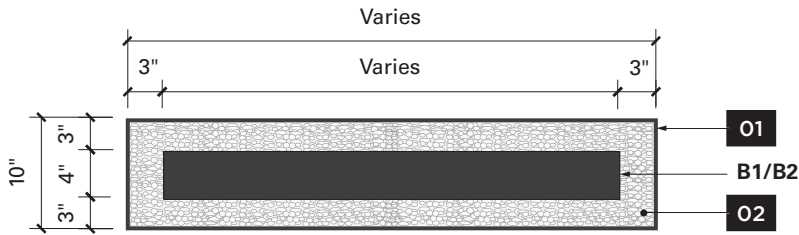
01 STRUCTURAL FRAME
2" x 4" aluminum tube, buried into cast reinforced sonotube concrete footers. Design/depth to be confirmed by Fabricator through engineering.

03 FOOTER
Cast reinforced sonotube concrete footers, to remain completely underground. Design to be confirmed by Fabricator through engineering.

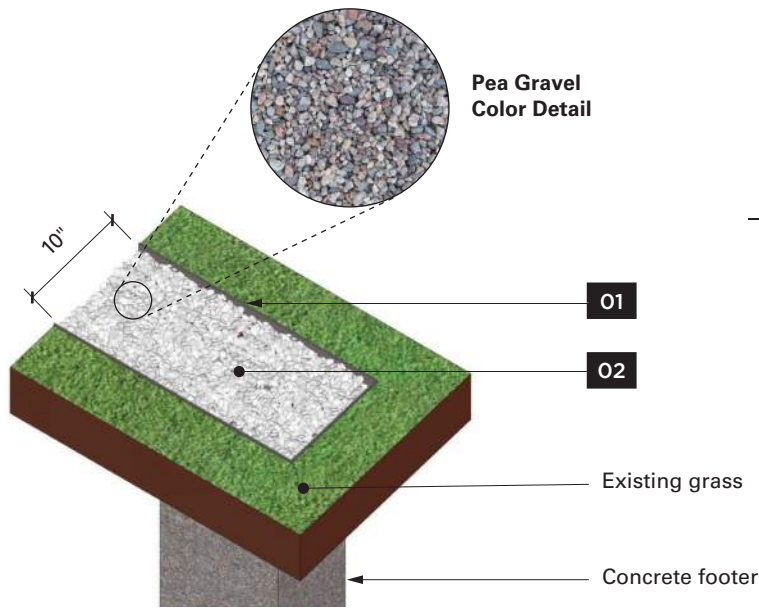
05 BLIND STUDS
Message Panels to be drilled and tapped to receive threaded studs.

02 BACKER PANEL
1/8" thk. aluminum plate glued to Structural Frame. Pre-drill holes for mounting message panels. Paint all exposed surfaces.

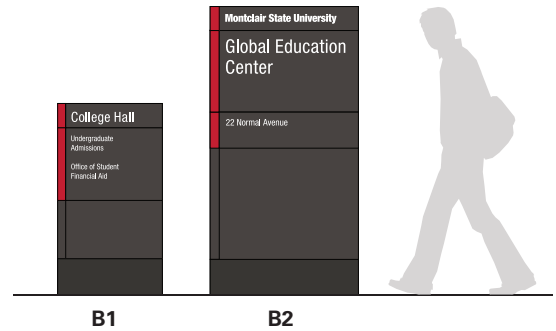
04 MESSAGE PANELS
1/8" thk. aluminum plates, welded as L-shaped panels. To be mechanically attached to Structural Frame with countersunk fasteners and to Backer Panel with blind studs, as necessary. No visible fasteners on first surface.



A Top View: Installation Detail
3/4" = 1'-0"



B Landscape Detail
NTS



B1, B2- INSTALLATION DETAIL (GRASS INSTALL)

GENERAL FABRICATION/GRAPHIC NOTES: It is recommended to install Building Identification signs into mulch bed areas.

If a mulch bed area is not available and the sign must be installed into a grass area, then this detail must be utilized for proper grass installation.

01 LINE EDGING

Permaloc Clean Line Edging
3/16" x 4" aluminum edging
Bronze Duraflex

02 PEA GRAVEL

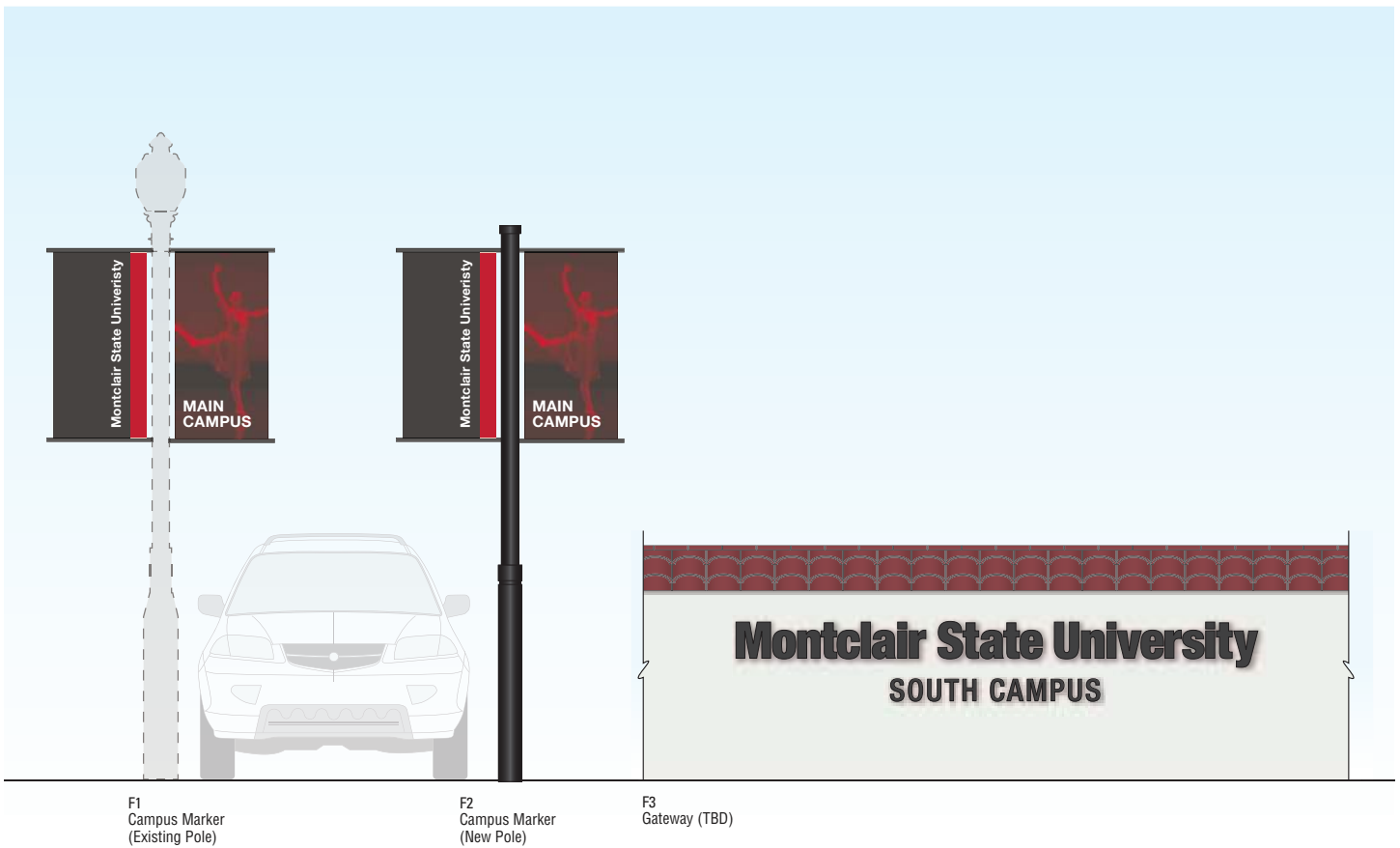
3/8" grey pea gravel.

PART 2, SECTION C

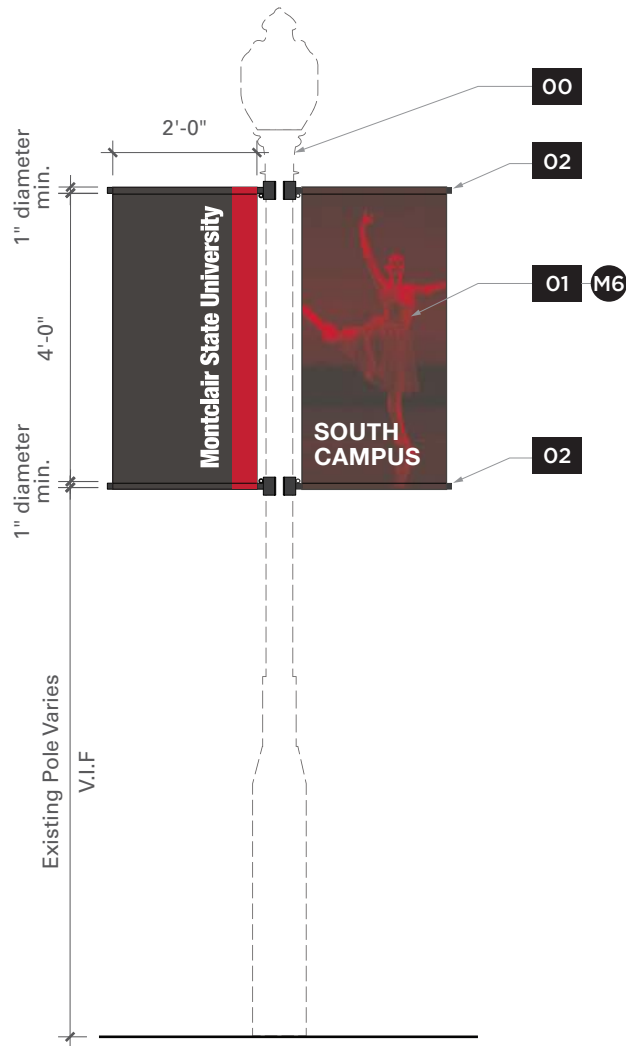
EXTERIOR SIGNAGE

Campus Markers

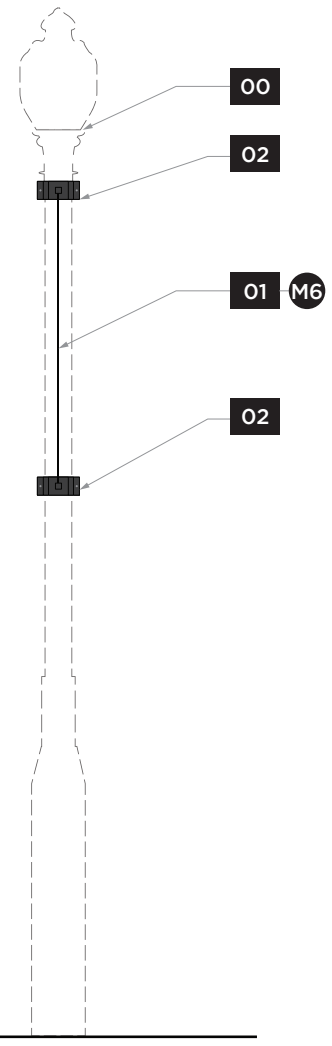
THIS PAGE IS INTENTIONALLY LEFT BLANK



SCALE 1/4"=1'-0"



A F1- Front /Rear Elevation (Existing Pole)
3/8" = 1'-0"



B F1- Side Elevation (Existing Pole)
3/8" = 1'-0"

F1 - CAMPUS MARKER

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

00 POLE (EXISTING)

Round pole, varies in width and height.

01 FABRIC BANNER

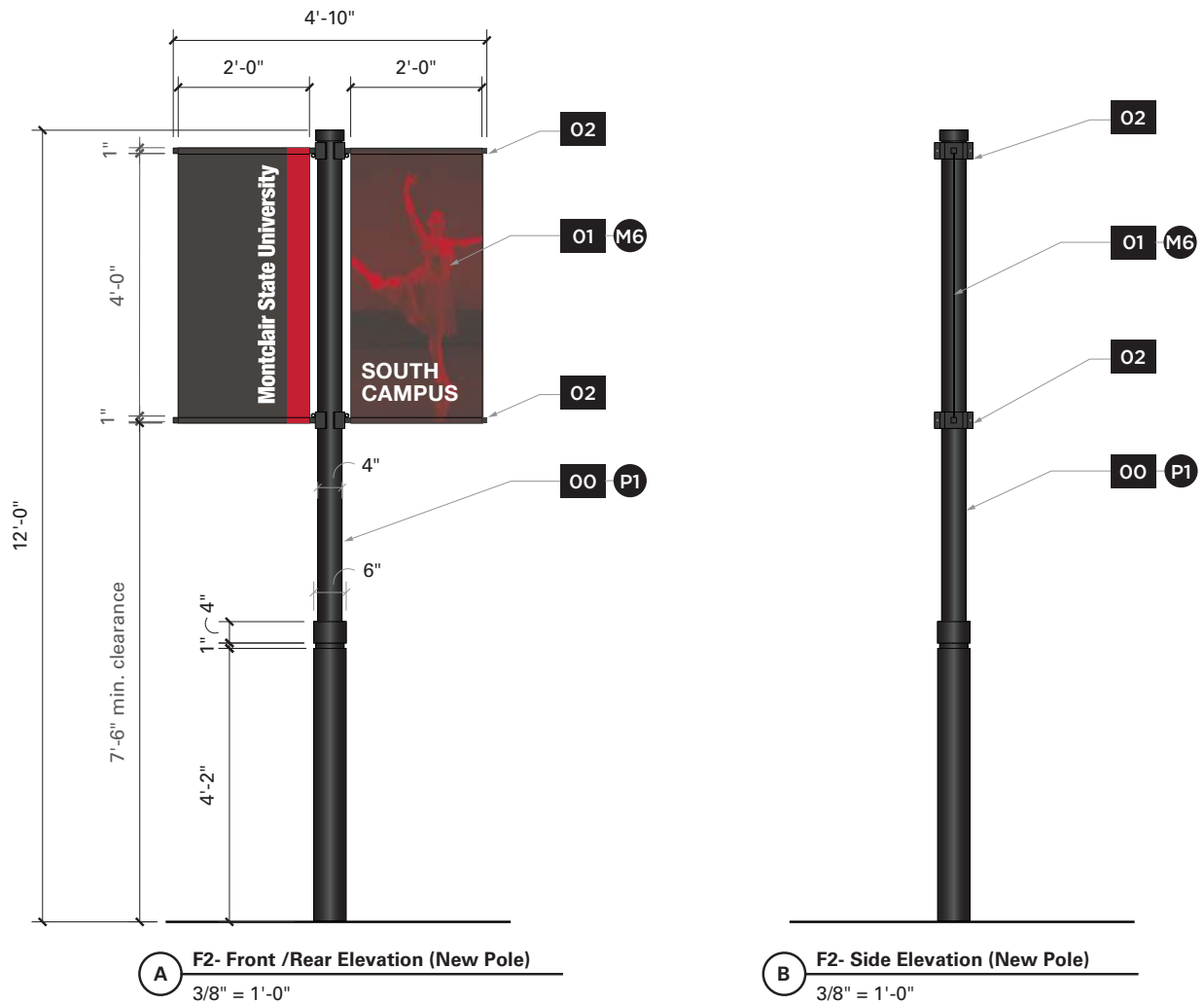
Dye sublimation fabric banner with opaque blocker installed with brackets

02 ARM BRACKETS

Two way straight arm banner brackets, 1" sq. steel tube

NOTE:

Approved images for campuses available from: Michael J. Zanko, zankom@mail.montclair.edu OR Ellen Gallagher-Kenny, gallaghere@montclair.edu



F2 - CAMPUS MARKER

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

00 POLE (NEW)

Round pole, painted. Footer to be determined by engineering.

01 FABRIC BANNER

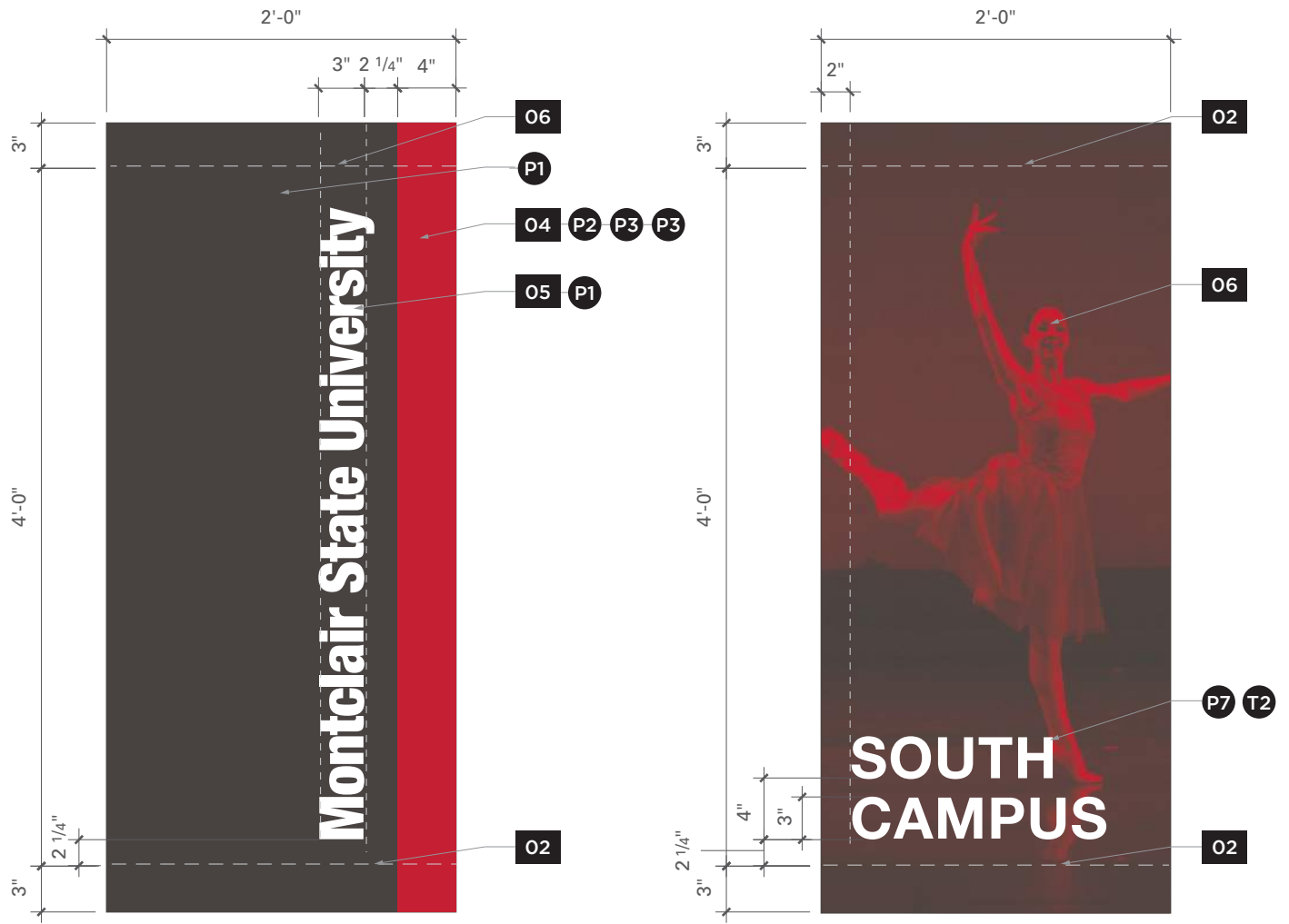
Dye sublimation fabric banner with opaque blocker installed with brackets

02 ARM BRACKETS

Two way straight arm banner brackets, 1" sq. steel tube

NOTE:

Approved images for campuses available from: Michael J. Zanko, zankom@mail.montclair.edu OR Ellen Gallagher-Kenny, gallaghere@montclair.edu



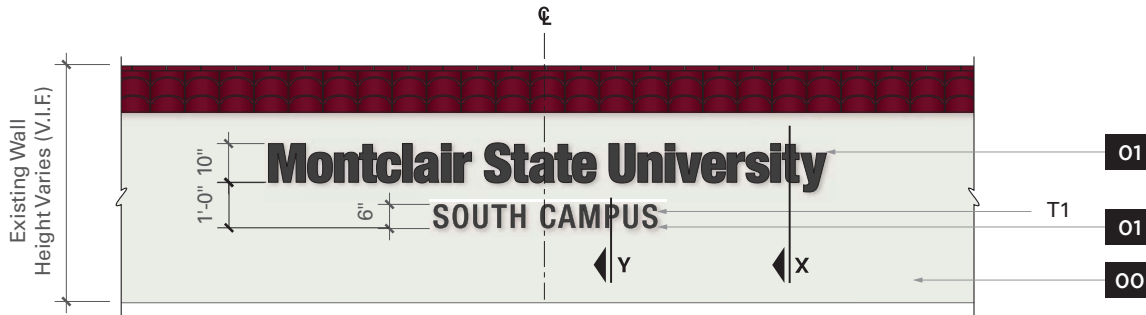
A F1- Graphic Elevations
1" = 1'-0"

F1, F2- CAMPUS MARKER

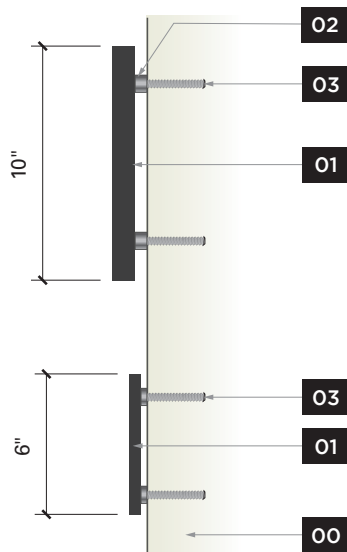
GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

NOTE:

Approved images for campuses available from: Michael J. Zanko, zankom@mail.montclair.edu OR Ellen Gallagher-Kenny, gallaghere@montclair.edu



A F3- Front Elevation (typical)
1/4" = 1'-0"



B F3- Side Elevation
1 1/2" = 1'-0"

F3 - CAMPUS GATEWAY LETTERING

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

O0 WALL (EXISTING)

Varies in length, height and construction.

O2 SPACER

1/2" aluminum spacer.

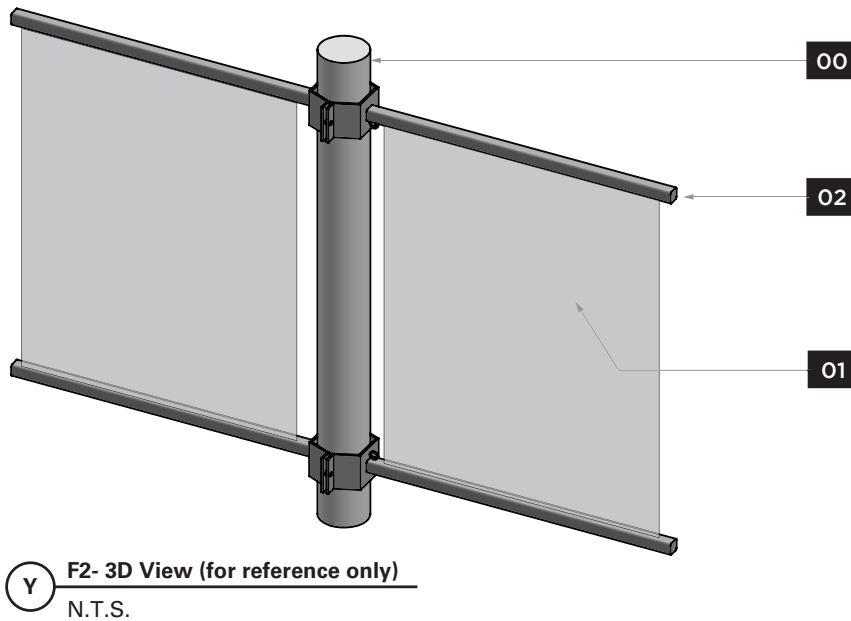
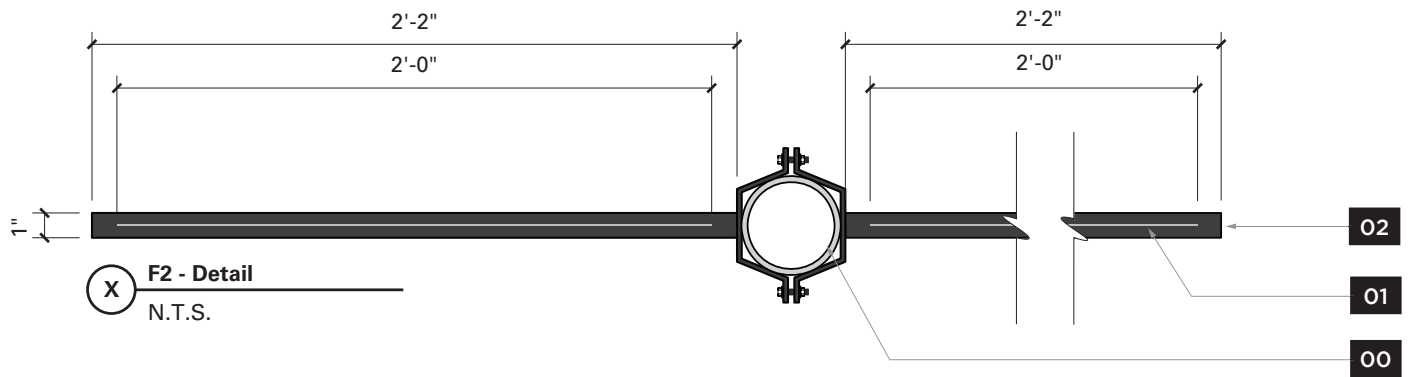
O1 DIMENSIONAL LETTERS

1" thk. fabricated aluminum letter forms, or acrylic letter forms to be laser cut. Acrylic letters to be painted, aluminum letters to have brushed horizontal finish with a clear coat.

O3 STUD MOUNT

Letters to be drilled and tapped to receive threaded studs. Drill wall and set with clear epoxy.

*NOTE: Coordinate MSU Brand artwork with updated brand, TBD by Owner.



F2- CAMPUS MARKER

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

00 POLE (NEW)

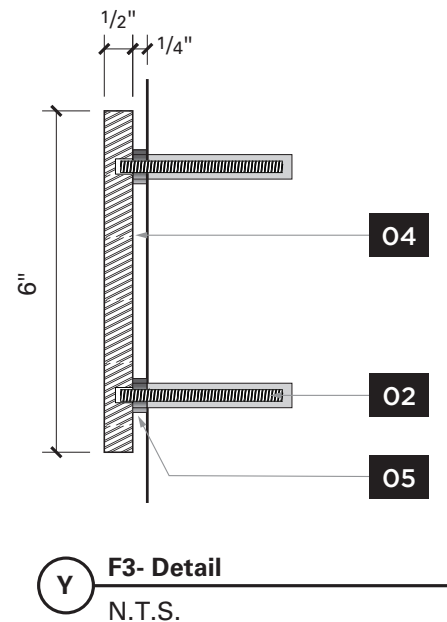
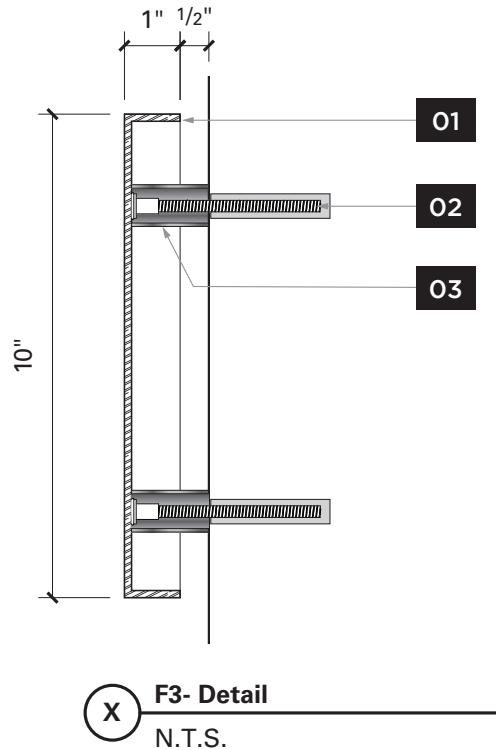
Round pole, painted. Footer to be determined by engineering.

01 FABRIC BANNER

Dye sublimation fabric banner with opaque blocker installed with brackets

02 ARM BRACKETS

Two way straight arm banner brackets, 1" sq. steel tube



F3 - CAMPUS GATEWAY LETTERING

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

01 FABRICATED LETTERS

Fabricated aluminum letters to have threaded fittings welded to inside face to receive threaded studs. Letters to have a brushed horizontal finish with a clear coat.

02 STUD MOUNT

Threaded rods, adequate to support letters. Depth to depend on wall where letters to be installed. Drill wall and set with clear epoxy.

03 SPACER

1 1/2" aluminum spacer to offset letters 1/2" off the wall.

04 CUT LETTERS

Cut letters to be drilled and tapped to receive threaded studs. Drill wall and set with clear epoxy.

05 SPACER

1/4" aluminum spacer.

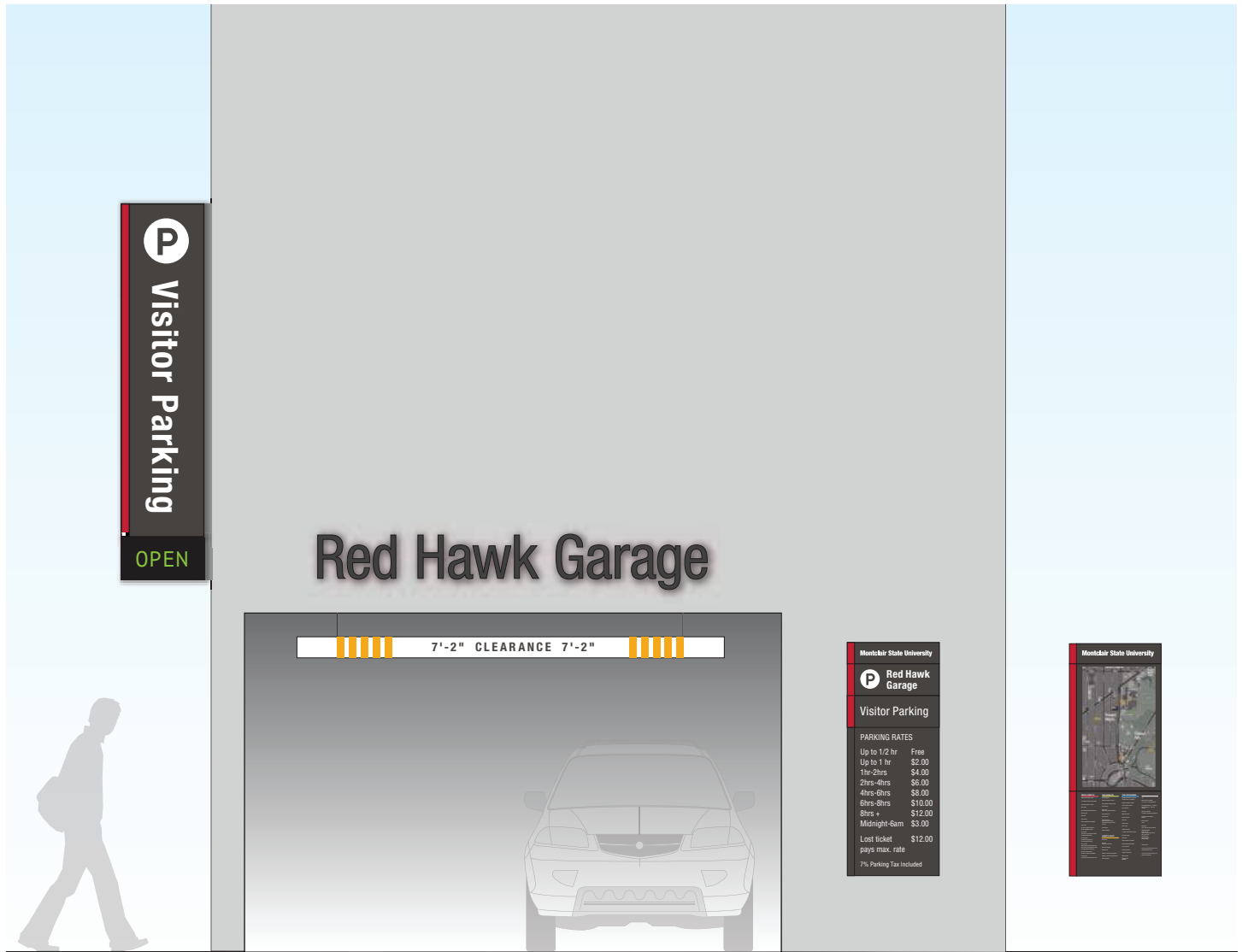
*NOTE: Coordinate MSU Brand artwork with updated brand, TBD by Owner.

THIS PAGE IS INTENTIONALLY LEFT BLANK

PART 2, SECTION D

EXTERIOR SIGNAGE

Garage & Parking

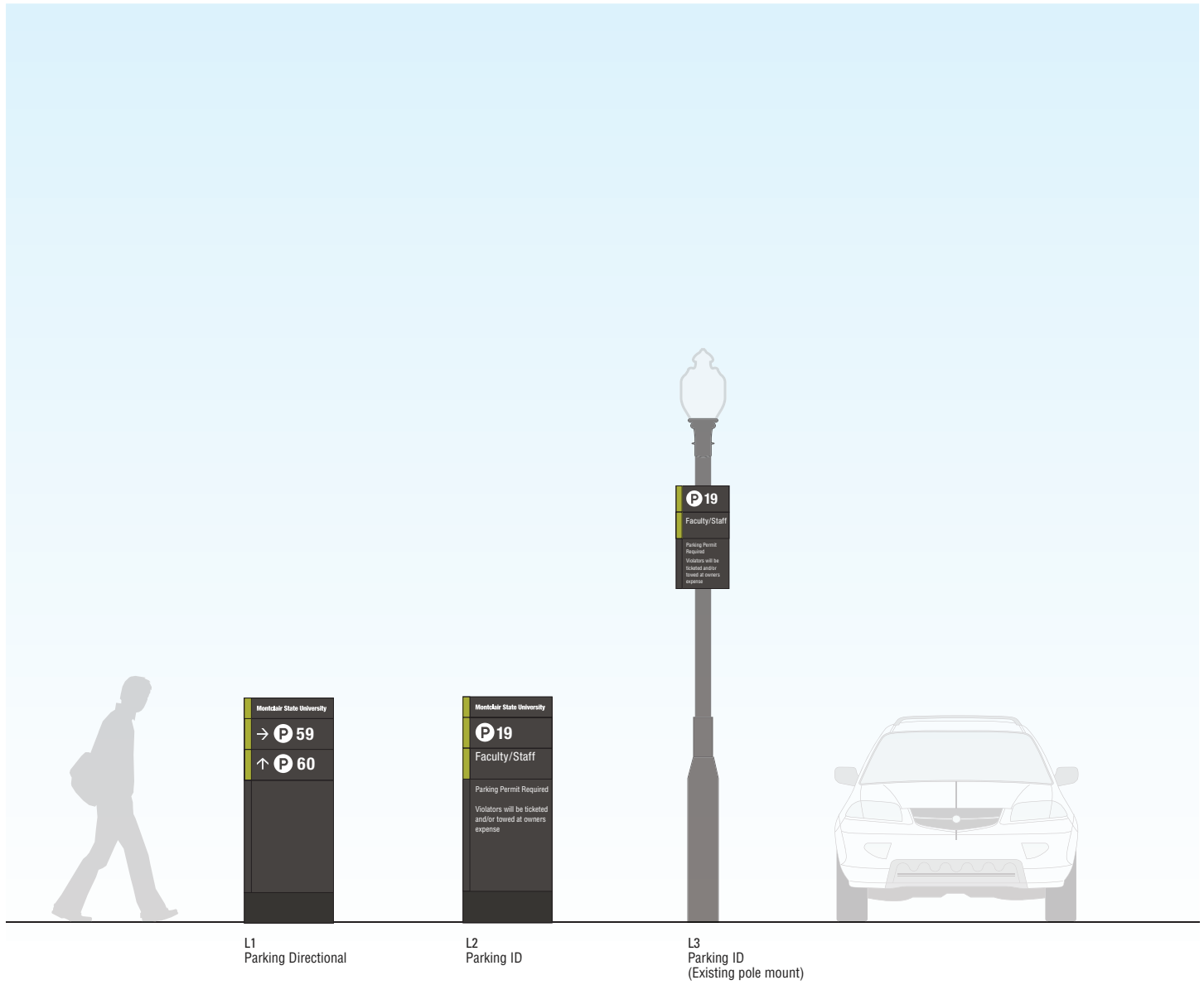


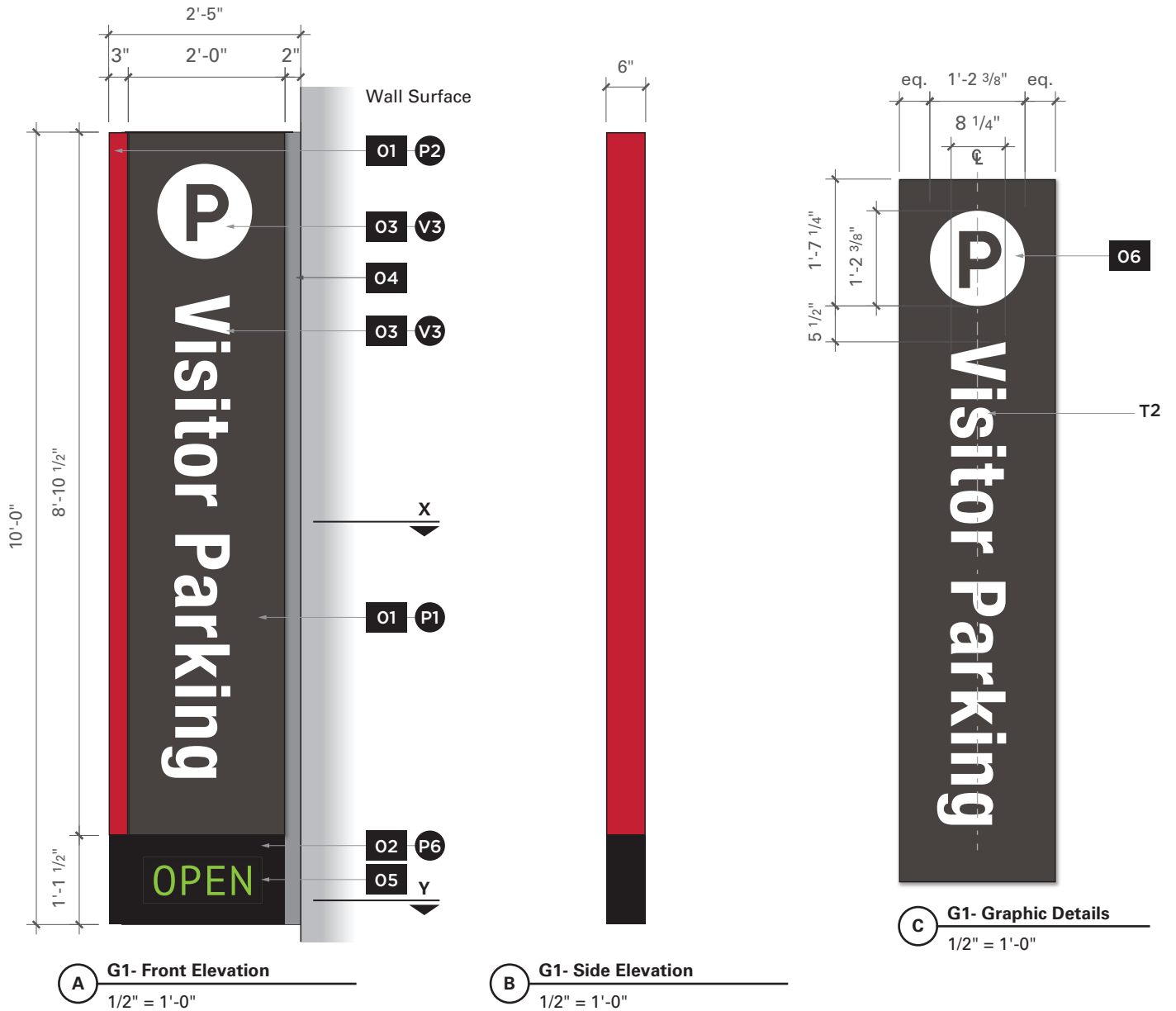
G1
Garage Parking ID

G2
Clearance Bar

G3
Parking Rates
(wall mount)

G4
Garage Orientation Panel





G1 - GARAGE PARKING IDENTIFICATION

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

01 MESSAGE PANEL

1/8" thk. aluminum plate fastened to Structural Frame w/ VHB tape. Paint all exposed surfaces. Seal cabinet for weatherproofing.

02 LOWER FACE PANEL

1/8" thk. aluminum plate fastened to Structural Frame w/ VHB tape. Paint all exposed surfaces. Seal cabinet for weatherproofing.

03 REFLECTIVE GRAPHICS

Surface applied reflective vinyl graphics.

04 WALL BRACKET

Fabricated bracket of 1/4" thk. welded aluminum plates, to be mechanically fastened to the wall. Design to be confirmed by Fabricator through engineering. Paint all exposed surfaces.

05 LED SIGN

7" x 18" x 2 1/2" Open-Closed Digital LED display sign, 5887 (TCL718GR-100) by SignalTech or approved similar. To be controlled with Single Gang On/Off/On Switch, Model 3039 (SG) by Signal-Tech. Location to be coordinated with Owner.

06 PARKING SYMBOL

Artwork to be provided by Designer.



PHOTO RENDERING FOR REFERENCE

GRAPHIC DO'S & DON'TS

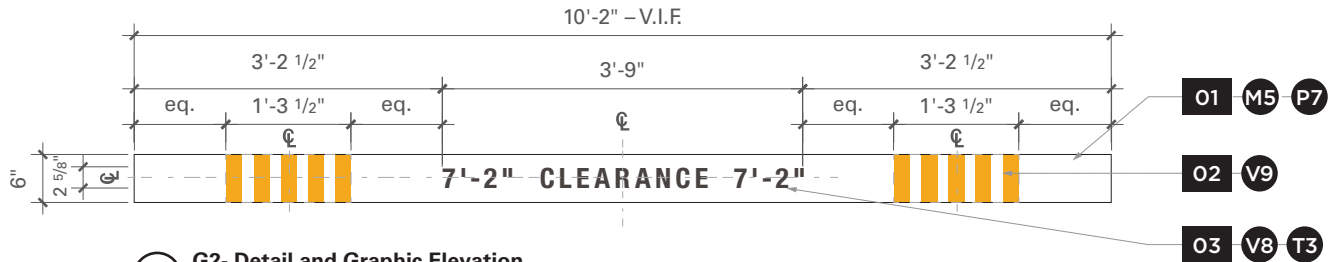


DO NOT list message vertically.

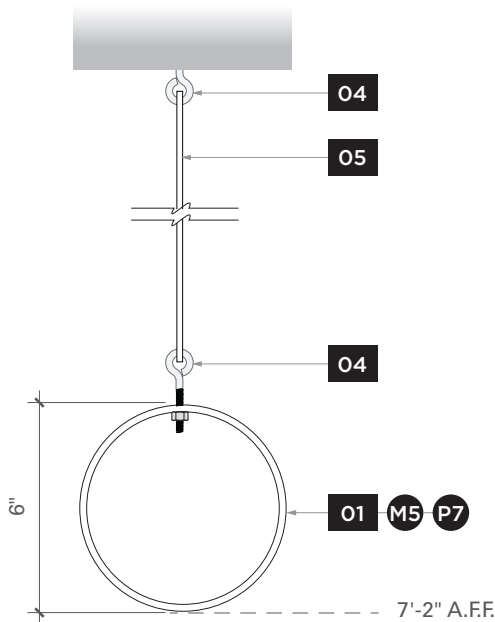


DO NOT re-arrange information on sign.

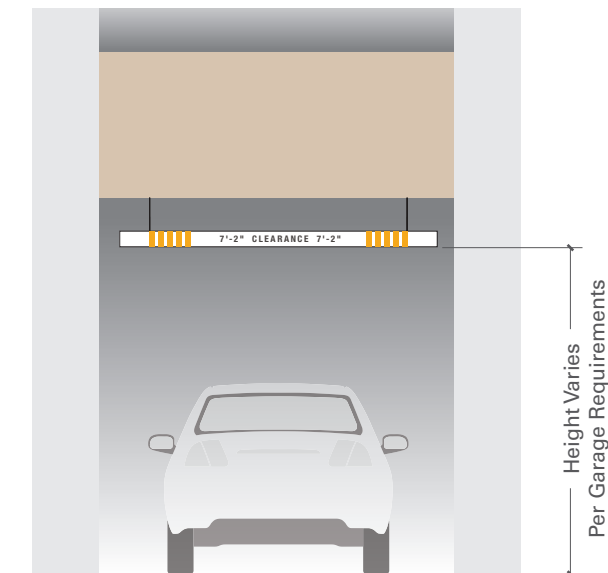
Locate G1 sign type on the side of parking garage where it has the best visibility for approaching traffic.



A G2- Detail and Graphic Elevation
1/2" = 1'-0"



B G2- Section
N.T.S.



C G2- Install Elevation
N.T.S.

G2 – GARAGE CLEARANCE BAR

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

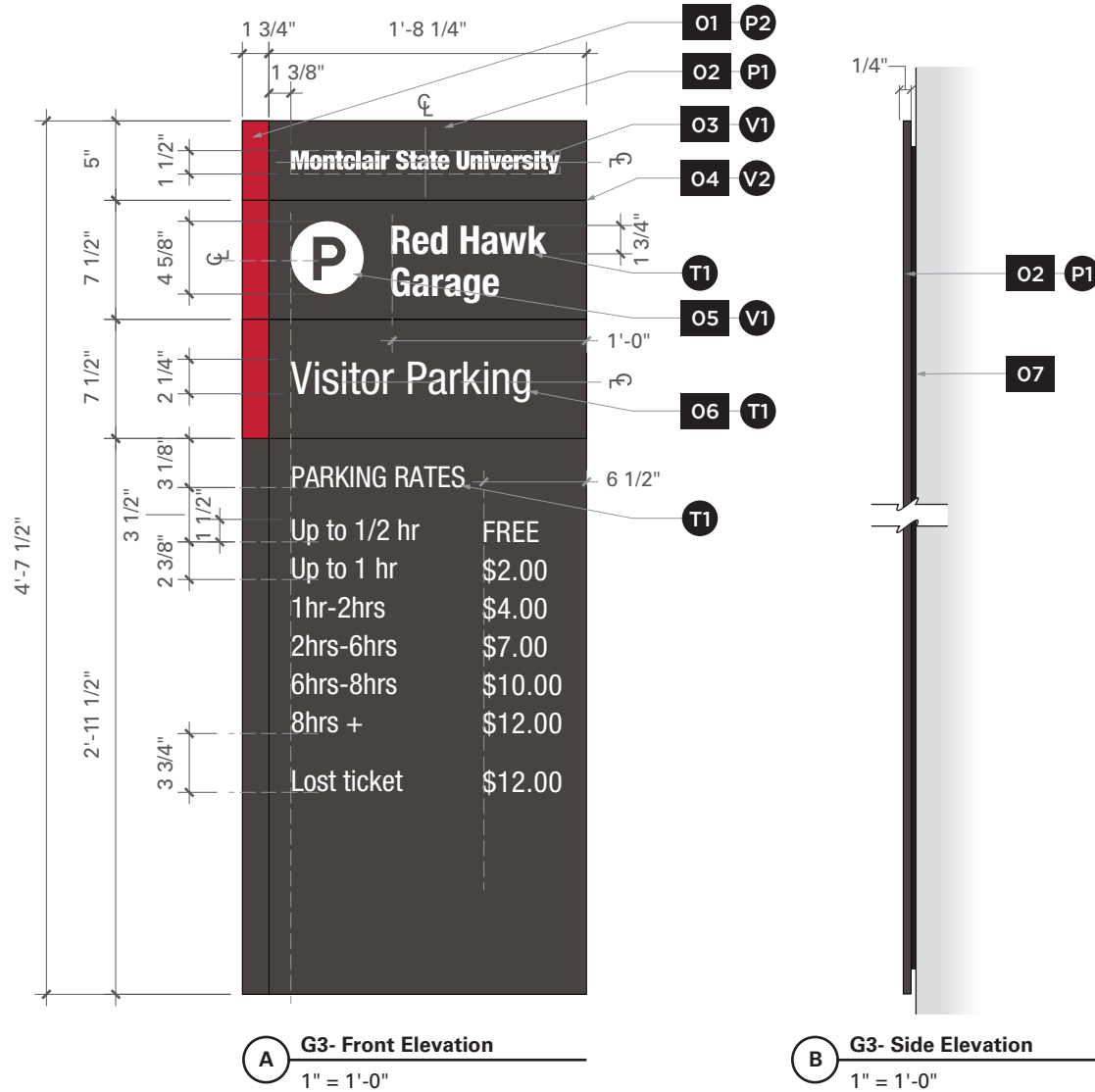
01 BANG BAR
PVC tube w/ cut + applied vinyl graphics.
Paint all surfaces.

02 CAUTION STRIPES
Surface applied reflective vinyl, artwork
to be provided by Designer.

03 MESSAGE
Surface applied vinyl copy.

04 EYE BOLT
1" dia. S.S. eye bolt w/ nut + washer at
PVC tube connection. Use appropriate
S.S. drop-in threaded Epoxy anchor to
secure Eye Bolt to concrete ceiling.

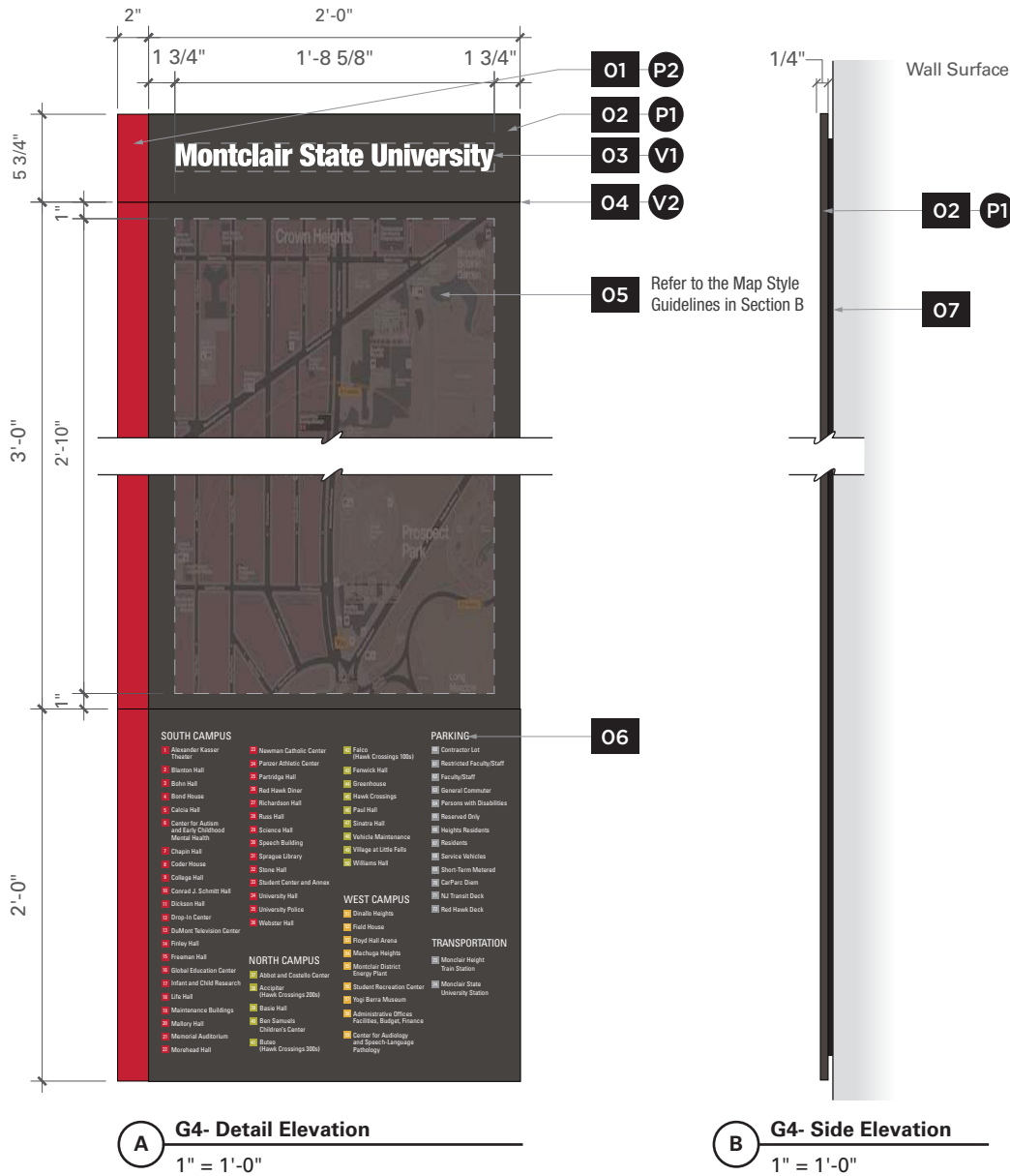
05 SUSPENSION CABLE
1/16" S.S. cable w/ crimps.



G3 – GARAGE PARKING RATES

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

- 01 ACCENT COLOR**
Mask and paint Message Panel
- 02 MESSAGE PANEL**
1/4" thk. aluminum sheet, paint all exposed surfaces. Attach to wall with VHB Tape.
- 03 LOGO**
Surface applied vinyl, artwork to be provided by Designer.
*NOTE: Coordinate artwork with updated brand, TBD by Owner.
- 04 GRAPHIC RULES**
1/8" w. surface applied vinyl.
- 05 PARKING SYMBOL**
Surface applied vinyl, artwork to be provided by Designer.
- 06 MESSAGE**
Surface applied vinyl copy.
- 07 VHB TAPE**
3M Scotch VHB 4930.
Use thickness as required.



G4 - GARAGE ORIENTATION PANEL

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

01 ACCENT COLOR
Mask and paint Message Panel

02 MESSAGE PANEL
1/4" thk. aluminum sheet, paint all exposed surfaces. Attach to wall with VHB Tape.

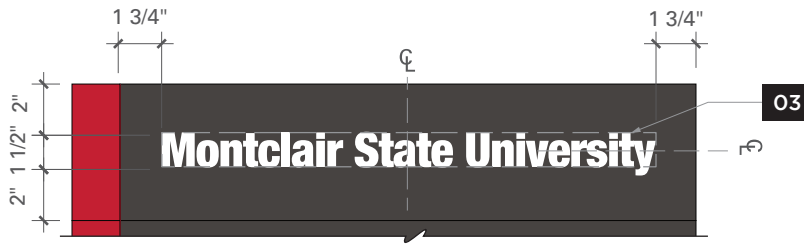
03 LOGO
Surface applied vinyl, artwork to be provided by Designer.
*NOTE: Coordinate artwork with updated brand, TBD by Owner.

04 GRAPHIC RULES
1/8" w. surface applied vinyl.

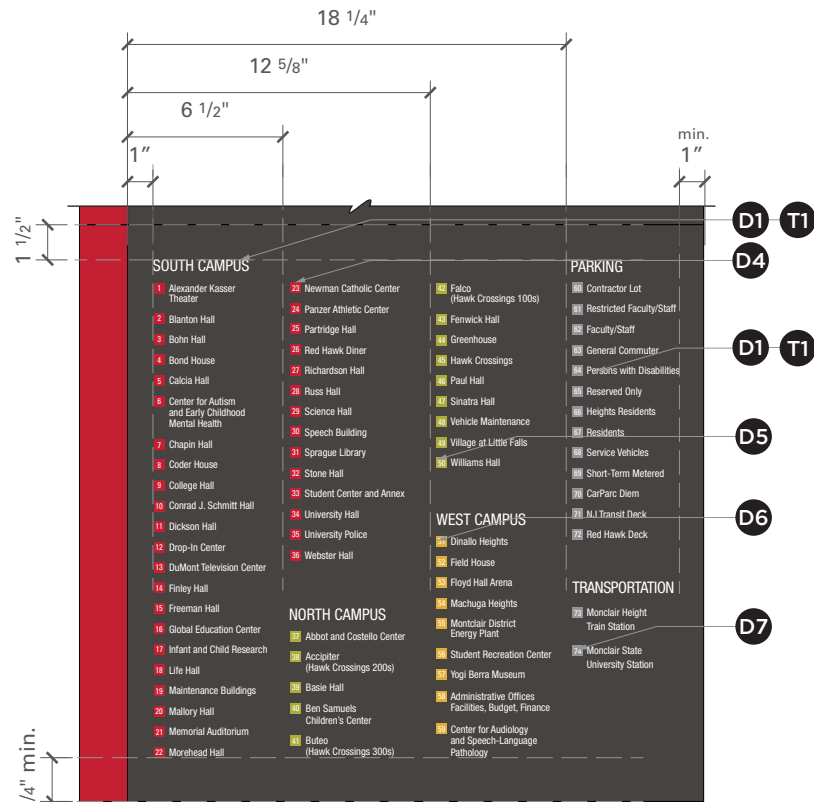
05 MAP ARTWORK
Map artwork to be determined and to be provided by Owner. (Note: Reference Part 3, Section B, Graphic Standards for Map Art Guidelines)

06 KEY/MESSAGES
Graphics to be single-sheet digitally printed clear vinyl applique adhered to face of panel; vinyl to be removed from face prior to replacement with new vinyl graphics, when required. NOTE: Final messaging to coordinate with Map Artwork (TBD), to be provided by Owner.

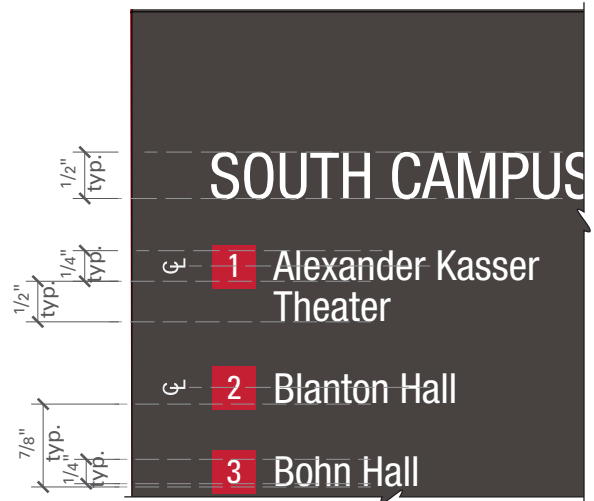
07 VHB TAPE
3M Scotch VHB 4930
Thickness as required.



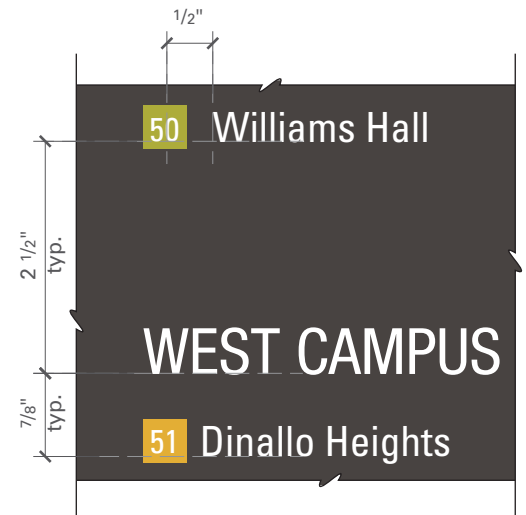
A G4- Graphic Elevation
1 1/2" = 1'-0"



B G4- Graphic Elevation
1 1/2" = 1'-0"



C G4- Partial Graphic Layout
1:2



D G4- Partial Graphic Layout
1:2

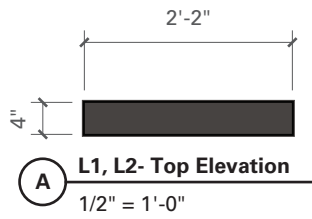
GRAPHIC DO'S & DON'TS



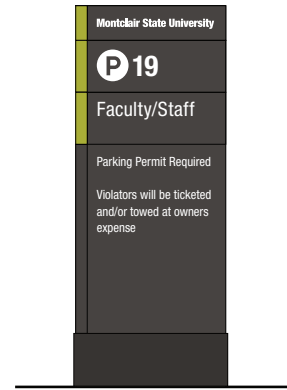
DO NOT re-arrange panel order.



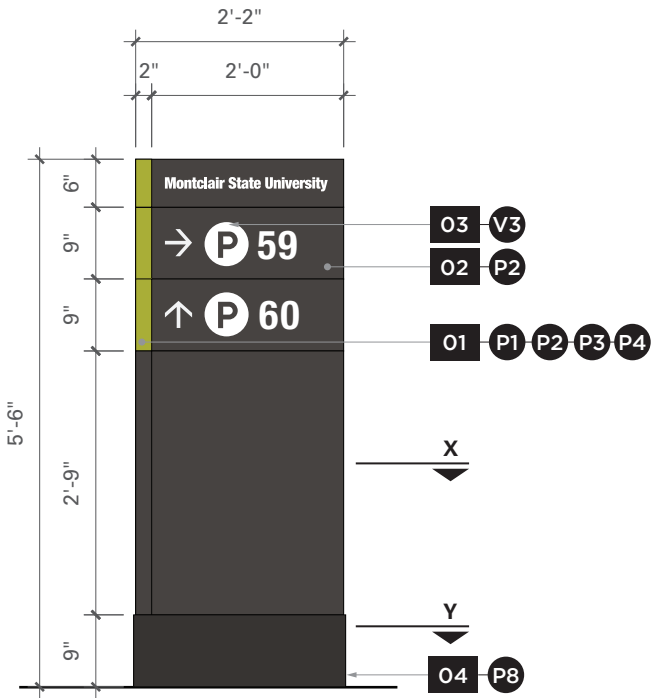
DO NOT mix Accent Colors on sign.



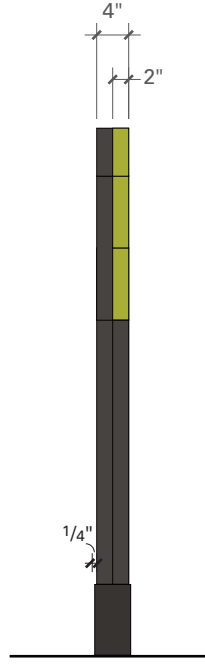
A L1, L2- Top Elevation
1/2" = 1'-0"



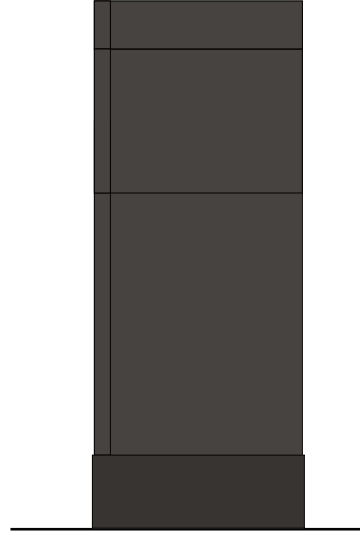
E L2- Front Elevation Alt. Layout
N.T.S.



B L1, L2 (See Alt. Layout)- Front Elevation
1/2" = 1'-0"



D L1, L2- Side Elevation
1/2" = 1'-0"



D L1, L2- Rear Elevation
1/2" = 1'-0"

L1, L2 - PARKING DIRECTIONAL, IDENTIFICATION PYLON

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

01 CORNER PANEL

2" x 2" x 1/8" aluminum angle painted, mechanically fastened to Structural Frame with countersunk fasteners. Color accents as per zone. Provide shims as necessary in order for first surface to be flush with Header Panel and Message Panels.

03 GRAPHICS

Surface applied reflective vinyl graphics.

06 ARROW

Surface applied vinyl reflective graphics. Artwork to be provided by Designer.

04 BASE

1/2" thk. aluminum plate. Miter corners at 45°. Mount to Backer Panel and Structural Frame with silicone adhesive. Match color/finish as noted.

07 PARKING SYMBOL

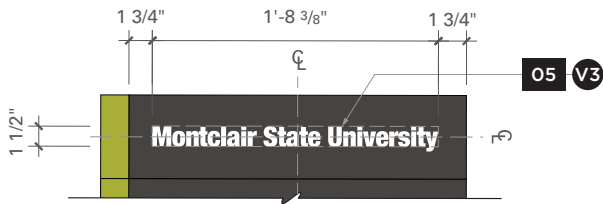
Surface applied vinyl reflective graphics. Artwork to be provided by Designer.

02 HEADER/ MESSAGE PANELS

1/8" thk. aluminum plates, welded as L-shaped panels. To be mechanically attached to Structural Frame with countersunk fasteners and to Backer Panel with blind studs, as necessary. No fasteners to be visible in first surface.

05 MSU BRAND

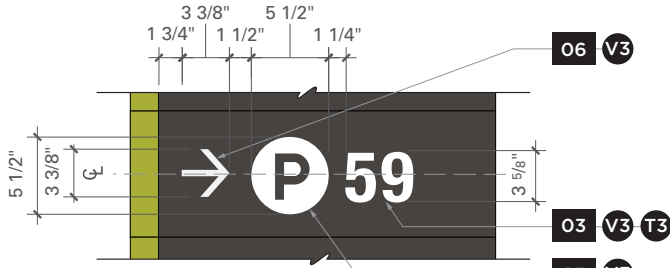
Surface applied reflective vinyl graphics. Artwork to be provided by Designer. *NOTE: Coordinate artwork with updated brand, TBD by Owner.



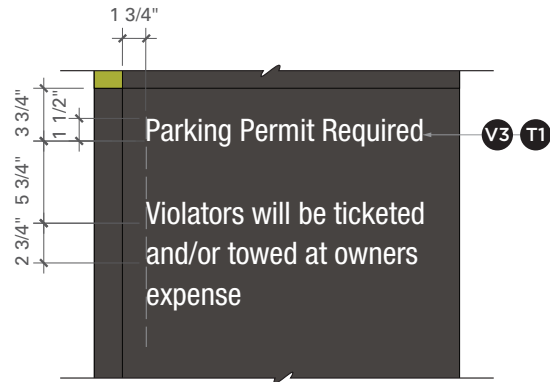
A L1, L2 - Header Panel
1" = 1'-0"



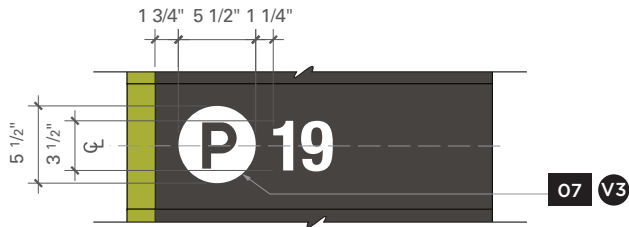
D L1, L2 - Primary Message Panel
1" = 1'-0"



B L1, L2 - Primary Message Panel
1" = 1'-0"

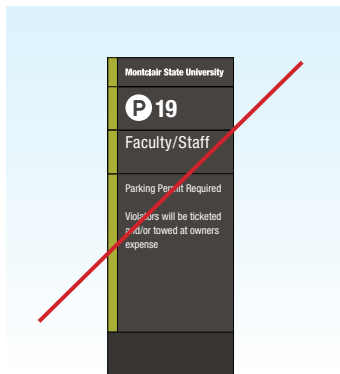


E L1, L2 - Secondary Message Panel
1" = 1'-0"

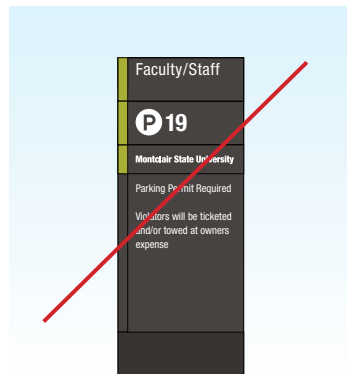


C L1, L2 - Primary Message Panel
1" = 1'-0"

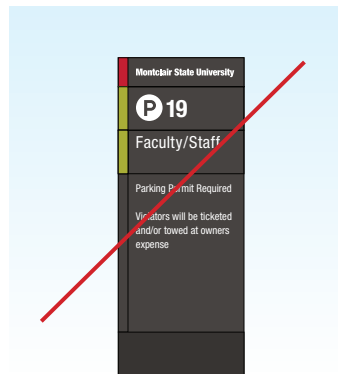
GRAPHIC DO'S & DON'TS



DO NOT extend Accent Color beyond identification panels.



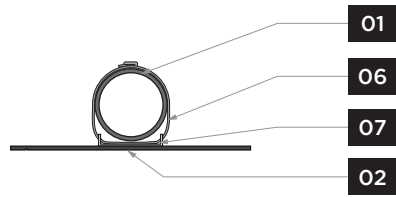
DO NOT re-arrange panel order.



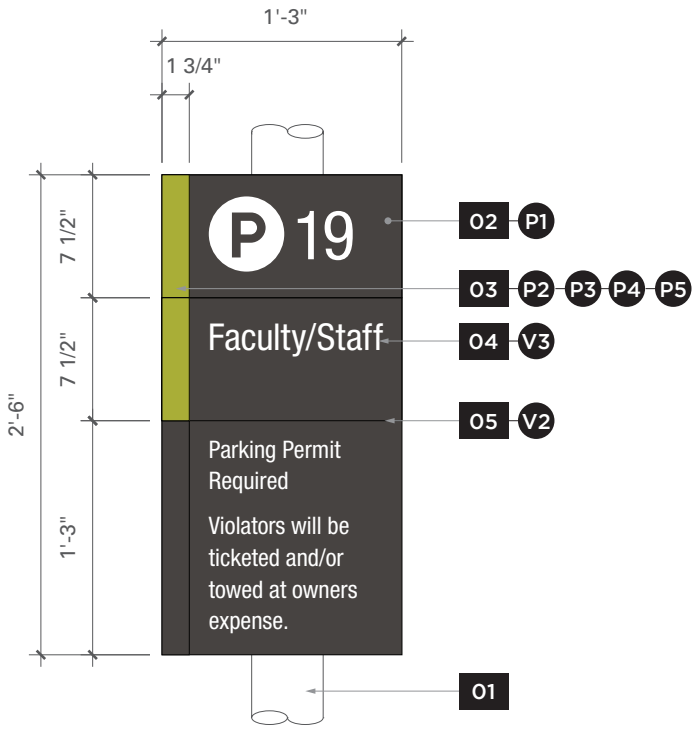
DO NOT mix Accent Colors on sign.

Use Lot Directional Panel when there is a need to move traffic to adjacent lot.

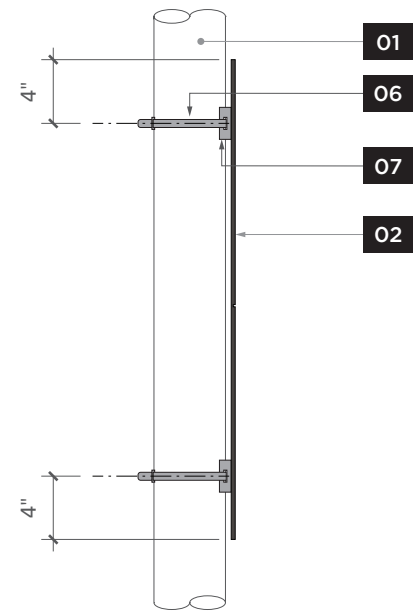
Accent Color is determined by Zone color



A L3- Plan
1" = 1'-0"



B L3- Front Elevation
1" = 1'-0"



C L3- Side Elevation
1" = 1'-0"

L3 - PARKING IDENTIFICATION (POLE MOUNT)

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

01 POLE (EXISTING)
Round pole, varies in width and height.

05 GRAPHIC RULES
1/8" w. surface applied vinyl.

02 MESSAGE PANEL
1/4" thk. aluminum sheet, paint all exposed surfaces.

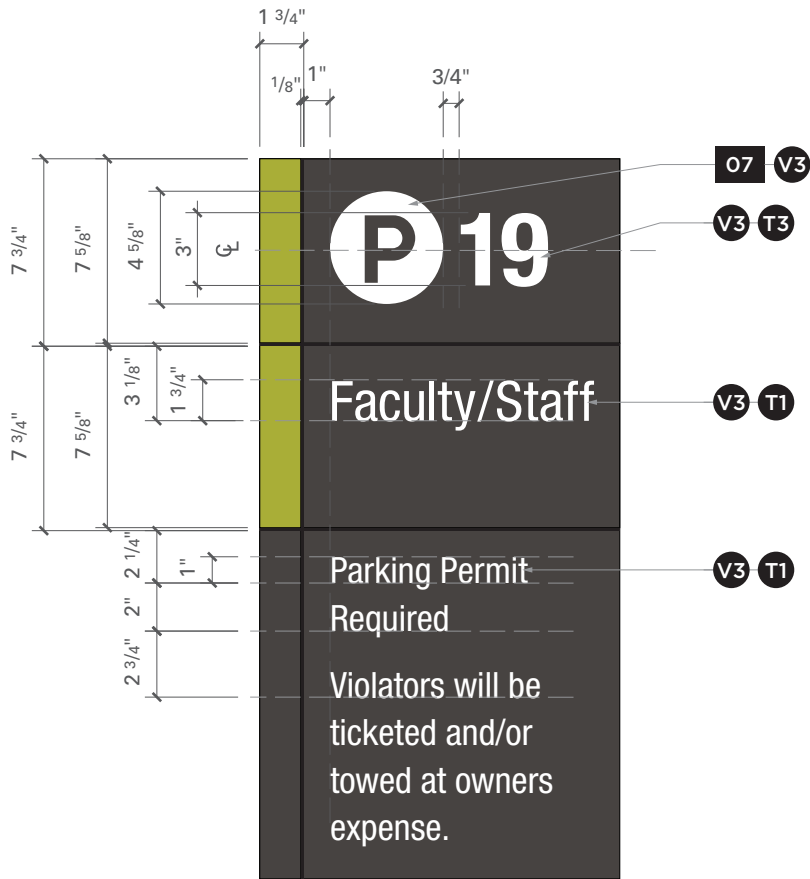
06 METAL STRAPS
Stainless steel. Preformed hose clamps or strap banding.

03 ACCENT COLOR
Mask and paint Message Panel.

07 MOUNTING BRACKET
Aluminum channel. Cut slit openings for threading metal straps.

04 MESSAGE
Surface applied reflective vinyl copy. Artwork to be provided by Designer.

08 PARKING SYMBOL
Surface applied vinyl reflective graphics. Artwork to be provided by Designer.

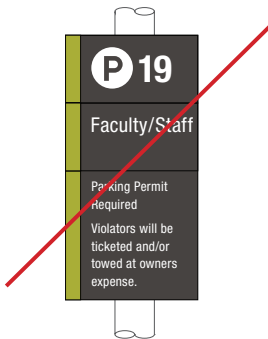


A L3- Front Elevation
 1 1/2" = 1'-0"

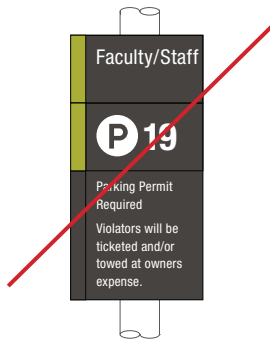
GRAPHIC DO'S & DON'TS

L3 does not receive MSU brand.

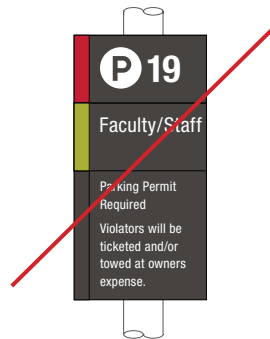
L3 Accent Color should match Accent Colors on L1 and L2.



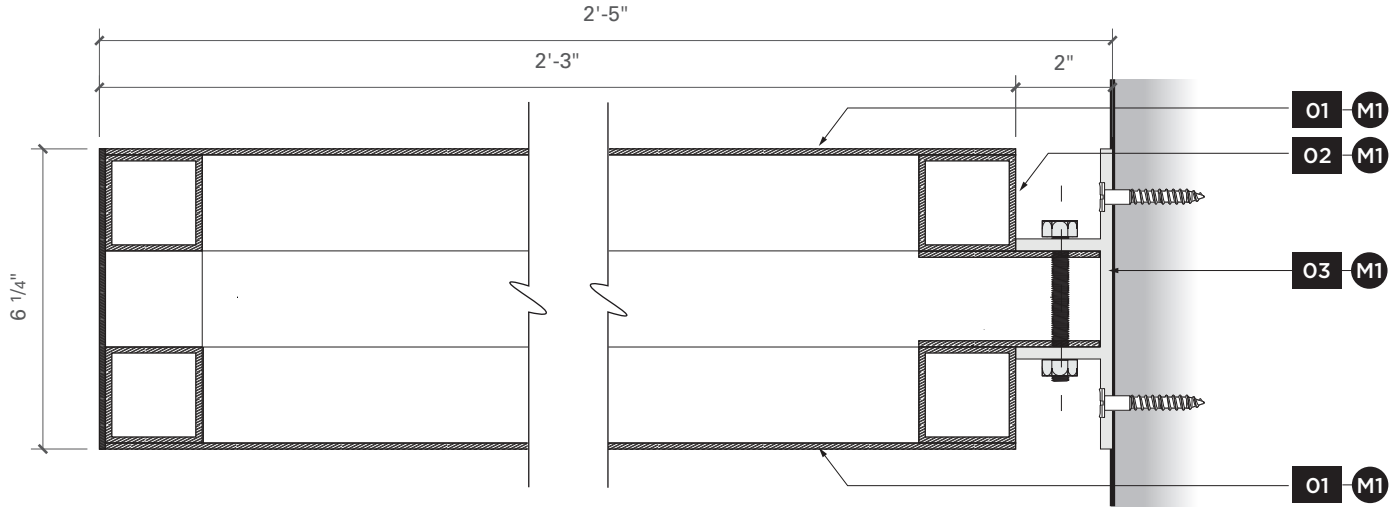
DO NOT extend Accent Color beyond identification panels.



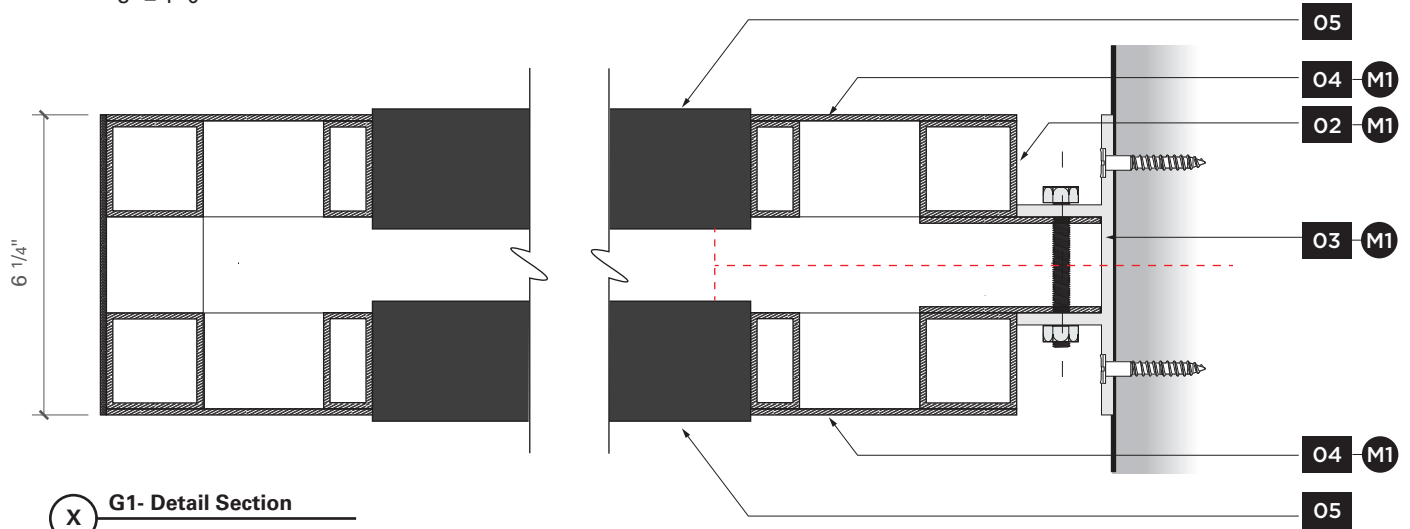
DO NOT re-arrange panel order.



DO NOT mix Accent Colors on sign.



X G1- Detail Section
3" = 1'-0"



X G1- Detail Section
3" = 1'-0"

G1 - GARAGE PARKING IDENTIFICATION

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

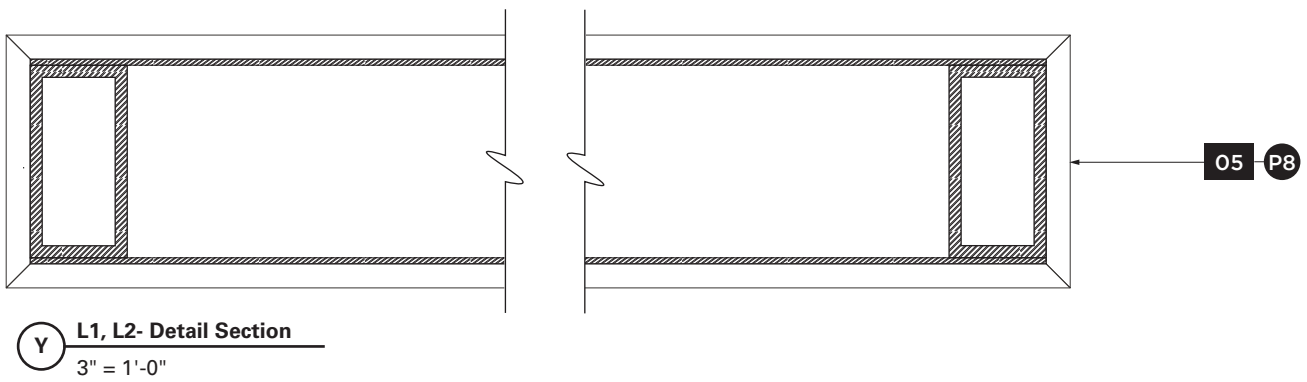
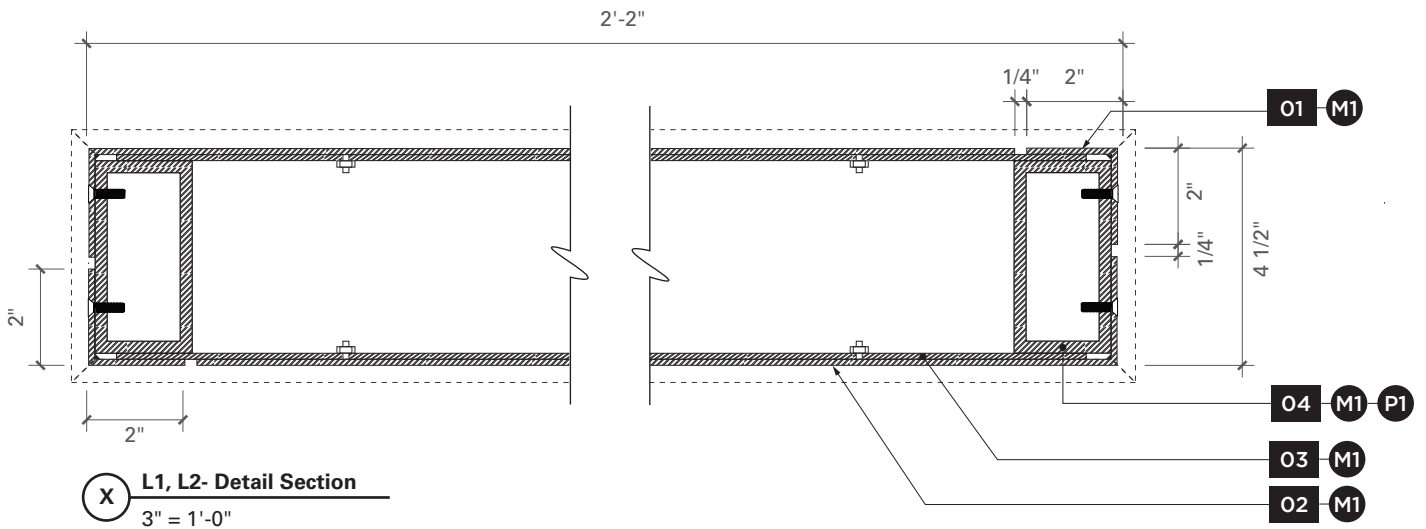
01 MESSAGE PANEL
1/8" thk. aluminum plate fastened to Structural Frame w/ VHB tape. Paint all exposed surfaces. Seal cabinet for weatherproofing.

02 STRUCTURAL FRAME
Aluminum tube frame, mechanically fastened to Wall Bracket. Design to be confirmed by Fabricator through engineering. Paint all exposed surfaces.

03 WALL BRACKET
Fabricated bracket of 1/4" thk. welded aluminum plates, to be mechanically fastened to the wall. Design to be confirmed by Fabricator through engineering. Paint all exposed surfaces.

04 LOWER FACE PANEL
1/8" thk. aluminum plate fastened to Structural Frame w/ VHB tape. Paint all exposed surfaces. Seal cabinet for weatherproofing.

05 LED SIGN
7" x 18" x 2 1/2" Open-Closed Digital LED display sign, 5887 (TCL718GR-100) by SignalTech or approved similar. Cabinet to be painted to match Lower Face Panel.



L1, L2 - PARKING IDENTIFICATION (PYLON)

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

01 CORNER PANEL

2" x 2" x 1/8" aluminum angle painted, mechanically fastened to Structural Frame with countersunk fasteners. Color accents as per zone. Provide shims as necessary in order for first surface to be flush with Header Panel and Message Panels.

02 HEADER/MESSAGE PANELS

1/8" thk. aluminum plates, welded as L-shaped panels. To be mechanically attached to Structural Frame with countersunk fasteners and to Backer Panel with blind studs, as necessary.

03 BACKER PANEL

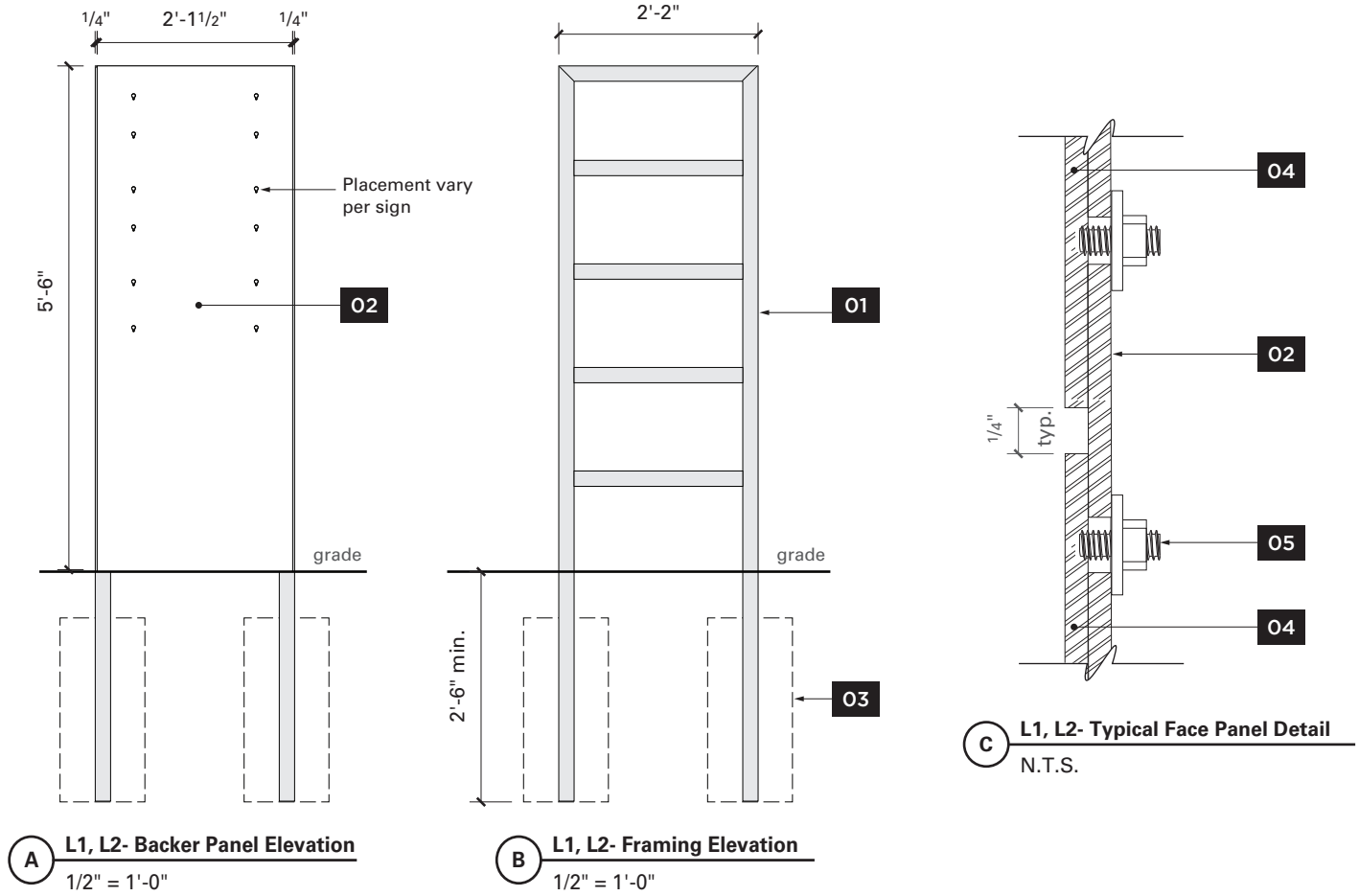
1/8" thk. aluminum plate glued to Structural Frame. Pre-drill holes for mounting message panels. Paint all exposed surfaces.

04 STRUCTURAL FRAME

2" x 4" aluminum tube, buried into cast reinforced sonotube concrete footers. Design/depth to be confirmed by Fabricator through engineering.

05 BASE

1/2" thk. aluminum plate. Miter corners at 45°. Mount to Backer Panel and Structural Frame with silicone adhesive. Match color/finish as noted.



L1, L2 - PARKING IDENTIFICATION (PYLON)

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

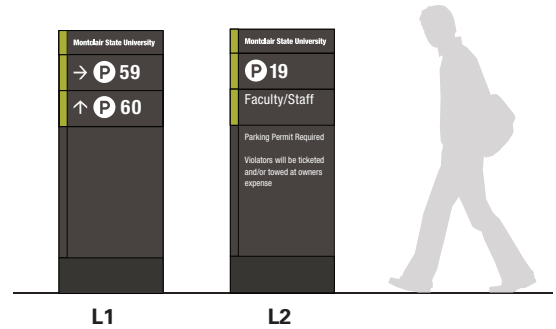
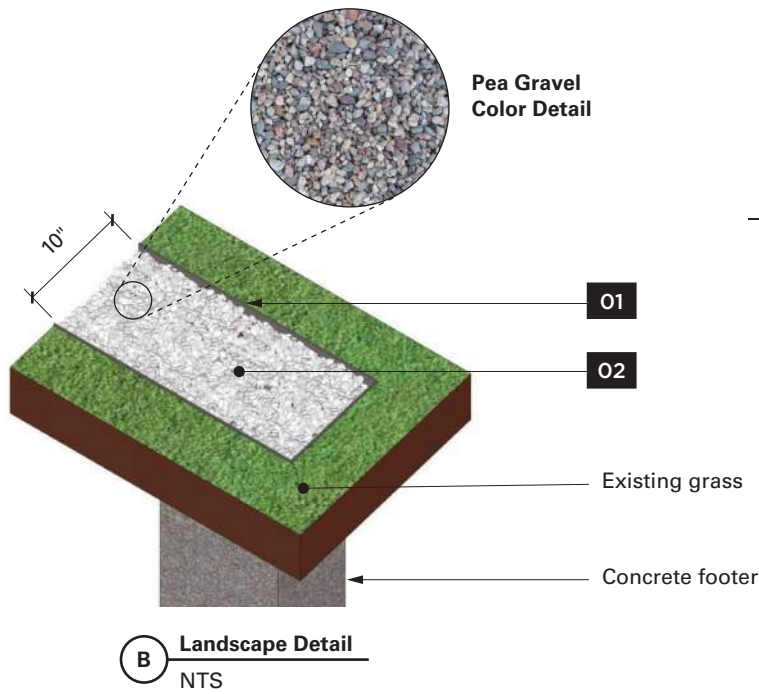
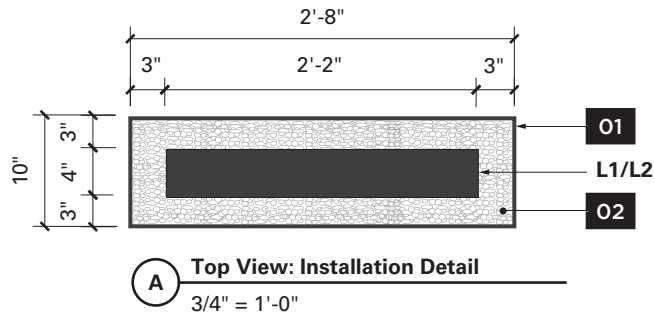
01 STRUCTURAL FRAME
2" x 4" aluminum tube, buried into cast reinforced sonotube concrete footers. Design/depth to be confirmed by Fabricator through engineering.

03 FOOTER
Cast reinforced sonotube concrete footers, to remain completely underground. Design to be confirmed by Fabricator through engineering.

05 BLIND STUDS
Message Panels to be drilled and tapped to receive threaded studs.

02 BACKER PANEL
1/8" thk. aluminum plate glued to Structural Frame. Pre-drill holes for mounting message panels. Paint all exposed surfaces.

04 MESSAGE PANELS
1/8" thk. aluminum plates, welded as L-shaped panels. To be mechanically attached to Structural Frame with countersunk fasteners and to Backer Panel with blind studs, as necessary. No visible fasteners on first surface.



L1, L2- INSTALLATION DETAIL (GRASS INSTALL)

GENERAL FABRICATION/GRAPHIC NOTES: It is recommended to install Pedestrian signs into mulch bed areas.

If a mulch bed area is not available and the sign must be installed into a grass area, then this detail must be utilized for proper grass installation.

01 LINE EDGING

Permaloc Clean Line Edging
 3/16" x 4" aluminum edging
 Bronze Duraflex

02 PEA GRAVEL

3/8" grey pea gravel.

THIS PAGE IS INTENTIONALLY LEFT BLANK

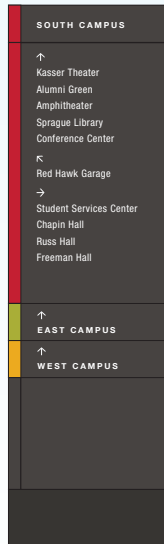
PART 2, SECTION E

EXTERIOR SIGNAGE

Pedestrian & Shuttle



P1
Information Hub

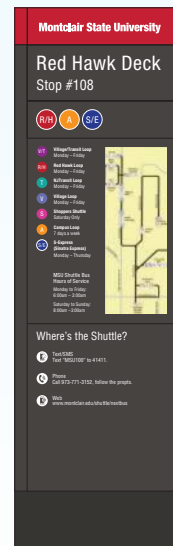
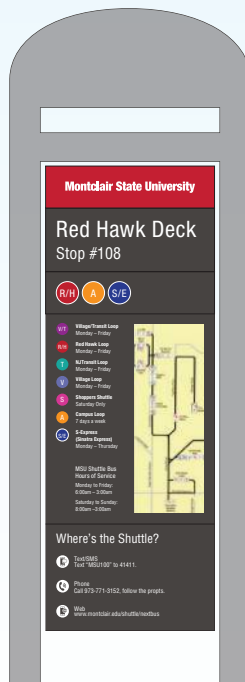
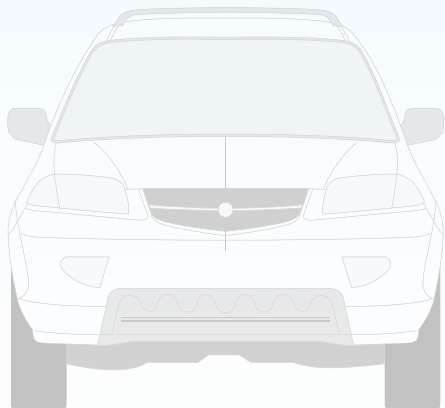


P2
Pedestrian Directional



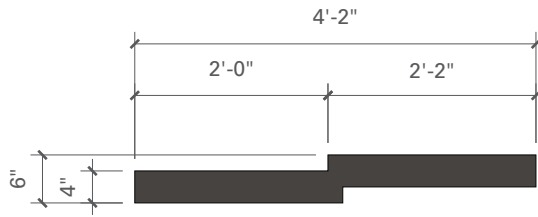
P3
Pedestrian Directional



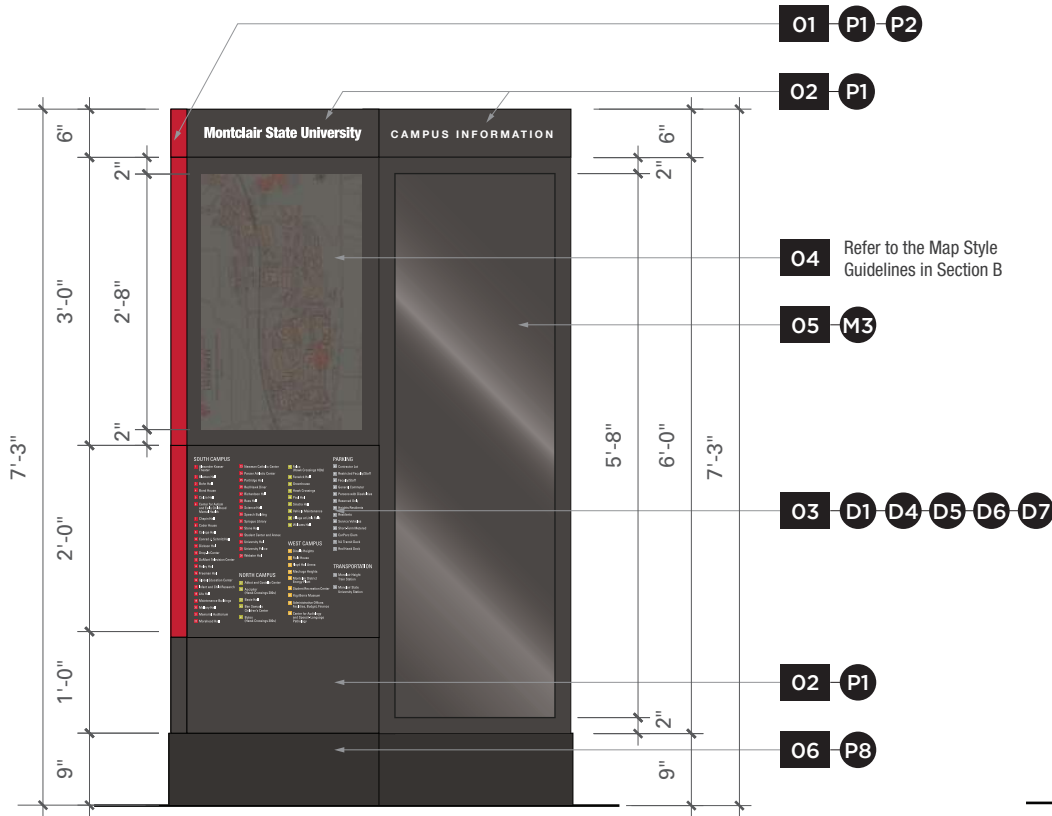


S1 Shuttle Stop Applied

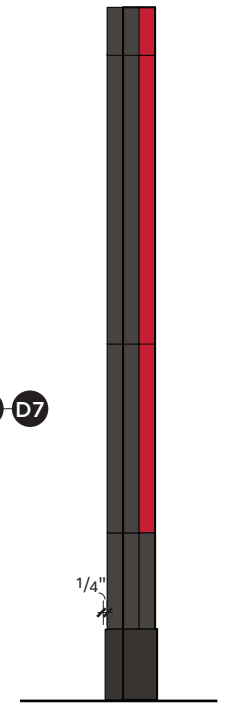
S2 Shuttle Stop Pylon



A P1- Top Elevation
1/2" = 1'-0"



B P1- Elevation
1/2" = 1'-0"



C P1- Elevation
1/2" = 1'-0"

P1 – PEDESTRIAN ORIENTATION

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

01 CORNER PANEL

2" x 2" x 1/8" aluminum angle painted, mechanically fastened to Structural Frame with countersunk fasteners. Provide shims as necessary in order for first surface to be flush with Header Panel and Message Panels.

02 HEADER/ MESSAGE PANELS

1/8" thk. aluminum plates, welded as L-shaped panels. To be mechanically attached to Structural Frame with countersunk fasteners and to Backer Panel with blind studs, as necessary. No fasteners to be visible in first surface.

03 GRAPHICS

Graphics to be single-sheet digitally printed clear vinyl applique adhered to face of panel; vinyl to be removed from face prior to replacement with new vinyl graphics, when required.

04 MAP ARTWORK

Digitally printed graphics. Artwork to be provided by Owner. Graphics to be single-sheet digitally printed clear vinyl applique adhered to face of panel; vinyl to be removed from face prior to replacement with new vinyl graphics, when required.

05 DISPLAY CASE

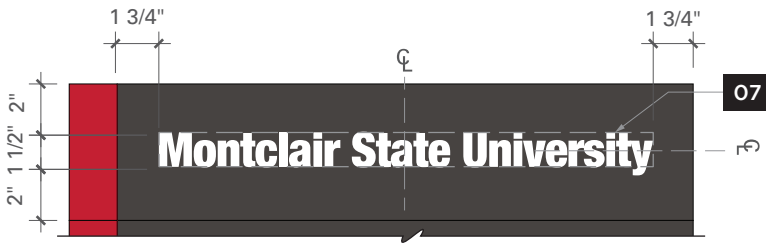
Clear polycarbonate pivoting door. Provide key locking hardware.

05 BASE

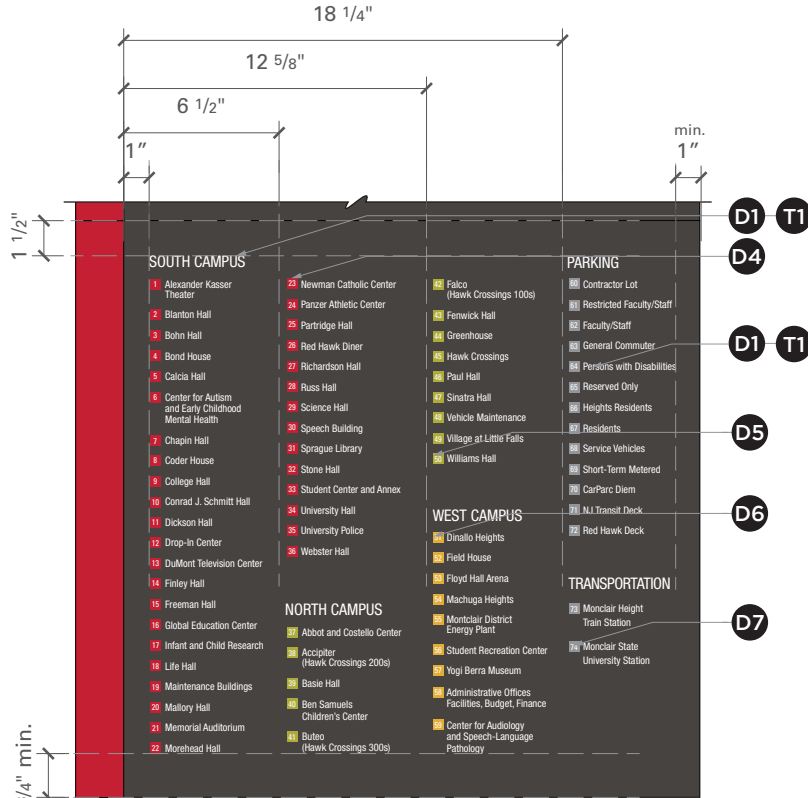
1/2" thk. aluminum plate. Miter corners at 45°. Mount to Backer Panel and Structural Frame with silicone adhesive. Match color/finish as noted.

07 MSU BRAND

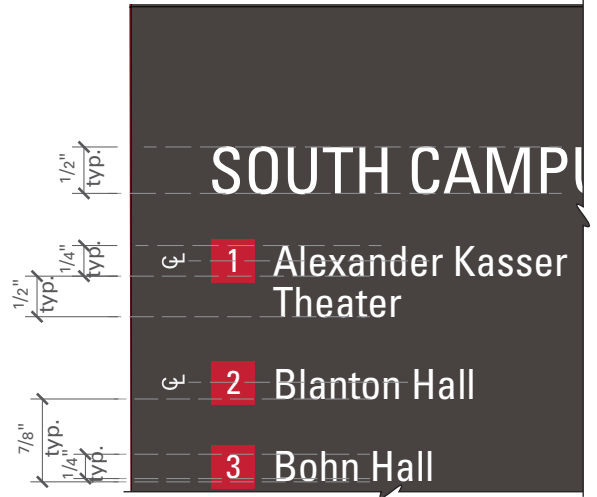
Surface applied vinyl graphics. Artwork to be provided by Designer. *NOTE: Coordinate artwork with updated brand, TBD by Owner.



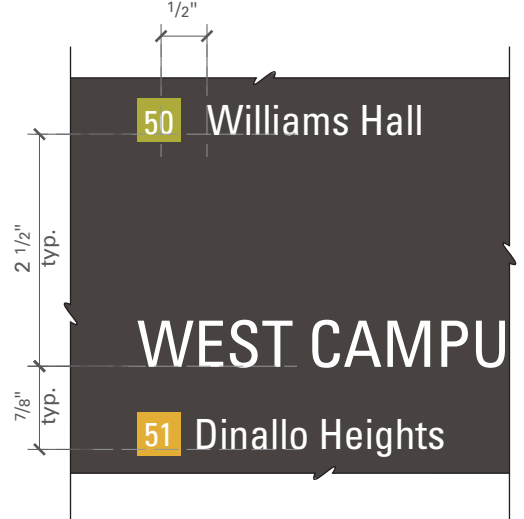
A G4- Graphic Elevation
1 1/2" = 1'-0"



B G4- Graphic Elevation
1 1/2" = 1'-0"

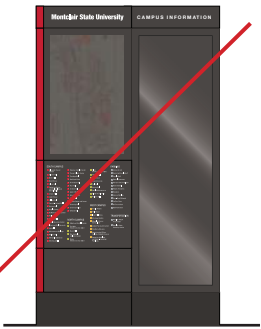


C G4- Partial Graphic Layout
1:2



D G4- Partial Graphic Layout
1:2

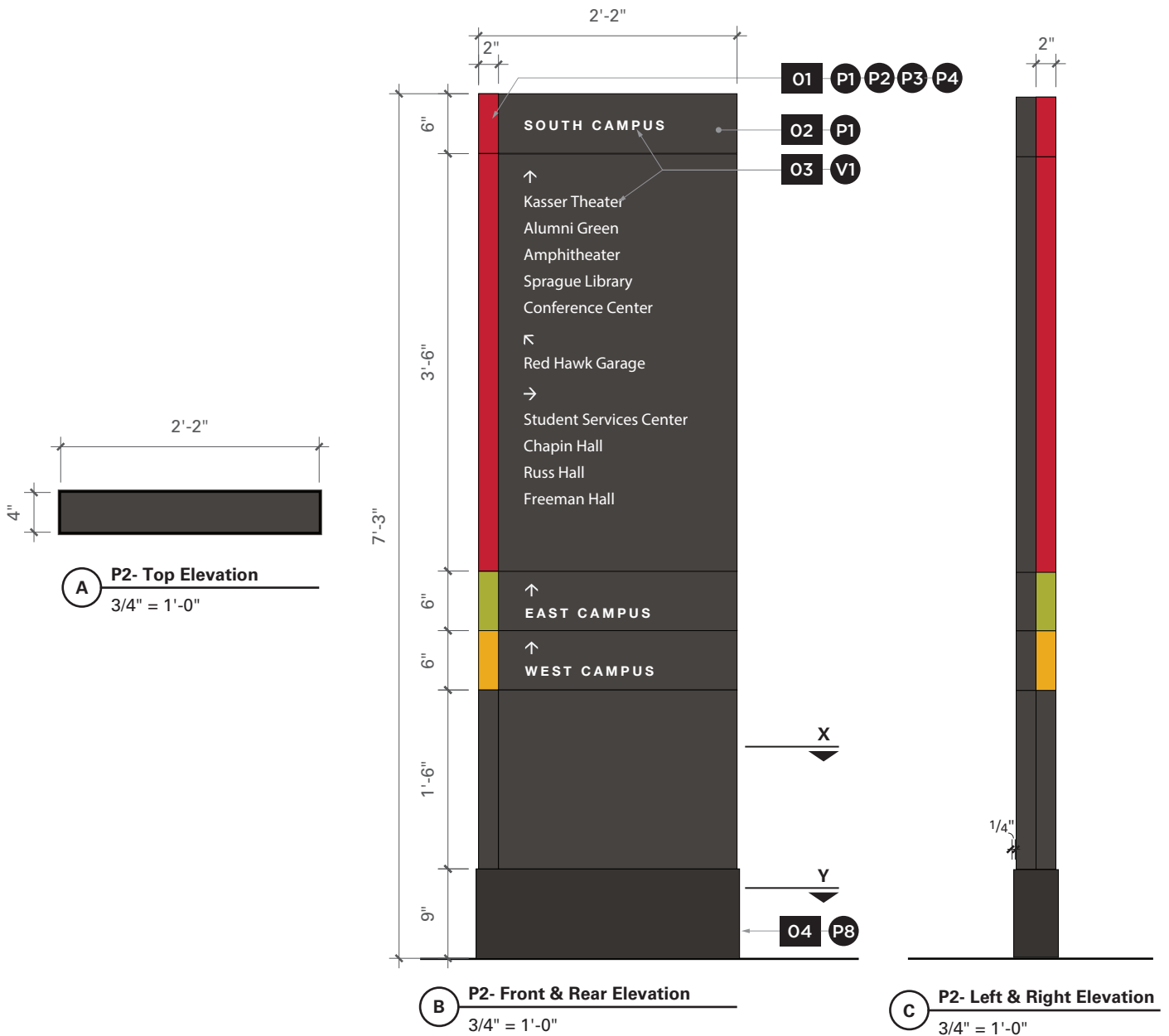
GRAPHIC DO'S & DON'TS



DO NOT apply Accent Color beyond information panels



DO NOT re-arrange information.



P2 - PEDESTRIAN DIRECTIONAL

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

01 CORNER PANEL

2" x 2" x 1/8" aluminum angle painted, mechanically fastened to Structural Frame with countersunk fasteners. Color accents as per zone. Provide shims as necessary in order for first surface to be flush with Header Panel and Message Panels.

03 GRAPHICS

Surface applied vinyl graphics.

04 BASE

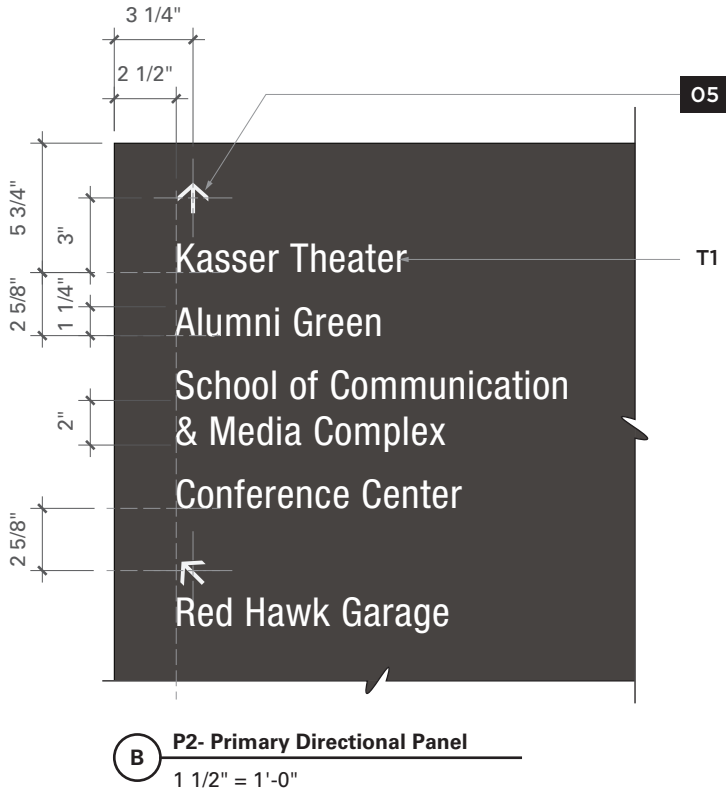
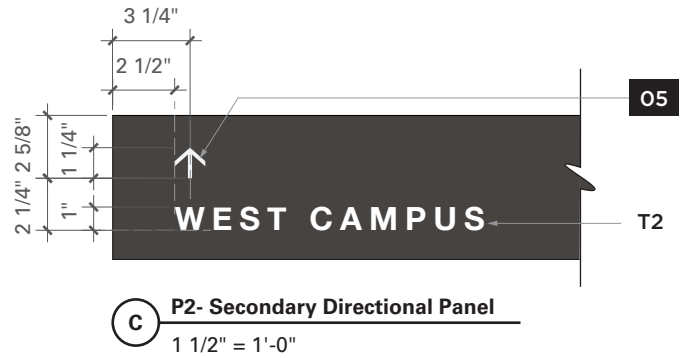
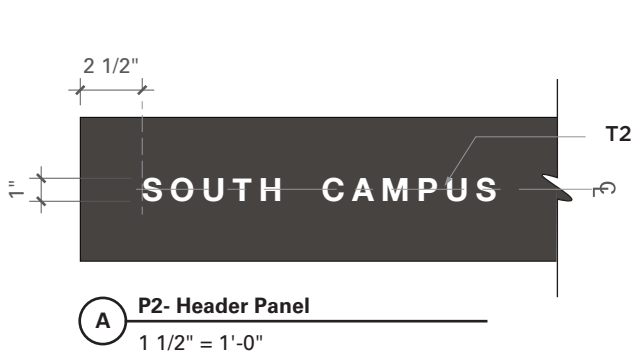
1/2" thk. aluminum plate. Miter corners at 45°. Mount to Backer Panel and Structural Frame with silicone adhesive. Match color/finish as noted.

02 HEADER/ MESSAGE PANELS

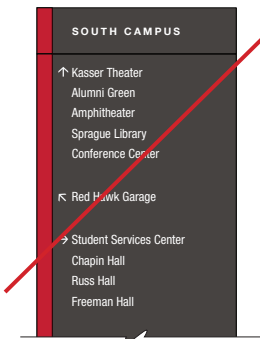
1/8" thk. aluminum plates, welded as L-shaped panels. To be mechanically attached to Structural Frame with countersunk fasteners and to Backer Panel with blind studs, as necessary. No fasteners to be visible in first surface.

05 ARROW

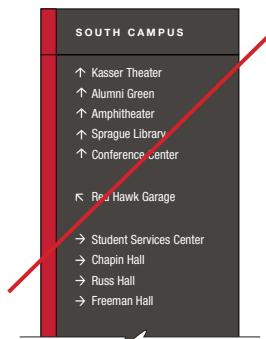
Surface applied vinyl graphics. Artwork to be provided by Designer.



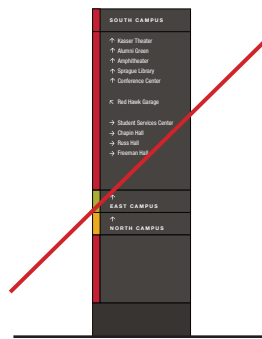
GRAPHIC DO'S & DON'TS



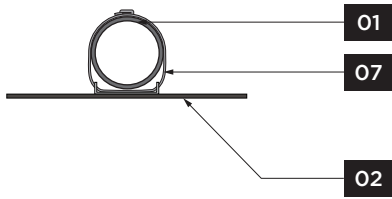
DO NOT adjust alignment of arrows and messages.



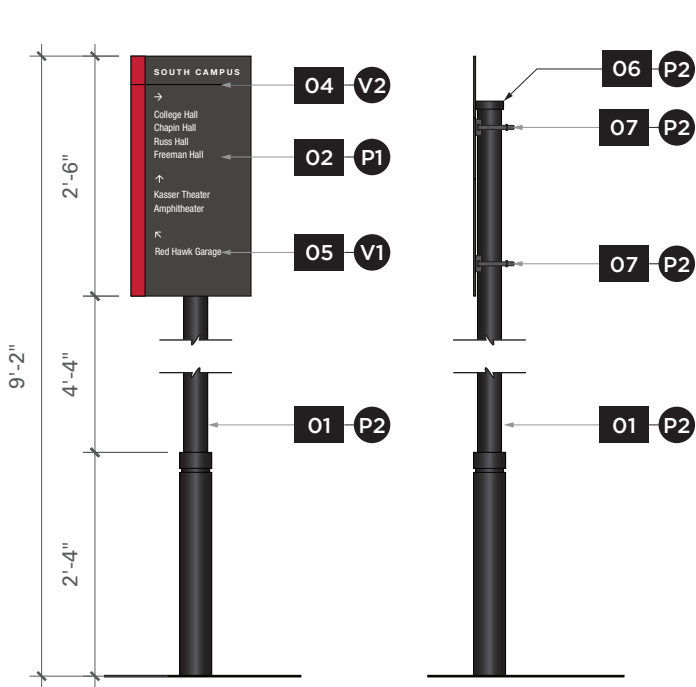
DO NOT place an arrow next to each message.



DO NOT apply Accent Color beyond panels with messages.

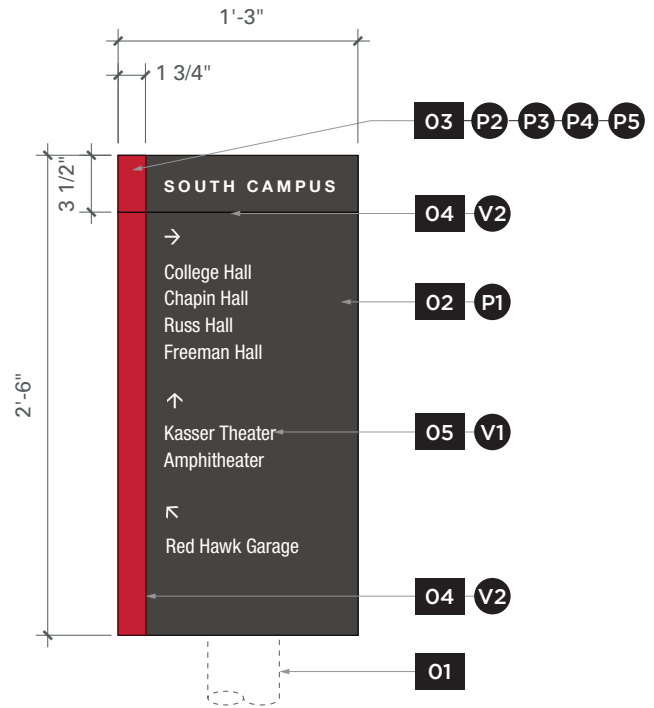


A P3- Plan
1" = 1'-0"



B P3- Front Elevation
1/2" = 1'-0"

C P3- Side Elevation
1/2" = 1'-0"



D P3- Front Elevation
1" = 1'-0"

P3 – PEDESTRIAN DIRECTIONAL

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

01 POLE
Round pole, varies in width and height.

06 POLE CAP
07 METAL STRAP ATTACHMENT
Stainless steel. Preformed hose clamps or strap banding. Attach with aluminum channel mounting bracket. Cut slit openings for threading metal straps.

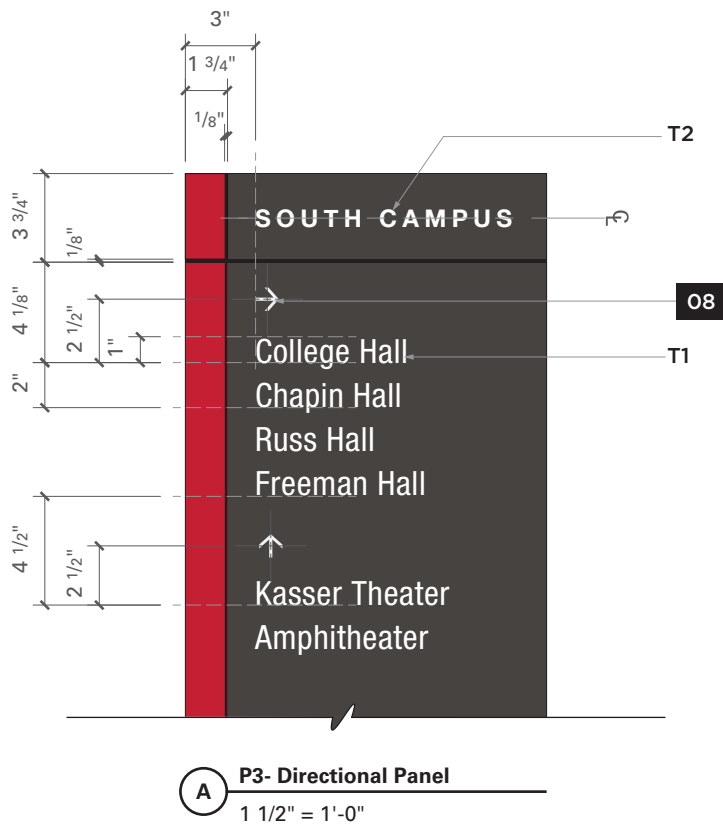
02 MESSAGE PANEL
1/4" thk. aluminum sheet, paint all exposed surfaces.

03 ACCENT COLOR
Mask and paint Message Panel.

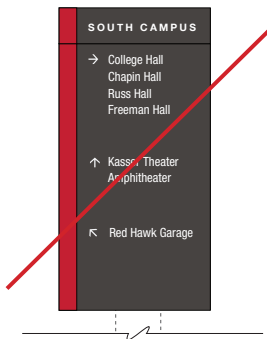
08 ARROW
Surface applied vinyl, artwork to be provided by Designer.

04 GRAPHIC RULES
1/8" w. surface applied vinyl.

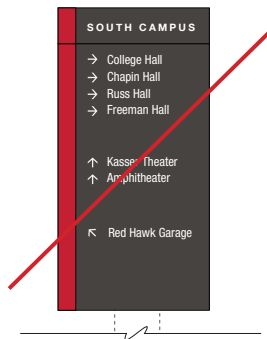
05 MESSAGE
Surface applied vinyl copy.



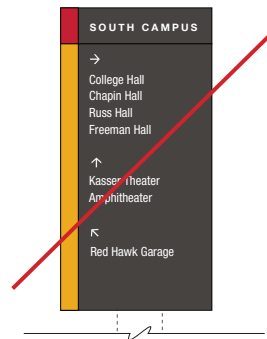
GRAPHIC DO'S & DON'TS



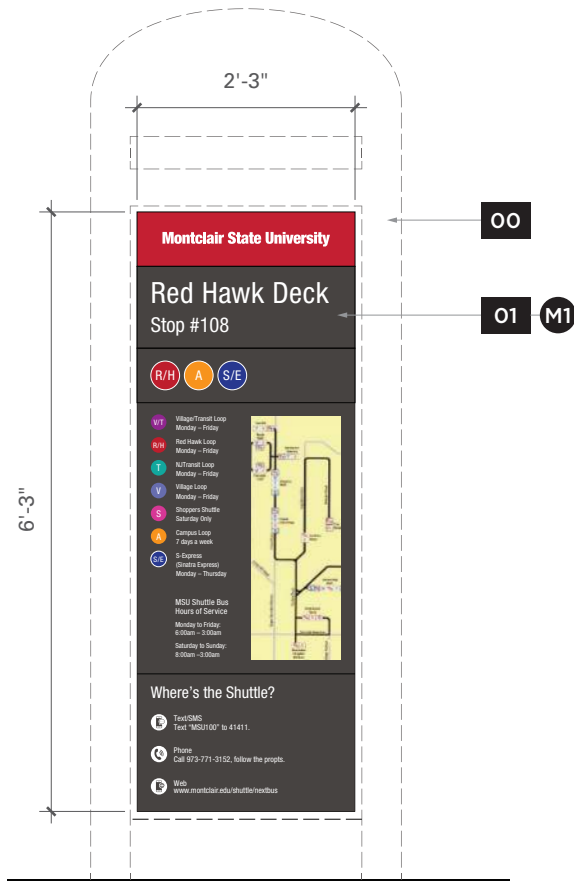
DO NOT adjust alignment of arrows and messages.



DO NOT place an arrow next to each message.



DO NOT mix Accent Colors



A S1- Front Elevation
1/2" = 1'-0"

S1 – SHUTTLE STOP (APPLIED)

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

00 SHELTER (EXISTING)
Existing bus shelters, size and mounting conditions may vary.

01 MESSAGE PANEL
1/4" thk. aluminum sheet paint all exposed surfaces. Attach to Shelter (existing) using VHB tape or mechanically fasten with tamper resistant hardware, paint to match Message Panel.

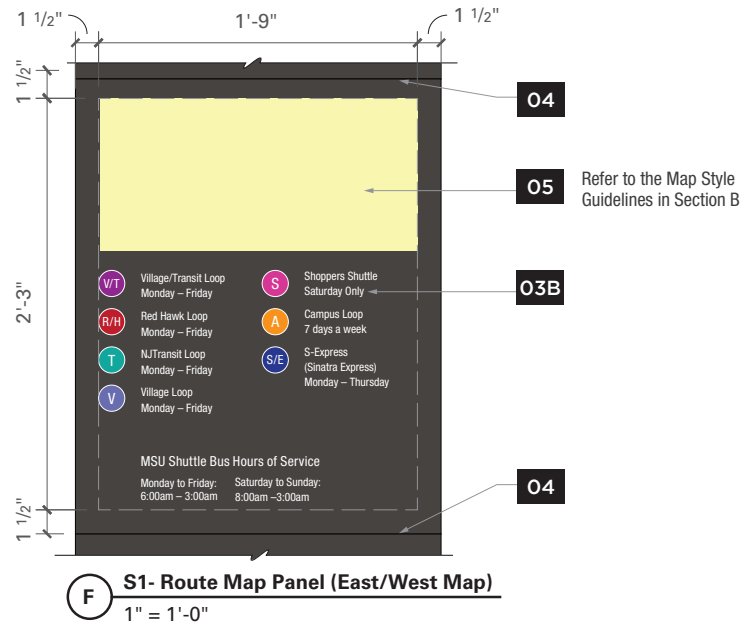
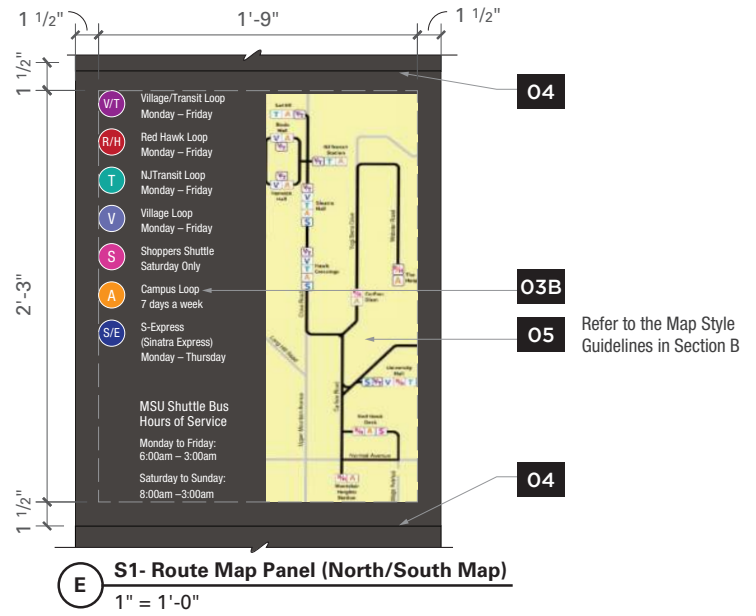
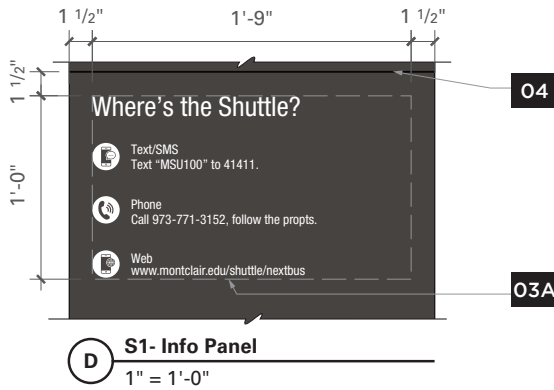
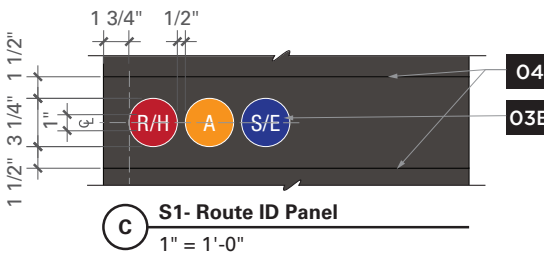
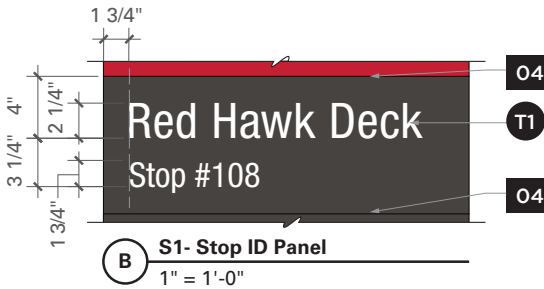
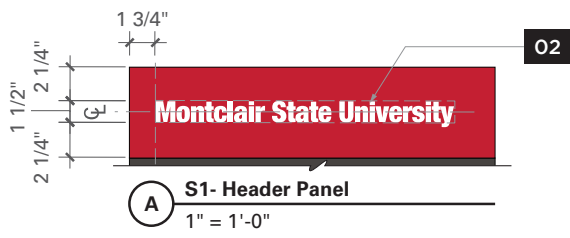
02 MSU BRAND
Surface applied vinyl graphics. Artwork to be provided by Designer. *NOTE: Coordinate artwork with updated brand, TBD by Owner.

03A GRAPHICS
Surface applied vinyl graphics. Match color as noted.

03B GRAPHICS
Graphics to be single-sheet digitally printed clear vinyl applique adhered to face of panel; vinyl to be removed from face prior to replacement with new vinyl graphics, when required.

04 GRAPHIC RULES
1/8" w. surface applied vinyl.

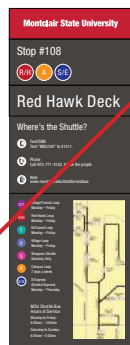
05 MAP ARTWORK
Artwork to be provided by Owner. Graphics to be single-sheet digitally printed clear vinyl applique adhered to face of panel; vinyl to be removed from face prior to replacement with new vinyl graphics, when required.



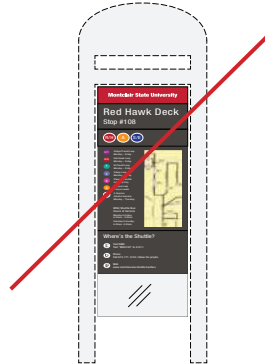
GRAPHIC DO'S & DON'TS



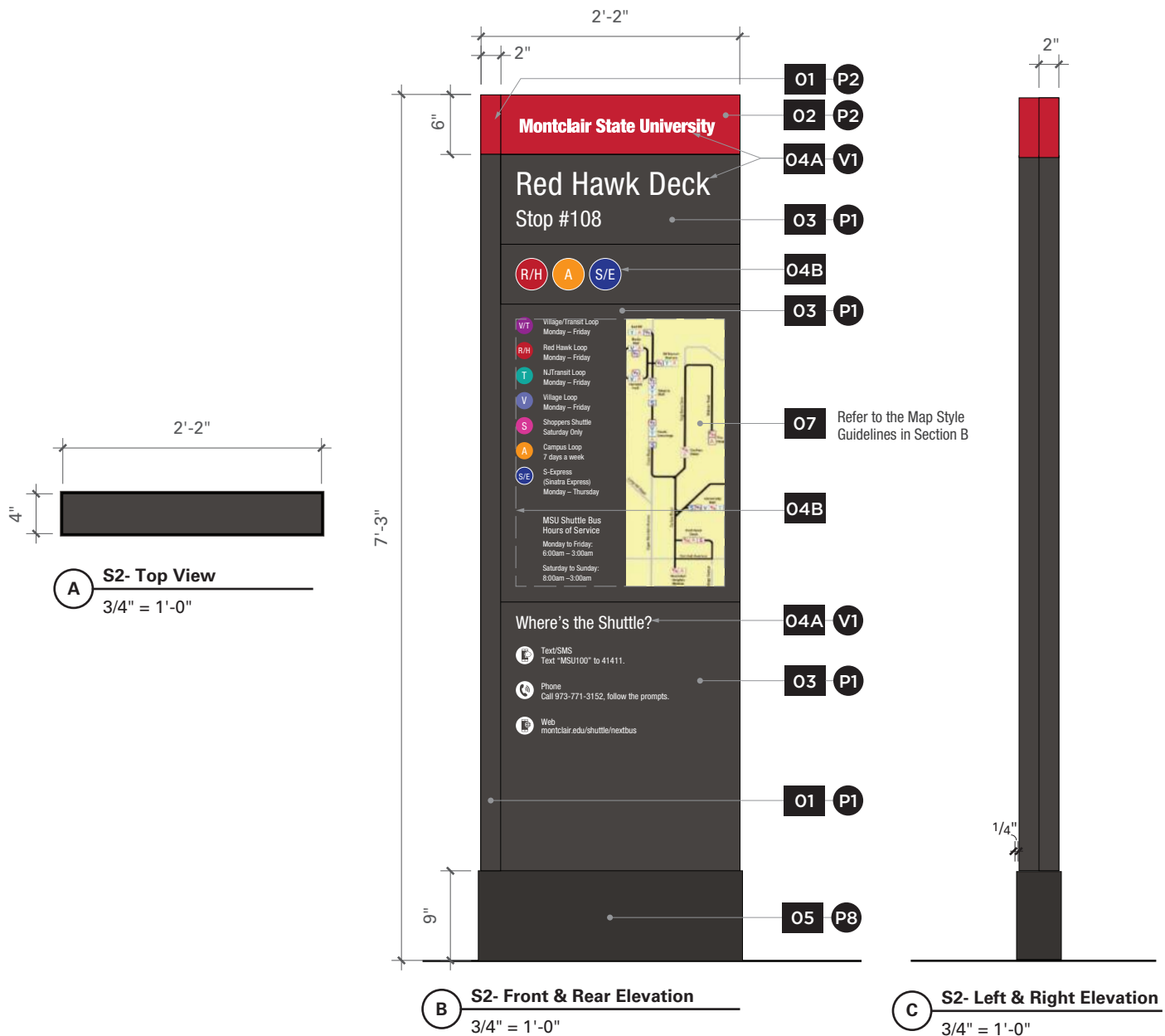
DO NOT apply unapproved brand color



DO NOT re-arrange messaging and information



DO NOT stretch the graphic horizontally or vertically. Always scale the graphics proportionally.



S2 – SHUTTLE STOP (PYLON)

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

01 CORNER PANEL

2" x 2" x 1/8" aluminum angle painted, mechanically fastened to Structural Frame with countersunk fasteners. Provide shims as necessary in order for first surface to be flush with Header Panel and Message Panels.

02 HEADER

1/8" thk. aluminum plates, welded as L-shaped panels. To be mechanically attached to Structural Frame with countersunk fasteners and to Backer Panel with blind studs, as necessary. No fasteners to be visible in first surface.

03 MESSAGE PANELS

1/8" thk. aluminum plates, welded as L-shaped panels. To be mechanically attached to Structural Frame with countersunk fasteners and to Backer Panel with blind studs, as necessary. No fasteners to be visible in first surface.

04A GRAPHICS

Surface applied vinyl graphics. Match color as noted.

04B GRAPHICS

Graphics to be single-sheet digitally printed clear vinyl applique adhered to face of panel; vinyl to be removed from face prior to replacement with new vinyl graphics, when required.

05 BASE

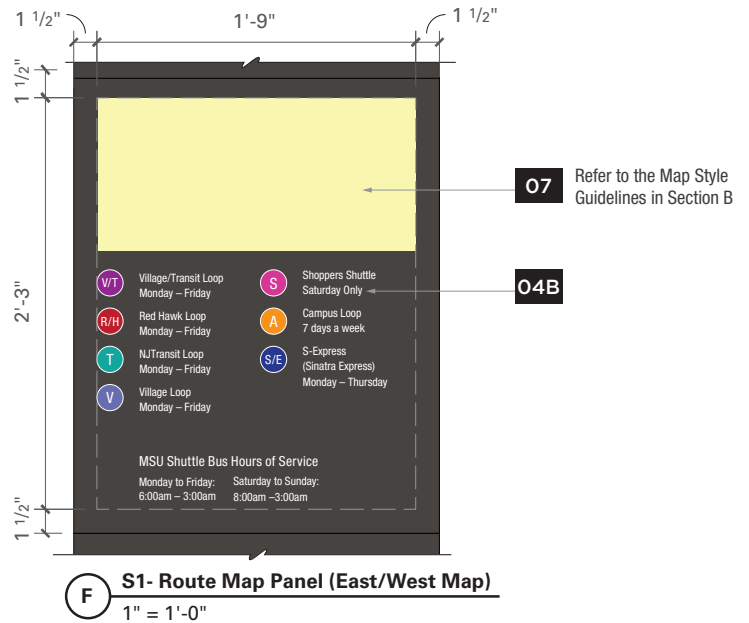
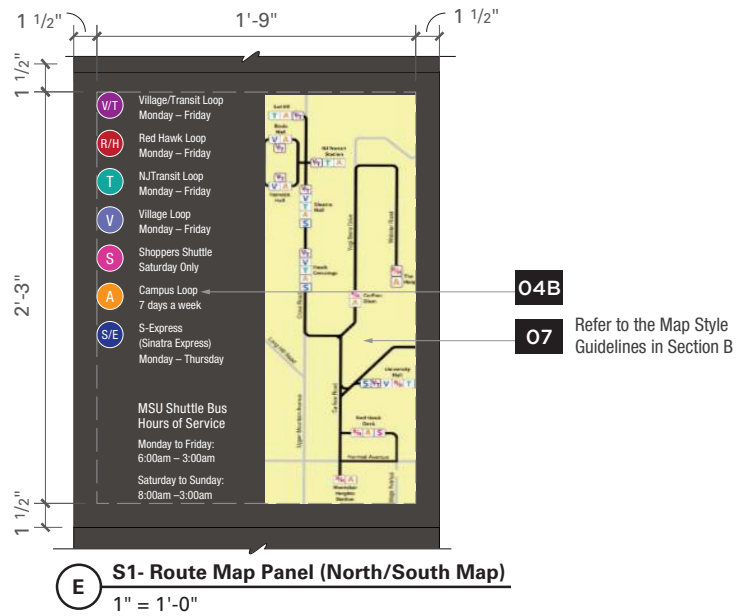
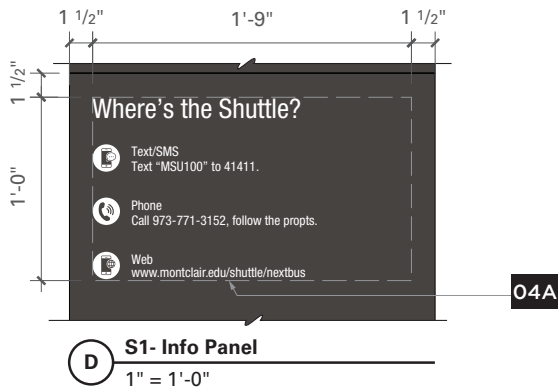
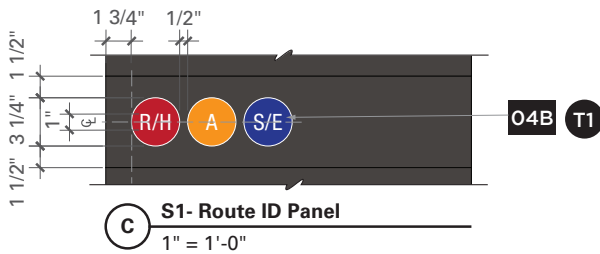
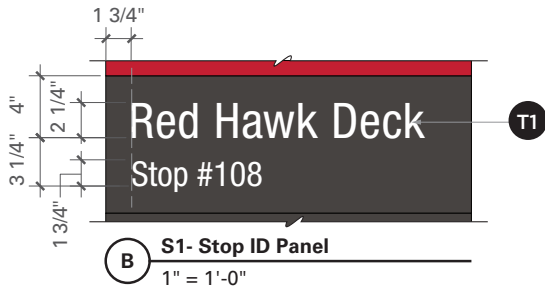
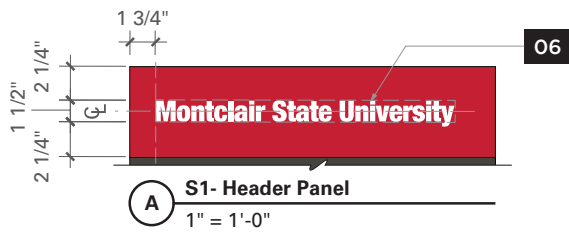
1/2" thk. aluminum plate. Miter corners at 45°. Mount to Backer Panel and Structural Frame with silicone adhesive. Match color/finish as noted.

06 MSU BRAND

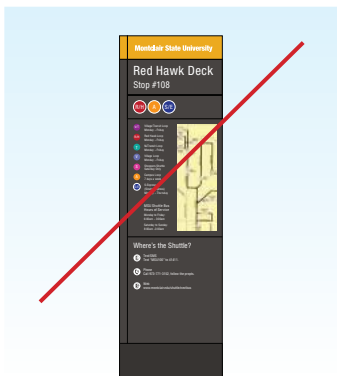
Surface applied vinyl graphics. Artwork to be provided by Designer. *NOTE: Coordinate artwork with updated brand, TBD by Owner.

07 MAP ARTWORK

Artwork to be provided by Owner. Graphics to be single-sheet digitally printed clear vinyl applique adhered to face of panel; vinyl to be removed from face prior to replacement with new vinyl graphics, when required.



GRAPHIC DO'S & DON'TS



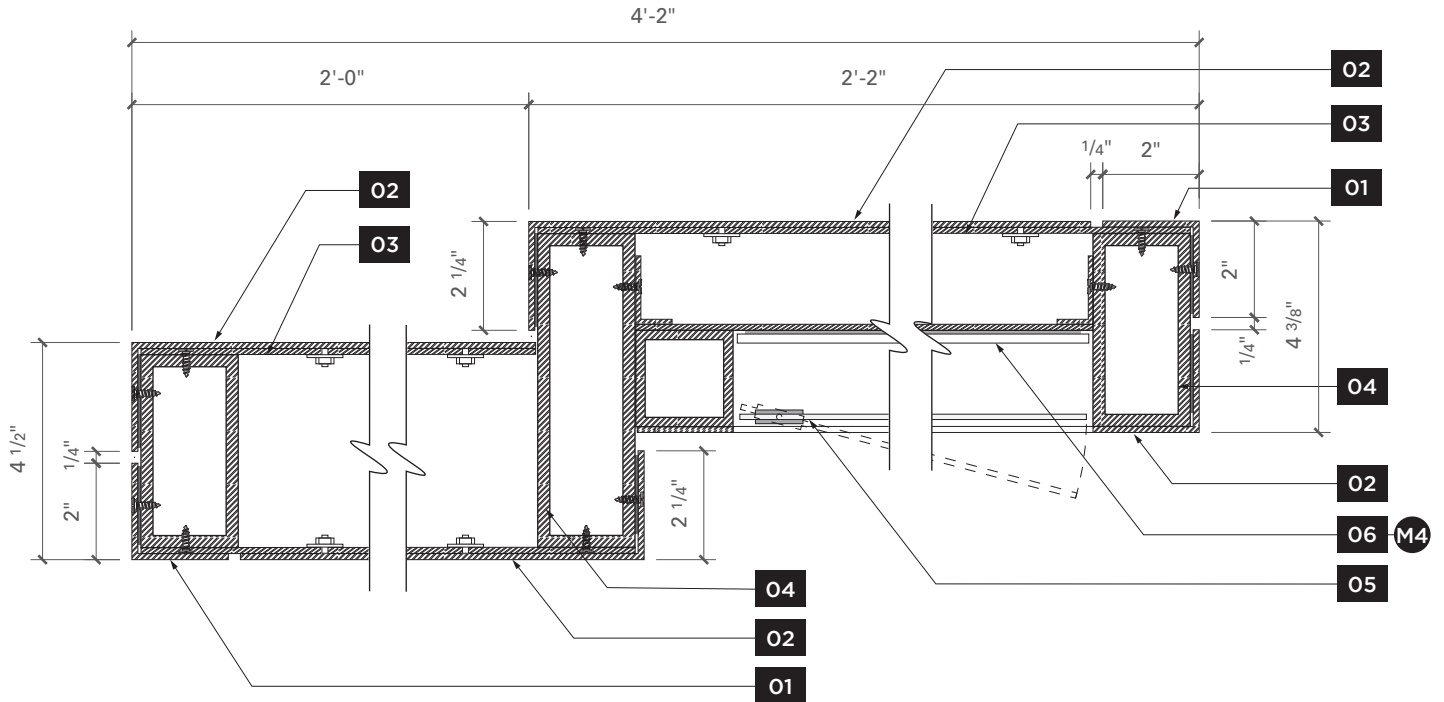
DO NOT apply unapproved brand color



DO NOT re-arrange messaging and information



DO NOT apply Accent Color on Corner Panel beyond brand header



X P1- Detail Section
3" = 1'-0"

P1 – INFORMATION HUB

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

01 CORNER PANEL

2" x 2" x 1/8" aluminum angle painted, mechanically fastened to Structural Frame with countersunk fasteners. Color accents as per zone. Provide shims as necessary in order for first surface to be flush with Header Panel and Message Panels.

02 HEADER/ MESSAGE PANELS

1/8" thk. aluminum plates, welded as L-shaped panels. To be mechanically attached to Structural Frame with countersunk fasteners and to Backer Panel with blind studs, as necessary.

03 BACKER PANEL

1/8" thk. aluminum plate mechanically fastened to Structural Frame. Paint all exposed surfaces.

04 STRUCTURAL FRAME

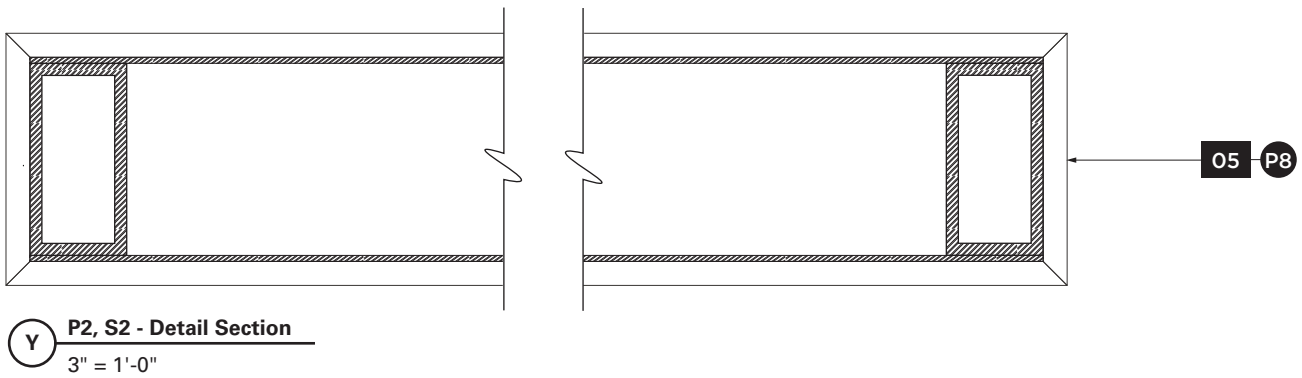
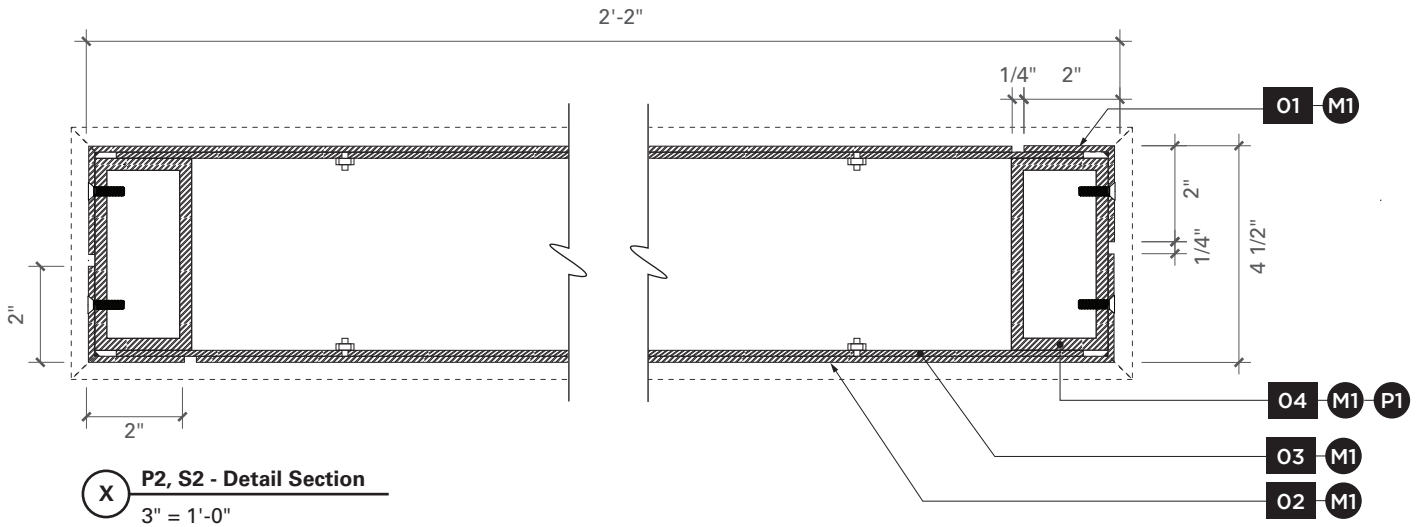
2" x 4" aluminum tube frame, welded to Base Frame. Design to be confirmed by Fabricator through engineering. Paint all exposed surfaces.

05 DISPLAY CASE DOOR

3/16" thk. clear polycarbonate panel, mounted to sign cabinet with top and bottom pivot hinges for glass doors. Provide a key-locking mechanism.

06 MESSAGE BOARD

1/4" thk. self-healing linoleum bulletin board sheet, mounted to sign cabinet with VHB tape.



P2, S2 – PEDESTRIAN DIRECTIONAL, SHUTTLE STOP PYLON

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

01 CORNER PANEL

2" x 2" x 1/8" aluminum angle painted, mechanically fastened to Structural Frame with countersunk fasteners. Color accents as per zone. Provide shims as necessary in order for first surface to be flush with Header Panel and Message Panels.

02 HEADER/MESSAGE PANELS

1/8" thk. aluminum plates, welded as L-shaped panels. To be mechanically attached to Structural Frame with countersunk fasteners and to Backer Panel with blind studs, as necessary.

03 BACKER PANEL

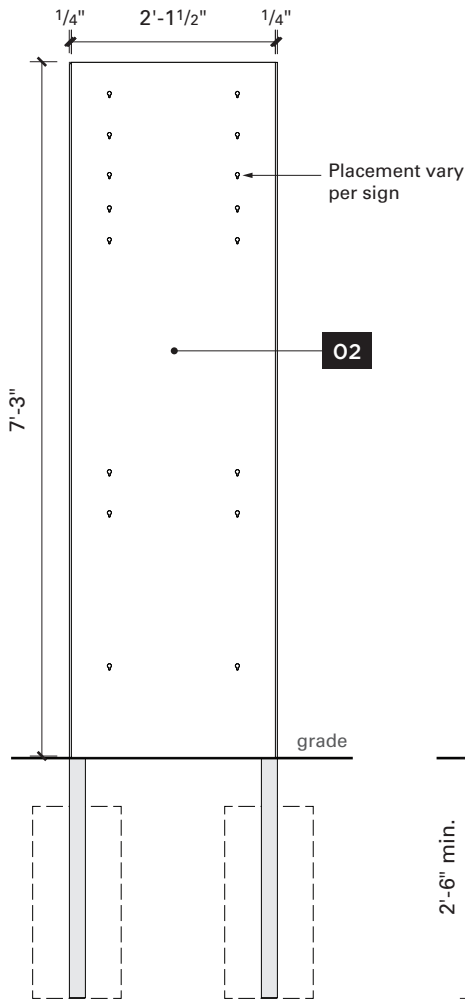
1/8" thk. aluminum plate glued to Structural Frame. Pre-drill holes for mounting message panels. Paint all exposed surfaces.

04 STRUCTURAL FRAME

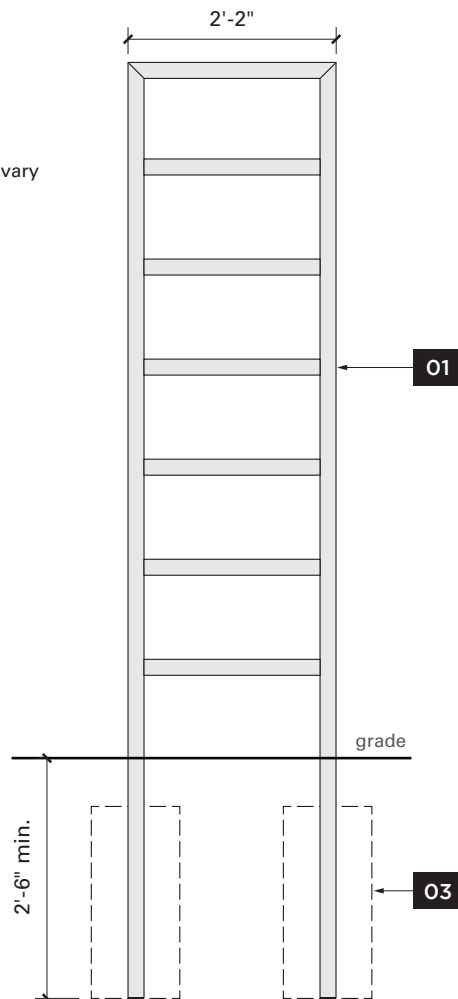
2" x 4" aluminum tube, buried into cast reinforced sonotube concrete footers. Design/depth to be confirmed by Fabricator through engineering.

05 BASE

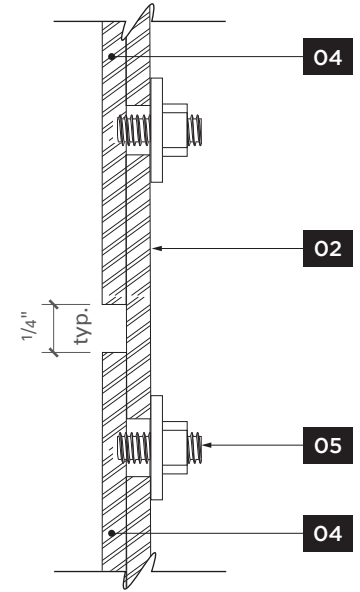
1/2" thk. aluminum plate. Miter corners at 45°. Mount to Backer Panel and Structural Frame with silicone adhesive. Match color/finish as noted.



A P2, S2- Backer Panel Elevation
1/2" = 1'-0"



B P2, S2- Framing Elevation
1/2" = 1'-0"



C P2, S2- Typical Face Panel Detail
N.T.S.

P2, S2 – PEDESTRIAN DIRECTIONAL, SHUTTLE STOP PYLON

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

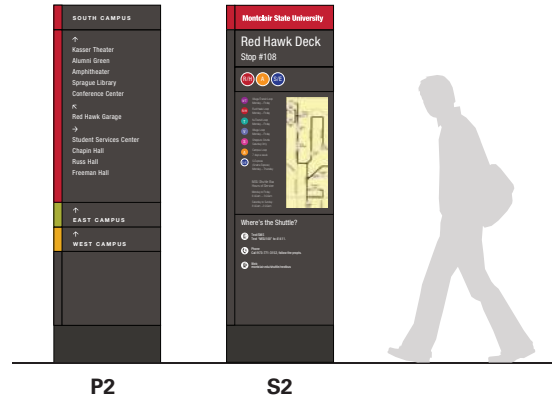
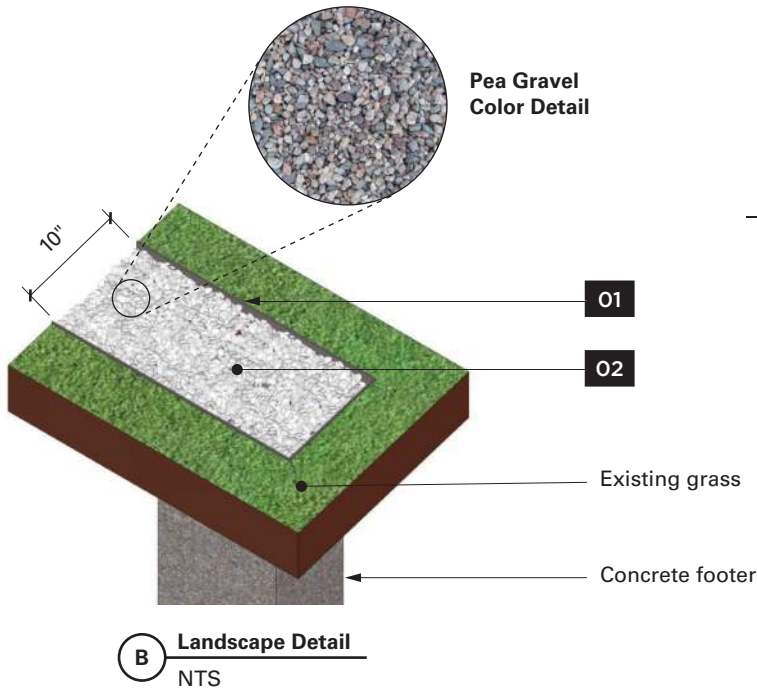
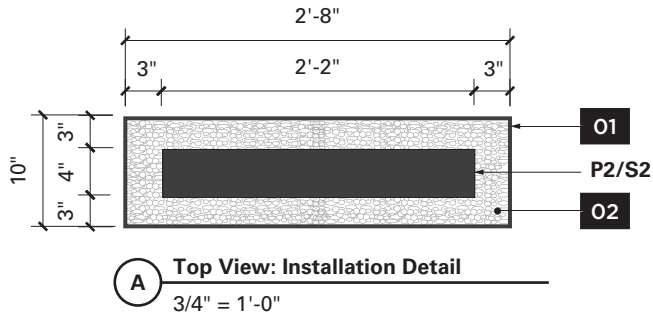
01 STRUCTURAL FRAME
2" x 4" aluminum tube, buried into cast reinforced sonotube concrete footers. Design/depth to be confirmed by Fabricator through engineering.

03 FOOTER
Cast reinforced sonotube concrete footers, to remain completely underground. Design to be confirmed by Fabricator through engineering.

05 BLIND STUDS
Message Panels to be drilled and tapped to receive threaded studs.

02 BACKER PANEL
1/8" thk. aluminum plate glued to Structural Frame. Pre-drill holes for mounting message panels. Paint all exposed surfaces.

04 MESSAGE PANELS
1/8" thk. aluminum plates, welded as L-shaped panels. To be mechanically attached to Structural Frame with countersunk fasteners and to Backer Panel with blind studs, as necessary. No visible fasteners on first surface.



P2, S2- INSTALLATION DETAIL (GRASS INSTALL)

GENERAL FABRICATION/GRAPHIC NOTES: It is recommended to install Pedestrian signs into mulch bed areas.

If a mulch bed area is not available and the sign must be installed into a grass area, then this detail must be utilized for proper grass installation.

01 LINE EDGING

Permaloc Clean Line Edging
 3/16" x 4" aluminum edging
 Bronze Duraflex

02 PEA GRAVEL

3/8" grey pea gravel.

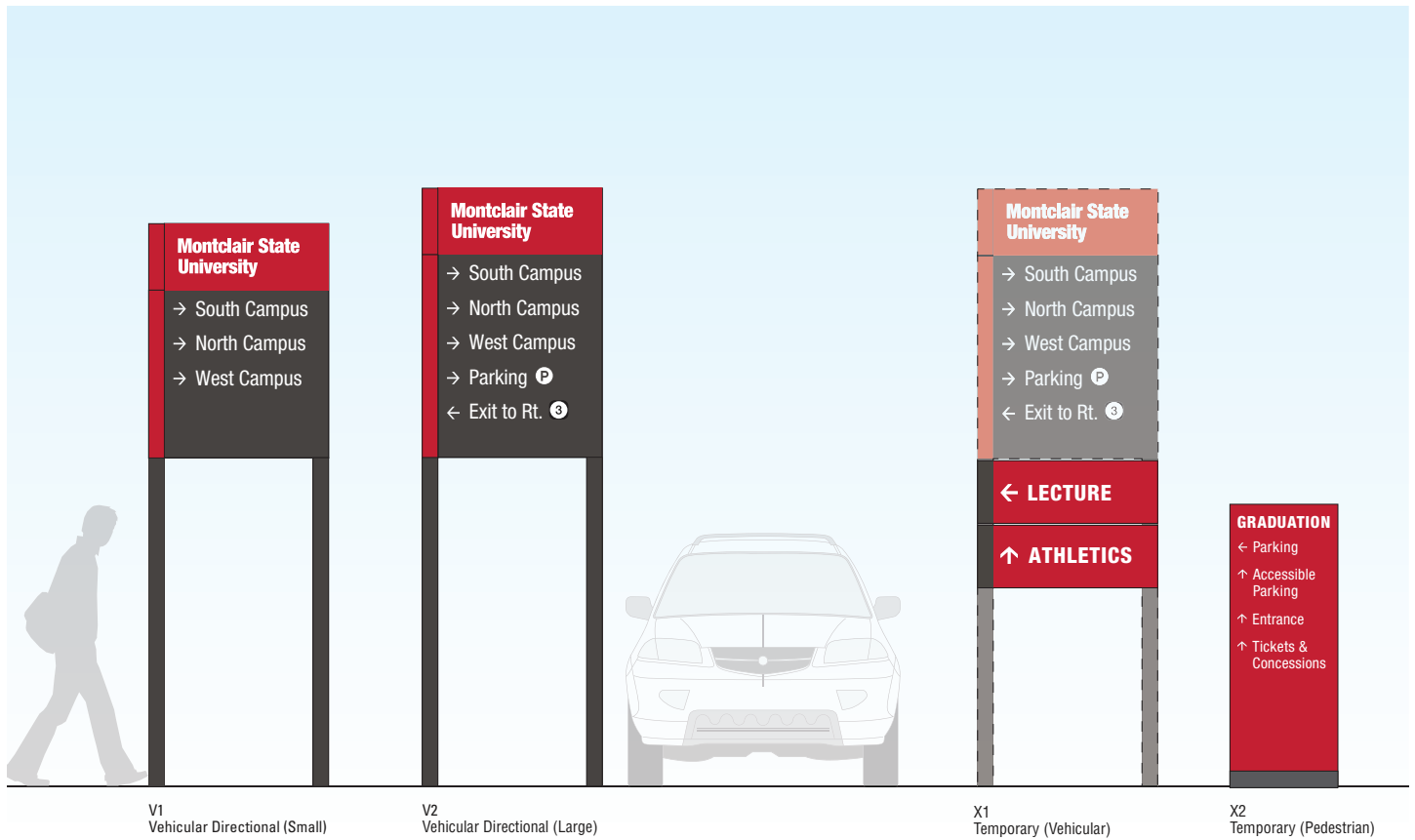
THIS PAGE IS INTENTIONALLY LEFT BLANK

PART 2, SECTION F

EXTERIOR SIGNAGE

**Vehicular Directionals
& Temporary**

THIS PAGE IS INTENTIONALLY LEFT BLANK



SCALE 1/4"=1'-0"



V1 - VEHICULAR DIRECTIONAL

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

01 MESSAGE PANEL

1/8" thk. aluminum plates, attached to Structural Frame with VHB Tape. To be masked and painted as per drawings.

05 VERTICAL SUPPORTS

4" sq. aluminum tubing, painted. Design to be confirmed by Fabricator through engineering.

02 BACK PANEL

1/8" thk. aluminum plates, attached to Structural Frame with VHB Tape. To be masked and painted as per drawings.

06 MSU BRAND

Surface applied vinyl graphics. Artwork to be provided by Designer.
*NOTE: Coordinate artwork with updated brand, TBD by Owner.

03 REFLECTIVE GRAPHICS

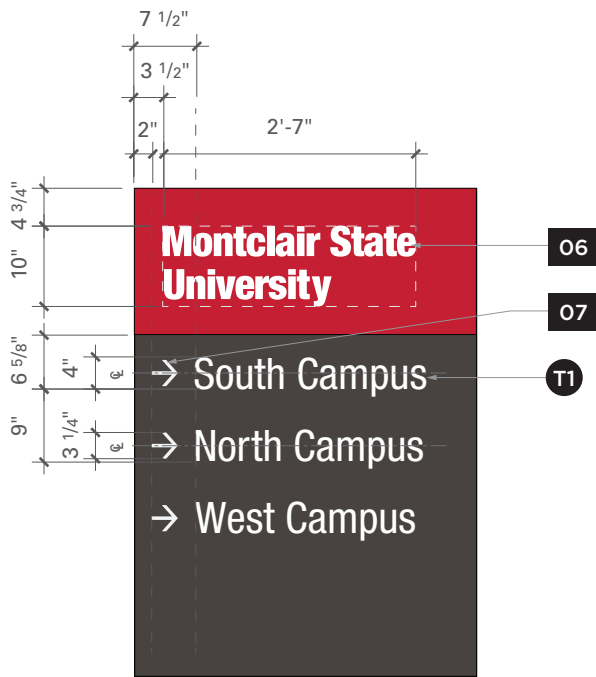
Surface applied reflective vinyl graphics.

07 ARROW

Surface applied vinyl graphics. Artwork to be provided by Designer.

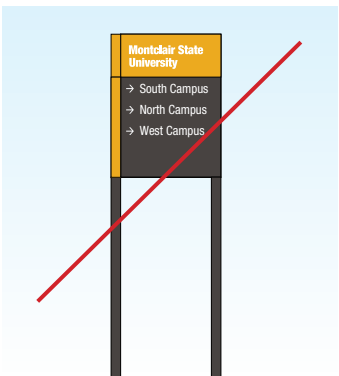
04 GRAPHICS

Surface applied vinyl graphics.

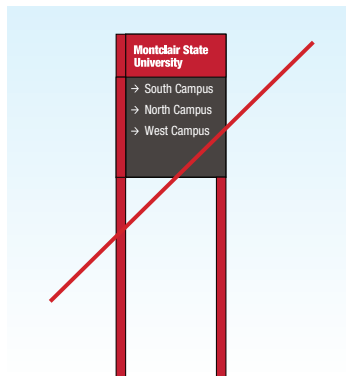


A V1- Graphic Elevation
1/2" = 1'-0"

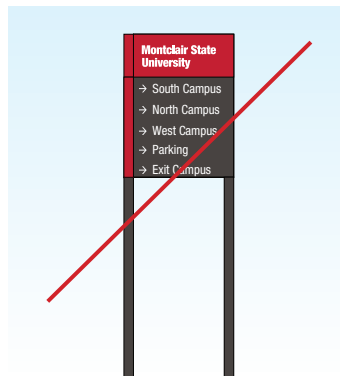
GRAPHIC DO'S & DON'TS



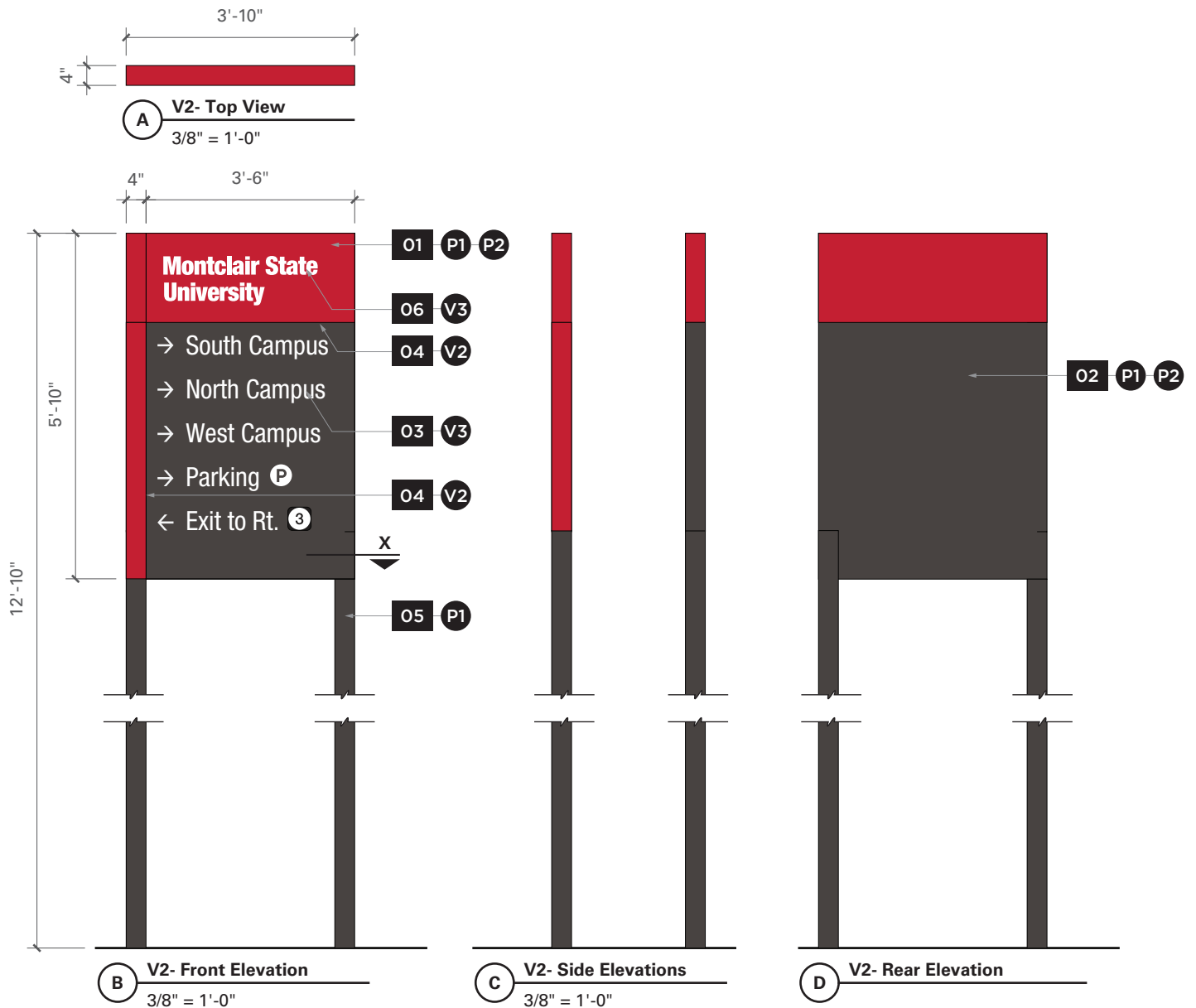
DO NOT apply an unapproved brand color.



DO NOT apply color to leg supports



DO NOT list more than 3 messages per sign.



V2 - VEHICULAR DIRECTIONAL (LARGE)

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

01 MESSAGE PANEL

1/8" thk. aluminum plates, attached to Structural Frame with VHB Tape. To be masked and painted as per drawings.

05 VERTICAL SUPPORTS

4" sq. aluminum tubing, painted. Design to be confirmed by Fabricator through engineering.

08 PARKING SYMBOL

Surface applied reflective vinyl graphics. Artwork to be provided by Designer.

02 BACK PANEL

1/8" thk. aluminum plates, attached to Structural Frame with VHB Tape. To be masked and painted as per drawings.

06 MSU BRAND

Surface applied vinyl graphics. Artwork to be provided by Designer.
*NOTE: Coordinate artwork with updated brand, TBD by Owner.

09 RT.3 SYMBOL

Surface applied reflective vinyl graphics. Artwork to be provided by Designer.

03 REFLECTIVE GRAPHICS

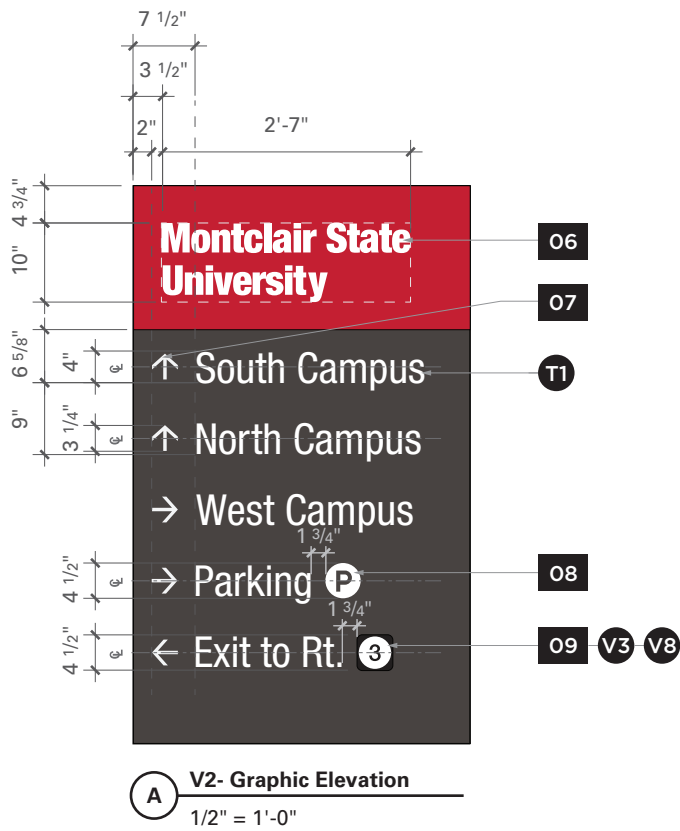
Surface applied reflective vinyl graphics.

07 ARROW

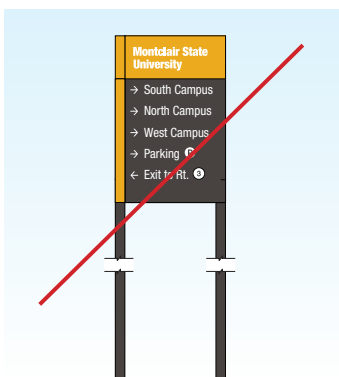
Surface applied reflective vinyl graphics. Artwork to be provided by Designer.

04 HEADER ACCENT VINYL

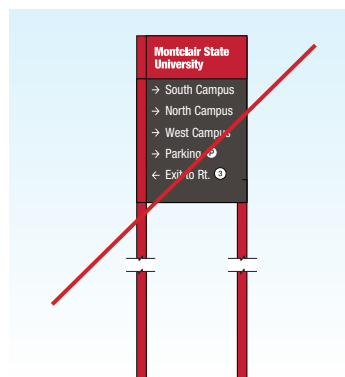
Surface applied reflective vinyl graphics.



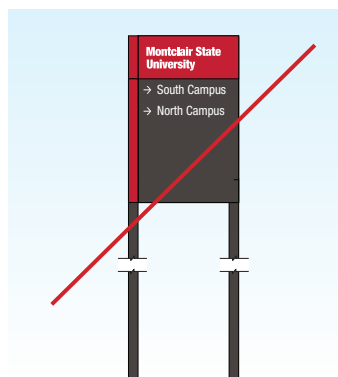
GRAPHIC DO'S & DON'TS



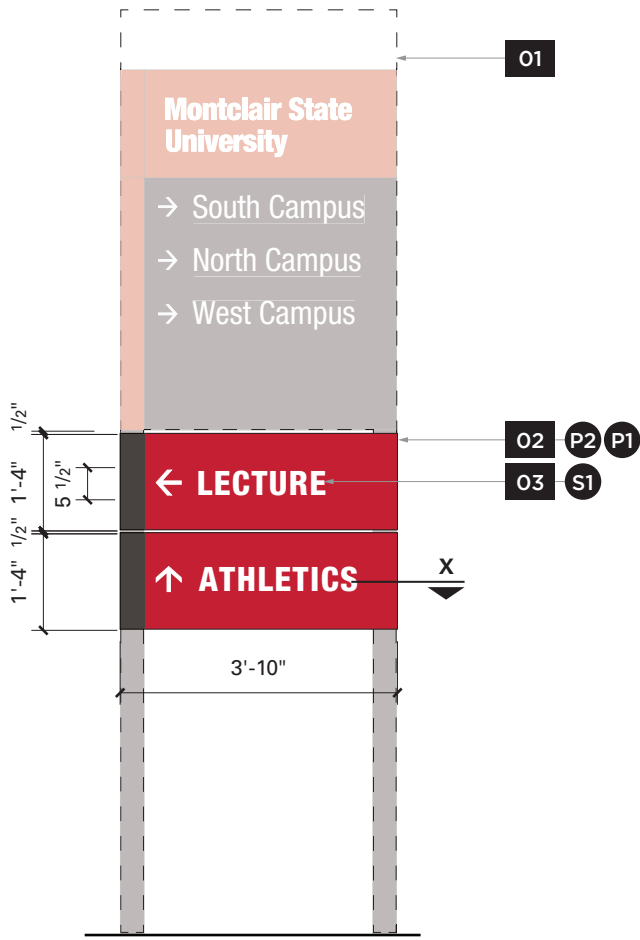
DO NOT apply an unapproved brand color.



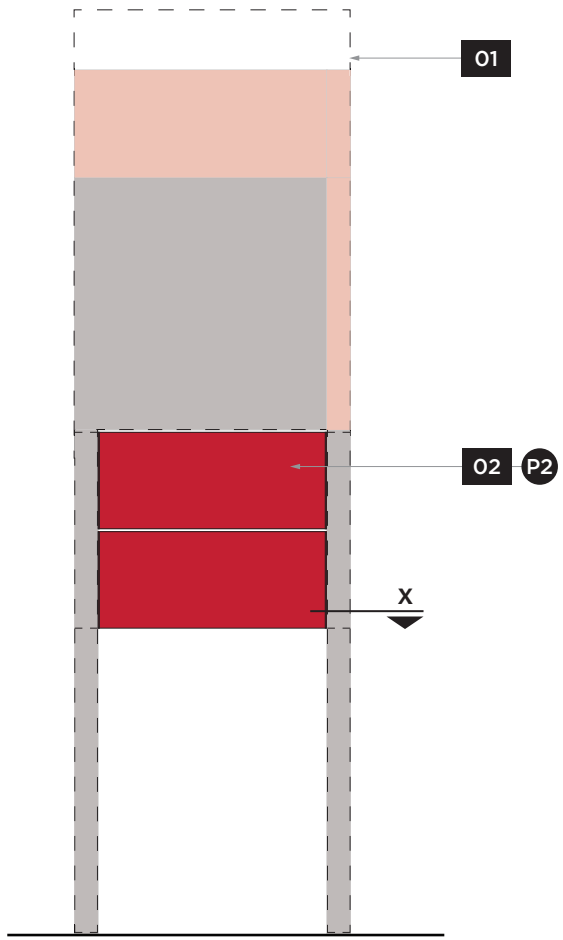
DO NOT apply color to Vertical Supports



DO NOT list fewer than 4 messages per sign. Use V1 if fewer than 4 messages.
No more than 5 listings on V2.



A X1- Front Elevation
3/8" = 1'-0"



B X1- Rear Elevation
3/8" = 1'-0"

X1 - TEMPORARY SIGNAGE

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

01 VEHICULAR DIRECTIONAL
Vehicular directional sign, small (V1) or large (V2), as per this manual.

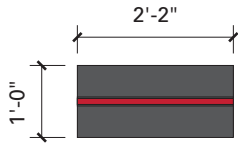
03 GRAPHICS
Surface applied vinyl graphics.

02 TEMPORARY MESSAGE PANEL
3/8" thk. acrylic plate, painted. Attach to vertical supports of Vehicular Directional sign with Keyhole Plate on second surface. Rout panel so Keyhole Plate is flush with surface. Drill aluminum Vertical Supports to receive appropriate fasteners, paint fasteners to match Vertical Supports.

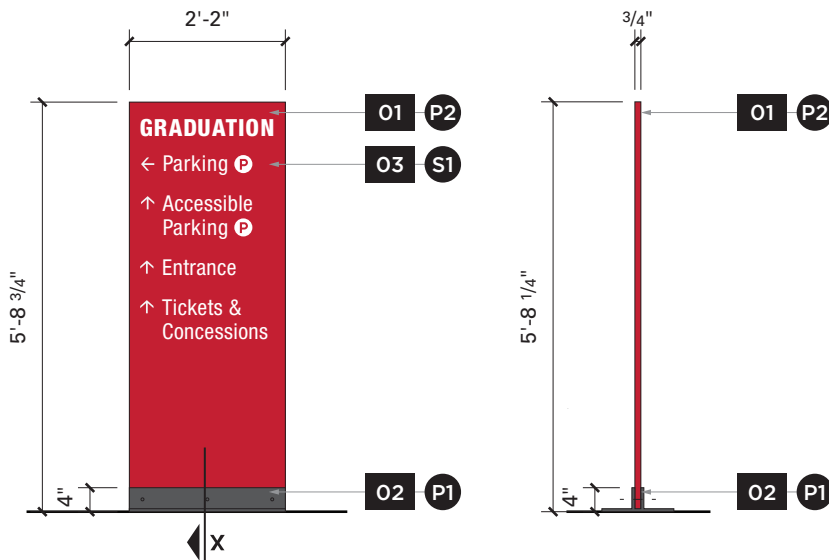
04 ARROW SYMBOL
Surface applied vinyl graphics. Artwork to be provided.



A X1- Graphic Layout
1 1/2" = 1'-0"



A X2- Top View
3/8" = 1'-0"



B X2- Front/Rear Elevation
3/8" = 1'-0"

C X2- Side Elevation
3/8" = 1'-0"

X2 - TEMPORARY SIGNAGE

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

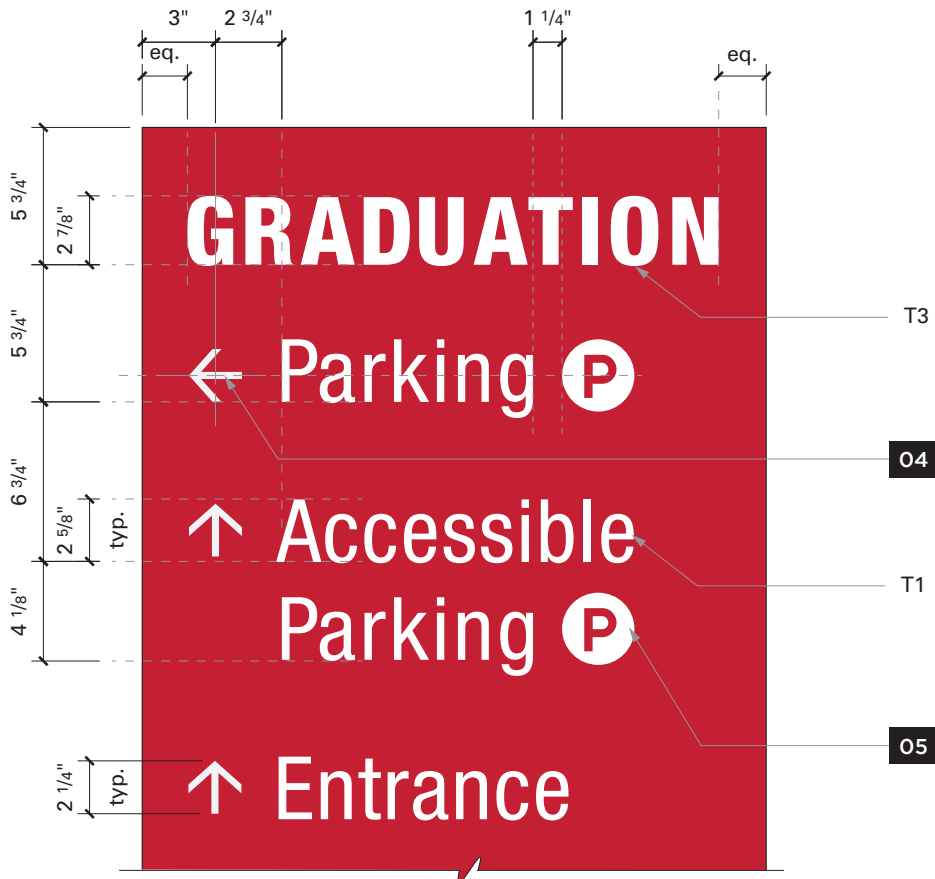
01 TEMPORARY MESSAGE PANEL
3/4" thk. acrylic plate, painted. Attach to Support Base with stainless steel fasteners.

03 GRAPHICS
Surface applied vinyl graphics.

02 SUPPORT BASE
Fabricated steel base, painted. Drill and tap to receive stainless steel fasteners. Secure Message Panel with wing nuts. Provide rubber gasket adhered to bottom surface.

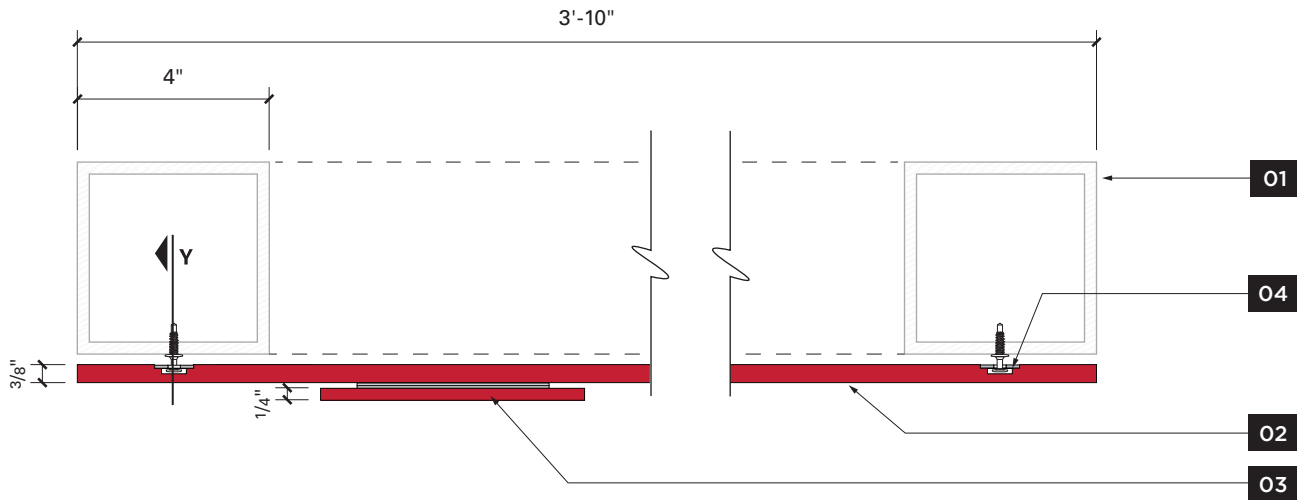
05 ARROW SYMBOL
Surface applied vinyl graphics. Artwork to be provided.

05 PARKING SYMBOL
Surface applied vinyl graphics. Artwork to be provided.

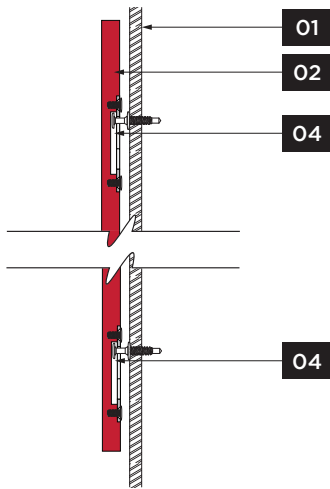


A X2- Graphic Layout

1 1/2" = 1'-0"



X X1 - Detail Section
3" = 1'-0"



Y X1 - Detail Section
3" = 1'-0"

X2 - TEMPORARY SIGNAGE

GENERAL FABRICATION/GRAPHIC NOTES Field verification of each sign location and site conditions will be required prior to fabrication.

01 VEHICULAR DIRECTIONAL

Vertical Support aluminum posts of Vehicular directional sign, small (V1) or large (V2), as per this manual. Drill to receive fasteners to support Keyhole Plate. Paint fasteners to match Vertical Supports.

02 TEMPORARY MESSAGE PANEL

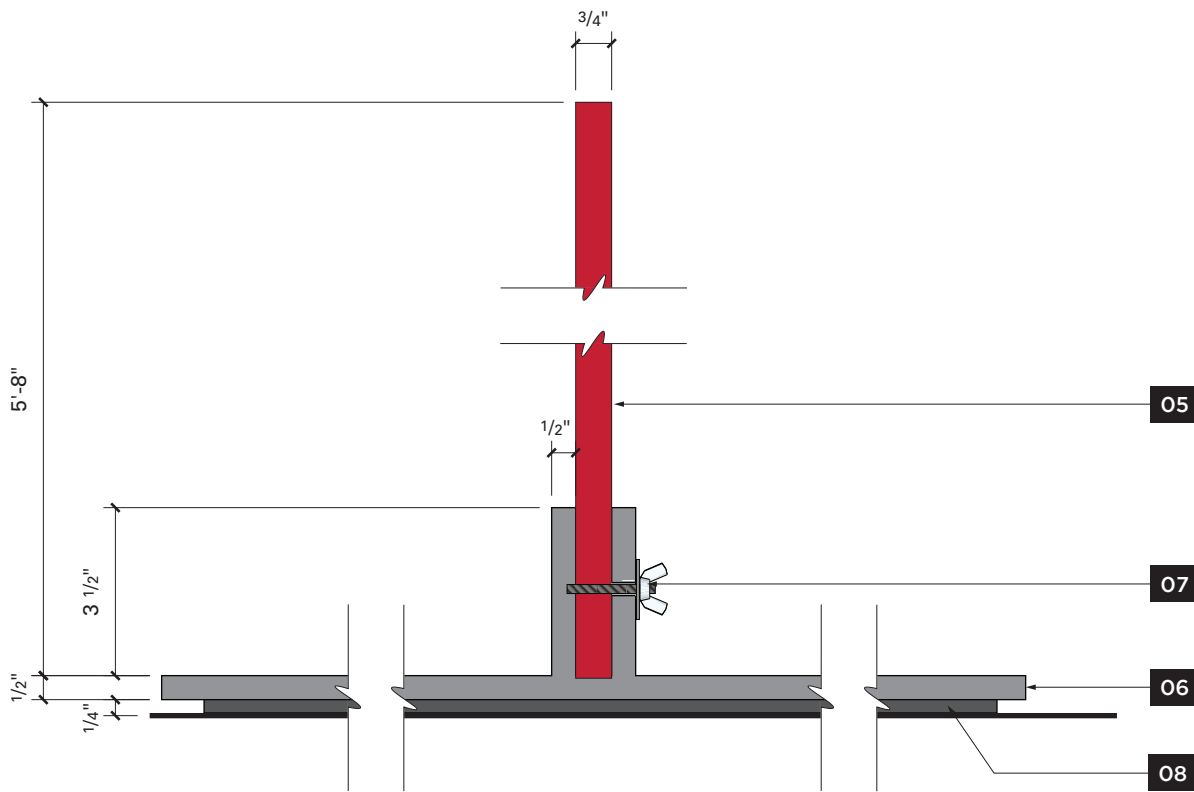
3/8" thk. acrylic plate, painted. Attach to vertical supports of Vehicular Directional sign with Keyhole Plate on second surface. Rout panel so Keyhole Plate is flush with surface.

03 ARROW PANEL

Removable acrylic panel, painted, with surface applied vinyl graphics. Attach to Temporary Message Panel with velcro or approved similar.

04 KEYHOLE PLATE

Keyhole Plate mechanically fastened to second surface of Message Panel. Panel to be routed so Keyhole Plate is flush with surface.



X X2 - Detail Section
3" = 1'-0"

05 TEMPORARY MESSAGE PANEL

3/4" thk. acrylic plate, painted. Attach to Support Base with stainless steel fasteners.

07 FASTENERS

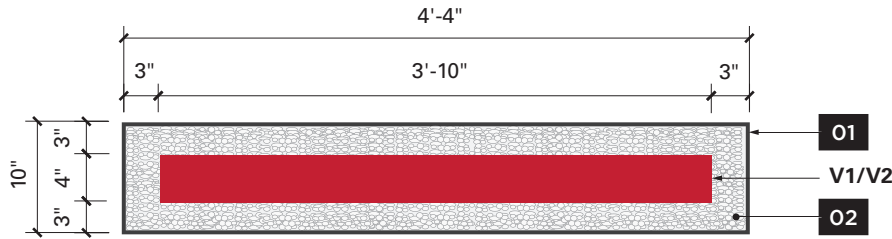
Stainless steel fasteners. Secure Message Panel with stainless steel wing nuts.

06 SUPPORT BASE

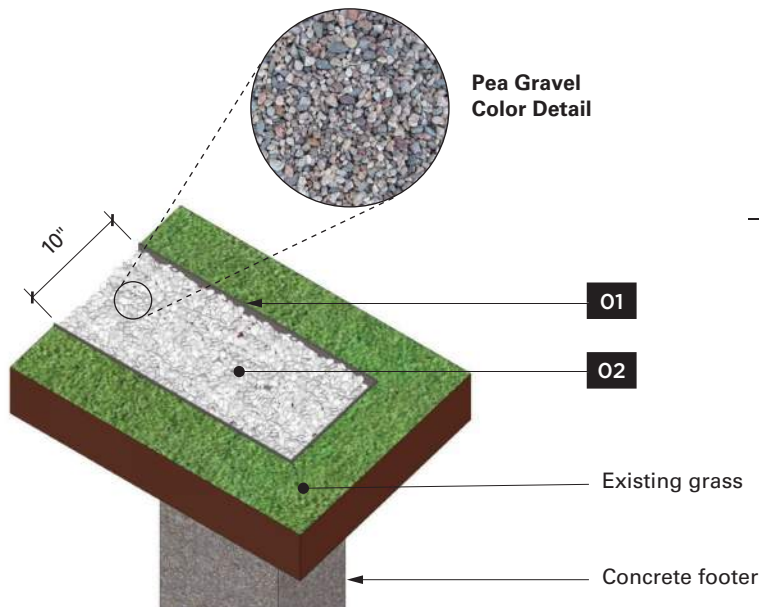
Fabricated steel base, painted. Drill and tap to receive stainless steel fasteners. Secure Message Panel with wing nuts. Provide rubber gasket adhered to bottom surface.

08 RUBBER GASKET

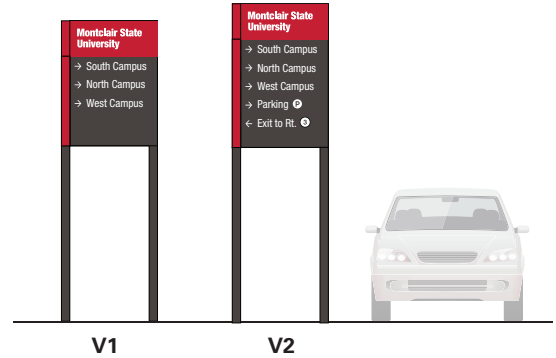
1/4" thk. neoprene gasket, adhered to bottom surface of Support Base.



A Top View: Installation Detail
NTS



B Landscape Detail
NTS



V1, V2- INSTALLATION DETAIL (GRASS INSTALL)

GENERAL FABRICATION/GRAPHIC NOTES: It is recommended to install Vehicular signs into mulch bed areas.

If a mulch bed area is not available and the sign must be installed into a grass area, then this detail must be utilized for proper grass installation.

01 LINE EDGING

Permaloc Clean Line Edging
3/16" x 4" aluminum edging
Bronze Duraflex

02 PEA GRAVEL

3/8" grey pea gravel.

PART 3, SECTION A

General Specifications

1.00 PROJECT DESCRIPTION

In 2015, Montclair State University assessed the manner in which it moves people between, around and through its campuses to develop a new wayfinding strategy. Montclair State University engaged Exit Design, a Philadelphia-based design firm, to evaluate its campus wayfinding, access and usability.

The University’s visual identity system and image was translated to a new, aesthetically distinct, affordable and easily maintainable design package. New exterior signage design standards were developed. The new standards outline guidelines for signage locations, keeping in mind that campus beautification efforts include minimizing the quantity of signage in the campus landscape.

The new sign system promotes the Montclair State University commitment to standardization, yet provides the flexibility to respond to the variety of campus conditions.

Sign Type Numbering System

The “Sign Type Numbering System” is designed to assist in specifying each sign type. The numbers help organize the signs by function, layout and product category.

The system is organized as follows:

B1	Building Identification (On Campus)
B2	Building Identification (Off Campus)
B3	Building Identification (Dimensional Letters)
B4	Building Identification (Vinyl Letters)
F1	Campus Marker Banners (Existing Pole)
F2	Campus Marker Banners (New Pole)
F3	Campus Gateway Lettering
G1	Garage Identification (Flag With LED Display)
G2	Garage Clearance Bar
G3	Garage Parking Rates
G4	Garage Orientation Panel
L1	Parking Lot Directional
L2	Parking Lot Identification
L3	Parking Lot Identification (Pole Mounted)
P1	Pedestrian Orientation
P2	Pedestrian Directional
P3	Pedestrian Directional (Pole Mounted)
S1	Shuttle Stop (Applied)
S2	Shuttle Stop Pylon
V1	Vehicular Directional (Small)
V2	Vehicular Directional (Large)
X1	Temporary/Event (Vehicular)
X2	Temporary/Event (Pedestrian)

2.00 INCLUDED WORK

- A. Site verification, fabrication, delivery and installation of all sign types and quantities indicated in the final approved Copy List and Location Plan. Fabricator to verify the sign quantities from the Copy List and Location Plans and if discrepancies exist, notifying the Designer of any such discrepancies.
- B. Work shall include all support structures and fasteners required for installation.
- C. Work shall include all design engineering needed to produce the project to comply with all applicable municipal, state and federal code and structural soundness.
- D. Fabricator to provide all services, subcontractors, labor, materials and equipment needed to complete the work described in this design drawings and specifications document.
- E. Upon award of the bid, the selected Fabricator shall arrange a meeting with the Designer to review the scope of work.
- F. Fabricator shall visit site before construction begins and inspect each proposed sign location. Any issues or concerns shall be communicated to the Designer in writing within 24 hours.
- G. Fabricator will be responsible for generating evacuation maps at all programmed locations based on template provided by Designer.
- H. At the completion of the project the Fabricator shall perform a walk-through with the Designer and Owner to inspect the installation and create a punch list of all unsatisfactory items.
- I. Fabricator is responsible for removal of any existing signage within the project scope area. This includes any patching and repairing required at these locations.

3.00 WORK QUALITY

- A. All work to be done in a professional manner and to the highest trade standards.
- B. Fabricator is responsible for insuring the quality standards above for all related professional and trade subcontracted work including: general carpentry, masonry, electrical, landscaping, or utilities required for the installation of all sign types as described, unless otherwise agreed to by Owner. All subcontracted work must meet the general accepted professional standards.

4.00 SUBMITTALS

4.01 SHOP DRAWINGS

Submit one (1) set of shop drawings as outlined below:

- A. Include plans, elevations, sections and large-scale details of sign wording and lettering layout. Provide graphic layouts of each individual sign face at all locations. Show anchorages and accessory items.
- B. Show fabrication and installation details, including all sign components such as extrusions, brackets, bracing, hardware, internal framing, etc.
- C. Fabrication details should be informed by site survey and field verification of all locations and sign types done by the Fabricator.

4.02 SAMPLES

- A. Samples shall be clearly labeled on the back (where possible), designating item number, name of manufacturer, sign type and location.
- B. Samples should represent variations in color and texture that might occur during fabrication.
- C. Designer reserves the right to reject any samples that do not satisfy the construction, finish or color requirements. Submit additional samples as required to obtain final approval.
- D. Graphic Wall:
 - (1) 24-30" wide full-scale mock-up of "Graphic Wall" including the following components:
 - 1. Wall paper graphics
 - 2. Butt joints
 - 3. Matte clear coat finish

4.03 PAPER TEMPLATES

Fabricator to submit paper templates of each location with dimensional letters (ex: B3, F3) for on site review with Owner and Designer review for final approval prior to fabrication.

4.04 COLOR AND FINISH SAMPLES

Submit three (3) samples of each color and finish applied on each material type indicated in the drawing package. Samples should represent the final finish of each element and will be used as control samples for production approval.

- A. Color sample plates of each painted finish. Samples to include various paint finish options, including matte and semi-gloss.
- B. Material samples of each specified material and finish.

4.05 TYPE SPECIMENS

Include the following type specimens in shop drawings:

- A. Alphabet of each type style required by the contract documents; upper and lowercase, with numerals, punctuation and accents.

4.06 RESPONSIBILITIES

Any forthcoming changes and/or answers to open issues identified by the Fabricator, will be communicated via bulletins/notes on submitted drawings and it will be the Fabricator's responsibility to update the documents with any required changes.

5.00 REGULATORY REQUIREMENTS

- A. All installation work shall comply with applicable municipal, state and federal codes, sign ordinances and ADA guidelines for accessible, fire and life safety signing.
- B. All OSHA safety requirements will be implemented during fabrication and installation as needed or required to comply with safety regulations.

6.00 REFERENCE STANDARD

The following materials reference standards will apply to the work materials (use most current version of reference standards):

ASTM A36	Structural Steel
ASTM A123	Zinc (Hot Galvanized) coatings on products fabricated from rod, pressed and forged steel shapes, plates and bars.
ASTM B221	Aluminum-alloy extruded bars, rods, wire, shapes and tubes.
ASTM D822	Light and water exposure apparatus (carbonarc type) for testing paint, varnish, lacquer, and related products.
ASTM E84	Surface-burning characteristics of building materials, lacquer and related products.
AWI	Comply with applicable requirements of "Architectural Woodwork Quality Standards" published by the Architectural Woodwork Institute.
CDA	Copper Development Association, Inc.
FS L-P-391	Plastic sheet, rods and tubing, rigid, cast materials.
FS L-P-387	Plastic sheet, laminated, thermosetting.
PS-1	Construction and industrial plywood.
PEI	Porcelain Enamel Institute.
TM B135	(Fed Spec) Brass, Muntz 280
QQ-B-613	
UL-943	Fluorescent lamp ballasts.

7.00 PROTECTION AND STORAGE

- A. Fabricator is responsible for storage of signs and assemblies and protection from damage at the shop, in transit and until erected in place, complete, inspected and accepted by Owner.
- B. Fabricator is responsible for the replacement pilferage both prior to and until inspection and acceptance of installation by the Owner.

8.00 INSPECTION

- A. All production materials, color samples and paints, fabricated or partially fabricated items shall be available for inspection, on-site or in the shop, by the Owner or Designer during the manufacturing process and until final delivery, installation and acceptance, to determine compliance with the requirements of these specifications.
- B. Shop inspection approvals do not guarantee final acceptance of installed work.

9.00 INSTALLATION

- A. Install sign units and components with concealed fasteners unless otherwise shown. Refer to drawings for general method of installation. Verify each surface in field to determine appropriate mounting hardware. Fabricator is responsible for determining where below ground or in-wall structural tie-ins may be required.

- B. Sign Location Plans show approximate locations of signs. The Fabricator is responsible for determining the location of any obstructions to the signs' installation. This includes but is not limited to underground structures and utilities on ground mounted signs on the exterior, and sprinkler heads, security cameras and mirrors and exit signs on the interior. Any conflicts should be brought to the attention on the Owner and Designer.
- C. Protect all adjacent surfaces from damage during installation. Restore or replace any damaged surfaces to original condition and appearance, including, sidewalk concrete, brick veneer, etc. Return ground to original state and finish with like materials.

10.00 REMOVAL OF EXISTING SIGNAGE

- A. Work shall include removal of existing signage that is present in redundancy or in conflict with new sign programming via. copy listings, physical location or otherwise.
- B. Any removal of an existing sign that is not being replaced by a new sign will require patching and repair to match the surrounding condition and finish. If the sign is exterior this would require returning the ground treatment to match the surrounding landscape. It is the Fabricator's responsibility to notify the Owner if any components of existing signage will remain (i.e. Below grade footings, etc.)
- C. Any removal of an existing sign that had an electrical or data connection will require sealing the connection so no wiring or other is exposed. It is the Fabricator's responsibility to notify the Owner of such work prior to completion.
- D. Deposit tickets are required to document how signage that is removed is being disposed of, this includes but is not limited to hazardous materials as well as materials that can be recycled.
- E. It is the Fabricator's responsibility to address any issues or discrepancies to the sign removal guidelines to the Owner in writing within 24 hours.

11.00 CLEAN UP

- A. Daily and upon completion of installation remove all waste, dirt, wrappings and excess materials, tools and equipment and thoroughly clean all surfaces to the satisfaction of the Owner.

12.00 REORDERING

- A. All items specified in this package shall be available to the owner in additional quantities for a period of 10 years after completion of all work called for in this specification.

13.00 WARRANTY

- A. Warrant all products (including, but not limited to, materials, hardware and finishes) against any and all defects for a minimum period of seven years from date of installation.
- B. Vinyl die-cut letters: warranted for seven years against de-lamination from substrate.

- C. Paint finishes: warranted for seven years against fading or chalking, corrosion developing beneath paint surfaces of the support systems (except for obvious vandalism or other external damage to the paint surfaces).
- D. Corrosion of the fastenings.
- E. The signs not remaining true and plumb on their supports during normal wear.
- F. Fading of the colors when matched against a sample of the original color and material.
- G. Discoloration of metal finishes.
- H. The Fabricator shall correct any and all material and/or workmanship defects in which may appear during the warranty period by restoring defective work to the standard of the contract documents at no cost to the Owner and to the Owner's satisfaction. Corrections include, but are not limited to: disfiguring of any surface due to chalking, rusting, bubbling, crazing or other disintegration of the sign face or of the messages or of the edge finish of the sign inserts or panel.

14.00 METALS

14.01 ALUMINUM

- A. Aluminum shall be of best commercial quality and the various forms shall be straight and true. There shall be no scratches, scars or buckles. Size thickness, and finish of aluminum shall be per NAAMM "Metal Finishes Manual". Comply with the following industry standards.
- B. Aluminum sheets shall conform to ASTM B209 6061-T6
- C. Aluminum extrusions shall conform to ASTM B241 6063 T6. Wall thickness shall be a minimum of 1/8" thick unless otherwise shown.
- D. Brushed Finishes—Brush with abrasive of increasing grit# in a linear directional pattern. Final surface shall have visible grain pattern to match sample provided by Designer. Spray with clear protective finish.
- E. Polished Finish—Brush with abrasive of increasing grit#. Buff to a mirror finish with no visible grain. Spray with clear protective finish.
- F. Non-Directional Finish—Brush with abrasive mounted in a random orbital sander. Spray with clear protective finish.

15.00 CONCRETE

15.01 CONCRETE FOR FOUNDATION/FOOTER

- A. Concrete for Footing: Mix Portland cement complying with ASTM C 150, aggregates complying with ASTM C 33, and clean water to obtain concrete with a minimum 28-day compressive strength of 2500 psi.
- B. Use at least 4 sacks of cement/cu. yd., 1-inch maximum size aggregate, maximum 3-inch slump, and 2 to 4 percent entrained air.

GENERAL SPECIFICATIONS

15.02 CONCRETE COLOR MIX

- A. Concrete color mix to conform to match existing on campus. Specification number to be provided.

16.00 ADHESIVES AND TAPES

16.01 FOAM TAPE

- A. Provide 3M double coated foam tape 4016, 4032 or equal.
- B. Adhesive shall be A-20 Acrylic
- C. Carrier shall be urethane foam

16.02 LAMINATING ADHESIVE

- A. Provide Flexcon V9590 D/PPFW clear or equal.

16.03 VHB FOAM TAPES

- A. Provide 3M Scotch VHB 4930
- B. Adhesive shall be Acrylic VHB
- C. Carrier shall be closed cell foam

16.04 SILICONE ADHESIVE

- A. TTs-00230C, ASTM C920 Clear, (Acetoxy Cure)

16.05 EPOXY

- A. 3M DP-110 or equal

17.00 VINYL FILM

17.01 NON-REFLECTIVE GRAPHICS

- A. Provide 3.0 mil thick 3M Scotchcal Film 220 Series or approved equal.
- B. Color of vinyl material is to be integral and not surface applied except as specifically noted.

17.02 REFLECTIVE GRAPHICS

- A. Provide Avery Dennison enclosed lens reflective sheeting or approved equal.

18.00 FINISHES & COATINGS

18.01 GENERAL

- A. All exposed paint finishes shall be durable and resistant to scratching and chipping.
- B. Finishes shall be spray painted according to manufacturers specifications for environment, curing time, etc. All paints, inks, coatings and finishes, including primers and other surface preparations shall be of the highest quality,

manufactured specifically for the surface materials to which they are applied, and shall be compatible with the materials to which they are applied. Surfaces shall be smooth and free of flaws such as scratches, bumps or over-sprayed paint.

- C. All paints, inks, and coatings shall be heavy-duty grade to withstand chalking, fading, discoloring, chipping, cracking, and peeling for a minimum of 3–5 years or to the maximum manufacture warranty specifications.

18.02 ALUMINUM

- A. Aluminum surfaces shall be spray painted with acrylic polyurethane enamel.
- B. Primer Coat: Matthews 74 760
- C. Catalyst–43 270
- D. Color Coat: Matthews Acrylic Polyurethane Nuance

18.03 ACRYLIC

All background colors shall be spray painted with Matthews Acrylic Polyurethane. Finish with prime coating under a minimum color coat of 1.5 mil dry film thickness. Translucent or transparent acrylic specified for the purpose of transmitting light should be free from internal flaws or variations in color.

18.04 VINYL FILMS

All vinyl films shall be matte finish unless otherwise specified. Vinyl shall be applied following manufacturers instructions and should meet or exceed requirements for chalking, fading, discoloring, chipping, cracking, and peeling for a minimum of 7 yrs.

19.00 QUALITY ASSURANCE

- A. Work done and materials furnished shall meet the highest industry standards in every respect and, unless otherwise specified, materials and equipment shall be new and of the latest design.
- B. Use only personnel thoroughly skilled and experienced with the products and method for fabrication and installation of signage specified.
- C. The Owner shall reserve the right to reject any shop drawings, samples or other submittals, as well as any finished product or installation, that cannot meet the standard of quality established. Any such decision will be considered final and not subject to recourse.
- D. The intent of the Sign System Manual is to provide everything necessary for a complete project. In the event of conflict or omission, the Fabricator shall consult the Designer for resolution.
- E. Materials and hardware not specified, but necessary to the complete functioning of the sign, shall conform to the quality level established.
- F. Substitutions of items specifically indicated in this specifications package that serve the same function with equal performance will be considered upon submission of substitution.

20.00 ALTERNATE FABRICATION

- A. The drawings show design intent only. The Fabricator is responsible for fabrication and overall level of quality. Any changes in design, materials, fabrication techniques or details necessary to the successful completion of this project should be communicated to the Designer in a timely fashion.
- B. Further development and engineering of Designer's details (for fabrication and installation) is expected and should be shown in the shop drawings.
- C. The Designer recognized that manufacturers may have shop fabrication techniques that differ from details shown. Suggested changes in fabrication that do not alter the design intent nor reduce the quality will be considered by the Designer, provided they are submitted in sketch form, as soon as possible, prior to shop drawing preparation.

21.00 GRAPHIC STANDARDS

21.01 TYPOGRAPHY

- A. All type shall be computer typeset using typefaces specified in the Sign System Manual with letter spacing adjusted where needed to ensure optical spacing. Absolutely no letters are to touch. Only typefaces specified in the Sign System Manual are to be used.
- B. Sign type drawings indicate which copy is uppercase and which is lower case. These should be followed as much as possible. When the message on the Copy List differs from the drawing, the Copy List should be followed.

21.02 DIGITALLY PRINTED MEDIA

- A. Printer to have direct-to-substrate printing capabilities with CMYK and White ink options.
- B. All media is to be opaque, with full even coverage, and free from dust bubbles, blemishes and other foreign matter.
- C. Fabricator should seek to minimize visible banding over color fields and large graphics. Designer reserves the right to reject print samples that display excessive banding.

21.03 SCREEN PRINTED MEDIA

- A. All screen-printed graphics shall be produced with ABS paint compatible with the substrate, using mesh of 390 or finer to produce clean, sharp edges.
- B. All media is to be opaque, with full even coverage, and free from dust bubbles, blemishes and other foreign matter.
- C. There shall be no streaking created by drawing squeegee over screen.

21.04 GRAPHICS

- A. All text, arrows and symbols shall be provided in the sizes, colors, typefaces and letter spacing specified in the Sign System Manual. All text shall be a true, clean photo-mechanically accurate reproduction of the typeface(s) specified as shown in Section 2.00 and 3.00 Graphic Standards. Text shown in drawings is for layout purposes only; final text for all signs is shown in the Copy List.

PART 3, SECTION B

Graphic Standards

TYPOGRAPHY

Typography is an important component of our identity system. Used consistently, typography reinforces our brand's recognition and visual style. Along with the signature, it serves as an anchor for our brand.

T1 Helvetica Neue Condensed

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789

T2 Helvetica Neue Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789

T3 Helvetica Neue Bold Condensed

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789

LETTER SPACING

Careful and consistent letter spacing, or tracking, is critical for maximizing message legibility. Refer to the examples below for acceptable letter-spacing.



APOSTROPHE

Sometimes the foot mark is mistaken for an apostrophe and an inch mark is mistaken for quotations. Please refer to the examples below for the correct apostrophe for each typeface.















TEXT MEASUREMENT STANDARDS

When measuring copy height, measure only the height of the capital letters to determine overall copy height. Some lower-case letters have ascenders and descenders that extend beyond the average capital letter height and should not be used for measurement. Shown as X measurement below.



When measuring line spacing, measure from baseline to baseline. Shown as Y measurement below.



COLOR/MATERIAL	COLOR/MATERIAL NAME	SUBSTRATE(S)	APPLICATION PROCESS
P1 Panel Gray 	Sherwin Williams SW7069 Iron Ore	Aluminum	Surface Painted
P2 Red 	Matthews Paint MP14801 Massey-Ferguson Red	Aluminum	Surface Painted
P3 Green 	Match Pantone 383	Aluminum	Surface Painted
P4 Gold 	Matthews Paint MP41844 Yellow Gold Pearl	Aluminum	Surface Painted
P6 Black 	Matthews Paint MP33759 Blackguard	Aluminum	Surface Painted
P7 White 	Matthews Paint MP27386 Verizon White	Aluminum, PVC	Surface Painted
P8 Base Black 	Tiger Drylac Powder Coat Black Fine Texture Matte, 39/80200	Aluminum	Surface Sprayed/Oven Cured
M1 Aluminum	Painted as per drawings	-	-
M3 Clear Polycarbonate	Makrolon GP Clear	-	-
M4 Bulletin Board	Forbo Marmoleum 2209 Black Olive	-	-
M5 PVC	As per drawings	-	-
M6 Fabric Banner	As per drawings	-	-
V1 White 	Match P7, MP 27386	Aluminum	Surface Applied
V2 Black 	Match P6, MP33759	Aluminum	Surface Applied
V3 Reflective White	Avery White HV1200-101-R (A7801-R)	Aluminum	Surface Applied
V4 Red 	Match P2, MP14801	Aluminum	Surface Applied
V5 Green 	Match Pantone 383	Aluminum	Surface Applied
V6 Gold 	Match P4, MP41844	Aluminum	Surface Applied
V7 Gray 	Match P1, SW7069	Aluminum	Surface Applied
V8 Reflective Black	Avery Black HV1200-190-R (A7810-R)	Aluminum	Surface Applied
V9 Reflective Yellow	Avery Yellow HV1200-235-R (A7812-R)	Aluminum, PVC	Surface Applied

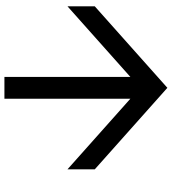
SYMBOLS AND ARTWORK

Montclair State University

MSU LOGO - ONE LINE
MSULogo_OneLine.eps

Montclair State University

MSU LOGO - TWO LINE
MSULogo_TwoLine.eps



ARROW
arrow.eps



PARKING
parking.eps



CAUTION STRIPES
CautionStripes.eps



RT. 3
Rt3.eps

Actual Recommended Size at 100%



Map Design and Usage Notes (For Graphic Design Reference Only)

G4 Garage Orientation Panel

- Illustrate a portion of the current campus location (enlarged map with 5-10 minute walk radius)
- Assign a number to each building on the map (every map starts over at “1”, do not assign specific numbers to specific buildings)
- List destinations/buildings in alphabetical order (do not list in numerical order)
- Include a full campus zone map inset for reference with a star to identify location within specific campus
- Orient the map in a heads-up orientation for each map location
- Include a “You are Here” symbol/identifier
- Identify the Main Entrance for each building shown on the map
- Identify the Accessible Entrance for each building shown on the map (illustrate barrier-free path to entrance)
- Include a compass rose
- Include a symbol key












P1 Pedestrian Orientation

- Illustrate a full campus zone map (north, south, and west campuses)
- Assign a number to each building on the map (every map starts over at “1”, do not assign specific numbers to specific buildings)
- List destinations/buildings in alphabetical order (do not list in numerical order)
- Orient the map in a heads-up orientation for each map location
- Use numbers to identify buildings (use assigned campus zone colors for number blocks)
- Include a “You are Here” symbol/identifier
- Include a compass rose
- Include a symbol key









S1 Shuttle Stop

- Illustrate full campus map with all shuttle stops identified (do not include building labels)
- Orient the map in a heads-up orientation for each map location
- Utilize circle symbols and color codes to identify shuttle stops (reference S1 drawings)
- Include a “You are Here” symbol/identifier
- Include a compass rose
- Include a symbol key

Map Symbols

-  **South Campus**
C=20 M=95 Y=80 K=10
-  **West Campus**
C=10 M=30 Y=85 K=0
-  **North Campus**
C=35 M=20 Y=85 K=0
-  **Parking**
C=80 M=20 Y=0 K=0
-  **Shuttle Stop**
(Use Campus Color)
-  **Accessible Entrance**
C=100 M=50 Y=0 K=0
-  **You Are Here**
C=0 M=0 Y=0 K=100
-  **Train**
C=100 M=0 Y=10 K=30
-  **Main Entrance**
C=0 M=0 Y=0 K=100
-  **Campus Boundary**
1.5pt rule, Dash= 3pt, Gap= 3pt
C=70 M=45 Y=85 K=40
-  **Barrier-Free Path**
1pt rule, Dash= 1pt, Gap= 1pt
C=100 M=50 Y=0 K=0

Map Color References (CMYK)

-  Roads/Parking Lots (C=35 M=25 Y=30 K=5)
-  Grass (C=55 M=40 Y=85 K=25)
-  Trees (C=70 M=45 Y=85 K=40)
-  Paths (C=10 M=10 Y=13 K=0)
-  MSU Buildings (C=30 M=65 Y=45 K=5)
-  Non-MSU Buildings (C=0 M=0 Y=0 K=55)
-  Railroad Tracks (C=0 M=0 Y=0 K=90)
-  Non-Campus Grounds (White Overlay at 70% Opacity)

Map Typography

Typeface: Helvetica Neue LT Std 75 Bold
 Point Size (Text): 8pt
 Point Size (Numbers): 10pt

