Western Michigan University
Campus Wayfinding - Signage Bid Set

WMU Project number LR10443
December 12, 2016
Guideline revised 9/10/20
THIS DRAWING REPRESENTS DESIGN INTENT ONLY. FABRICATOR WILL BE RESPONSIBLE TO VERIFY ALL CONDITIONS IN FIELD PRIOR TO SHOP DRAWINGS. REFER TO SIGN LOCATION PLAN AND MESSAGE SCHEDULE FOR SIGN TYPES AND LOCATIONS.

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Section 1  **Basic Standards**
Western Michigan University

Selected wordmark for signage
Typeface: The Sans bold

Western Michigan University

Two-line wordmark for signage
Typeface: The Sans bold

Western Michigan University

Two-line wordmark for signage
Typeface: The Sans bold
**Fonts**

1. **Clearview 3-W**
   - For vehicular signs on roads 30 mph or greater
   
   ABCDEFGHIJKLMNOPQRSTUVWXYZ
   abcdefghijklmnopqrstuvwxyz
   1234567890 &!?,.“

2. **The Sans Semibold Plain**
   - For on-campus vehicular signs, pedestrian signs, and building identification signs
   
   ABCDEFGHIJKLMNOPQRSTUVWXYZ
   abcdefghijklmnopqrstuvwxyz
   1234567890 &!?,.“

3. **The Sans Bold Plain**
   - For gateway signs and venue identification
   
   ABCDEFGHIJKLMNOPQRSTUVWXYZ
   abcdefghijklmnopqrstuvwxyz
   1234567890 &!?,.“

**Typefaces**

- **F1 - Clearview 3-W**
- **F2 - The Sans Semibold Plain**
- **F3 - The Sans Bold Plain**

**Notes**

- No substitute typefaces will be accepted.
- Typefaces are available from:
  - Adobe Systems Inc. (www.adobe.com/type)
  - My Fonts (www.myfonts.com)
- Adobe Illustrator character formatting
- Adjusting kerning/tracking

---

**BASIC STANDARDS**

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Client/Project: Western Michigan University

Project No.: 14WMU249001

Signage Bid Document

Date: 12.12.16

Note: As noted

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**Fonts**

**Typefaces**

- F1 - Clearview 3-W
- F2 - The Sans Semibold Plain
- F3 - The Sans Bold Plain

**Notes**

- No substitute typefaces will be accepted.
- Typefaces are available from: Adobe Systems Inc. (www.adobe.com/type)
  My Fonts (www.myfonts.com)

Adobe Illustrator character formatting

Adjusting kerning/tracking

- Kerning control set all to optical
- Tracking control set as specified in layout

---

**Basic Standards**

**Fonts**

- The Sans Plain
  For Plaza and Recognition signs
  
  ABCDEFGHIJKLMNOPQRSTUVWXYZ
  abcdefghijklmnopqrstuvwxyz
  1234567890 &!?.,

- The Sans Plain Italic
  For Plaza and Recognition signs
  
  ABCDEFGHIJKLMNOPQRSTUVWXYZ
  abcdefghijklmnopqrstuvwxyz
  1234567890 &!?.,
Artwork

- WMU "W" (A1)
- Parking (A2)
- Accessible symbol (A3)
- Historic Campus Icon (A4)
- Arrows (A4)
- Traffic circle - right exit (A5)
- Traffic circle - left exit (A6)

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## Materials

### Materials Standards

<table>
<thead>
<tr>
<th>Material</th>
<th>Number</th>
<th>Color</th>
<th>Specification</th>
<th>Fabrication Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>M1</td>
<td>Aluminum</td>
<td>Aluminum sheet painted with satin finish.</td>
<td>Sand blasted aluminum finish and coroflon clear coat</td>
</tr>
<tr>
<td>White 3930</td>
<td>M2</td>
<td>Retro-reflective</td>
<td>Retro-reflective vinyl applied to surface.</td>
<td>3M High intensity prismatic sheeting</td>
</tr>
<tr>
<td>Pantone 355C</td>
<td>M3</td>
<td>Retro-reflective</td>
<td>Retro-reflective vinyl applied to surface.</td>
<td>3M High intensity prismatic sheeting</td>
</tr>
<tr>
<td>As specified in</td>
<td>M4</td>
<td>Direct print</td>
<td>Direct print to retro-reflective vinyl.</td>
<td>CMYK exterior grade direct print to 3M high intensity</td>
</tr>
<tr>
<td>notes.</td>
<td></td>
<td></td>
<td></td>
<td>prismatic sheeting</td>
</tr>
<tr>
<td>Custom WMU color</td>
<td>M5</td>
<td>Precast concrete</td>
<td></td>
<td>Stonecast concrete</td>
</tr>
<tr>
<td>Varies</td>
<td>M6</td>
<td>Direct print</td>
<td>Direct print to vinyl and wrapped around 1/8&quot; thick aluminum</td>
<td>CMYK exterior grade direct print</td>
</tr>
<tr>
<td>White</td>
<td>M7</td>
<td>Push-through acrylic</td>
<td>Push-through acrylic letter, illuminated.</td>
<td>Router cut to shape</td>
</tr>
<tr>
<td>White</td>
<td>M8</td>
<td>Corian dimensional</td>
<td></td>
<td>Router cut to shape</td>
</tr>
<tr>
<td>Aluminum</td>
<td>M9</td>
<td>1/4&quot; thick extruded</td>
<td>1/4&quot; thick wall extruded square aluminum tube - painted.</td>
<td>Aluminum extrusion</td>
</tr>
<tr>
<td>Brick</td>
<td>M10</td>
<td>WMU Brick pattern</td>
<td>WMU Brick pattern (to be specified by client).</td>
<td>Masonry</td>
</tr>
<tr>
<td>Glass or 3Form</td>
<td>M11</td>
<td>Glass: Starfire Glass</td>
<td>Glass: Starfire Glass with 65% white PVB interlayer.</td>
<td>TBD during prototyping phase</td>
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<tr>
<td>WMU Gold</td>
<td>M12</td>
<td>3M Translucent Graphic</td>
<td>3M Translucent Graphic film.</td>
<td>3M Scotchcal film applied to surface</td>
</tr>
<tr>
<td>Matte White</td>
<td>M13</td>
<td>Avery A9002-o</td>
<td></td>
<td>Applied vinyl</td>
</tr>
</tbody>
</table>

**Materials**

- **Aluminum**
  - Oversized aluminum sheeting may be supplied by:
    - Pierce Aluminum Co Inc
      - 995 Mearns Rd, Warminster, PA 18974
      - 215-444-0884

- **Concrete**
  - Stonecast Products, Inc.
    - Patrick Hostet, Estimator/Project Manager:
      - 262-253-6600

- **Glass**
  - Sheet glass supplied by:
    - Viracon, Inc.
      - Architectural Glass Fabrication:
        - 800-533-2080
  - Curved glass elements supplied by:
    - Bent Glass Design, Inc.
      - 215-441-9101

**Note:**

- This drawing represents design intent only. The fabricator will be responsible to verify all conditions in field prior to shop drawings. Refer to sign location plan and message schedule for sign types and locations.
As noted,
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### Basic Standards

<table>
<thead>
<tr>
<th>Paint Colors</th>
<th>Number</th>
<th>Color</th>
<th>Specification - color to match</th>
<th>Fabrication Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dark Brown - Panel</td>
<td>P1</td>
<td>MP88706</td>
<td>Matthews Acrylic Polyurethane Paint, Satin Finish</td>
<td></td>
</tr>
<tr>
<td>Light Brown - Post</td>
<td>P2</td>
<td>MP20156</td>
<td>Matthews Acrylic Polyurethane Paint, Satin Finish</td>
<td></td>
</tr>
<tr>
<td>Warm Silver - Band</td>
<td>P3</td>
<td>MP20088 Grey Metallic P4</td>
<td>Matthews Acrylic Polyurethane Paint, Satin Finish</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>P4</td>
<td>MP32071 White Wonder</td>
<td>Matthews Acrylic Polyurethane Paint, Satin Finish</td>
<td></td>
</tr>
<tr>
<td>Yellow</td>
<td>P5</td>
<td>Pantone 124C</td>
<td>Matthews Acrylic Polyurethane Paint, Satin Finish</td>
<td></td>
</tr>
</tbody>
</table>

**Paint**

All painted components to be clear coated with Matthews 290-228SP Super Satin Clear Kit.

PPG Coraflon paint products are specified for exterior signage and display hardware and related elements. No substitutions permitted.

Gloss finish of paint specified is to be 60 degrees or 29.8 on a 60 degree glossimeter. Refer to performance requirements for exact specifications.

**PPG Architectural Coatings**
1-800-774-4342

**Matthews Paint**
1-800-323-6593

**Spraylat Corp.**
1-800-767-2335

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Section 2  Design Intent Drawings: Gateways
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Notes:
- Sign face is to be single sheet with no seams or grommets.
- Fabricator is responsible for waterproofing and water drainage details to avoid electrical problems or degradation.

See grading and base detail on page 2.12 and in Kingscott drawings.
Note:
See Kingscott drawings for lighting, attachment and access panel details.

GW2 elevation - back view
scale: 1/4" = 1'-0"

GW1 elevation - back view
scale: 1/4" = 1'-0"

GW2 elevation - side view
scale: 1/4" = 1'-0"

GW1 elevation - side view
scale: 1/4" = 1'-0"

This drawing represents design intent only. Fabricator will be responsible to verify all conditions in field prior to shop drawings. Refer to sign location plan and message schedule for sign types and locations.
Note: Gateway arc and orientation to be determined by Kingscott. See Appendix I for details.
Oliver Gateway - Landscape/base detail

Gently sloping landscape meets existing grade and retaining wall

Gently sloping landscape meets existing grade

See additional landscape details in Kingscott drawings

Ground fill as needed

Stacked boulder retaining wall

Side/section view

scale: 1/4" = 1'-0"

GW 1 elevation

scale: 1/4" = 1'-0"

In situ

scale: NTS

Western Michigan University

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1. Fabricated .080 aluminum channel letters, see page 2.14 for details.
2. Frameless glass panels, attachment and engineering by Kingscott. See Kingscott drawings for details.
3. Letter is face-mounted to glass, mechanically fastened from inside.
4. Low voltage wire connects to rheostat to allow light intensity adjustments. Connect to a remote transformer placed in an accessible area, VIF.
5. Center round extruded post houses wiring to base. Wrapped with reflective covering to prevent shadowing in box.
6. 1” wide insect screen.

Western Michigan University
Signage Bid Document

Date: 12.12.16

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1. Fabricated .080 aluminum channel letters, painted
2. 0.125" thick router-cut lexan/acrylic with diffuser film applied to the back side. Routed 0.125" lip is received by aluminum channel and secured at top and bottom by tamper-resistant, countersunk fasteners
3. Top and bottom edges of acrylic painted to match aluminum channel
4. White LED module mounted to back of letter
5. Tamper-resistant, countersunk fasteners
6. Internal aluminum angle framing
7. Low voltage wire to remote transformer
8. Letter is mechanically fastened through glass to aluminum plate. Plate is secured to internal structure.
9. 3M Translucent graphic film applied to surface.
10. 1” wide insect screen

Notes:
Fabricator is responsible for waterproofing and water drainage details to avoid electrical problems or degradation.

Minimum 15-year warranty on LEDs is required.
Retrofit gateways

Notes:
Due to variations in existing structures, all retrofit signs require thorough field survey by the fabricator. Templates may be required to ensure accurate fit.

Fabricator is responsible for the removal of Bronze Medallion and lettering. Visible holes must be patched and filled with ground brick shavings to match existing brick.

Existing floodlights to remain. Contractor to repair/replace existing landscape planting damaged by construction work.

Howard St & W Michigan Ave (North side)
GW 4 - use Main Campus layout page 2.22

Howard St & W Michigan Ave (South side)
GW 4 - use Main Campus layout page 2.22

Oakland Dr & Stadium Dr
GW 4 - use East Campus layout page 2.23

Oakland Dr & Howard St
GW 4 - use East Campus layout page 2.23

Stadium Dr & Howard St
GW 4 - use Main Campus layout page 2.22

Oliver St & Stadium Dr
GW 4 - use East Campus layout page 2.23

Oakland Dr & Oliver St
GW 5 - use custom size/layout page 2.24

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Howard and West Michigan Avenue - Retrofit gateway and add Tower

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Western Michigan University
East Campus

Oakland Dr and Stadium Dr (East Campus Entrance) - in situ
Western Michigan University
Main Campus

Notes:
- Sign face is to be single sheet with no seams or grommets.
- Fabricator is responsible for waterproofing and water drainage details to avoid electrical problems or degradation.
- Fabricator to design maintenance access to sign boxes.
- Due to variations in existing structures, all retrofit signs require thorough field survey by the fabricator. Templates may be required to ensure accurate fit.
- For additional construction details, see Kingscott drawings.

Power is fed from the backside through the signface.

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Western Michigan University
East Campus

Notes:
- Sign face is to be single sheet with no seams or grommets.
- Fabricator is responsible for waterproofing and water drainage details to avoid electrical problems or degradation.
- Fabricator to design maintenance access to sign boxes.
- Due to variations in existing structures, all retrofit signs require thorough field survey by the fabricator. Templates may be required to ensure accurate fit.

Elevation - Retrofit - GW04 - East Campus Layout

Sign box matches radius of medallion to fit flush with existing brick ring, VIF
As noted

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**Notes:**  
- Sign face is to be single sheet with no seams or grommets.  
- Fabricator is responsible for waterproofing and water drainage details to avoid electrical problems or degradation.  
- Fabricator to design maintenance access to sign boxes.  
- Due to variations in existing structures, all retrofit signs require thorough field survey by the fabricator. Templates may be required to ensure accurate fit.  
- For additional construction details, see Kingscott drawings.

**Elevation − Retrofit − GW05 - Oliver and Oakland Dr**

- Plan view  
  - Scale: 3/8” = 1’-0”
- Side view  
  - Scale: 3/8” = 1’-0”

**Western Michigan University**

**East Campus**

- Power is fed from the backside through the sign face
- Illuminated channel letter see detail page 2.25
- Push-through acrylic illuminated lettering
- The Sans Bold Plain Optical Kerning Tracking: 35

---

**NOTES:**

- Sign box matches radius of medallion to fit flush with existing brick ring, VIF

---

**Dimensions:**

- Ø 4’-0”, typical VIF
- Ø 3’-0”
- 21’-0”  
- Sign box matches radius of medallion to fit flush with existing brick ring, VIF
- see typical medallion detail page 2.25

---

**Existing Structure:**

- 1’-10”  
- 2’-1/2”
- 2’-4”
- 2’-7/8”
- 3’-5 1/4”
- 4’-3/4”
- 2 1/2”
- 2 1/4”
- 2 1/8”
- 3”
- 2 1/2”
- 2”
- 1 1/2”
- 1”
- 7/8”
- 5/16”
- 1/4”
- 1/16”

---

**Notes:**

- Push-through acrylic illuminated lettering
- The Sans Bold Plain Optical Kerning Tracking: 35

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**Western Michigan University**

**Signage Bid Document**

**Client/Project Project No.**

**Date Revisions Scale**

**© 2016 Cloud Gehshan Associates**

**Western Michigan University**

**East Campus**

**Retrofit gateways**

**2.22**
Notes:

1. Fabricated .080 aluminum channel letters, painted to match.
2. 1/4" thick router-cut lexan/acrylic with diffuser film applied to the back side. Routed 1/8" lip is received by aluminum channel and secured at top and bottom by tamper-resistant, countersunk fasteners. Top and bottom edges of acrylic painted to match aluminum channel.
3. White LED module mounted to back of letter.
4. Tamper-resistant, countersunk fasteners.
5. Internal aluminum angle framing.
6. Low voltage wire to remote transformer.
7. Channel letter is mechanically fastened to medallion.
8. 3M Translucent graphic film applied to surface. Color to match Pantone 131C.

Fabricator is responsible for waterproofing and water drainage details to avoid electrical problems or degradation. Minimum 15-year warranty on LEDs is required.
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1. Threaded stud is fillet welded to the interior side of cabinet, nut secures acrylic to aluminum.

2. 1/8" thick aluminum plate; mechanically fastened to internal structure.

3. 1" thick routed cut acrylic with routed-out flange and white diffuser film applied to back side.

4. DLC Luminisheet is mechanically fastened to aluminum mounting plate.

5. DLC Luminisheet LED Light Panel connected to approved 60 watt, 12 volt DC exterior rated power supply. Reference page 5.4 for LED and power supply details.
   Provide details for dimming capabilities, Power supply with a 10 year warranty is recommended, fabricator to provide details for review prior to installation.

6. Low voltage wire to remote transformer.

Typical section detail - Push-through acrylic lettering

Scale: 1" = 1'-0"
**Medallion detail**

1. **Elevation – Gateway medallion, typical**
   - Scale: 1 1/2" = 1'-0"

2. **Section view**
   - Scale: 1 1/2" = 1'-0"

---

**Notes:**
- Aluminum medallion to be sized to completely cover the existing brick "ring.
- Due to variations in existing structures, all retrofit signs require thorough field survey by the fabricator. Templates may be required to ensure accurate fit.

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**Miller Auditorium**

The PHANTOM of the OPERA

Call for tickets
800-228-9858

**Section view**

- Threaded stud is fillet welded to the interior side of cabinet, nut secures acrylic to aluminum.
- 1/8” thick aluminum plate with welded stud attachment, mechanically fastened to internal structure.
- 1” thick routered acrylic with routed-out flange and white diffuser film applied to back side.
- DLC Lumisheet is mechanically fastened to aluminum mounting plate.
- DLC Lumisheet LED Light Panel connected to approved 60 watt, 12 volt DC exterior rated power supply. Reference page 5.4 for LED and power supply details.

**Notes:**

- See Appendix I for additional construction details.
- Fabricator to ensure that the screens have sufficient ventilation. Fans may need to be installed to ensure the correct ventilation.
- Fabricator to determine best location of power switch and electrical connection.
- Fabricator to specify how components will be accessed and serviced.
- Fabricator must isolate dissimilar materials. All associated hardware must be stainless steel.

**Access panel is located on sign side**

**Perforated side panel for ventilation**

- Low voltage wire to remote transformer.
- Steel frame with face panel attached.
- 1/4” thick aluminum perforated panel, 1/8” Holes on 3/16” Centers, Staggered Pattern, is welded to aluminum side panels.
- 4” thick precast concrete cladding, seams on sides Base to be engineered by the fabricator.

**Notes:**

- See typical medallion detail page 2.32
- Threaded stud is fillet welded to the interior side of cabinet, nut secures acrylic to aluminum.
- 1/8” thick aluminum plate with welded stud attachment, mechanically fastened to internal structure.
- 1” thick routered acrylic with routed-out flange and white diffuser film applied to back side.
- DLC Lumisheet is mechanically fastened to aluminum mounting plate.
- DLC Lumisheet LED Light Panel connected to approved 60 watt, 12 volt DC exterior rated power supply. Reference page 5.4 for LED and power supply details.

**Notes:**

- See Appendix I for additional construction details.
- Fabricator to ensure that the screens have sufficient ventilation. Fans may need to be installed to ensure the correct ventilation.
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**Access panel is located on sign side**

**Perforated side panel for ventilation**

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- Steel frame with face panel attached.
- 1/4” thick aluminum perforated panel, 1/8” Holes on 3/16” Centers, Staggered Pattern, is welded to aluminum side panels.
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- **Medallion detail, typical**
  - scale: 1"=1'-0"
  - Medallion is 1/4" aluminum ring and letter, cut to shape and painted, then welded to 1/4" aluminum plate
  - Back piece is aluminum spacer; back of spacer is flush with back of sign panel
  - Middle of medallion is centered on bottom of sign panel

- **Medallion layout, typical**
  - scale: 1"=1'-0"
  - Medallion is welded to sign panel

- **Typical Section view - Medallion**
  - scale: 1"=1'-0"

- **Sign panel (thickness varies)**
  - 1/4" aluminum plate
  - Sign panel width varies

- **Call for tickets**
  - 800-228-9858

- **Miller Auditorium**

- **Digital content layout TBD**

- **ST 30 - Venue ID - Layout**
  - 2'-3 1/2"
  - 11 1/2"
  - 1'-0 5/8"
  - 7 1/8"
As noted

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**GW06 sign located at the base of the hill**

**GW06 sign located at the base of the hill**
AS NOTED

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Gateway signs

Western Michigan University
Parkview Campus

GW6 elevation

Illuminated light box sits on top of concrete cap. Detailing to match Oliver gateway, see Kingscott drawings for details.

Push-through acrylic illuminated lettering. Power to be fed in through and concealed by brick wall. Kingscott to locate maintenance access, power supply and water evacuation.

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Signage Bid Document

<table>
<thead>
<tr>
<th>Western Michigan University</th>
<th>Project No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signage Bid Document</td>
<td>12/WMU24001</td>
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Date: 12.12.16

Scale: As noted
Section 3 Design Intent Drawings: Sign System
THIS DRAWING REPRESENTS DESIGN INTENT ONLY. FABRICATOR WILL BE RESPONSIBLE TO VERIFY ALL CONDITIONS IN FIELD PRIOR TO SHOP DRAWINGS. REFER TO SIGN LOCATION PLAN AND MESSAGE SCHEDULE FOR SIGN TYPES AND LOCATIONS.

1.5 mi Western Michigan University

Welcome to Western Michigan University Main Campus

ST 01 Vehicular trailblazer

ST 02 Tertiary gateway

ST 03 Vehic Directional Large 6" letter

ST 04 Vehic Directional Medium 6" letter

ST 05 Vehic Directional X-small 6" letter

ST 09 Vehic Directional Small 6" letter

4'-6 1/8" 5'-9 5/8" 5'-9 5/8" 5'-9 5/8" 5'-9 5/8"

7'-0 5/8" 7'-0 5/8" 7'-0 5/8" 7'-0 5/8" 7'-0 5/8"

13'-10 3/8" 13'-10 3/8" 13'-10 3/8" 13'-10 3/8" 13'-10 3/8"

SIGN SYSTEM OVERVIEW - PARKING & STREETS

3.3 DRAWINGS

THIS DRAWING REPRESENTS DESIGN INTENT ONLY. FABRICATOR WILL BE RESPONSIBLE TO VERIFY ALL CONDITIONS IN FIELD PRIOR TO SHOP DRAWINGS. REFER TO SIGN LOCATION PLAN AND MESSAGE SCHEDULE FOR SIGN TYPES AND LOCATIONS.

Western Michigan University

Signage Bid Document

Date: 12.12.16

As noted
Western Michigan University

Sign system overview - pedestrian

This drawing represents design intent only. Fabricator will be responsible to verify all conditions in field prior to shop drawings. Refer to sign location plan and message schedule for sign types and locations.

5' 4 3/8" 2'-7 5/8" 7'-7"

S

ST 26 Building directory freestanding ST26A - single-faced ST26B - double-faced

ST 27 Pedestrian directional with map

ST 29 Pedestrian directional

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As noted, this drawing represents design intent only. Fabricator will be responsible to verify all conditions in field prior to shop drawings. Refer to sign location plan and message schedule for sign types and locations.

**Sign system overview - building identification**

**Miller Auditorium**

**The Phantom of the Opera**
Call for tickets 800-228-9858

**Floyd Hall**

**Gilmore Theatre Complex**

**The Little Theatre**
Monty Python's SPAMALOT
July 15-17

**Bernhard Center**

**ST 30**
Venue ID

**ST 31**
Building ID - Vehicle scale

**ST 32**
Building ID - Large

**ST 33**
Building ID - Large with LED screen

**ST 34**
Building ID - Medium

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<td>ST 33</td>
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<td>Building ID - Large with LED screen</td>
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<tr>
<td>ST 34</td>
<td></td>
<td>Building ID - Medium</td>
<td>3'10 1/8'</td>
<td>3'11 1/2'</td>
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Office of Sustainability

ST 41
Building-mounted ID

ST 35
Building ID - Small

ST 36
Building ID - X-small

ST 40
Vinyl ID

ST 42
Recognition sign

ST 43
Wall-mounted Recognition sign

ST 45
Plaza sign small

ST 46
Plaza sign medium

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Type size guide for campus roads

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Map Key
- Visitor Parking

Vehicular Sign Size Guide
- 6" type size
- 4" type size
- 3" type size

Western Michigan University

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<tr>
<th>Client/Project</th>
<th>Project #</th>
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ST 02 Tertiary gateway

Welcome to
Western Michigan University
Main Campus

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See typical sign construction detail page 3.9
See typical breakaway installation detail page 3.45
ST 06 On-campus Vehicular directional - Large

- **Plan view ST06**
  - Scale: 1/2"=1'-0"

- **Elevation ST06**
  - Scale: 1/2"=1'-0"

- **Side view ST06**
  - Scale: 1/2"=1'-0"

**Notes:**
- **Admissions**
- **Visitor Parking**
- **Fetzer Center**
  - Miller Aud.

**Signage Construction Details:**
- See typical sign construction detail page 3.9
- See typical breakaway installation detail page 3.45
- See typical W band layout page 3.8

**Refer to:**
- Sign location plan and message schedule for sign types and locations.
- Shop drawings for verification in field.

**Device Specifications:**
- Optical Kerning: Tracking: 20

**Dimensions:**
- 12'-6 3/4"
- 4 1/8"
This drawing represents design intent only. Fabricator will be responsible to verify all conditions in field prior to shop drawings. Refer to sign location plan and message schedule for sign types and locations.

Stainless strap through bracket
Existing post
Aluminum U channel welded to back of sign face

1. Elevation ST07 Ring Road Blaze - Small
   Scale: 1/2”=1'-0"

2. Plan view ST07
   Scale: 1/2”=1'-0"

3. Side view ST07
   Scale: 1/2”=1'-0"

4. Layout ST07 - Historic Campus version
   Scale: 1”=1'-0"

5. Elevation ST08 Ring Road Blaze - Large
   Scale: 1/2”=1'-0"

6. Plan view ST08
   Scale: 1/2”=1'-0"

7. Side view ST08
   Scale: 1/2”=1'-0"

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Signage Bid Document

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ST 10 On-campus Vehicular directional

---

**Plan view ST10**
- Scale: 1/2"=1'-0"

---

**Elevation ST10 Vehicular directional - Medium - 4" letter**
- Scale: 1/2"=1'-0"

---

**Side view ST10**
- Scale: 1/2"=1'-0"

---

**As noted**

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ST 11 On-campus Vehicular directional with digital screen

Access panel located on the back of the sign. Size and exact placement to be determined by fabricator.

Notes:
Fabricator to ensure that the screens have sufficient ventilation. Fans may need to be installed to ensure the correct ventilation.
Fabricator to determine best location of power switch and electrical connection.
Fabricator to specify how components will be accessed and serviced.

See typical breakaway installation detail page 3.45

Visitor Parking
Admissions Bernhard Center

Digital sign (do not use Mega)
ST 12 On-campus Vehicular directional

1. Plan view ST12
   scale: 1/2"=1'-0"

2. W band layout - ST12
   scale: 1/2"=1'-0"

3. Elevation ST12 Vehicular directional - Small - 3" letter
   scale: 1/2"=1'-0"

4. Side view ST12
   scale: 1/2"=1'-0"

See typical sign construction detail page 3.9

See typical breakaway installation detail page 3.45

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Bernhard Center
Lot 44

Meters enforced
Mon–Thurs 7am–8pm, Fri 7am–4pm
Students must pay meters
WMU Permit required
No parking

Alternate layout ST14A & 14B
scale: 1/2"=1'-0"

Henry Hall
Lot 68

Meters enforced
Mon–Thurs 7am–8pm, Fri 7am–4pm
Students must pay meters
WMU Permit required
No parking

Removeable panel layouts
scale: 1/2"=1'-0"

ST 14A Parking Regulatory

1/4" thick removable, painted aluminum panel with applied message
3/4" thick threaded stud into back side of aluminum panel
Threading stud inserted into threaded holes with tamper-proof nut, fabricator to provide details for review
1/4" thick painted aluminum sign panel (backer)

1. Elevation ST14A Parking Regulatory - Large - single-faced
scale: 3/4"=1'-0"

2. Plan view ST14A
scale: 1/2"=1'-0"

3. Side view ST14A
scale: 1/2"=1'-0"

4. Section view, typical
scale: 3/16"=1'-0"

5. The Sans Semibold Plain Optical Kerning Tracking: 20

6. Alternate layout ST14A & 14B
scale: 1/2"=1'-0"

7. Removeable panel layouts
scale: 1/2"=1'-0"

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DRAWINGS

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REFER TO SIGN LOCATION PLAN AND MESSAGE SCHEDULE FOR SIGN TYPES AND LOCATIONS.

See typical breakaway installation detail page 3.45
See typical sign construction detail page 3.9
See typical parking band layout page 3.8
See typical parking band layout page 3.5
See typical sign construction detail page 3.9
See typical parking band layout page 3.8

Threaded stud inserted into threaded holes with tamper-proof nut, fabricator to provide details for review
1/4" thick painted aluminum sign panel (backer)

The Sans Semibold Plain Optical Kerning Tracking: 20

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DRAWINGS
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ST 14B Parking Regualtory
Fieldhouse & Rec Center
Lot 13

Any WMU Permit is Valid
Visitors park at meters

See typical parking band layout page 3.8
See typical sign construction detail page 3.9
See typical breakaway installation detail page 3.45

1/4" thick removable, painted aluminum panel with applied message
Fillet-weld threaded stud into back side of aluminum panel
Threaded stud inserted into threaded holes with tamper-proof nut, fabricator to provide details for review
1/4" thick painted aluminum sign panel (backer)

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CONDITIONS IN FIELD PRIOR TO SHOP DRAWINGS.
REFER TO SIGN LOCATION PLAN AND MESSAGE
SCHEDULE FOR SIGN TYPES AND LOCATIONS.

ST 16 Parking Regulatory

Lot 1

1. Permit only
   Employee Permit only
   Any WMU Permit
   Visitors park at meters
   No parking on game days
   Unauthorized vehicles will be towed

2. Permit only

3. Permit only
   Any WMU Permit
   Visitors park at meters
   No parking during band practice Mon–Fri
   3 pm–6 pm
   Unauthorized vehicles will be towed

4. Permit only
   Employees permit only
   Visitors or AAUP Permit
   Parking prohibited

Removeable panel layouts

See typical parking band layout page 3.8
See typical sign construction detail page 3.9
See typical breakaway installation detail page 3.45

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Permit required.

Visitors park on L1.

W,V permit park on L2 & L3.

Auditorium Parking
Lot 48

Digital sign (do not use Mega)

Access panel is located on sign side.

1. Threaded stud is fillet welded to the interior side of cabinet, nut secures acrylic to aluminum.
2. 1/8" thick aluminum plate with welded stud attachment, mechanically fastened to internal structure.
3. 1" thick router-cut acrylic with routed-out flange and white diffuser film applied to back side.
4. DLC Lumisheet is mechanically fastened to aluminum mounting plate.
5. DLC Lumisheet LED Light Panel connected to approved 60 watt, 12 volt DC exterior rated power supply. Reference page 5.4 for LED and power supply details. Provide details for dimming capabilities. Power supply with a 10 year warranty is recommended, fabricator to provide details for review prior to installation.
6. Low voltage wire to remote transformer.
7. Router-cut, push through acrylic disc with Vivid Green/Pantone 355C 3M translucent film applied.
8. 1/4" thick aluminum perforated panel, 1/8" Holes on 3/16" Centers, Staggered Pattern, is welded to aluminum side panels.

Notes:
Fabricator to ensure that the screens have sufficient ventilation. Fans may need to be installed to ensure the correct ventilation.

Fabricator to determine best location of power switch and electrical connection.

Fabricator to specify how components will be accessed and serviced.

Fabricator must isolate dissimilar materials. All associated hardware must be stainless steel.

THIS DRAWING REPRESENTS DESIGN INTENT ONLY. FABRICATOR WILL BE RESPONSIBLE TO VERIFY ALL CONDITIONS IN FIELD PRIOR TO SHOP DRAWINGS. REFER TO SIGN LOCATION PLAN AND MESSAGE SCHEDULE FOR SIGN TYPES AND LOCATIONS.
ST 17B Parking Garage ID

Digital sign (do not use Mega)

W. Michigan Ave Parking
Lot 80

CJMR Permit park in designated area
Any WMU Permit valid on top level

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Western Michigan University
Project No: 14WMU249001

Design Bid Document

Date: 12.12.16

As noted
1/4" thick aluminum "frame" panel, routed out to receive 1/8" map panel. Z-clips anchored to the back of the panel

Map is vinyl-wrapped 1/8" thick panel set in behind sign "frame" panel. Map and directory provided as artwork by WMU Office of University Relations.

1/4" thick aluminum panel attached to frame

Side enclosures are welded to internal structure

Top of sign is mechanically fastened to secure sign panels

Fabricator must isolate dissimilar materials.

All associated hardware must be stainless steel.

Provide (2) 3/4" conduits for future power & data. Stub through sign base/footing.

This drawing represents design intent only. Fabricator will be responsible to verify all conditions in field prior to shop drawings. Refer to sign location plan and message schedule for sign types and locations.

Note: This drawing is to be used as a guide for the construction of the sign. All dimensions and tolerances are approximate and should be verified by the contractor. The specific materials and finishes to be used shall be specified by the contractor in accordance with the specifications.
ST 26 Building directory/map

1/4" thick aluminum "frame" panel, routed out to receive 1/8" map panel. Z-clips anchored to the back of the panel.

Internal structure is 3" square extruded steel pole with 1 1/2" square extruded cross-bars.

1/8" thick aluminum sheet, welded to internal structure with holes to accept z-clips.

Map is vinyl-wrapped 1/8" thick panel set in behind sign "frame" panel. Map and directory provided as artwork by WMU Office of University Relations.

1/4" thick aluminum panel attached to frame.

Side enclosures are welded to internal structure.

Top of sign is mechanically fastened to secure sign panels.

Medallion is welded to sign panel.

2' 5" x 3 1/2" weld plate.

Reinforced concrete footer, to be engineered by fabricator.

Note: Fabricator must isolate dissimilar materials. All associated hardware must be stainless steel. Provide (2) 3/4" conduits for future power/data. Stub through sign base/flooring.

1/4" thick aluminum "frame" panel, routed out to receive 1/8" map panel. Z-clips anchored to the back of the panel.

Internal structure is 3" square extruded steel pole with 1 1/2" square extruded cross-bars.

1/8" thick aluminum sheet, welded to internal structure with holes to accept z-clips.

Map is vinyl-wrapped 1/8" thick panel set in behind sign "frame" panel. Map and directory provided as artwork by WMU Office of University Relations.

1/4" thick aluminum panel attached to frame.

Side enclosures are welded to internal structure.

Top of sign is mechanically fastened to secure sign panels.

Medallion is welded to sign panel.

2' 5" x 3 1/2" weld plate.

Reinforced concrete footer, to be engineered by fabricator.

Note: Fabricator must isolate dissimilar materials. All associated hardware must be stainless steel. Provide (2) 3/4" conduits for future power/data. Stub through sign base/flooring.
1/4" thick aluminum panel with x-clips anchored to the back of the panel.

Internal structure is 3" square extruded steel pole with 1 1/2" square extruded cross-bars.

1/8" thick aluminum sheet, welded to internal structure, with holes to accept x-clips.

Map is vinyl-wrapped 1/8" thick panel set in behind sign "frames" panel. Map and directory provided as artwork by WMU Office of University Relations.

190" x 3 x 1/2" thick weld plate.

Side enclosures are welded to internal structure.

1" rod weldment in precast concrete.

Below grade 1’0” x 9 x 3/4” thick mounting plate.

Reinforced concrete footer, to be engineered by fabricator.

1/4" thick aluminum "frames" panel, routed out to receive 1/8" map panel.

Top of sign is mechanically fastened to secure sign panels.

Medallion is welded to sign panel.

Note: Fabricator must isolate dissimilar materials. All associated hardware must be stainless steel. Provide (2) 3/4" conduits for future power & data. Stub through sign base/footing.

THIS DRAWING REPRESENTS DESIGN INTENT ONLY. FABRICATOR WILL BE RESPONSIBLE TO VERIFY ALL CONDITIONS IN FIELD PRIOR TO SHOP DRAWINGS. REFER TO SIGN LOCATION PLAN AND MESSAGE SCHEDULE FOR SIGN TYPES AND LOCATIONS.
THIS DRAWING REPRESENTS DESIGN INTENT ONLY. FABRICATOR WILL BE RESPONSIBLE TO VERIFY ALL CONDITIONS IN FIELD PRIOR TO SHOP DRAWINGS. REFER TO SIGN LOCATION PLAN AND MESSAGE SCHEDULE FOR SIGN TYPES AND LOCATIONS.

1. Layout – Map panel – ST 27 Ped Directional w/ map
   Scale: 3" = 1'-0"

Note: Map and directory provided as artwork by WMU Office of University Relations.

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ST 27 Pedestrian Directional with map

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GATHERING TREE
Seibert Admin (Admissions)
Bernhard Center

W Michigan Ave Parking
Student Recreation Center

AMPHITHEATER

FOUNTAIN PLAZA
Miller Auditorium
Gilmore Theatre
Dalton Center

STEWART CLOCK TOWER
Waldo Library

FETZER CENTER

SCHNEIDER HALL

WESTERN MALL

INTERNATIONAL FLAG PLAZA

Note: Map and directory provided as artwork by WMU Office of University Relations.
ST 27 Pedestrian Directional with map

Plan view - Pedestrian directional pad - corner condition

Plan view - Pedestrian directional pad - single path condition

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3.31

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THIS DRAWING REPRESENTS DESIGN INTENT ONLY. FABRICATOR WILL BE RESPONSIBLE TO VERIFY ALL CONDITIONS IN FIELD PRIOR TO SHOP DRAWINGS. REFER TO SIGN LOCATION PLAN AND MESSAGE SCHEDULE FOR SIGN TYPES AND LOCATIONS.

**ST 29 - Pedestrian Directional**

1. **Elevation - ST 29 Pedestrian directional**
   - Scale: 1" = 1'-0"
   - Friedmann Hall
   - Brown Hall
   - Sprau Tower
   - RCVA
   - Dunbar Hall
   - Seibert Admin (Admissions)
   - West Michigan Parking

2. **Plan view - double-faced**
   - Scale: 1" = 1'-0"
   - 1/8" thick aluminum sign panel mechanically fastened to cuff
   - 2" square aluminum sign post
   - 2 1/4" square aluminum extruded sign cuff. See page 3.9 for typical detail

3. **Plan view - single-faced**
   - Scale: 1" = 1'-0"
   - Silkscreen messages
     - The Sans Semibold Plain
     - Optical Kerning
     - Tracking: 20

4. **Side view - single-faced**
   - Scale: 1" = 1'-0"

5. **Plan view - double-faced**
   - Scale: 1" = 1'-0"

6. **Layout**
   - Scale: 1 1/2" = 1'-0"

Direct bury. See page 3.46
This drawing represents design intent only. Fabricator will be responsible to verify all conditions in field prior to shop drawings. Refer to sign location plan and message schedule for sign types and locations.

1. Precast concrete with 1” rod weldment
2. Steel sign frame
3. Aluminum side panels welded to frame
4. Below grade mounting plate
5. Reinforced concrete footer, to be engineered by fabricator
6. 1/2” thick Corian dimensional letters, mechanically fastened
7. 5” x 5” weld plate attaches to frame and base

Note:
- Fabricator must isolate dissimilar materials.
- All associated hardware must be stainless steel.
- Install mow strip around sign bases with river rock & metal edging around sign at lawn areas.

ST 31 - X-Large Building ID
This drawing represents design intent only. Fabricator will be responsible to verify all conditions in field prior to shop drawings. Refer to sign location plan and message schedule for sign types and locations.
**ST 33 Large Building ID with LED screen**

**Drawings**

3.36

**Western Michigan University**

**Notes:**
- Fabricator to ensure that the screens have sufficient ventilation. Fans may need to be installed to ensure the correct ventilation.
- Fabricator to determine best location of power switch and electrical connection.
- Fabricator to specify how components will be accessed and serviced.
- Fabricator must isolate dissimilar materials. All associated hardware must be stainless steel.
- Install mow strip around sign bases with river rock & metal edging around sign at lawn areas.

**This drawing represents design intent only. Fabricator will be responsible to verify all conditions in field prior to shop drawings. Refer to sign location plan and message schedule for sign types and locations.**

---

1. 1/8" thick aluminum panel attached to frame
2. Steel sign frame
3. Aluminum side panels welded to frame
4. Below grade mounting plate
5. Reinforced concrete footer, to be engineered by fabricator
6. Daktronics Galaxy GS6 15.85 MM Outdoor LED sign, double-sided
7. Precast concrete with 1" rod weldment
8. 5" x 5" weld plate attaches to frame and base
9. 1" thick router-cut acrylic with routed-out flange and white diffuser film applied to back side.

**Plan view**

- Scale: 1/2" = 1'-0"

**Elevation - Front view - ST 33 Large Building ID with LED screen**

- Scale: 1/2" = 1'-0"

---

**Section view**

- Scale: 1/2" = 1'-0"

**Access panel is located on sign side**

**The Little Theatre**

**Monty Python’s Spamalot**

**July 15-17**

**Drawings**

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---

**Western Michigan University**

**Signage Bid Document**

**Date:** 12.12.16

**As noted**
This drawing represents design intent only. Fabrictor will be responsible to verify all conditions in field prior to shop drawings. Refer to sign location plan and message schedule for sign types and locations.

1. 1/8” thick aluminum panel attached to frame
2. Steel sign frame
3. Aluminum side panels welded to frame
4. 6” x 8” x 3/4” thick below grade mounting plate
5. Reinforced concrete footer, to be engineered by fabricator
6. Precast concrete with 1” rod weldment
7. 6” x 3” x 1/2” thick weld plate attaches to frame and base

Note:
Fabricator must isolate dissimilar materials.
All associated hardware must be stainless steel.
Install mow strip around sign bases with river rock & metal edging around sign at lawn areas.

See typical medallion detail page 2.32

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Note: Install mow strip around sign bases with river rock & metal edging around sign at lawn areas.
Digital element needs “full video capture” capability

Notes:
- See Appendix I for additional construction details
- Fabricator to ensure that the screens have sufficient ventilation. Fans may need to be installed to ensure the correct ventilation.
- Fabricator to determine best location of power switch and electrical connection.
- Fabricator to specify how components will be accessed and serviced.
- Fabricator must isolate dissimilar materials.
- All associated hardware must be stainless steel.

Threaded stud is fillet welded to the interior side of cabinet, nut secures acrylic to aluminum.

1/8" thick aluminum plate with welded stud attachment; mechanically fastened to internal structure.

1" thick router-cut acrylic with routed-out flange and white diffuser film applied to back side.

DLC Lumisheet LED Light Panel connected to approved 60 watt, 12 volt DC exterior rated power supply. Reference page 5.4 for LED and power supply details.

Provide details for dimming capabilities. Power supply with a 10 year warranty is recommended, fabricator to provide details for review prior to installation.

Low voltage wire to remote transformer.

Steel frame with face panel attached.

1/4" thick aluminum perforated panel, 1/8" Holes on 3/16" Centers, Staggered Pattern, is welded to aluminum side panels.

4" thick precast concrete cladding, seams on sides Base to be engineered by the fabricator.

**THIS DRAWING REPRESENTS DESIGN INTENT ONLY**

**FABRICATOR WILL BE RESPONSIBLE TO VERIFY ALL CONDITIONS IN FIELD PRIOR TO SHOP DRAWINGS**
3.41
Western Michigan University
Signage Bid Document

ST 40 Vinyl Building ID and ST 41 Building-mounted ID

Office of Sustainability

Elevation – ST 40 Vinyl Building ID
scale: 1/2” = 1'-0"

ST 41 Large Building-mounted ID
scale: 1/2” = 1'-0"

Side view – ST 41
scale: 1/2” = 1'-0"

Waldo Library

Lettering is white applied vinyl on existing glass
The Sans Semibold Plain
Optical Kerning
Tracking: 20

1/2” thick Corian dimensional letters, mechanically fastened

Aluminum studs welded to back of letter
Set into wall with epoxy or silicone adhesive

ST 40 Vinyl Building ID and ST 41 Building-mounted ID

THIS DRAWING REPRESENTS DESIGN INTENT ONLY. FABRICATOR WILL BE RESPONSIBLE TO VERIFY ALL CONDITIONS IN FIELD PRIOR TO SHOP DRAWINGS. REFER TO SIGN LOCATION PLAN AND MESSAGE SCHEDULE FOR SIGN TYPES AND LOCATIONS.
ST 42 Recognition sign

**Elevation – ST 42 Recognition sign**
- Scale: 1 1/2” = 1’-0”

**Side view – ST 42 Recognition sign**
- Scale: 1 1/2” = 1’-0”

**Attachment pieces**
- Scale: 3” = 1’-0”

**Screw placement detail**
- Scale: 1 1/2” = 1’-0”

**Elevation – Frame**
- Scale: 1 1/2” = 1’-0”

**Elevation – Graphic insert panel**
- Scale: 1 1/2” = 1’-0”

**Elevation – Small backplate – ST 42**
- Scale: 1 1/2” = 1’-0”

**Detail - typical tableau frame construction**
- Scale: full size

---

**The Gathering Tree Fountain**
This sculpture highlights The University Seal, now in its fifth incarnation. The WMU seal was designed by the late John Kemper, a WMU professor emeritus of art, when the institution became a university in 1957. The five stars symbolize WMU’s five original schools: Applied Arts (Engineering and Applied Sciences), Business, Education, Liberal Arts and Sciences, and Graduate Studies.

The tree symbolizes WMU’s continuing growth. Its roots acknowledge the institution’s firm planting when created by the Michigan Legislature in 1903.

The stone arch signifies a gateway to knowledge as well as solid growth, but the missing keystone indicates that WMU’s growth is incomplete, as there is much more to accomplish and discover.

The pyramid, which also may indicate the building of knowledge, features a flame at its apex to signify enlightenment—WMU’s true purpose.

**Dedicated April 2015**

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**Plug-weld of supports**

**Location of left piece weld**

**Stainless steel machine screws countersunk with tamper resistant heads**

**3/8” thick aluminum plate welded to display post**

---

**3/8” thick Aluminum frame, routed to accept interpretive panel**

**3/16” thick HPL insert panel**

**Direct burial. See details page 3.43**

**Dotted red line represents routed area. (Minimum 1/8” lip on all sides)**

**Ø 2 1/2” aluminum extruded upright tube**

**Side view − ST 42 Recognition sign**
- Scale: 1 1/2” = 1’-0”

---

**3’-6 1/4”**

**1’-7 1/8”**

**10 1/8”**

**3’-6 1/4”**

**2 1/2”**

**2’-6 3/4”**

**52°**

**3/4”**

**2 1/2”**

**2’-6 3/4”**

---

**39 1/8”**

**10 1/8”**

---

**Elevation − Frame**
- Scale: 1 1/2” = 1’-0”

---

**3/8” thick Aluminum frame, routed to accept interpretive panel**

**3/16” thick HPL insert panel**

**Direct burial. See details page 3.43**

**Dotted red line represents routed area. (Minimum 1/8” lip on all sides)**

**Ø 2 1/2” aluminum extruded upright tube**

---

**Side View**

**Plan View**

**Side View**

---

**Elevation - Small backplate - ST 42**
- Scale: 1 1/2” = 1’-0”

---

**Attachment pieces**
- Scale: 3” = 1’-0”

---

**Screw placement detail**
- Scale: 1 1/2” = 1’-0”

---

**Detail - typical tableau frame construction**
- Scale: full size

---

**Western Michigan University**
**Signage Bid Document**

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**Drawings**

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**ST 42 Recognition sign**

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**© 2016 Cloud Gehshan Associates**
ST 43 Recognition sign - wall-mounted

Interpretive graphic layout TBD
Provided as artwork

Elevation – ST 43 wall-mounted recognition sign
scale: 1" = 1'-0"

Plan view
scale: 1" = 1'-0"

Section view
scale: 1" = 1'-0"

Detail: Frame panel
scale: 1" = 1'-0"

1. 3/8" thick aluminum frame, routed out to accept graphic panel
2. 1/4" thick aluminum back panel with z-clips anchored to face
3. 3/16" thick HPL insert panel
4. Aluminium studs welded to back sign panel. Set into to wall with epoxy or silicone adhesive.

THIS DRAWING REPRESENTS DESIGN INTENT ONLY. FABRICATOR WILL BE RESPONSIBLE TO VERIFY ALL CONDITIONS IN FIELD PRIOR TO SHOP DRAWINGS. REFER TO SIGN LOCATION PLAN AND MESSAGE SCHEDULE FOR SIGN TYPES AND LOCATIONS.
THIS DRAWING REPRESENTS DESIGN INTENT ONLY. FABRICATOR WILL BE RESPONSIBLE TO VERIFY ALL CONDITIONS IN FIELD PRIOR TO SHOP DRAWINGS. REFER TO SIGN LOCATION PLAN AND MESSAGE SCHEDULE FOR SIGN TYPES AND LOCATIONS.

**ST 45 & ST 46 Plaza signs**

**Sanford Plaza**

In recognition of a generous gift from Todd A. Sanford and Amy S. Sanford

**Board of Trustees Fountain**

This fountain was made possible by a generous gift from Elden W. Butzbaugh, Jr. BA 1961, MBA 1964 and Judith Wise Butzbaugh BS 1962

Dedicated September 24, 1994

**Elevation − ST 45 Donor recognition plaque - small**

Scale: 1 1/2" = 1'-0"

**Side view**

**Elevation − ST 46 Donor recognition plaque - medium**

Scale: 3" = 1'-0"

**Side view**

Painted aluminum panel with silkscreened messaging

Direct bury. see page 3.46

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**Breakway footer detail**

- Transpo B525 breakaway system
- Coupling
- Anchor
- Poured concrete footer (6" above grade—distance below grade to be determined by fabricator)
- #3 rebar cage
- GRADE

**Typical Section Detail - Concrete Footer**

Scale: m/s
THIS DRAWING REPRESENTS DESIGN INTENT ONLY. FABRICATOR WILL BE RESPONSIBLE TO VERIFY ALL CONDITIONS IN FIELD PRIOR TO SHOP DRAWINGS. REFER TO SIGN LOCATION PLAN AND MESSAGE SCHEDULE FOR SIGN TYPES AND LOCATIONS.

1. Extruded alumin tube upright (varies from Ø 2" to Ø 5")
2. Through bolts
3. 3/8” alum baseplate welded to upright
4. Leveling washers
5. 3/8” alum matchplate welded to anchor tube
6. Extruded alum anchor tube
7. Poured concrete footer (fabricator to engineer footer size)
8. Anchor tube penetrates beneath footer into earth to allow drainage
9. Install mow strip around sign bases with river rock and metal edging around sign at lawn areas
10. Cut hole in base and match plates for water drainage

Typical match plate installation detail
scale: 3” = 1’-0”

Azo exploded view
Section 4  Performance Specifications
1.01 Work Included
A Labor, materials, equipment and services necessary for the fabrication, delivery and installation of signage as described in the detail drawings.
B Refer to the message schedule for a complete list of sign types and quantities. Signs listed on message schedule should match those indicated on sign location plans. Contractor to notify owner of any discrepancies in sign quantities by doing take-offs before manufacturing signs.
C Signage is located at Western Michigan University in Kalamazoo, Michigan.
D For all signs, all fasteners, support structures required for installation.

1.02 Related Work
A General requirements: all work to be done in a professional manner and to the highest trade standards.
B Use OSHA safety requirements if necessary for pedestrian or vehicular safety.

1.03 Regulatory Requirements
A Observe applicable codes, sign ordinances and ADA guidelines for handicapped and fire/life safety signing.
B For Electrical Work
1 National Electrical Code
2 National Electrical Safety Code
3 Life Safety Code - NFPA 101
4 OSHA
5 Applicable Federal, State and Local Codes
6 Underwriters Laboratory Inc. (UL)

1.04 Reference Standards
Refer to current editions of the following:
A ASTM B221—Aluminum-alloy extruded bars, rods, wire, shapes and tubes.
B ASTM D92—Light and water exposure apparatus (carbon-arc type) for testing paint, varnish, lacquer and related products.
C ASTM A276—Stainless Steel - alloy extruded bars, rods, wire, shapes and tubes.
D ASTM E84—Surface burning characteristics of building materials.
E FS L-P-381—Plastic sheet, rods and tubing, rigid, cast, materials.
F FS L-P-387—Plastic sheet, laminated, thermosetting.

C Schedule
1 Submit Gantt style schedule with all pertinent dates and milestones for the project.
2 Include submittal delivery dates, fabrication and installation dates.
3 Allow several weeks in schedule for review and revision time for all submittals.
4 Revise schedule regularly as project details dictate.

D Shop Drawings
NOTE: All final shop drawings must have an engineering stamp from a state licensed engineer before being approved for fabrication.
1 Submit three (3) sets of shop drawings as outlined below.
2 Include plans, elevations, sections and large scale details of sign wording and lettering layout for each sign in the message schedule. Show anchorages and accessory items. Provide mounting templates.
3 Show fabrication and installation details, including all sign components such as extrusions, brackets, bracing, hardware, internal framing, foundations, etc.
4 Provide engineering data to confirm viability of signs and supports, including structural stability of all signs, fasteners and foundation design.
5 Structural details must be reviewed and stamped by a state certified structural engineer, ensuring structural integrity and safety.
6 For illuminated sign units: Shop drawings shall also include the following:
   a) Fixture type.
   b) Fixture and lamp/ballast voltage.
   c) Fixture and lamp wattage.
   d) Complete photometric data.
   e) Wiring diagrams, including connection to building power supply.
   f) UL registration number (fabricator MUST be UL approved).

E Subcontractor qualifications information
1 The total percentage of subcontracted work on this project is not to exceed 25% including installation.
2 Contractor must submit credentials for any subcontractor selected to execute any portion of this contract. This must be submitted with proposal or bid. Demonstrate subcontractors qualifications for doing specified work.
PART 1 - PERFORMANCE REQUIREMENTS

1.06 **Delivery of Attic Stock (if any)**

A For any attic stock ordered, package separately or in like groups labeled as to contents. Include installation hardware, adhesives and installation instructions; include a reasonable array of alternate adhesives, fasteners or materials to be able to respond effectively to varying field conditions.

1.07 **Protection**

A Store and protect assemblies from injury at the shop, in transit to the job and until erected in place, completed, inspected and accepted.

B Packaging should not be taped to sign surface. Bubble wrap should be removed upon delivery to prevent damage to sign surfaces.

C Take special precautions to prevent pilferage both prior to and after installation. Be prepared to provide replacements for any material so removed from the site.

1.08 **Inspection**

A Materials, colors and fabricated or partially fabricated items shall be available for inspection at the factory or elsewhere, by the owner or designer during the process of manufacture and until final delivery, installation and acceptance, to determine whether or not there is compliance with the requirements of these specifications.

B Approval prior to the time of final acceptance shall not preclude rejection of delivered items which do not satisfy these specifications.

1.09 **Reordering**

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

1.10 **Warranty**

All warranties on fabricator’s standard contract forms must be modified to match warranty criteria mentioned herein. Any changes in warranty length or criteria must be negotiated prior to contract signing. Any discrepancies from fabricator’s contract are superseded by this performance specification.

1.11 **Alternate Fabrication**

A The drawings show design intent only. The fabricator is responsible for fabrication and overall level of quality. Any changes in design, materials, fabrication techniques or details necessary to the successful completion of this project should be communicated to owner in a timely fashion.

Further development and engineering of designer’s details (for fabrication and installation) is expected and should be shown in the shop drawings.
PART 2 – QUALITY ASSURANCE

PERFORMANCE SPECIFICATIONS

4.4

The designer recognizes that manufacturers may have shop fabrication techniques that differ from details shown. Suggested changes in fabrication that do not alter the design intent nor reduce the quality will be considered by the designer provided they are submitted in sketch form as soon as possible prior to shop drawing preparation.

Any value engineering changes during fabrication shall be credited to the owner.

2.01 Quality Assurance
A Materials used for this project shall be new and not reconditioned or re-purposed.
B Use only personnel thoroughly skilled and experienced with the products and method for fabrication and installation of signages specified.
C The owner shall reserve the right to reject any sign drawings, samples or other submittals, as well as any finished product or installation, that cannot meet the standard of quality established. Any such decision will be considered final and not subject to recourse.
D The intent of the contract documents is to provide everything necessary for a complete contract. In the event of conflict or omission, the fabricator shall consult the owner for resolution.
E Materials and hardware not specified, but necessary to the complete functioning of the sign, shall conform to the quality level established.

2.02 Preferred material suppliers
A Products listed below are specified for this project. These products have either been tested on prior projects and have delivered proven results, or have properties unique to this project. Any suggested substitutions must have documentation demonstrating the same level of quality and warranty prior to bidding. Bids are subject to disqualification if unauthorized substitutions are used.
B As listed under specific headings, see drawings for manufacturers of specified materials.

2.03 Sign Types
A Factory silkscreen or mask and spray:
   1. On aluminum
B Vinyl graphics (letters or other die-cut shapes):
   1. On aluminum
C Aluminum structures:
   1. Extrusions, as noted.
   2. Aluminum sheet or plate, rolled as necessary.
   3. Aluminum hardware.

2.04 Design Requirements
The contractor shall be responsible for the message layout of all directional message panels. Fabricator must produce scale drawings of message layouts for review prior to fabrication. Layout spacing and letterheights to be based on typical layout guideline drawing pages. Any discrepancies or unusual layout issues should be brought to the attention of the designer.

A Type specifications
1. Typefaces: the following typefaces as manufactured by Adobe Systems are used (No substitutions will be accepted:
   Fj) Clearview Hvy 3 W
   F2) The Sans Sembold Plain
   Fj) The Sans Bold Plain

2. Size: all letter heights specified are based on the height of a capital letter.
3. Alignment: When setting type or installing cut letters, ensure that letters are perfectly straight and even, with no characters set crooked or “popping up.”
4. Spacing
   a. See drawings for samples of letterspacing programs. The proper letter and word spacing is of extreme importance to the desired look of the signs.
   b. Drawings were prepared in Adobe Illustrator Cs6, Version 12, with a specified kerning/letterspacing/tracking option for all upper/lower case/capital letters. The general kerning should be set at optical.

C Contractor is responsible for visual corrections to the typesetting that might be necessary. Any problems in spacing or copy fitting should be brought to the attention of the designer for solution.

B Visual Justification
1. Display type may align mechanically but not optically. When flushing copy message left, a visual adjustment shall be made compensating for those letter forms that must be extended into the left hand margin to appear flush. For example, S and O must extend beyond the left margin slightly.

A Arrow and symbol specifications
1. Symbols: symbols and pictographs shall conform to the symbol signs issued by the Department of Transportation and the American Institute of Graphic Arts. To obtain more information and reproduction art-work or digitized Macintosh compatible AIGA symbols, contact:
   Society for Environmental Graphic Design
   1000 Vermont Avenue
   Suite 400
   Washington, DC 20005
   202.689.5555

2. Arrows on all signs shall use the arrow files which will be provided by the owner to the successful bidder. Arrow size will be dimensioned by height as shown in the drawings.

D Artwork
1. The contractor shall be provided electronic Ai Cs6 files with project artwork and templates. The final output quality of artwork for finished signage shall be the responsibility of the contractor. The owner’s representative reserves the right to reject artwork if it fails to meet the standard of quality established.

2.05 Materials
A Aluminum extrusions: for mounting plates and structural frames shall conform to ASTM E-221, Alloy 6063-T6. Shapes, sizes and weights of members shall be as required for structural stability. All connections of aluminum members shall be heli-arc welded, continuous fillets, ground smooth on all exposed faces, unless specified otherwise. Aluminum finishes shall be hereinafter specified.

B Aluminum sheet and plate: Type 5052-H-32 alloy aluminum, thickness as indicated. For painted finish, faces shall be etched to give an even satin finish and remove oxidation, then conversion coated to improve paint adhesion and inhibit corrosion. Surface shall be belt-sanded for a smooth finish, edges filed and ground then immersed in hot alkaline cleaner to remove contamination. For anodized finish, prepare for finish AA-M31-C21-A31.

Coating to protect aluminum by uniformly penetrating, filling and sealing surface pores. Coating should provide an invisible barrier to weathering, airborne contaminants, graffiti, industrial air pollution, mildew and salt air. Coating should not yellow, peel or flake. Coating should be guaranteed a minimum of seven years. Sign panels shall be pre-drilled in proper locations before any priming, painting or coating processes.

Aluminum should have consistency of color and finish throughout the project.

C Hangers, brackets and accessories: shall be of the type and size indicated. Where such items are not specifically called for, provide hangers, brackets and accessories as required for the proper execution of the work, as approved by the owner.
D Finishes for aluminum
All finishes to protect aluminum by uniformly penetrat-
ning, filling, and sealing surface pores. Coating should
provide an invisible barrier to weathering, airborne con-
taminants, graffiti, industrial air pollution, mildew, and
salt air. Coating should not yellow, peel or flake. Coating
should be guaranteed a minimum of seven years. Sign
panels shall be pre-drilled in proper locations before any
priming, painting or coating processes.
Aluminum should have consistency of color and finish
throughout the project.
Aluminum components must be finished in one of the
following paint types:

1. Acrylic Polyurethane - Matthews Paint
   Ultraviolet inhibited aliphatic isocyanate acryl-
   ic system engineered for extreme color and gloss
   retention. Degree of gloss is specified in design
   drawings. One coat 76-734 and 76-735 metal pre-
treat at .25 mils DFT or one coat 76-795 spray bond
   at .15 to .25 mils DFT and one coat Matthews Acrylic
   Polyurethane 2 mils DFT. A final step, spray one
coat of satin clear Matthews Acrylic Polyurethane 2
mils DFT for a protective top coat

2. Fluoropolymer -Solvent based -Corallon ADS - PPG
   Two component fluoropolymer finish with 100%
   FEVE (fluropolymer) resin and an aliphatic isocya-
   nate curing agent. Degree of gloss is specified in
design drawings. Solvent clean bare aluminum per
SSPC SP-1. ADS wash primer ADSz25/ADSz26 @
.03-.05 Mils DFT.

For components with textured finishes:
Use single coat of Matthews Acrylic Polyurethane
(black) with Matthews 287113SP suede additive for
texture. Apply Corallon topcoat in color specified.

Paint touch-up process - Corallon
1. Do not touch up scratches using paintbrush.
2. Prep area by sanding with a very fine grit sand
   paper. Mix Corallon products on site immediately
   before spraying. Spray all locations with scratches
   in one batch. Mix Component A - Corallon ADS
   and Component B - Corallon ADS6B (curing agent)
   Spray. Expected pot-life for this product is four
   hours. Apply paint using a PREVAL Spray Gun -
   available at: www.prevalspraygun.com
3. Spray in an even motion, feathering the edge of
   the spray perimeter
4. Protect message panels, adjacent areas and
ground beneath signs from overspray.
5. Grip-gard® BC basecoat solid, metallic and pearl
colors - Akzo Nobel
   1. Grip-Gard BC Basecoat is designed specifically to
meet the color, application and quality demands of
the Sign and Exhibit Manufacturer. With extremely
fast tape times and a tremendous range of solid,
metallic and pearl colors, Grip-Gard BC Basecoat is
ideal for fast production, particularly on multi-color
signs. Grip-Gard BC Basecoat must be used in con-
junction with Grip-Gard BC. Clearcoat in order to pro-
vide protection from the environment.
   All products that are to be sanded: you may have to
initial sand, but final sanding with W保利 to #P600
grit paper dry or #P600 grit wet is recom-
mended.
   Get-on-wet products: please follow recommendation
   for product in use by consulting the relevant Technical
Data Sheet.
   Please reference the grip-gard® BC basecoat solid,
metallic and pearl colors technical data sheet top-
coats.

Anodizing
Phosphoric acid anodizing is a chemical and electric
   treatment to aluminum to produce a hard, transparent
   surface that is integral with the base aluminum.
   Aluminum shall be properly cleaned and pretreated
prior to anodizing process.

E Pressure sensitive legends
1. Use "Scotchcal" brand film manufactured by 3M.
   Thickness: .007 inch minimum, .005 inch maximum.
   Material shall consist of transparent plastic having a smooth,
   flat outer surface embed-
ded with spherical lens elements. Material shall be
   capable to being processed with compatible screen
   printing inks and clear coatings as recommended by
   the sheeting manufacturer. The sheeting shall be pre-
   coated by a treated paper liner that shall be easily
   removable without soaking in water or other solvents.
2. Area at which they will be
   printed shall be "Scotchcal" brand reflective sheeting manufac-
   tured by 3M.
3. Shall be guaranteed against delamination for a period of
   5 years.

F Silkscreen ink
Formulate epoxy silkscreen inks specifically for surfaces
on which they will be used. Add catalytic or bonding
agents as necessary to maximize adherence and vandal
resistance.

G Direct Substrate Printed Media
1. Process: "Direct Substrate Printers" shall provide
   high-quality, full color images directly onto a vari-
ety of flat substrates. Substrate examples include
   but are not limited to: Acrylic, PVC, Polycarbonate,
   Aluminum, Stainless Steel, Wood, etc.
2. Printer Characteristics: printer to have C, M, Y, K, CL
   and White (W) heads (minimum) with UV curable inks
   and UV LED Lamp to cure ink while printing. Minimum
   reproduction print quality up to 1440 dpi. Flatbed
   printing size for substrates up to (and including) 48”
   x 96”. Printer to accept substrates up to 2” thick.
3. Capabilities: Printer to have white ink capabilities to
   create under-coat/primer on dark substrates and
   opaque under-coat/primer on clear substrates. Clear
   ink to provide protective over-coating and variable
   sheen finishes including full-surface glossy printing.
   Printer to have mask pattern capability to effectively
curb visible banding. Printer to have variable drop
   function to produce smooth and natural gradations.
H  Concrete
1  All concrete footers are to be poured in place.
2  All concrete footers are to be poured from thoroughly mixed and agitated concrete in order prevent unreasonable voids in the finished casting.
3  Concrete to meet specified "PSI Test" for strength: 3,500 psi minimum.
4  Concrete to meet specified "Slump test" before pouring footings.
5  All footings to extend past the frost line.
6  Any footers or posts for signs will be placed in wet concrete and allowed to fully cure in place before any signage is attached or mounted to it in any way.
7  Finish: All exposed faces of concrete shall receive a finish to match existing, adjacent surfaces.

I  Construction Adhesives
1  Acrylic and light aluminum panels - VHB tape
   Very high bond acrylic tape for bonding metals and plastics. VHB can be used on both finished and unfinished surfaces.
   Prepare surface by removing grease, loose contaminants and oxidized spots using an isopropyl alcohol wipe down no more than fifteen minutes prior to adhesion.

2  Heavy gauge aluminum sheets and components - Lord 201 Acrylic adhesive
   Two-part acrylic structural adhesive for bonding metal and plastics. Series 201 can bond both finished and unfinished surfaces.
   Two-part acrylic structural adhesive should only be used in addition to mechanical fasteners. Prepare surface by removing grease, loose contaminants and oxidized spots.
   Apply by spraying rolling or brushing a single surface to produce bond lines 5-10 mils thick and both surfaces to produce 25-50 mils thick. Use Lord spec charts to determine correct accelerator process.

J  Adhesive tape
   Closed-cell foam type with adhesive surfaces on both faces. Thicknesses and widths of tapes shall be as required to safely secure signs to various wall finishe, but in no case shall be less than 1/16 inch thick and 1/2 inch wide. Adhesive tape shall be equal to Norton Sealant Tape No. 1001 Series.

K  Liquid adhesive: Silicone Silastic 732 RTV adhesive/sealant as manufactured by Dow Corning.

L  Extruded polycarbonate sheet: Polished on both surfaces. Notched Izod impact strength of 12 to 16 ft.-lbs./inch per ASTM D-256 Elongation % of > 100% per ASTM D-638 Module of elasticity (psi) of 345,000, per ASTM D-638 Heat deflection temperature of 270°F @ 264 psi, per ASTM D-648
   M  Acrylic: cast acrylic sheet, in thicknesses and colors specified. Flame polish exposed edges. Exposed edges must be free of saw marks.
   N  LED lighting:
      1  High efficiency, long life series parallel lighting system
      2  Sign housings and frame shall be fully sealed against light leakage.
   O  Other lighting sources
      1  Provide all specific call-outs on shop drawings for lamp type, necessary transformers or ballasts and all necessary electrical draws for service installation.
      2  Locate all transformers on shop drawings. All necessary electrical hardware must be hidden.
   P  ADA-compliant photopolymer: Sign face: polyamide resin; carrier: polyester, .011 inch thick; thermomechanical, monolithic, tactile plaque sign construction.
      To comply with relevant ADA regulations and requirements indicated for materials, thickness, finish colors designs, shapes, sizes and details of construction. Sign copy to be in relief 1/2 inch minimum from plaque first surface by manufacturer’s photomechanical stratification processes.
      Precisely formed, crisp, uniformly opaque and chip-resistant graphics to comply with relevant ADA regulations and the requirements indicated for size, style, spacing, content, position, finishes and colors.
   Q  Extruded polycarbonate sheet: Polished on both surfaces. Notched Izod impact strength of 12 to 16 ft.-lbs./inch per ASTM D-256 Elongation % of >100% per ASTM D-638 Module of elasticity (psi) of 345,000, per ASTM D-638 Heat deflection temperature of 270°F @ 264 psi, per ASTM D-648
   R  Acrylic: cast acrylic sheet, in thicknesses and colors specified. Flame polish exposed edges. Exposed edges must be free of saw marks.
   S  Lexan film: General Electric Lexan Velvet Surface, matte surface 5 mils or .010 inch thick.

2.06 FABRICATION
   A  Report any discrepancies between drawings, specifications and owner requirements and request direction from owner before proceeding.
   B  Verify measurements in field as required for work fabricated to fit job conditions. Before starting work, examine adjoining work on which work of this section is in any way dependent for perfect workmanship and fit.
   C  Make work in ample time not to delay job progress and deliver to job at such time as required for proper coordination, fabricate work true to line and detail with clean, sharply defined profiles. Finish surfaces smooth unless otherwise specified.
   D  Do cutting, punching, drilling and tapping required for attachment or other work coming in contact with signage work where indicated.
   E  Changeability: fabricate signs in such a manner that each of the major mounting components may be removed and replaced with similar components by maintenance personnel, but not by unauthorized personnel.
   F  Construction: fabricate all joints, corners, miters, etc., with work accurately machined, filed and fitted, rigidly framed together at joints and contact points. Carefully match all work to provide a perfect continuity of lines and design, with metal in contact having hairline joints. Make joints of such character and assembly to be strong and as rigid as adjoining sections. Make exposed joints where joint is least conspicuous.
   G  Weathering: All edges shall be finished and free of saw marks. Allow for expansion and contraction of materials from temperature changes, especially when two materials with different coefficients of expansion are used together.
   H  Surface finishes: provide surface finishes that are free from lines, motling, ridges, variations in color, orange peel, bubbles, pinholes, spotting, crazing, grit and coarse particles. This applies to all methods of fabrication and finishing. Use clear coatings for durability, surface protection, appearance and maintenance.
PART 2 – QUALITY ASSURANCE

2 Material: sign panel material is stated in the schedules under “Notes” and/or on drawings.

3 Opacity: except for internally illuminated signs, all signs shall have opaque background and opaque graphics.

Note: all colors, especially in the acrylic signs, are to be clear and match references exactly. Washed out or weak colors will not be accepted.

J Anchors and fastenings

1 Mechanical

a. Provide anchors and fasteners required to secure work in place.

b. Surface finish: do not expose fastenings on surface of sign panels unless specifically noted otherwise. Do not deform, distort or discolor sign face surfaces by attachment of concealed fastenings.

c. Corrosion resistance: all fastenings shall be non-corrosive and resistant to oxidation or other corrosive action, of the same composition completely through their cross sections, particularly when used below grade. Use highest quality stainless steel hardware and fasteners.

d. 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.

e. Steel anchors and fastenings for exterior use shall be galvanized in accordance with ASTM A53.

f. Stability: fabricate and install signs with fastenings to withstand all actions imposed by use, 30 psf wind perpendicular to surfaces, water, ice, snow loads and similar forces.

g. Anchor bolts in concrete shall be cast in place. Manufacturer shall furnish instructions for the setting of anchors and bearing plates. Manufacturer shall ascertain that the items are properly set during the process of the work.

h. Color: secure work with fastenings of same color and finish as the components they secure where they are exposed to view, unless noted otherwise.

i. Security: All exposed fasteners must be vandal resistant and have vandal-proof “spanner” type slots to be removed only with a special driver head.

K Messages

The fabricator is responsible for the message layout of all directional message panels. Fabricator must produce scale drawings of message layouts for review prior to fabrication. Layout spacing and letter heights to be based on typical layout guideline drawing pages.

L Surface-applied messages

1 Reflectivity and specular gloss

a. Non-reflectORIZED message: 60 degree specular in accordance with ASTM D523.

b. Thickness: as indicated in specifications herein.

c. Color and colorfastness

a. Exposed surfaces and finishes shall show no discernible color change or chalking when exposed for 1,000 hours in an Atlas Twin Arc Weathermaster Model HCDL-X, or equivalent, when tested in accordance with ASTM D822.

b. Interletter spacing: follow examples in drawings. Show sample interletter and interword spacing in sample submissions as specified.

c. Layout: positions for all messages, symbols, arrows, lines, etc., for all signs are clearly indicated on the drawings and shall be complied with.

2 Artwork: contractor shall be responsible for all final reproduction artwork for all messages, symbols, arrows and restroom floor plan drawings.

3 Fabrication:

a. Screened messages: execute all silk screen printing in such a manner that all edges and corners of finished letter forms are true and clean. Letterforms, color areas, lines with rounded corners, edge buildup or bleeding, sawtooth, etc., will not be acceptable. Execute all silkscreening from photo-screens prepared from typesetter's reproduction of the copy specified. Typesetter's reproductions shall be no smaller than 75% of the actual size specified. All above work is included in this contract. Hand cut screens will not be acceptable.

b. Die-cut messages: die-cut, pre-spaced, pre-aligned messages (numbers, words, phrases and arrows) from 3.0 mil flexible film coated with continuous adhesive pressure sensitive backing to meet characteristics specified for surface-applied messages. Execute die-cutting in such a manner that all edges and corners of finished letter forms are true and clean. Letter forms with round positive or negative corners, nicked, cut or ragged edges, etc., will not be acceptable.

M Illuminated signs

1 All means of internal illumination for signs shall be positioned in accordance with the copy layout to provide even light distribution to the copy.

2 Fabricator must apply diffuser materials as necessary to eliminate hot spots created by the illumination (especially with LED signs).

3 All exterior fixtures and those in wet-damp locations shall be fitted with seals and gaskets to form a weatherproof, watertight assembly and shall be of rust resistant construction and finish.

4 LED illumination:

a. Provide all step-down transformers and connection devices necessary for electrician to connect to service

b. Hide any external connections or J-boxes within the structure of the sign.

5 LED lighting:

a. Provide emergency shut-off switches on exterior of sign, per UL regulations.

b. Provide photo-cell device hidden near the sign face to automatically switch the sign on and off

6 Encase all electrical wiring in flexible metal conduit or metal raceways. Hide raceways from view. Tie into BAS wherever applicable.
3.01 Inspection
A Examine the substrates and conditions under which the signs are to be installed and notify the owner in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected.
B An Electrical permit will need to be acquired from the State of Michigan.

3.02 Installation
A Install sign units and components with concealed fasteners, unless otherwise shown. Refer to detail drawings for general method. Verify each surface in field to determine specific, appropriate hardware. Drawings in this package may not indicate any below-ground or in-wall structural tie-ins or connections that may be necessary to assure stable and secure installation of signs. Sign fabricator is responsible for determining where such connections are necessary and for coordinating with related trades to make them.
B Locations: refer to drawings for approximate locations. Any discrepancies or apparent deviations from drawing locations because of different site conditions shall be brought to the attention of the owner for solution. The owner must be present for field placement of signs. It shall be the responsibility of the Contractor to determine the location of underground structures and utilities by the use of test pit excavation prior to excavation operations.
Test pits shall be of the size, depth and location as approved by the Engineer. Each pit shall be tamp-backed filled.
Test pit excavation will be measured on the basis of the volume of material actually removed from within the limits specified. Tamped backfill will not be measured but shall be included in the price bid for test pit excavation.
Price provided shall include all excavation, tamped backfill, labor, tools, equipment and incidentals necessary to complete the installation of each sign.
C For ground-mounted signs, provide whatever replacement concrete, pavers, bricks, etc. are necessary to match adjacent surfaces exactly. Seams should be parallel or perpendicular to sign face and be symmetrical around post(s).
D Note that this institution experiences heavy public use. Challenging environmental conditions such as inclement weather, theft and vandalism will be routine problems. Signs must be securely mounted. Contractor is responsible for suggesting alternative fabrication or installation methods if required to prevent theft or vandalism.
E Install signs to be level, plumb and at the proper height. Cooperate with other trades for installation of sign units.
F Clean and polish, remove excess adhesive.
G Fixture installation
1 Install lighting fixtures with seals and gaskets. Conceal all wiring in or within the construction.
2 Lamp installation
   a Do not install lamps for permanent use until operating voltage is verified and established.
   b Install lamps in accordance with lamp and fixture manufacturer's instructions.
3 Ballast installation
   a Install ballasts at factory unless specifically indicated otherwise. Mount on rubber grommets or sound isolating details to reduce noise transmission.

3.03 Cleanup
A Periodically (at least daily) and upon completion of the installation, remove all waste, dirt, wrappings and excess materials, tools and equipment, and carefully and thoroughly clean all surfaces to the satisfaction of the owner.

3.04 Property Damage
A Protect all adjacent surfaces from damage and pay the cost of repairing any damage to the property caused by delivery or installation of materials. In all cases, match existing surfaces.
Section 6 Appendix I

Product specifications
**LumiSheet LED Light Panel**

The LumiSheet is designed to emit a bright, even output of light across the entire surface of the panel. Unlike traditional light panels, which have the light source mounted on the exterior of the LGP (Light Guide Plate), LumiSheet integrates high brightness LEDs and heat sink into our exclusive 3D V-cutting LGP which makes it possible to produce "frameless", rectangular or special shaped LED light panels for various application needs.

**Features**

- Available in custom sizes & shapes
- Can be used in "frameless" designs
- 3D V-cutting technology
- High brightness (3000 - 10,000 LUX)
- Patented heat sink technology to maximize LED lifespan (50,000 hours)
- Low power consumption
- Energy saving and maintenance free
- Superior consistent light quality
- Advanced 3-year warranty

**Specification**

**Electrical**

- Input Voltage: 12 VDC
- Power Consumption: 4.0 Watts/ft (Standard)
- Wire Size: 20 AWG 2 wire
- Wiring: Each panel must have direct connection to power supply. Do not wire panels in series
- Connector: 2.1/5.5mm barrel plug. Standard 5’ (1500mm), Optional 10’ (3000mm)
- Certification: UL / cUL (E346146) listed, UL/cUL (E362079) recognized components for signage

**Physical**

- Color Temperature: 3000K, 3500K, 4100K, 5300K, 6300K
- Mounting: Wall mounted with screws, Z-clips, U-channel, or mirror clips (refer to Mounting Options - Page 47)
- Operating Temperature: -30 °C ( -22 °F ) ~ +40 °C ( +104 °F )
- Environment: Dry location only
- Thickness: 5/16” (8mm)
- Minimum Size: 2”W x 2”L (50mm x 50mm)
- Maximum Size: 59”W x 118”L (1499mm x 2997mm)
- Weight: 1.95 lbs /sq. ft. (9.54 kg/sq. M)

**Order Information**

<table>
<thead>
<tr>
<th>Series #</th>
<th>Size</th>
<th>Length x Width (inch/mm)*</th>
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<th>Illuminated Face</th>
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<td>8mm 12V</td>
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<td>SFI</td>
<td>WL15</td>
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<tr>
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<td>8mm 12V</td>
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<td>Double Face</td>
<td>DFI</td>
<td>WL30</td>
</tr>
<tr>
<td>LLP 12</td>
<td>8mm 12V</td>
<td>- Custom shape (drawing may be required)</td>
<td>4000K</td>
<td>Double Face</td>
<td>DFI</td>
<td>WL30</td>
</tr>
<tr>
<td>LLP 12</td>
<td>8mm 12V</td>
<td>- Custom shape (drawing may be required)</td>
<td>5300K</td>
<td>Double Face</td>
<td>DFI</td>
<td>WL30</td>
</tr>
<tr>
<td>LLP 12</td>
<td>8mm 12V</td>
<td>- Custom shape (drawing may be required)</td>
<td>6300K</td>
<td>Double Face</td>
<td>DFI</td>
<td>WL30</td>
</tr>
<tr>
<td>LLP 12</td>
<td>8mm 12V</td>
<td>- Custom shape (drawing may be required)</td>
<td>3500K</td>
<td>Single Face*</td>
<td>SFI</td>
<td>WL15</td>
</tr>
<tr>
<td>LLP 12</td>
<td>8mm 12V</td>
<td>- Custom shape (drawing may be required)</td>
<td>4000K</td>
<td>Double Face</td>
<td>DFI</td>
<td>WL30</td>
</tr>
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<td>DFI</td>
<td>WL30</td>
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<td>LLP 12</td>
<td>8mm 12V</td>
<td>- Custom shape (drawing may be required)</td>
<td>6300K</td>
<td>Double Face</td>
<td>DFI</td>
<td>WL30</td>
</tr>
<tr>
<td>LLP 12</td>
<td>8mm 12V</td>
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<td>Single Face*</td>
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<td>WL15</td>
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<td>6300K</td>
<td>Double Face</td>
<td>DFI</td>
<td>WL30</td>
</tr>
</tbody>
</table>

*Acrylic and other manufacturing components and methods may contribute to an expansion or contraction of sizes based on environmental or tooling factors. Please allow a minimum of ± 1/8” (3.175mm) to compensate for any changes in the outside dimensions of this product.

*DLC strives to maintain tight control over specification factors. However specifications are subject to change on rare occasion and may not be reflected in the catalogue.

**Features**

- Available in custom sizes & shapes
- Can be used in "frameless" designs
- 3D V-cutting technology
- High brightness (3000 - 10,000 LUX)
- Patented heat sink technology to maximize LED lifespan (50,000 hours)
- Low power consumption
- Energy saving and maintenance free
- Superior consistent light quality
- Advanced 3-year warranty
Typical Power Cord Exits

**Standard 1**
- Power cord exits from short side (edge) corner (standard)

**Standard 2**
- Power cord exits from the middle of each long side for LumiSheet longer than 6 ft

**Option 1**
- Power cord exits from the back side of LumiSheet

**Option 2**
- Recessed (notched) power cord exits

---

**LumiSheet - Surface Mounting Options (Mounting accessories are sold separately)**

**Option 1:** Screw mounting with pre-drilled holes
- *Holes can be drilled at factory according to drawings supplied.

**Option 2:** Mounting with Standoffs

**Option 3:** Mounting with Z clips

---

**LumiSheet (Specifications by Size)**

<table>
<thead>
<tr>
<th>Size (inch)</th>
<th>Size (mm)</th>
<th>LED Strip</th>
<th>*Average Surface Brightness (Lx)</th>
<th>Power Consumption (W)</th>
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<tr>
<td>6 x 6</td>
<td>150 x 150</td>
<td>1 side</td>
<td>6,000</td>
<td>2.0</td>
</tr>
<tr>
<td>12 x 12</td>
<td>300 x 300</td>
<td>1 side</td>
<td>3,000</td>
<td>4.0</td>
</tr>
<tr>
<td>24 x 24</td>
<td>600 x 600</td>
<td>2 sides</td>
<td>1,200</td>
<td>15.0</td>
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<tr>
<td>36 x 36</td>
<td>900 x 900</td>
<td>2 sides</td>
<td>2,600</td>
<td>25.0</td>
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<tr>
<td>48 x 48</td>
<td>1200 x 1200</td>
<td>2 sides</td>
<td>2,200</td>
<td>10.0</td>
</tr>
<tr>
<td>48 x 96</td>
<td>1200 x 2400</td>
<td>2 sides</td>
<td>2,200</td>
<td>10.0</td>
</tr>
<tr>
<td>Ø 6</td>
<td>Ø 152</td>
<td>all around</td>
<td>19,000</td>
<td>5.8</td>
</tr>
<tr>
<td>Ø 12</td>
<td>Ø 300</td>
<td>all around</td>
<td>13,000</td>
<td>11.2</td>
</tr>
<tr>
<td>Ø 24</td>
<td>Ø 600</td>
<td>all around</td>
<td>5,400</td>
<td>24.0</td>
</tr>
<tr>
<td>Ø 36</td>
<td>Ø 900</td>
<td>all around</td>
<td>4,500</td>
<td>16.0</td>
</tr>
<tr>
<td>Ø 48</td>
<td>Ø 1200</td>
<td>all around</td>
<td>3,500</td>
<td>46.0</td>
</tr>
</tbody>
</table>

*Brightness data was measured Jan, 2015.

---

**Typical Surface Brightness Measure**

- **24" x 48" LumiSheet with 5300K LEDs lit along 2 long edges (SML)**
- **48" x 24" LumiSheet with 5300K LEDs lit along 2 long edges (SMN)**
- **12" x 12" panel with 5300K LEDs lit along 2 edges (R8)**
- **48" x 96" LumiSheet with 5300K LEDs lit along 2 long edges (SMQ)**

*Brightness readings are for reference only. Actual reading may differ for different LEDs, LGPs or even different meters.

1-866-766-0509 | 1-866-766-0509 | RFQ@DLC-LUMISHEET.COM
Note:
ST30 & ST 33 Use the Daktronics Galaxy model.

All other signs with a digital LED screen use the Mega Sign Premier model.

For additional information, contact:
Mega Sign, Inc.
Dan Soriano
daniel@megasigninc.com
213.222.4994

Daktronics
Ryan Stratton
ryan.stratton@daktronics.com
586.850.2113

The GS6 is the best full-feature, high-quality Galaxy series yet. This product provides users a display that runs outstanding graphics and animations using the best contrast in the industry. The 15.85 mm pixel pitch is the tightest resolution 16 mm LED display in the industry.

15.85 MM TECHNICAL SPECIFICATIONS

Character Height:
4.4” (7 pixel font)

Line Spacing:
15.85 mm (0.62”)

Pixel Configuration:
Monochrome: 1 red or 1 amber
RGB: 1 red, 1 green, 1 blue

Maximum Brightness:
Monochrome red: 4,500 nits
Monochrome amber: 6,000 nits
RGB: 12,000 nits

Monochrome Color Capability:
4,096 shades of red or amber

Full Color Capability:
RGB: 281 trillion colors

Optimal Viewing Angle:
160 degrees horizontal x 90 degrees vertical

Readability Angle:
160 degrees horizontal x 90 degrees vertical

Min Viewing Distance:
37’

PRODUCT FEATURES

• All sealed components
• Quick connects
• Mounting clips
• High-contrast louvers
• Redundant module signal
• Large sections for fast installation
• Front ventilation on displays less than seven feet tall
• No spreader beam required for displays greater than seven feet tall
• Same module size and cabinet size for all pixel pitches
• Single-module removal
• Shallow cabinet depth
• Narrow cabinet borders

GS6 SERIES SPECIFICATIONS

Estimated LED Lifetime:
100,000+ hours

Contrast Enhancement:
Non-reflective black louvers and module face grooves disperse light

Message Capability:
Text, graphics, logos, basic animation, video clips, multiple font styles, and sizes

Control Software:
Venus® Control Suite

Power:
120, 120/240 VAC Single Phase

Display Dimming:
64 levels (Automatic, scheduled or manual control)

Communication Options:
Ethernet Fiber Optic, Ethernet Bridge Radio, Remote Cellular, Ethernet CAT5

Operating Temperature:
-40°F to 120°F with 99% RH non-condensing

Compliance Information:
UL and cUL Listed, UL-Energy Verified, FCC compliance

Warranty Coverage:
5 years

Galaxy Product Support:
Parts support for 10 years

MODEL NUMBER GUIDE

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<thead>
<tr>
<th>Line</th>
<th>100</th>
<th>250</th>
<th>15.85</th>
<th>RGB</th>
<th>SF</th>
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<td>High</td>
<td>Line</td>
<td>High</td>
<td>RGB</td>
<td>SF</td>
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<td>SF</td>
<td></td>
<td>SF</td>
<td>250</td>
<td>SF</td>
<td></td>
</tr>
</tbody>
</table>

DISPLAY CONFIGURATIONS

Single-face (SF)
Available in all sizes

Two-view (2V)
Available in all sizes

201 Daktronics Dr, PO Box 5128, Brookings, SD 57006-5128
Tel: 888.325.7466 | 605.692.0200 ext. 57220 | Fax: 605.692.0381
www.daktronics.com | email: commercial@daktronics.com
Copyright © 2015 Daktronics. 0031-08706 Rev01 ST01-16 Page 1 of 8
### Galaxy GS6 LED Screen

<table>
<thead>
<tr>
<th>Line x</th>
<th>Sheet / Board</th>
<th>Cabinet Dimensions Foot/Inches</th>
<th>Cabinet Dimensions Meters</th>
<th>Cabinet Square Foot (Square Meters)</th>
<th>Active Area Square Foot (Square Meters)</th>
<th>Active Area Feet</th>
<th>Active Area Meters</th>
<th>Text Height (Inch)</th>
<th>Text Height (Meters)</th>
<th>Weight (Lb)</th>
<th>Weight (Kg)</th>
<th>Maximum Watts</th>
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<tbody>
<tr>
<td>30x200</td>
<td>Sealed</td>
<td>13&quot; x 26&quot; (330 x 660)</td>
<td>33.0 x 66.0</td>
<td>88.0 (8.0)</td>
<td>56.0 (5.0)</td>
<td>56.0</td>
<td>56.0</td>
<td>1/8</td>
<td>0.16</td>
<td>250</td>
<td>113.4</td>
<td>420</td>
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<tr>
<td>30x300</td>
<td>Sealed</td>
<td>19&quot; x 38&quot; (480 x 960)</td>
<td>48.0 x 96.0</td>
<td>192.0 (18.0)</td>
<td>120.0 (11.0)</td>
<td>120.0</td>
<td>120.0</td>
<td>3/20</td>
<td>0.47</td>
<td>600</td>
<td>272.2</td>
<td>900</td>
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<tr>
<td>30x400</td>
<td>Sealed</td>
<td>25&quot; x 50&quot; (630 x 1220)</td>
<td>122.0 x 122.0</td>
<td>744.0 (68.0)</td>
<td>444.0 (40.0)</td>
<td>444.0</td>
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<td>5/30</td>
<td>0.71</td>
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<td>1200</td>
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<td>30x500</td>
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<td>31&quot; x 62&quot; (780 x 1575)</td>
<td>157.5 x 157.5</td>
<td>972.0 (89.0)</td>
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<td>546.1</td>
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<td>37&quot; x 74&quot; (945 x 1875)</td>
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<td>912.0 (83.0)</td>
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<td>912.0</td>
<td>9/50</td>
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<td>1500</td>
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<td>43&quot; x 86&quot; (1095 x 2175)</td>
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<td>11/60</td>
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<td>839.6</td>
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<td>2440.0 (222.0)</td>
<td>1464.0 (133.0)</td>
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<td>2100</td>
<td>986.4</td>
<td>2700</td>
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<td>30x900</td>
<td>Sealed</td>
<td>55&quot; x 110&quot; (1410 x 2775)</td>
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<td>3006.0 (275.0)</td>
<td>1806.0 (167.0)</td>
<td>1806.0</td>
<td>1806.0</td>
<td>15/80</td>
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<td>2400</td>
<td>1133.2</td>
<td>3000</td>
</tr>
<tr>
<td>30x1000</td>
<td>Sealed</td>
<td>61&quot; x 122&quot; (1575 x 3075)</td>
<td>307.5 x 307.5</td>
<td>3690.0 (335.0)</td>
<td>2214.0 (201.0)</td>
<td>2214.0</td>
<td>2214.0</td>
<td>17/90</td>
<td>2.52</td>
<td>2700</td>
<td>1280.0</td>
<td>3300</td>
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<tr>
<td>30x1100</td>
<td>Sealed</td>
<td>67&quot; x 134&quot; (1735 x 3295)</td>
<td>329.5 x 329.5</td>
<td>4080.0 (375.0)</td>
<td>2448.0 (224.0)</td>
<td>2448.0</td>
<td>2448.0</td>
<td>19/100</td>
<td>2.82</td>
<td>3000</td>
<td>1426.8</td>
<td>3600</td>
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<tr>
<td>30x1200</td>
<td>Sealed</td>
<td>73&quot; x 146&quot; (1905 x 3525)</td>
<td>352.5 x 352.5</td>
<td>4860.0 (445.0)</td>
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<td>3300</td>
<td>1573.6</td>
<td>3900</td>
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</table>
THIS DRAWING REPRESENTS DESIGN INTENT ONLY. FABRICATOR WILL BE RESPONSIBLE TO VERIFY ALL CONDITIONS IN FIELD PRIOR TO SHOP DRAWINGS. REFER TO SIGN LOCATION PLAN AND MESSAGE SCHEDULE FOR SIGN TYPES AND LOCATIONS.

**Galaxy GS6 LED Screen**

**Front View**
- Light Sensor (Do Not Block)
- Exhaust Area (Do Not Cover)
- See Vent Note #4

**Top View**
- See Structural Note #4 and Install Note #4

**Right View**
- See Install Note #7

**Specifications**
- **Pixels High (AAA)**
  - 40
- **Pixels Wide (BBB)**
  - 120
- **Pixel Spacing (CC)**
  - 15.81mm
- **Overall Width**
  - 2' 6-15/16" [786]
- **Active Area Width**
  - 2' 15/16" [634]
- **Overall Height**
  - 5' 5-3/8" [1661]
- **Active Area Height**
  - 5' 2-3/8" [1585]

**Technology**
- Color: LED
- Type: Galaxy GS6 Series
- Size: 2' 7" x 5' 6" (2x4 Mods)

**Design**
- Drawn: Dostaar
- Date: 26-Oct-15
- Scale: 1/15

**Sheet**
- Rev: Job No: Func-Type-Size
- Sheet: 31111721

**Power Rating**
- Line 1: 120/240VAC 1PH 60Hz
- Line 2: 240VAC 1PH 50Hz

**Ventilation Requirements**
- Display relies on ventilation to function properly. Intakes, located at the front of the display, must be able to draw in air at a temperature no greater than 120°F.
- In order to ensure ambient temperature airflow is maintained, no portion of the ventilation openings along the front of the display may be covered or obstructed in any way.

**Structural Rating**
- **Design Wind Pressure "P" (Case A)**: P≤: 100 PSF (ASD)
- All clip angles must be used to mount display.

**Recommended Color**
- **Red**: 340 2.84 N/A 1.42
- **Amber**: 340 2.84 N/A 1.42
- **RGB**: 511 4.26 N/A 2.13

**Submittal Approval**
- Company:
- Signed:
- Title:
- Date:

**Notes**
- 1. In order to preserve the structural integrity of the display cabinet, the 90° angle between the cabinet and the lift eye must be maintained - using a spreader beam is suggested. All eyebolts must be used when lifting.
- 2. Light eyes to assist with display installation. Lift eyes may not be used for permanent installation. Lift eyes may be removed.
- 3. Mechanical and signal connections occur external to display.
- 4. Clip angle for mounting. Clip angles can be adjusted vertically up to 1-3/16" as needed during installation. Clip angle can be welded or bolted to stringer.
- 5. Daktronics is not responsible for the mounting hardware or the integrity of the mounting structure.
- 6. Daktronics is not responsible for the main electrical disconnect. See power ratings above.
- 7. See DWG-03097583 for signal & mount details.

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To help support your sale, we’ve put together a Venus® Control Suite web area and software videos. Use daktronics.com/venus when you call on your next customer.

**VENUS® LEARNING CENTER**

Offer your customers self-guided training to successfully set up and operate Venus Control Suite software at daktronics.com/venuslearning

**FREE VIDEO TUTORIALS**

Daktronics provides your customers with a set of free tutorials. They’re a great way to learn the software or to use as a refresher course. Each video tutorial demonstrates how to perform a specific task in the software. Learn how to configure displays, create memorable presentations, schedule playlists, and more. Find the complete set of tutorials at daktronics.com/venuslearning

**IMPORTABLE FILE TYPES**

- Video file types: .mpo, .mpg, .mp4, .mov
- Image file types: .png, .jpeg, .gif, .jpg, .tif, .tiff, .psd
- Data feed types: Time, Temp, RSS*, Atom*, .XML*

*Only on data capable displays.

**SUPPORTED MOBILE BROWSERS**

- iOS Safari®
- Android® Chrome®

**SUPPORTED DESKTOP BROWSERS**

- Microsoft® Internet Explorer® v11 and newer
- Microsoft® Edge®
- Google® Chrome®
- Mozilla Firefox®

**EVEN BEFORE INSTALLATION, CUSTOMERS BEGIN CONTENT CREATION**

As soon as we create your customer’s account, they can access the software and start creating content. Using the free, professionally created content that comes with the display will speed up and enhance their ad campaign.

**YOUR CUSTOMERS WANT MORE?**

We tailor Venus Control Suite for your customer’s needs. To do this, we have different packages available to choose from. All of the features explained are part of the Prime software package, which comes with each display purchase. If your customer is interested in more, they can upgrade to the Pro package, which adds features such as:

- **External Data Feeds**
  Full-time real-time information, such as weather forecasts, news, headlines, and sports scores from any Internet provided data source and display it on your LED message center.

- **Reporting (proof of play)**
  Access reports showing what was played on your display, how many times, and when. Compare the report to your sales numbers and promote product lift.

For more details on packages, talk to your local sales representative.

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### Communication Options

**Galaxy® GS6 Communication**

The Galaxy® GS6 displays need an Internet connection to reach out to the cloud-based Venus control system for content and schedule updates. Daktronics offers several Ethernet-based communication options that can be added to a customer’s local area network for Internet access.

#### Ethernet Fiber Optic

- Fiber optic is the most reliable communication option offered. Electrically isolated fiber optics prevent damage due to electromagnetic interference from lightning or electrical storms.
- Distance from the Ethernet network router to the display must be less than 1,500 ft (450 m).
- This option requires fiber optic signal converters and 62.5µm multimode fiber optic cables.

#### Ethernet Bridge Radio

- A wireless connection to Local Area Network on site.
- Use this option when fiber Ethernet cannot be pulled and the distance from the Ethernet network router to the display is less than 250 ft (76.2 m).
- This option is not recommended where significant RF interference exists (RF interference could be caused by cellular towers, radio/TV stations, wireless headsets, etc.).

#### Ethernet CAT5

- Use when fiber Ethernet cannot be pulled and the distance from the Ethernet network router to the display is less than 250 ft (76.2 m).
- This option requires direct CAT5 wire.

#### Ethernet Switch

- Use when multiple displays are on a single Ethernet connection from the above options.
- Displays must be within 25 ft.
- This requires each display to have different IP addresses.

#### Remote Cellular

- Provides an Internet connection without a Local Network.
- Avoid customer’s network by having the display connect directly via cellular.
- Use when there is no Local Area Network or Internet connection available on site.
- This connection does require a cellular service.

#### Performance Traits

<table>
<thead>
<tr>
<th>Option</th>
<th>Maximum Distance from Local Network Router to Displays</th>
<th>Reliability</th>
<th>Noise Immunity</th>
<th>Data Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethernet Fiber Optic</td>
<td>1.2 miles</td>
<td>best</td>
<td>best</td>
<td>best</td>
</tr>
<tr>
<td>Ethernet Bridge Radio</td>
<td>1,500 feet</td>
<td>good</td>
<td>good</td>
<td>good</td>
</tr>
<tr>
<td>Ethernet CAT5</td>
<td>250 feet</td>
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<td>good</td>
<td>good</td>
</tr>
<tr>
<td>Remote Cellular</td>
<td>unlimited</td>
<td>good</td>
<td>good</td>
<td>good</td>
</tr>
</tbody>
</table>

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**APPENDIX**

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This is the best full-feature, high-quality Galaxy series yet – Galaxy GS6. This product provides users a display that runs outstanding graphics and animations using the best contrast in the industry. As for the control software, we’ve developed the most convenient user experience to date.

**This drawing represents design intent only. Contractor will be responsible to verify all conditions in field prior to shop drawings. Refer to sign location plan and message schedule for sign types and locations.**

### Galaxy GS6 Features

- **Higher Resolution**
  - A true 15.85 millimeter pixel spacing allows more pixels per module resulting in higher resolution.

- **Improved, Clean Cabinet Appearance**
  - Front ventilation on displays less than seven feet tall.
  - No spreader beam required for displays greater than seven feet tall.
  - Same module size and cabinet size for all pixel pitches.

- **Signal Redundancy**
  - Image data is sent to individual LED modules from multiple directions. If a signal path fails, the module continues to operate from the additional signal.

- **Front Ventilation**
  - The installer doesn’t need to deal with special ventilation requirements. It’s built in with displays up to 7 feet tall.

- **All Sealed Components**
  - Modules, power supplies, controller, power term panel, fan, and all connections fully sealed.

- **Quick Connections**
  - Offer plug-and-play capability. Along with an external junction box for easy power connection.

- **Single-Step Module Removal**
  - A simple turn of the wrench removes the multi-point attached module.

- **Mounting Clips**
  - Slotted clip angles and multiple locations allow flexibility in mounting.

### Series Technical Specifications

- **Estimated LED Lifetime**
  - 100,000+ hours

- **Contrast Enhancement**
  - Non-reflective black louveres and module face grooves disperse light

- **Message Capability**
  - Text, graphics, logos, basic animation, video clips, data integration, multiple font styles, and sizes

- **Venus® Control Suite**

- **Power**
  - 120, 120/240 VAC single phase

- **Display Drawing**
  - Ad levels (automatic, scheduled or manual control)

- **Communication Options**
  - Ethernet, Fibre Optic, Ethernet Bridge Radio, Remote Cellular, Ethernet CAT5

- **Operating Temperature**
  - -40°F to 120°F with 99% RH non-condensing

- **Compliance Information**
  - UL and cUL Listed, UL-Energy Verified, FCC compliance

- **Warranty Coverage**
  - 5 Years

- **Product Support**
  - Parts support for 10 years, see page 6 for details