Signage Standards and Guidelines

Exterior Sign System
100% Design Intent

November 21, 2017

Updated February 27, 2018

EYP/ STANLEYBEAMAN & SEARS
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**DRAWING SHEET**

**SG.001**

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**Project Data**

- **Project Number:** 6017028-01
- **Project Name:** Georgia Institute of Technology North Ave NW, Atlanta, GA 30332
- **Date:** 11/21/2017

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**Title:**

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**PAINT SPECIFICATIONS**

- **P1** WHITE, PAINT TO MATCH PANTONE 000C SW-7100 ARCADE WHITE
- **P2** MATCH PMS 445C OR 3M-7725-41 DARK GRAY SW-6223 STILL WATER
- **P3** PAINT TO MATCH PANTONE 424C SW/DURON 8643 TRAM GREY
- **P4** PAINT TO MATCH PANTONE 7541TC SW/DURON 8640 CREATIVE WHITE
- **P5** PAINT TO MATCH PANTONE BLACK C SW-6258 TRICORN BLACK
- **P6** PAINT TO MATCH GEORGIA TECH BRONZE TONE (SW-7048 URBANE BRONZE)
- **P7** PAINT TO MATCH PANTONE 2727C SW-9962 DAZZLE
- **P8** PAINT TO MATCH PANTONE 374C SW-6920 CENTER STAGE
- **P9** PAINT TO MATCH PANTONE 265C SW-6831 CLEMATIS
- **P10** PAINT TO MATCH PANTONE 284C SW-6794 FLYWAY

**NOTE:**
1. Apply clear coat, satin finish, with UV protection to all sides of all exterior signs.

**MATERIAL AND FINISHES SPECIFICATIONS**

- **M1** 3M OPAQUE GRAPHIC FILMS BLACK 7725-12, 7125-12
- **M2** 3M OPAQUE GRAPHIC FILMS INTENSE BLUE 7725-47, 7125-47
- **M3** (PRINTED VINYL) 3M SCOTCHCAL GRAPHIC FILMS IJ3650-10 3M SCOTCHCAL MATTE OVERLAMINATE 8520 PRINTED WITH UV RESISTANT INKS
- **M4** 3M OPAQUE GRAPHIC FILMS INDIGO 7725-27, 7125-27

**NOTE:**
1. Apply clear coat, satin finish, with UV protection to all sides of all exterior signs.

**Project Colors & Finishes**

- **ABCDEFHJKLM NOPQRSTUVWXYZ**
  - abcdefghijklmnopqrstuvwxyz 1234567890

**Project Typefaces**

- **Frutiger LT Std-65 Bold**
- **AbCDEFGHIJKLMNOPQRSTUVWXYZ**
  - abcdefghijklmnopqrstuvwxyz 1234567890

- **Frutiger LT Std-55 Roman**
- **AbCDEFGHIJKLMNOPQRSTUVWXYZ**
  - abcdefghijklmnopqrstuvwxyz 1234567890
SECTION 10400 - SPECIFICATIONS

PART 1 GENERAL

1.1 RELATED DOCUMENTS: Drawings and general provisions of Contract or purchase agreement, including General and Supplementary Conditions and Division 1 Specifications sections (Refer to architectural specifications and contract requirements for this project which are part of the architectural construction documents), apply to this section. The work covered in this section consists of providing signs and graphics as shown in the drawings or where scheduled and comprising the interior and exterior sign systems. Contract Documents consist of the drawings, including any supplementary engineering drawings, specific product/manufacturer drawings, the sign locations plans, and the message schedule adjoining this specification section 10400. Any general provisions of Contract, including General and Supplementary Conditions, Division 1 Specifications sections, as applicable to this section, would also be considered as part of the contract documents.

1.2 PROPRIETARY RIGHTS: All proprietary rights in the subject matter of the material in the accompanying drawings, descriptions and specifications, and rights to the material itself are reserved to the submitter’s use. Reproduction, loaning or transmitting of the descriptions, specifications or drawings without consent in writing of the Architect is not permitted. Acceptance of the specifications and drawings denotes acceptance of these conditions.

1.3 SUBMITTALS: The following outlines submittal requirements unique to this section of the work, especially shop drawing content and samples: Other requirements from Division 1, Shop Drawings and Submittals section would apply (Refer to architectural specifications and contract requirements for this project which are part of the architectural construction documents).

A. Shop drawings:

1. Submit complete shop drawings for manufactured and fabricated items. Indicate materials, layouts, sizes, methods, finishes, footings and anchorage devices, connections and other details of construction, as well as the relation to supporting and adjacent work where applicable. Identify coatings on the shop drawings along with the method of application. Create and confirm layout conditions not shown on the contract documents.

   a. Identify all pre-fabricated products proposed for use.
   b. Indicate manufacturer, brand name, quality and type coating for each surface to be finished or refinishing.
   c. Submit complete shop drawings and erection drawings conforming to all current applicable industry standards and local codes. Preparation of shop drawings shall not be sublet without the written permission of Owner.
   d. After award of contract, but prior to the beginning of detailed shop drawings, submit drawings showing typical details of connections. The Contractor shall arrange to meet with Architect and Owner’s representative approximately one (1) week after submittal to review drawings and coordinate comments.

   e. The Contractor shall submit drawings of sign connections and suspension details; computations shall be prepared and checked by a Registered Professional Engineer in Florida covering all members, connections (welds, bolts, etc.) and footings, indicating such meets the Design Specifications for Sign Structures stress requirements and dead load deflection tolerances, design computations and drawing accuracy.

   f. Specify procedures for the relocation and refinishing of any existing elements, and provide a schedule or clearly outlined plan for the logistics associated with these operations.

B. Samples: Submit four samples of each of the following, unless otherwise specified:

1. Finishes:

   a. Submit 4” x 4” samples of each finish specified, this includes those used in re-finishing on site or off site as well as new finishes applied in the shop.
   b. Surface-applied graphics shall be on actual substrate upon which they will appear; thus vinyl materials shall be applied appropriately to both painted and other vinyl backgrounds as specified in the drawings.
   c. Hardware items: Submit samples of each type of anchor, insert or other fastener to be used, these will be returned to Contractor.

C. Prototypes: Submit for review, approval and demonstration of representative craftsmanship one sign unit (or partial sign as indicated) of the following sign types, to be reviewed and retained for comparison.

1. Sign Type XA (Sheet SG.1) Full Sign, if approved may be installed.
2. Sign Type XB.1 (Sheet SG.3) Full Sign, if approved may be installed.
3. Sign Type XJ1 (Sheet SG.4) Full Sign, if approved may be installed.

   Prototype samples shall be retained as control samples. Written approvals or comments shall be furnished.

D. Maintenance data: Submit maintenance recommendations and instructions for each material used as part of contract close-out. Include recommendations for cleaning procedures, intervals and touch-ups.

E. Scheduling: Submit the final schedule for construction of work and installation within ten (10) days of sample approvals. Indicate dates of completion for prototypical units for a approval, dates of partial deliveries and total completion. Dates given shall be consistent with the time requirements submitted with the bid.
1.4 DELIVERY, STORAGE AND HANDLING

A. Store materials where directed by Owner or owner’s representative.
B. Maintain neat, clean conditions in all building areas; remove trash, rags and waste materials at end of each day’s work. Protect the floor and wall surfaces of this space against damage or defacement.
C. Close any open containers at end of day’s work. Leave no materials open.
D. Acrylic and other glazing materials or finish materials with or requiring protective wrapping shall only have this protection removed as required during fabrication and installation and once the area is clear of work or activities which might cause damage to the installed work. Care shall be taken in handling surfaces and products to prevent scratching, chipping, or cracking.
E. Protection: Cover finished work of other trades and/or the existing property of the Owner and/or pre-finished items and surfaces.
F. Store materials a minimum of 4” above ground on framework or blocking and cover with protective waterproof covering. Provide air circulation and ventilation. Store in dry, conditioned space.

1.5 QUALITY CRITERIA

A. Acceptable fabricators shall meet the following criteria:

1. Sign contractors and/or subcontractors shall have been regularly engaged in the manufacture, fabrication and installation of sign systems of comparable scope and quality for a minimum of five (5) years and shall have completed at least one project of similar scope and complexity in the last three years.
2. Sign contractors and/or subcontractors shall submit a minimum of five (5) references listing project type, scope of work, Owner and date of completion, Owner’s address and telephone number.
3. Sign contractors and/or subcontractors shall submit one (1) set of shop drawings as a representative sample of those prepared for a previous project.

B. Welders qualifications:

1. Welders, welding operators and tackers shall be qualified by tests in accordance with the American Welding Society (AWS) Code by an independent agency. Any welder, welding operator or tacker who has not used the process for which he has been qualified for over six (6) months shall be re-qualified.

C. Industry segments: Where referenced in this section, the work shall comply with requirements of the following standard specifications, unless otherwise specified.

3. American National Standards Institute (ANSI)
6. Americans with Disabilities Act (ADA) Design Guidelines (ADADG)
7. Concrete Reinforcing Steel Institute (CRSI)

1.6 JOB CONDITIONS

A. Field measurements: Take field measurements to ascertain exact sizes before fabrication. Indicate exact dimensions on shop drawings. Field verify all locations specified by the drawings or any condition considered questionable, unclear or not drawn to scale.

B. Environmental requirements:

1. Comply with manufacturer’s recommendations regarding environmental conditions under which materials may be applied.
2. Apply no adhesive or coating materials in spaces where dust is being generated.

C. Coordination: Coordinate work with the Owner and the work of other sections of the project to ensure that surfaces to receive signs are properly completed, inspected, and approved prior to commencement of work. Commencement of work in any space shall constitute acceptance by the Contractor of surfaces to receive dentifying devices.

1.7 WARRANTIES

A. Warrant the joints in laminated constructions for a period of five (5) years from Date of Substantial Completion against failure or delamination.
1. Test reports required are:
   a. Rate of Burning (ASTM D 635)
   b. Self-Ignition Temperature (ASTM D 1929)
   c. Density of Smoke (ASTM D 2843)

2.2 QUALITY ASSURANCE

A. Manufacturers Qualifications

1. Materials and systems shall be manufactured by a company continuously and regularly employed in the manufacture of specified materials for a period of at least three (3) consecutive years and which can show evidence of those materials being satisfactorily used on at least three (3) projects of similar size, scope and location. At least one (1) of the projects shall have been successful for use one year or longer.

2. Manufacturer must offer a documented reclaim process that will take back, at the manufacturers cost, panels that are at their end of life cycle. Return process is preceded by following requirements highlighted in Section 02 42 00 Removal and Salvage of Construction Materials.

3. Manufacturer must have documented training and qualification

B. Product Data: Submit manufacturer’s product data; include product description, specification section 01 33 00 “Submittal Procedures”.

2.3 FABRICATION - GENERAL NOTES

A. General: Comply with requirements indicated for materials, thicknesses, finishes, colors, designs, shapes, sizes, attachment methods, chassis specifications and details of construction.

B. Clear Protective Finish: All signs, unless noted otherwise on design drawings, will have a satin clear coat applied over the paint color. For interior ADA signs, this clear coat shall cover all tactile copy and braille. Clear coat shall be compatible with paints. Refer to Section “2.7 Coatings, paragraph L”.

C. Preassemble: Preassemble signs in the shop to the greatest extent possible to minimize field assembly. Disassemble signs only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation, in a location not exposed to view after final assembly.

D. No Visible Fasteners: Conceal fasteners if possible; otherwise, locate fasteners to appear inconspicuous. Fasteners should not occur on the face of a sign, unless this is documented with an approved shop drawing. Fasteners should be located on sign returns whenever possible if they cannot be concealed. If fasteners will be visible, detail on shop drawing submittal for review and approval prior to fabrication.

E. Countersink Fasteners: Any exposed fasteners shall be countersunk, flush with surrounding area. If this is not possible, detail on shop drawing for review and approval prior to fabrication.

F. Paint Exposed Fasteners: Always paint any exposed or visible fasteners to match the
surrounding sign material finish.

G. Form Panels to Required Size and Shape: Comply with requirements indicated for design, dimensions, finish, color, and details of construction.

H. Joints and Seams: Coordinate dimensions and attachment methods to produce sign panels with closely fitting joints. Align edges and surfaces with one another in the relationship indicated.

I. Welds: Ensure welds joints are smooth, alignment gaps are filled, and smoothed prior to finishing.

2.4 ACCESSORIES:

B. Anchors and fasteners:

1. Anchors, inserts or fasteners shall be compatible with sign materials, shall not result in galvanic action or chemical interaction of adhesives and shall have demonstrable and sufficient strength for intended use.

2. Anchors and fastenings for aluminum shall be stainless steel, zinc or cadmium coated steel. Anchors and fasteners shall be concealed where possible. Indicate locations on shop drawings.

3. Anchors and fastenings for exterior use shall be galvanized steel in accordance with ASTM A153-82.

4. Wherever possible, anchors to concrete and masonry shall be cast-in-place. Use expansion shields where anchors cannot be located before concrete is poured.

5. Fasteners to solid masonry and concrete shall be one of the following:
   a. flat-head drop-in expansion bolts.
   b. Powder-actuated fasteners; appropriate size drive pin for concrete and for masonry.
   c. Fasteners to cells of hollow masonry shall be drive pins of the appropriate size.
   d. Fasteners to roll or formed steel members shall be powder-actuated fasteners of the appropriate size.
   e. Fasteners to metal deck shall be self-drilling, self-tapping screws.
   f. Expansion shields shall be machine bolt type, tubular type, or self-drilling tubular type.
   6. Anchor bolts for wood blocking to concrete and masonry shall be the appropriate size steel for masonry, unless otherwise noted, and provided with washer and nut at both ends.

7. Anchor bolts for wood blocking to steel members shall be appropriate size steel and provided with washer and nut.

8. Provide miscellaneous anchors and fasteners as required to secure work in place.

9. Versilek® brand (mfr.: Lord Industrial Adhesives) or an approved equal shall be used as a structural adhesive for aluminum and may be employed in the concealed fastening of components for signs. Follow manufacturer’s instructions for the correct formulation, preparation and procedures.

D. Non-shrink grout:

1. Non-shrink Grout: Use a premixed, factory-packaged, non-staining, non-corrosive, non-gaseous grout specifically recommended by manufacturer for applications such as those in this project.

2. Place grout under bearing surfaces after they have been aligned and leveled. Completely fill space so as to give full and even bearing. Prepare concrete surfaces, mix and apply grout under full and even bearing. Prepare concrete surfaces, mix and apply grout and cure in accordance with the grout manufacturer’s printed in instructions for the purpose intended.

2.5 COATINGS (PAINTS):

A. Acceptable manufacturer: Except as otherwise noted, products specified as a standard of quality in the industry of manufacturing and fabricating signage shall be those manufactured by Matthews Paint Company, an acrylic polyurethane, UltraLow (<50g/L) VOC and lead-free coating system (or equal).

B. Miscellaneous materials:

1. Paint thinners and tints shall be products of same manufacturer as paints or approved by manufacturer for use with their products.

2. Shellac, turpentine, patching compounds and similar materials required for execution of work shall be pure, best quality products.

3. As required by governing law, compounds used in finishing products shall be free of Volatile Organic Compounds (VOCs) and meet all environmental requirements for manufacture, handling, application and disposal of materials.

C. Colors: Sign colors shall match approved samples and shall be exactly as specified in unit descriptions. Sign colors shall be consistent in chroma and value, shall maintain proper opacity or translucency and shall be free of all imperfections.

D. Finishes: Sign finish shall be satin and not exceed 15 degrees of gloss for all ADA compliant signage. All other sign finishes shall be satin unless noted
otherwise in design drawings. Sign finish shall be smooth and free of all imperfections.

E. Paint selection: Paints and inks required shall be made for the surface material on which they are to be applied and as recommended by the manufacturer of the paint or ink. Exact identification of paint and ink shall be noted on the shop drawings with method of application. Prime coats or other surface pre-treatments, where recommended, shall be included in the work. Select sign paint finishes for durability and resistance to graffiti.

F. Preparation:

1. Surfaces to receive finishes shall be free of debris, oils, dust or other deleterious materials.

2. Previously painted masonry:
   a. Where existing paint is loose or blistered, remove by scraping
   b. Remove debris and chalking from surfaces after scraping, by washing with detergent and water. Flush with clean water.

3. Galvanized metals: Wash with an appropriate solvent to remove grease, oil and contaminants. Wipe dry with clean cloth.

4. Ferrous metals: Prepare surface by removing loose mill scale, rust, accessible slag or flux deposit, dirt or any foreign matter by power brushing. Remove oil and grease deposits by solvent.

5. Aluminum:
   a. Sand or scrape to remove oxide.
   b. Remove grease and soil in a solution of detergent.
   c. Etch surface of aluminum in a sodium hydroxide solution 4 to 5 ounces per gallon at 60 C for 6 minutes.
   d. Deoxidize in a nitric oxide base chromate solution at room temperature. Vary time according to type of aluminum alloy used.
   e. At room temperature, rinse in clear running water between each step above.
   f. Apply appropriate aluminum compatible primer.
   g. Paint surface as soon as possible after drying.

G. Application:

1. Apply paint, sealers and spackles only when moisture content of surfaces is 12% or less for interior wood.

2. Apply paint when the relative humidity is below 85% and ambient temperature is above 55 F.

3. Apply paint materials using clean brushes, rollers or spraying equipment.

4. In general, paint application shall be by brush or airless spray. Paint applications by brushing shall be free of objectionable brush marks. All applications must meet approval of the Architect with representative sample submittals.

5. Apply materials at rate stated on label placed on can by paint manufacturer for the type of surface being painted.

6. Comply with manufacturer’s recommendations for drying time between coats.

7. Sand and dust between coats to remove defects visible from a distance of 3'-0".

8. Finish coats shall be smooth, free of brush marks, streaks, laps or pile-up of paint.

9. Make edges of paint adjoining other materials or colors clean and sharp without overlapping.

10. Primer coats may be omitted for surfaces previously painted only if existing paint is compatible with specified new paint. If primer is compatible with finish coats, substitute a bond coat as recommended by paint manufacturer for specified primer coat.

11. Primer coats may be omitted for surfaces previously painted only if existing paint is compatible with specified new paint.

12. Contractor shall be responsible for application of any additional coats necessary to achieve required cover age and color uniformity.

13. All acrylic paints shall be 100% acrylic resins.

H. Enamels:

1. Air dried enamel finish shall have a minimum coating thickness of 1.5 mils and show no corrosion when tested in accordance with salt spray test, federal test method no. 151, for 96 hours. Finished work shall be smooth and free of imperfections.

2. Baked enamel finish shall have minimum coating thickness of 1.5 mils and show no corrosion when tested in accordance with salt spray test, federal test method no. 151, for 96 hours.

I. Urethane Paint on Aluminum:

1. Aluminum shall be pre-treated as recommended by the paint manufacturer, including:
   a. degreasing process and rinse.
b. chemical etching process and rinse.

c. deoxidizing process and rinse.

d. compatible priming process, rinse and dry.

2. Prime surfaces with manufacturer’s recommended primer.

3. Apply paint at the rate of 2.5 mils per coat by air or airless spray, brush or roller. Coating shall be even and free from any marks or streaks.

J. Ferrous Metal:

1. Ferrous metal items, except items to be encased in concrete and areas adjacent to field welds, shall be thoroughly cleaned.

2. After cleaning, give surface one shop coat of an industry standard primer paint. Apply thoroughly and evenly to a dry surface. Surfaces inaccessible after assembly or erection shall be given an additional shop coat of a different color than the first coat. Each coat shall have a minimum dry film thickness of 2.5 mils.

3. After erection, touch up with prime paint members where shop coat has been damaged, welds, areas adjacent to welds and field bolts.

K. Ink:

1. Inks required shall be made for the surface material on which they are to be applied, and shall be applied as recommended by the manufacturer of the ink.

2. Exact identification of the ink shall be noted on the shop drawings along with method of application.

3. Prime coats or other surface pre-treatment where recommended shall be included in the work.

4. Inks and finishes shall be guaranteed not to cause discoloration, deterioration, or delamination of any materials used in fabrication.

5. Apply ink when the relative humidity is below 85% and ambient temperature is above 55 degrees F.

6. Ink shall not be applied until the preceding coat has dried.

7. Graphic colors shall match approved samples and shall be exactly as specified. Graphic colors shall be consistent in chroma and value, shall maintain proper opacity or translucency and shall be free of all imperfections.

8. Screened sign finish shall be high gloss. Sign finish shall be smooth and free of all imperfections.


L. Protective coating / graffiti resistance:

1. To protect paint finish, apply a clear, water-based plastic coating. The coating shall not yellow or discolor, shall not be affected by pollutants or by climatic erosion. Graffiti shall not penetrate its surface. Application and maintenance shall follow manufacturer’s instructions.

2. Coatings applied by the approved method shall be thinned only to provide the required workability. Apply coats uniformly, free from runs and brush marks or streaking.

2.6 DIGITALLY PRINTED FILM :

A. Acceptable manufacturer: Except as otherwise noted, products specified as a standard of quality in the industry of manufacturing and fabricating signage shall be those manufactured by 3M, specifically 3M Controltac IJ180Cv3 printed using 3M inks and utilizing 3M 8520 Matte overlam and SCPM-44X premask (or equal) to allow the product to be removed from the wall in the future without damaging the wall surface.

B. Application:

1. Wall surface to receive digitally printed film shall be painted thoroughly with a latex based paint, that has dried completely.

2.7 GRAPHIC FILM (Translucent, Opaque, Reflective, and Specialty):

A. Acceptable manufacturer: Except as otherwise noted, products specified as a standard of quality in the industry of manufacturing and fabricating signage shall be those manufactured by 3M, specifically 3M Controltac, 3M Scotcheal, and 3M Scotchlite (or equal).

B. Application:

1. Surface to receive film shall be prepped according to manufacturer’s instructions.

C. Fabrication:

1. Films shall be cut and applied using tools and processes in accordance with manufacturer’s instructions to maintain manufacturer’s warranty.
A. Inspection of substrates:
   1. Before installation, surfaces to receive identifying devices shall be free from defects and imperfections that would prevent an acceptable installation.
   2. Commencing of work in any space shall constitute acceptance by the Contractor of surfaces to receive identifying devices as being in a satisfactory condition to permit an acceptable installation. If the Contractor’s inspection of such surfaces discloses unsatisfactory conditions, he shall notify the Owner in writing and by telephone and then await further instruction; otherwise, no claims will be considered for unsatisfactory work due to real or alleged faulty surfaces.

3.2 Preparation and Protection:
   A. Aluminum shall be separated from direct contact with metals other than stainless steel, zinc, cadmium, or nickel bronze by painting contact surfaces with aluminum compatible primer and paint and coated with heavy-bodied bituminous paint or by non-absorptive tape or gasket.
   B. Exterior aluminum imbedded in concrete, or concrete or masonry shall be painted with aluminum compatible primer and paint and with heavy-bodied bituminous (asphalt) paint. Painted area shall extend 1” above grade.
   C. Protect the work and adjacent work, landscape / hardscape and materials against damage during progress of work until completion. Drop cloths of paper or plastic shall be used around all areas where paint is being applied and appropriate precautions shall be taken to prevent overspray, hazardous conditions or damage to adjacent work.

3.3 Installation, Application and Erection:
   A. Serigraphy / Screen Printing / Silver & Gold Leaf:
      1. Screen printed images shall be executed with screens prepared from original or electronically imaged digital printing. No hand cut screens will be accepted. Original art shall be defined as artwork that is a first generation reproduction of the specified art.
      2. Edges and corners of images shall be clean; rounded corners, cut or ragged edges, edge build-up, bleeding or surface pinholes will not be accepted.
      3. Edges and corners of finished letterforms shall be precise, crisp, clean and free of ticks, discontinuous curves, line wave, cut or ragged edges, edge build-up, bleeding, surface pinholes and other imperfections. Letterforms shall conform to the prescribed letterform proportions.
   4. Screens shall be of a mesh count fine enough to eliminate any texture or pattern in screened graphic images.
   5. Letterforms shall be aligned to maintain a base line parallel to the sign format.
   6. Message copy on the drawings is for layout purposes only. Actual copy for signs shall be printed using camera-ready art or typesetting.
   B. Installation of sign panels and graphic units:
      1. Erect, mount or install all panels and units to be level, plumb and true.
      2. Use sufficient concealed fasteners and anchors to hold sign panels and graphic units in place. Use only concealed shims. Visible fasteners may only be used where approved in shop drawings or as part of an intentional design detail.
      3. Make Owner or Owner’s project manager aware of conflicts in sign locations as shown in the drawings.
      4. Mount all graphic units and sign panels at consistent heights indicated by the drawing.
   C. Structural steel:
      1. In planning the method of erection, make full allowance for obstructions encountered which may result from work performed by other trades as well as the operations of the Owner.
      2. Furnish and deliver to the job site anchor bolts leveling plates and templates for setting the bolts.
      3. Furnish and place all temporary bracing necessary for erection before bolting and welding. Only light drifting will be permitted to draw parts together. Drifting to match unaligned holes will not be permitted. Enlargement of holes necessary to make connections resulting from misfit shall be done by drilling and reaming and the proper size bolt shall then be used.
      4. Concrete footings with embedded anchor bolts with nuts and washers shall be in place to receive steel beam.
      5. Field Connections: Field connections shall be bolted or welded as indicated. High strength bolts shall be used for bolted connections or primary framing members, struts, ties, and other members which form a part of the bracing system.
      6. High Strength Bolt: High strength bolting, including materials and installation, shall comply with code requirements. Connections shall be bearing type, and shall be de
signed based on allowable stresses without threads in the shear plane, except that friction type connection shall be used for moment connections and bracing systems.

7. Field Welding: Field welding will be permitted only where indicated on design and approved shop drawings. Field welding shall be in accordance with the approved welding procedures and the AWS Structural Welding Code.

8. Flame-Cutting: No flame-cutting will be permitted without the consent of the Owner or Architect. If consent is given, flame-cut members shall be finished to an acceptable appearance equal to a sheared finish.

9. Cleaning and touch-up painting:
   a. After erection, field welds, field bolts and voids or abrasions in shop coat shall be cleaned, degreased and touched up with same paint used for shop coats. Surfaces to be field painted shall be cleaned and left in a condition acceptable for the application of finish paint. Brush strokes are not acceptable.
   b. Where necessary for a subsequent contractor to remove mud or other material or repair shop coat in preparation for finish painting, this will be done at the Contractor’s expense.
   c. Installation of metal and steel fabrications and assemblies: adjust assembly prior to anchoring to ensure matching alignment at abutting joints. Anchor posts to concrete by the means specified in the engineer’s drawings.

E. Spatters, drippings, smears, and / or spray shall be completely removed.

F. Plastic surfaces shall be cleaned upon completion in accordance with manufacturer’s instructions. Supply one pint of manufacturer’s recommended cleaner for Owner’s use.

G. Touch up work after installation shall be performed by the sign manufacturer and approved by Owner.

H. Protection:
   1. Work in progress shall be protected at all times from staining, scratching, chipping or other damage until acceptance by the Owner.
   2. Provide final protection in a manner acceptable to the fabricator and installer until Date of Substantial Completion.

3.5 METAL FABRICATION AND CONSTRUCTION:

A. General information: All sign panels shall be fabricated with precision and high standards of quality craftsmanship. All seams, where necessary shall be hairline. All removable panels shall operate smoothly and fit accurately. Polyester (catalyst activated) filler, where used shall be sanded smoothly and painted to achieve an undetectable smooth effect. All edges shall be sheared and corners slightly rounded. Fasteners shall be hidden or if visible shall be countersunk and painted to match the surrounding finish. Flawed or faulty workmanship is subject to rejection by the Owner and shall be replaced with an acceptable unit. Allow for thermal movement resulting from changes in ambient temperature in the design, fabrication, and installation of installed metal assemblies to prevent buckling, opening up of joints, and overstressing of welds and fasteners. Base de sign calculations on actual surface temperatures of metals due to both solar heat gain and nighttime sky heat loss.

B. Form metal fabrications from materials of size, thickness, and shapes indicated but not less than that needed to comply with performance requirements indicated. Work to dimensions indicated or accepted on shop drawings, using proven details of fabrication and support. Use type of materials indicated or specified for various components of each metal fabrication.

C. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges.

D. Shear and punch metal cleanly and accurately. Remove burrs.

E. Ease exposed edges to a radius of approximately 1/32 inch, unless otherwise indicated. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
F. Remove sharp or rough areas on exposed traffic surfaces.

G. Weld corners and seams continuously to comply with AWS recommendations and the following:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.

2. Obtain fusion without undercut or overlap.

3. Remove welding flux immediately.

4. At exposed connection, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing and contour of welded surface matches those adjacent. Fill and smooth any voids/gaps between seams prior to finishing with paint.

H. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners wherever possible. Use exposed fasteners of type indicated or, if not indicated, Phillips flat-head (countersunk) screws or bolts. Locate joints where least conspicuous.

I. Provide for anchorage of type indicated; coordinate with supporting structure. Fabricate and space anchoring devices to provide adequate support for intended use.

J. Shop Assembly: Pre-assemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for re-assembly and coordinated installation.

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

L. Fabricate joints that will be exposed to weather in a manner to exclude water, or provide weep holes where water may accumulate.

M. Waterjet Technology:

All aluminum that is specified to be cut with waterjet technology shall maintain a smooth edge. Fabricator is to use vector artwork of design provided by designer. For applications where material pushes through cut aluminum, there must be a tolerance between the aluminum and push-through material of 1/64" or less. Fabricator is to use vector artwork of the design provided by designer. Maintain smooth cut edge through out so that push-through material fits tightly.

3.6 SIGN LOCATIONS AND MESSAGE SCHEDULES:

A. Message copy on the drawings is for layout purposes. Actual copy for signs shall be printed using digitally generated fonts or vector art provided by designer.

B. Sign locations and messages: The Owner will provide verification of an updated edition of the sign location plans and sign message schedules (attached as part of these contract documents).

3.7 SUBSTITUTIONS

A. Document each request with complete data substantiating compliance of proposed Substitution.

B. A request constitutes a representation that the Contractor:

1. Has investigated proposed Product and determined that it meets or exceeds the quality level of the specified Product.

2. Will provide the same warranty for the Substitution as for the specified Product.

3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.

4. Waives claims for additional costs or time extension which may subsequently become apparent.

5. Is acceptable as an alternate to regulatory officials.

D. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

E. Substitution Submittal Procedure:

1. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.

2. Submit shop drawings, Product data, and certified test results attesting to the proposed Product equivalence.

3. The signage consultant and owner’s representative, will notify the Contractor, in writing, of decision to accept or reject request.

-------- END SPECIFICATION 10400--------
**MATERIAL:**
- Fabricated Aluminum Cabinet - 2" SQ. Tube Alum frame & 1/8" Alum skin faces
- 5" Dia. Alum Post with "L-Brackets" attached to bottom of post to secure in concrete
- Surface Painted as specified
- Clear coat of UV protection on all exterior signs. Front and Back.

**COPY:**
- Frutiger Family
- Painted (colors as specified)
- Cap Ht = as specified

**HARDWARE/FAB:**
- No visible Hardware
- Sign is double sided
- Seamless construction / all seams/welds to be filled, ground, sanded, finished smooth

**INSTALL:**
- Install via direct burial or core drill
- Aluminum Posts set in min. of 36" concrete
- Minimum 4" backfill around post
- Provide concrete mowing pad for grass/mowing areas

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**Specifications**

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**Visitor 4 P**

**Visitor 5 P**

**Klaus Advanced Computing Building**

---

**Elevation - Side View**

---

**Elevation - Side B**

---

**Elevation - Side A**

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**Section - Top View**

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**Directions**

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**MATERIAL:**
- Fabricated Aluminum Cabinet - 2" SQ. Tube Alum frame & 1/8" Alum skin faces
- 5" Dia. Alum Post with "L-Brackets" attached to bottom of post to secure in concrete
- Surface Painted as specified
- Clear coat of UV protection on all exterior signs. Front and Back.

**COPY:**
- Frutiger Family
- Painted (colors as specified)
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**HARDWARE/FAB:**
- No visible Hardware
- Sign is double sided
- Seamless construction / all seams/welds to be filled, ground, sanded, finished smooth

**INSTALL:**
- Install via direct burial or core drill
- Aluminum Posts set in min. of 36" concrete
- Minimum 4" backfill around post
- Provide concrete mowing pad for grass/mowing areas

---

**Specifications**

---

**Visitor 4 P**

**Visitor 5 P**

**Klaus Advanced Computing Building**

---

**Elevation - Side View**

---

**Elevation - Side B**

---

**Elevation - Side A**

---

**Section - Top View**

---

**Directions**

---

**MATERIAL:**
- Fabricated Aluminum Cabinet - 2" SQ. Tube Alum frame & 1/8" Alum skin faces
- 5" Dia. Alum Post with "L-Brackets" attached to bottom of post to secure in concrete
- Surface Painted as specified
- Clear coat of UV protection on all exterior signs. Front and Back.

**COPY:**
- Frutiger Family
- Painted (colors as specified)
- Cap Ht = as specified

**HARDWARE/FAB:**
- No visible Hardware
- Sign is double sided
- Seamless construction / all seams/welds to be filled, ground, sanded, finished smooth

**INSTALL:**
- Install via direct burial or core drill
- Aluminum Posts set in min. of 36" concrete
- Minimum 4" backfill around post
- Provide concrete mowing pad for grass/mowing areas

---

**Specifications**

---

**Visitor 4 P**

**Visitor 5 P**

**Klaus Advanced Computing Building**

---

**Elevation - Side View**

---

**Elevation - Side B**

---

**Elevation - Side A**

---

**Section - Top View**

---

**Directions**

---

**MATERIAL:**
- Fabricated Aluminum Cabinet - 2" SQ. Tube Alum frame & 1/8" Alum skin faces
- 5" Dia. Alum Post with "L-Brackets" attached to bottom of post to secure in concrete
- Surface Painted as specified
- Clear coat of UV protection on all exterior signs. Front and Back.

**COPY:**
- Frutiger Family
- Painted (colors as specified)
- Cap Ht = as specified

**HARDWARE/FAB:**
- No visible Hardware
- Sign is double sided
- Seamless construction / all seams/welds to be filled, ground, sanded, finished smooth

**INSTALL:**
- Install via direct burial or core drill
- Aluminum Posts set in min. of 36" concrete
- Minimum 4" backfill around post
- Provide concrete mowing pad for grass/mowing areas
Sign located on sidewalk / travel path only as needed. Minimum 2'-0" away from curb. Verify the travel path is not impeded.

District color palette - to match zone color on new campus map

Site Location Guidelines

Scale NTS

Project Data

Project Number: 607028-01
Project Name: Georgia Institute of Technology
Date: 11/21/2017
District color palette - to match zone color on new campus map

Distance to new campus map

Specifications

1) ARROWS
   - CIRCLE - 3" DIAMETER
     - ARROW HT - 1 3/4"

2) DIRECTIONAL COPY
   - FRUTIGER ROMAN
     - CAP HT - 7/8"

MATERIAL:
- FABRICATED ALUM. CABINET
  - 1" SQ. TUBE ALUM FRAME & 1/8" ALUM SKIN FACES
  - 3" DIA. ALUM POST WITH "L-BRACKETS" ATTACHED TO BOTTOM OF POST TO SECURE IN CONCRETE
  - PAINT AS SPECIFIED

HARDWARE/ FAB:
- NO VISIBLE HARDWARE
- SIGN IS DOUBLE SIDED
- SEAMLESS CONSTRUCTION / ALL SEAMS / WELDS TO BE FILLED, GROUND, SANDED, FINISHED SMOOTH

COPY:
- FRUTIGER FAMILY
- CAP HT= AS SPECIFIED

INSTALL:
- INSTALL VIA DIRECT BURIAL OR CORE DRILL
- ALUM. POSTS SET IN MIN. OF 36" CONCRETE
- MINIMUM 4" BACKFILL AROUND POST
- PROVIDE CONCRETE MOWING PAD FOR GRASS/MOWING AREAS.
**Sign Location Guidelines**

**Scale**: NTS

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** chattanooga | 100 Paschall Street, NW Mezzanine  
Atlanta, GA 30303 t 404.524.2200 f 404.524.8610  
www.stanleybeamansears.com

**PROJECT DATA**

**Project Number:** 6017028-01

**Project Name:** Georgia Institute of Technology  
North Ave NW,  
Atlanta, GA 30332

**Date:** 11/21/2017

**Principal-In-Charge:** Veronique Pryor

**Project Manager:** Chris Bowles

**EGD Designers:** Meng Li-Underwood

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**Diagram:**

- **Minimum 6” from Sidewalk**
  - **LANDSCAPE - RECOMMENDED**

- **Minimum 5’-0” 2’-0” or more**
  - **SIDEWALK - CURB WIDTH 2’-0” or more**

- **Minimum 6’-0” 2’-0” or less**
  - **SIDEWALK - CURB WIDTH 2’-0” or less**

---

**Title:** XB & XB.1

**Pedestrian Directional- Sign Location Guidelines**

**DRAWING SHEET**

**SG.3.1**

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**Legend:**

- **Street**
- **Sidewalk**
- **Curb**
- **Minimum 6” from Sidewalk**
- **SIDEWALK - CURB WIDTH 2’-0” or more**
- **SIDEWALK - CURB WIDTH 2’-0” or less**

**Files:**

1 50% SD 5/23/17
2 90% DD 7/25/17
3 50% DI 8/25/17
4 90% DI 8/31/17
5 100% DI 9/29/17
LANDSCAPE WITH SIDEWALK

LANDSCAPE/NO SIDEWALK

Internal Channel to Prevent "Oil Canning"

3/4"x3/4" Alum angle fillet-welded to frame, tenant panel applied via fillet-welded U-channel to panel and secured via set screws into threaded inserts

1/2" Plate
Building Number Color: match to zone color on the new campus map, white text with black outline

Ford Environmental Science and Technology Building

311 Ferst Drive

Concrete Mowing Pad
For Grass / Mowing Areas Only

Note:
- incorporate Knox Box 4400 and System Sensor SWHK for buildings in the historic district only.

MATERIAL:
- FABRICATED ALUM. CABINET
- 1/2" ALUM ANGLE & 1/8" ALUM SKIN FACES
- 4" SQ. ALUM TUBING WELDED TO 2 1/2" ANGLE CROSS BRACES
- SURFACE PAINTED AS SPECIFIED
- CLEAR COAT OF UV PROTECTION ON ALL EXTERIOR SIGNS. FRONT AND BACK.

COPY:
- FRUTIGER FAMILY
- CAP HT= AS SPECIFIED

HARDWARE/FAB:
- NO VISIBLE HARDWARE
- SIGN IS DOUBLE SIDED
- SEAMLESS CONSTRUCTION / ALL SEAMS/WELDS TO BE FILLED, GROUNDED, SANDED, FINISHED SMOOTH

INSTALL:
- INSTALL VIA DIRECT BURIAL
- ALUMINUM POSTS SET IN MIN. OF 36" CONCRETE
- MINIMUM 4" BACKFILL AROUND BASE SKIRT

Scale: 1" = 1'-0"
Internal Channel to Prevent “Oil Canning”

3/4” x 3/4” Alum. angle fillet-welded to frame, tenant panel applied via fillet-welded U-channel to panel and secured via set screws into threaded inserts.

1/2” Plate

36” Min. Concrete

Scale: 1” = 1'-0"

LANDSCAPE WITH SIDEWALK

Minimum 1'-6"

Minimum 1'-6"

LANDSCAPE/NO SIDEWALK

Minimum 2'-0"

Minimum 2'-0"

Sign Location Guidelines

Scale: NTS

11/21/2017

1/2" Plate

1/2" Plate

1/2" Plate

LANDSCAPE/NO SIDEWALK

Minimum 2'-0"

Minimum 2'-0"

Minimum 2'-0"

LANDSCAPE WITH SIDEWALK

Minimum 1'-6"

Minimum 1'-6"

Minimum 1'-6"

1 50% SD 5/23/17
2 90% DD 7/25/17
3 50% DI 8/25/17
4 90% DI 8/31/17
5 100% DI 9/29/17
11/21/2017
LANDSCAPE WITH SIDEWALK

Minimum 1'-6"

Minimum 1'-6"

LANDSCAPE/NO SIDEWALK

Minimum 2'-0"

Minimum 2'-0"

1/2" SQ tube fillet welded to frame tenant panel applied via fillet welded U-channel to panel and secured via set screws into threaded inserts

3" SQ. Alum. tubing welded to 1" angle cross braces

Internal Channel to prevent "Oil Canning"

1"-4 5/8"

1'-8"

Minimum 2'-0"

3 1/4"

4 3/8"

3 1/2" SQ tube fillet welded to frame tenant panel applied via fillet welded U-channel to panel and secured via set screws into threaded inserts

3" SQ. Alum. tubing welded to 1" angle cross braces

Internal Channel to prevent "Oil Canning"