A RESOLUTION ADOPTING THE WELCOME TO MERIDIAN SIGNAGE PLAN.

WHEREAS, the Welcome to Meridian Signage Plan is designed to enhance and support Meridian as a premier City that is built for business and designed for living; and

WHEREAS, Meridian is the population and employment center of the Treasure Valley, surrounded on all sides by other cities; and

WHEREAS, recognition and identity are important to the City’s livability factor and meeting economic development goals; and

WHEREAS, the Welcome to Meridian Signage Plan, as set forth in Exhibit A hereto, establishes a framework to locate entryway signs along streets throughout the City;

NOW THEREFORE, BE IT RESOLVED BY THE MAYOR AND CITY COUNCIL OF THE CITY OF MERIDIAN CITY, IDAHO:

Section 1. That the Welcome to Meridian Signage Plan, as set forth in Exhibit A hereto, is hereby adopted.

Section 2. That the Community Development Department is hereby authorized to implement and carry out the Welcome to Meridian Signage Plan, as set forth in Exhibit A.

Section 3. That this Resolution shall be in full force and effect on December 1, 2019.

ADOPTED by the City Council of the City of Meridian, Idaho, this 12th day of November, 2019.

APPROVED by the Mayor of the City of Meridian, Idaho, this 12th day of November, 2019.

APPROVED:

Tammy de Weerd, Mayor

ATTEST:

Chris Johnson, City Clerk
Welcome to Meridian Signage Plan

Introduction
The Welcome to Meridian Signage Plan is designed to enhance and support Meridian as a premier City that is built for business and designed for living. As the population and employment center of the metropolitan area, surrounded on all sides by other cities, recognition and identity are important to the City’s livability factor and economic development goals.

Background
This Plan has been a functional program since 2010 when the City first began working with the Ada County Highway District (ACHD) to locate entryway street signs along arterial roadways. These metal signs were first installed to help stakeholders and visitors know when they enter into in Meridian City limits. While the 2’ x 3’ metal street signs are adequate for community identity on many roads, they are not visible at major points of entry such as at interchanges or on wider, multi-lane roadways.

Historically, development along high-profile entryway corridors, such as Fairview Avenue east of Eagle Road, created opportunities for larger entryway features. Larger monument signs are more visible to motorist and better able to market the City. These monuments are designed and engineered to make efficient use of materials and construction time, and have been constructed in several locations around the City. Today these monuments are sited and built both by the City and willing development partners; this Plan helps to highlight opportunities for additional monument signs into the future.

Street Signs
Welcome to Meridian street signs are 24” x 36” branded metal signs that have been locally manufactured, and installed in coordination with the ACHD. The signs utilize City standards for market colors and logo use, and are mounted on standard 12-foot breakaway posts. These signs are very similar to the City’s flag, a design since emulated by others.

The City keeps several of these metal street signs and posts on-hand so they are readily available should a replacement for an existing sign be needed.
Monument Signs

In 2012, the City obtained construction drawings for three types of monuments, and later expanded on this with an option for a larger variant. Monument signs are standardized, pre-engineered, and come in the following varieties: standard (full) horizontal, highway horizontal, and a vertical (small) monument intended for constrained locations. All monument signs share some general look and feel elements. All varieties use standardized material colors, include a faux or real brick, the City’s logo or emblem (the star swoosh), and all include recessed backlit halo illumination of sign copy.

The City prefers a consistent design for monument signs. However, the City is open to considering other designs when appropriate. When a custom design is proposed, the City would prefer to have some of the standard elements listed above maintained so the overall branding is consistent. It may be appropriate for a custom sign, however, to incorporate design characteristics consisting with existing or planned development so it ties into that theme as well. In all cases, the City logo and/or name and emblem would still need to be included in the monument design. See General Specifications for information on use of the City’s logo.

Overview

Historically the City has utilized GIS to memorialize existing and future desired locations for metal street signs and monuments. The City works with ACHD to locate signs in public right-of-way (ROW) and works with property owners and developers to locate monuments outside of public ROW (typically in an easement).

With Meridian’s rapid growth, relocating metal street signs as development occurs would be a burden on agency staff time. Instead, the City typically reviews existing locations and City limit boundaries every few years. This is a relatively simple mapping process where existing signs are compared with City limits, and the City then provides maps and makes a request to the ACHD Sign Shop, to relocate street signs which are no longer at the limits of City boundaries.

Monument signs require a more concerted coordination effort to implement. This generally occurs either through City initiated efforts, or through exploring opportunities and partnerships with property owners as development is proposed. In both cases, monument signs are generally located on real property, either land that the City already owns, or where an easement or other agreement is negotiated on property owned by others.

The most common way monument signs are constructed is through City-led efforts via the budgeting process. When staff or elected officials believe there is an opportunity for a new monument sign, review and research is done to verify feasibility. If an opportunity seems like a good fit, then a request is made through the City’s annual budget process.

The other way monument signs may be constructed is when a developer or property owner volunteers to construct one or proposes to collaborate with the City for construction. Staff will notify developers and property owners during pre-application meetings when a monument sign is envisioned on or near the property proposed for development (see Maps section for locations).

Implementation

There are several city policies, code sections, and permitting processes that are involved in implementation of this Plan.
Comprehensive Plan
At the highest level, the City’s Comprehensive Plan provides broad direction to support efforts to welcome residents, visitors, and other stakeholders into the City.

City Code
Meridian’s code requires several types of permits for signs, in addition to general landscape and setback restrictions. However, a sign coordinated by the City and installed by ACHD does not require an additional permit or agreement when located in public right-of-way. It is not planned, expected, or desired for a street sign to be located on real property, but rather placed in ACHD right-of-way.

Monuments, while a type of signage, require permits regardless of whether the City, private development, or others install them. Monument signs require footing and electrical review, and the easiest process to approve those is through a City-issued sign permit. If a monument is to be installed by a partner agency or developer, then part of any agreement should clarify and consider permits, inspections, acceptance, and any associated costs as part of the agreement.

Maps
The following maps depict the location of existing and future street signs as well as existing and future monument locations. Street signs are planned for the majority of entryways into Meridian, with monument signs only proposed along State highways, interchanges, and key entryways into the City.

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It is envisioned that every few years City staff will work with ACHD staff to adjust metal street signs as necessary with little-to-no fiscal implication. Locations and sign type are not exact or parcel specific, but have generally been identified as most desirable at the time of Plan adoption. Numbered symbols on the map correspond to a Map Exhibit Key following the maps, and highlight additional information for the various monument sign locations.

The City should remain open and look for potential partnerships to locate monument signs near key entryways, remaining flexible in both location and monument sign type and design.

Maintenance
In most cases, it is expected that the City will take on the responsibility for maintenance and repair of all metal street and welcome monument signs. For any instance where this may not be desirable, an agreement should overview any roles, responsibilities, and expectations.
<table>
<thead>
<tr>
<th>ID #</th>
<th>Status</th>
<th>Sign Type</th>
<th>Preferred Location</th>
<th>Other Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Future</td>
<td>Full Monument</td>
<td>Meridian, between Columbia and Lake Hazel</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Future</td>
<td>Small Monument</td>
<td>nec Linder/Lake Hazel</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Future</td>
<td>Small Monument</td>
<td>sec Lake Hazel/McDermott</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Future</td>
<td>Small Monument</td>
<td>Lake Hazel, 1/4 mile west of Cloverdale</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Future</td>
<td>Full Monument</td>
<td>west side Eagle Road, near Kohls or Fast Eddy’s property</td>
<td>The DA for Fast Eddy’s currently includes requirement</td>
</tr>
<tr>
<td>6</td>
<td>Future</td>
<td>Small Monument</td>
<td>SH-16 SB off ramp at Chinden</td>
<td>With SH-16 construction?</td>
</tr>
<tr>
<td>7</td>
<td>Future</td>
<td>Small Monument</td>
<td>SH-16 off ramp(s) at/near Ustick/McDermott</td>
<td>With SH-16 construction? Two signs?</td>
</tr>
<tr>
<td>8</td>
<td>Future</td>
<td>Small Monument</td>
<td>sec Franklin/McDermott at SH-16 off-ramp</td>
<td>With SH-16 construction?</td>
</tr>
<tr>
<td>9</td>
<td>Future</td>
<td>Full Monument</td>
<td>sec Chinden/Can-Ada</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Future</td>
<td>Full Monument</td>
<td>swc Locust Grove/Chinden (Valley Life Church)</td>
<td>With intersection widening?</td>
</tr>
<tr>
<td>11</td>
<td>Existing</td>
<td>Full Monument</td>
<td>Main/Meridian</td>
<td>Metal sculpture at north end of split corridor</td>
</tr>
<tr>
<td>12</td>
<td>Future</td>
<td>Small Monument</td>
<td>sec Ustick/McDermott</td>
<td>With SH-16 construction?</td>
</tr>
<tr>
<td>13</td>
<td>Future</td>
<td>Full Monument</td>
<td>nec Ustick/Eagle</td>
<td>On Ustick, by Lowe’s</td>
</tr>
<tr>
<td>14</td>
<td>Future</td>
<td>Small Monument</td>
<td>sec Cherry/McDermott/SH-16</td>
<td>At/Near county line</td>
</tr>
<tr>
<td>15</td>
<td>Existing</td>
<td>Full Monument</td>
<td>Fairview, 1/2 mile east of Eagle</td>
<td>In front of CarMax</td>
</tr>
<tr>
<td>16</td>
<td>Future</td>
<td>Full Monument</td>
<td>I-84 EB off ramp at Ten Mile</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Future</td>
<td>Full Monument</td>
<td>I-84 WB off ramp at Ten Mile</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Future</td>
<td>Full Monument</td>
<td>I-84 EB off ramp at Meridian</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Existing</td>
<td>Full Monument</td>
<td>I-84 EB off ramp at Eagle</td>
<td>In front of Tru Hotel</td>
</tr>
<tr>
<td>20</td>
<td>Future</td>
<td>Full Monument</td>
<td>I-84 WB off ramp at Eagle (St. Luke’s)</td>
<td>Could put some CORE material to modify sign; have agreement with hospital</td>
</tr>
<tr>
<td>21</td>
<td>Future</td>
<td>Small Monument</td>
<td>Overland near Eagle (Zamzows/Norco area)</td>
<td>Could move further east if redevelopment occurs</td>
</tr>
<tr>
<td>22</td>
<td>Existing</td>
<td>Full Monument</td>
<td>nwc Linder/Chinden</td>
<td>Installed with Chinden/Linder crossing project</td>
</tr>
</tbody>
</table>
Specifications

General Specifications
The following specifications are to be used both for the approved street sign, monument signs, and any non-standard designs.

Logo Color: In addition to black and white, the Meridian logo may be used in the following colors:

- Blue color: Pantone 288 C; and
- Gold color: 124 C.

Logo Proportion: The Meridian logo may not be clipped or distorted, and must maintain a ratio of 1:3.41. For every 1” height, the logo shall be 3.41” in width.

Use of the logo must adhere to the Meridian Brand Manual, which in addition to the above, generally means that the logo must be all black, blue, gold, yellow, or white (approved colors), but may include the Idaho text and the star portion above the swoosh in another of the approved colors.

While the Meridian logo is a graphic, it may be desirable to utilize similar fonts for other work. The font used for the Meridian text (all both the M) is Adobe Jensen. The 'R' has been modified graphically. The 'M' is a variant of the font Vivaldi Script FS.

See the City’s Brand Manual for more information on use of the City’s logo.

Street Sign Specifications
In addition to the below specifications, any street sign placed in public right-of-way shall meet all standards and specifications for the applicable agency.

Sign: The sign shall be 24” x 36” printed in full color as shown in Figure 1 on reflective 20+ year UV resistant laminate. Sign shall be adhered to 0.08 gauge aluminum grade road sign with 1-1/2” smooth radius corners. Holes shall be 3/8” DIA, pre-drilled 3” from the top and bottom (18” apart) as shown in Figure 1. Holes are sized per Idaho Department of Transportation (ITD) standards but may need to be increased to 7/16” during field install.

Breakaway Post: Sign shall be mounted to ACHD standard 12’ galvanized metal square sign post

WELCOME TO

MERICAN
IDAH

Figure 1: Note location of two black holes for securing sign to breakaway post.

Monument Sign Specifications
Standard Designs: The preferred and default monument signs are pre-designed and engineered. The three variants include: standard horizontal, highway horizontal, and a vertical monument, and are included in the back appendices. The horizontal may be used on normal arterial entryways; those less than 5-lanes. The highway
horizontal should be used adjacent to any interchange of road configuration larger than 5-lanes (including turn-lanes). The vertical monument is intended for constrained locations where landscape area is limited.

**Non-standard Designs:** Other, custom monument sign designs may be considered when they are intended to integrate with other architectural guidelines, when integrated into a public or private art exhibit, or for non-traditional entryways (e.g. – within a roundabout). Regardless, the design must maintain similar size considerations as the typical monument sign for the location, must follow general specifications if using the City’s normal logo, and should still reflect the City’s level of commitment to aesthetics, quality, and maintenance. See monument construction plans for dimensions on the signs, logos, material types and colors, and other references.
Appendices
Monument Construction Plans

- Horizontal Monument, Regular
- Horizontal Monument, Highway
- Vertical Monument
MERIDIAN IDAHO

HORIZONTAL ENTRYWAY MONUMENT SIGN
CABINET-
- FABRICATED WITH ALUMINUM FRAME AND SKINNED WITH .080 ALUMINUM SHEETING PAINTED WITH A BEIGE TEXTURED FINISH. SW 6128 BLONDE. SHERWIN-WILLIAMS
- "WELCOME TO" REVERSE PAN LETTERS. TYPE STYLE IS TAHOMA.
- ½" DEEP FABRICATED STAINLESS STEEL LETTERS. FACES AND RETURNS ARE PAINTED YELLOW TO MATCH PMS 124C. LETTERS ARE PEGGED ½" FROM BACKGROUND.
- REVERSE PAN LOGO. "MERIDIAN"
- ½" DEEP FABRICATED STAINLESS STEEL LETTERS. "MERIDIAN" FACES AND RETURNS ARE PAINTED BLUE TO MATCH PMS 288C. STAR FACE AND RETURNS ARE PAINTED YELLOW TO MATCH PMS 124C. ALL TO BE PEG MOUNTED ½" FROM BACKGROUND.
- HALO ILLUMINATION- GELCORE TETRA MINI MAX WHITE LEDS OR EQUIVALENT. U.L. LISTED.
- "IDAHO" NON-ILLUMINATED FLAT CUT OUT LETTERS
- ROUTED FROM ½" ALUMINUM PAINTED YELLOW TO MATCH PMS 124C. PEG MOUNTED ½" FROM BACKGROUND. FACES TO BE FLUSH WITH REVERSE PAN COPY.

BOTTOM LIP (SEE ADDITIONAL DRAWING)
- FABRICATED WITH ALUMINUM FRAME AND SKINNED WITH .080 ALUMINUM SHEETING PAINTED WITH A BEIGE TEXTURED FINISH. SW 6128 BLONDE. SHERWIN-WILLIAMS. LIP BOLTS TO CABINET.

BRICK MASONRY BASE. (SEE ADDITIONAL DRAWING FOR BRICK AND COLUMN CAP DETAILS)
- MUTUAL MATERIALS MODULAR BRICK. COLOR IS DESERT ROSE. 3/8" JOINTS WITH ADOBE TAN GROUT. JOINTS ARE TO BE IRONED SMOOTH. 3" REVEAL IS CAST CONCRETE 3" THICK X 1'-6" SQUARE.
- REVEAL COLOR IS SW 6128 BLONDE. SHERWIN-WILLIAMS. BLOCK BACKER AND FILLER REQUIRED IN BASE. COLUMNS CORE IS CONCRETE, BLOCK, OR APPROPRIATE BACKER. WATERPROOFING MASONRY SEALER REQUIRED. CONCRETE RISER AS REQUIRED FOR MASONRY BASE.

INSTALLATION:
- CABINET IS ATTACHED TO CENTER PIPE SUPPORT. (SEE ADDITIONAL DRAWING & ENGINEERING) A POLYURETHANE MASONRY SEALANT IS REQUIRED AT ALL CABINET TO MASONRY CONTACT POINTS.
- JUNCTION BOX ATTACHED TO POLE ABOVE MASONRY CORE WITH LONG SWEET ELBOW CONDUIT INTO FOUNDATION.
CABINET AND LIP DETAILS

TOP DETAIL
SCALE 3/4"=1'-0"

LIPS BOLT TO CABINET

CABINET DETAIL
SCALE 3/4"=1'-0"

WELCOME TO
MERIDIAN,
IDAHO

SIDE VIEW
3/4"=1'-0"
BRICK BASE DETAILS

TOP VIEW 3/4"=1'-0"

CONCRETE RISER
11'-0"
11'-6"
1'-8"
7'-0"
1'-8"
1'-6"

ROWLOCK COURSE

CAST CONCRETE REVEAL
3" X 1'-6" X 1'-6"

JUNCTION BOX

BRICK COLUMNS

CAST CONCRETE REVEAL

CMU BLOCK BACKER

CMU BLOCK FILLER

SIDE VIEW 3/4"=1'-0"

CONCRETE RISER
3'-6"
3'-0"
2'-8"
1'-8"
1'-10½" +/-
1'-10½" +/-

COLUMN CAP 1"=1'-0"

3'-6" CONCRETE RISER
3'-0"
2'-8"
1'-8"
1'-10½" +/-
1'-10½" +/-

1/2 BRICK

2" 2½"

4" 1/4"

1"=1'-0"

© 2012 CUSTOMER LOCATION DATE PAGE #

__________________
__________________
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__________________
__________________
__________________
June 22, 2015

Idaho Electric Signs
6528 Supply Way
Boise, ID 83705

Attn: Rick Berry

Re: City of Meridian - Meridian, ID
11x6 Monument Sign

As you have requested, we have provided the footing and column design for the above mentioned project. Please find the following enclosed as a list of considerations for your use in completing the project:

- PDF copy of select structural calculations.
- PDF copy of red-lined plans.

If you have any questions or require additional information, please call.

Sincerely,

JOHNSON DESIGN & ENGINEERING, PLLC

Tim Johnson, P.E.
STRUCTURAL CALCULATIONS

for

Idaho Electric Signs

City of Meridian - Meridian, ID

Select Structural Design

June 22, 2015

by

JOHNSON DESIGN & ENGINEERING, PLLC
1900 N. Lakes Place, Suite 100
Meridian, Idaho 83646
(208) 939-1045
Page 1 of 3
DESIGN CRITERIA:

Distance to sign top (h) 9.00 ft.
Height (s) 9.00 ft.
Width (B) 15.67 ft.
s/h 1.00
B/s 1.74

Wind Load: Basic Wind Speed, V = 115 mph ASCE 7-10, Fig. 26.5-1A
Exposure C ASCE 7-10, Sec. 26.7.3
Wind Directionality Factor, Kd = 0.85 ASCE 7-10, Table 26.6-1
Velocity Pressure Exposure Coefficient, Kz = 0.85 ASCE 7-10, Table 30.3-1
Velocity Pressure, q = .00256*Kz*Kd*V^2 = 24.46 psf ASCE 7-10, Eq. 29.3-1
Force Coefficient, Cf = 1.55 ASCE 7-10, Fig. 29.4-1
Gust Factor Coefficient, G = 0.85 ASCE 7-10, Sect. 26.9
Design Wind Load, P = q*G*Cf*.63 = 20.30 psf

Seismic: Face Area Dead Load, Wt = 20 psf
Mapped Spectral Accelerations
for short periods, Ss = 1.60 ASCE 7-10, Sec. 11.4.1
Site Coefficient, Fa = 1.00 ASCE 7-10, Table 11.4-1
Max. Spectral Response, SMS = Fa*Ss = 1.60 ASCE 7-10, Eq. 11.4-1
Design Spectral Response, SDs = 2/3*SMS = 1.07 ASCE 7-10, Eq. 11.4-3
Response Modification Coefficient, R = 2.00 ASCE 7-10 Table 12.2-1
Seismic Load, Vs = 1.0*Sds*Wt/R = 10.7 psf ASCE 7-10 Eq. 12.14-11

Soil: Lateral Loadings Fpv= 200 pcf/ft.
Vertical Loadings Fpb= 1500 psf

Steel Stresses: Yield Strength, Fy = 36000 psi
Bending Stress, Fb=0.66*Fy= 23760 psi
Concrete Stress: Concrete Strength, Fc' = 2000 psi
Reinforcing Strength, Fy = 40000 psi

<table>
<thead>
<tr>
<th>MEMBER NO.</th>
<th>BASE HEIGHT (ft)</th>
<th>Pw (lbs)</th>
<th>Y (ft)</th>
<th>Mw (ft-lbs)</th>
<th>Pv (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.00</td>
<td>1238</td>
<td>3</td>
<td>3436</td>
<td>1220</td>
</tr>
</tbody>
</table>

SIGN FORCES:

<table>
<thead>
<tr>
<th>MEMBER #1</th>
<th>Sign Area #</th>
<th>Area (Af) (ft^2)</th>
<th>Centriod (Cf) (ft from base)</th>
<th>Centroid*Area (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>6.00</td>
<td>5.50</td>
<td>33.00</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>27.00</td>
<td>3.75</td>
<td>101.25</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>28.00</td>
<td>1.25</td>
<td>35.00</td>
</tr>
</tbody>
</table>

\[ \text{Member forces} = \frac{\text{Area} \times \text{Centriod}}{6} \]

\[ \frac{61.00 \times \text{Af} \times \text{Cf}}{6} = 169.25 \]

Sign Centriod,6 = \( \frac{\text{Af} \times \text{Cf}}{6} \) = 2.77 ft.
Wind Load, Pw = \( \text{Af} \times \text{Ww} \) = 1238.50 lbs. @ base
Vertical Load, Pv = \( \text{Af} \times \text{Wt} \) = 1220.00 lbs. @ base
COLUMN DESIGN: [Use AISC (1.6-2); fa/Fa + fb/Fb < 1.33]
Use sign loads at the base of each column member for analysis of each member

<table>
<thead>
<tr>
<th>MEMBER #1</th>
<th>per member</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>4&quot; Dia x 0.237&quot; Wall</td>
<td>Ax (in²) = 3.17</td>
<td>6.34</td>
</tr>
<tr>
<td>Number of Columns 2</td>
<td>Sx (in³) = 3.21</td>
<td>6.42</td>
</tr>
<tr>
<td></td>
<td>ry (in) = 1.16</td>
<td></td>
</tr>
<tr>
<td>K = 2</td>
<td>L unbraced (ft.) = 9.00</td>
<td></td>
</tr>
<tr>
<td>KL/r = (in.) 186</td>
<td>Fa = AISC T.1-36 24660.00 psi</td>
<td></td>
</tr>
<tr>
<td></td>
<td>fa = Pv/Ax = 192.43 psi</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fb = AISC 1.5 = 23760.00 psi</td>
<td></td>
</tr>
<tr>
<td></td>
<td>fb = Mw/Sx = 6423.02 psi</td>
<td></td>
</tr>
<tr>
<td></td>
<td>fa/Fa + fb/Fb = 0.28</td>
<td>&lt;1.33 OK!</td>
</tr>
</tbody>
</table>

FOUNDATION DESIGN [IBC -Section 18]

FOOTING DEPTH = A/2(1+(1+(4.36*Y/A)^0.5)) 2012 IBC Equation 18-1

ASSUMED
- Multiple Excavated Footings
- # Footings, #F = 1
- Ftg. Width = (ft.) 11.50
- Ftg. Thick = (ft.) 3.50
- Depth = (ft.) 2.50

A = (2.34*Pw/#F)/(S*B) = 0.72
where
- S = Soil Bearing @ 1/3 Depth = 333.33 (psf)
- B = Effective Footing Width = 12.02 (ft.)

MINIMUM FOOTING DEPTH = (FT.) 1.88 OK !

CK. FOOTING AREA REQ'D = Pv/Ab 0.81 OK !
USING SUSTAINABLE PRODUCTS WHICH PROVIDE SAVINGS BY CONSERVING ENERGY

All signs are listed by Underwriters Laboratories and will be (U.L.) installed in accordance with the installation instructions and Article 600 of the National Electric Code.

Revisions:
- 2-3-15 (REV #3) CHANGED FROM ONE PIPE SUPPORT TO TWO 4" X .237 PIPES AS PER ENGINEERING.

Cabinet:
- Fabricated with aluminum frame and skinned with .080 aluminum sheeting painted with a beige textured finish. SW 6128 Blonde, Sherwin-Williams

Welcome to Reverse Pan Letters:
- Type Style is Tahoma
- ½" deep fabricated stainless steel letters. Faces and returns are painted yellow to match PMS 124C. Letters are pegged ½" from background.

Reverse Pan Logo:
- “MERIDIAN”
- ½" deep fabricated stainless steel letters. “MERIDIAN” faces and returns are painted blue to match PMS 288C. Star face and returns are painted yellow to match PMS 124C. All to be peg mounted ½" from background. Use only approved city logo.

Halo Illumination:
- GELCORE TETRA MINI MAX WHITE LEDS OR EQUIVALENT. U.L. LISTED.

Idaho:
- Non-Illuminated flat cut out letters
- Routed from ½” aluminum painted yellow to match PMS 124C. Peg mounted ½” from background. Faces to be flush with reverse pan copy.

Bottom Up (see additional drawing):
- Fabricated with aluminum frame and skinned with .080 aluminum sheeting painted with a beige textured finish. SW 6128 Blonde, Sherwin-Williams. Lip bolts to cabinet.

Brick Masonry Base:
- See additional drawing for brick and column cap details

Notes:
- Cabinet:
- Fabricated with aluminum frame and skinned with .080 aluminum sheeting painted with a beige textured finish. SW 6128 Blonde, Sherwin-Williams.

Installation:
- Cabinet is attached to center pipe support. (see additional drawing & engineering) A polyurethane masonry sealant is required at all cabinet to masonry contact points.

Junction Box Attached to pole above Masonry Core with long sweep Elbow conduit into foundation.

Double Face Halo Illuminated Monument Sign
USING SUSTAINABLE PRODUCTS WHICH PROVIDE SAVINGS BY CONSERVING ENERGY

All signs are listed by Underwriters Laboratories (UL) and will be installed in accordance with the installation instructions and Article 600 of the National Electric Code.

REVISIONS
2-30-15 (REV #3)
CHANGED FROM ONE PIPE SUPPORT TO TWO 4” X 237 PIPES AS PER ENGINEERING. ADDED FOOTING SIZE. (SEE ENGINEERING)

DOUBLE FACE HALO ILLUMINATED MONUMENT SIGN

SCALE ½” = 1'-0"
USING SUSTAINABLE PRODUCTS WHICH PROVIDE SAVINGS BY CONSERVING ENERGY

All signs are listed by Underwriters Laboratories (U.L.) and will be installed in accordance with the installation instructions and Article 600 of the National Electric Code.

WEB SIGN
HELPING OUR CUSTOMERS SUCCEED FOR 31 YEARS
208-338-9401
2010 SUNNY DRIVE WHOA, WE JUST HIT THE GROUND RUNNING.

Boise’s Only
Full Service Sign Company

CABINET DETAIL
SCALE ½”=1'-0"

CABINET AND LIP DETAILS

LIPS BOLT TO CABINET
USING SUSTAINABLE PRODUCTS WHICH PROVIDE SAVINGS BY CONSERVING ENERGY

REVISIONS
2-30-15 (REV #3)
CHANGED FROM ONE PIPE SUPPORT TO TWO 4" X .237 PIPES AS PER ENGINEERING. ADDED FOOTING SIZE. (SEE ENGINEERING)

All signs are listed by Underwriters Laboratories (UL) and will be installed in accordance with the installation instructions and Article 600 of the National Electric Code.

SALES
RICK BREDE

DESIGNER
RICK BREDE

SKETCH #

CITY OF MERIDIAN

LOCATION
MERIDIAN

DATE
1-23-15

PAGE #
5 OF 5

COPYRIGHT © 2015
March 31, 2015

Idaho Electric Signs
6528 Supply Way
Boise, ID 83705

Attn: Rick Berry

Re: City of Meridian - Meridian, ID

As you have requested, we have provided the footing and column design for the above mentioned project. Please find the following enclosed as a list of considerations for your use in completing the project:

- PDF copy of select structural calculations.
- PDF copy of red-lined plans.

If you have any questions or require additional information, please call.

Sincerely,

JOHNSON DESIGN & ENGINEERING, PLLC

Tim Johnson, P.E.
STRUCTURAL CALCULATIONS

for

Idaho Electric Signs

City of Meridian - Meridian, ID

Select Structural Design

March 31, 2015

by

JOHNSON DESIGN & ENGINEERING, PLLC
1900 N. Lakes Place, Suite 100
Meridian, Idaho 83646
(208) 939-1045

DESIGN CRITERIA:

Distance to sign top (h) = 9.00 ft.
Height (s) = 9.00 ft.
Width (B) = 15.67 ft.
s/h = 1.00
B/s = 1.74

Wind Load:
Basic Wind Speed, V = 115 mph
Exposure = C
Wind Directionality Factor, Kd = 0.85
Velocity Pressure Exposure Coefficient, Kz = 0.85
Velocity Pressure, q = 0.00256*Kz*Kd*V^2 = 24.46 psf
Force Coefficient, Cf = 1.55
Gust Factor Coefficient, G = 0.85
Design Wind Load, P = q*G*Cf*0.63 = 20.30 psf

Seismic:
Face Area Dead Load, Wt = 20 psf
Mapped Spectral Accelerations
for short periods, Ss = 1.60
Site Coefficient, Fa = 1.00
Max. Spectral Response, SMS = Fa*Ss = 1.60
Design Spectral Response, SDS = 2/3*SMS = 1.07
Response Modification Coefficient, R = 2.00
Seismic Load, Vs = 1.0*Ss*Wt/R = 10.7 psf

Soil:
Lateral Loadings Fpv = 200 pcf/ft.
Vertical Loadings Fpb = 1500 psf

Steel Stresses:
Yield Strength, Fy = 36000 psi
Bending Stress, Fb = 0.66*Fy = 23760 psi

Concrete Stress:
Concrete Strength, Fc' = 2000 psi
Reinforcing Strength, Fy = 40000 psi

<table>
<thead>
<tr>
<th>MEMBER NO.</th>
<th>BASE HEIGHT (ft)</th>
<th>Pw (lbs)</th>
<th>Y (ft)</th>
<th>Mw (ft-lbs)</th>
<th>Pv (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.00</td>
<td>2477</td>
<td>4</td>
<td>9883</td>
<td>2440</td>
</tr>
</tbody>
</table>

SIGN FORCES:

<table>
<thead>
<tr>
<th>MEMBER #1</th>
<th>Sign Area #</th>
<th>Area (Af) (ft2)</th>
<th>Centriod (Cf) (ft from base)</th>
<th>Centroid*Area (ft3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>15.00</td>
<td>7.75</td>
<td>116.25</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>60.00</td>
<td>5.00</td>
<td>300.00</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>47.00</td>
<td>1.50</td>
<td>70.50</td>
</tr>
</tbody>
</table>

\[ \cdot Af = 122.00 \quad \cdot Af*Cf = 486.75 \]

Sign Centriod,6 = (\cdot Af*Cf)/\cdot Af = 3.99 ft.
Wind Load, Pw = \cdot Af*Ww = 2476.99 lbs. @ base
Vertical Load, Pv = \cdot Af*Wt = 2440.00 lbs. @ base
COLUMN DESIGN: [Use AISC (1.6-2); fa/Fa + fb/Fb < 1.33]

Use sign loads at the base of each column member for analysis of each member.

<table>
<thead>
<tr>
<th>MEMBER #1</th>
<th>per member</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>4&quot; Dia x 0.237&quot; Wall</td>
<td>Ax (in²) = 3.17</td>
<td>6.34</td>
</tr>
<tr>
<td>Number of Columns</td>
<td>Sx (in³) = 3.21</td>
<td>6.42</td>
</tr>
<tr>
<td></td>
<td>ry (in) = 1.16</td>
<td></td>
</tr>
<tr>
<td>K = 2</td>
<td>L unbraced (ft.) = 9.00</td>
<td></td>
</tr>
<tr>
<td>KL/r = (in.)</td>
<td>186</td>
<td></td>
</tr>
<tr>
<td>Fa = AISC T.1-36</td>
<td>4320.00 psi</td>
<td></td>
</tr>
<tr>
<td>fa = Pν/Ax =</td>
<td>384.86 psi</td>
<td></td>
</tr>
<tr>
<td>Fb = AISC 1.5</td>
<td>23760.00 psi</td>
<td></td>
</tr>
<tr>
<td>fb = Mw/Sx =</td>
<td>18472.12 psi</td>
<td></td>
</tr>
<tr>
<td>fa/Fa + fb/Fb =</td>
<td>0.87 &lt;1.33 OK!</td>
<td></td>
</tr>
</tbody>
</table>

FOUNDATION DESIGN [IBC -Section 18]

FOOTING DEPTH = A/2(1+(1+(4.36*Y/A)^0.5)) 2012 IBC Equation 18-1

ASSUMED

<table>
<thead>
<tr>
<th>FOOTING AREA REQ'D = Pν/Ab</th>
<th>1.63 OK!</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>FOOTINGS, #F</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ftg. Width (ft.)</td>
<td>16.50</td>
</tr>
<tr>
<td>Ftg. Thick (ft.)</td>
<td>3.67</td>
</tr>
<tr>
<td>Depth (ft.)</td>
<td>2.75</td>
</tr>
</tbody>
</table>

A = (2.34*Pw/#F)/(S*B) = 0.94

where

S = Soil Bearing @ 1/3 Depth = 366.67 (psf)
B = Effective Footing Width = 16.90 (ft.)

MINIMUM FOOTING DEPTH = (FT.) 2.54 OK!

CK.
NOTES:

SIGN STRUCTURE:
FABRICATED WITH ALUMINUM FRAME AND SKINNED WITH ALUMINUM SHEETING. EXPOSED TOP AND 3" REVEAL ARE PAINTED WITH A BEIGE TEXTURED FINISH. SW 6128 BLONDE. SHERWIN-WILLIAMS. AREAS TO BE OVERLAID WITH BRICK REQUIRE CEMENT BOARD ATTACHED WITH SCREWS. EXPOSED ALUMINUM SHEETING AT TOP AND BOTTOM OF BRICK IS TO BE SEALED (CAULKED) WITH A POLYURETHANE SEALER.

BRICK MASONRY:
MUTUAL MATERIALS SLIM BRICK. CORNER BRICK REQUIRED. ROWLOCK COURSE AND SAILOR COURSE ARE MUTUAL MATERIALS MODULAR BRICK CUT AS REQUIRED. COLOR IS DESERT ROSE. 3/8" JOINTS WITH ADOBE TAN GROUT. JOINTS ARE TO BE IRONED SMOOTH. WATERPROOFING MASONERY SEALER REQUIRED.

REVERSE PAN LOGO:
½" DEEP FABRICATED STAINLESS STEEL LOGO. ALL FACES AND RETURNS ARE PAINTED YELLOW TO MATCH PMS 124C. LOGO IS PEGGED ½" FROM BACKGROUND. HALO ILLUMINATION:
GELCORE TETRA MINI MAX WHITE LEDS OR EQUIVALENT. U.L. LISTED.

BACKGROUND PANS: (REMOVABLE)
2" DEEP PAN FABRICATED FROM ALUMINUM. PANS ARE TO WRAP CORNERS ON BOTH SIDES. SEE TOP DETAIL. WAVE END OF PAN IS TO HAVE A YELLOW PMS 124C 1" PAINT REVEAL FACE SIDE AND RETURN. ALL OTHER IS TO HAVE A BEIGE TEXTURED FINISH. SW 6128 BLONDE. SHERWIN-WILLIAMS.

REVERSE PAN COPY: "MERIDIAN"
½" DEEP FABRICATED STAINLESS STEEL LETTERS. FACES AND RETURNS ARE PAINTED BLUE TO MATCH PMS 288C. LETTERS ARE PEG MOUNTED ½" FROM BACKGROUND. TYPE STYLE IS TO BE MONOSPACE 821 BT
HALO ILLUMINATION:
GELCORE TETRA MINI MAX WHITE LEDS OR EQUIVALENT. U.L. LISTED.

INSTALLATION:
SIGN STRUCTURE IS ATTACHED TO CENTER PIPE SUPPORT. (SEE ENGINEERING)
THIS IS AN UNPUBLISHED DRAWING/DESIGN SUBMITTED FOR YOUR PERSONAL USE IN CONNECTION WITH A PROJECT BEING PLANNED FOR YOU BY IDAHO ELECTRIC SIGNS, INC. AND IS NOT TO BE REPRODUCED, COPIED OR EXHIBITED IN ANY FASHION WITHOUT WRITTEN PERMISSION OF IDAHO ELECTRIC SIGNS, INC.

THE COLORS DEPICTED IN THIS DRAWING ARE TO ASSIST YOU IN VISUALIZING OUR PROPOSAL AND MAY NOT MATCH ACTUAL COLORS USED ON THE FINISHED DISPLAY.
March 31, 2015

Idaho Electric Signs
6528 Supply Way
Boise, ID 83705

Attn: Rick Berry

Re: City of Meridian - Meridian, ID

As you have requested, we have provided the footing and column design for the above mentioned project. Please find the following enclosed as a list of considerations for your use in completing the project:

PDF copy of select structural calculations.
PDF copy of red-lined plans.

If you have any questions or require additional information, please call.

Sincerely,

JOHNSON DESIGN & ENGINEERING, PLLC

Tim Johnson, P.E.
STRUCTURAL CALCULATIONS

for

Idaho Electric Signs

City of Meridian - Meridian, ID

Select Structural Design

March 31, 2015

by

JOHNSON DESIGN & ENGINEERING, PLLC
1900 N. Lakes Place, Suite 100
Meridian, Idaho 83646
(208) 939-1045
DESIGN CRITERIA:

Distance to sign top (h) 9.00 ft.
Height (s) 9.00 ft.
Width (B) 15.67 ft.
s/h 1.00
B/s 1.74

Wind Load:
Basic Wind Speed, \( V = 115 \) mph ASCE 7-10, Fig. 26.5-1A
Exposure C ASCE 7-10, Sec. 26.7.3
Wind Directionality Factor, \( K_d \) 0.85 ASCE 7-10, Table 26.6-1
Velocity Pressure Exposure Coefficient, \( K_z = 0.85 \) ASCE 7-10, Table 30.3-1
Velocity Pressure, \( q = 0.0256*K_z*K_d*V^2 = 24.46 \) psf ASCE 7-10, Eq. 29.3-1
Force Coefficient, \( C_f = 1.55 \) ASCE 7-10, Fig. 29.4-1
Gust Factor Coefficient, \( G = 0.85 \) ASCE 7-10, Sect. 26.9
Design Wind Load, \( P = q*G*C_f*.63 = 20.30 \) psf

Seismic:
Face Area Dead Load, \( W_t = 20 \) psf
Mapped Spectral Accelerations
for short periods, \( S_s = 1.60 \) ASCE 7-10, Sec. 11.4.1
Site Coefficient, \( F_a = 1.00 \) ASCE 7-10, Table 11.4-1
Max. Spectral Response, \( S_{MS} = F_a*S_s = 1.60 \) ASCE 7-10, Eq. 11.4-1
Design Spectral Response, \( S_{DS} = 2/3*S_{MS} = 1.07 \) ASCE 7-10, Eq. 11.4-3
Response Modification Coefficient, \( R = 2.00 \) ASCE 7-10 Table 12.2-1
Seismic Load, \( V_s = 1.0*S_{DS}*W_t/R = 10.7 \) psf ASCE 7-10 Eq. 12.14-11

Soil:
Lateral Loadings \( F_{pv} = 200 \) pcf/ft.
Vertical Loadings \( F_{pb} = 1500 \) psf

Steel Stresses:
Yield Strength, \( F_y = 36000 \) psi
Bending Stress, \( F_b = 0.66*F_y = 23760 \) psi

Concrete Stress:
Concrete Strength, \( F_c' = 2000 \) psi
Reinforcing Strength, \( F_y = 40000 \) psi

MEMBER NO.  BASE HEIGHT  PW  Y  MW  PV
<table>
<thead>
<tr>
<th>(ft)</th>
<th>(lbs)</th>
<th>(ft)</th>
<th>(ft-lbs)</th>
<th>(lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.00</td>
<td>447</td>
<td>6</td>
<td>2457</td>
</tr>
</tbody>
</table>

SIGN FORCES:
MEMBER #1

Sign Area #  Area (Af)  Centroid (Cf)  Centroid*Area
<table>
<thead>
<tr>
<th>(ft²)</th>
<th>(ft from base)</th>
<th>(ft³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>22.00</td>
<td>5.50</td>
</tr>
</tbody>
</table>

\( \cdot Af = 22.00 \)

\( \cdot Af*Cf = 121.00 \)

Sign Centroid: \( 6 = (\cdot Af*Cf)/\cdot Af = 5.50 \) ft.
Wind Load, \( P_w = \cdot Af*W_w = 446.67 \) lbs. @ base
Vertical Load, \( P_v = \cdot Af*W_t = 440.00 \) lbs. @ base
COLUMN DESIGN: [Use AISC (1.6-2); fa/Fa + fb/Fb < 1.33]
Use sign loads at the base of each column member for analysis of each member

**MEMBER #1**

- 4" Dia x 0.237" Wall
- Ax (in²) = 3.17
- Sx (in³) = 3.21
- K = 2
- L unbraced (ft.) = 10.00
- Fa = AISC T.1-36 5910.00 psi
- fa = Pv/Ax = 138.80 psi
- Fb = AISC 1.5 = 23760.00 psi
- fb = Mw/Sx = 9183.88 psi
- fa/Fa + fb/Fb = 0.41 < 1.33 OK!

**FOUNDATION DESIGN [IBC -Section 18]**

**FOOTING DEPTH** = \( \frac{A}{2(1+(1+(4.36*Y/A)^{0.5}))} \)

2012 IBC Equation 18-1

**ASSUMED**

- Multiple Excavated Footings
- # Footings, #F = 1
- Ftg. Width = (ft.) 2.00
- Ftg. Thick = (ft.) 2.00
- Depth = (ft.) 3.50

\[
A = \frac{(2.34*Pw/#F)/(S*B)} = 0.79
\]

where

\[
S = \text{Soil Bearing @ 1/3 Depth} = 466.67 \text{ (psf)}
\]

\[
B = \text{Effective Footing Width} = 2.83 \text{ (ft.)}
\]

MINIMUM FOOTING DEPTH = (FT.) 2.61 OK!

CK. FOOTING AREA REQ'D = \( \frac{Pv}{Ab} \) = 0.29 OK!