

General Specifications

PART 1 - GENERAL SPECIFICATIONS

1.1 SUMMARY

A. This Section includes engineering, furnishing, and installing the following signage and support systems:

1. Aluminum signs and supports.
2. Wayfinding signs, directories & room identification signs.
3. Dimensional characters and icons.
4. Sponsorship & branding signage.

B. Sign & display locations are indicated on the Sign Location plans. Sign & display details are indicated in the Signage Detail Manual. Both are under separate cover.

1.2 PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide signs and anchorage points capable of withstanding the effects of gravity, wind, snow, and seismic loads and stresses, as indicated in the General Notes of the Structural Drawings determined according to the local building code and authorities having jurisdiction, reference specification section 01 40 00 Quality for Engineer.

1. Deflection of signs and supports in vertical and horizontal direction shall be no greater than 1/360 of clear span or .75-inch (19 mm), whichever is smaller.

B. Thermal Movements: Provide post and panel signs that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

1.3 SUBMITTALS

A. Product Data: Submit manufacturer's technical data and installation instructions relative to materials, dimensions of individual components, profiles, and finishes for each type of material required.

B. Shop Drawings: Submit shop drawings for fabrication and installation/ mounting method for each typical sign type, or display type. Include plans, elevations, Iso views and large scale details of each element. Include large scale sections of typical members and other components. Show fabrication joints, seams, grain direction and fasteners. Show anchors, grounds, reinforcement, accessories, layout, and installation details.

1. For items required to comply with design loads, include structural analysis data signed and sealed by the licensed professional engineer responsible for their preparation.
2. Submit graphic layouts for verification, including outline of sign

face, character spacing, line spacing, and copy composition.

3. Engineering, document & sample review, fabrication, and construction schedule.

4. For signs supported by or anchored to permanent construction, provide setting drawings, full-size spacing templates, and directions for installation of anchor bolts and other appropriate anchors to be installed.

5. Submit drawings in 11-inch by 17-inch format unless otherwise requested by the Designer.

6. Provide a proof of all final artwork.

C. Samples: Submit three 6-inch (150 mm) square samples of each material showing finishes, colors, surface textures and qualities of manufacturer and design of each component including graphics. One sample set to be kept by Designer, contractor, and client as a record to later match against items in the field. Only finishes new to Phase 5 will be required for submittals.

1. Submit full-size sample first article units, per Section 3.6, before production run is commenced. Acceptable units may be installed as part of the work.

D. Maintenance Data: Provide a Maintenance and Operating Manual comprised of cleaning and operations needs for each sign/graphic/ display type. This shall include information on repair due to common vandalism, changing of messages and parts replacement needs. Include manufacturers' brochures and parts lists describing the actual materials used in the work, including metal alloys, finishes, electrical components and other major components. Provide working art file templates to the owner for future use.

1.4 QUALITY ASSURANCE

A. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for design and installations of signs, and miscellaneous supports that are similar to those indicated for this Project in material, design, and extent.

B. Manufacturer Qualifications: All fabrication within this section shall be performed by a manufacturer with a minimum of five (5) years experience producing and installing Designerural signs, and a minimum of five (5) years experience producing compliant signs as specified in ANSI 117.1 (1986), Minimum Guidelines and Requirements for Accessible Design (MGRAD), Uniform Federal Accessibility Standards (UFAS) and Americans with Disabilities Act Accessibility Guidelines (ADAAG).

C. Drawings and Specifications: The Designer will provide electronic files of typical sign layout drawings in Adobe Illustrator CC format. For electronic files requested in any format other than Adobe Illustrator CC,

the Contractor shall reimburse the Owner, for additional services required of the Designer for converting the electronic files. Designer will provide electronic files indicating fonts, icons, designs, and key visual parameters of the design intent. Fabricator shall develop and produce final, high resolution production-ready artwork based on these guides and the details on the Drawings – this includes any up-sampling or interpolation required for large scale photo based graphics.

1. Drawings and specifications indicate spacing of members, sizes of components, profile, dimensions, materials, and design, assembly and fabrication requirements for the signs.

2. Requests for deviations from indicated dimensions and profiles will be considered provided that the intended aesthetic effect is not modified, as judged and approved solely by Designer. If modifications are proposed, submit comprehensive explanatory data to Designer for review.

D. Uniformity of Manufacturer: For each separate type of material, finish or sign or display type, obtain signs from a single manufacturer to ensure consistency.

1. Manufacturer's name, trade name, or trade mark shall not appear on any visible surface.

E. Adhesion Testing – For all applied graphic films and vinyl products, perform adhesion tests on accordance with manufacturer's specifications. Provide results of adhesion testing to the Designer and the contractor for approval.

F. Fire-Test-Response Characteristics: Provide banners and flags constructed of fabrics that are identical to products that pass Test Method 1 of NFPA 701 performed by UL or another testing and inspecting agency acceptable to authorities having jurisdiction.

1. Flame-Spread Index: 25 or less.
2. Smoke-Developed Index: 450 or less.

G. Welding Standards: Qualify procedures and personnel according to the following:

1. AWS D1.1, "Structural Welding Code-Steel."
2. AWS D1.2, "Structural Welding Code-Aluminum."
3. AWS D1.3, "Structural Welding Code-Sheet Steel."
4. AWS D1.6, "Structural Welding Code-Stainless Steel."

H. Aesthetic Requirements: Provide copy with straight and true edges; space characters with tracking and leading as indicated; reproduce type faces accurately with square corners and even curves; provide uniform letters and symbols; and provide smooth finishes with no visible imperfections.

I. Regulatory Requirements – Comply with applicable requirements of the applicable laws and authorities. Obtain necessary approvals and permits from all such authorities as required.

J. ADA Accessibility Guidelines: All signage shall comply with the ADA Accessibility Guidelines where applicable. Characters and graphics, including but not limited to, copy height, letter stroke, symbols, materials, and finishes indicated on the Drawings are intended as guidelines for compliance. Implement each applicable ADA Guideline. Should conflicts arise, notify the Designer before proceeding.

K. Mockups: Provide one mockup sign of each type indicated in the schedule at the end of this Section, to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and fabrication.

1. Approved mockups may be forwarded to the Project site and may become part of the completed Work.

L. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

1.5 PROJECT CONDITIONS

A. Field Measurements: Verify dimensions of install locations for all items by field measurement before fabrication and indicate measurements, and any obstructions on Shop Drawings.

1. Wall Graphic Dimensions. Field verify dimensions and provide digital templates to the Designer for all applied wall graphics. Note all obstructions (fire strobes, hatches, panels, electrical boxes, exit signs, columns, etc.), and as-built dimensions. These templates are to be used in the preparation of all production-ready art files. Where required, the artwork is to be modified to eliminate any conflicts obstructions, or variations in install size. The Designer is to review and approve all such necessary changes to the artwork before fabrication.

2. Established Dimensions: Every effort shall be made to verify dimensions in the field before production. In the case where field measurements cannot be made without significantly delaying the Work, the Fabricator is to review the established installation location and dimensions with the Contractor and the Designer. The Contractor is responsible to provide an installation surface that accommodates the established dimensions identified.

1.6 COORDINATION AND SCHEDULE

A. Installation: Coordinate installation with the Contractor. For items supported by or anchored to permanent construction, coordinate specific requirements for types and placement of anchorage devices and similar items to be used for attaching signs and displays.

1. For any items supported by, anchored to or mounted to permanent construction, furnish templates to the Contractor for installation of blocking, anchorage devices, and electrical conduits.
2. For any wall coverings that require a level 5 finish furnish templates to the Contractor and coordinate wall preparation in keeping with the product manufacturers specifications.

B. Prepare a schedule indicating engineering, sample and material reviews, print proofs, fabrication, delivery, installation, and final inspection of the Work. Submit this schedule to the Designer and Owner for approval and coordination with other work at the Project Site.

C. Coordinate location of remote transformers with building construction. Ensure that transformers are accessible after completion of Work.

1.7 DELIVERY, STORAGE AND HANDLING

A. Package material in like groups and label accordingly.

B. Protect items during transit, delivery, handling, and storage to prevent damage, soiling, and deterioration. Minor damage to finishes may be repaired provided the final finishes are equal to the original finishes, are without noticeable flaws, and are acceptable to the Designer. If not in like-new condition, or if not acceptable to the Designer, remove and replace damaged items with new signs.

C. Coordinate delivery and storage of sign materials with the Contractor in advance. Schedule delivery to minimize storage requirements. Materials stored at the Project Site without prior approval may have to be relocated at the Fabricator's expense.

1.8 MAINTENANCE

A. Furnish a list of cleaning materials appropriate for maintenance of signs, graphics and displays to both the Owner and the Contractor. Provide written instructions for proper maintenance, electrical access, and character and lighting replacement procedures. Include recommended methods for removal of residual adhesives from wall surfaces after removal of adhered items.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Use materials of size and thickness indicated or, if not indicated as required to produce strength and durability in finished product for use intended. Work to dimensions shown or accepted on shop drawings, using proven details of fabrication and support. Use type of materials shown or specified for various components of work.

B. All materials shall be free from defects impairing strength, durability, and appearance. No fabrication or installation materials or procedures shall be used that will in any way change the usual quality or in any manner have an adverse effect on existing materials and surfaces. All materials shall be new stock, unless the Designer has specified a reclaimed or recycled material.

C. Graphic Content and Style: Provide graphic layouts and sign copy that complies with requirements indicated in the Signage Detail Manual and Signage Message Schedule and on preliminary artwork supplied by Designer for size, fonts, style, spacing, content, mounting height and location, materials, finishes, and colors.

2.2 MATERIALS

A. General: For the fabrication of exposed metal work, use only materials which are smooth and free of surface blemishes including pitting, roughness, seam marks roller marks, and trade names. Do not use materials which have stains or discolorations.

1. Provide stretcher leveled standard of flatness.

B. Aluminum Sheet and Plate: ASTM B 209 (ASTM B 209M), alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with at least the strength and durability properties of alloy 5005-H15.

1. Thickness: Provide aluminum sheets and plates in sizes specified or indicated on the Drawings.

C. Aluminum Extrusions: ASTM B 221 (ASTM B 221M), alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with at least the strength and durability properties of alloy 6063-T5.

D. Stainless Steel: Grade and type designated below for each form required:

1. Tubing: ASTM A 554, Grade MT 316.
2. Pipe: ASTM A 312/A 312M, Grade TP 316.
3. Castings: ASTM A 743/A 743M, Grade CF 8M.
4. Sheet, Strip, Plate, and Flat Bar: ASTM A 666, Type 316.
5. Bars and Shapes: ASTM A 276, Type 316.

E. General: Plastic shall be free of imperfections from forming or fabrication. All surfaces shall be free from scratches and shall be cleaned

and polished per manufacturer's instructions at completion of installation. Edges shall be flame polished, free of saw marks and chips, and be eased, unless otherwise noted.

F. General: Provide vinyl graphic film suitable for interior and exterior applications of types indicated below.

1. Vinyl Thickness: 2-mil (0.05 mm), minimum.
2. Adhesive: Clear, pressure sensitive, permanent adhesive (unless removable adhesive is specified).
3. Overlamine: Include a Matte overlamine for all interior vinyl graphic films unless otherwise indicated in the Signage Detail Manual.
4. Installation: Use minimum overlapping seams advised by the manufacturer.

G. Basis-of-Design Products: The design is based on the products named. Subject to compliance with requirements, provide either the named products or comparable product by one of the other specified manufacturers. Comparable products are subject to review and approval through the submittal process specified. Note: All film/vinyl materials require an adhesion test prior to printing to confirm successful adhesion.

1. Opaque Vinyl Film: Non-reflective, pre-spaced die-cut letters and film, supplied in specified typeface, color, and spacing on a quick-release backing sheet.
2. Transparent Vinyl Film: 3M Scotchcal™ Clear Graphic Film 8626 ES.
3. Translucent Vinyl Film: 3M Scotchcal™ Translucent Graphic Film 8628 ES.
4. Opaque Imaging Media for smooth surfaces: 3M Controltac Graphic Film with Comply v3 Adhesive IJ180CV3-10 with 3M Scotchcal Matte Overlamine 8510M
 - a) Provide alternate pricing for 3M Scotchcal Graphic Film with Comply Adhesive IJ40C-10R with 3M Scotchcal Matte Overlamine 8510M
5. 3M Scotchcal™ for Textured Surfaces; Series IJ8624 with 3M Luster Overlamine 8524.
6. 3M Panaflex™ Awning and Sign Facing; Series 945GPS.
7. 3M Vinyl 8150 with 7 Year Lifespan for window graphics.

H. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. 3M
2. Avery Dennison Graphics Division
3. Orocal/Orofol Graphic Products

2.3 HARDWARE, FASTENERS, AND ADHESIVES

A. Fasteners: Unless otherwise indicated, use concealed fasteners fabricated from metals that are non-corrosive to either the sign material or

the mounting surface. If concealed fasteners are not practical or possible, provide vandal-resistant fasteners.

B. Fabricate brackets and fittings for bracket-mounted signs from materials compatible with panel sign construction and mounting conditions indicated. Factory-paint brackets in color matching background color of panel sign.

1. Steel Tubing: Cold-formed steel tubing complying with ASTM A 500, Grade B.
2. Structural Steel Shapes, Plates, and bars: Cold formed steel fabrications complying with ASTM A36.

C. Anchors and Inserts: Use non-ferrous metal or hot-dipped galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion resistance. Use toothed steel or lead expansion bolt devices for drilled-in-place anchors. Furnish inserts, as required, to be set into concrete or masonry work.

1. For attachment to metal panels, use #12 stainless steel, Type 410, self-tapping screws with integral neoprene washers.

D. Adhesives: Provide products equal to "Depend 330" as manufactured by Loctite Acrylic Adhesives. (216)881-2828. Fabricator shall verify with painting manufacturer compatibility of the adhesive to the paint.

E. Very High Bond (VHB) Tape: Provide 3M (or approved equal) VHBm tape at the appropriate thickness/strength required for the weight and size of each item installed.

F. Silicone Adhesive: Provide liquid silicone adhesive (sealant) with a methanol or acetic cure as recommended by the sign fabricator.

G. VOC Content of Interior Sealants: Sealants and sealant primers used inside the weatherproofing system shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

1. Designerural Sealants: 250 g/L.
2. Sealant Primers for Nonporous Substrates: 250 g/L.
3. Sealant Primers for Porous Substrates: 775 g/L.

H. Spacers: Provide Manufacturer's standard spacers when necessary.

2.4 GRAPHIC REQUIREMENTS, GENERAL

A. General: Type style shall be as indicated in the Signage Detail Manual.

1. Typeface, numerals, icons and designs shall be consistent to the design intent shown in the Signage Detail Manual. Some variation in tracking and character width to ensure messages fit, may be acceptable. Any variations to be reviewed and approved by the Designer.
2. Characters indicated on the Drawings are intended as guide lines for layouts and font size only, and are based on scale calculations of the message lengths within given and estimated sign areas. The actual copy required on individual signs is indicated in the signage

message schedule. Should conflicts arise in the final message layout, notify the Designer before proceeding.

3. Spelling and punctuation shall be correct. Should an error in spelling or punctuation be found, or the spelling appears questionable notify the Designer before proceeding.

4. Align letter forms to maintain a baseline parallel to the sign format, unless otherwise indicated. Maintain uniform margins in sign layouts.

5. Suite Identification Signs, and Signs with Name Inserts: Owner will determine names for each individual suite or office.

6. Provide digital proofs of final signage layouts to the Designer for approval before fabrication.

B. Production-Ready Artwork: The Signage Detail Manual includes specifications for all visual elements including, but not limited to, type, symbols, logos, photography, artwork, and arrows. The Fabricator is to create final production-ready artwork necessary to complete all signs and graphics based on the design intent included in the Signage Detail Manual.

1. Production-ready artwork is to be high enough resolution to provide crisp edges and lines for all vector artwork, and to avoid any visible blurring or pixelation of photographic images. Fabricator to interpolate and up-sample photographic artwork as required for the installation location and viewing distance. Do not use the construction documents as production art. The Fabricator is to provide printed proofs of all graphics to ensure color and resolution are acceptable – samples to include a swatch of the 100% full size graphic as well as a scaled version of the entire art work – printed on the specified substrate.

2. Silkscreens shall be executed from photoscreens or negatives. Pattern cut screens may be used where non-repeat copy is required; however, copy mask shall be equivalent to photoscreen quality. Do not use the construction documents as production art.

2.5 FABRICATION, GENERAL

A. General: Fabricate signs to comply with requirements indicated on drawings for materials, thicknesses, finishes, colors, designs, shapes, sizes, and details of construction.

1. Form exposed faces and sides of signs to produce surfaces free from warp, distortion, and “oil canning.”

a) Include internal bracing for stability and attachment of mounting accessories as required.

b) Cut metal edges on a continuous line and sand smooth. Seams shall be straight and symmetrical.

c) Form exposed connections with hairline joints, flush, and smooth.

d) Form exposed work true to line and level with sharp angles, surfaces, and edges. Ease exposed edges to a radius of

approximately .03125-inch (0.8 mm) unless otherwise indicated.

Form bent-metal corners to smallest radius possible without causing grain separation or cracking of applied finishes.

2. Welding, when necessary, shall be of the appropriate type to minimize permanent distortions of flat surfaces. Remove welding flux, oxides and discolorations by pickling or grinding, so that these areas match the finish of the adjacent areas. Repair damage caused by the fabrication by grinding, polishing, or buffing.

a) Weld corners and seams continuously, complying with AWS recommendations. At connections, grind exposed welds smooth and flush to match and blend with adjoining surfaces.

3. Cut, reinforce, drill, and tap miscellaneous metal work as indicated to receive finish hardware and similar items.

4. Produce smooth, even, level sign panel surfaces, constructed to remain flat under installed conditions within a tolerance of plus or minus one percent measured diagonally from corner to corner.

5. Fabricate, brackets and fittings for signs to suit sign panel construction and mounting conditions indicated. Connections, angles, shapes and details shown are suggestive and are to be sized, reinforced and detailed as required. Details not shown are to be equal in quality to those detailed. Factory paint brackets in color matching background color of sign panel.

6. Provide concealed access to internally illuminated signs for relamping and service. Service access shall be waterproof and secured against vandalism.

7. Conceal union, fabricator, or other labels.

8. For sign panel units in exterior applications provide standard weatherproofing construction, including weather-stripping, weeping, and venting provisions for condensation control.

B. Metal signs facing and cladding shall be aluminum unless otherwise indicated or specified in the Signage Detail Manual.

C. Where galvanized steel and aluminum meet, the materials shall be materially isolated from one another to prevent electrolytic action. Aluminum joints and connections shall be heli-arc welded and flush, true, ground, and polished smooth and without defects. Character forms shall be cut true to typeface with no burns or imperfections of any kind.

D. Internal Structure: Provide completely hidden, internal structures for support and anchorage, unless indicated otherwise on the drawings. Primary support structure shall hot dipped galvanized steel or aluminum.

2.6 PANEL SIGNS

A. Exterior Plaque Sign: Unless otherwise specified in the Signage Detail Manual, provide products fabricated from 0.125-inch aluminum plate with 0.030 inch thick double face tape mounting and silicone adhesive. All exterior signage is to include weep/drain holes as required.

1. Finish: As indicated in the Signage Detail Manual.

2. Graphics: As indicated in the Signage Message Schedule.

B. Chemically-etched Zinc Sign Panels: Unless otherwise specified in the Signage Detail Manual, sign copy shall be raised 1/32 inch from plaque first surface. Provide opaque graphics and Braille to comply with ADA regulations.

1. Thickness: 0.125 inch (3.2 mm).

2. Zinc Finish: Manufacturer’s sandblasted with horizontal grain.

3. Background Texture: Smooth, matte finish.

4. Graphics: As indicated on the Drawings.

5. Manufacturer: Dixie Graphics.

D. Framed Hollow-Box-Type Panels:

1. Panel Material: Unless otherwise specified in the Signage Detail Manual, 0.125-inch- (3.2-mm-) thick aluminum sheet.

2. Panel Finish: Unless otherwise specified in the Signage Detail Manual, baked enamel.

a) Panel Finish: Manufacturer’s standard semigloss finish with UV inhibitors.

b) Provide clips welded to back of panels for installation without visible fasteners.

3. Frame Material: Unless otherwise specified in the Signage Detail Manual, extruded aluminum, fabricated to profile indicated; comply with the following:

a) Frame Finish: High-performance organic coating.

b) Corner Condition: Corners rounded to radius indicated.

PART 3 - EXECUTION

3.1 PREPARATION

A. General: Examine area, surfaces and conditions under which the work is to be installed. Notify the Contractor in writing of conditions detrimental to the proper and timely completion of the work. Starting work implies acceptable surfaces and conditions.

3.2 INSTALLATION

A. General: Locate signs, graphics and displays where shown on Sign Location Plan, and Signage Detail Manual, attaching to substrates in accordance with manufacturer's instructions, unless otherwise indicated.

1. Install signs level, plumb, and at heights indicated, with surfaces free from distortion and other defects in appearance.

B. Surfaces under adhesive applied units shall be smooth, clean, and free of dust, grease, fingerprints, or other foreign matter. All adhesives required shall be used in accordance with recommendations made by the manufacturer of the material to be laminated or adhered. No adhesives that will fade, discolor, or delaminate because of ultraviolet light or heat shall be used. Adhesives shall not change the color of or deteriorate the materials to which they are to be applied. The adhesives shall be of a non-staining, non-yellowing quality. All visible joints shall be free from air bubbles and other defects.

C. Within one week of scheduled completion of installation, prepare a punch list itemizing:

1. Uppercase letters instead of lowercase or vice-versa.
2. Improper alignment of letters on sign panel.
3. Improper alignment of signs.
4. Chipped or scratched finishes.
5. Unpainted exposed fasteners.
6. Fabricator's label displayed.
7. Improper cleaning of sign surfaces or surrounding wall areas.
8. Damage to surrounding surfaces.
9. Missing signs, graphics, displays.
10. Incorrect install locations.
11. Missing trim, corner guards, or other finishing.
12. Any areas that require touch up paint.

F. Repair or replace damaged units as required after Designer's final inspection.

3.3 PATCH AND ADJUST

A. Patch existing surfaces damaged because of work under this section. Patch with same materials as existing. Fabricator shall paint and harmoniously blend and contour all repairs to match adjoining conditions so that they are not noticeable to view.

B. Touch-up any mars or nicks in painted finishes of all signs and adjacent structures. Touch-up shall be the same paint product as used for this sign finish. Touch up areas should blend with surrounding areas and not be noticeable to view.

C. Corrosion Protection: Coat concealed surfaces of aluminum that will be in contact with grout, concrete, masonry, wood, or dissimilar metals with a heavy coat of bituminous paint.

D. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780, Annex A2.

3.4 CLEANING AND PROTECTION

A. At completion of installation, clean exposed surfaces in accordance with the manufacturer's instructions. All items shall be free of glue, fingerprints, dirt, grease, or any other imperfections.

B. Evidence of installation work or damages incurred on other surfaces shall be cleaned or repaired prior to completion of work. Protect units from damage until acceptance by Owner.

C. Remove all packing and construction materials from site. Leave premises clean, ready for work under other contracts or ready for use.

D. Instruct the Owner in writing as to the correct operation and maintenance of all signs and sign components.

E. Demonstrate to the Owner the operation of all access panels, and replacement of lamps, ballasts, and transformers as applicable.

F. Furnish Owner with a pint of each paint and finish material used on sign.

3.5 SCHEDULE OF MOCKUPS

A. Provide a mock-up (partial for large items; complete for smaller items) of each sign/display type requested at the fabrication facility for review. The requested mock-ups shall be coordinated with Designer. Mock-ups once approved may be used towards final install count.

B. When accepted, mock-up shall serve as the standard for materials, workmanship, and appearance for the work throughout the project.

C. Provide work-in-progress sign elements reviews. Scheduled or unscheduled viewings at the Fabrication Facility may be initiated by the Owner's Representative as deemed necessary to ensure continued quality control and make any adjustments required during fabrication. Unsatisfactory items are to be corrected by the Fabricator as directed by the Owner or owner's representative.

D. Scaled mock up of graphic artwork + Full size print swatch of all graphic prints

1. All printed applied wall or glass graphics.

3.6 WARRANTY

A. Submit to the Owner's Representative a 1-year written warranty (effective the date of final acceptance) covering all signs contractor will agree to repair or replace defective signs. Upon notification of such defective signs within the warranty period, make necessary repairs or replacement at the convenience of the Owner's Representative.

B. Submit to the Owner's Representative a 1 year written warranty, warranting that the factory-applied finishes will not develop excessive fading or excessive non-uniformity of color or shade, and will not crack, peel, pit, corrode or otherwise fail because of defects in materials or workmanship within the following defined limits. Upon notification of such defects within the warranty period, make necessary repairs or replacement at the convenience of the owner's representative.

Graphic Standards

TYPOGRAPHY & TYPEFACES

This page provides a reference for the typefaces for the Wayfinding Signage System. Typefaces may not be changed. During fabrication, the height and width ratio of letter forms must be maintained proportionately.

Vehicular Signage:

Marquee, Vehicular Directional, and Parking Directional Signs typeface for vehicular signs is Highway Gothic Type D. Signs placed on roads with a speed limit of over 25MPH shall have 6" high type.

Signs placed on roads with a speed limit of 25MPH and lower shall have 4" high type. Type may be upper and lower case.

Pedestrian Signage:

Minimum 1" high copy is recommended for pedestrian directional and kiosk signs.

Identification Signage:

Minimum 1.5" high copy is recommended for occupant lines and a minimum of 4" high copy is recommended for building names for all building ID signs.

Typeface A - Highway Gothic Type D (FOR VEHICULAR USE ONLY)

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

Typeface B - Source Sans Variable SemiBold

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

Typeface B - Source Sans Variable Regular

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

Typeface B - Source Serif Variable Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

Typeface C - Source Serif Variable Semibold

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

COLORS & MATERIALS







Consistent use of a color palette creates a recognizable “system”. The Color Palette found on the following pages provides a reference for specifying a paint color or material. The Fabricator is required to submit painted color chips and material samples for approval prior to sign fabrication.

The ADA requires a minimum of 70% contrast between text and background for legibility.






Logos

All logos, unless specified different in the message schedule, shall be consistent in proportion, color, and placement. Client shall submit logo files in .eps format. All logos shall always be aligned to the navy/message blade of the signs in single sided and double sided signs. See sign details for front and back of sign graphics.

Paint Colors

Color/Code	Name	Specification	Process
 P1	White	PMS White	Surface applied, exterior sign paint and protective top coat: Acrylic Polyurethane w/ UV inhibitor, finished with Clear Coat Satin finish.
 P2	UF Blue	PMS 287 C	Surface applied, exterior sign paint and protective top coat: Acrylic Polyurethane w/ UV inhibitor, finished with Clear Coat Satin finish.
 P3	UF Orange	PMS 172 C	Surface applied, exterior sign paint and protective top coat: Acrylic Polyurethane w/ UV inhibitor, finished with Clear Coat Satin finish.
 P4	Navy Blue	PMS 2768 C	Surface applied, exterior sign paint and protective top coat: Acrylic Polyurethane w/ UV inhibitor, finished with Clear Coat Satin finish.
 P5	Black	PMS Black	Surface applied, exterior sign paint and protective top coat: Acrylic Polyurethane w/ UV inhibitor, finished with Clear Coat Satin finish.
 P6	Brown	PMS 469 C	Surface applied, exterior sign paint and protective top coat: Acrylic Polyurethane w/ UV inhibitor, finished with Clear Coat Satin finish.

Vinyl Colors

Color/Code	Name	Specification	Process
 V1	White	3M Scotchcal	Engineer-grade retro reflective vinyl meeting or exceeding FDOT requirements for day and night driving.
 V2	UF Blue	3M Scotchcal	Background & Characters 3M custom inks applied directly to 3930 with 3M approved clear UV/Graffiti Vinyl Over-laminates.
 V3	UF Orange	3M Scotchcal	Background & Characters 3M custom inks applied directly to 3930 with 3M approved clear UV/Graffiti Vinyl Over-laminates.
 V4	Navy Blue	3M Scotchcal	Background & Characters 3M custom inks applied directly to 3930 with 3M approved clear UV/Graffiti Vinyl Over-laminates.
 V5	Emergency Red	3M Scotchcal	Background & Characters 3M custom inks applied directly to 3930 with 3M approved clear UV/Graffiti Vinyl Over-laminates.

UF Logo



Innovation District Logo



UF Athletic Logo

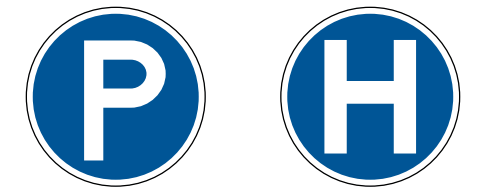


UF Health Logo

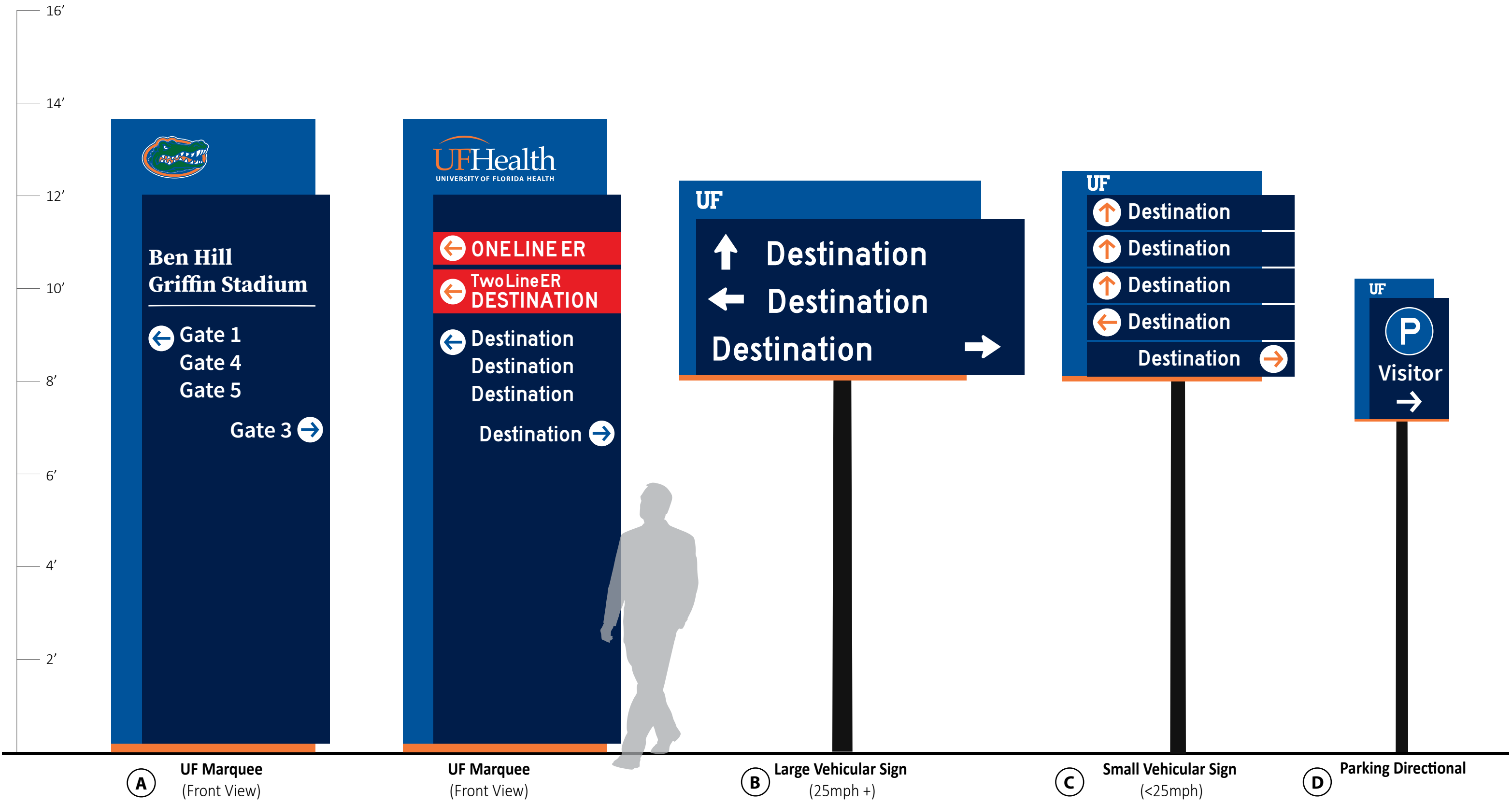


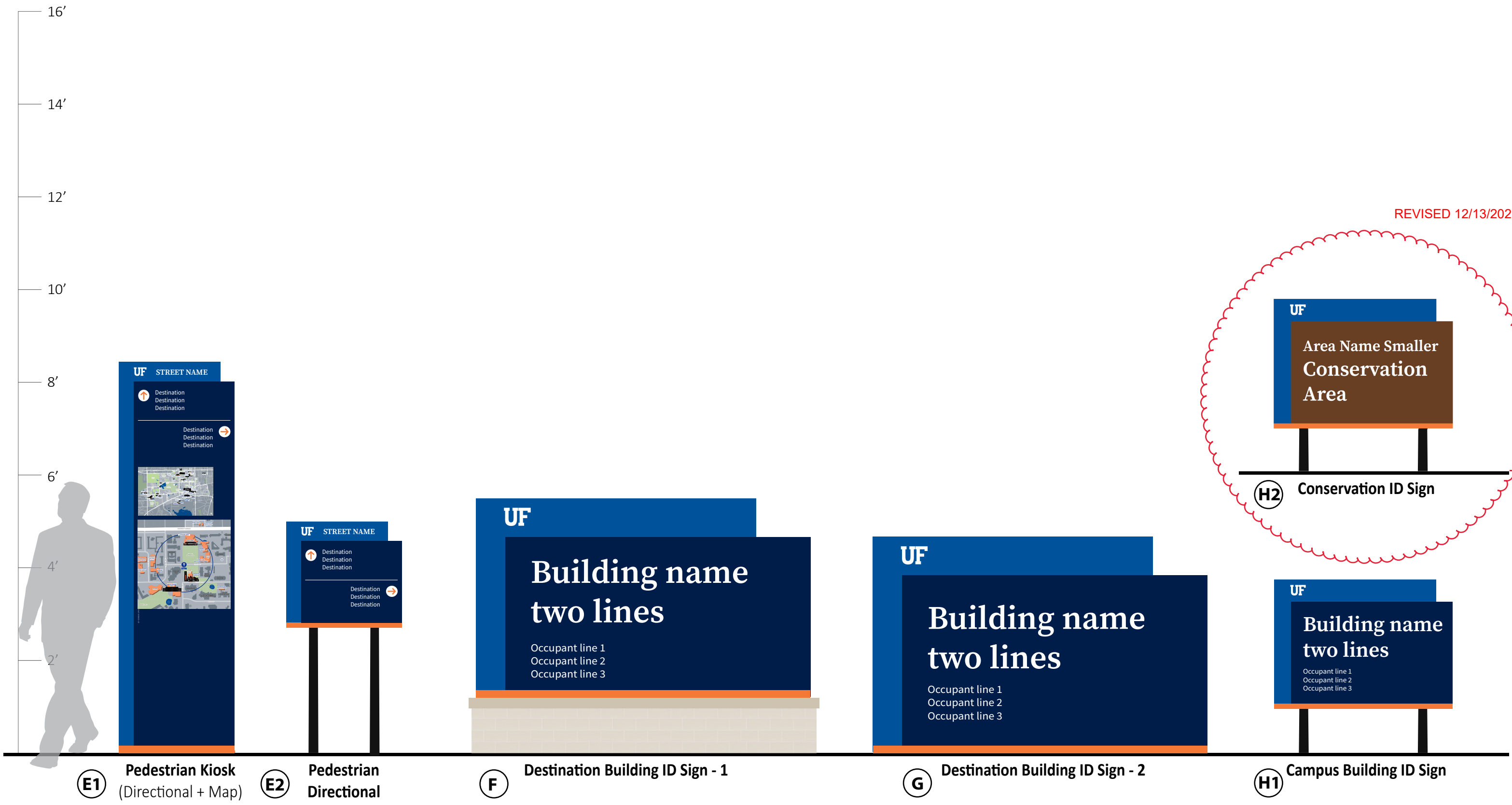
Symbols/Icons

Parking and Hospitals are universal icons and shall be used on vehicular directional signs to substitute the word. The symbol shall always be displayed in white in a Hospital blue (Pantone Blue 294) circle.



Sign Palette





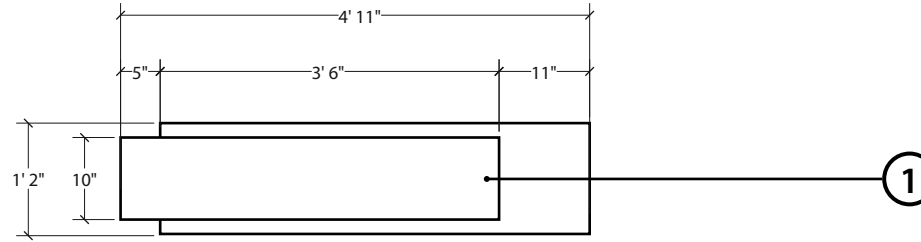
Sign Details

**SIGN TYPE A
UF MARQUEE**

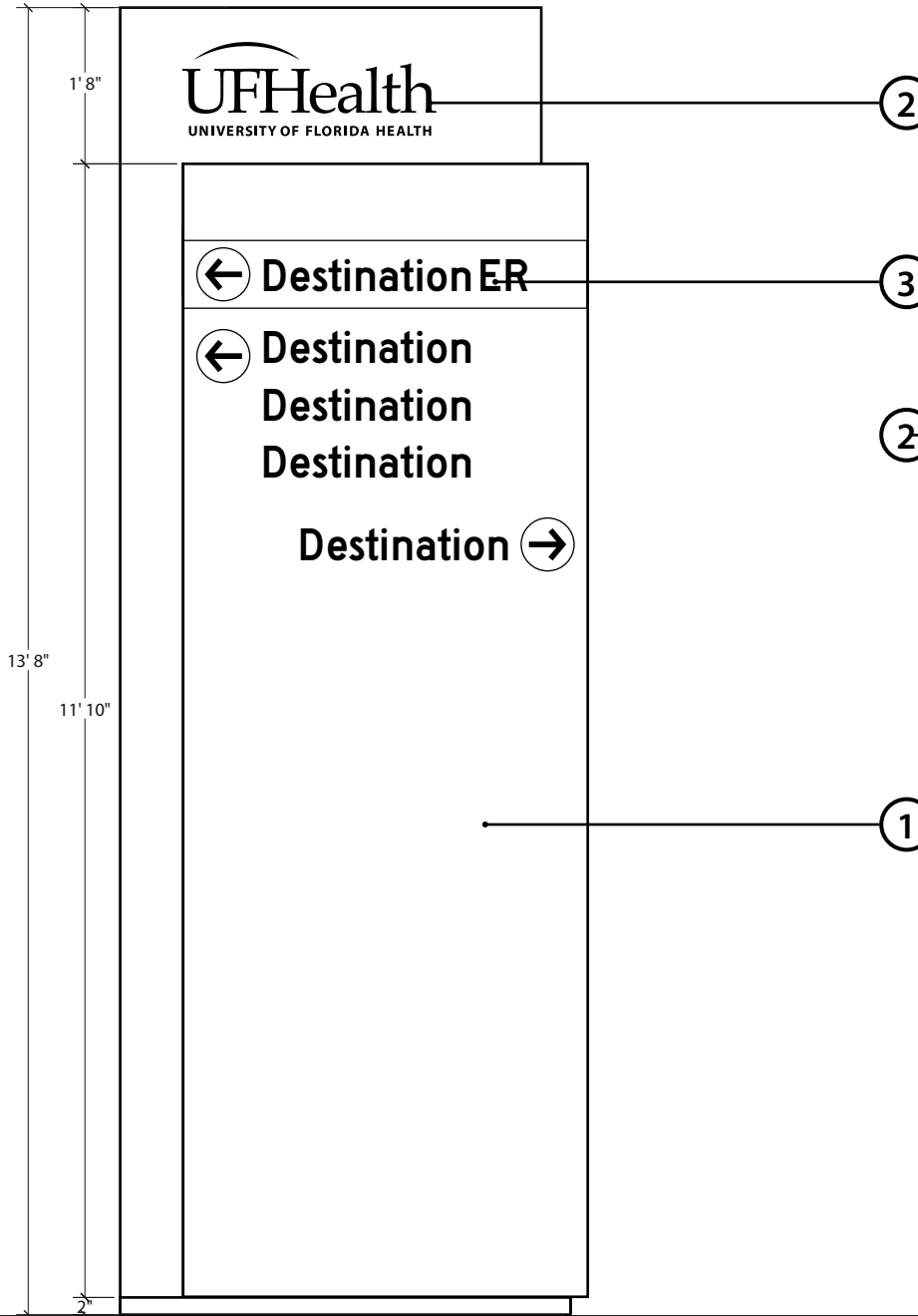
Boxed aluminum sign (1) painted with Matthews automotive grade paint and UV and anti-graffiti protective clear coat.

Layout A - Sign face double sided painted graphics (2) and applied vinyl (3) copy and arrows. Foundation per Florida Building Code requirements

Layout B - Sign face double sided painted background color, copy and graphics. Foundation per Florida Building Code requirements (See page 38)



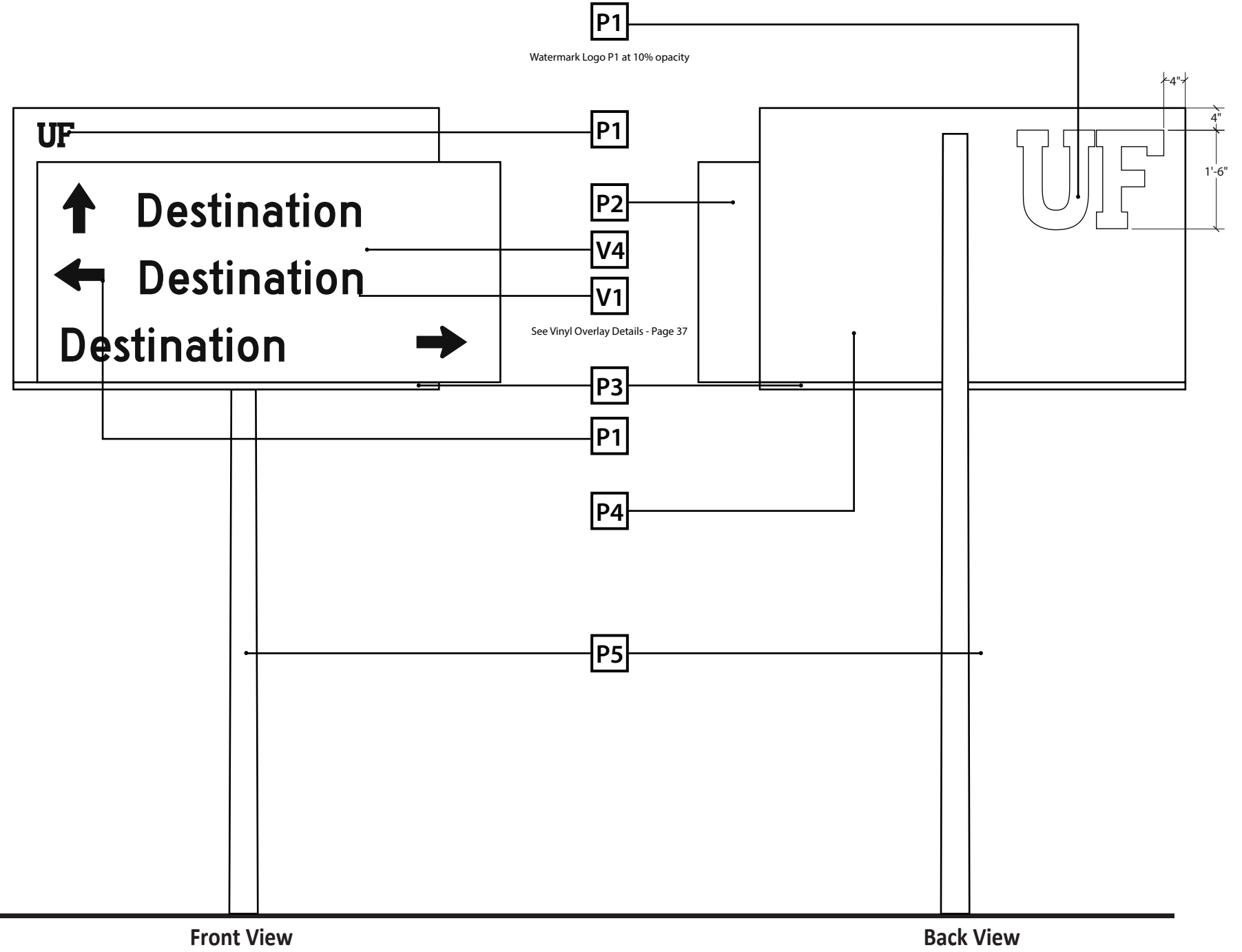
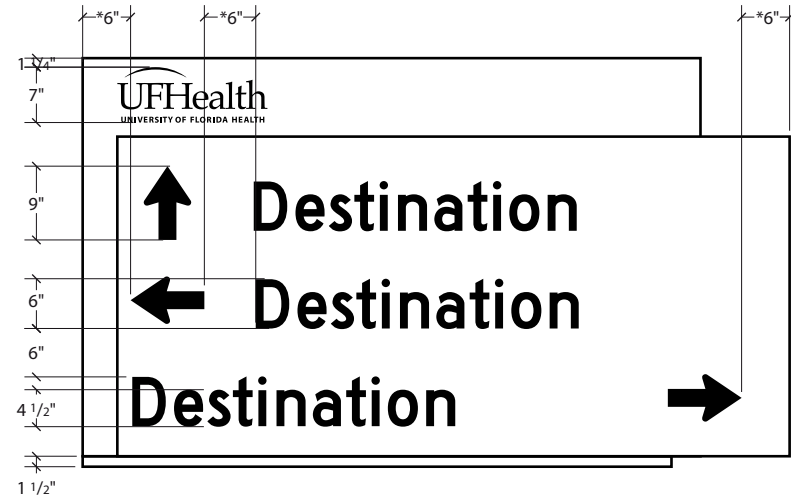
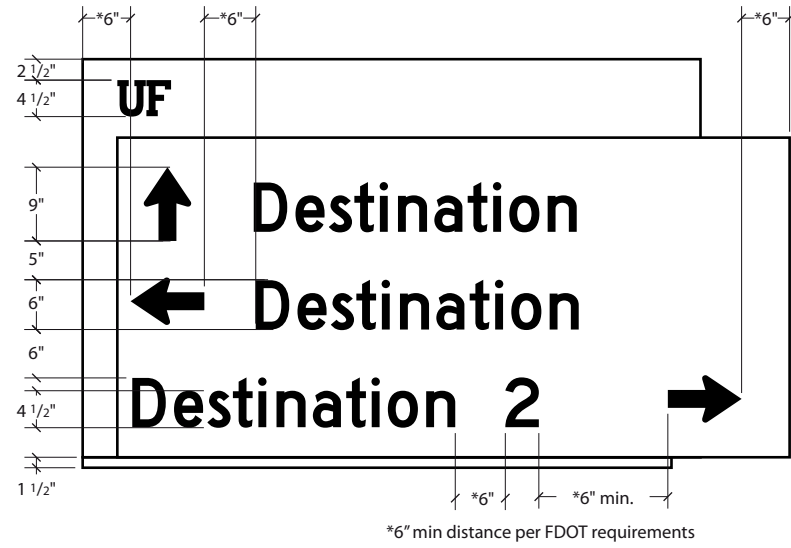
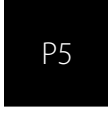
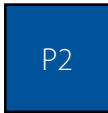
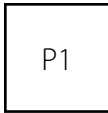
Top View



Front View



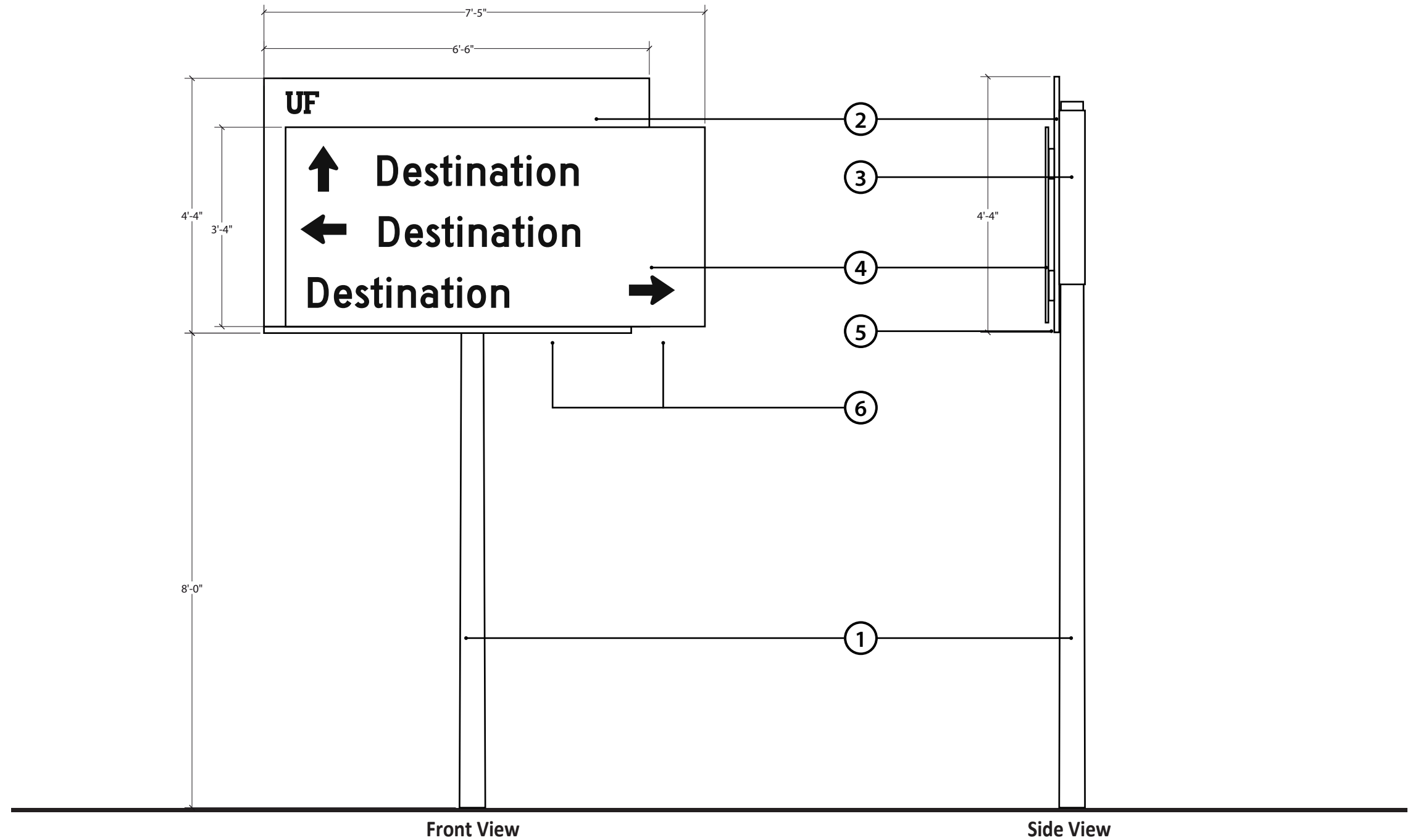
Side View

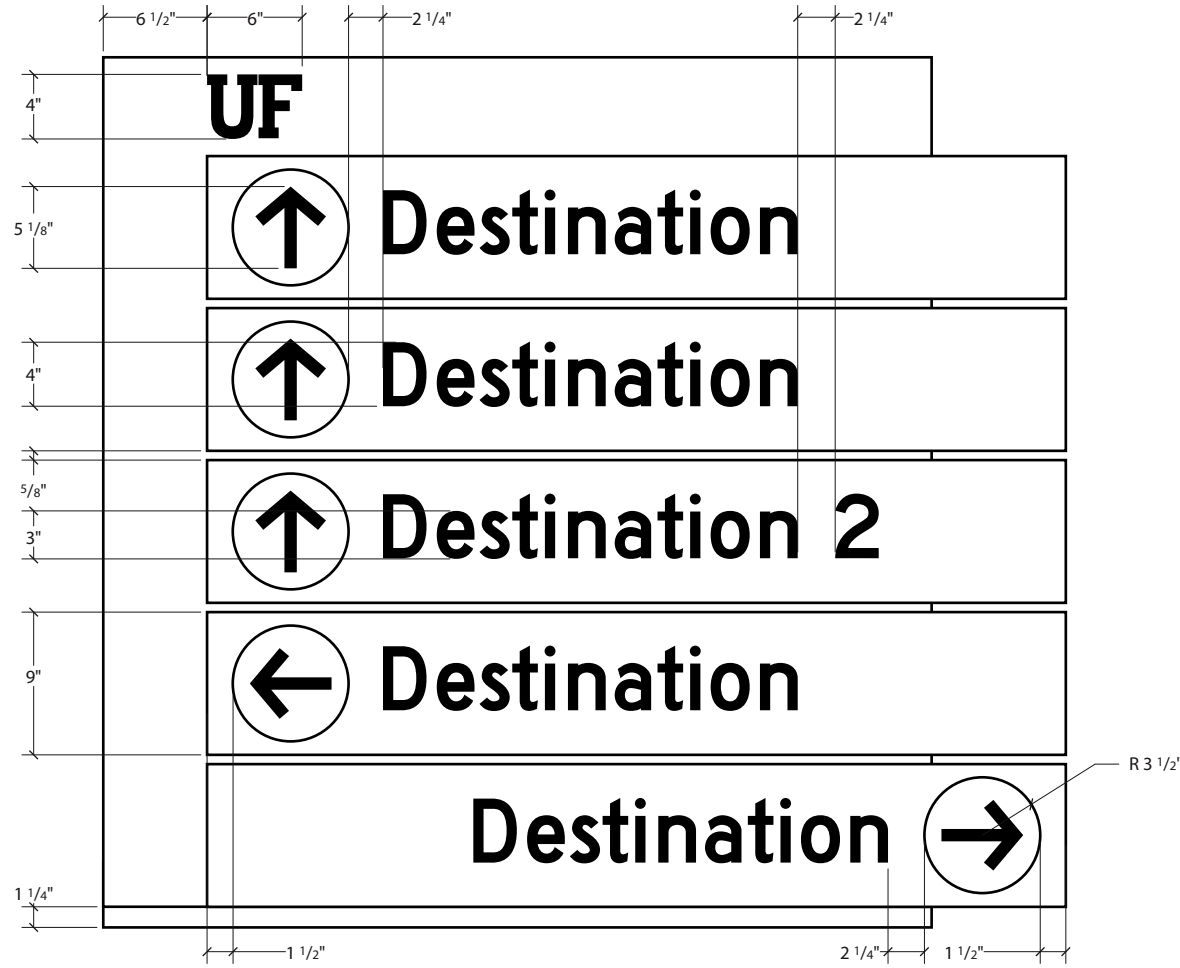
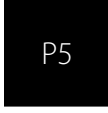
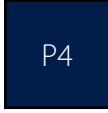
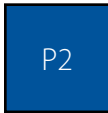
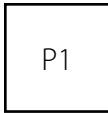


**SIGN TYPE B
LARGE VEHICULAR SIGN**

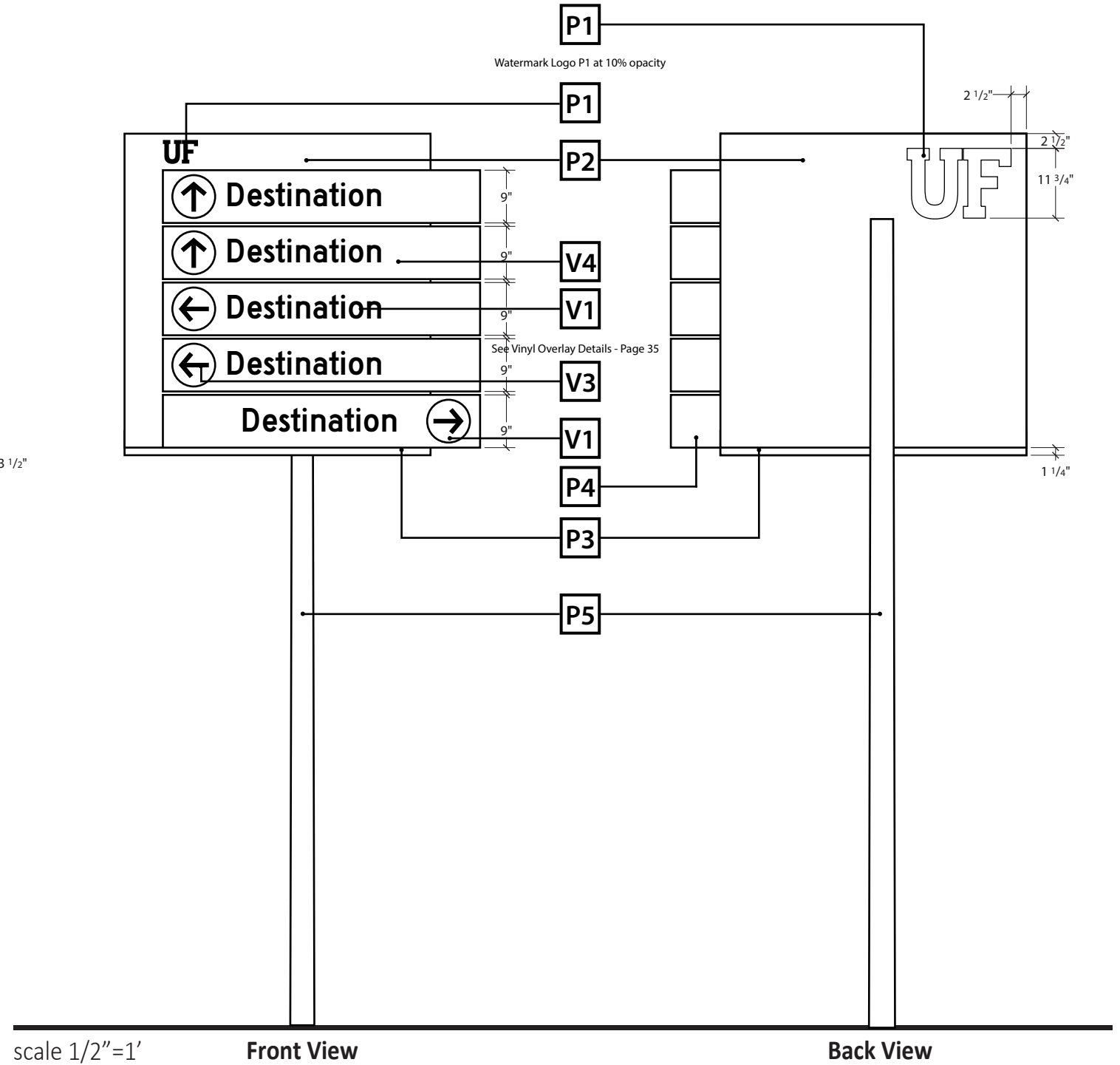
Five inch round aluminum pole (1) with mounted 1/4 inch thick aluminum panel (2) welded to custom bracket (3). 1/8 inch aluminum blades (4) welded to custom brackets (5) mechanically attached to sign face (2). All painted with Matthews automotive grade paint and UV inhibitive and anti-graffiti protective clear coat.

Single sided blade sign face painted background color and applied vinyl (6) copy and graphics. Foundation per Florida Building Code requirements (See page 38)





Graphic Detail - Sign Face
scale 1"=1'



scale 1/2"=1'

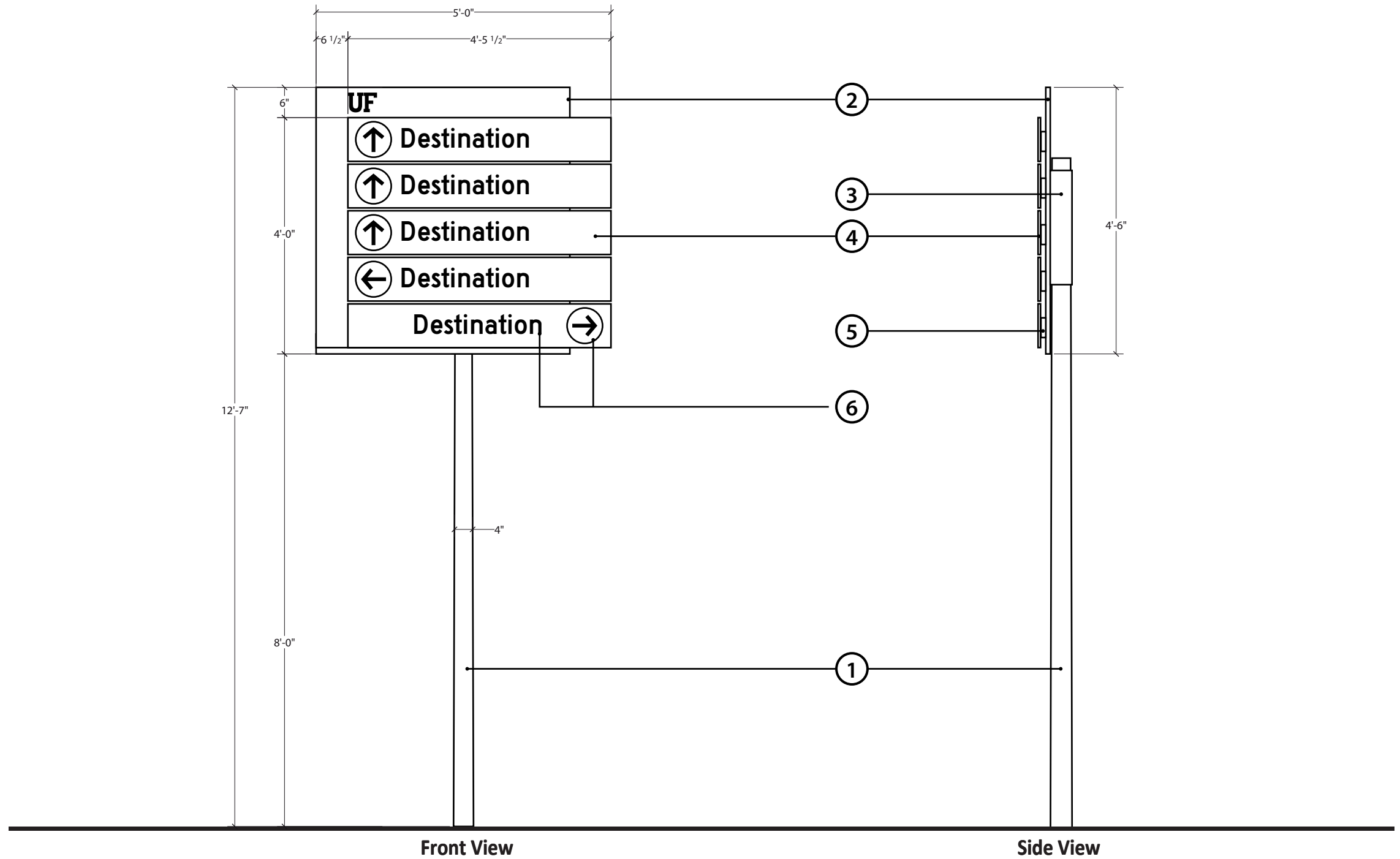
Front View

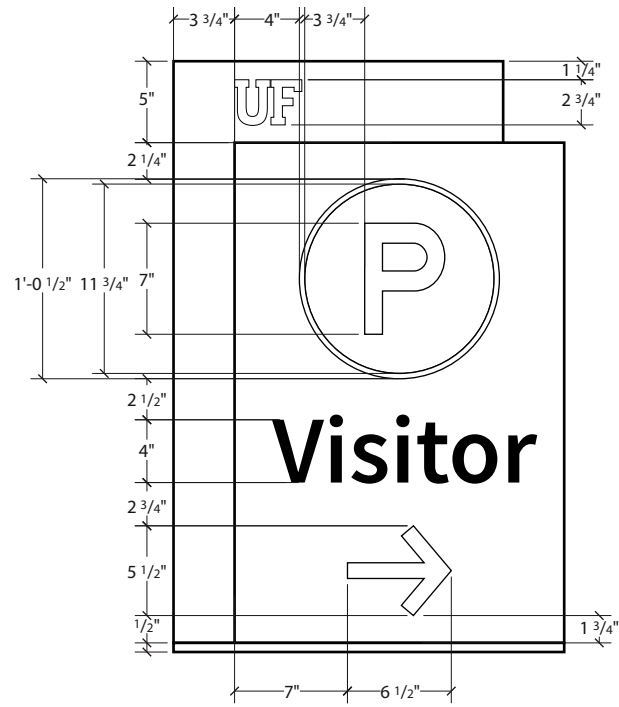
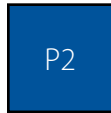
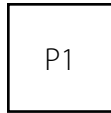
Back View

**SIGN TYPE C
SMALL VEHICULAR SIGN**

Four inch round aluminum pole (1) with mounted 1/4 inch thick aluminum panel (2) welded to custom bracket (3). 1/8 inch aluminum blades (4) welded to custom brackets (5) mechanically attached to sign face (2). All painted with Matthews automotive grade paint and UV inhibitive and anti-graffiti protective clear coat.

Single sided blade sign face painted background color and applied vinyl (6) copy and graphics. Foundation per Florida Building Code requirements (See page 38)

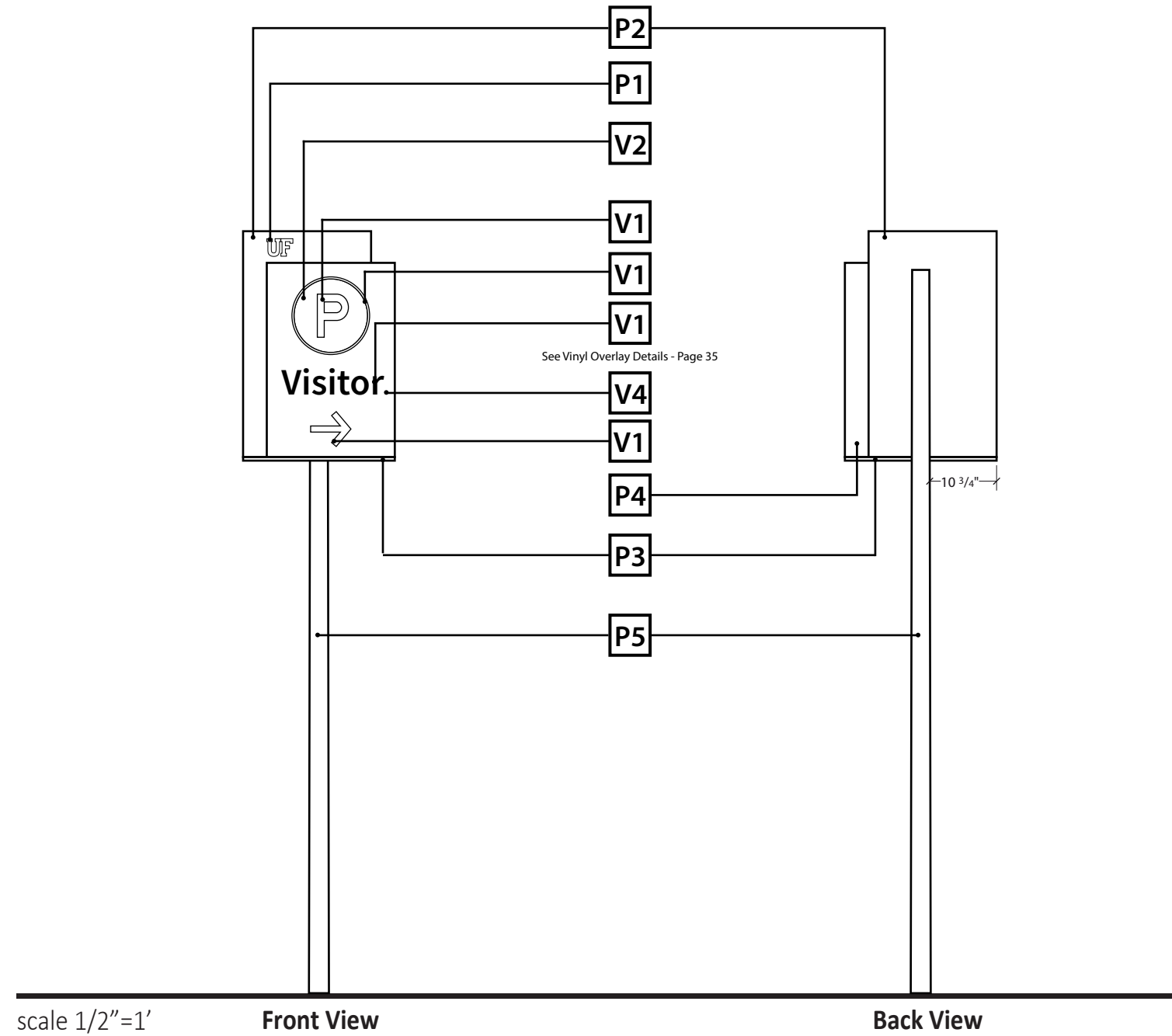




Graphic Detail - Sign Face
scale 1"=1'



Graphic Detail - Optional P with number
scale 1"=1'



scale 1/2"=1'

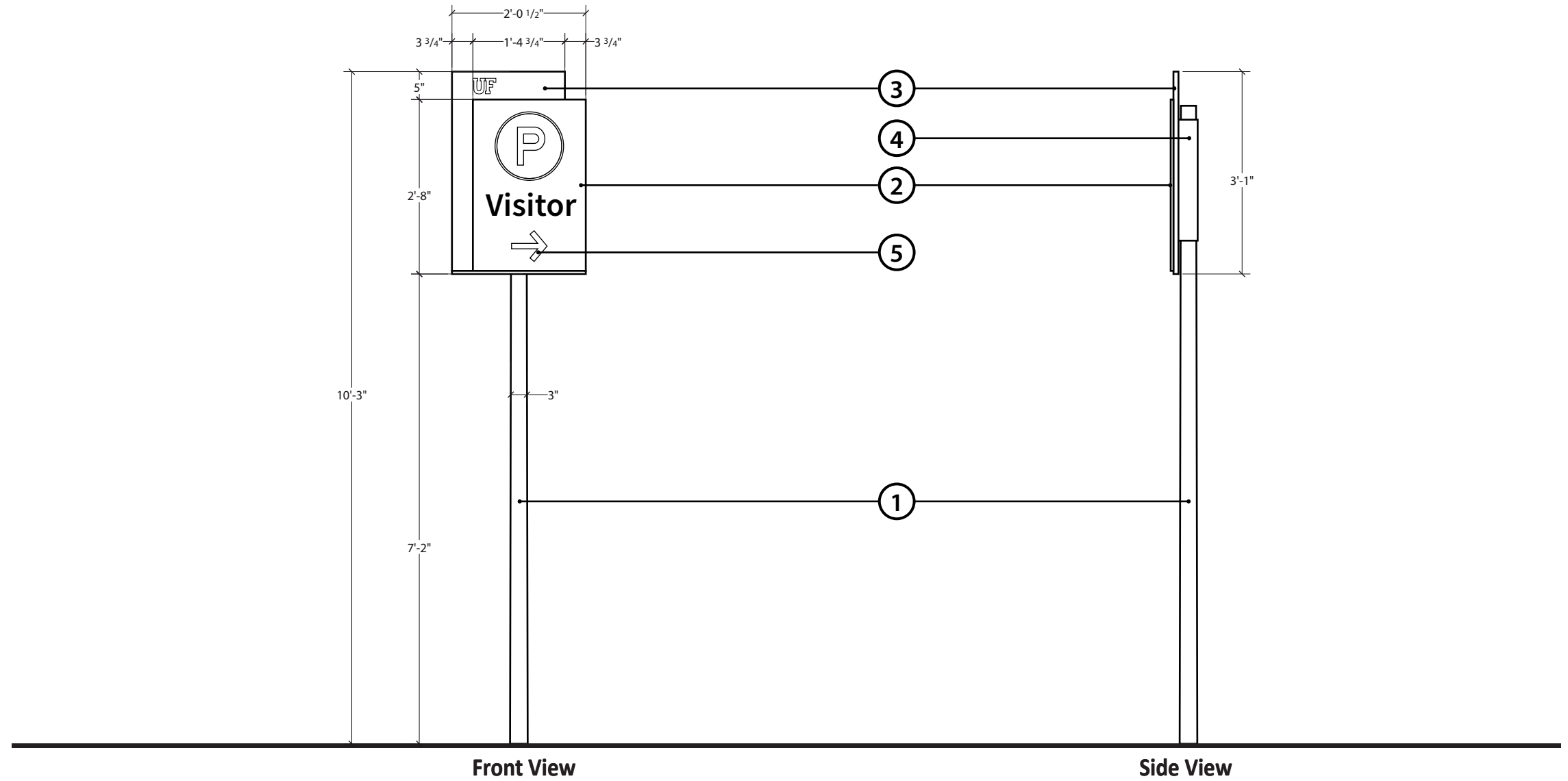
Front View

Back View

**SIGN TYPE D
PARKING DIRECTIONAL SIGN**

Three inch round aluminum pole (1). 1/8" front aluminum panel (2) attached to 1/4" aluminum backing panel (3) using VHB tape and dp805. Custom bracket welded to back panel (4) mounted to aluminum sign posts. All painted with Matthews automotive grade paint and UV inhibitive and anti-graffiti protective clear coat.

Singe sided blade sign face painted background color and applied vinyl (5) copy and graphics. Foundation per Florida Building Code requirements (See page 38)



P1

P2

P3

P4

P5

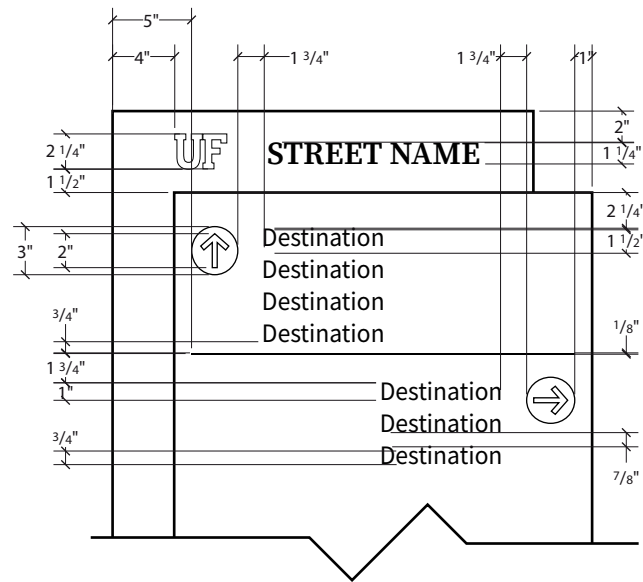
V1

V2

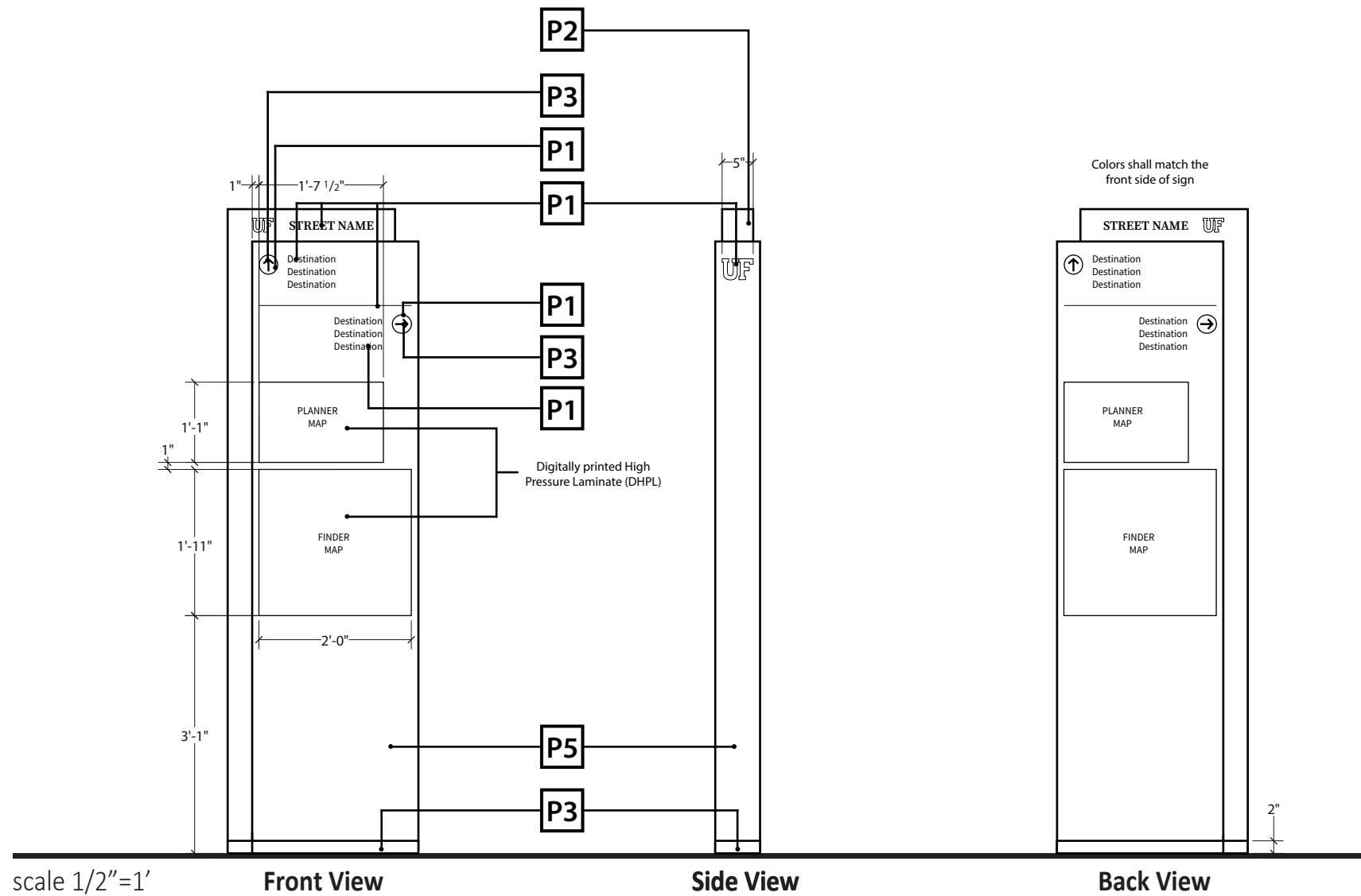
V3

V4

V5



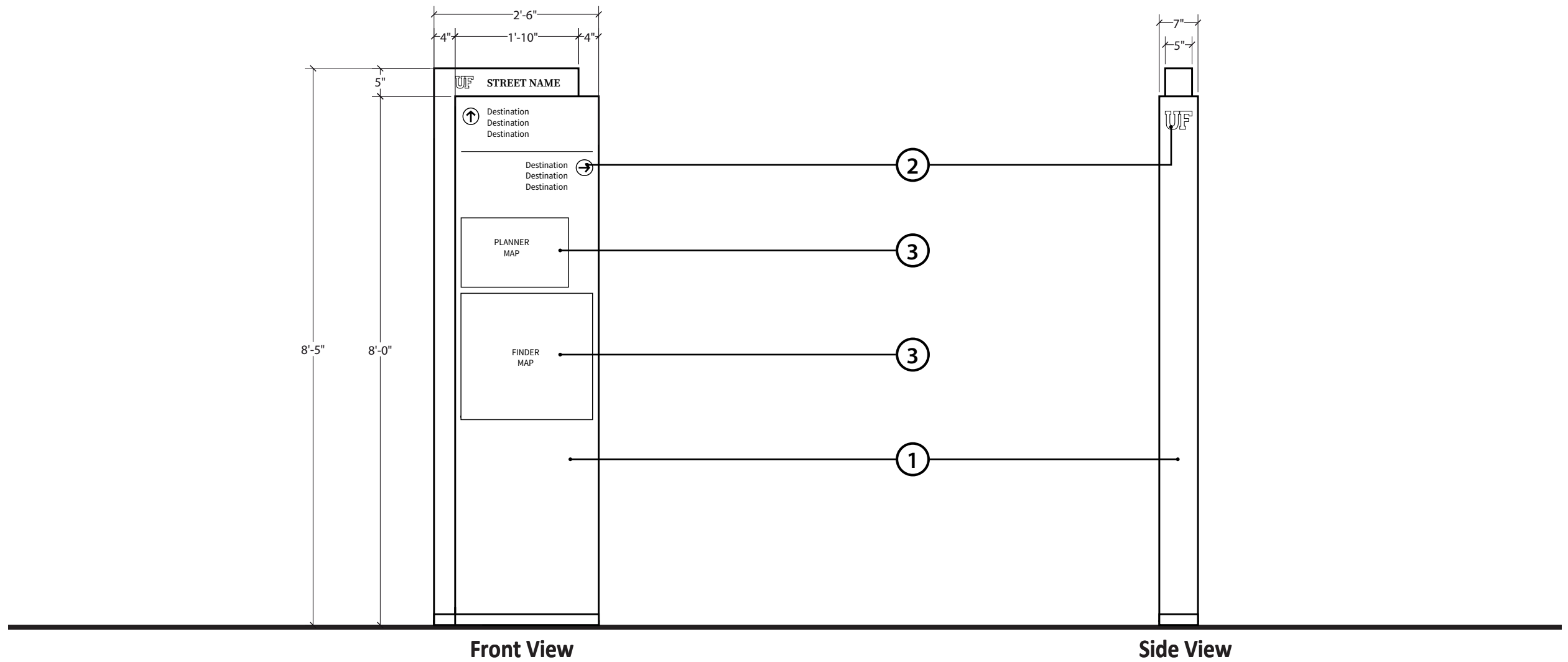
Graphic Detail - Sign Face
scale 1"=1'



**SIGN TYPE E1
PEDESTRIAN KIOSK**

Boxed aluminum sign (1) painted with Matthews automotive grade paint and UV inhibitive and anti-graffiti protective clear coat.

Sign face double sided painted with screen quality masked and painted copy and arrow (2). Wayfinding maps Digitally printed High Pressure Laminate (DHPL) graphic Panels (3). Foundation per Florida Building Code requirements.



P1

P2

P3

P4

P5

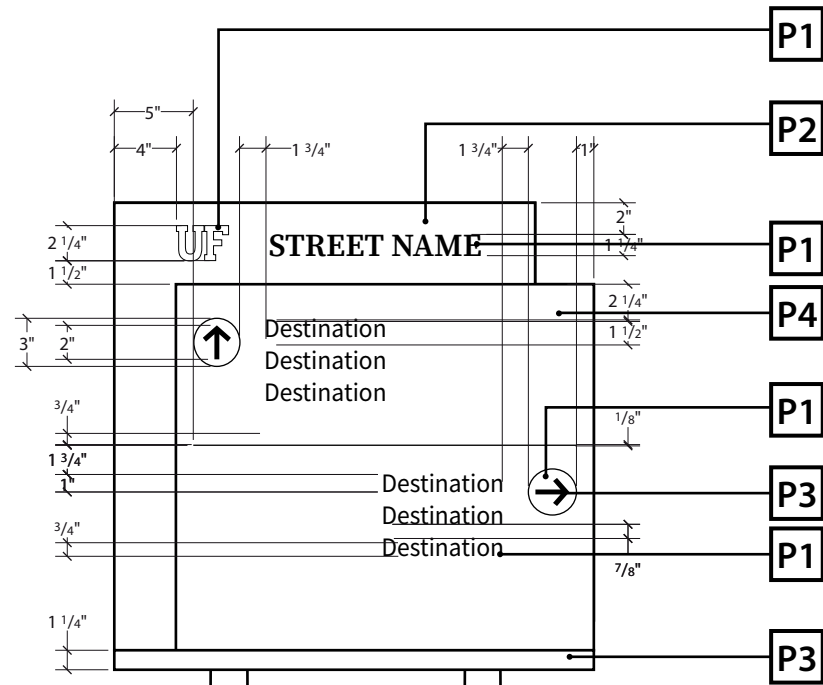
V1

V2

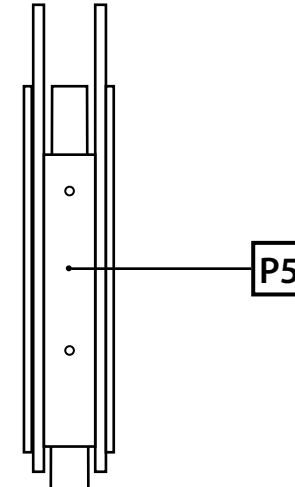
V3

V4

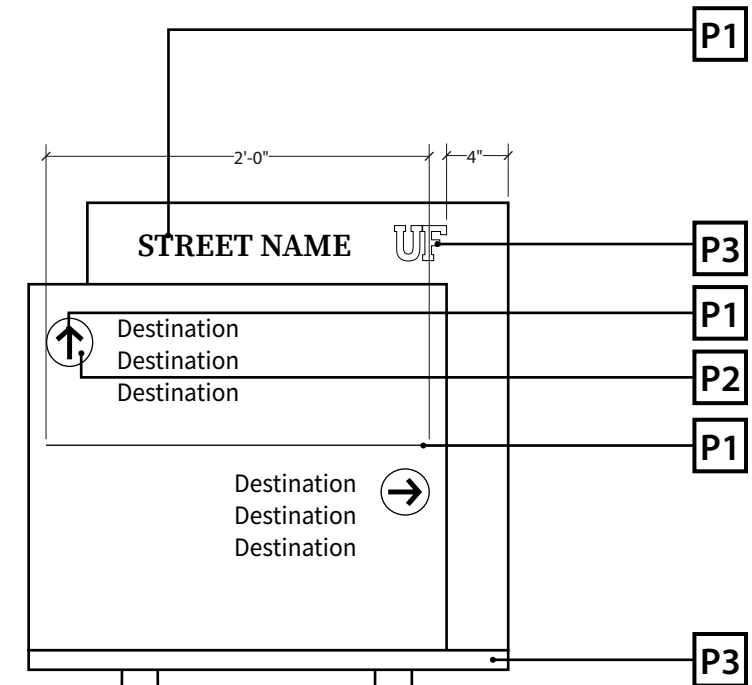
V5



Front View



Side View



Back View

scale 1"=1'



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 618 E. South Street Suite 700
 Orlando, Florida 32801
 T 407.423.8398
 gaiconsultants.com/communitysolutions

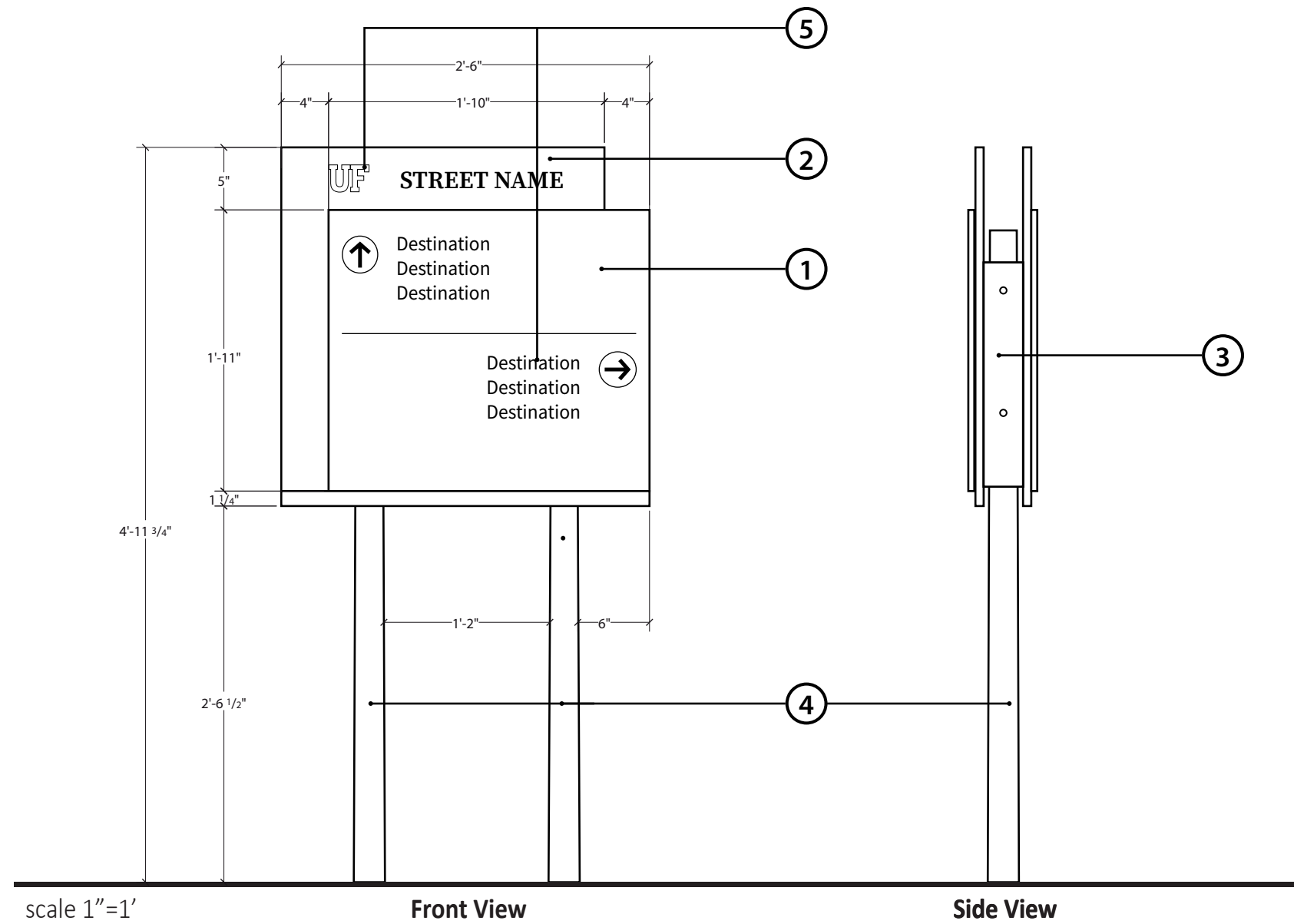
**SIGN TYPE E2
PEDESTRIAN DIRECTIONAL SIGN**

1/8" front aluminum panel (1) attached to 1/4" aluminum backing panel (2) using VHB tape and dp805. Custom bracket welded to back panel(3) mounted to 2" round aluminum double sign posts (4) painted with Matthews automotive grade paint and UV inhibitive and anti-graffiti protective clear coat.

Sign face double sided painted background color, copy and graphics (5). Foundation per Florida Building Code requirements.



Top View



P1

P2

P3

P4

P5

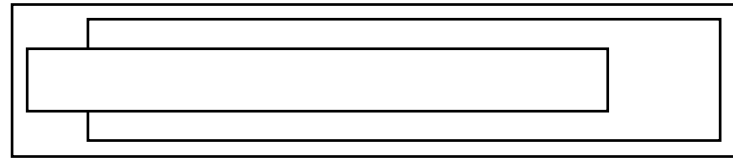
V1

V2

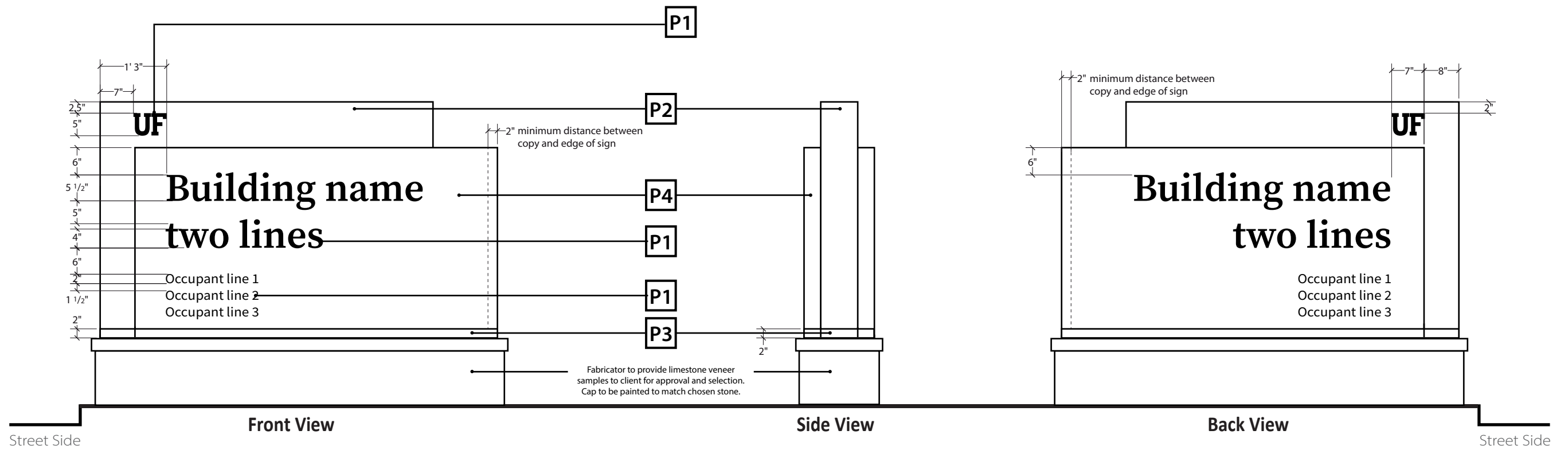
V3

V4

V5



Top View



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SIGN TYPE F
DESTINATION BUILDING ID SIGN - 1

Boxed aluminum sign (1) painted with Matthews automotive grade paint and UV and anti-graffiti protective clear coat on a base of precast limestone exterior veneer panels (2) attached to heavy gauge steel stud and frame/structure with a concrete cap (3).

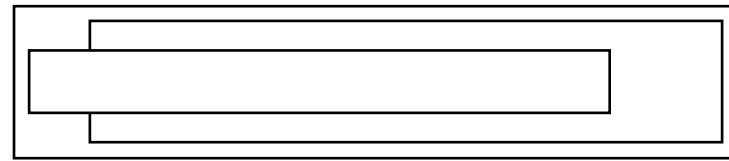
Sign face double sided painted background color, copy and graphics (4). Foundation per Florida Building Code requirements

USE GUIDANCE CRITERIA

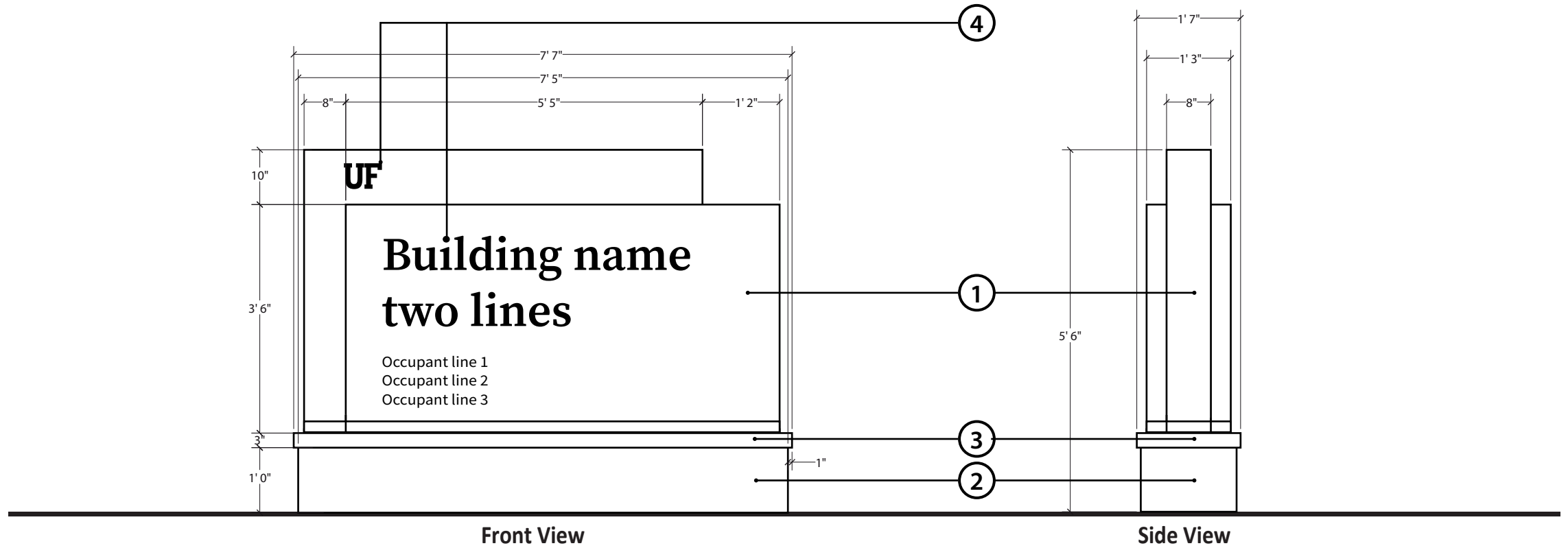
These sign types are reserved for the following:

1. Primary Destinations that are not also served by Marquee wayfinding signs.
2. Other UF Campuses and Sites such as East Campus and PKY Campus should be Type F with the exception that IFAS and other non-public sites may elect to use Type G or Type H.
3. College Identification Signs which may be combined with or proximate to the building that houses the College's Administrative functions. For example, the Florida Gym and Weimer Hall building signs that include identification of the College as the primary message along with the building name identification. Additionally, Colleges with multiple clustered buildings such as College of Business and College of The Arts, or Colleges with administration buildings that are integrated with other units such as College of Agriculture & Life Sciences and College of Dentistry may have a stand-alone College ID sign.
4. Other Public-Facing Administrative Buildings with Public Roadway Visibility including Tigert Hall and the 1329 Building.

The selection of Sign Type F or Sign Type G can be made by the user group based on aesthetic and budgetary considerations except as provided for in Criteria 2 for Other Campuses and Sites.



Top View



Front View

Side View

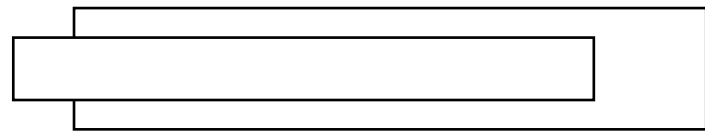
P1

P2

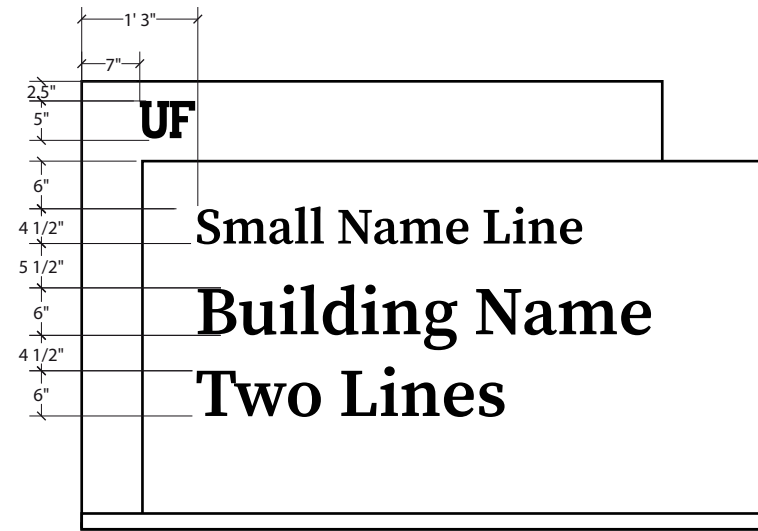
P3

P4

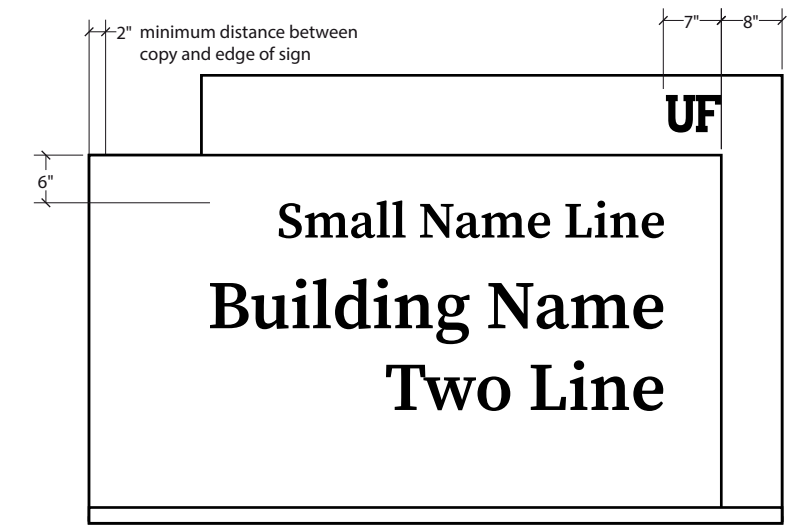
P5



Top View



Front View (Alt. Layout)



Back View (Alt. Layout)

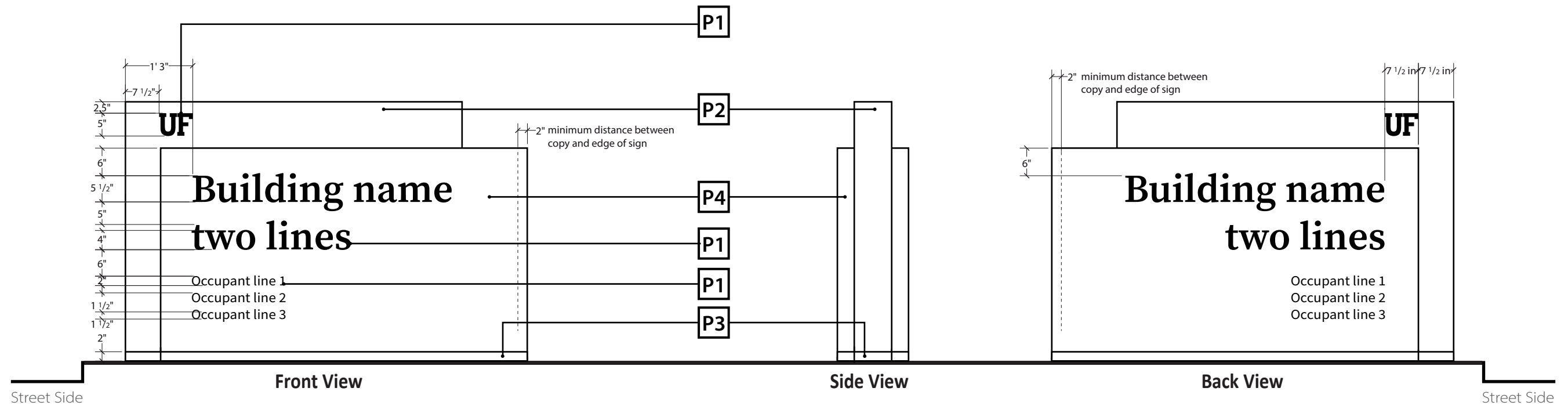
REVISED 12/13/2023

V1

V2

V3

V4



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SIGN TYPE G
DESTINATION BUILDING ID - 2

Boxed aluminum sign (1) painted with Matthews automotive grade paint and UV and anti-graffiti protective clear coat.

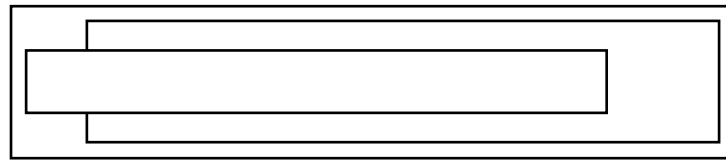
Sign face double sided painted background color, copy and graphics (2). Foundation per Florida Building Code requirements

USE GUIDANCE CRITERIA

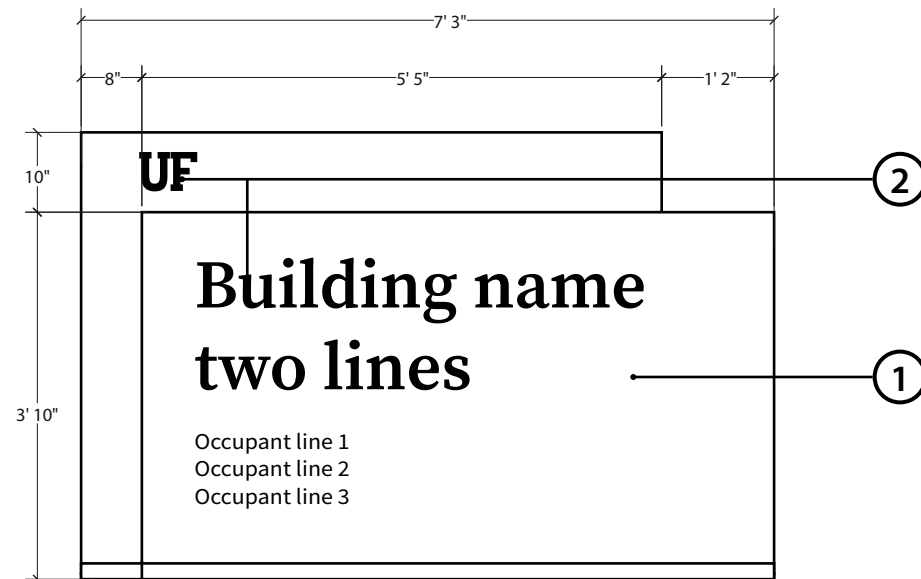
These sign types are reserved for the following:

1. Primary Destinations that are not also served by Marquee wayfinding signs.
2. Other UF Campuses and Sites such as East Campus and PKY Campus should be Type F with the exception that IFAS and other non-public sites may elect to use Type G or Type H.
3. College Identification Signs which may be combined with or proximate to the building that houses the College's Administrative functions. For example, the Florida Gym and Weimer Hall building signs that include identification of the College as the primary message along with the building name identification. Additionally, Colleges with multiple clustered buildings such as College of Business and College of The Arts, or Colleges with administration buildings that are integrated with other units such as College of Agriculture & Life Sciences and College of Dentistry may have a stand-alone College ID sign.
4. Other Public-Facing Administrative Buildings with Public Roadway Visibility including Tigert Hall and the 1329 Building.

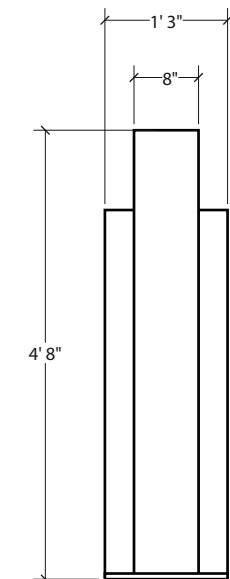
The selection of Sign Type F or Sign Type G can be made by the user group based on aesthetic and budgetary considerations except as provided for in Criteria 2 for Other Campuses and Sites.



Top View



Front View



Side View

P1

P2

P3

P4

P5

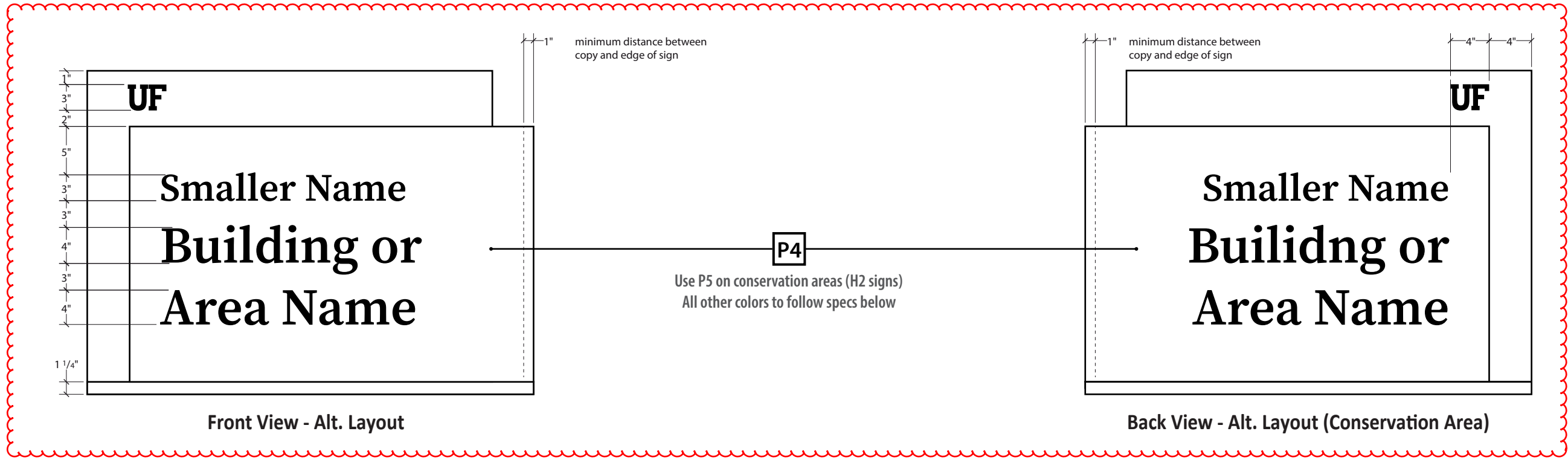
P6

V1

V2

V3

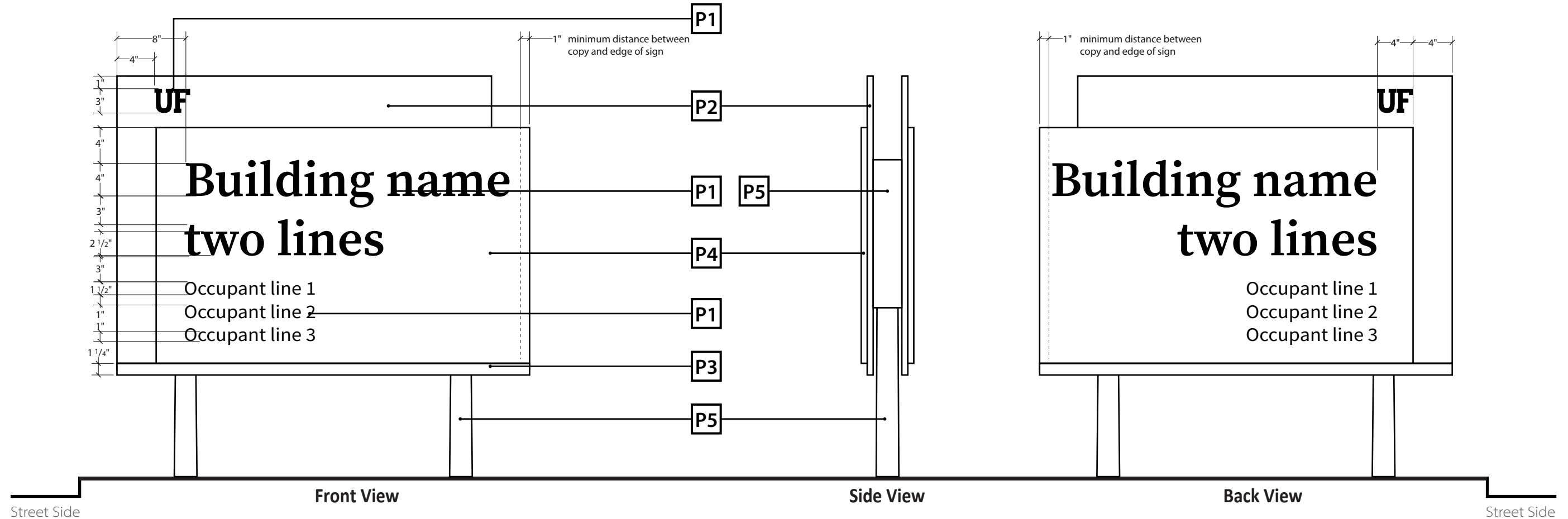
V4



Front View - Alt. Layout

Back View - Alt. Layout (Conservation Area)

REVISED 12/13/2023



Front View

Side View

Back View

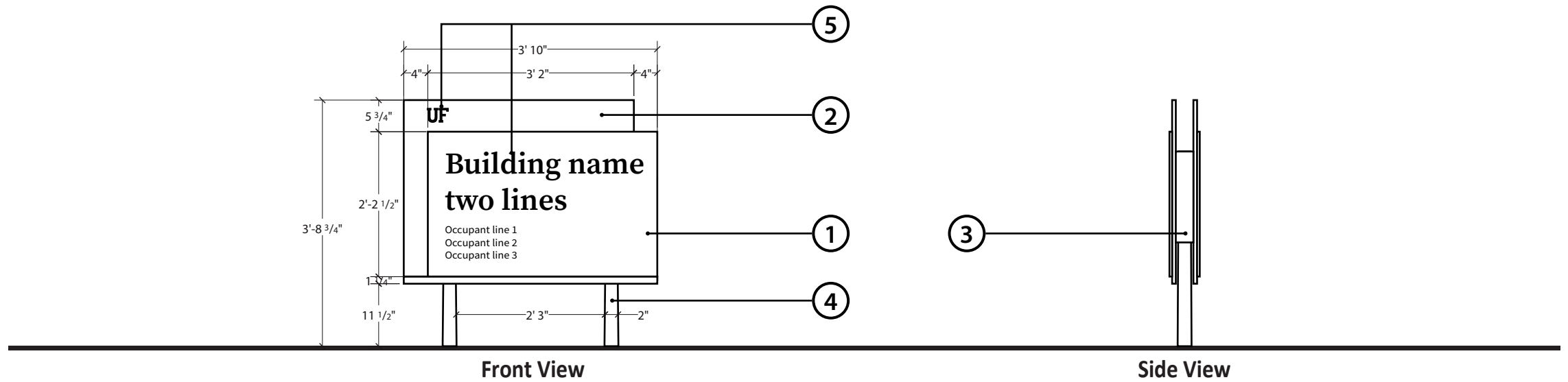
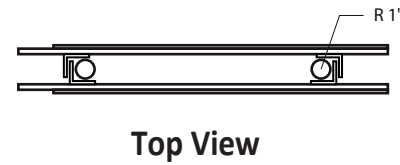
Street Side

Street Side

**SIGN TYPE H
CAMPUS BUILDING ID SIGN**

1/8" front aluminum panel (1) attached to 1/4" aluminum backing panel (2) using VHB tape and dp805. Custom bracket welded to back panel(3) mounted to 2" round aluminum double sign posts (4) painted with Matthews automotive grade paint and UV and anti-graffiti protective clear coat.

Sign face double sided painted background color, copy and graphics (5). Foundation per Florida Building Code requirements



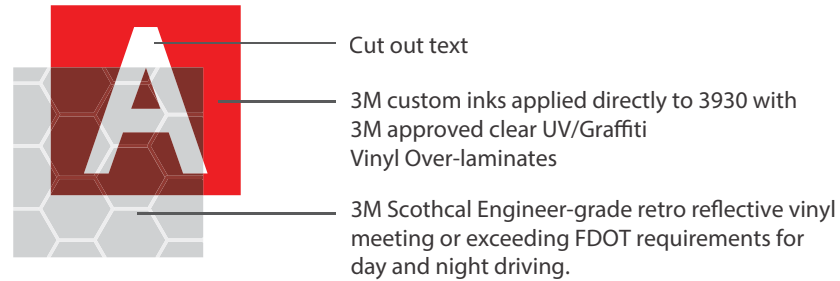
Sign Longevity	0-4 Years	5-9 Years	10-15+ Years
Design and Planning	Design: General Evaluation of positive and negative aspects of the system. Planning: UF In-house maintenance based on new request and circulation/destination updates.	Design: General Evaluation of positive and negative aspects of the system. Planning: Contract with a consultant to analyze major changes to the campus and necessary system adjustments. 1 or 2 updates possible during this time period.	If the system has not been analyzed since implementation, a major updating is likely to be needed. UF planner or consultants will be required to review and inventory the system, as well as make suggested changes based on new circulation, destinations, etc.
Vandalism	Annual cleaning/repair. Stickers and graffiti are most common. Cleaning solvents and Goo-Gone are typical products utilized.	Parts replacements and full sign replacement as needed. Cleaning solvents and Goo-Gone are typical products utilized.	Parts replacements / full sign replacement as needed. Cleaning solvents and Goo-Gone are typical products utilized.
Cleaning Schedule	Annual Cleaning	Annual Cleaning	Annual Cleaning
Management / Administration	Weekly coordination during initial installation, transitioning to quarterly between UF and fabricator during year 1 and 2. On-going day-to-day monitoring of the system, based on UF and Staff observations.	Annual coordination between UF and fabricator. Day-to-day monitoring of the system, based on Facilities observations, safety issues and citizens' reports.	Annual coordination between UF and fabricator. Day-to-day monitoring of the system, based on Facilities observations, safety issues and citizens' reports.
Breakaway Product: Transpo	Maintenance Free -Covered under Warranty for 3 years.	Maintenance Free - consider general review as part of yearly inspection process.	Maintenance Free - consider general review as part of yearly inspection process.
Reflectivity Life Span: 3M High Intensity Diamond Grade	Covered under warranty for 5-7 years.	Covered under warranty for 5-7 years. Reflectivity may be effective beyond the warranty period. Individual signs may require sheeting to be replaced during this time period.	Reflectivity becomes less effective, if not previously replaced. 10 – 15 years is the maximum lifespan.
Painted Surfaces	Covered under manufacturers warranty. General maintenance and touch-up will be required.	Warranty expires. Typically color holds up beyond warranty period. Fading may begin depending on the direction sign panel is facing. Individual signs may require individual parts to be replaced during this time period.	Fading occurs – based on direction sign panel is facing. 10 – 15 years is the maximum lifespan to expect.

CONSTRUCTION DETAILS

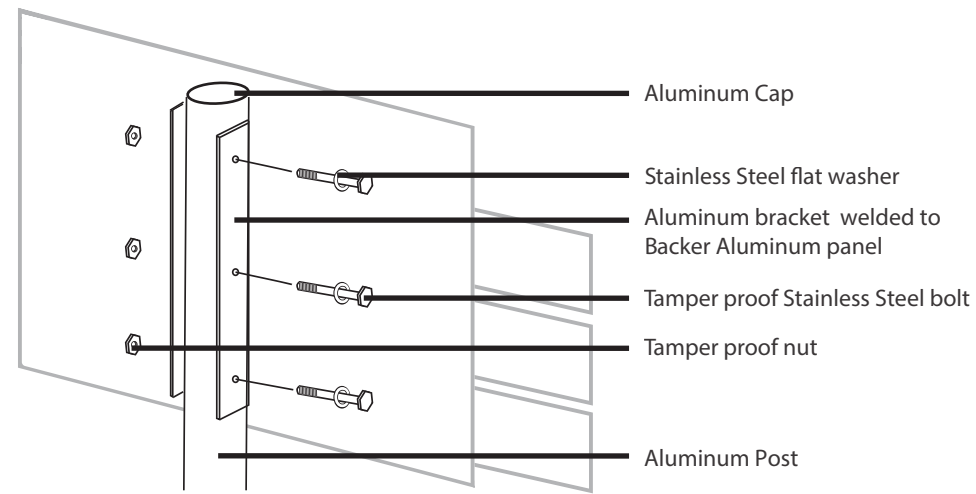
Attachment detail - Welded aluminum bracket to back of the sign and bolted to sign pole and vinyl overlay details for sign faces

These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.

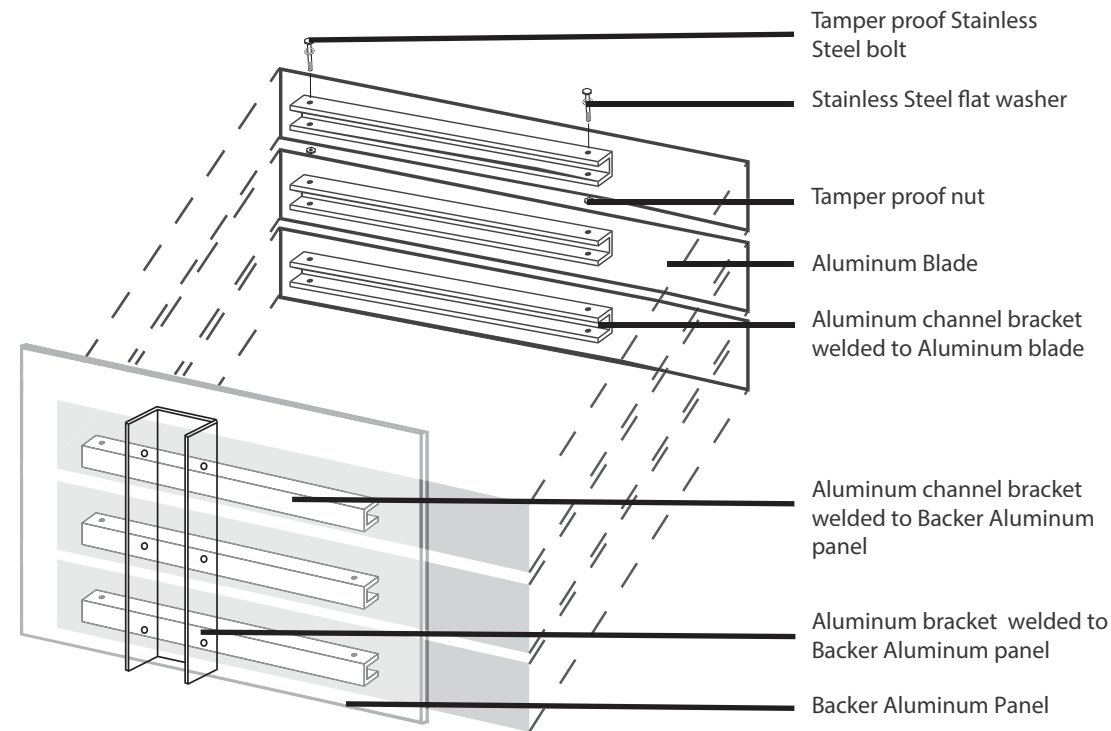
Detail Inset - Vinyl Overlay



Design Inset - Assembly

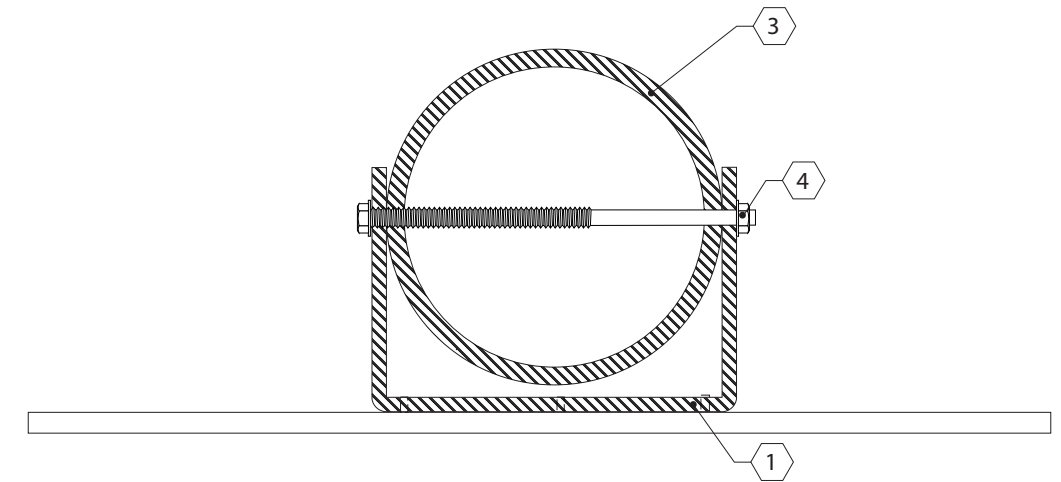


Graphic A

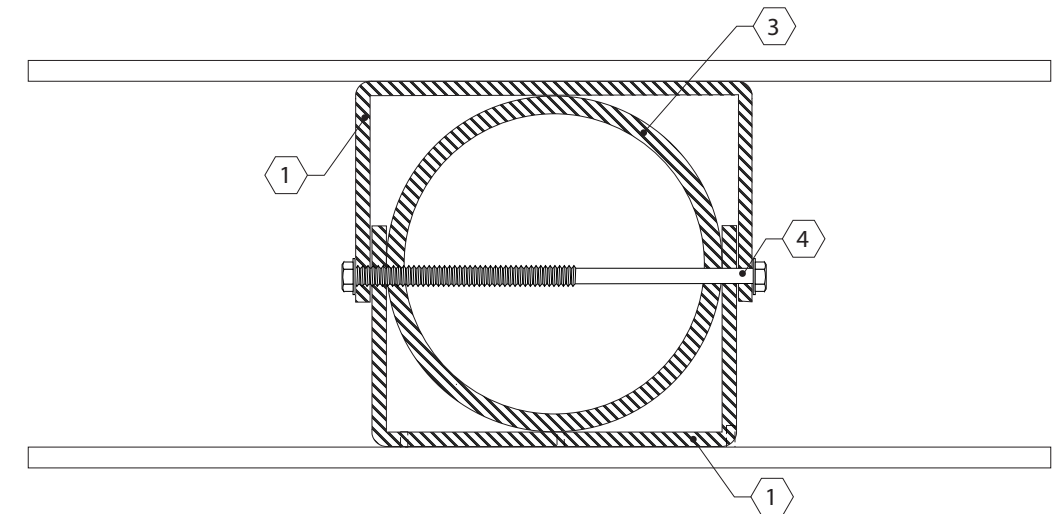


Graphic B

Section Detail - Single Sided Sign



Section Detail - Double Sided Sign



- ① Custom aluminum extrusion bracket plug welded to back of sign
- ② Aluminum sign face
- ③ Aluminum pole
- ④ Stainless steel through-bolt

CONSTRUCTION DETAILS

Detail of Frangible breakaway footer details

These drawings are meant for DESIGN INTENT ONLY and are not for construction.

PERFORMANCE CRITERIA:

1. Double-Neck Pole-Safe meets all requirements of "AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signals."

2. Double-Neck Pole-Safe has been crash-tested and FHWA approved in accordance with the requirements of NCHRP Report 350, "Recommended Procedures for the Safety Performance Evaluation of Highway Features."

3. Maximum Allowable Pole Mass = 450 kg (922 lb) (total including fixtures).

PHYSICAL PROPERTIES PER COUPLING:

1. Ultimate Tensile Strength = 221.5 kN (49.8 kips), minimum

2. Tensile Yield Strength = 192.0 kN (43.2 kips), minimum.

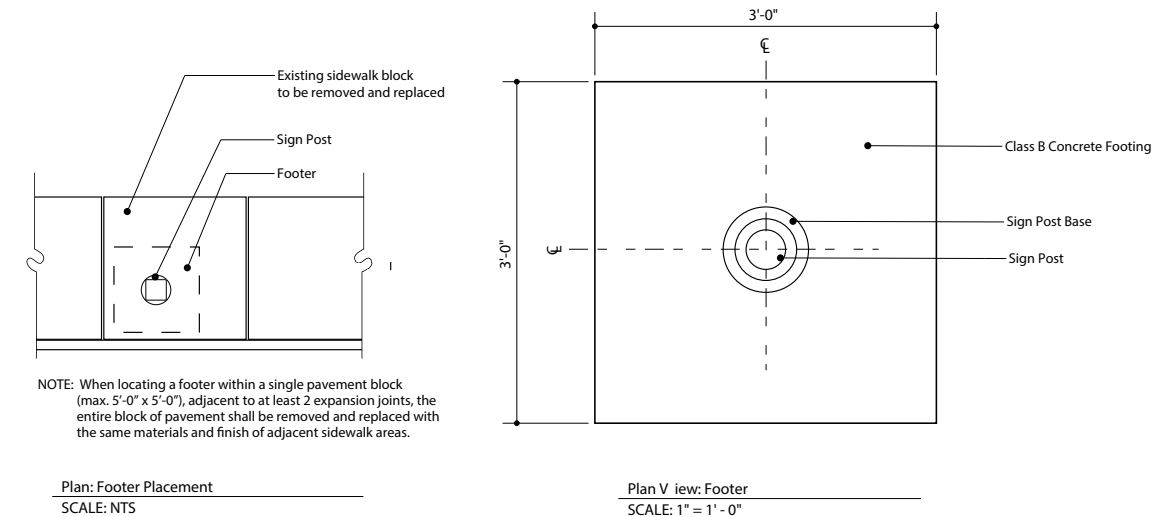
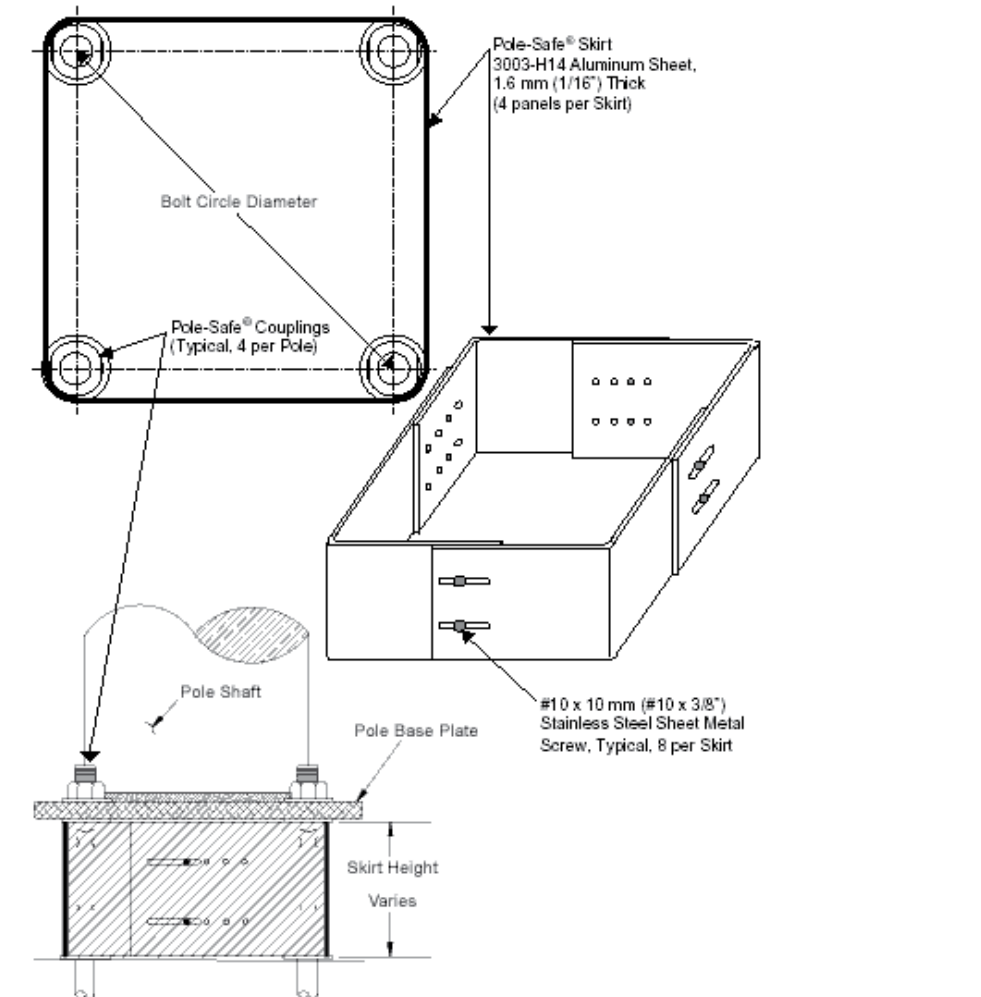
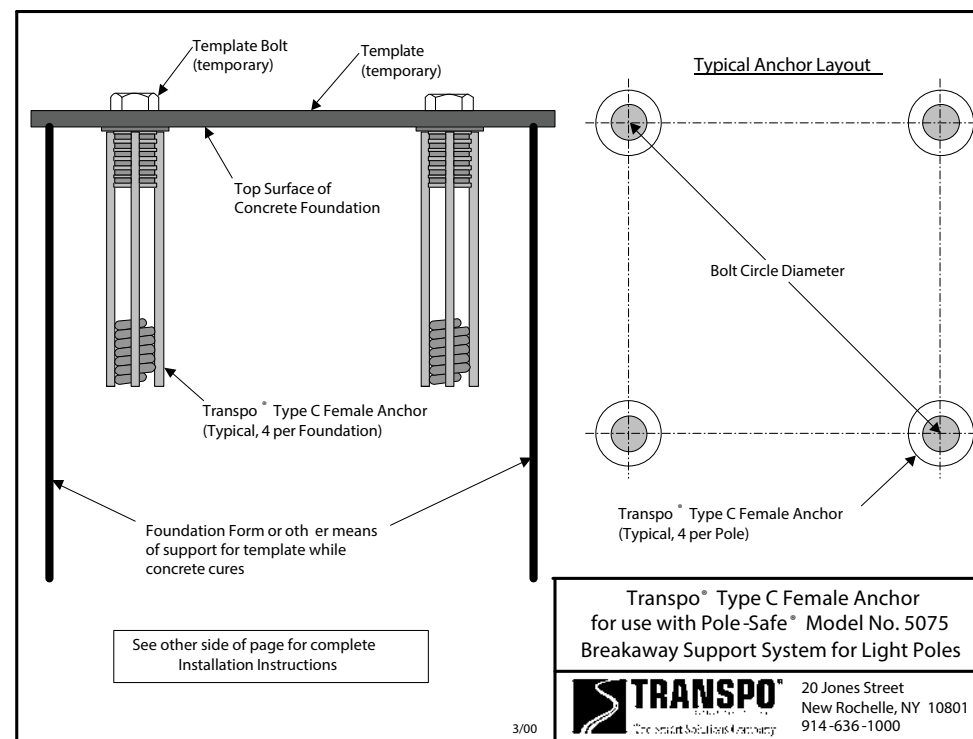
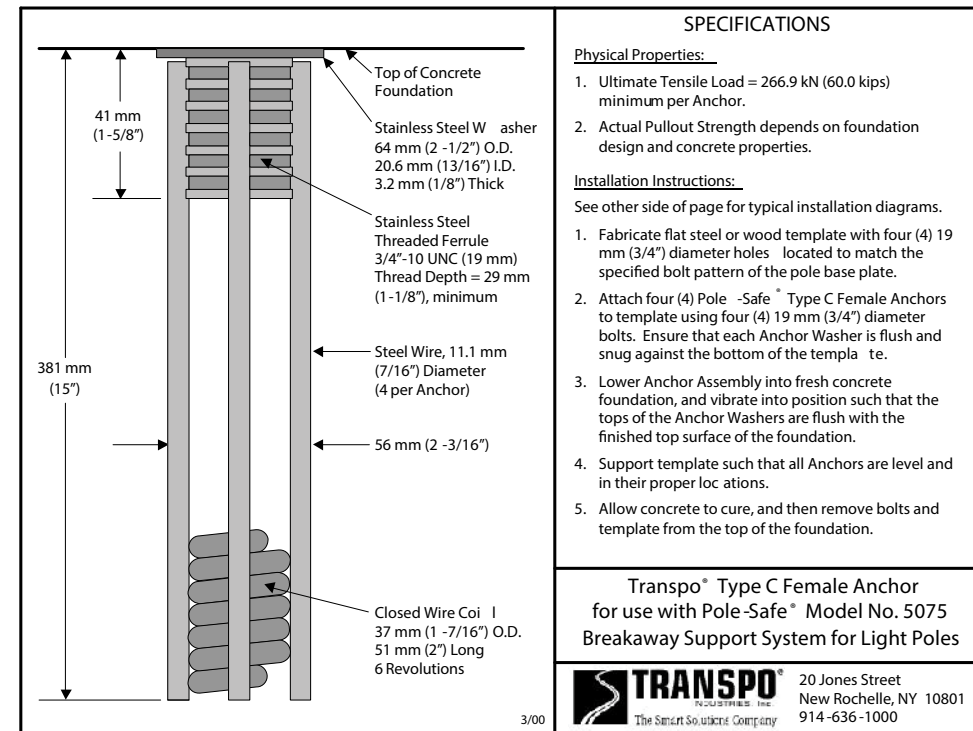
3. Ultimate Restrained Shear Strength = 24.5 kN (5.5 kips), maximum

CORROSION PROTECTION:

All Hardware items are American Standard sizes, galvanized in accordance with ASTM A153 (hot dipped).

Source: *Transpo Industries, Inc.*

For vehicular signs mounted on FDOT roads - Per DOT requirements



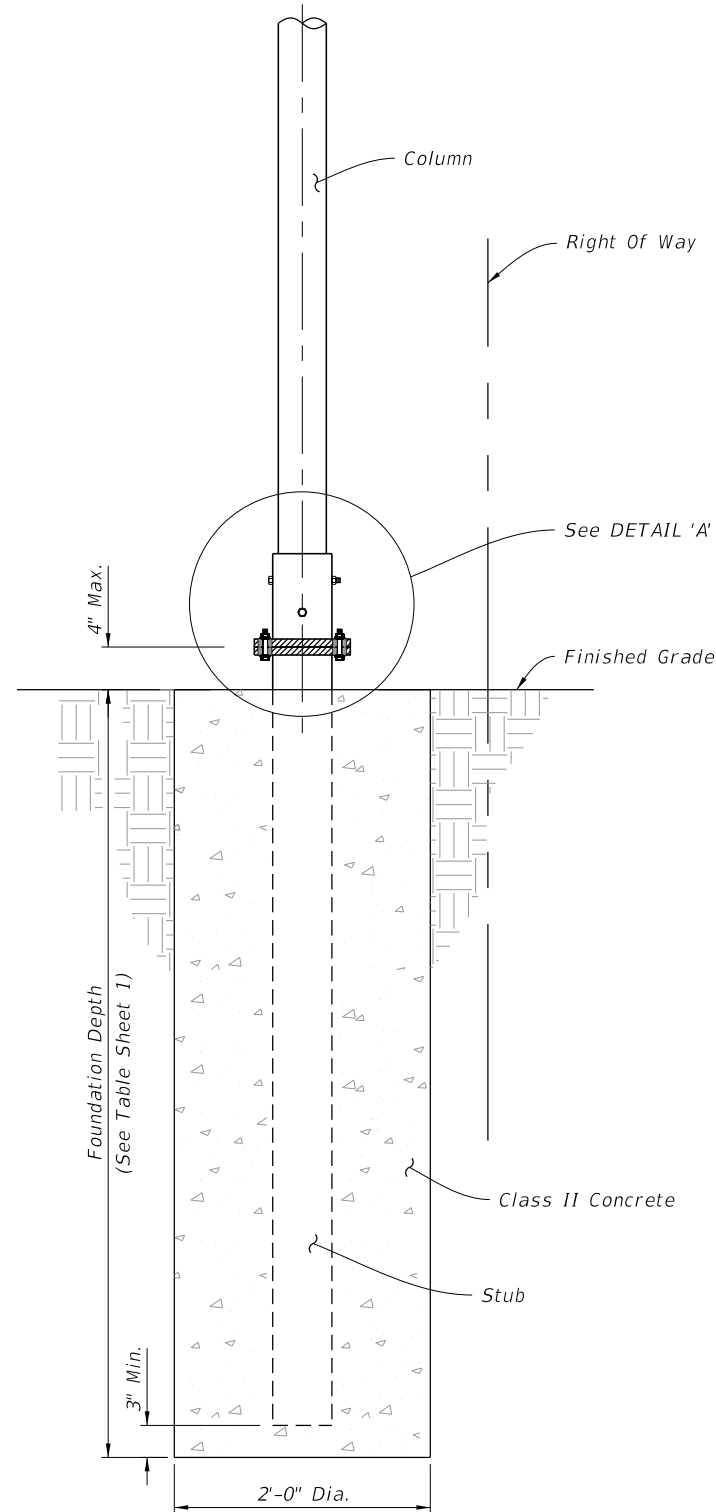
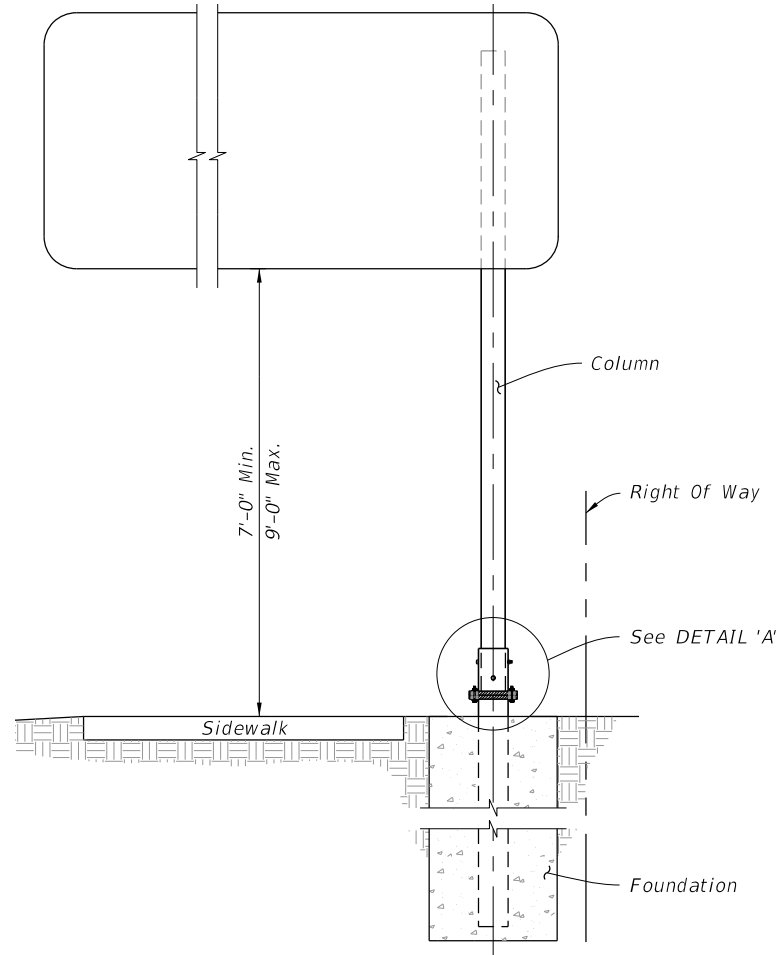
CONSTRUCTION DETAILS

For vehicular signs mounted on FDOT roads - Per DOT requirements

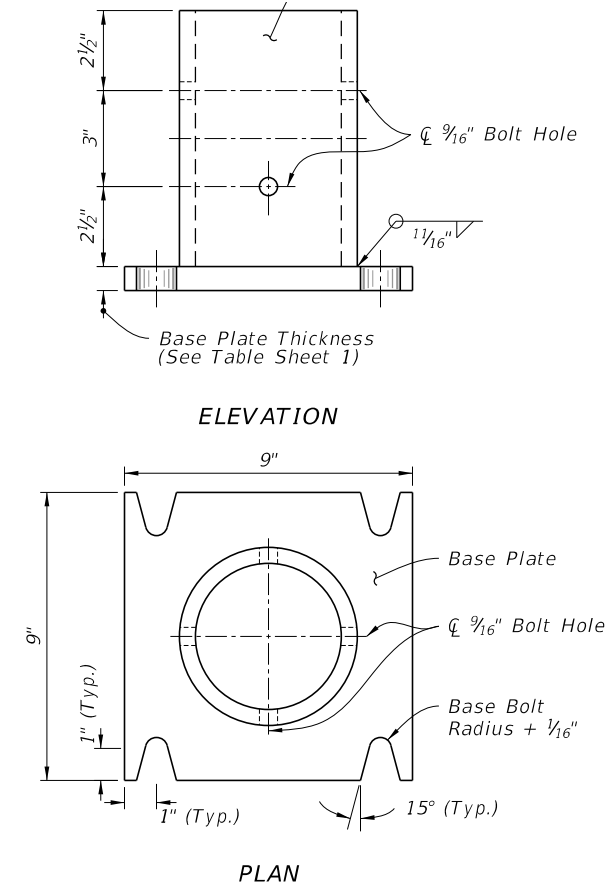
Detail of Frangible breakaway footer details

These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.

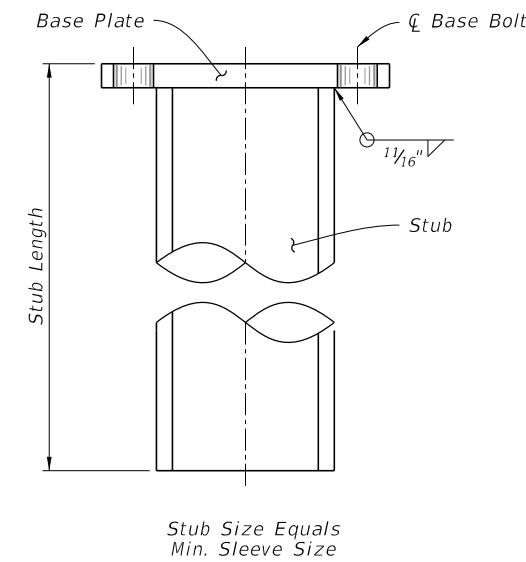
Source: FDOT Standard Plans FY 2022-23 Index 700-011



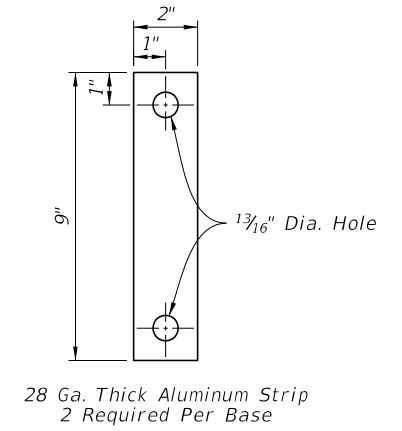
BASE AND FOUNDATION DETAIL



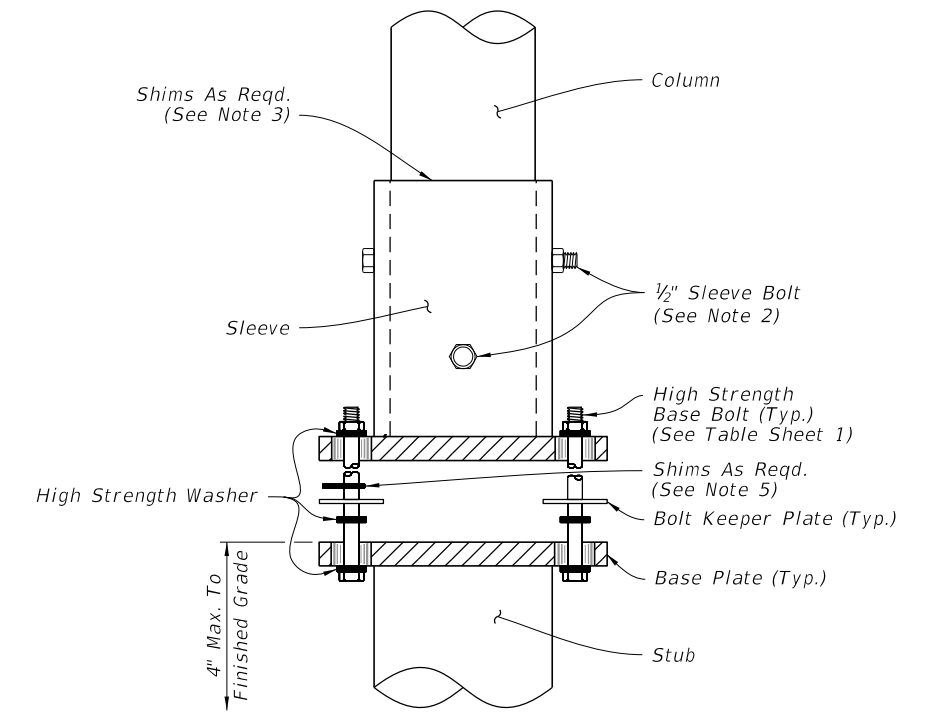
SLEEVE & BASE PLATE DETAILS



STUB DETAIL



BOLT KEEPER PLATE DETAIL



DETAIL 'A'