

GREAT RIVERS GREENWAY EXTERIOR SIGN DESIGN STANDARDS

Updated August 2020



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Project Background

Hello! Thanks for taking a look at our Wayfinding & Signage Design Standards.

We think it’s important to share this with vendors and partners so everyone can understand our project goals and standards.

If you’d like to read the document to understand best practices, please do – *what’s ours is yours in terms of knowledge and industry standards.*

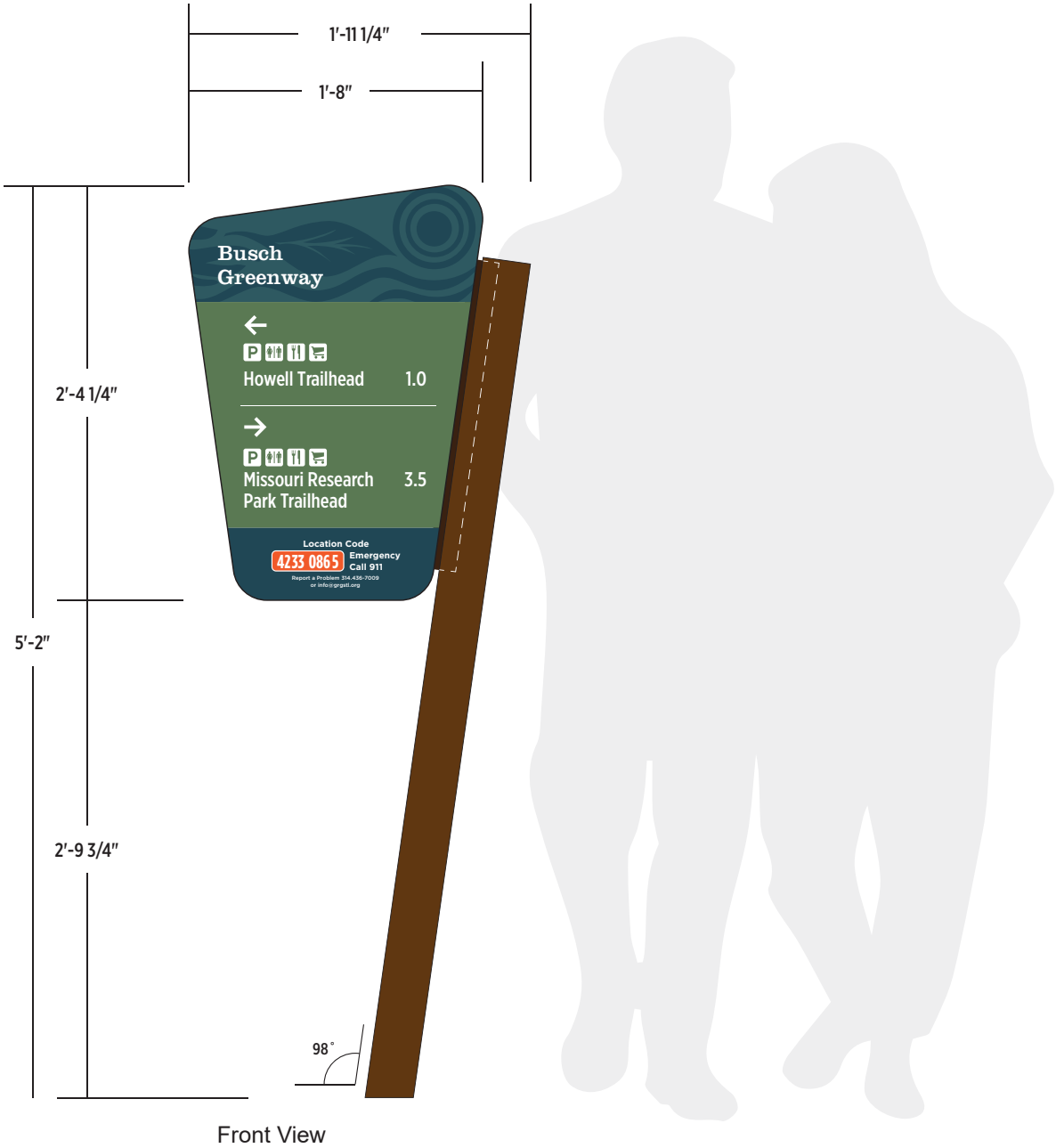
Please note that the following guidelines should be used only for signs that appear on greenways within Great Rivers Greenway’s River Ring network.

While we are certainly flattered if people wish to use the information in this document to guide their efforts, we respectfully request that they not emulate the same colors, fonts, shapes and logos. These elements are the proprietary brand for Great Rivers Greenway, designed to help people identify that they are on a greenway and part of the network.

If you have any questions about this document or the usage of the recommendations, please contact me. Thanks for your collaboration in making the St. Louis region a vibrant place to live, work and play!

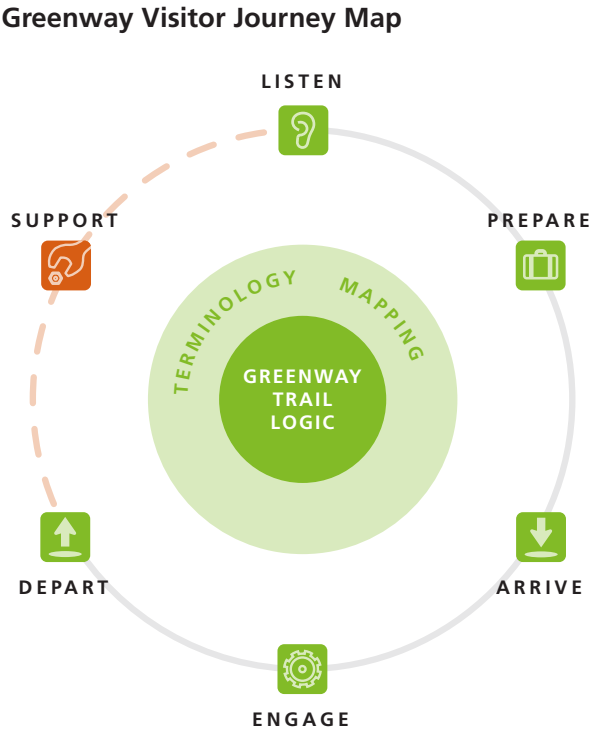
Seth Treptow

Communications Manager
(314) 932-4910
streptow@grgstl.org



Q: What is [green]wayfinding?

A: Direction for People in Motion



Wayfinding is:

Visual & informational consistency

Consistent **brand presence**

Answers to visitor questions:

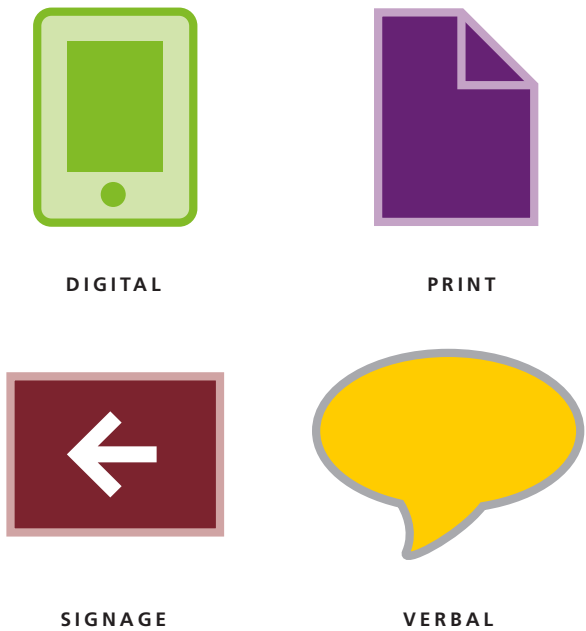
Listen | Prepare

- What is a Greenway?
- Why should I go?
- What can I expect when I get there?
- How do I get there?

Arrive | Engage | Depart

- Where am I?
- Where can I find _____?
- Does this trail connect?
- Something's wrong. Who do I call?

Great Rivers Greenway Responsibilities



Wayfinding includes:

Simplified logic & terminology

Standards for wayfinding tools

Anticipating user informational needs:

Listen | Prepare

- Website | Mobile
- Printed Materials
- Verbal Directions

Arrive | Engage | Depart

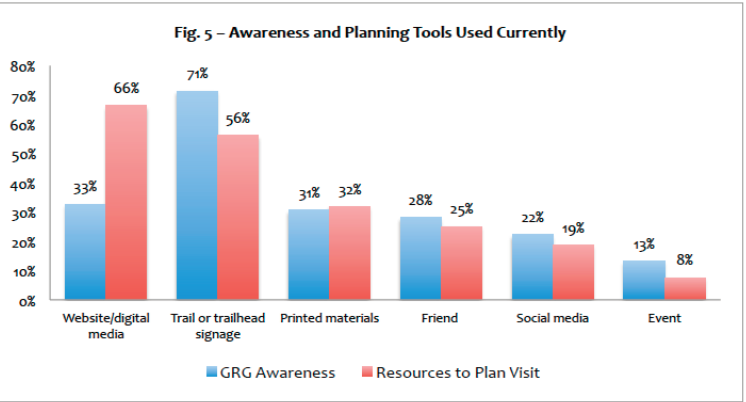
- Wayfinding Signage
- Printed Materials
- Mobile

Support

- Planning Guidelines
- Signage System Planning & Procurement
- Maintenance

Q: Why develop a wayfinding program now?

A: Navigation Survey Results



Navigation while visiting a trail

- Only 12% report using a printed map
- 80% rely on trail signage, including distance markers, wayfinding signs
- 52% report using maps on trailhead kiosks
- 41% use a smartphone or other GPS device

Analysis observations:

Greenway system growth =

- Need for standardization

Connectivity: Can I get there from here?

- Indicate connections to transit
- Add trailblazer signs to Greenway trails
- Identify on-street routes where GRG trails end

Experience: How do I know ...?

- Use international symbols to describe conditions: Trail grade/hazards, amenities, features.
- Place distance markers on all maps

Location: Where am I?

- Use GRG naming hierarchy as basis for locating
- Provide a Locator Code for first responders
- GRG phone number for operations concerns

Respondents report usage

- Most respondents use multiple greenways
- Multiple uses in a given month
- Primarily for cycling, recreation

Trail markers, signs help people:

- Become aware of the GRG system
- Learn about greenways
- Navigate trails

Digital media

- Currently used mostly for planning a visit
- Most would use a mobile site to navigate
- Some currently use smartphone features to navigate trails
- New GRG Website is “mobile-first,” providing orientation, information

Existing Signage

- Undertake comprehensive audit using GIS
- Create database: sign type, location, conter
- Retrofit existing signage as updates require
- Apply new design to new trail segments
- Add sign types to vocabulary to meet previously unmet informational needs
- Increase cost savings, functionality

Mapping

- Develop one consistent map in all media

Separate interpretive

- Understand the difference between wayfinding, promotion and interpretive
- Place interpretive on separate sign types

Great Rivers Greenway Location Code

A critical safety issue for users of the Greenways is that they be able to identify their location if an emergency occurs. Additionally, GRG Operations staff identified the need to be able to pinpoint locations of maintenance issues on the trails: downed trees, broken pavement, graffiti, trash, etc. The previous design standard did not include this feature.

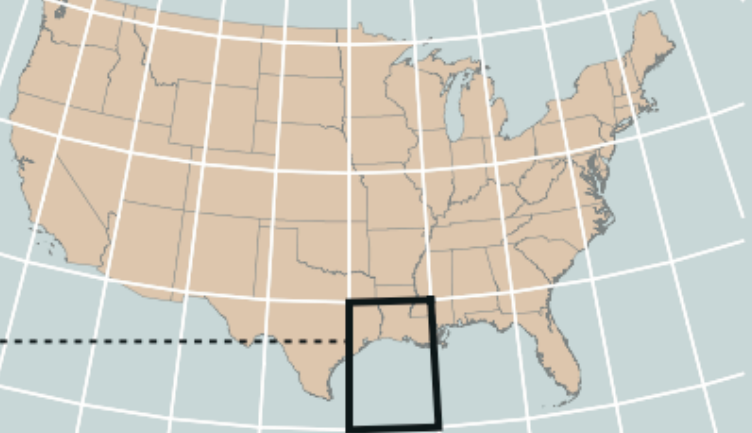
We've designed the **United States National Grid (USNG)** into the signage standard to manage both of these issues, for the following reasons:

- 1. GRG trail segments are not contiguous and rapidly expanding. This eliminates our ability to identify a location based on a given starting or ending point. The USNG identifies a unique geographic point that does not depend on linear continuity.
- 2. Location points for future trail segments already exist; they just need to be identified and applied as needed.
- 3. The sign standard is designed to accommodate the Location Code as needed. Not all signs will require the code; use of the system relies on the discretion of the GRG planner/project manager for each sign location. We've also designed a sign type to place only the location code where no other information is needed.
- 4. This code can be applied to existing signage as needed.
- 5. The system was developed by the Federal Geographic Data Committee to supplement other unique locators (e.g. street address, GPS coordinates), cross jurisdictional lines, and is supported across digital platforms.
- 6. In some cases, it may be the only way to pinpoint a location in an area with no established road network, or an area affected by a natural disaster where other locators are unavailable.
- 7. Anyone tasked with identifying locations can use it: private citizens, commercial entities, first responders, the National Guard. It allows both state and federal agencies to integrate response in the event of an emergency. It can be integrated with local 911 systems.
- 8. It's a grid-based alpha-numeric point reference system that scales from 100,000 square meters at its largest segmentation to 10 square meters at its most precise. Depending on the sign location, we can use either six digits (rural setting) or eight digits (dense urban setting) to indicate a trail user's location.
- 9. The unique combination in the code is never duplicated within a given region.

Finding a location using the USNG

The National Grid uses a string of 15 characters to designate a specific location. Older systems used latitude and longitude measurements, which can be misread in several ways. Global Positioning System satellites can generate either type of data.

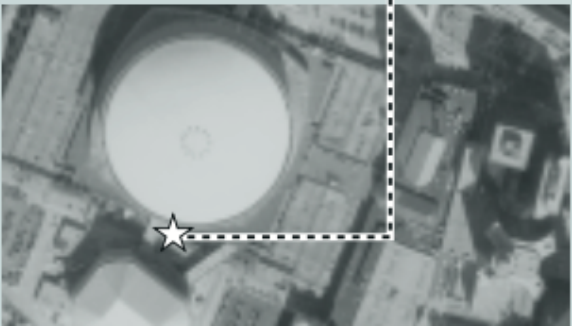
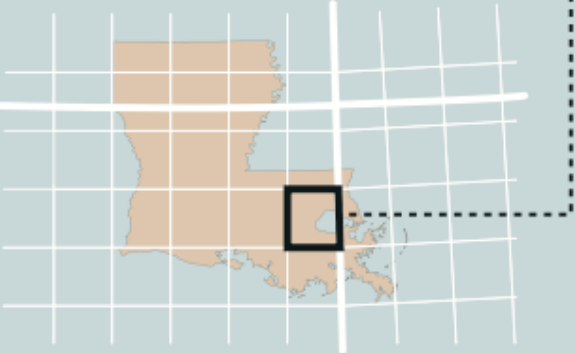
U.S. Grid Zone Designations



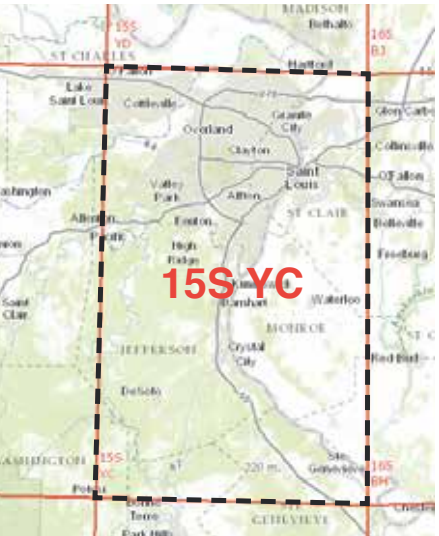
First three characters correspond to grid zone designation

15R YP 81660 16816

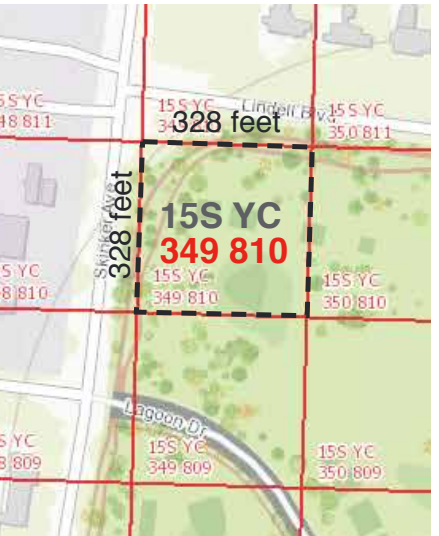
Next two letters indicate 100,000-meter-square identification



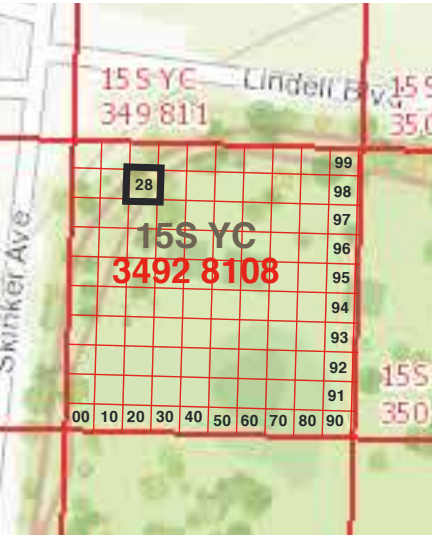
Remaining numbers represent a location east and north of perpendicular grid lines. Ten digits can locate a point within 1 square meter.



Regional location code (does not appear on signs)



Six digit location code 100 meter / 328 ft square



Eight digit location code 10 meter / 32.8 ft square

For more information visit: usngcenter.org




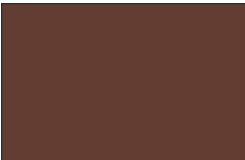


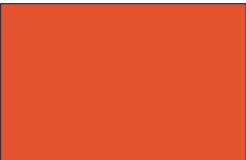
USNG Location Code

15S YC 3450 8233

Emergency
Call 911

Report a Problem 314.436.7009
or info@grgstl.org

Color Palette

						
01 Dark Blue	02 Blue	04 Green	05 Brown	06 Gold	07 White	08 Orange
Pantone®: 7546 C	7477 C	5763 C	7596 C	7563 C	White	7579 C
Matthews Paint: MP 8973 Tintoretto Blue	MP 11183 Franco Blue	MP 479 Extra Virgin	MP 4418 Doric Brown	MP 29187 Jack O'Lantern	N202SP Satin White	MP01049
Powder-Coating Finish: ---	---	---	color code to be determined	---	---	---
CMYK Equivalent: C91 M78 Y54 K50	C94 M82 Y44 K31	C57 M35 Y91 K17	C55 M83 Y89 K32	C16 M52 Y97 K2	C0 M0 Y0 K0	C4 M84 Y96 K0
RGB Equivalent: R44 G50 B66	R51 G58 B87	R113 G128 B73	R90 G62 B54	R191 G140 B57	R255 G255 B255	R198 G83 B51
Clear Coat: Satin Clear Coat finish, MP SOA4158SP						
Digital Print: Sherine Industries Ltd. 113 – 19433 96 Ave Surrey BC V4N 4C4 604.513.1887 1.800.665.0566 sherineindustries.com						

Typography

Gotham Bold

Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj Kk Ll Mm Nn Oo
Pp Qq Rr Ss Tt Uu Vv Ww Xx Yy Zz 1234567890

Gotham Bold Italic

Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj Kk Ll Mm Nn Oo
Pp Qq Rr Ss Tt Uu Vv Ww Xx Yy Zz 1234567890

Gotham Medium

Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj Kk Ll Mm Nn Oo
Pp Qq Rr Ss Tt Uu Vv Ww Xx Yy Zz 1234567890

Gotham Medium Italic

Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj Kk Ll Mm Nn Oo
Pp Qq Rr Ss Tt Uu Vv Ww Xx Yy Zz 1234567890

Clarendon Roman

Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj Kk Ll Mm Nn Oo
Pp Qq Rr Ss Tt Uu Vv Ww Xx Yy Zz 1234567890

Gotham XNarrow Medium

Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj Kk Ll Mm Nn Oo
Pp Qq Rr Ss Tt Uu Vv Ww Xx Yy Zz 1234567890

Gotham XNarrow Light

Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj Kk Ll Mm Nn Oo
Pp Qq Rr Ss Tt Uu Vv Ww Xx Yy Zz 1234567890

Trail Activity and Amenity Symbols

Parking
[1]

Wheelchair Accessible
[2]

Scenic Overlook
[3]

Information
[4]

Camping
[5]

Campfire
[6]

Picnic Area
[7]

Restrooms
[8]

Bike Rack
[9]

Row Boat
[10]

Trailhead
[11]

Fishing
[12]

Boat Launch
[13]

Food
[14]

Paddle Boat
[15]

Bicycle Trail
[16]

Recreation
[17]

Shelter
[18]

Playground
[19]

Interpretive Exhibit
[20]

Litter Receptacle
[21]

Interpretive Path
[22]

Wildlife Viewing
[23]

Swimming
[24]

Pets on Leash
[25]

Bus Stop
[26]

Cars
[27]

Benches
[28]

Drinking Water
[29]

Fix-It Station
[30]

Trail Conditions/Map Symbols

Pine Tree
[31]

Calendar
[32]

Compass
[33]

Magnifying Glass
[34]

Location
[35]

Map
[36]

List
[37]

Sun/Sunny
[38]

Cloud
[39]

Rain-Cloud
[40]

Grass
[41]

Walk
[42]

Metro
[43]

Car
[44]

Leaf
[45]

Shoe
[46]

Paved
[47]

Unpaved
[48]

Four-miles Over
[49]

Four-mile Under
[50]

Tree/Shade
[51]

Urban
[52]

Rural
[53]

Popular
[54]

Hidden Gem
[55]

Family
[56]

Groups
[57]

run
[58]

Learn
[59]

Volunteer
[60]

facebook
[61]

twitter
[62]

instagram
[63]

share
[64]

Sustainability
[65]

Music
[66]

Art
[67]

Planning
[68]

Trail Regulatory

Steep Incline
[70]

Steep Decline
[71]

Stairs
[73]

Flood Zone
[74]

Bridge
[75]

No Swimming
[76]

Tunnel
[77]

Golf Zone
[78]

Trail Narrows
[79]

Blind Curve
[80]

Trail Safety Symbols

Slippery Trail
[81]

Tight Turn
[82]

Traffic
[83]

Look out
[84]

Slow Down
[85]

Dog on Leash
[86]

Standard Symbols

Standard Arrow

No Parking
[NP]

No Smoking
[NS]

No Entry
[NE]

Logos

Great Rivers Greenway



Great Rivers Greenway Sign Array



Great Rivers Greenway Sign Array: Sign Descriptions and Functions

Sign Type	Description	Function
IX-1	Vehicular Main Identification	Destination or Greenway Identification Sign Type scaled for viewing by vehicular traffic on roads with a 35mph and above speed limit. Carries a 4 1/4” cap height. Locate perpendicular to traffic where possible.
IX-2	Vehicular Secondary Identification	Destination or Greenway Identification Sign Type scaled for viewing by vehicular traffic on roads with a speed limit below 35mph speed. Carries a 3 1/4” cap height. Locate perpendicular to traffic where possible.
IX-3	Vehicular Greenway Identification	Greenway identification Sign scaled for viewing by vehicular traffic. Carries a 2 5/8” cap height. Locate perpendicular to traffic where possible.
GX-1	Vehicular Trailblazer 6”	Guide Sign to Greenway scaled for viewing by vehicular traffic on higher speed road. Locate perpendicular to traffic where possible.
GX-2	Vehicular Trailblazer 4”	Guide Sign to Greenway scaled for viewing by vehicular traffic on roads with speed limit below 35mph. Locate perpendicular to traffic where possible.
GX-3	Vehicular Guide	Guide Sign scaled for viewing by vehicular traffic. 3- destination capacity. Destinations grouped alphabetically by arrow direction. Left arrow, then right arrow, then straight ahead arrow.
GX-4	Pedestrian Trailblazer	Guide Sign to Greenway scaled for viewing by pedestrians. Locate perpendicular to traffic where possible.
GX-5	Pedestrian Large Multi-Directional Guide	Multi-Directional Trail Guide with Amenities, Distances and Locator Panel. Locate perpendicular to trail.
GX-6	Pedestrian Medium Multi-Directional Guide	Multi-Directional Trail Guide with Amenities, Distances and Locator Panel. Locate perpendicular to trail.
GX-7	Pedestrian Medium Single-Directional Guide	Single-Directional Trail Guide with Amenities, Distance and Locator Panel. Locate perpendicular to trail.
GX-8	Amenity Guide	Trail Guide to Amenities, Distance and Locator Panel. Locate perpendicular to Trail.
GX-9	Trailblazer Guide	Guide Sign mounted to tall pole, Distances, and Locator Panel. 2-destination capacity. Locate perpendicular to trail.

Sign Type	Description	Function
GX-99	Trailblazer Guide - 2 flag	Guide Sign mounted to tall pole, Distances, and Locator Panel. 2-destination capacity per panel face. Locate perpendicular to trail.
KX-1	Main Trailhead Kiosk - with alternate backs	Trailhead Kiosk contains trail map and information. Alternate back panels with graphic panels or posting boards. Locate perpendicular to trail.
KX-2	Secondary Trailhead Kiosk	Trailhead Kiosk contains trail map and information, double-sided with information same on both sides. Locate perpendicular to trail.
KX-3	Trail Information	Trail etiquette information only, no map. Locate perpendicular to trail where possible.
RX-1	Regulatory/Safety	Sign carries cautionary or safety information along with locator panel. Locate perpendicular to road where posible.
RX-2	Mile Marker	Sign carries mileage information. Should be located at least 1 mile increments. Locate perpendicular to trail.
RX-3	Mile Marker w/Trail Info and Rescue Locator	Sign carries mileage information, with locator panel and trail name. Should be located at least 1 mile increments. Locate perpendicular to trail.
TC-1	Trail Counter-Sign Panel	Trail Counter by others. Sign Panel carries Greenway name, symbols describing trail information, and trail etiquette. Locate perpendicular to trail.
IN-1	Interpretive	Interpretive sign has high pressure laminate panel containing historical, biographical or nature- themed content. Sign to be located parallel to trail. See locating diagrams in this Manual for ADA- compliant concrete pads.

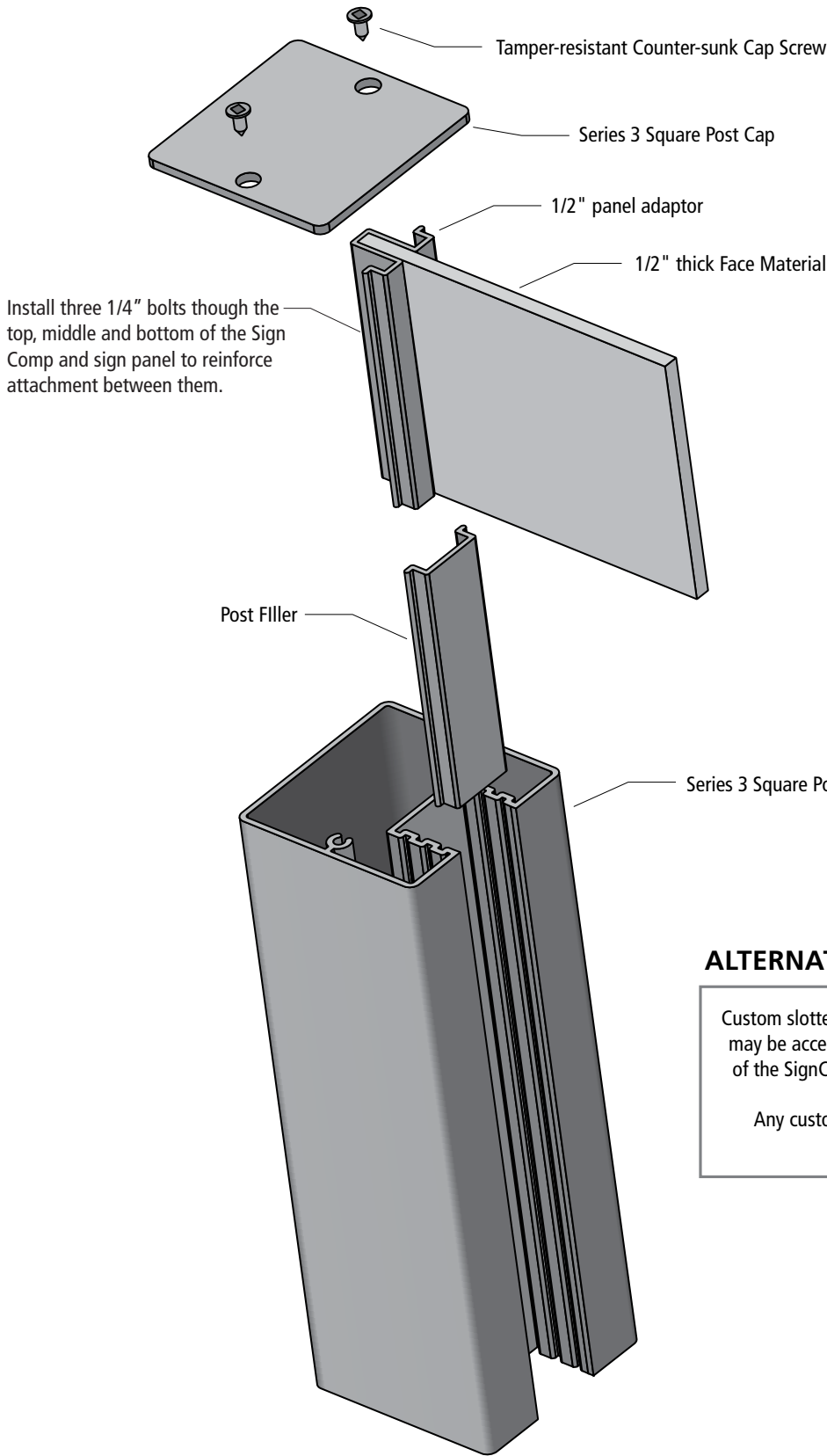
Great Rivers Greenway Sign Array: Post and Panel Assembly



SignComp Architectural Extrusions
3032 Walker Ridge Drive NW
Grand Rapids, MI 49544

Toll Free 877.784.0405
Fax 616.784.0411

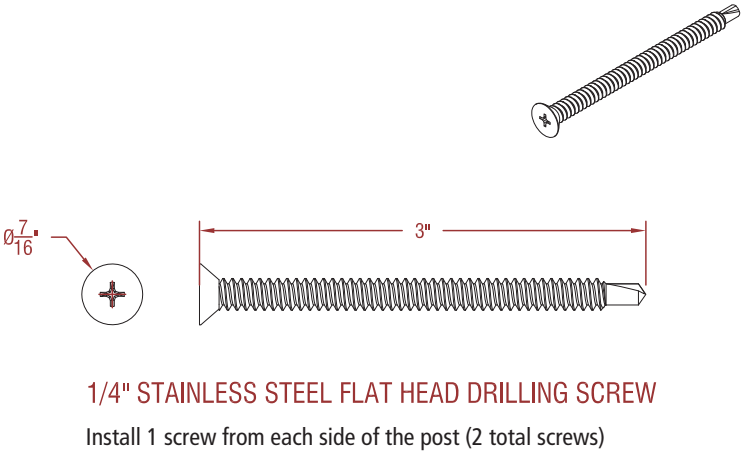
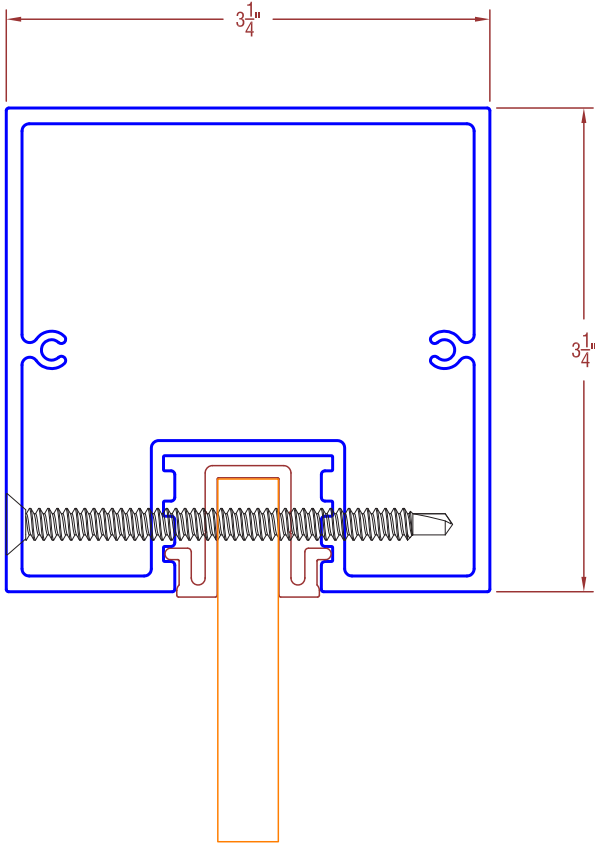
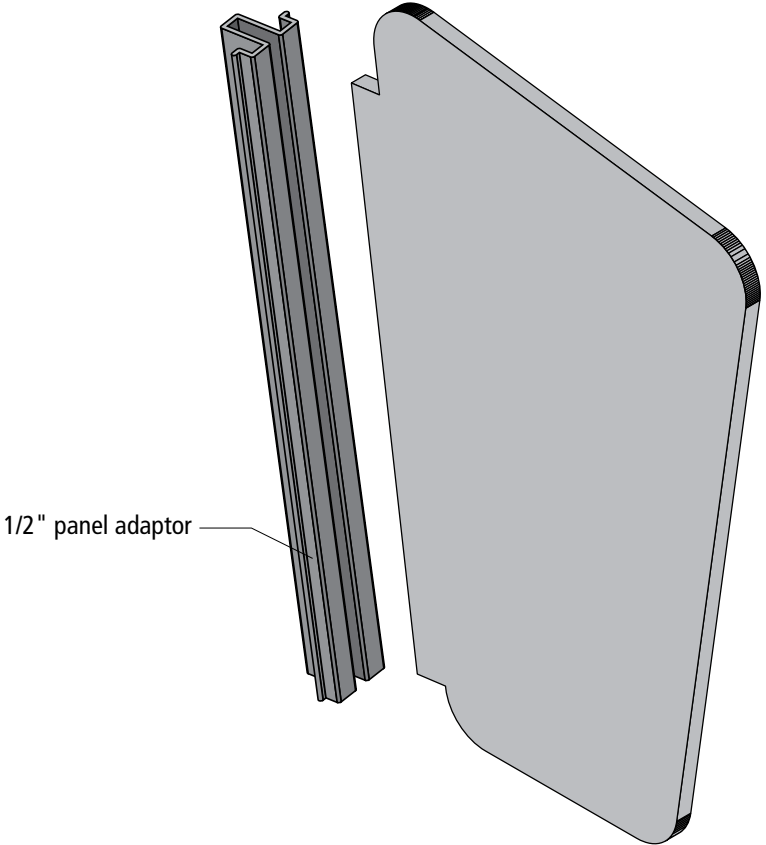
Email: signcomp@signcomp.com



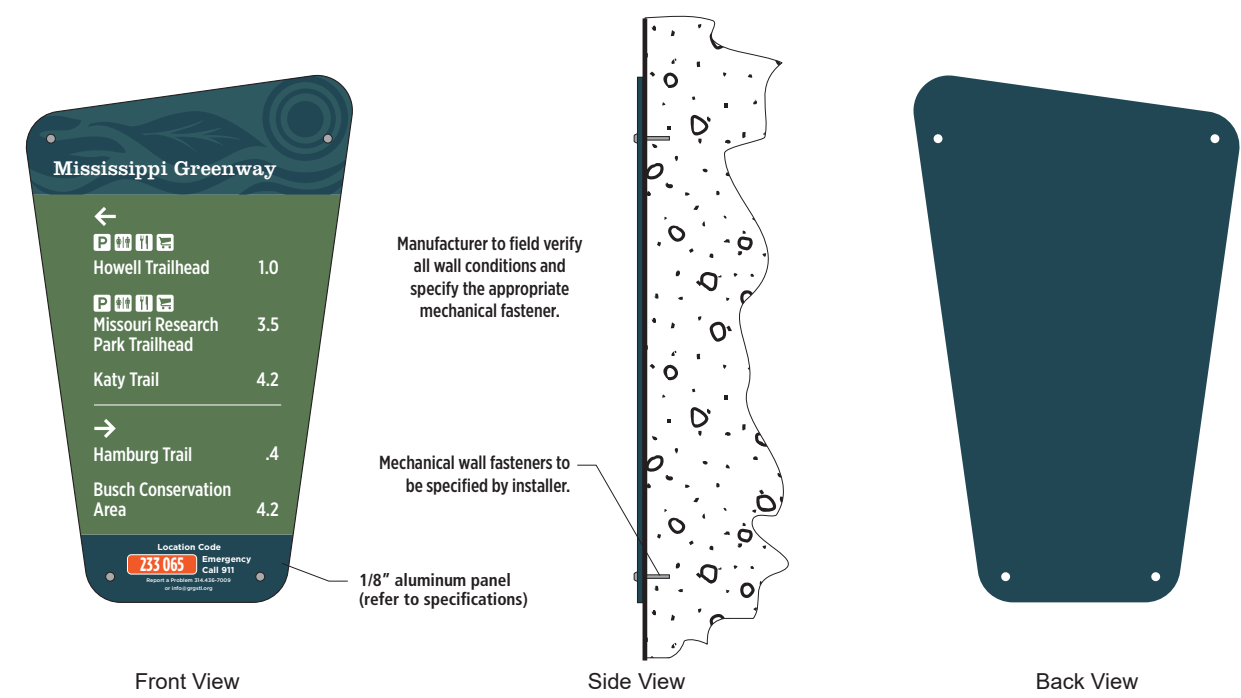
ALTERNATE POST CONSTRUCTION

Custom slotted posts made from steel or aluminum may be acceptable if they match the functionality of the SignComp series 3 post and panel system.

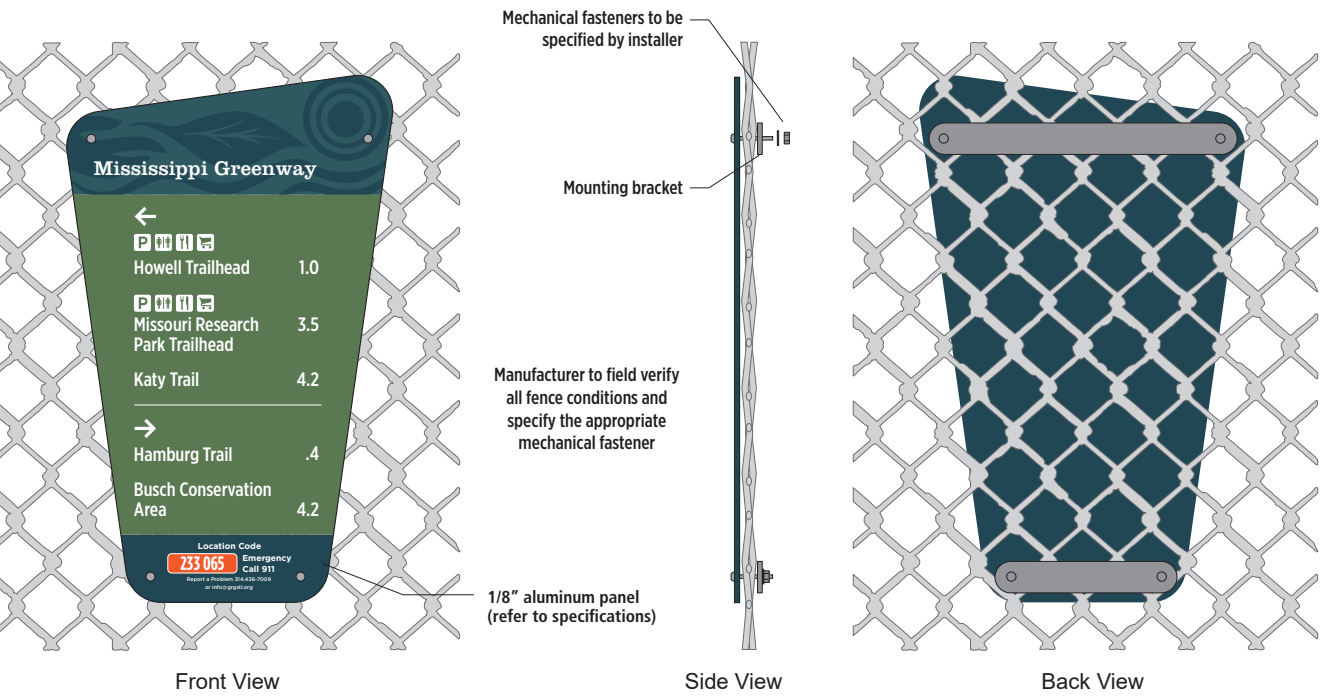
Any custom system is subject to review and approval by owner.



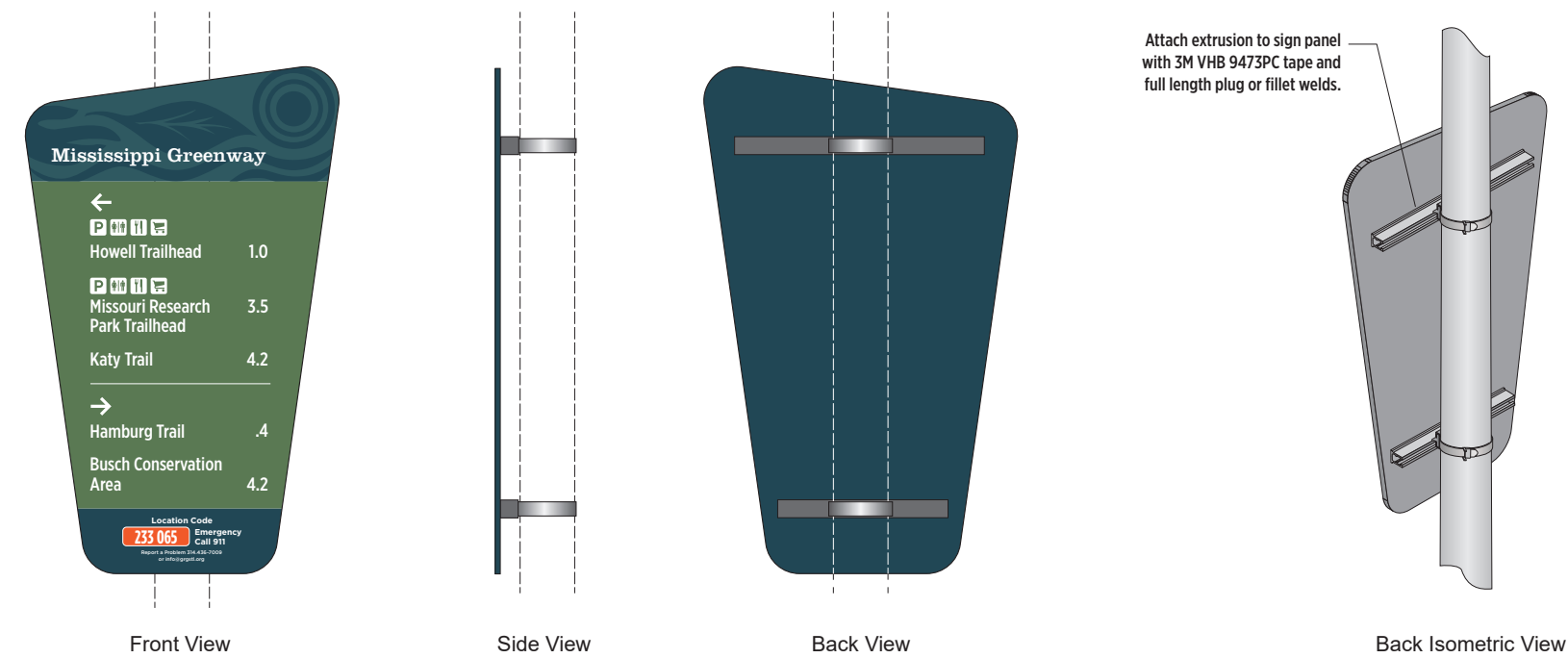
WALL - Example Sign Type Gx-5w



FENCE - Example Sign Type Gx-5f

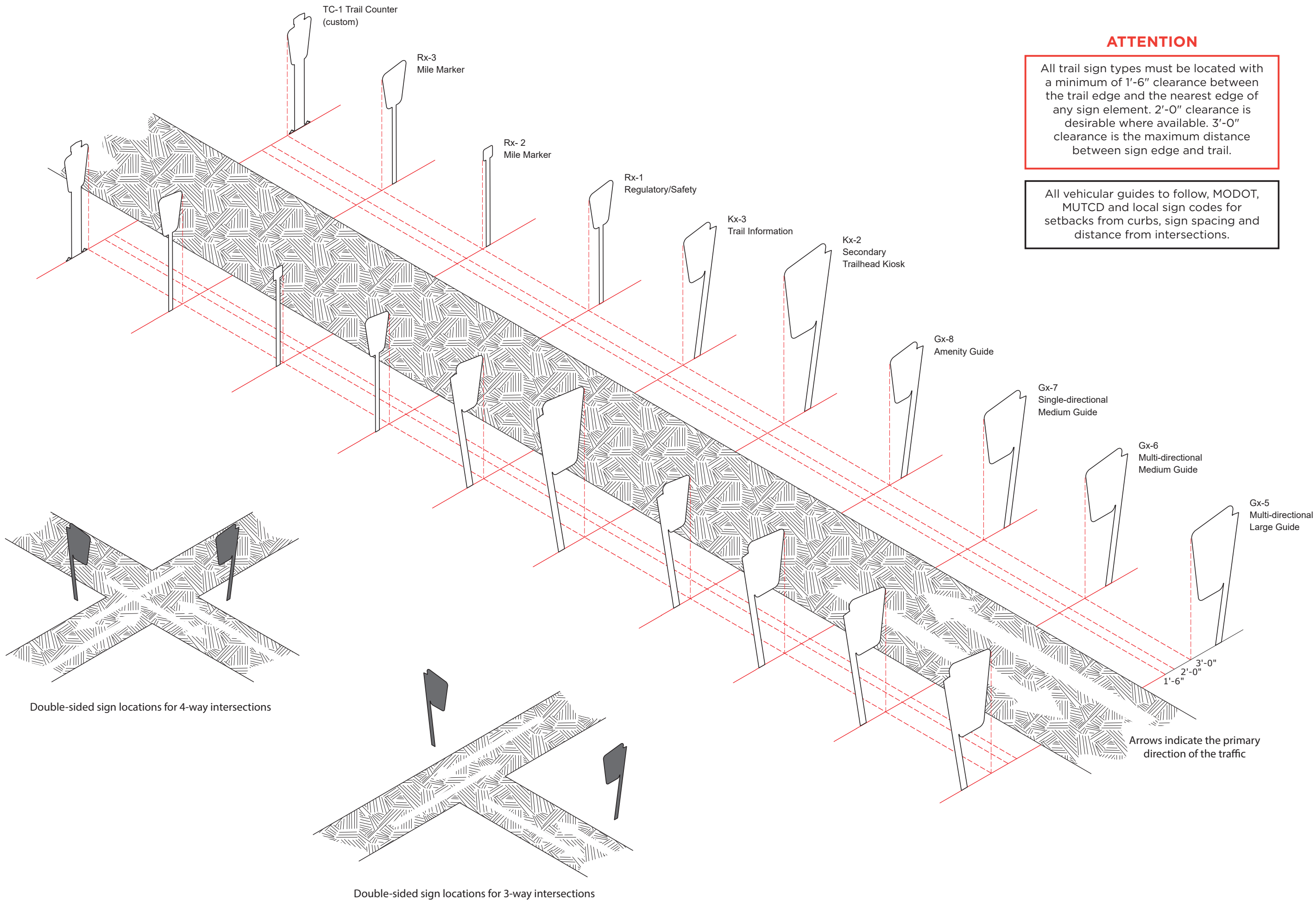


EXISTING POLE - Example Sign Type Gx-5e



 Extrusion	 Universal Channel Clamp	 Buckletrap
Size, length, quantity and positioning to be determined by Fabricator.	Standard stainless steel mounting bracket compatible with any Signfix support extrusion.	Stainless steel band. Use to attach Universal Channel Clamp to round posts.
Attachment Product available from: www.band-it-idex.com	WORLD HEADQUARTERS & WESTERN U.S. CUSTOMER SALES & SERVICE CENTER BAND-IT - IDEX, INC. A Unit of IDEX Corporation 4799 Dahlia St. P.O. Box 16307 Denver, Colorado 80216-0307 Ph: 303-320-4555 FAX 303-333-6549	EASTERN U.S. CUSTOMER SALES & SERVICE CENTER BAND-IT - IDEX, INC. A Unit of IDEX Corporation 3520 Progress Drive Bensalem, Pennsylvania 19020 Ph: 215-245-7290 FAX 215-245-7291

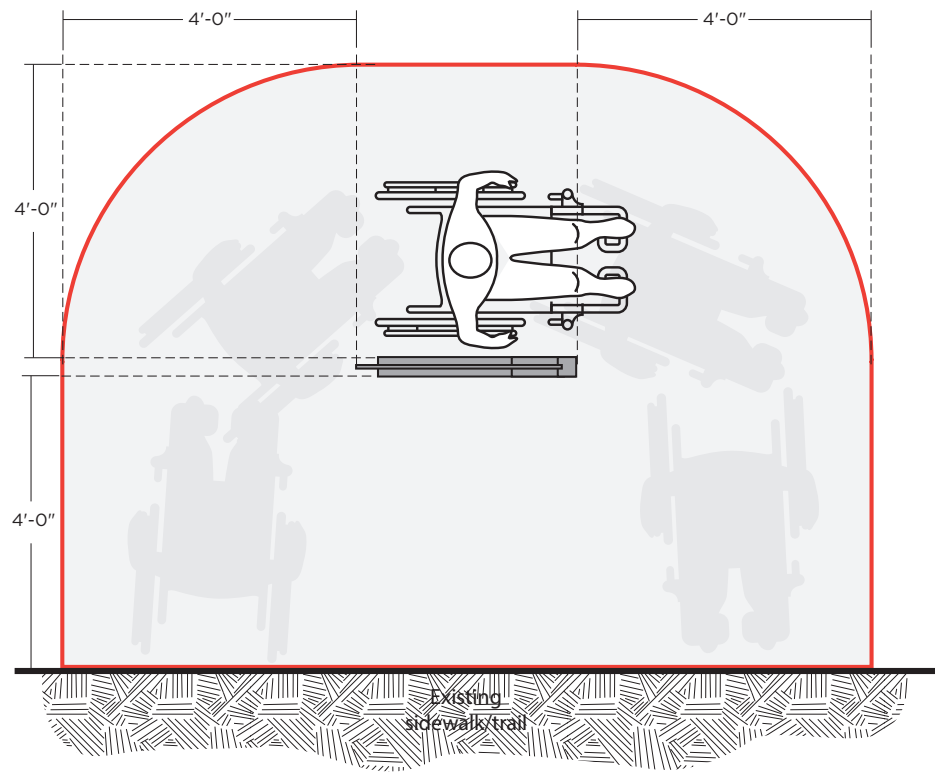
Great Rivers Greenway Sign Array: Setback Distances



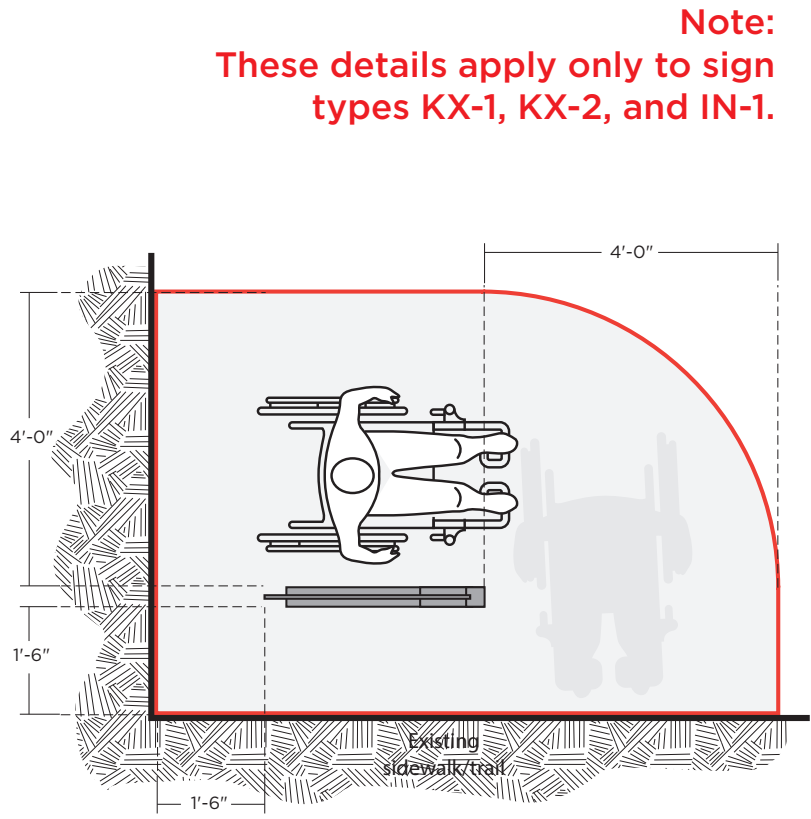
ATTENTION

All trail sign types must be located with a minimum of 1'-6" clearance between the trail edge and the nearest edge of any sign element. 2'-0" clearance is desirable where available. 3'-0" clearance is the maximum distance between sign edge and trail.

All vehicular guides to follow, MODOT, MUTCD and local sign codes for setbacks from curbs, sign spacing and distance from intersections.



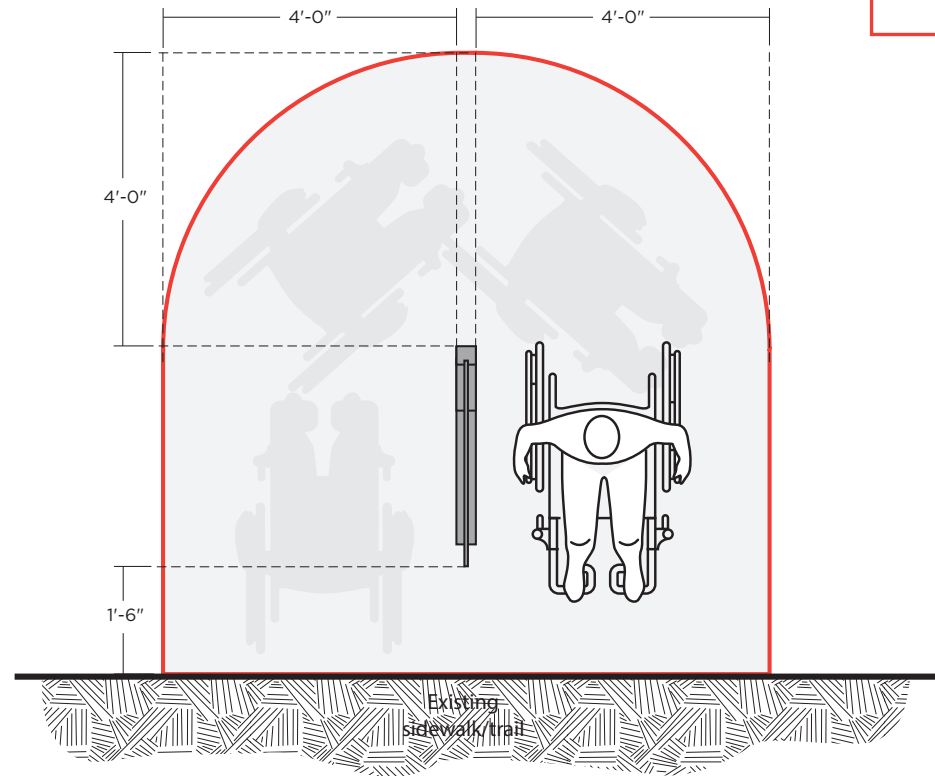
Condition 1
Kiosk parallel to sidewalk/trail



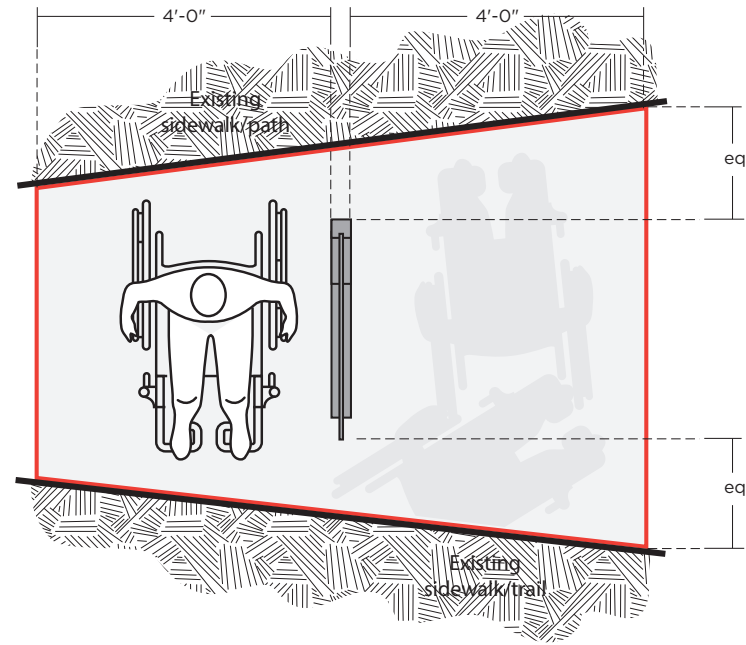
Condition 3
Kiosk in corner of sidewalk/trail

ATTENTION

Concrete pad to meet City of St. Louis sidewalk standards. Transition between surfaces to follow Section 303 of the 2010 ADA Standards for Accessible Design.



Condition 2
Kiosk perpendicular to sidewalk/trail

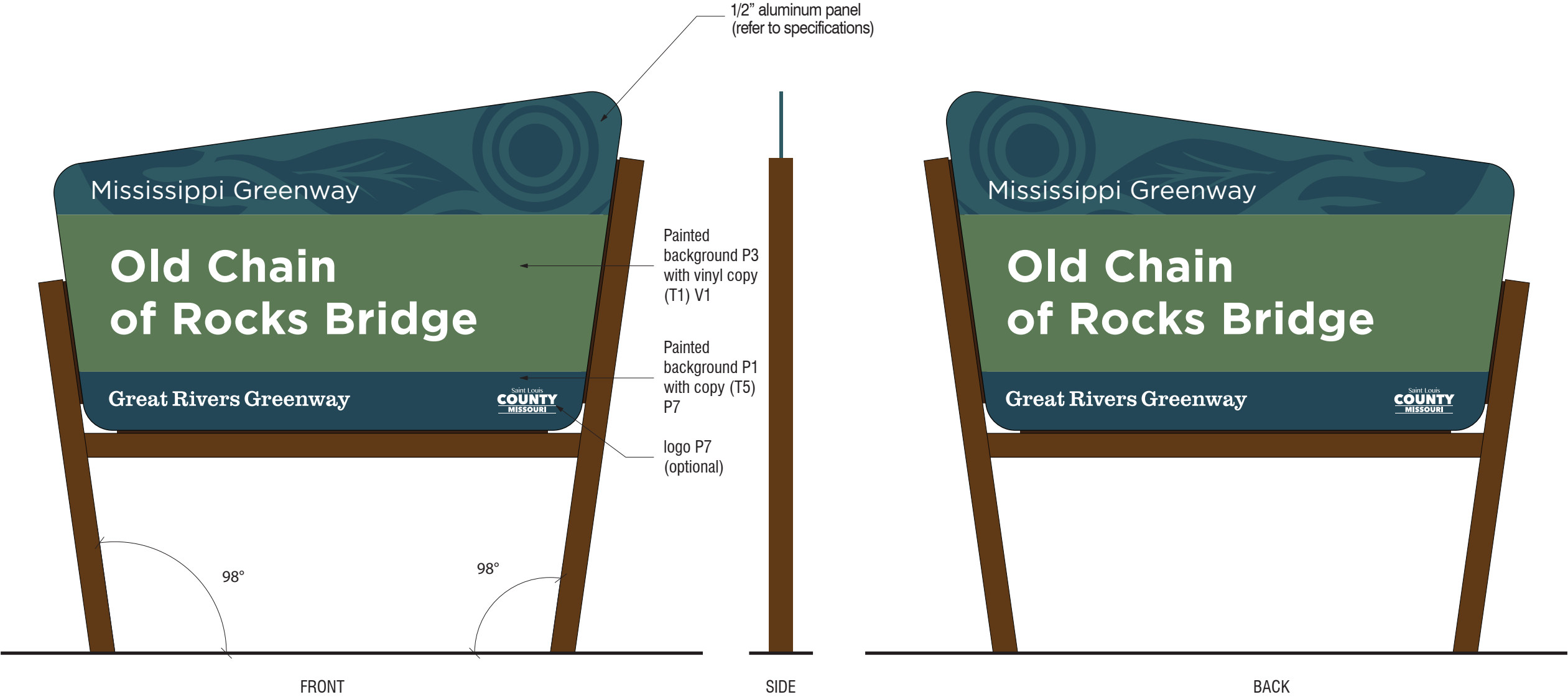


Condition 4
Kiosk in gore of sidewalk/trail

Note:
These details apply only to sign types KX-1, KX-2, and IN-1.

REFER TO PAGES 16 & 17 FOR
STRUCTURAL SIGNAGE DETAILS

2 PLAN VIEW
3/4" = 1'-0"



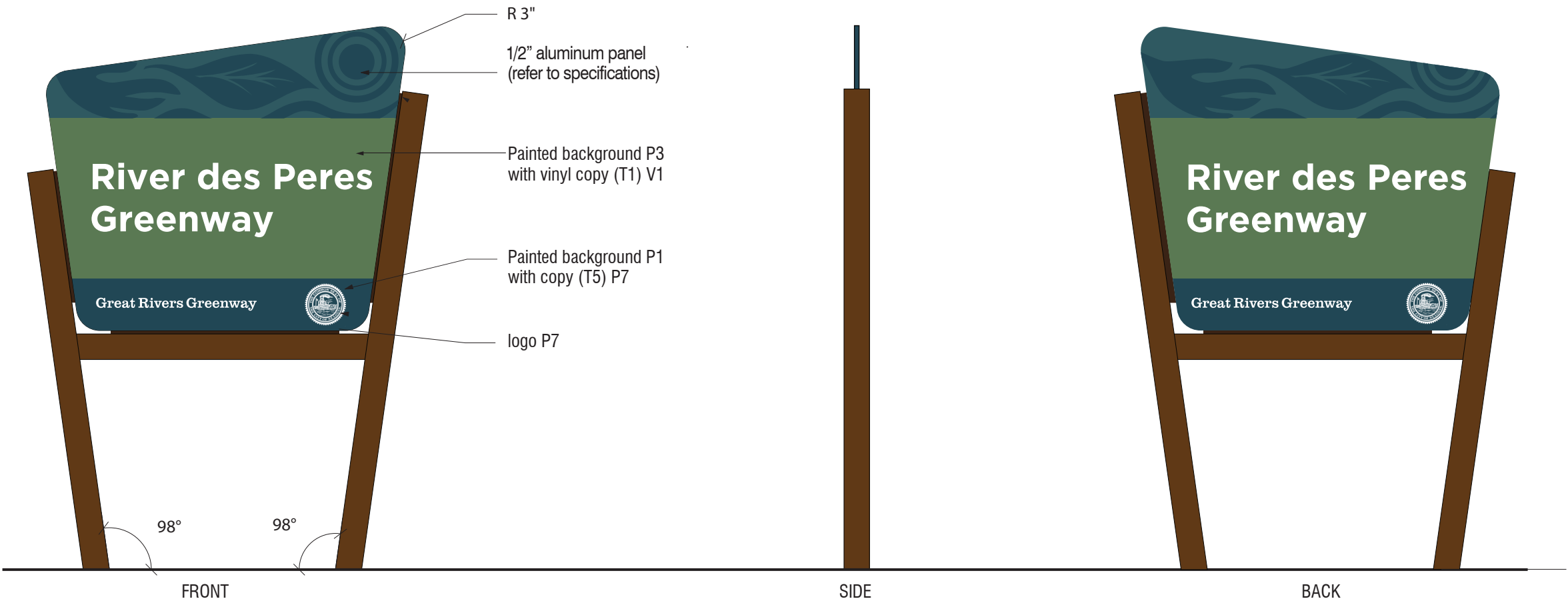
1 FRONT ELEVATION
3/4" = 1'-0"

Download the art template for this sign at: <https://greatriversgreenway.sharefile.com/d-sebdacc0aad4fa39>

REFER TO PAGES 16 & 17 FOR
STRUCTURAL SIGNAGE DETAILS



2 PLAN VIEW
3/4" = 1'-0"



1 FRONT ELEVATION
3/4" = 1'-0"

T:\Working\15080 - Wildwood - Strecker Road Bridge Drawings\Bridge\CDG_Bridge_Template.dgn

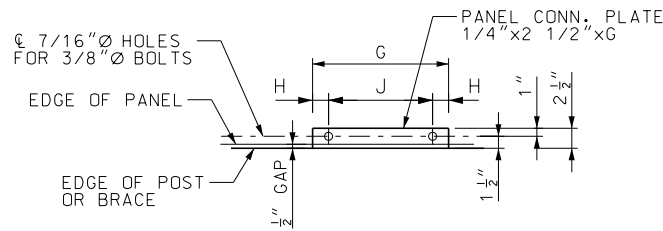
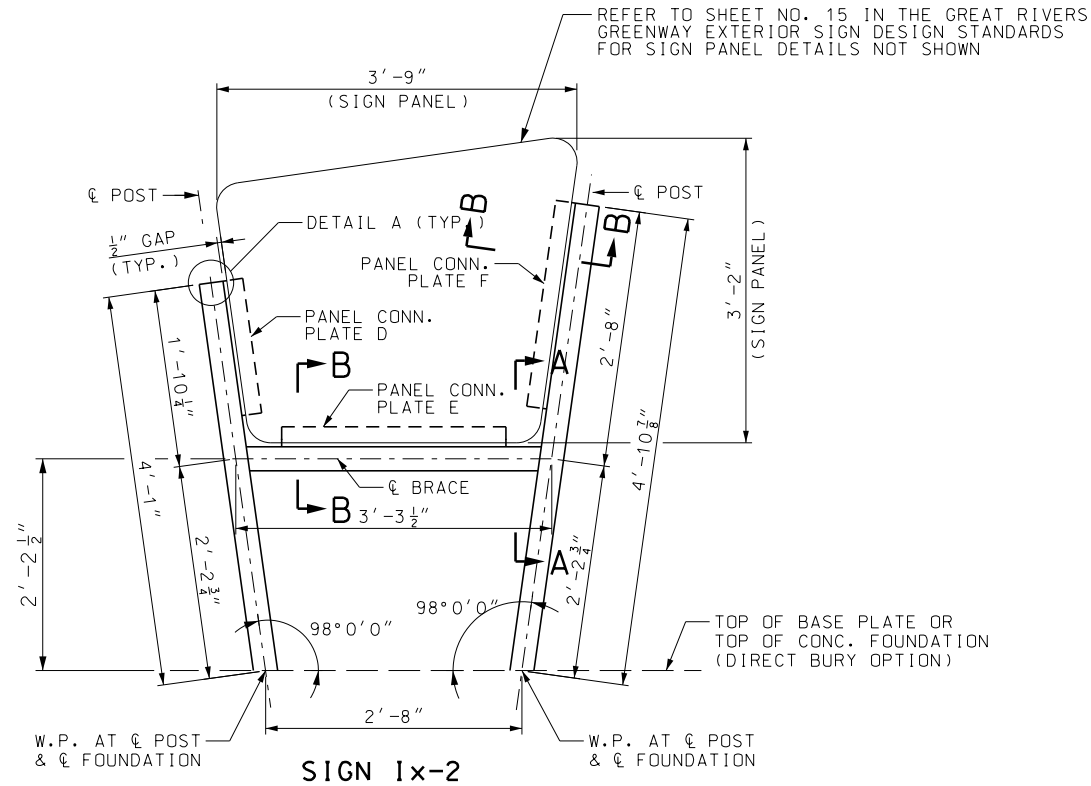
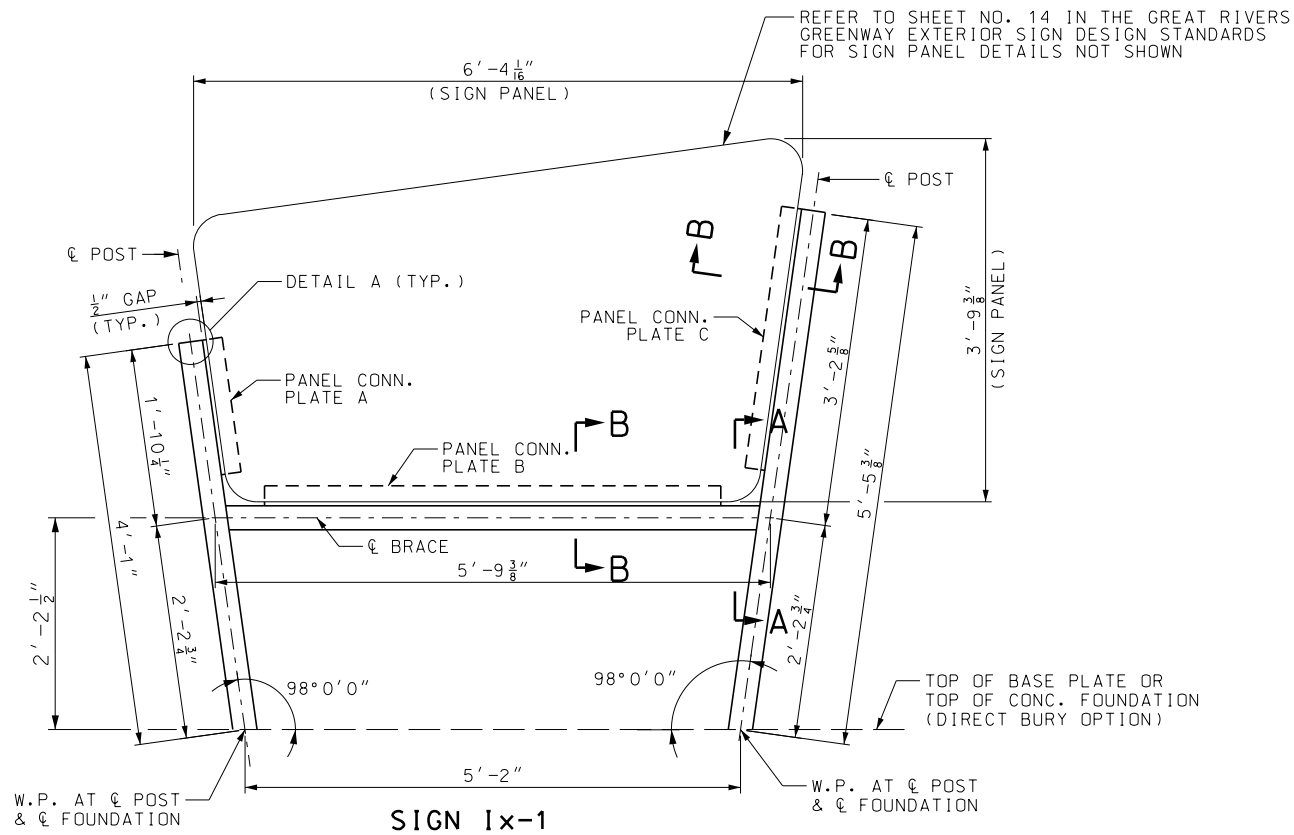


TABLE OF PLATE DIMENSIONS			
PLATE	G	H	J
A	1'-5"	2"	13"
B	4'-9"	6"	3 SPA. @ 15"
C	2'-9"	1 1/2"	2 SPA. @ 15"
D	1'-5"	2"	13"
E	2'-4"	2"	2'-0"
F	2'-2"	2"	1'-10"

PANEL CONNECTION PLATE DETAIL

NOTES:

FOR SECTION A-A & B-B AND DETAIL A, SEE SHEET NO. 2 OF 2.

FOR SIGN STRUCTURE DETAILS NOT SHOWN AND NOTES, SEE SHEET NO. 2 OF 2.

SIGN STRUCTURES 1x-1 AND 1x-2 AS SHOWN ARE NOT INTENDED FOR INSTALLATION WITHIN THE ROADWAY CLEAR ZONE OR IN OTHER AREAS WHERE THEY MAY BE SUSCEPTIBLE TO VEHICULAR COLLISION OR ARE OTHERWISE UNPROTECTED.

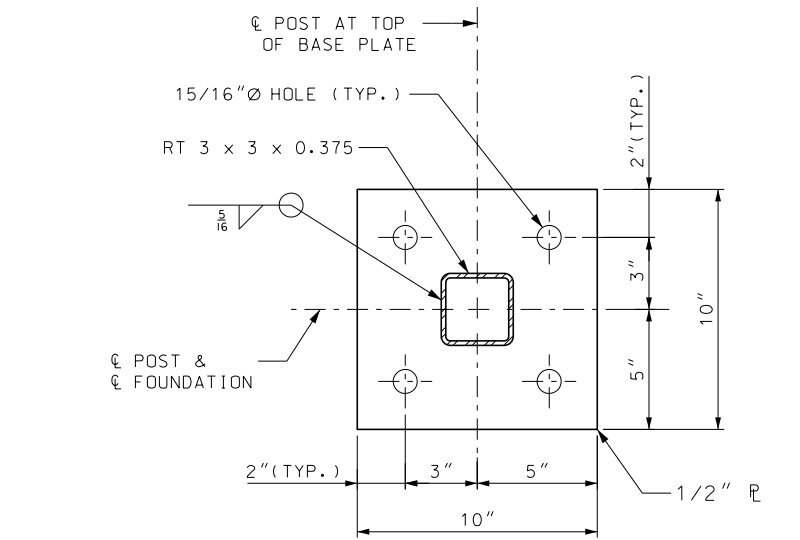
SIGN STRUCTURE PLACEMENT MAY BE SUBJECT TO OTHER REQUIREMENTS OR RESTRICTIONS ON A CASE-BY-CASE BASIS.

INDIVIDUAL SIGN STRUCTURE LOCATION AND PLACEMENT SHALL BE THE RESPONSIBILITY OF THE ENGINEER OF RECORD FOR EACH SIGN STRUCTURE INSTALLATION.

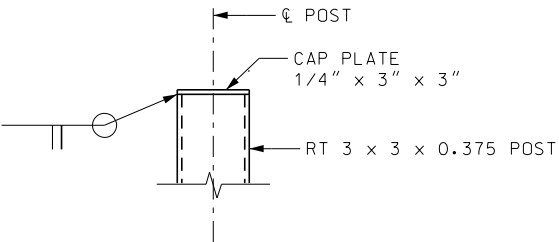
Note: This drawing is not to scale. Follow dimensions.

REV.	DATE	DESCRIPTION	APPROVED

T:\Working\15080 - Wildwood - Stecker Road Bridge Drawings\Bridge\CDG Bridge Template.dgn

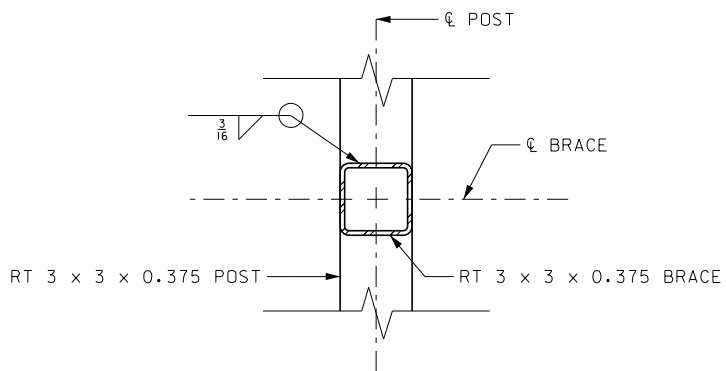


PLAN-BASE PLATE & ANCHOR BOLTS



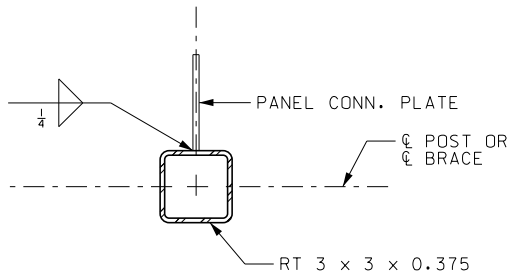
DETAIL A

FOR LOCATION, SEE SHEET NO. 1 OF 2.



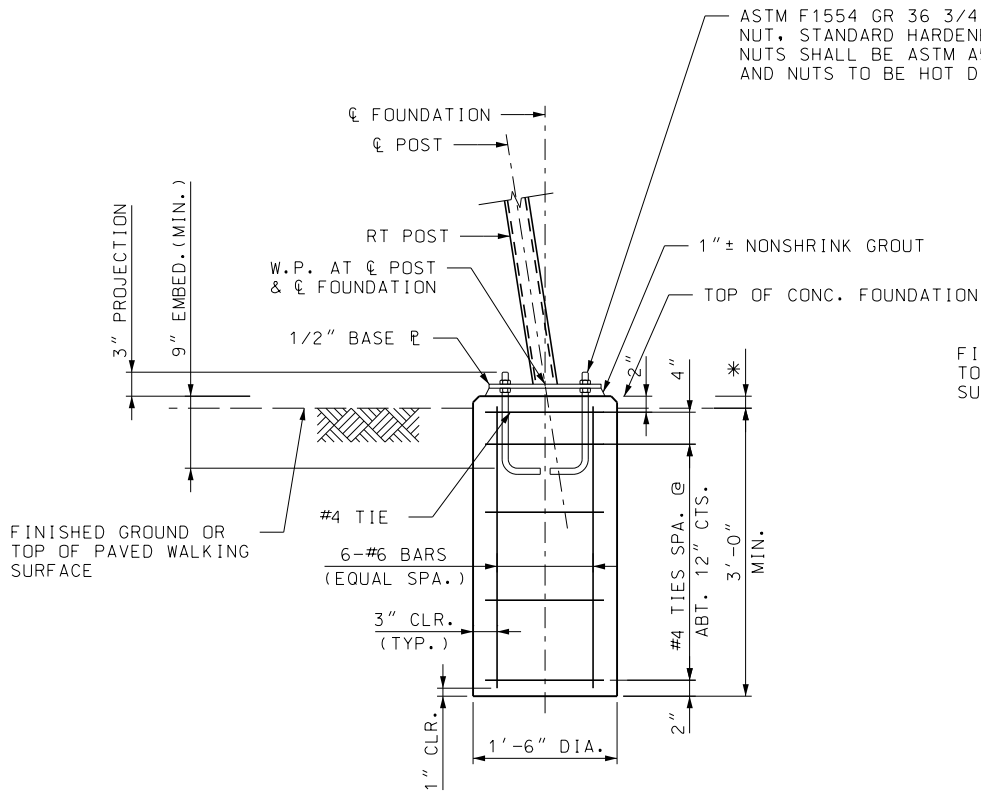
SECTION A-A

FOR LOCATION, SEE SHEET NO. 1 OF 2.



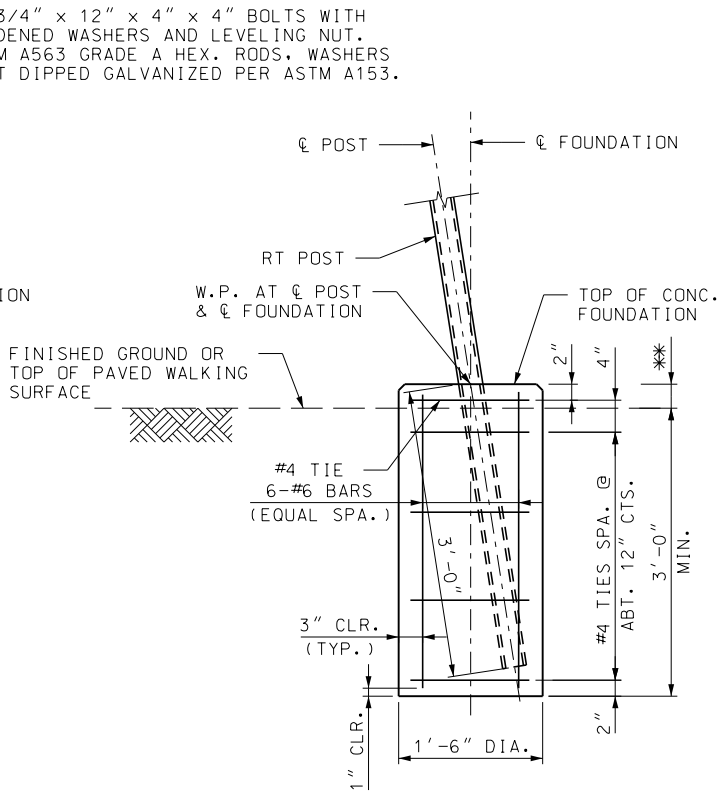
SECTION B-B

FOR LOCATION, SEE SHEET NO. 1 OF 2.



SECTION THRU CONCRETE FOUNDATION

BASE PLATE OPTION



SECTION THRU CONCRETE FOUNDATION

DIRECT BURY OPTION

GENERAL NOTES:

DESIGN SPECS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS - 2013 (6TH EDITION) AND ALUMINUM ASSOCIATION 2015 ALUMINUM DESIGN MANUAL.

CONCRETE FOR FOUNDATIONS SHALL BE CLASS B CONCRETE, IN ACCORDANCE WITH THE MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, WITH A COMPRESSIVE STRENGTH OF $f'c = 4,000 \text{ PSI @ 28 DAYS}$.

ALL EXPOSED EDGES OF THE CONCRETE SHALL HAVE A $3/4"$ CHAMFER.

ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615 GRADE 60, $F_y=60,000 \text{ PSI}$.

ALL REINFORCING STEEL SHALL BE EPOXY COATED IN ACCORDANCE WITH ASTM A775/A775M.

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE $1 \frac{1}{2}"$, UNLESS NOTED OTHERWISE.

ALL CAST-IN-PLACE ANCHOR BOLTS SHALL BE ASTM F1554 GRADE 36 BOLTS WITH 90° BEND UNLESS NOTED OTHERWISE.

ALL CAST-IN-PLACE CONCRETE ANCHORS ARE TO BE TIGHTENED TO A "SNUG-TIGHT" CONDITION.

ALL ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED BY THE HOT-DIP PROCESS IN ACCORDANCE WITH ASTM A153.

NON-SHRINK GROUT SHALL BE NON-METALLIC, PRE-PACKAGED GROUT CONFORMING TO CORPS OF ENGINEERS SPECIFICATION CRD C621, WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS WHEN TESTED ACCORDING TO ASTM C109.

THE STRUCTURAL TUBING MATERIAL SHALL BE ALUMINUM, 6063-T6 IN ACCORDANCE WITH ASTM B429.

THE BASE PLATES AND CAP MATERIAL SHALL BE ALUMINUM, 6061-T6 IN ACCORDANCE WITH ASTM B209.

WELD FILLER MATERIAL SHALL BE ALUMINUM, 5356 AND COMPLY WITH AWS A5.10.

ALL WELDING SHALL COMPLY WITH AWS D1.2 "STRUCTURAL WELDING CODE-ALUMINUM".

ALL EXPOSED WELDED JOINTS SHALL BE FILLED AND GROUND SMOOTH SO THAT NO SEAM IS VISIBLE WHEN PAINTED.

BOLTS, NUTS AND WASHERS SHALL BE 300 SERIES STAINLESS STEEL. WASHERS SHALL BE USED UNDER BOLT HEADS.

ALL HARDWARE AND FASTENERS WITHIN REACH SHALL BE VANDAL RESISTANT.

THE SURFACES OF ALUMINUM MEMBERS IN CONTACT WITH CONCRETE SHALL BE BACK PAINTED WITH BITUMINOUS PAINT OF THE CUT-BACK TYPE CONFORMING TO SPECIFICATION MIL-C-450 B (1) OR TT-C-494 OR METHACRYLATE TYPE LACQUERS CONFORMING TO MIL-L-19537C (2).

PROVIDE DRAIN HOLES IN RT TUBES IN LOCATIONS AS NEEDED TO PREVENT THE ACCUMULATION OF MOISTURE IN THE MEMBERS.

HOLES SHALL BE LOCATED TO BE INCONSPICUOUS AND SUCH THAT DRAINAGE DOES NOT OCCUR ONTO SIGNS OR OTHER SURFACES SUBJECT TO STAINING.

PROVIDE COLOR-COORDINATED STAINLESS STEEL BUG MESH OVER DRAIN HOLES.

FOUNDATIONS SHOWN IN THE PLANS HAVE BEEN DESIGNED BASED ON THE PRESUMPTIVE VALUES FOUND IN IBC-2009, TABLE 1806.2, FOR CLASS 5 SOIL MATERIALS. THE FOUNDATIONS SHOWN ARE SUITABLE FOR CONSTRUCTION IN ANY CLASS 5 SOIL OR BETTER. CONSTRUCTION OF THE FOUNDATIONS IN LESSER SOILS SUCH AS MUD, ORGANIC SOILS OR UNPREPARED SOILS IS NOT COVERED BY THIS STANDARD DESIGN AND WILL REQUIRE FURTHER EVALUATION.

THE FINISH ON THE SIGN STRUCTURE (POSTS, BRACES AND PLATES) SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE GREAT RIVERS GREENWAYS EXTERIOR SIGN DESIGN STANDARDS AND SPECIFICATIONS.

PROVIDE $1/2"$ JOINT FILLER AROUND FOUNDATION AT PAVED WALKING SURFACE LOCATIONS.

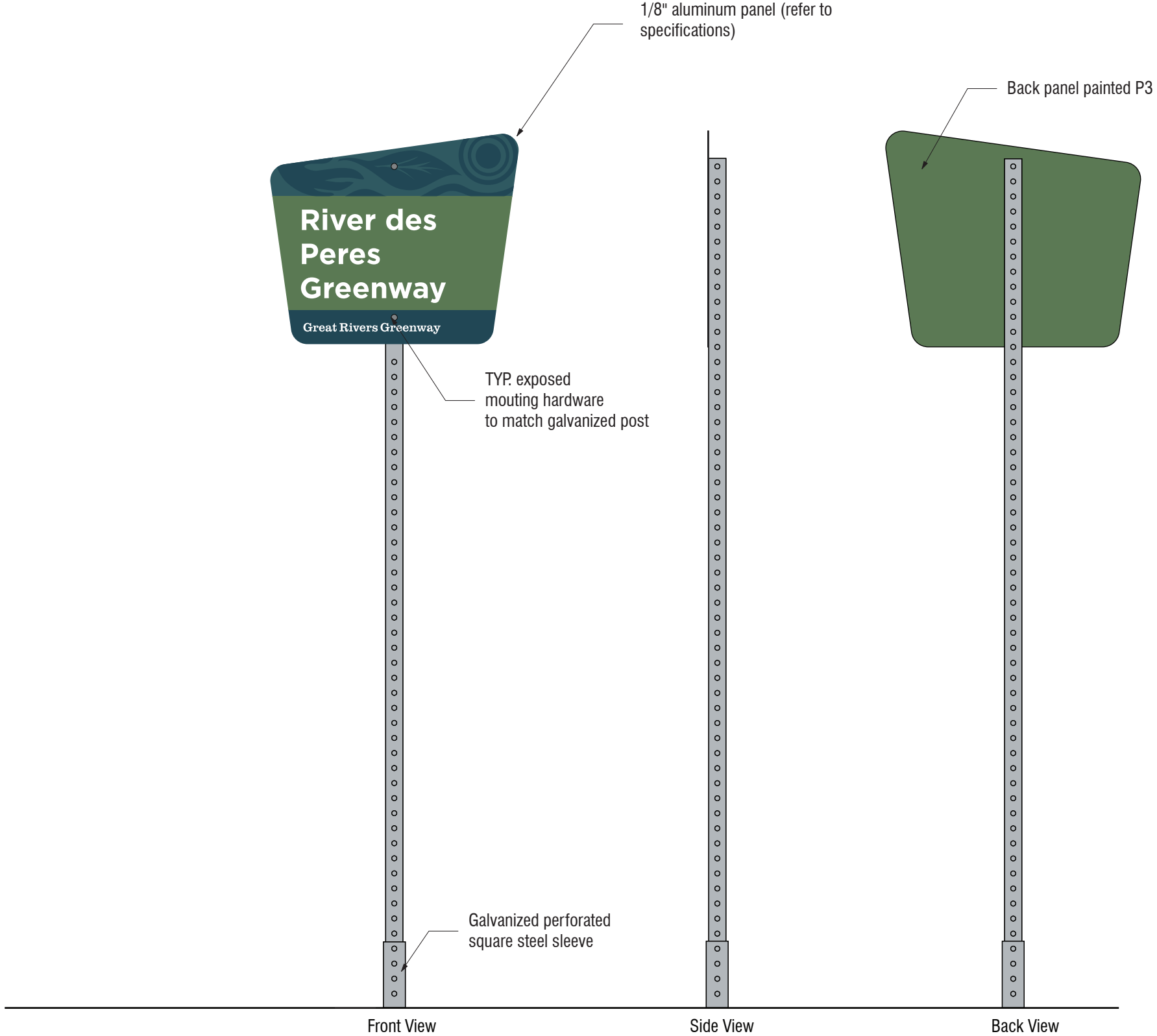
TABLE OF DIMENSIONS

SURFACE TYPE	*	**
FINISHED GROUND	$1 \frac{1}{2}"$	3"
PAVED WALKING SURFACE	$3/4"$	$2 \frac{1}{4}"$

REV.	DATE	DESCRIPTION	APPROVED

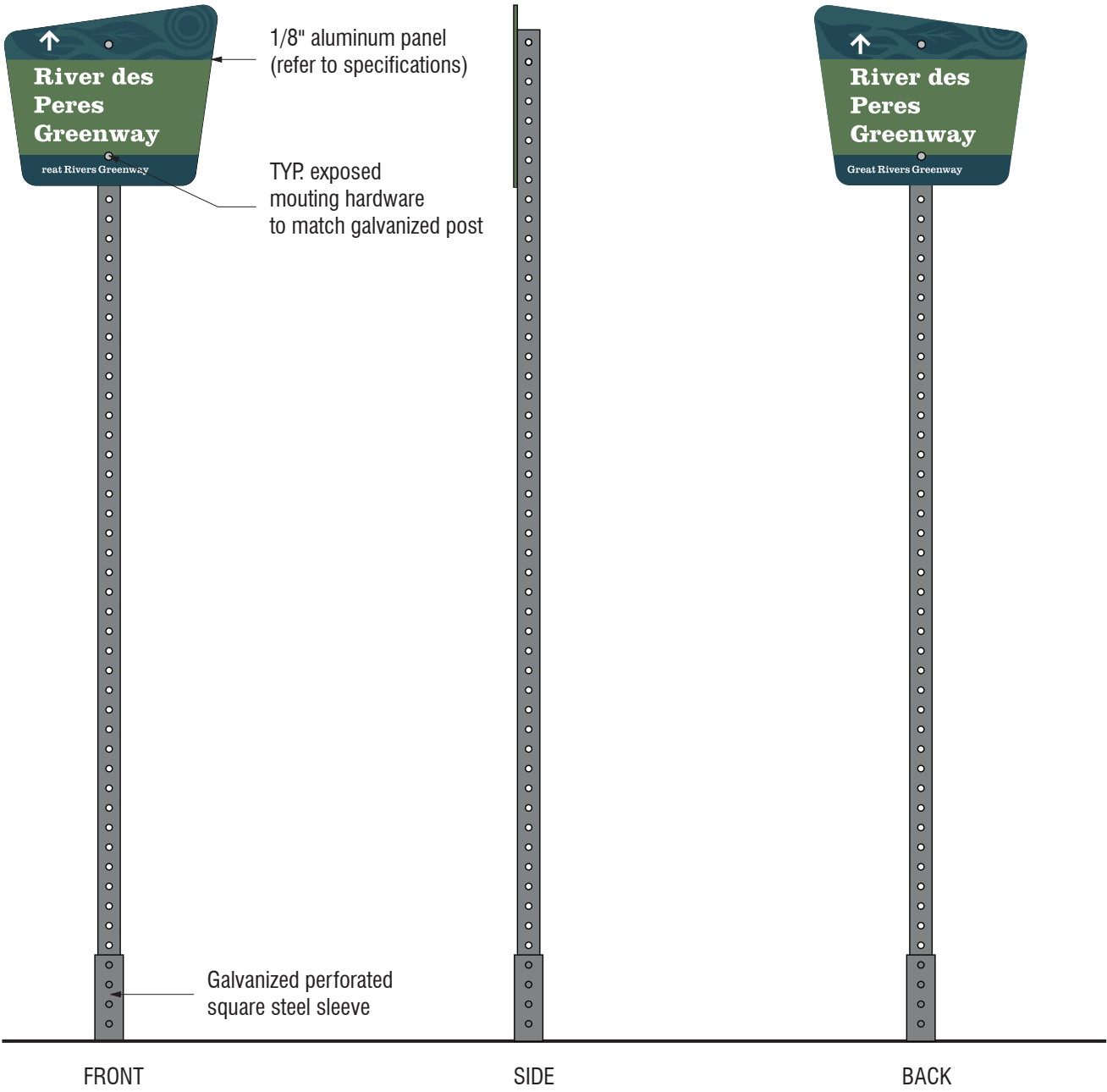
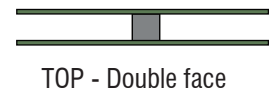
Note: This drawing is not to scale. Follow dimensions.

REFER TO PAGES 20 & 21 FOR
STRUCTURAL SIGNAGE DETAILS



Download the art template for this sign at: <https://greatriversgreenway.sharefile.com/d-s12cfcbf82dd40d78>

REFER TO PAGES 20 & 21 FOR
STRUCTURAL SIGNAGE DETAILS

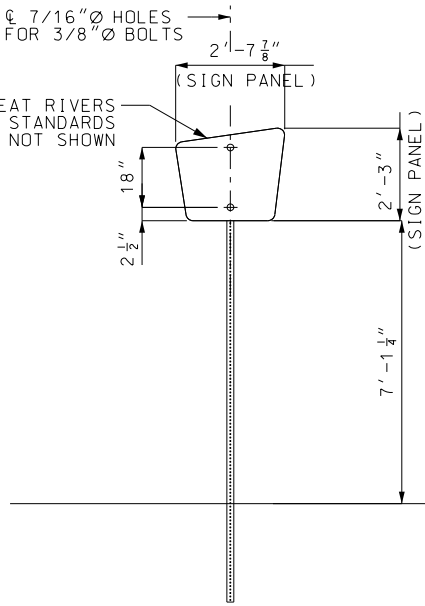


1 FRONT ELEVATION - SIGN FACE LAYOUT
3/4" = 1'-0"

Download the art template for this sign at: <https://greatriversgreenway.sharefile.com/d-sb7255b9acde46799>

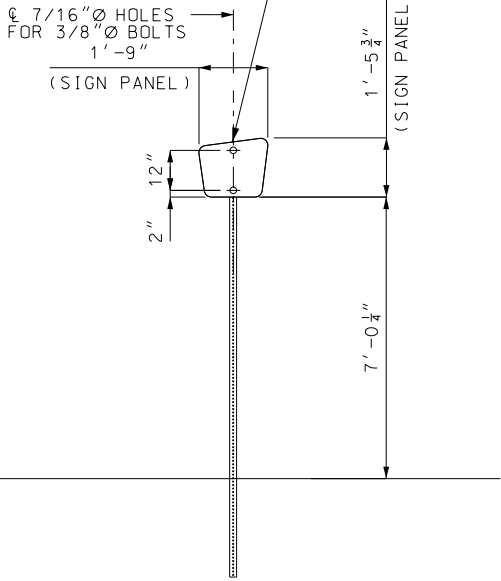
T:\Workina\15080 - Wildwood - Strecker Road Bridge\Drawings\Bridge\CDG Bridge Template.dgn

REFER TO SHEET NO. 18 IN THE GREAT RIVERS
GREENWAY EXTERIOR SIGN DESIGN STANDARDS
FOR SIGN PANEL DETAILS NOT SHOWN



SIGN 1x-3

REFER TO SHEET NO. 19 IN THE GREAT RIVERS
GREENWAY EXTERIOR SIGN DESIGN STANDARDS
FOR SIGN PANEL DETAILS NOT SHOWN



SIGN Gx-4

GENERAL NOTES:

DESIGN SPECS: AASHTO STANDARD SPECIFICATIONS FOR
STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS. LUMINAIRES
AND TRAFFIC SIGNALS - 1985 (EXCEPT 2001 AND LATEST
INTERIMS FOR STRUCTURAL STEEL POSTS).

POSTS AND ANCHOR SHALL BE HOT DIPPED GALVANIZED
AFTER FABRICATION PER SECTION 1080 OF THE MISSOURI
STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

METAL PROJECTING BEYOND THE PLANE OF THE PLATE FACE
WILL NOT BE ALLOWED.

REMOVE ALL GALVANIZING RUNS OR BEADS IN THE WASHER
AREA.

INSTALLATION OF THE BREAKAWAY ASSEMBLY SYSTEM INCLUDING
HARDWARE, BOLTS, NUTS, WASHERS AND ALL OTHER APPURTENANCES
NECESSARY FOR THE COMPLETE INSTALLATION SHALL BE PER THE
MANUFACTURERS REQUIREMENTS.

THE THREADS SHALL BE BURRED AT THE NUT USING A CENTER
PUNCH TO PREVENT NUT FROM LOOSENING.

ALL BREAKAWAY DEVICES USED ON AN INSTALLATION SHALL BE
CERTIFIED NCHRP 350 COMPLIANT.

THE FINISH ON THE POSTS SHALL BE IN ACCORDANCE WITH
THE REQUIREMENTS OF GREAT RIVERS GREENWAYS EXTERIOR
SIGN DESIGN STANDARDS AND SPECIFICATIONS.

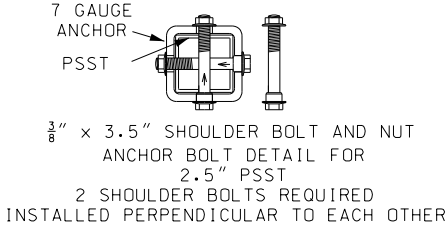
THIS SHEET IS BASED ON MISSOURI STANDARD PLANS DRAWING
903.03 WITH AN EFFECTIVE DATE 01/01/2020. THE LATEST
EDITION OF THIS DRAWING SHALL BE USED IF DIFFERENT
THAN THE DETAILS SHOWN.

SIGN STRUCTURES 1x-3 AND Gx-4 AS SHOWN MAY BE INSTALLED
WITHIN THE ROADWAY CLEAR ZONE OR IN OTHER AREAS WHERE
THEY MAY BE SUSCEPTIBLE TO VEHICULAR COLLISION OR ARE
OTHERWISE UNPROTECTED.

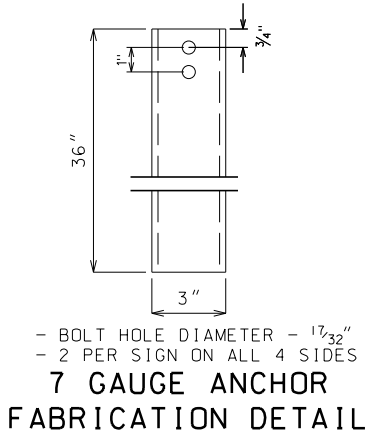
SIGN STRUCTURE PLACEMENT MAY BE SUBJECT TO OTHER
REQUIREMENTS OR RESTRICTIONS ON A CASE-BY-CASE BASIS.

INDIVIDUAL SIGN STRUCTURE LOCATION AND PLACEMENT SHALL
BE THE RESPONSIBILITY OF THE ENGINEER OF RECORD FOR
EACH SIGN STRUCTURE INSTALLATION.

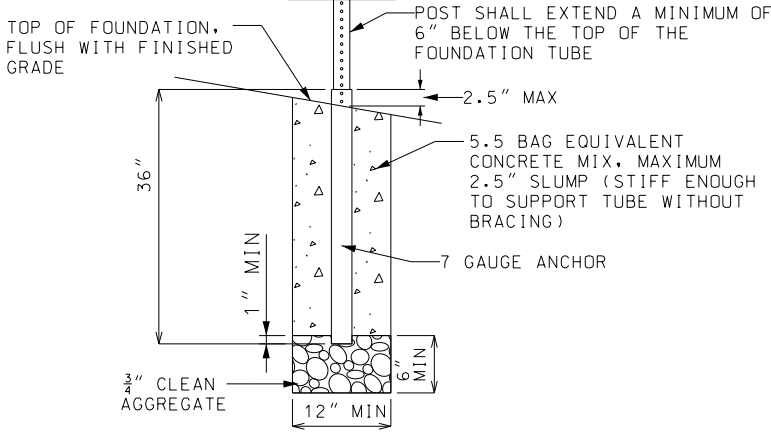
POST AND ANCHOR DATA TABLE					
POST		ANCHOR NORMAL OR OMNI-DIRECTIONAL		BREAKAWAY NEEDED	
				NUMBER OF POSTS	
GAUGE	SIZE	GAUGE	SIZE	1	2
12	2.5"x2.5"	7	3" X 3" X 36" OD	NO	YES



ANCHOR BOLT DETAIL



7 GAUGE ANCHOR
FABRICATION DETAIL

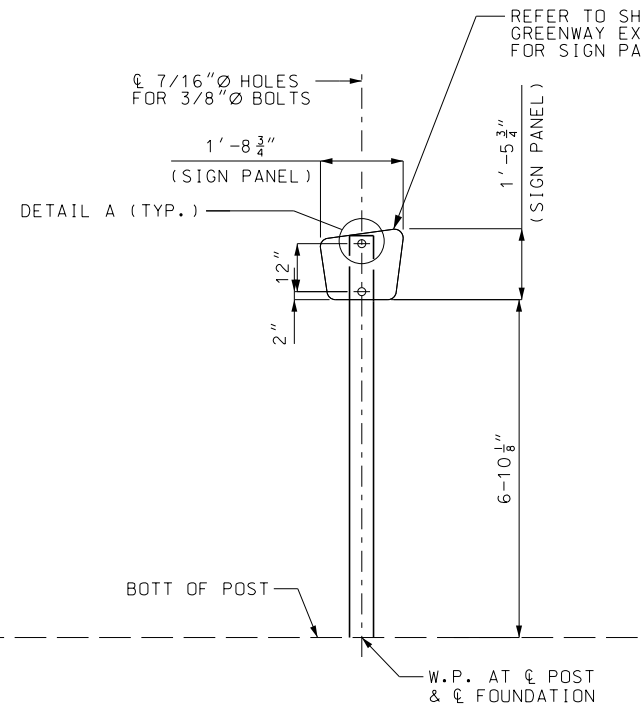
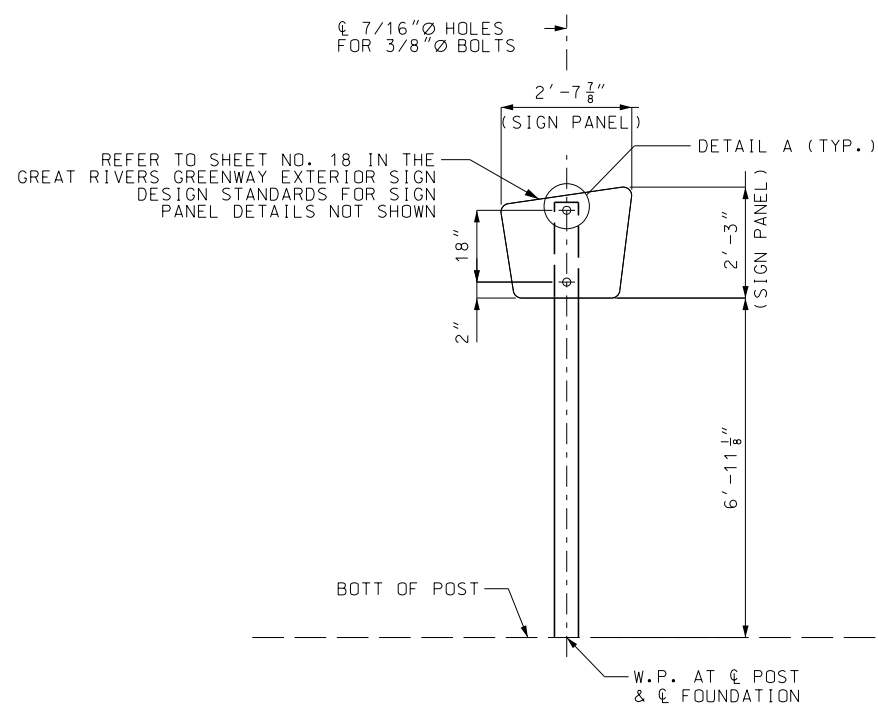


CONCRETE FOUNDATION DETAIL

PERFORATED SQUARE STEEL TUBE (PSST) SIGN POST OPTION

Note: This drawing is not to scale. Follow dimensions.

REV.	DATE	DESCRIPTION	APPROVED



GENERAL NOTES:

DESIGN SPECS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS - 2013 (6TH EDITION) AND ALUMINUM ASSOCIATION 2015 ALUMINUM DESIGN MANUAL.

CONCRETE FOR FOUNDATIONS SHALL BE CLASS B CONCRETE, IN ACCORDANCE WITH THE MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, WITH A COMPRESSIVE STRENGTH OF $f'c = 4,000 \text{ PSI @ 28 DAYS}$.

ALL EXPOSED EDGES OF THE CONCRETE SHALL HAVE A 3/4" CHAMFER.

ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615 GRADE 60,
F_y=60,000 PSI.

ALL REINFORCING STEEL SHALL BE EPOXY COATED IN ACCORDANCE WITH ASTM A775/A775M.

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1 1/2", UNLESS NOTED OTHERWISE.

THE BREAKAWAY SUPPORT SYSTEM BY TRANSPD INDUSTRIES SHALL INCLUDE THE BREAK-SAFE MODEL AS3 BRACKETS, HARDWARE, COUPLINGS, ANCHORS AND ALL OTHER APPURTENANCES NECESSARY FOR THE COMPLETE INSTALLATION PER THE MANUFACTURER.

ALL BRACKETS, HARDWARE, COUPLINGS, ANCHORS, BOLTS, NUTS AND WASHERS FOR THE BREAKAWAY SUPPORT SYSTEM SHALL BE GALVANIZED BY THE HOT-DIP PROCESS IN ACCORDANCE WITH ASTM A153.

THE BREAKAWAY SUPPORT SYSTEM BY TRANSPO INDUSTRIES IS BASED ON DETAILS WITH AN EFFECTIVE DATE JANUARY 2015. THE LATEST EDITION OF THESE DETAILS SHALL BE USED IF DIFFERENT THAN THE DETAILS SHOWN.

THE STRUCTURAL TUBING MATERIAL SHALL BE ALUMINUM, 6063-T6 IN ACCORDANCE WITH ASTM B429.

THE CAP MATERIAL SHALL BE ALUMINUM, 6061-T6 IN ACCORDANCE WITH ASTM B209.

WELD FILLER MATERIAL SHALL BE ALUMINUM, 5356 AND COMPLY WITH AWS A5.10.

ALL WELDING SHALL COMPLY WITH AWS D1.2 "STRUCTURAL WELDING CODE-ALUMINUM".

ALL EXPOSED WELDED JOINTS SHALL BE FILLED AND GROUND SMOOTH SO THAT NO SEAM IS VISIBLE WHEN PAINTED.

BOLTS, NUTS AND WASHERS SHALL BE 300 SERIES STAINLESS STEEL. WASHERS SHALL BE USED UNDER BOLT HEADS.

ALL HARDWARE AND FASTENERS WITHIN REACH SHALL BE VANDAL RESISTANT.

PROVIDE DRAIN HOLES IN RT TUBES IN LOCATIONS AS NEEDED TO PREVENT THE ACCUMULATION OF MOISTURE IN THE MEMBERS.

HOLES SHALL BE LOCATED TO BE INCONSPICUOUS AND SUCH THAT DRAINAGE DOES NOT OCCUR ONTO SIGNS OR OTHER SURFACES SUBJECT TO STAINING.

PROVIDE COLOR-COORDINATED STAINLESS STEEL BUG MESH OVER DRAIN HOLES.

FOUNDATIONS SHOWN IN THE PLANS HAVE BEEN DESIGNED BASED ON THE PRESUMPTIVE VALUES FOUND IN IBC-2009, TABLE 1806.2, FOR CLASS 5 SOIL MATERIALS. THE FOUNDATIONS SHOWN ARE SUITABLE FOR CONSTRUCTION IN ANY CLASS 5 SOIL OR BETTER. CONSTRUCTION OF THE FOUNDATIONS IN LESSER SOILS SUCH AS MUD, ORGANIC SOILS OR UNPREPARED SOILS IS NOT COVERED BY THIS STANDARD DESIGN AND WILL REQUIRE FURTHER EVALUATION.

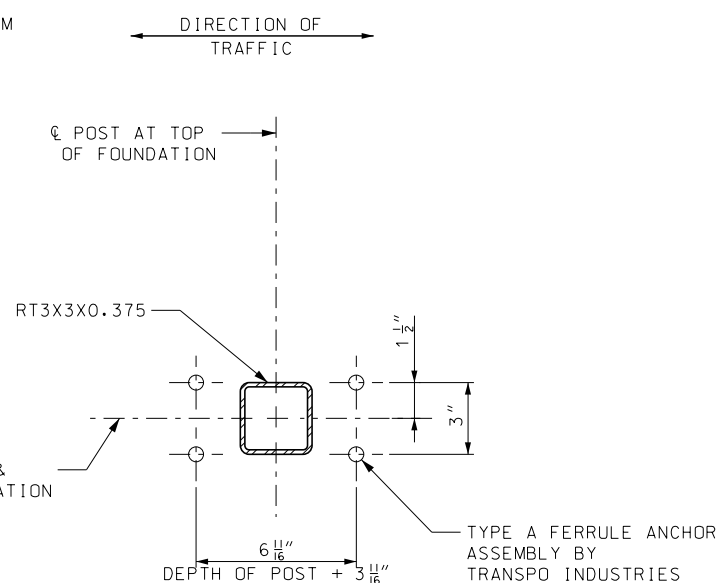
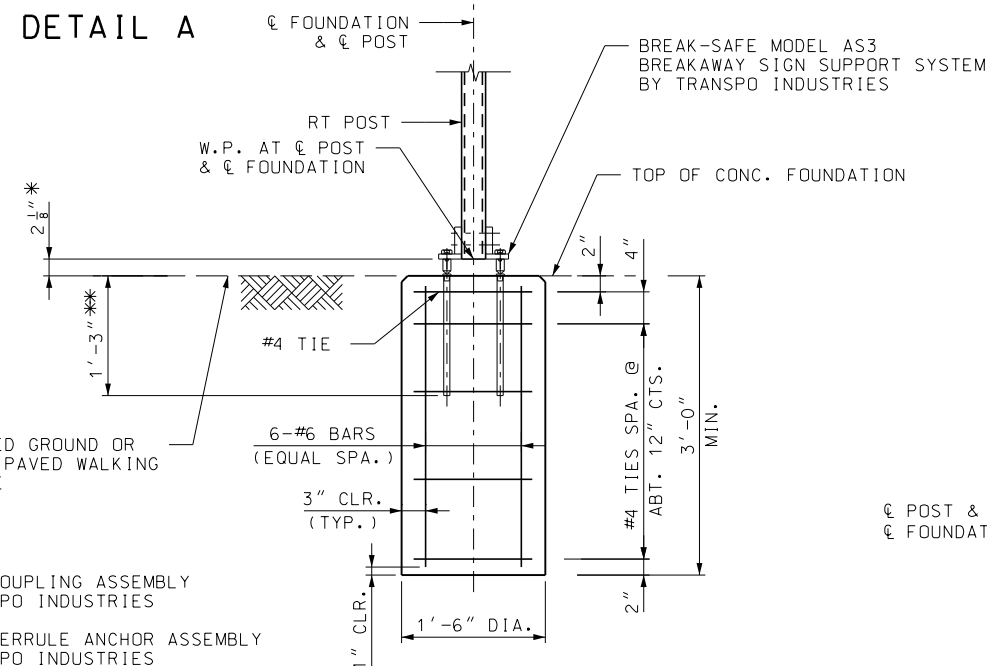
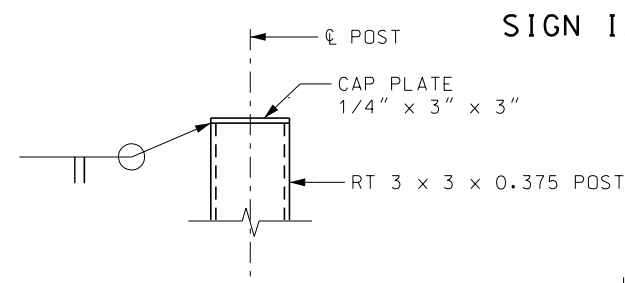
THE FINISH ON THE SIGN STRUCTURE (POSTS AND PLATES) SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE GREAT RIVERS GREENWAYS EXTERIOR SIGN DESIGN STANDARDS AND SPECIFICATIONS.

PROVIDE 1/2" JOINT FILLER AROUND FOUNDATION AT PAVED WALKING SURFACE LOCATIONS.

SIGN STRUCTURES 1x-3 AND Gx-4 AS SHOWN MAY BE INSTALLED WITHIN THE ROADWAY CLEAR ZONE OR IN OTHER AREAS WHERE THEY MAY BE SUSCEPTIBLE TO VEHICULAR COLLISION OR ARE OTHERWISE UNPROTECTED.

SIGN STRUCTURE PLACEMENT MAY BE SUBJECT TO OTHER REQUIREMENTS OR RESTRICTIONS ON A CASE-BY-CASE BASIS.

INDIVIDUAL SIGN STRUCTURE LOCATION AND PLACEMENT SHALL BE THE RESPONSIBILITY OF THE ENGINEER OF RECORD FOR EACH SIGN STRUCTURE INSTALLATION.



SECTION THRU CONCRETE FOUNDATION

PLAN-ANCHOR ASSEMBLY
BRACKETS NOT SHOWN FOR CLARITY

ALUMINUM TUBE WITH BREAKAWAY SUPPORT SYSTEM OPTION

Note: This drawing is not to scale. Follow dimensions.

REV.	DATE	DESCRIPTION	APPROVED

REFER TO PAGES 23-26 FOR
STRUCTURAL SIGNAGE DETAILS



Download the art template for this sign at: <https://greatriversgreenway.sharefile.com/d-s9c2891a9cc443f09>

Front View

T:\Working\15080 - Wildwood - Strecker Road Bridge Drawings\Bridge\G03 Bridge Template.dgn

STRUCTURAL STEEL POST FOR GROUND MOUNTED SIGNS																
POST		BOLT			WASHER			BASE CONNECTION DATA TABLE (IN.)								
DES. NO.	NOM SIZE (IN. X LBS)	DIA IN.	LENGTH IN.	TORQUE IN. X LB.	OD IN.	ID IN.	THICK IN.	A	B	C	D	E	F	G	W	R
1	W6x15	$\frac{5}{8}$	$2\frac{3}{4}$	345	$1\frac{5}{16}$	$\frac{11}{16}$	$\frac{1}{8}$	5	2	$1\frac{1}{4}$	$2\frac{3}{4}$	$1\frac{1}{8}$	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{11}{32}$

POST AND FOUNDATION DATA TABLE													
POST					FOUNDATION								
POST DES. NO.	NOM. SIZE	WEIGHT		STUB LENGTH	DIA.	LEVEL GROUND		6:1 GRADE		4:1 GRADE		3:1 OR 2:1 GRADE	
		LBS/FT	LBS/IN			DEPTH	C. Y.	DEPTH	C. Y.	DEPTH	C. Y.	DEPTH	C. Y.
1	W6	15.0	1.25	4'-0"	24"	4'-0"	0.47	4'-2"	0.50	4'-3"	0.51	4'-6"	0.54

GENERAL NOTES:

DESIGN SPECS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS - 1985 (EXCEPT 2001 AND LATEST INTERIMS FOR STRUCTURAL STEEL POSTS).

POSTS, PERFORATED FUSE PLATE AND SPLICE PLATE TO BE GALVANIZED AFTER FABRICATION.

METAL PROJECTING BEYOND THE PLANE OF THE PLATE FACE WILL NOT BE ALLOWED.

REMOVE ALL GALVANIZING RUNS OR BEADS IN THE WASHER AREA.

ALL STRUCTURAL STEEL STIFFENER PLATES AND BASE PLATES, FOR GROUND MOUNTED SIGNS SHALL MEET THE REQUIREMENTS OF ASTM A 36 OR AASHTO M 270 GRADE 50, MINIMUM YIELD 50,000 PSI.

NUTS ON HINGE PLATE BOLTS SHALL BE TIGHTENED TO THE REQUIRED MINIMUM BOLT TENSION VALUES SHOWN IN TABLE 1 SEC. 1080 OF THE MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

THE NUT SHALL BE FREE RUNNING. IF THE NUT WILL NOT SPIN ON THE BOLT BECAUSE OF GALVANIZING IRREGULARITIES, A LUBRICANT SHALL BE APPLIED.

ALL BREAKAWAY ASSEMBLY BOLTS SHALL BE TIGHTENED IN A SYSTEMATIC MANNER TO THE PRESCRIBED TORQUE SHOWN ON THIS DRAWING.

EACH BREAKAWAY ASSEMBLY BOLT SHALL BE LOOSENED AND RE-TIGHTENED TO THE REQUIRED TORQUE IN THE SAME ORDER AS THE INITIAL TIGHTENING.

THE THREADS SHALL BE BURRED AT THE NUT USING A CENTER PUNCH TO PREVENT NUT FROM LOOSENING.

POST LENGTH QUANTITY SHOWN ON PLANS INCLUDES STUB.

ALL H.S. BOLTS SHALL BE OF THE DESIGNATION AASHTO M 164.

FURNISH TWO .012"± AND TWO .0032"± THICK SHIMS PER POST FROM BRASS SHIM STOCK OR STRIP, DESIGNATION ASTM B 36. SHIM AS REQUIRED TO PLUMB POST.

HIGH STRENGTH BOLTS WITH HEX NUT AND THREE WASHERS WITH EACH BOLT ARE TO BE GALVANIZED.

OPTIONAL HOLES (13/16" ROUND FOR "I" SHAPE POSTS AS SHOWN IN "ELEVATION" ARE TO BE USED AS AID FOR GALVANIZING ONLY.

CONCRETE FOR FOUNDATIONS SHALL BE CLASS B OR B1 CONCRETE, IN ACCORDANCE WITH THE MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION WITH A COMPRESSIVE STRENGTH OF f'c = 4,000 PSI @ 28 DAYS.

THE FINISH ON THE POSTS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF GREAT RIVERS GREENWAYS EXTERIOR SIGN DESIGN STANDARDS AND SPECIFICATIONS.

THIS SHEET IS BASED ON MISSOURI STANDARD PLANS DRAWING 903.03 WITH AN EFFECTIVE DATE 10/01/2019. THE LATEST EDITION OF THIS DRAWING SHALL BE USED IF DIFFERENT THAN THE DETAILS SHOWN.

SIGN STRUCTURES Gx-1 AS SHOWN MAY BE INSTALLED WITHIN THE ROADWAY CLEAR ZONE OR IN OTHER AREAS WHERE THEY MAY BE SUSCEPTIBLE TO VEHICULAR COLLISION OR ARE OTHERWISE UNPROTECTED.

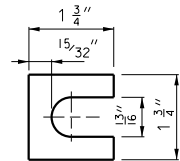
SIGN STRUCTURE PLACEMENT MAY BE SUBJECT TO OTHER REQUIREMENTS OR RESTRICTIONS ON A CASE-BY-CASE BASIS.

INDIVIDUAL SIGN STRUCTURE LOCATION AND PLACEMENT SHALL BE THE RESPONSIBILITY OF THE ENGINEER OF RECORD FOR EACH SIGN STRUCTURE INSTALLATION.

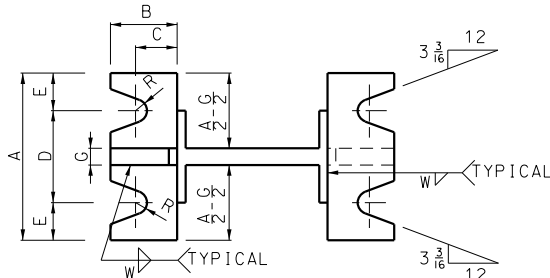
SHEET METAL BOLT RETAINER CUT FROM 30 GAGE GALVANIZED SHEET METAL. PLACE BETWEEN BASE PLATES. SIZE VARIES TO FIT PLATE. BOLT HOLES TO BE $\frac{1}{16}$ " LARGER THAN REQUIRED BOLT SIZE.



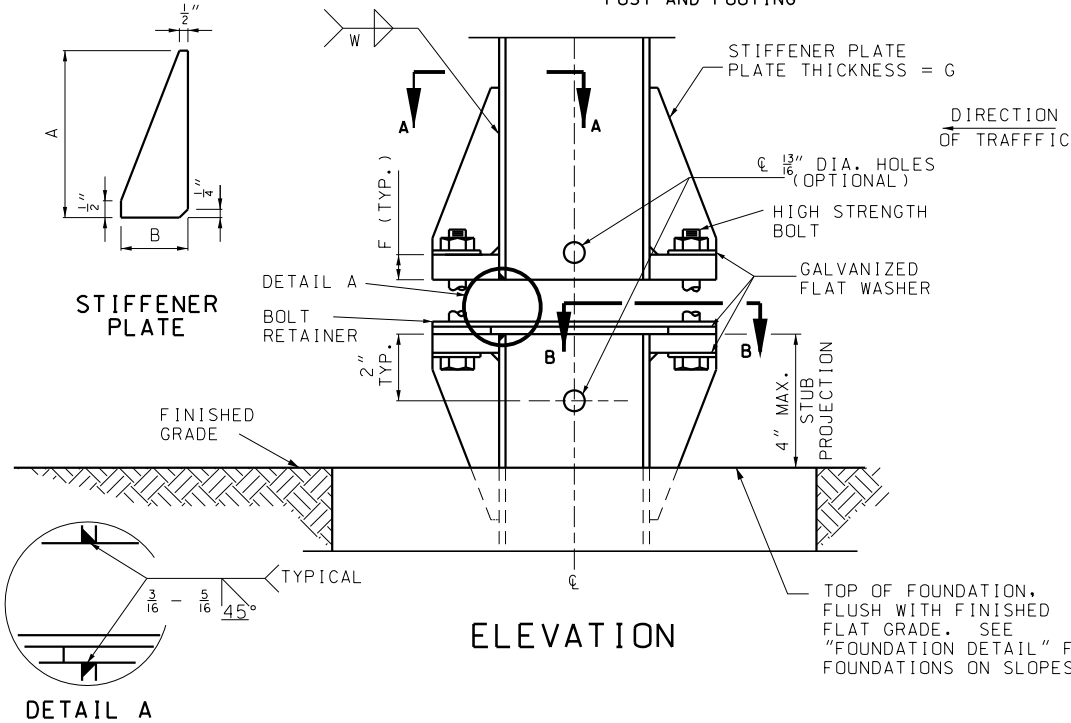
BOLT RETAINER



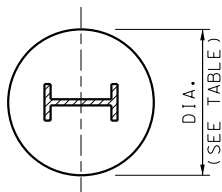
SHIM



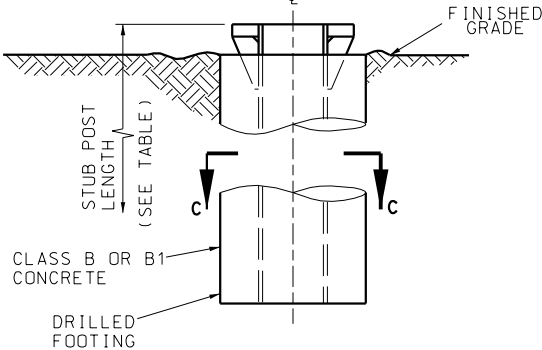
SECTION A-A SECTION B-B
POST AND FOOTING



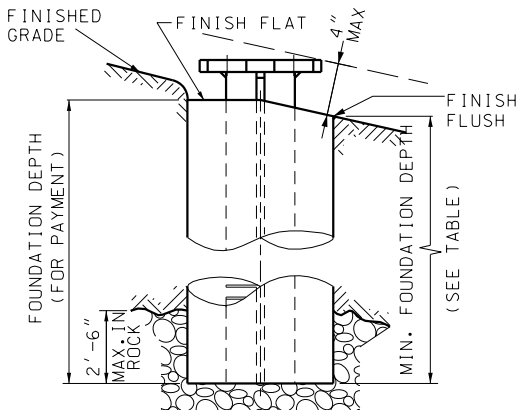
ELEVATION



SECTION C-C



STUB DETAIL



FOUNDATION DETAIL

Note: This drawing is not to scale. Follow dimensions.

REV.	DATE	DESCRIPTION	APPROVED

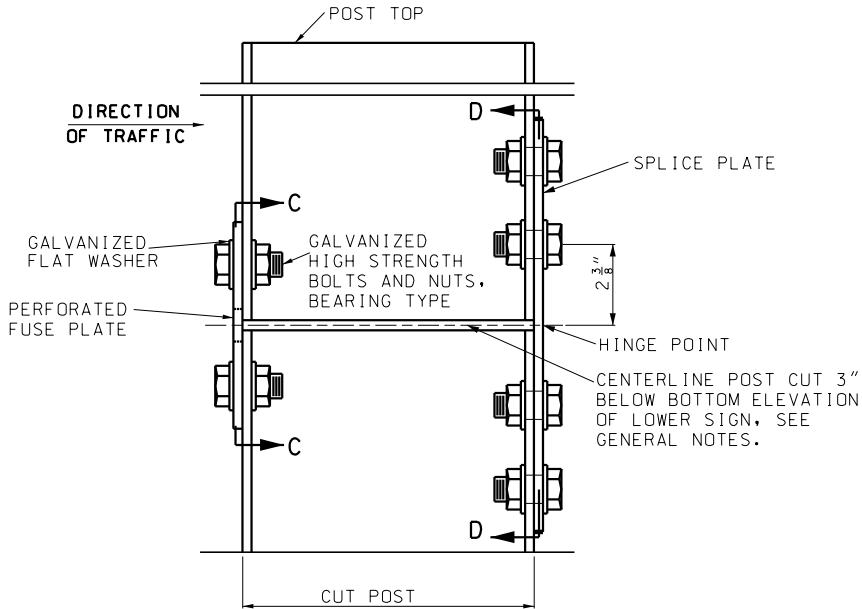
T:\Working\15080 - Wildwood - Strecker Road Bridge\Drawings\Bridge\GDS Bridge template.dgn

WIDE FLANGE STRUCTURAL STEEL POSTS DESIGN DATA							
POST DES. NO.	NOM. SIZE (IN.)	WEIGHT		DEPTH (IN.)	FLANGE		WEB THICK (IN.)
		LB/FT	LB/IN		WIDTH (IN.)	THICK (IN.)	
1	W6	15	1.25	6	6	$\frac{1}{4}$	$\frac{1}{4}$

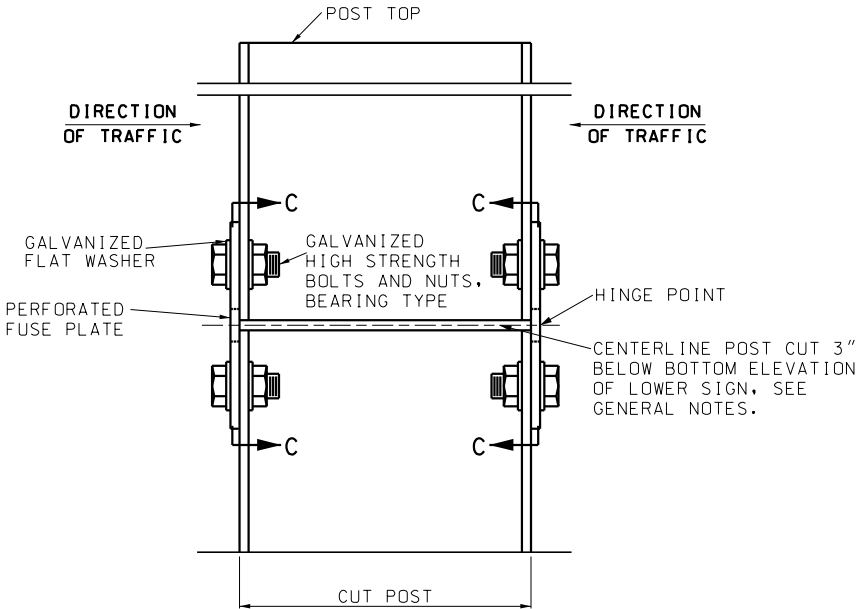
PERFORATED FUSE PLATE DATA TABLE														
POST DESIGN NO.	F (IN.)	G (IN.)	H (IN.)	J (IN.)	K (IN.)	L (IN.)	M (IN.)	N (IN.)	d1 (IN.)	d2 (IN.)	P (IN.)	BOLT DIA. (IN.)	WT. (EA.) (LBS.)	
1	5	$1\frac{1}{4}$	$1\frac{1}{4}$	6	$3\frac{1}{2}$	$1\frac{1}{4}$	$1\frac{1}{2}$	$\frac{3}{4}$	$\frac{11}{16}$	$1\frac{1}{4}$	$\frac{1}{4}$	$\frac{5}{8}$	1.67	

SPLICE PLATE DATA TABLE												
POST DESIGN NO.	J (IN.)	K (IN.)	L (IN.)	U (IN.)	d1 (IN.)	BOLT DIA. (IN.)	WT. (EA.) (LBS.)	WASHER				
								OD IN.	ID IN.	THICK IN.		
1	6	$3\frac{1}{2}$	$1\frac{1}{4}$	$\frac{1}{4}$	$\frac{11}{16}$	$\frac{5}{8}$	4.89	$1\frac{5}{16}$	$\frac{11}{16}$	$\frac{1}{8}$		

THE WEIGHT OF STRUCTURAL STEEL POSTS SHOWN IN THE CONTRACT HAS BEEN COMPUTED USING THE WEIGHTS SHOWN.

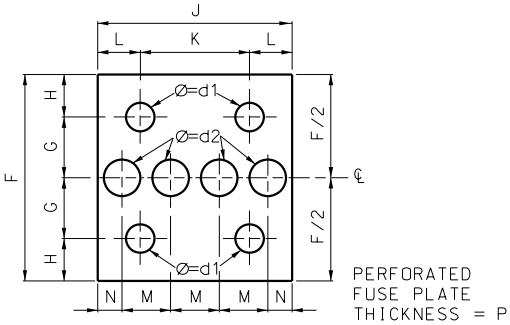


ONE DIRECTION BREAKAWAY



TWO DIRECTION BREAKAWAY

PERFORATED FUSE PLATE AND
SPLICE PLATE DETAIL

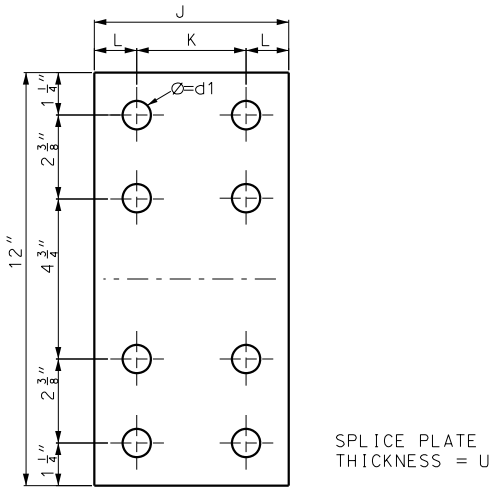


ELEVATION C-C

PERFORATED
FUSE PLATE
THICKNESS = P

ALL HOLES SHALL BE DRILLED. ALL PLATE CUTS SHALL PREFERABLY BE SAW CUTS. HOWEVER: FLAME CUTTING WILL BE PERMITTED PROVIDED ALL EDGES ARE GROUND.

PERFORATED FUSE PLATE AND SPICE PLATE SHALL BE FABRICATED FROM ASTM A 36 STRUCTURAL STEEL.



SPLICE PLATE
THICKNESS = U

ELEVATION D-D

- NOTES:
- FOR GENERAL NOTES, SEE SHEET 1 OF 4.
- FOR ROADWAYS WHERE TRAFFIC MAY STRIKE THE BACKSIDE OF THE POST, PERFORATED FUSE PLATES SHALL BE INSTALLED ON BOTH SIDES OF THE POST.
- THIS SHEET IS BASED ON MISSOURI STANDARD PLANS DRAWING 903.03 WITH AN EFFECTIVE DATE 10/01/2019. THE LATEST EDITION OF THIS DRAWING SHALL BE USED IF DIFFERENT THAN THE DETAILS SHOWN.

Note: This drawing is not to scale. Follow dimensions.

REV.	DATE	DESCRIPTION	APPROVED



ENGINEERS



One Campbell Plaza
St. Louis, Missouri 63139

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F. 314.781.9075

Missouri State Certificate of Authority # 1721



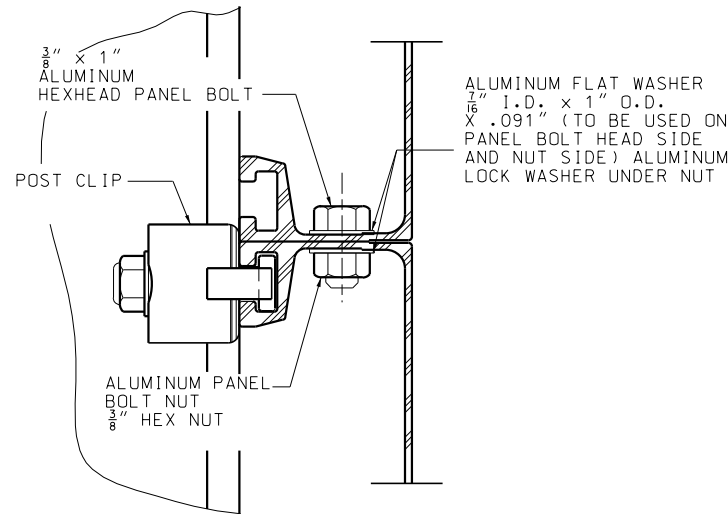
David Burdick, P.E.
MO# PE-024015

DRAWN BY
DB
CHECKED BY
TRN
DATE
February 3, 2020

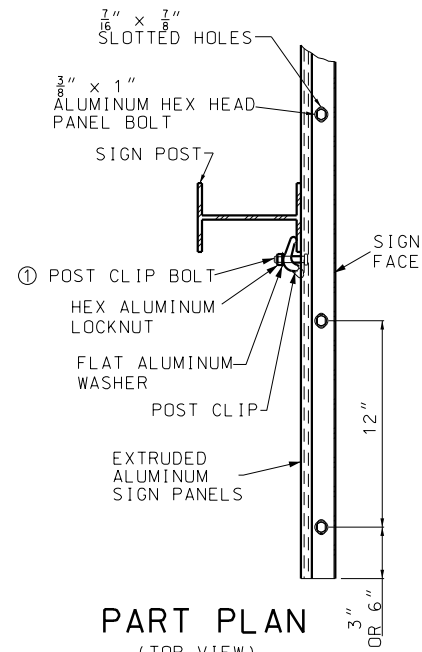
GREAT RIVERS GREENWAY
SIGN STRUCTURE STANDARDS
DETAILS OF SIGN STRUCTURE Gx-1

STD NO
Gx-102
SHEET NO.
2 OF 4

SHEET NO.
24



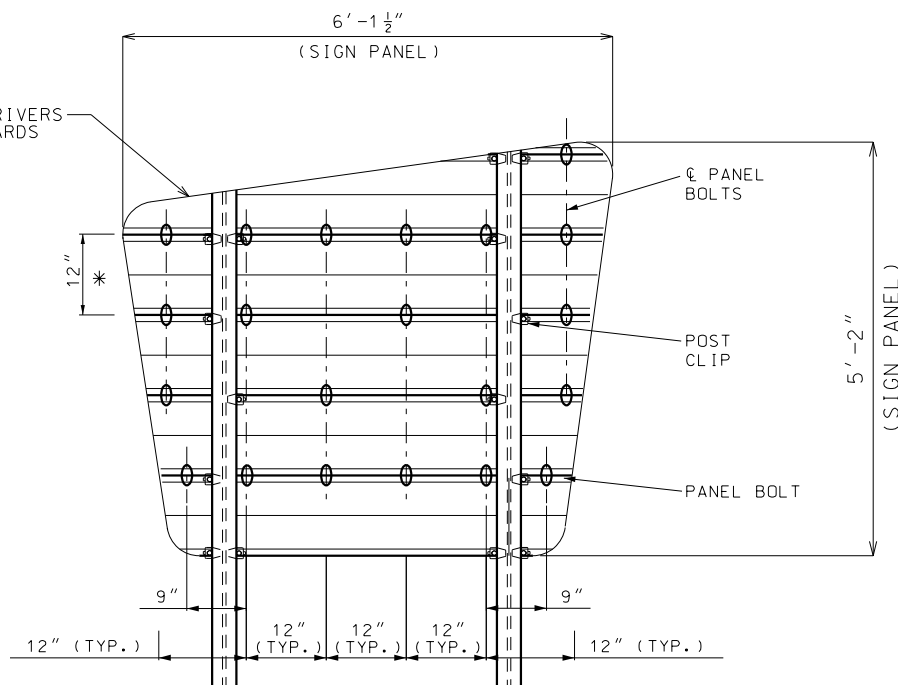
POST CLIP DETAIL
(SIDE VIEW)



PART PLAN
(TOP VIEW)

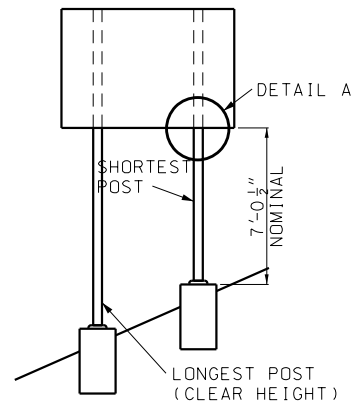
① SIGNS SHALL BE FIELD ATTACHED TO POSTS WITH POST CLIPS AND BOLTS. SEE POST CLIP DETAIL. THE SHANK OF THE POST CLIP BOLT SHALL FIT TIGHTLY AGAINST THE POST FLANGE AFTER THE LOCKNUTS ARE TORQUED. LOCKNUTS ON THE POST CLIP BOLTS SHALL BE TORQUED TO 225 INCH-POUNDS WHEN USING DRY, CLEAN, UNLUBRICATED THREADS.

REFER TO SHEET NO. 22 IN THE GREAT RIVERS GREENWAY EXTERIOR SIGN DESIGN STANDARDS FOR SIGN PANEL DETAILS NOT SHOWN

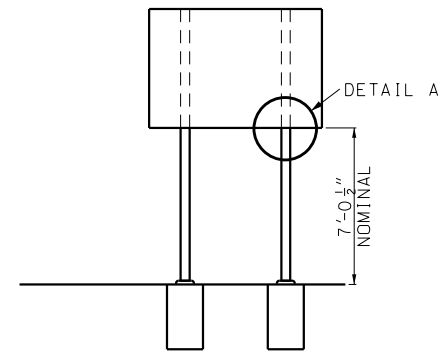


* EXTRUDED ALUMINUM PANEL.

PANEL BOLT LOCATION

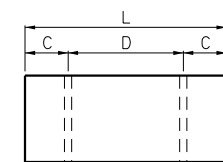


SLOPED GRADE



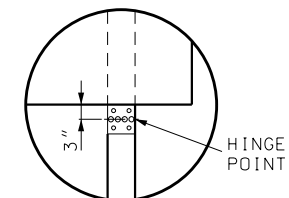
LEVEL GRADE

SIGN Gx-1



$C = 1/5(L)$
 $D = 3/5(L)$

POST SPACING



DETAIL A

NOTE: SEE SHEET 2 FOR FUSE PLATE DETAILS.

NOTES:

FOR GENERAL NOTES, SEE SHEET 1 OF 4.

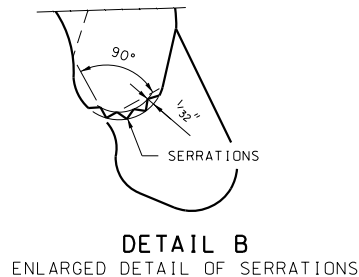
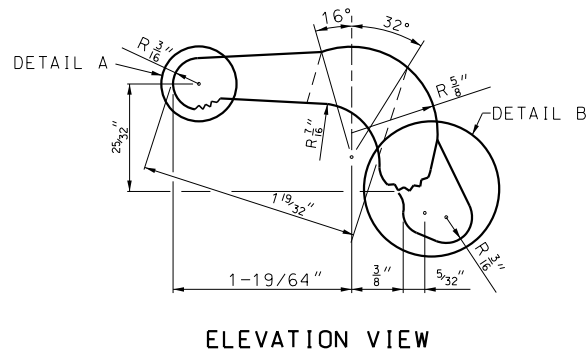
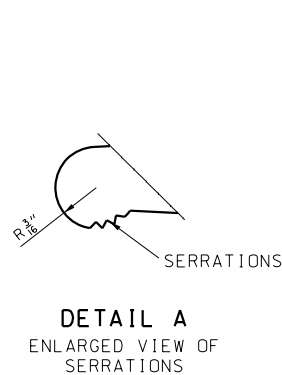
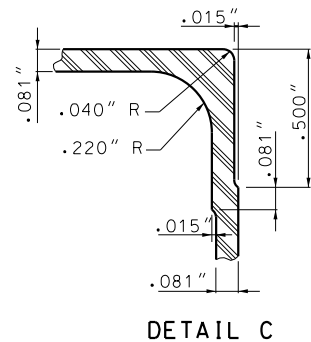
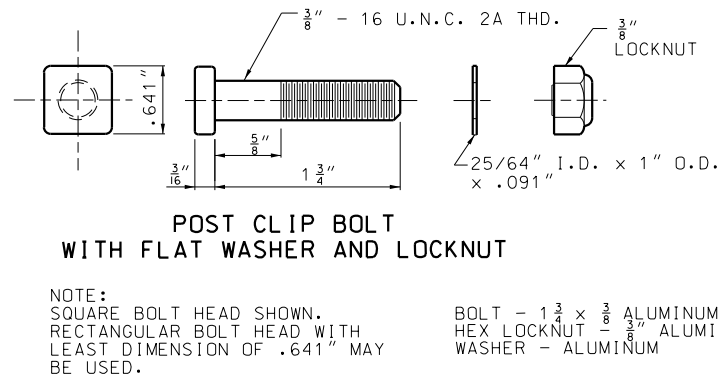
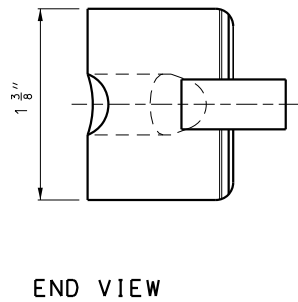
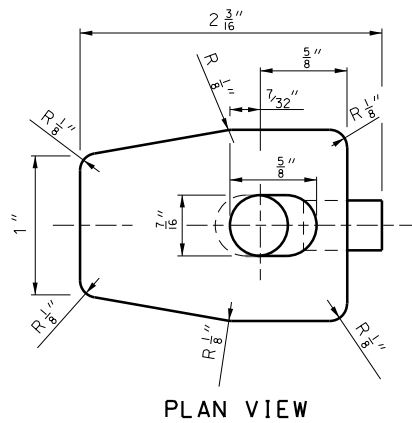
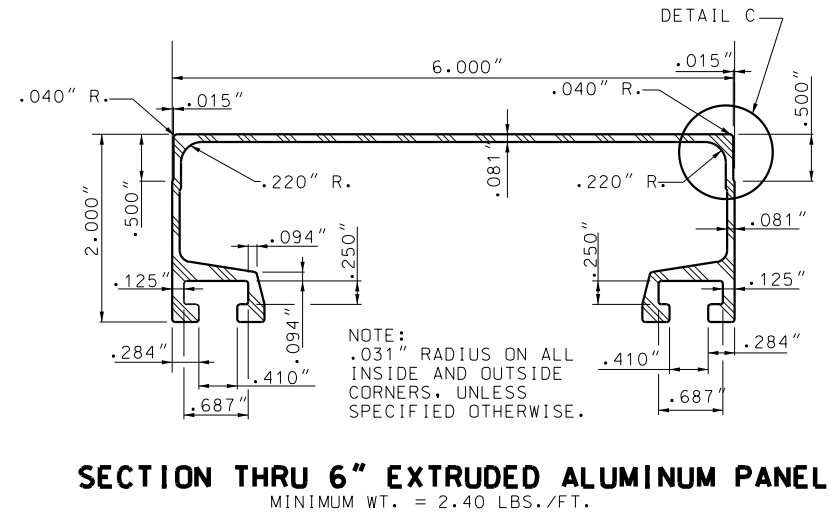
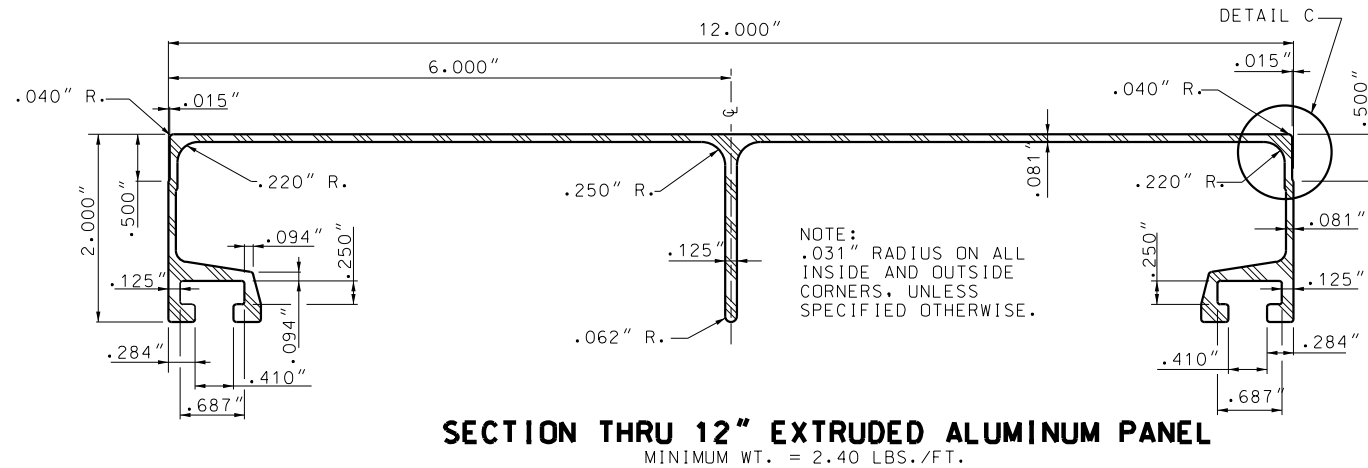
FOR EXTRUDED ALUMINUM PANEL AND POST CLIP DETAILS, SEE SHEET 4 OF 4.

THIS SHEET IS BASED ON MISSOURI STANDARD PLANS DRAWING 903.03 WITH AN EFFECTIVE DATE 10/01/2019. THE LATEST EDITION OF THIS DRAWING SHALL BE USED IF DIFFERENT THAN THE DETAILS SHOWN.

Note: This drawing is not to scale. Follow dimensions.

REV.	DATE	DESCRIPTION	APPROVED

T:\Working\15080 - Wildwood - Strecker Road Bridge\Drawings\Bridge\GDS Bridge template.dgn



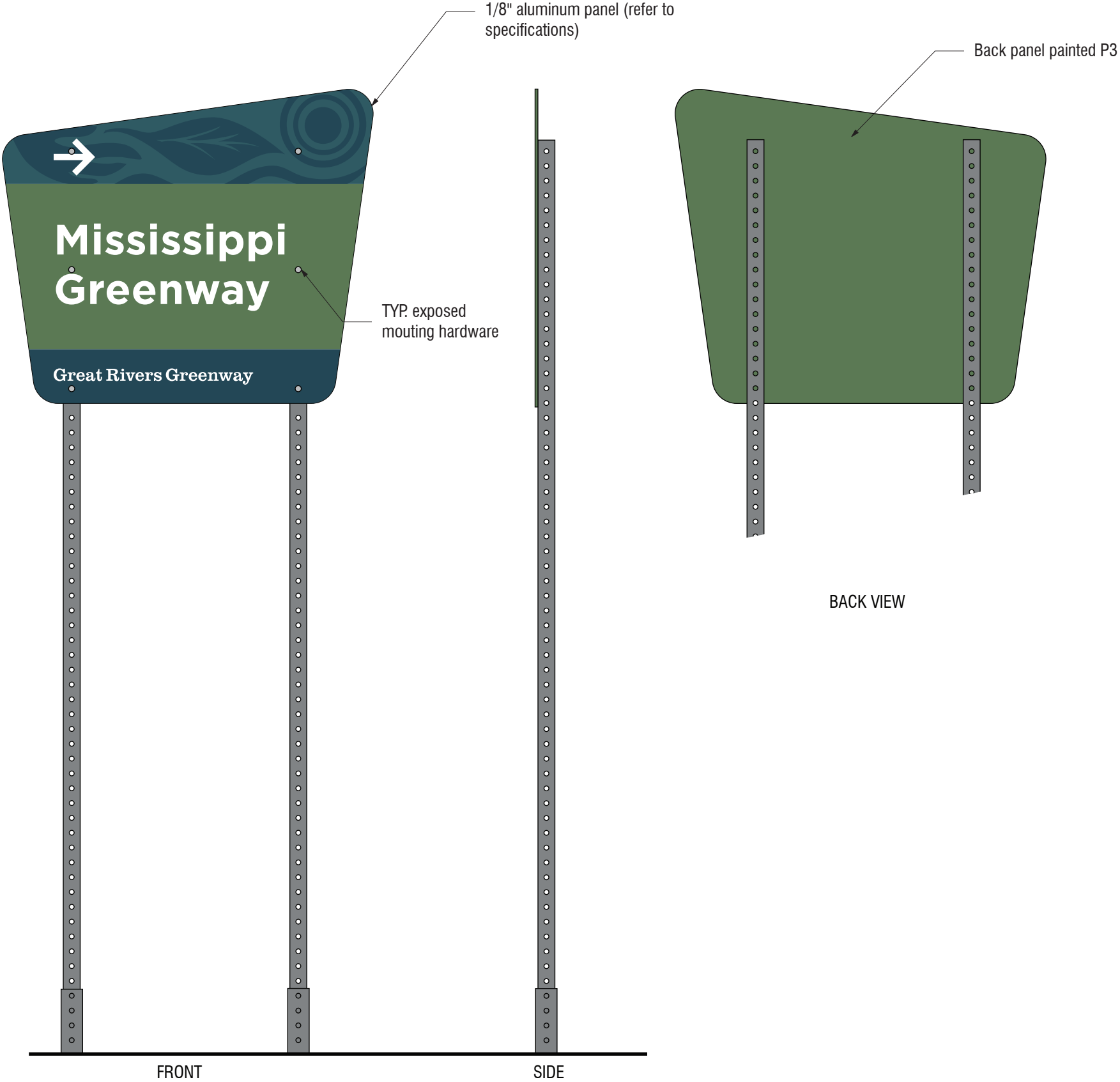
POST CLIP
POST CLIPS SHALL BE ASTM B 108, 356-T6 ALUMINUM ALLOY.

NOTE:
THIS SHEET IS BASED ON MISSOURI STANDARD PLANS DRAWING
903.02 WITH AN EFFECTIVE DATE 10/01/2019. THE LATEST
EDITION OF THIS DRAWING SHALL BE USED IF DIFFERENT
THAN THE DETAILS SHOWN.

Note: This drawing is not to scale. Follow dimensions.

REV.	DATE	DESCRIPTION	APPROVED

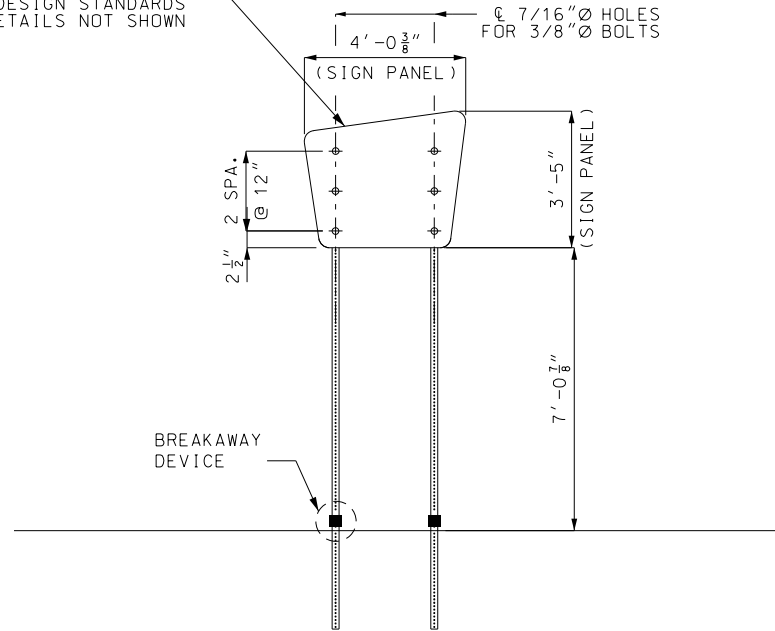
REFER TO PAGES 28 & 29 FOR
STRUCTURAL SIGNAGE DETAILS



Download the art template for this sign at: <https://greatriversgreenway.sharefile.com/d-s5bbc97d803346128>

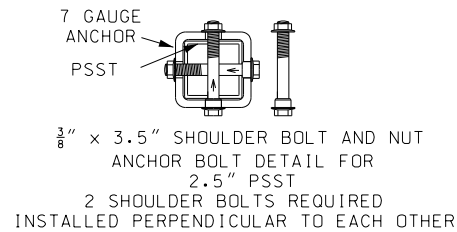
T:\Workina\15080 - Wildwood - Strecker Road Bridge\Drawings\Bridge\CDG Bridge template.dgn

REFER TO SHEET NO. 27 IN THE GREAT RIVERS
GREENWAY EXTERIOR SIGN DESIGN STANDARDS
FOR SIGN PANEL DETAILS NOT SHOWN

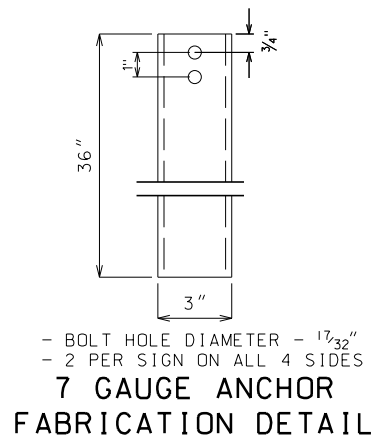


SIGN Gx-2

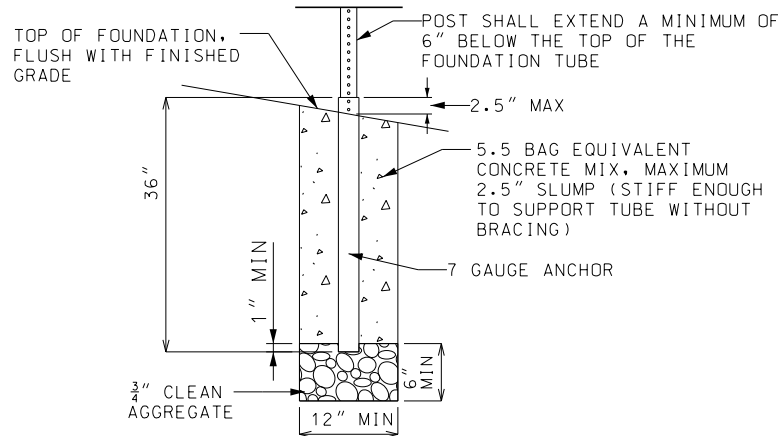
POST AND ANCHOR DATA TABLE					
POST		ANCHOR NORMAL OR OMNI-DIRECTIONAL		BREAKAWAY NEEDED	
GAUGE	SIZE	GAUGE	SIZE	NUMBER OF POSTS	
12	2.5"x2.5"	7	3" X 3" X 36" OD	1	2
				NO	YES



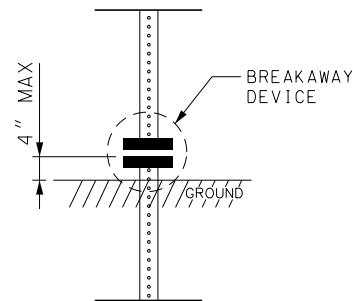
ANCHOR BOLT DETAIL



7 GAUGE ANCHOR
FABRICATION DETAIL



CONCRETE FOUNDATION DETAIL



WHEN BREAKAWAY DEVICES ARE REQUIRED
THE PORTION FIXED TO THE GROUND ANCHOR
SHALL BE NO HIGHER THAN 4" ABOVE THE
FINISHED GRADE.

BREAKAWAY DETAILS

GENERAL NOTES:

DESIGN SPECS: AASHTO STANDARD SPECIFICATIONS FOR
STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS. LUMINAIRES
AND TRAFFIC SIGNALS - 1985 (EXCEPT 2001 AND LATEST
INTERIMS FOR STRUCTURAL STEEL POSTS).

POSTS AND ANCHOR SHALL BE HOT DIPPED GALVANIZED
AFTER FABRICATION PER SECTION 1080 OF THE MISSOURI
STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

METAL PROJECTING BEYOND THE PLANE OF THE PLATE FACE
WILL NOT BE ALLOWED.

REMOVE ALL GALVANIZING RUNS OR BEADS IN THE WASHER
AREA.

INSTALLATION OF THE BREAKAWAY ASSEMBLY SYSTEM INCLUDING
HARDWARE, BOLTS, NUTS, WASHERS AND ALL OTHER APPURTENANCES
NECESSARY FOR THE COMPLETE INSTALLATION SHALL BE PER THE
MANUFACTURERS REQUIREMENTS.

THE THREADS SHALL BE BURRED AT THE NUT USING A CENTER
PUNCH TO PREVENT NUT FROM LOOSENING.

ALL BREAKAWAY DEVICES USED ON AN INSTALLATION SHALL BE
CERTIFIED NCHRP 350 COMPLIANT.

THE FINISH ON THE POSTS SHALL BE IN ACCORDANCE WITH
THE REQUIREMENTS OF GREAT RIVERS GREENWAYS EXTERIOR
SIGN DESIGN STANDARDS AND SPECIFICATIONS.

THIS SHEET IS BASED ON MISSOURI STANDARD PLANS DRAWING
903.03 WITH AN EFFECTIVE DATE 01/01/2020. THE LATEST
EDITION OF THIS DRAWING SHALL BE USED IF DIFFERENT
THAN THE DETAILS SHOWN.

SIGN STRUCTURES Gx-2 AS SHOWN MAY BE INSTALLED
WITHIN THE ROADWAY CLEAR ZONE OR IN OTHER AREAS WHERE
THEY MAY BE SUSCEPTIBLE TO VEHICULAR COLLISION OR ARE
OTHERWISE UNPROTECTED.

SIGN STRUCTURE PLACEMENT MAY BE SUBJECT TO OTHER
REQUIREMENTS OR RESTRICTIONS ON A CASE-BY-CASE BASIS.

INDIVIDUAL SIGN STRUCTURE LOCATION AND PLACEMENT SHALL
BE THE RESPONSIBILITY OF THE ENGINEER OF RECORD FOR
EACH SIGN STRUCTURE INSTALLATION.

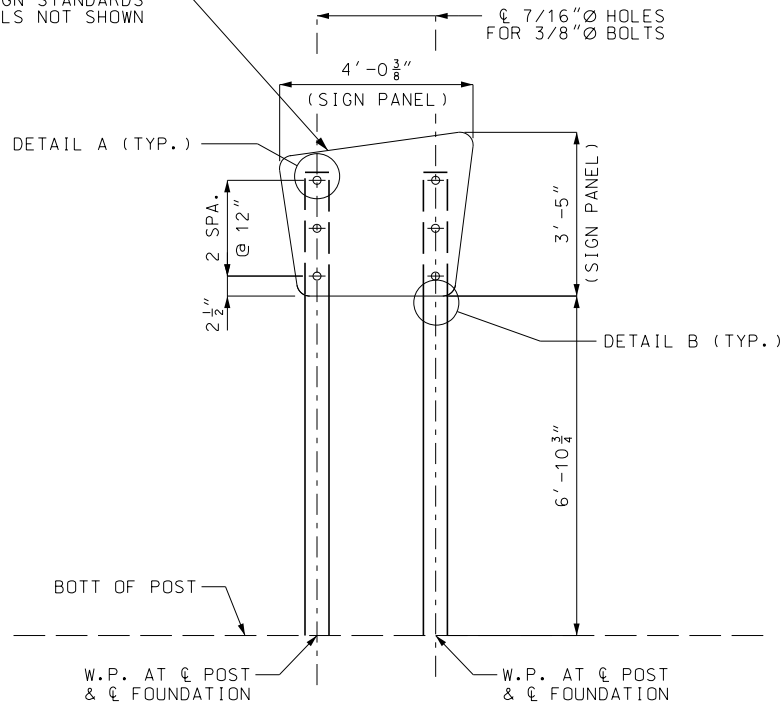
PERFORATED SQUARE STEEL TUBE (PSST) SIGN POST OPTION

Note: This drawing is not to scale. Follow dimensions.

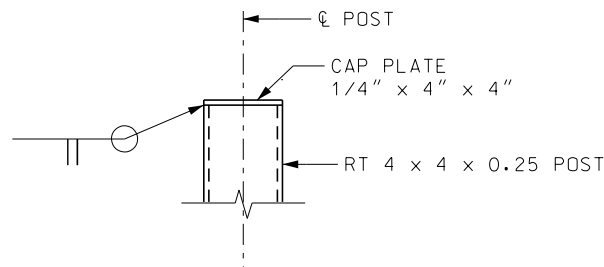
REV.	DATE	DESCRIPTION	APPROVED

T:\Workina\15080 - Wildwood - Strecker Road Bridge\Drawings\Bridg\CDG Bridge template.dgn

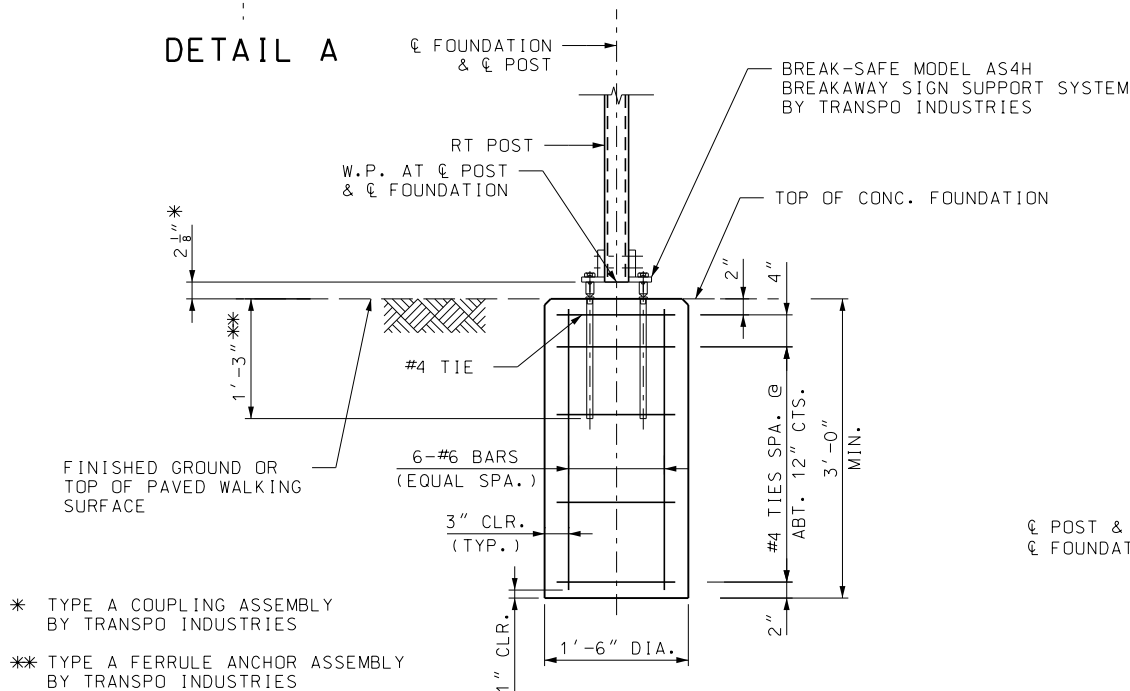
REFER TO SHEET NO. 27 IN THE GREAT RIVERS
GREENWAY EXTERIOR SIGN DESIGN STANDARDS
FOR SIGN PANEL DETAILS NOT SHOWN



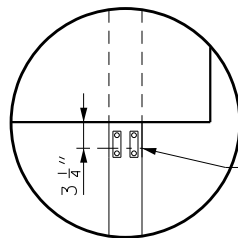
SIGN Gx-2



DETAIL A

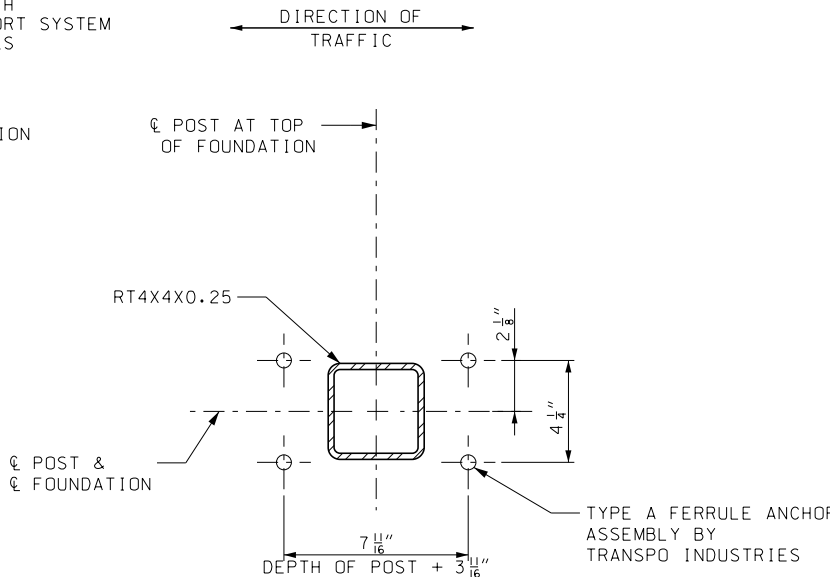


SECTION THRU CONCRETE FOUNDATION



DETAIL B

BREAK-SAFE MODEL AS4H
HINGE ASSEMBLY
BY TRANSP INDUSTRIES



PLAN-ANCHOR ASSEMBLY
BRACKETS NOT SHOWN FOR CLARITY

ALUMINUM TUBE WITH BREAKAWAY SUPPORT SYSTEM OPTION

Note: This drawing is not to scale. Follow dimensions.

GENERAL NOTES:

DESIGN SPECS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS - 2013 (6TH EDITION) AND ALUMINUM ASSOCIATION 2015 ALUMINUM DESIGN MANUAL.

CONCRETE FOR FOUNDATIONS SHALL BE CLASS B CONCRETE, IN ACCORDANCE WITH THE MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, WITH A COMPRESSIVE STRENGTH OF
f'c = 4,000 PSI @ 28 DAYS.

ALL EXPOSED EDGES OF THE CONCRETE SHALL HAVE A 3/4" CHAMFER.

ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615 GRADE 60, Fy=60,000 PSI.

ALL REINFORCING STEEL SHALL BE EPOXY COATED IN ACCORDANCE WITH ASTM A775/A775M.

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1 1/2", UNLESS NOTED OTHERWISE.

THE BREAKAWAY SUPPORT SYSTEM BY TRANSP INDUSTRIES SHALL INCLUDE THE BREAK-SAFE MODEL AS4H BRACKETS, HARDWARE, COUPLINGS, ANCHORS, HINGES AND ALL OTHER APPURTENANCES NECESSARY FOR THE COMPLETE INSTALLATION PER THE MANUFACTURER.

ALL BRACKETS, HARDWARE, COUPLINGS, ANCHORS, HINGES, BOLTS, NUTS AND WASHERS FOR THE BREAKAWAY SUPPORT SYSTEM SHALL BE GALVANIZED BY THE HOT-DIP PROCESS IN ACCORDANCE WITH ASTM A153.

THE BREAKAWAY SUPPORT SYSTEM BY TRANSP INDUSTRIES IS BASED ON DETAILS WITH AN EFFECTIVE DATE JANUARY 2015. THE LATEST EDITION OF THESE DETAILS SHALL BE USED IF DIFFERENT THAN THE DETAILS SHOWN.

THE STRUCTURAL TUBING MATERIAL SHALL BE ALUMINUM, 6063-T6 IN ACCORDANCE WITH ASTM B429.

THE CAP MATERIAL SHALL BE ALUMINUM, 6061-T6 IN ACCORDANCE WITH ASTM B209.

WELD FILLER MATERIAL SHALL BE ALUMINUM, 5356 AND COMPLY WITH AWS A5.10.

ALL WELDING SHALL COMPLY WITH AWS D1.2 "STRUCTURAL WELDING CODE-ALUMINUM".

ALL EXPOSED WELDED JOINTS SHALL BE FILLED AND GROUND SMOOTH SO THAT NO SEAM IS VISIBLE WHEN PAINTED.

BOLTS, NUTS AND WASHERS SHALL BE 300 SERIES STAINLESS STEEL. WASHERS SHALL BE USED UNDER BOLT HEADS.

ALL HARDWARE AND FASTENERS WITHIN REACH SHALL BE VANDAL RESISTANT.

PROVIDE DRAIN HOLES IN RT TUBES IN LOCATIONS AS NEEDED TO PREVENT THE ACCUMULATION OF MOISTURE IN THE MEMBERS.

HOLES SHALL BE LOCATED TO BE INCONSPICUOUS AND SUCH THAT DRAINAGE DOES NOT OCCUR ONTO SIGNS OR OTHER SURFACES SUBJECT TO STAINING.

PROVIDE COLOR-COORDINATED STAINLESS STEEL BUG MESH OVER DRAIN HOLES.

FOUNDATIONS SHOWN IN THE PLANS HAVE BEEN DESIGNED BASED ON THE PRESUMPTIVE VALUES FOUND IN IBC-2009, TABLE 1806.2, FOR CLASS 5 SOIL MATERIALS. THE FOUNDATIONS SHOWN ARE SUITABLE FOR CONSTRUCTION IN ANY CLASS 5 SOIL OR BETTER. CONSTRUCTION OF THE FOUNDATIONS IN LESSER SOILS SUCH AS MUD, ORGANIC SOILS OR UNPREPARED SOILS IS NOT COVERED BY THIS STANDARD DESIGN AND WILL REQUIRE FURTHER EVALUATION.

THE FINISH ON THE SIGN STRUCTURE (POSTS AND PLATES) SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE GREAT RIVERS GREENWAYS EXTERIOR SIGN DESIGN STANDARDS AND SPECIFICATIONS.

PROVIDE 1/2" JOINT FILLER AROUND FOUNDATION AT PAVED WALKING SURFACE LOCATIONS.

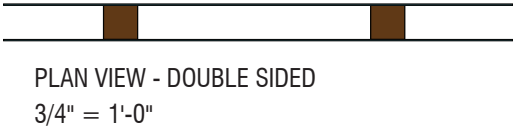
SIGN STRUCTURE Gx-2 AS SHOWN MAY BE INSTALLED WITHIN THE ROADWAY CLEAR ZONE OR IN OTHER AREAS WHERE THEY MAY BE SUSCEPTIBLE TO VEHICULAR COLLISION OR ARE OTHERWISE UNPROTECTED.

SIGN STRUCTURE PLACEMENT MAY BE SUBJECT TO OTHER REQUIREMENTS OR RESTRICTIONS ON A CASE-BY-CASE BASIS.

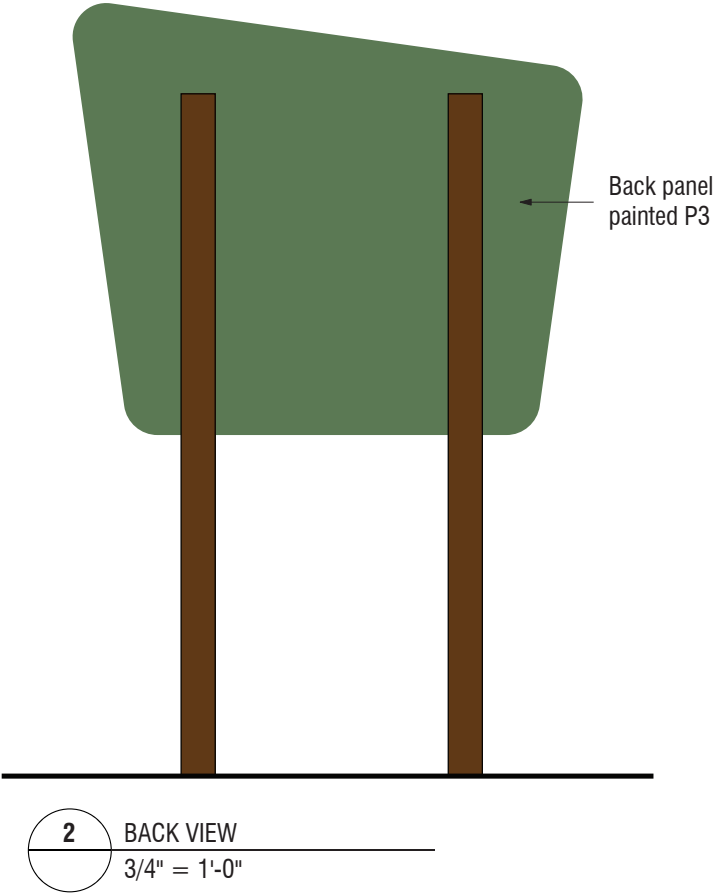
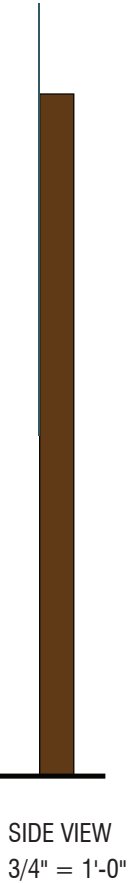
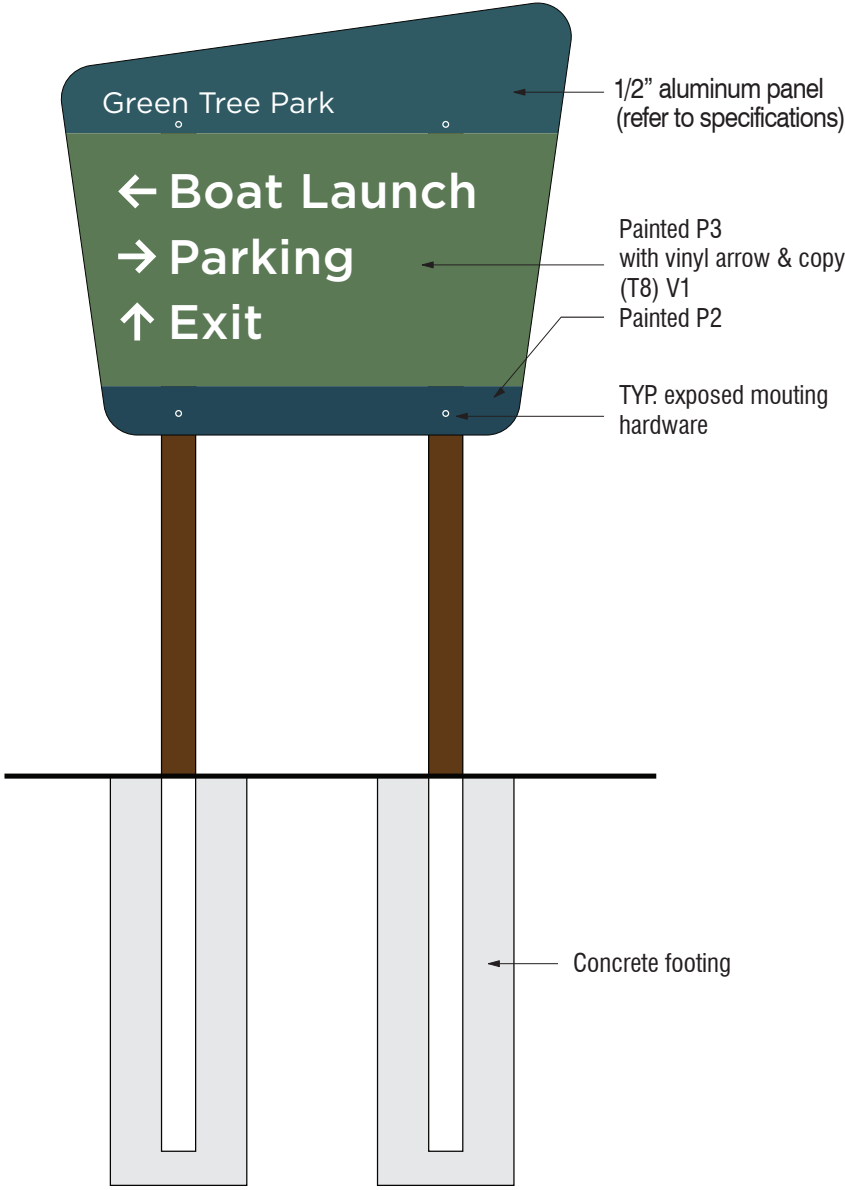
INDIVIDUAL SIGN STRUCTURE LOCATION AND PLACEMENT SHALL BE THE RESPONSIBILITY OF THE ENGINEER OF RECORD FOR EACH SIGN STRUCTURE INSTALLATION.

REV.	DATE	DESCRIPTION	APPROVED

Great Rivers Greenway Sign Array: GX-3 Vehicular Guide

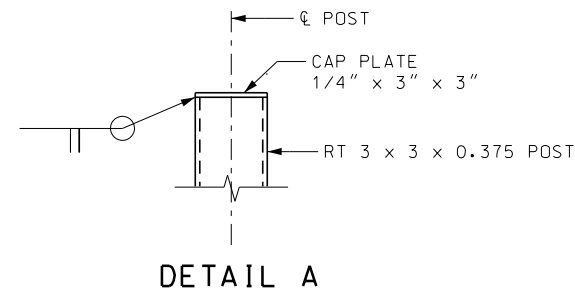


REFER TO PAGE 31 FOR
STRUCTURAL SIGNAGE DETAILS

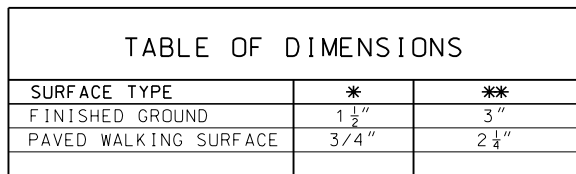


1 FRONT ELEVATION
3/4" = 1'-0"

Download the art template for this sign at: <https://greatriversgreenway.sharefile.com/d-sa644bf86be840ada>



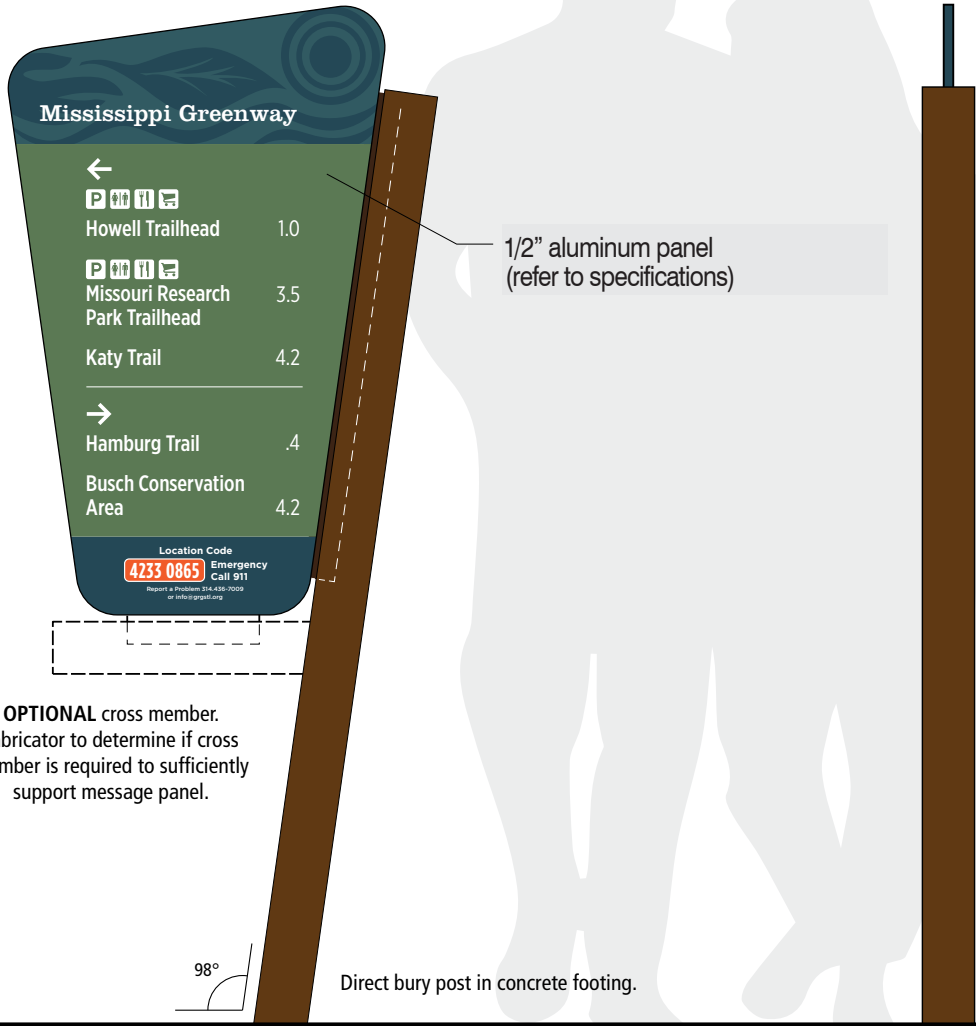
INDIVIDUAL SIGN STRUCTURE LOCATION AND PLACEMENT SHALL BE THE RESPONSIBILITY OF THE ENGINEER OF RECORD FOR EACH SIGN STRUCTURE INSTALLATION.



REV.	DATE	DESCRIPTION	APPROVED

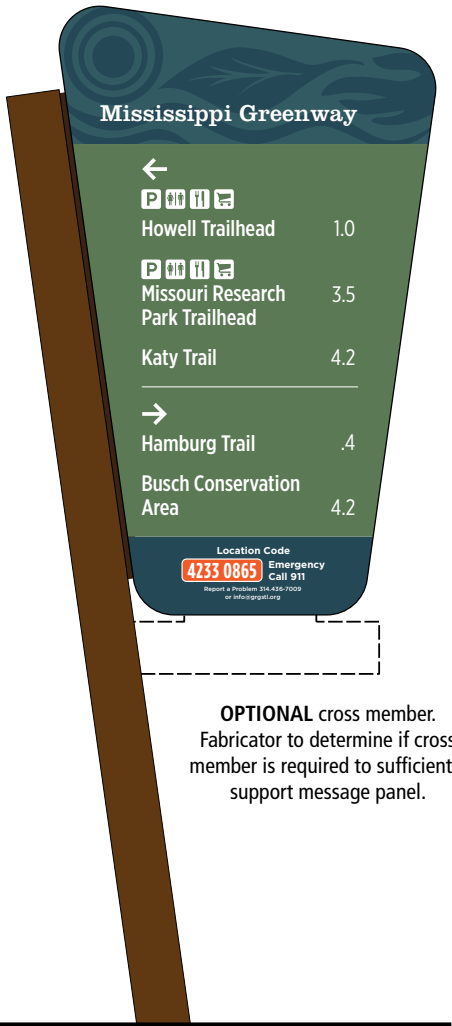


Plan View



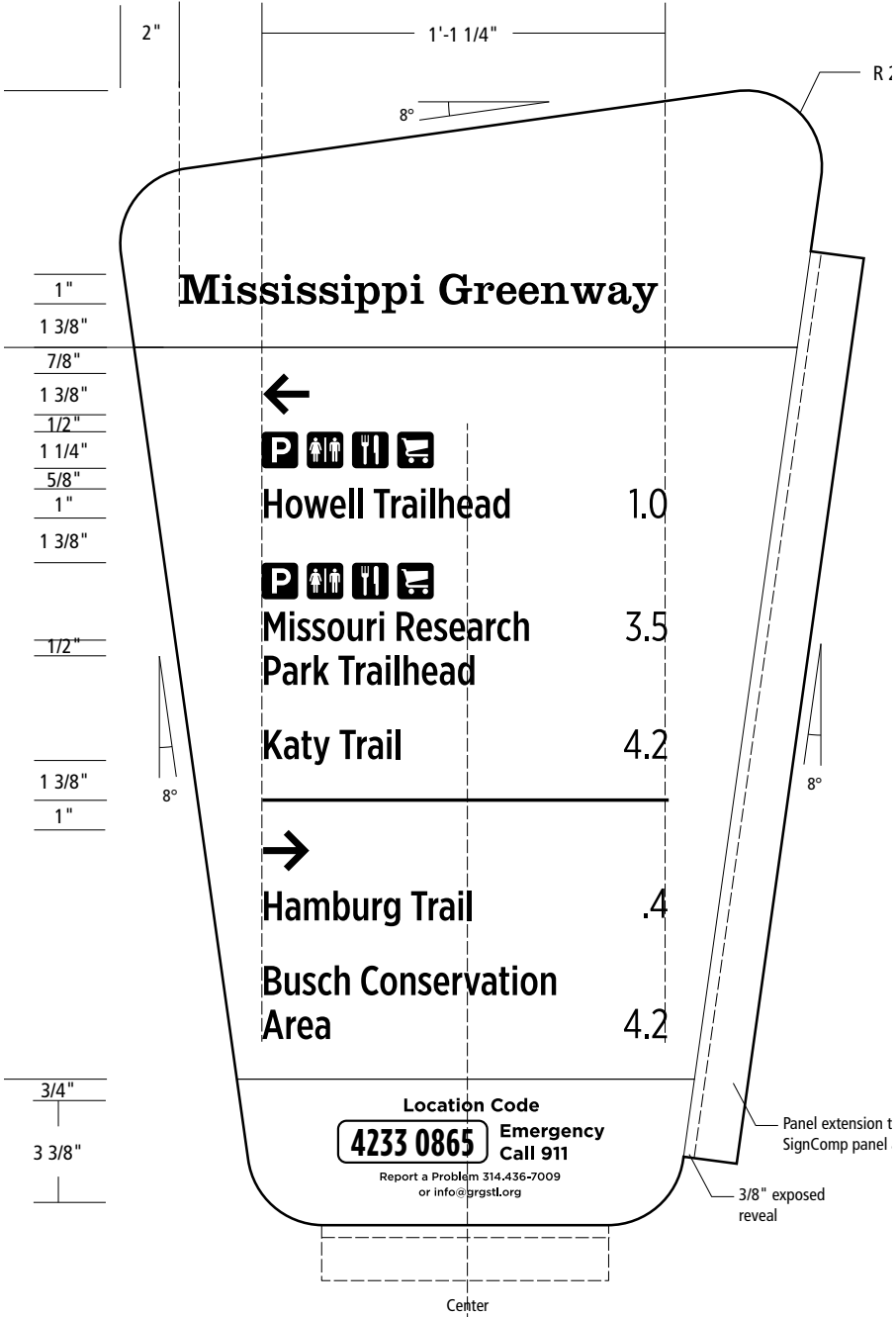
Front View

Side View



Back View

REFER TO PAGES 36 & 37 FOR
STRUCTURAL SIGNAGE DETAILS





Plan View



Front View

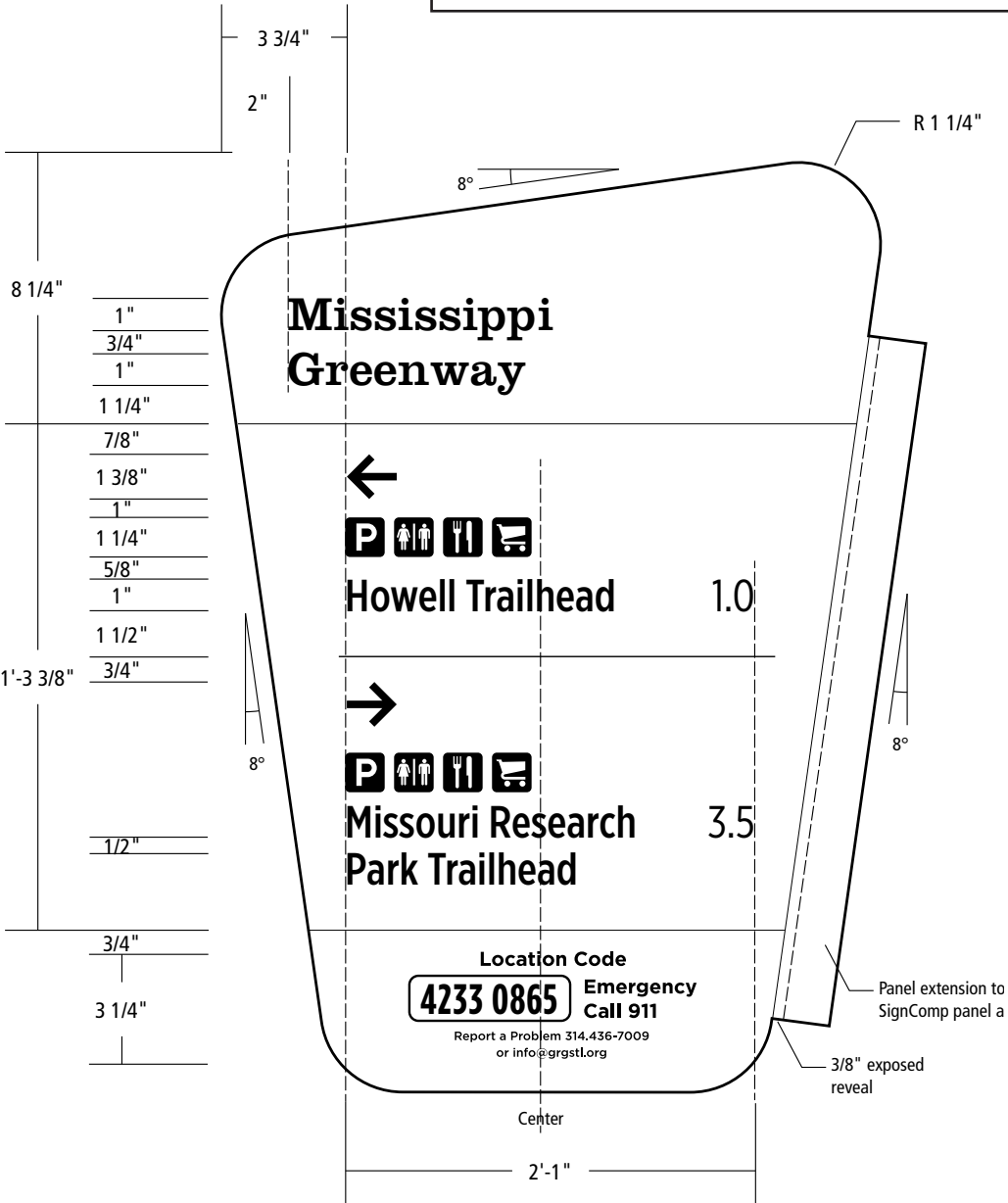


Side View



Back View

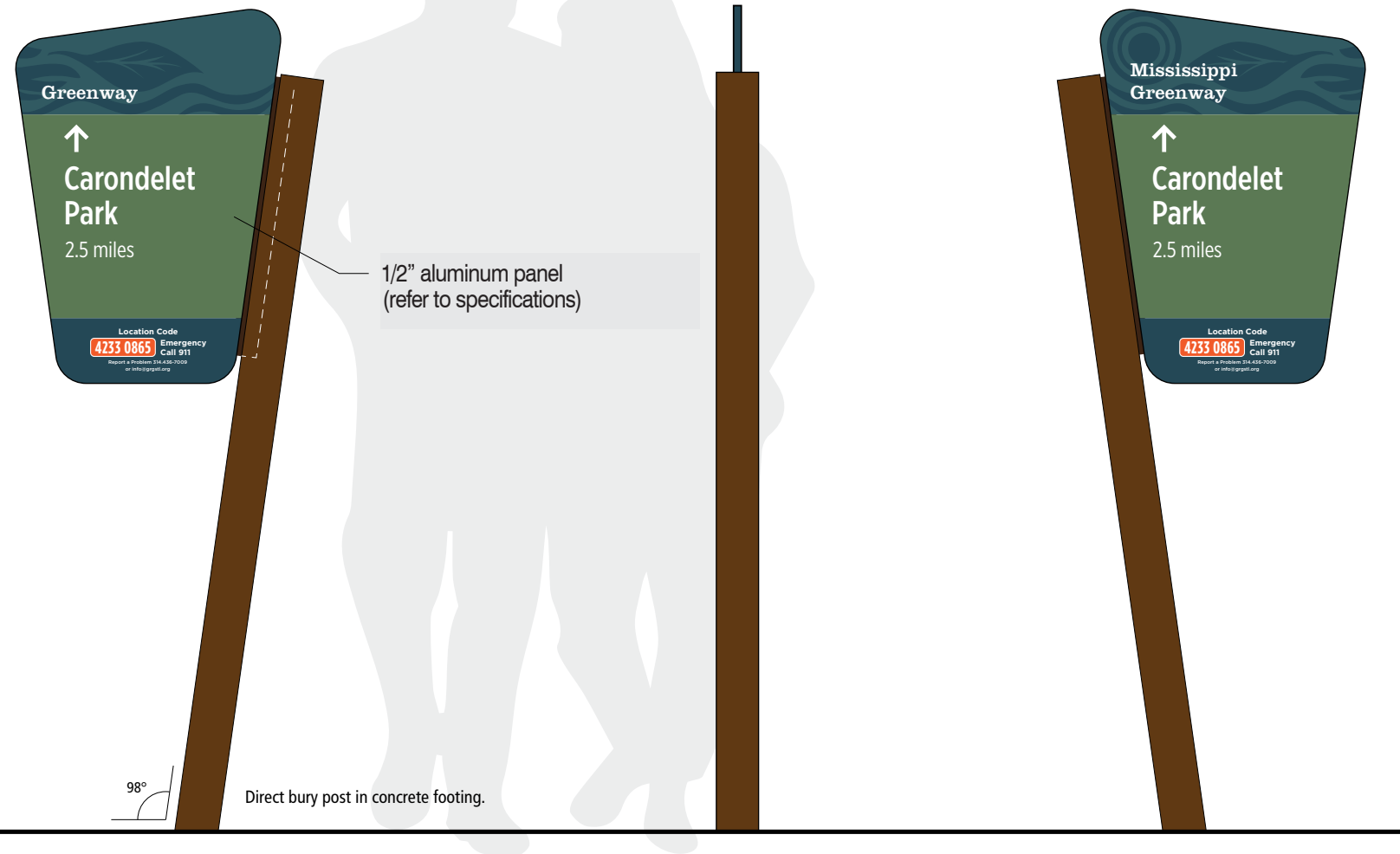
REFER TO PAGES 36 & 37 FOR
STRUCTURAL SIGNAGE DETAILS



Great Rivers Greenway Sign Array: GX-7 Pedestrian Medium Single-Directional Guide



Plan View

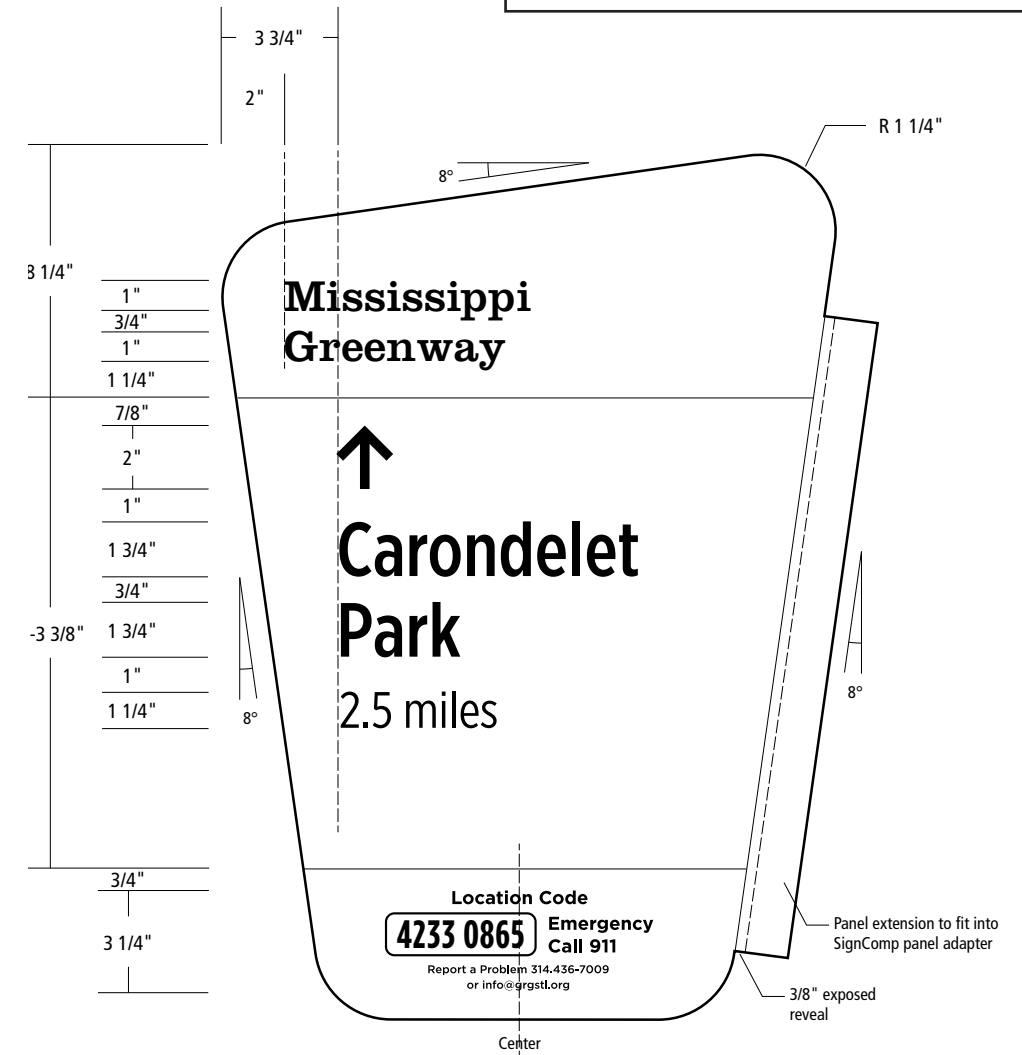


Front View

Side View

Back View

**REFER TO PAGES 36 & 37 FOR
STRUCTURAL SIGNAGE DETAILS**



Download the art template for this sign at: <https://greatriversgreenway.sharefile.com/d-s33535accf1c4b038>



Plan View



1/2" aluminum panel
(refer to specifications)



Front View

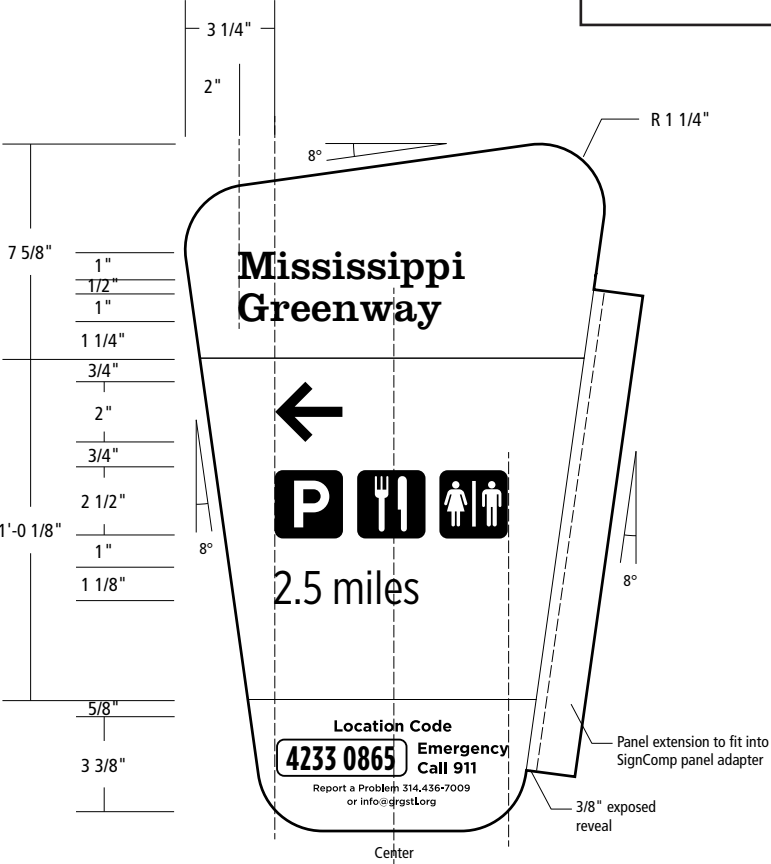
Side View

Back View

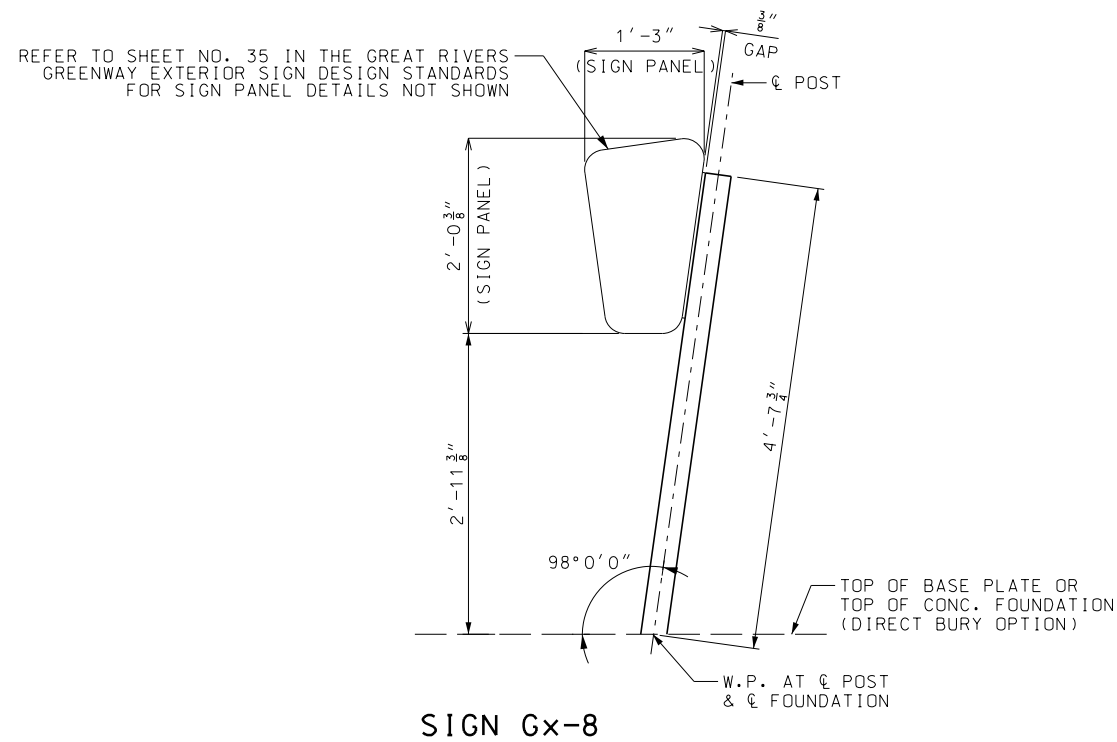
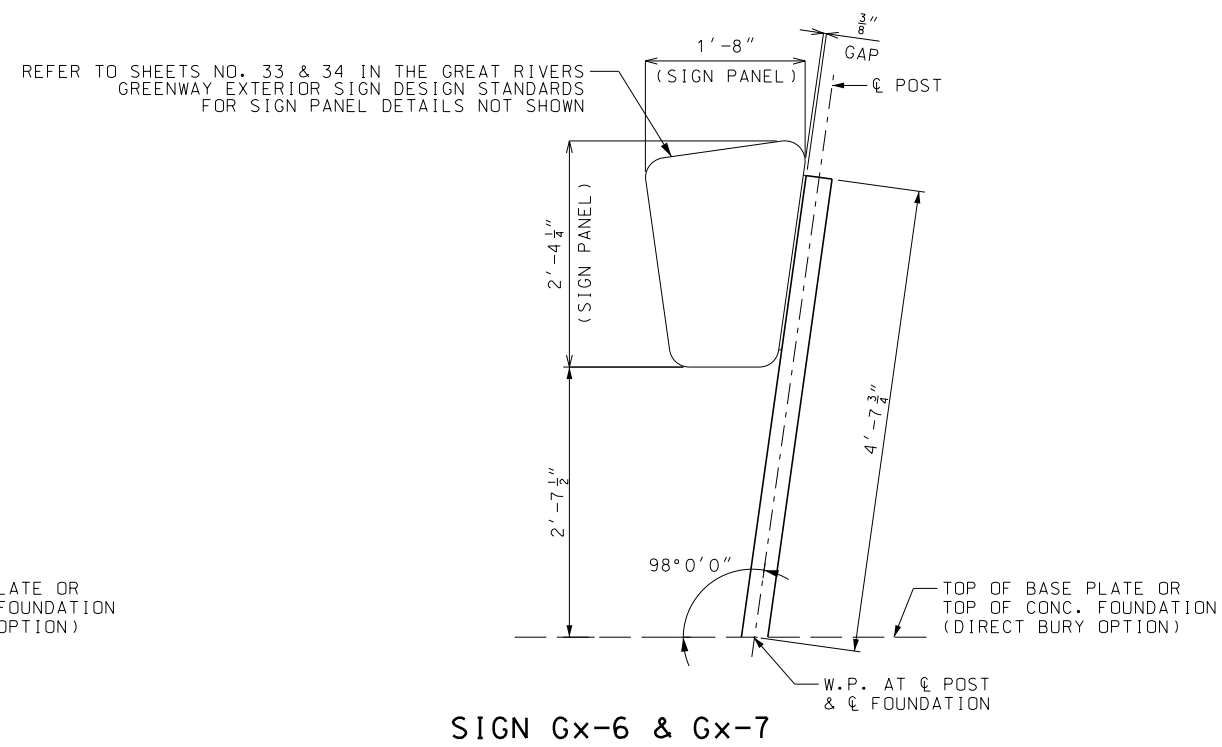
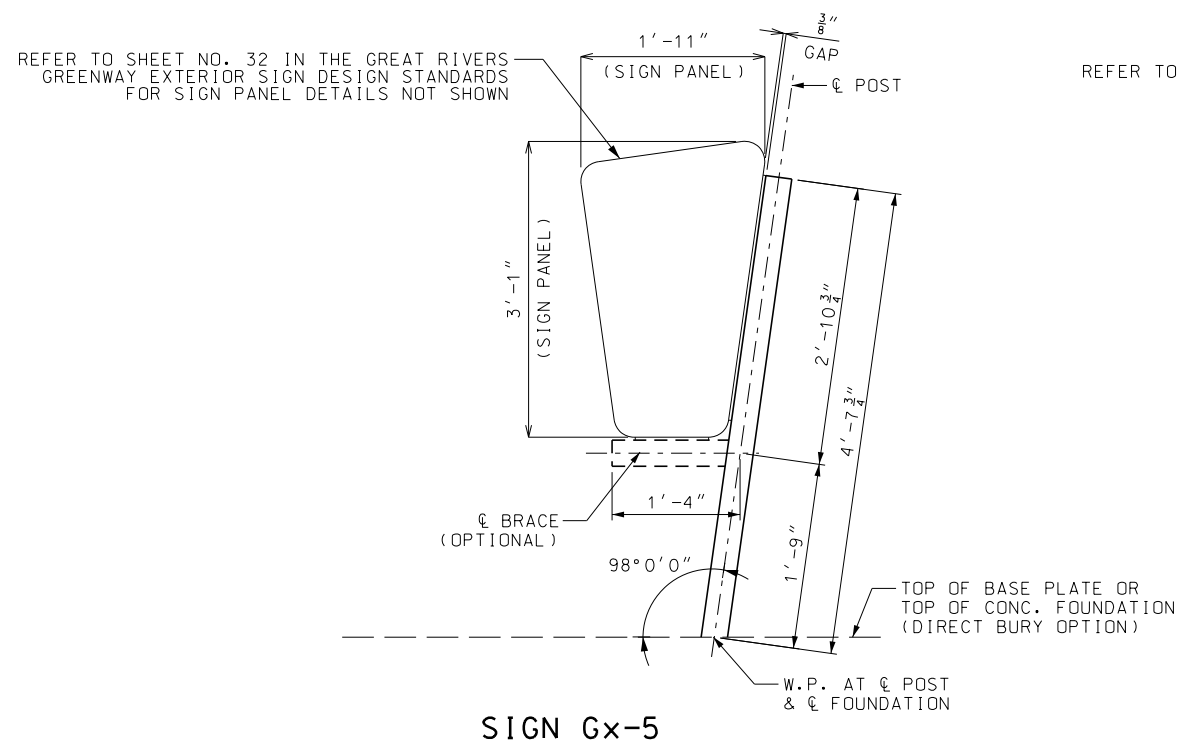


Alternate Layout

REFER TO PAGES 36 & 37 FOR
STRUCTURAL SIGNAGE DETAILS



Download the art template for this sign at: <https://greatriversgreenway.sharefile.com/d-sdfe5350c12a4083a>



NOTES:

FOR SIGN STRUCTURE DETAILS NOT SHOWN AND NOTES,
SEE SHEET NO. 2 OF 2.

SIGN STRUCTURES Gx-5, Gx-6, Gx-7 & Gx-8 AS SHOWN
ARE NOT INTENDED FOR INSTALLATION WITHIN THE ROADWAY
CLEAR ZONE OR IN OTHER AREAS WHERE THEY MAY BE
SUSCEPTIBLE TO VEHICULAR COLLISION OR ARE OTHERWISE
UNPROTECTED.

SIGN STRUCTURE PLACEMENT MAY BE SUBJECT TO OTHER
REQUIREMENTS OR RESTRICTIONS ON A CASE-BY-CASE BASIS.

INDIVIDUAL SIGN STRUCTURE LOCATION AND PLACEMENT SHALL BE THE RESPONSIBILITY OF THE ENGINEER OF RECORD FOR EACH SIGN STRUCTURE INSTALLATION.

REV.	DATE	DESCRIPTION	APPROVED

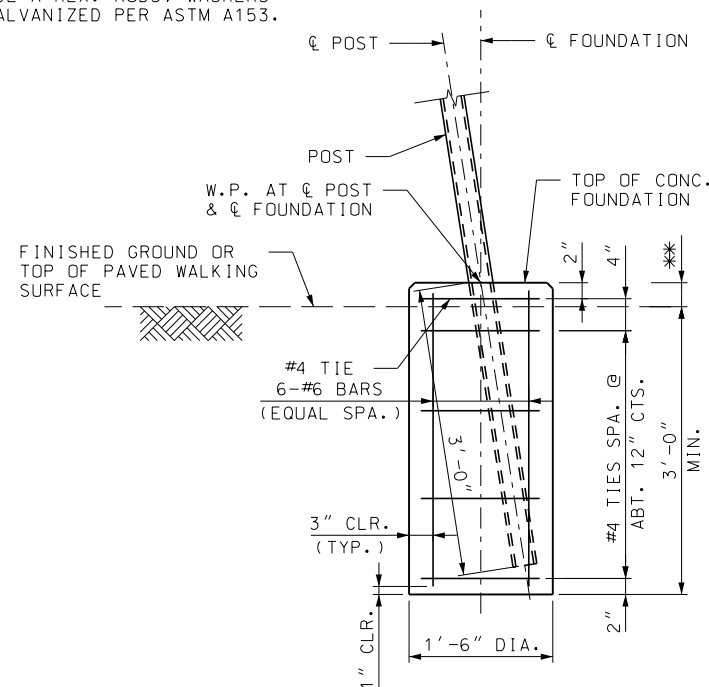
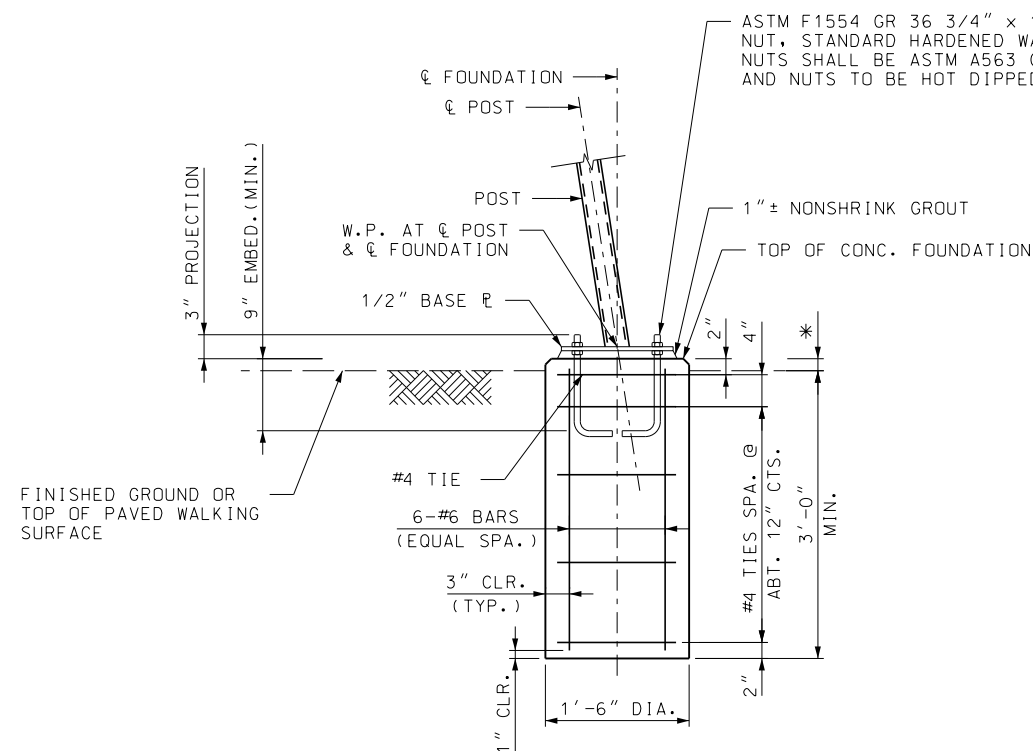
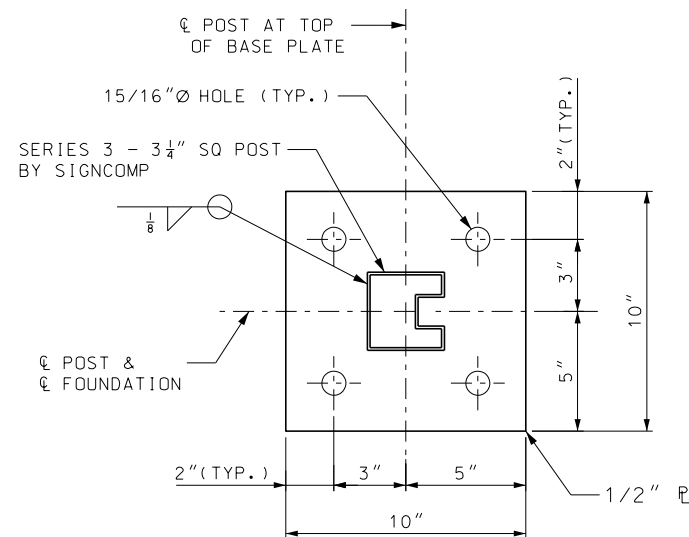
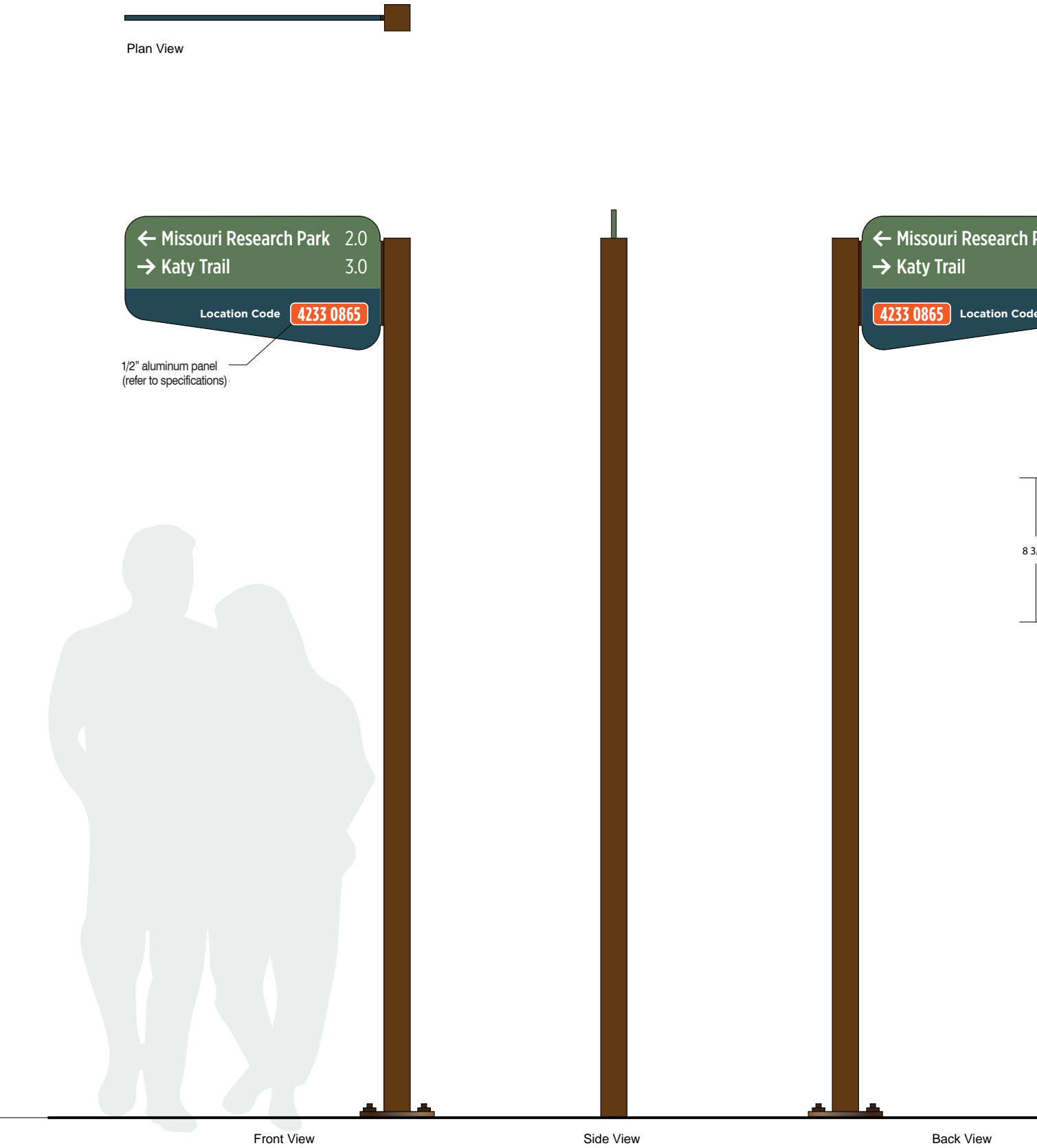
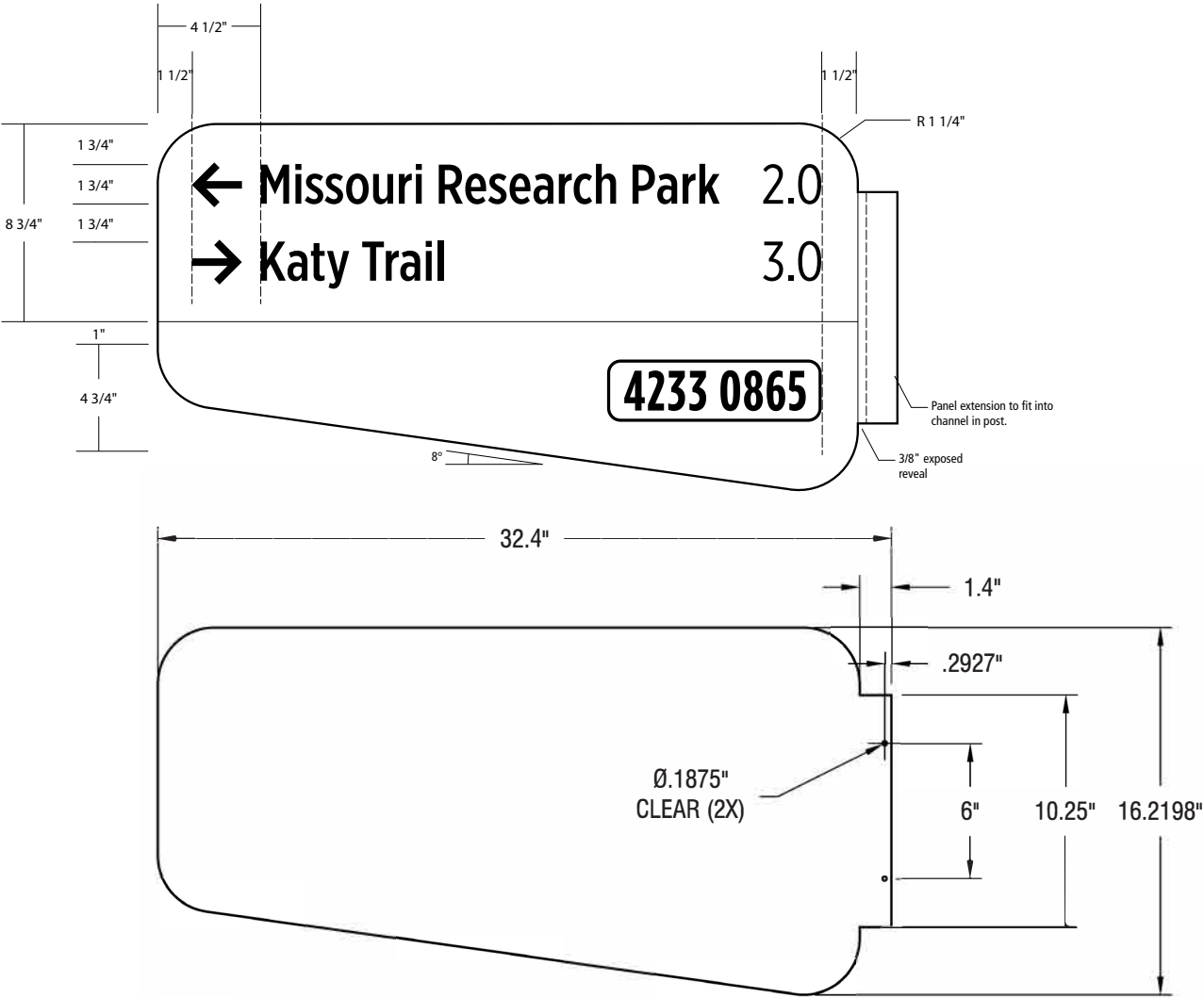
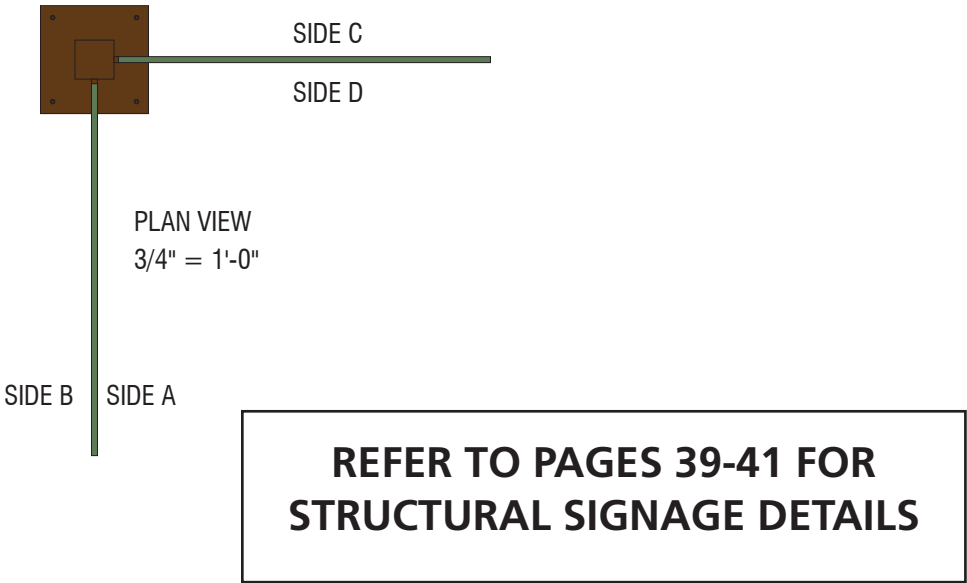


TABLE OF DIMENSIONS		
SURFACE TYPE	*	**
FINISHED GROUND	1 $\frac{1}{2}$ "	3 "
PAVED WALKING SURFACE	3/4 "	2 $\frac{1}{4}$ "

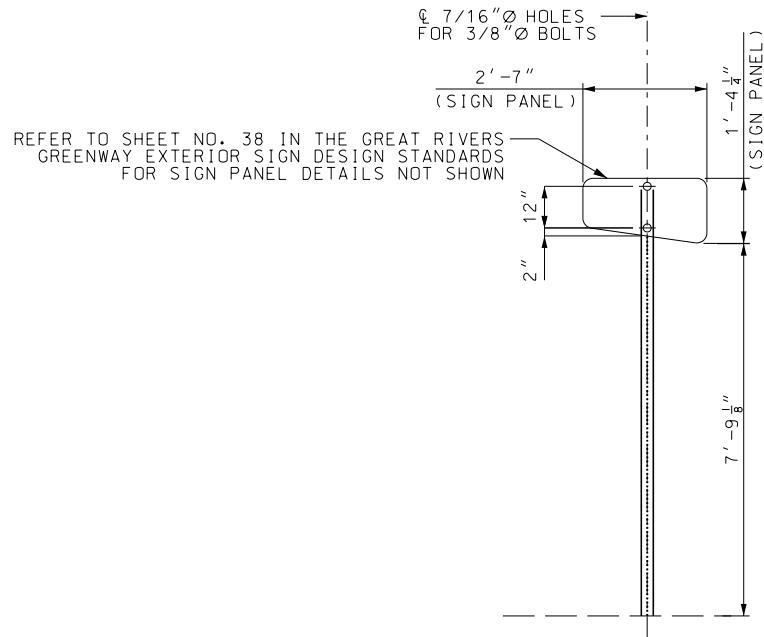
REV.	DATE	DESCRIPTION	APPROVED



GX-99 2 Flag Option

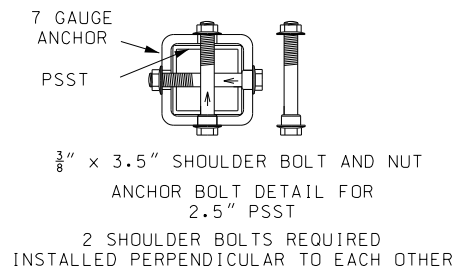


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SIGN Gx-9

POST AND ANCHOR DATA TABLE					
POST		ANCHOR NORMAL OR OMNI-DIRECTIONAL		BREAKAWAY NEEDED	
GAUGE	SIZE	GAUGE	SIZE	1	2
12	2.5" x 2.5"	7	3" X 3" X 36" OD	NO	YES



ANCHOR BOLT DETAIL

GENERAL NOTES:

DESIGN SPECS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS. LUMINAIRES AND TRAFFIC SIGNALS - 1985 (EXCEPT 2001 AND LATEST INTERIMS FOR STRUCTURAL STEEL POSTS).

POSTS AND ANCHOR SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION PER SECTION 1080 OF THE MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

METAL PROJECTING BEYOND THE PLANE OF THE PLATE FACE WILL NOT BE ALLOWED.

REMOVE ALL GALVANIZING RUNS OR BEADS IN THE WASHER AREA.

INSTALLATION OF THE BREAKAWAY ASSEMBLY SYSTEM INCLUDING HARDWARE, BOLTS, NUTS, WASHERS AND ALL OTHER APPURTENANCES NECESSARY FOR THE COMPLETE INSTALLATION SHALL BE PER THE MANUFACTURERS REQUIREMENTS.

THE THREADS SHALL BE BURRED AT THE NUT USING A CENTER PUNCH TO PREVENT NUT FROM LOOSENING.

ALL BREAKAWAY DEVICES USED ON AN INSTALLATION SHALL BE CERTIFIED NCHRP 350 COMPLIANT.

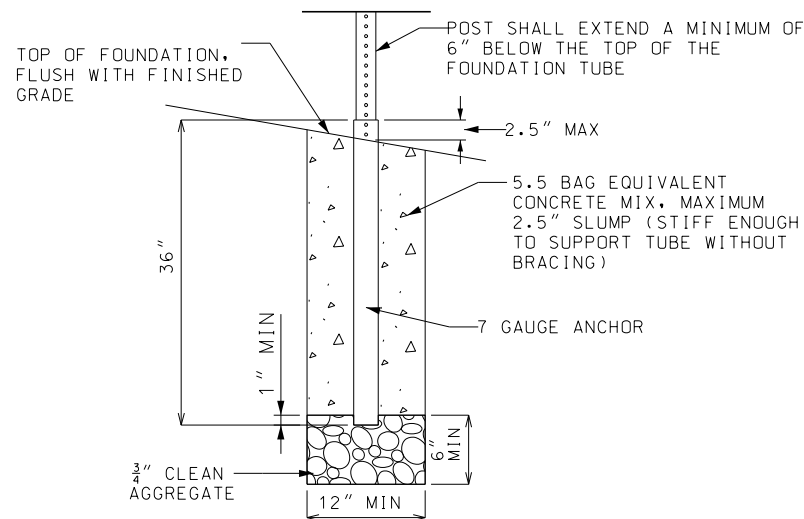
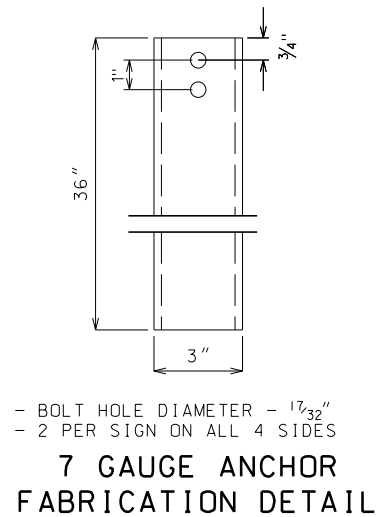
THE FINISH ON THE POSTS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF GREAT RIVERS GREENWAYS EXTERIOR SIGN DESIGN STANDARDS AND SPECIFICATIONS.

THIS SHEET IS BASED ON MISSOURI STANDARD PLANS DRAWING 903.03 WITH AN EFFECTIVE DATE 01/01/2020. THE LATEST EDITION OF THIS DRAWING SHALL BE USED IF DIFFERENT THAN THE DETAILS SHOWN.

SIGN STRUCTURE Gx-9 AS SHOWN MAY BE INSTALLED WITHIN THE ROADWAY CLEAR ZONE OR IN OTHER AREAS WHERE THEY MAY BE SUSCEPTIBLE TO VEHICULAR COLLISION OR ARE OTHERWISE UNPROTECTED.

SIGN STRUCTURE PLACEMENT MAY BE SUBJECT TO OTHER REQUIREMENTS OR RESTRICTIONS ON A CASE-BY-CASE BASIS.

INDIVIDUAL SIGN STRUCTURE LOCATION AND PLACEMENT SHALL BE THE RESPONSIBILITY OF THE ENGINEER OF RECORD FOR EACH SIGN STRUCTURE INSTALLATION.

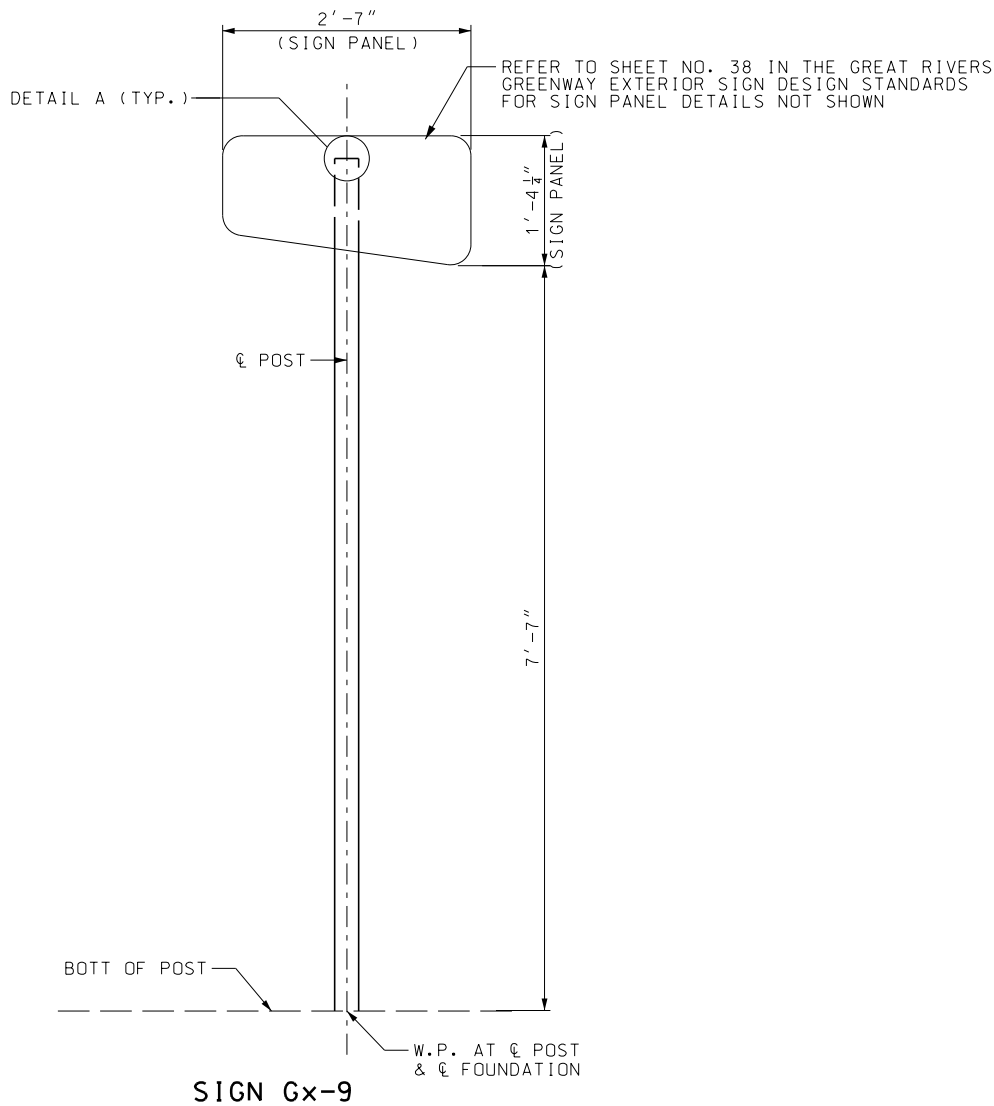


CONCRETE FOUNDATION DETAIL
PERFORATED SQUARE STEEL TUBE (PSST) SIGN POST OPTION

Note: This drawing is not to scale. Follow dimensions.

REV.	DATE	DESCRIPTION	APPROVED

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NOTES:

FOR DETAIL A, SEE SHEET NO. 3 OF 3.

FOR SIGN STRUCTURE DETAILS FOR THIS OPTION NOT SHOWN, SEE SHEET NO. 3 OF 3.

ALUMINUM TUBE WITH BREAKAWAY
SUPPORT SYSTEM OPTION

Note: This drawing is not to scale. Follow dimensions.

GENERAL NOTES:

DESIGN SPECS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS - 2013 (6TH EDITION) AND ALUMINUM ASSOCIATION 2015 ALUMINUM DESIGN MANUAL.

CONCRETE FOR FOUNDATIONS SHALL BE CLASS B CONCRETE, IN ACCORDANCE WITH THE MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, WITH A COMPRESSIVE STRENGTH OF $f'c = 4,000 \text{ PSI @ 28 DAYS}$.

ALL EXPOSED EDGES OF THE CONCRETE SHALL HAVE A 3/4" CHAMFER.

ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615 GRADE 60, $Fy=60,000 \text{ PSI}$.

ALL REINFORCING STEEL SHALL BE EPOXY COATED IN ACCORDANCE WITH ASTM A775/A775M.

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1 1/2", UNLESS NOTED OTHERWISE.

THE BREAKAWAY SUPPORT SYSTEM BY TRANSPD INDUSTRIES SHALL INCLUDE THE BREAK-SAFE MODEL AS3 BRACKETS, HARDWARE, COUPLINGS, ANCHORS AND ALL OTHER APPURTENANCES NECESSARY FOR THE COMPLETE INSTALLATION PER THE MANUFACTURER.

ALL BRACKETS, HARDWARE, COUPLINGS, ANCHORS, BOLTS, NUTS AND WASHERS FOR THE BREAKAWAY SUPPORT SYSTEM SHALL BE GALVANIZED BY THE HOT-DIP PROCESS IN ACCORDANCE WITH ASTM A153.

THE BREAKAWAY SUPPORT SYSTEM BY TRANSPD INDUSTRIES IS BASED ON DETAILS WITH AN EFFECTIVE DATE JANUARY 2015. THE LATEST EDITION OF THESE DETAILS SHALL BE USED IF DIFFERENT THAN THE DETAILS SHOWN.

THE STRUCTURAL TUBING MATERIAL SHALL BE ALUMINUM, 6063-T6 IN ACCORDANCE WITH ASTM B429.

THE CAP MATERIAL SHALL BE ALUMINUM, 6061-T6 IN ACCORDANCE WITH ASTM B209.

WELD FILLER MATERIAL SHALL BE ALUMINUM, 5356 AND COMPLY WITH AWS A5.10.

ALL WELDING SHALL COMPLY WITH AWS D1.2 "STRUCTURAL WELDING CODE-ALUMINUM".

ALL EXPOSED WELDED JOINTS SHALL BE FILLED AND GROUND SMOOTH SO THAT NO SEAM IS VISIBLE WHEN PAINTED.

BOLTS, NUTS AND WASHERS SHALL BE 300 SERIES STAINLESS STEEL. WASHERS SHALL BE USED UNDER BOLT HEADS.

ALL HARDWARE AND FASTENERS WITHIN REACH SHALL BE VANDAL RESISTANT.

PROVIDE DRAIN HOLES IN RT TUBES IN LOCATIONS AS NEEDED TO PREVENT THE ACCUMULATION OF MOISTURE IN THE MEMBERS.

HOLES SHALL BE LOCATED TO BE INCONSPICUOUS AND SUCH THAT DRAINAGE DOES NOT OCCUR ONTO SIGNS OR OTHER SURFACES SUBJECT TO STAINING.

PROVIDE COLOR-COORDINATED STAINLESS STEEL BUG MESH OVER DRAIN HOLES.

FOUNDATIONS SHOWN IN THE PLANS HAVE BEEN DESIGNED BASED ON THE PRESUMPTIVE VALUES FOUND IN IBC-2009, TABLE 1806.2, FOR CLASS 5 SOIL MATERIALS. THE FOUNDATIONS SHOWN ARE SUITABLE FOR CONSTRUCTION IN ANY CLASS 5 SOIL OR BETTER. CONSTRUCTION OF THE FOUNDATIONS IN LESSER SOILS SUCH AS MUD, ORGANIC SOILS OR UNPREPARED SOILS IS NOT COVERED BY THIS STANDARD DESIGN AND WILL REQUIRE FURTHER EVALUATION.

THE FINISH ON THE SIGN STRUCTURE (POSTS AND PLATES) SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE GREAT RIVERS GREENWAYS EXTERIOR SIGN DESIGN STANDARDS AND SPECIFICATIONS.

PROVIDE 1/2" JOINT FILLER AROUND FOUNDATION AT PAVED WALKING SURFACE LOCATIONS.

SIGN STRUCTURE Gx-9 AS SHOWN MAY BE INSTALLED WITHIN THE ROADWAY CLEAR ZONE OR IN OTHER AREAS WHERE THEY MAY BE SUSCEPTIBLE TO VEHICULAR COLLISION OR ARE OTHERWISE UNPROTECTED.

SIGN STRUCTURE PLACEMENT MAY BE SUBJECT TO OTHER REQUIREMENTS OR RESTRICTIONS ON A CASE-BY-CASE BASIS.

INDIVIDUAL SIGN STRUCTURE LOCATION AND PLACEMENT SHALL BE THE RESPONSIBILITY OF THE ENGINEER OF RECORD FOR EACH SIGN STRUCTURE INSTALLATION.

REV.	DATE	DESCRIPTION	APPROVED



One Campbell Plaza
St. Louis, Missouri 63139
T. 314 781 7770
F. 314 781 9075
Missouri State Certificate of Authority # 1721



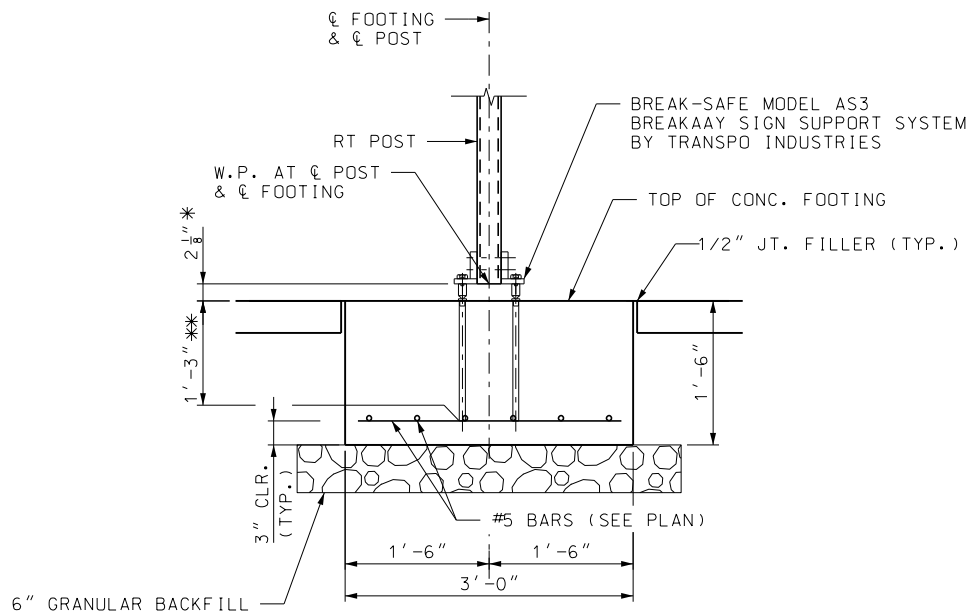
David Burdick, P.E.
MO# PE-024015

DRAWN BY DB
CHECKED BY TRN
DATE February 3, 2020

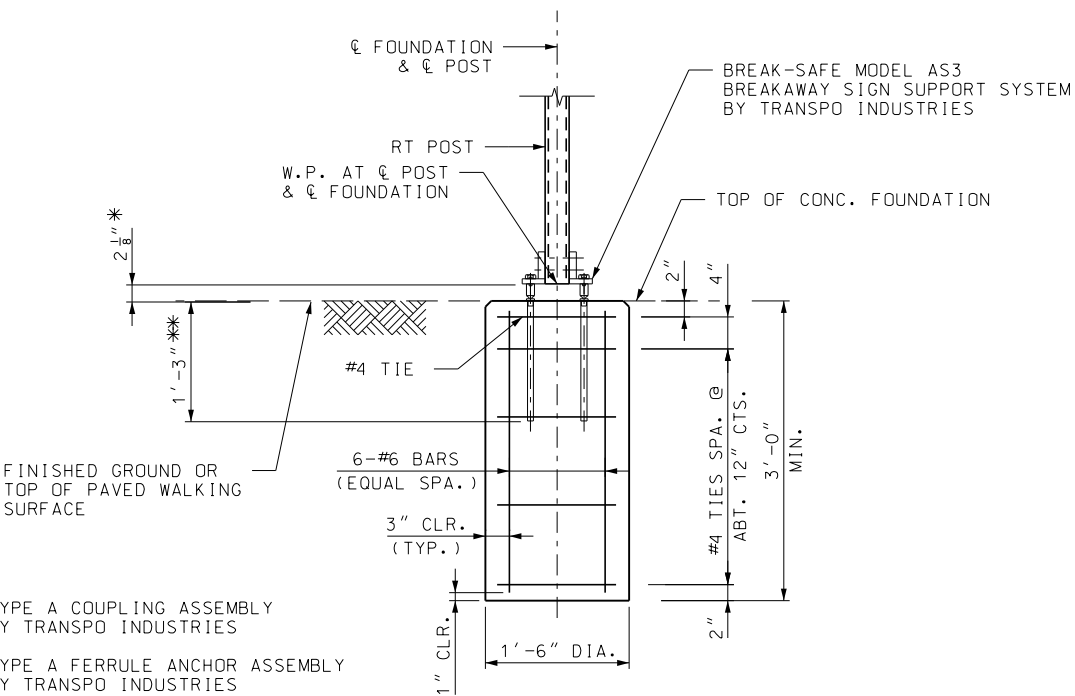
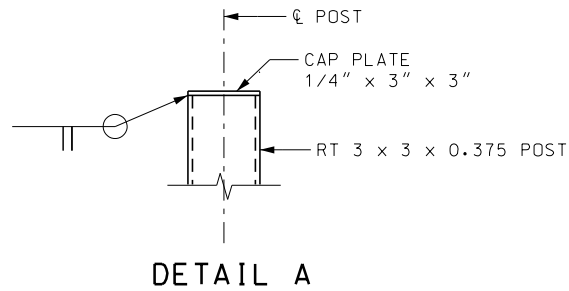
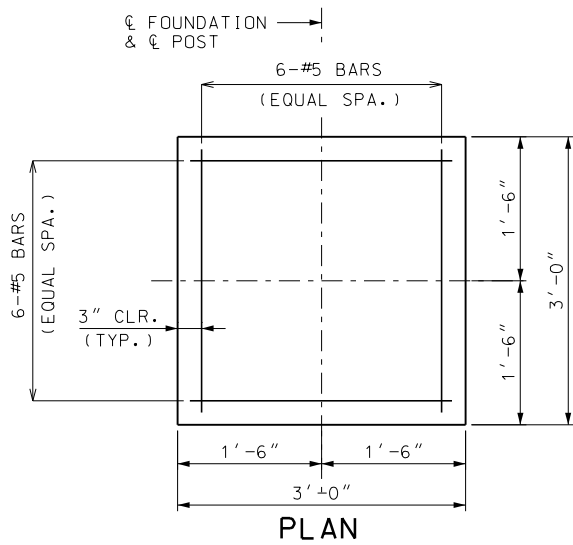
GREAT RIVERS GREENWAY
SIGN STRUCTURE STANDARDS
DETAILS OF SIGN STRUCTURE Gx-9

STD NO Gx-902
SHEET NO. 2 OF 3

SHEET NO. 40

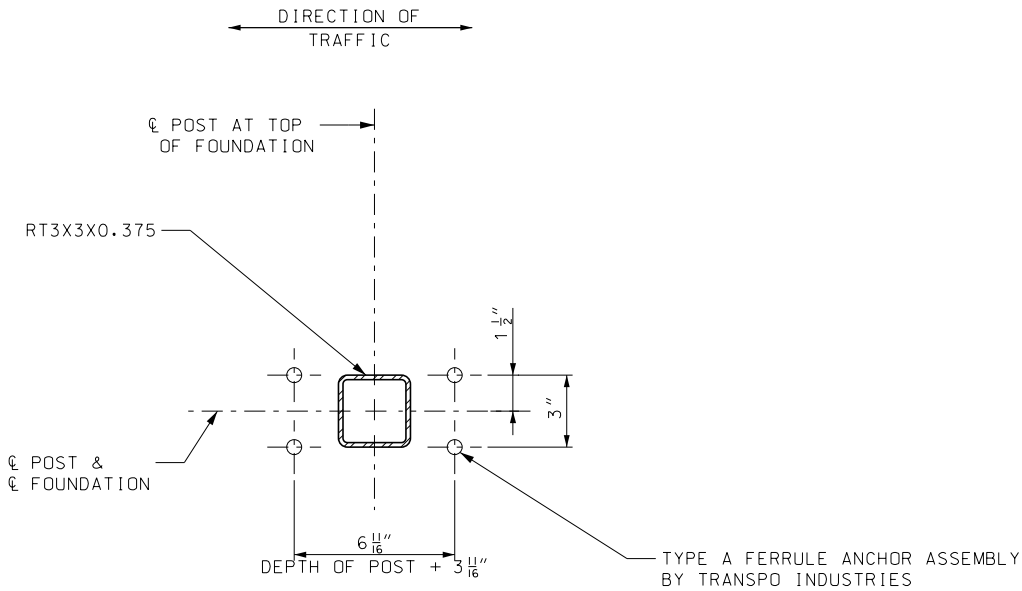


DETAILS OF THICKENED SIDEWALK OPTION



ALUMINUM TUBE WITH BREAKAWAY
SUPPORT SYSTEM OPTION

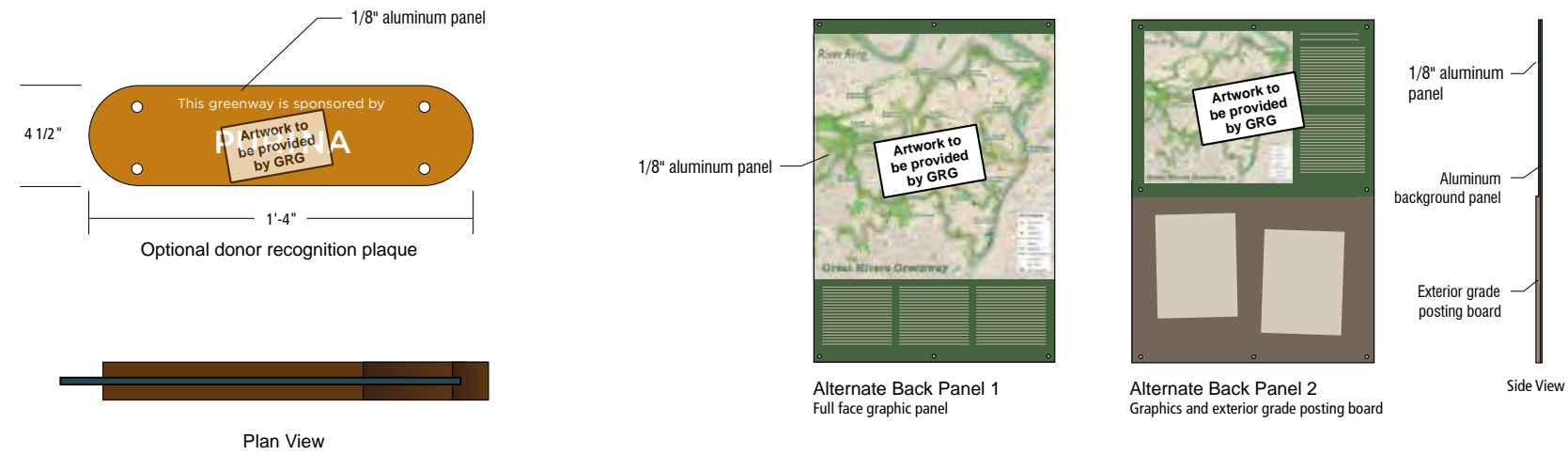
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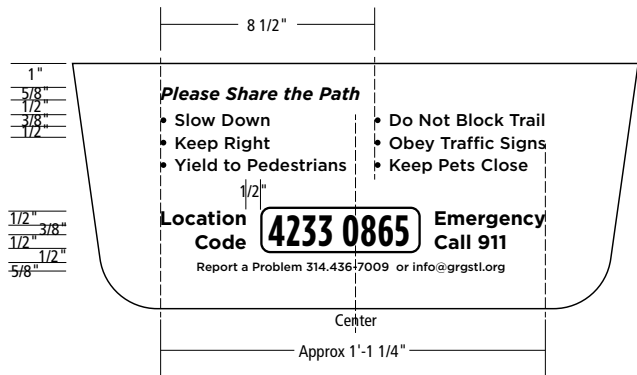
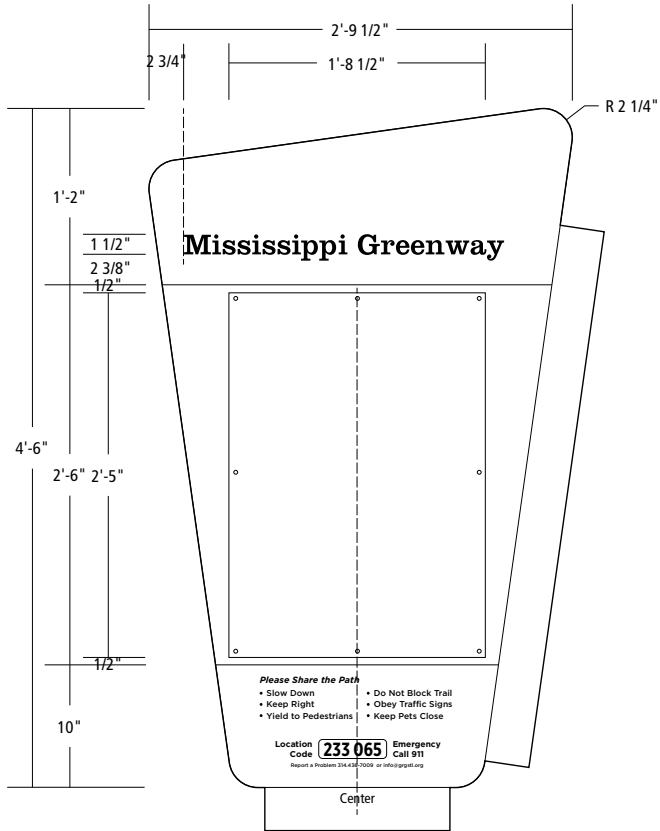
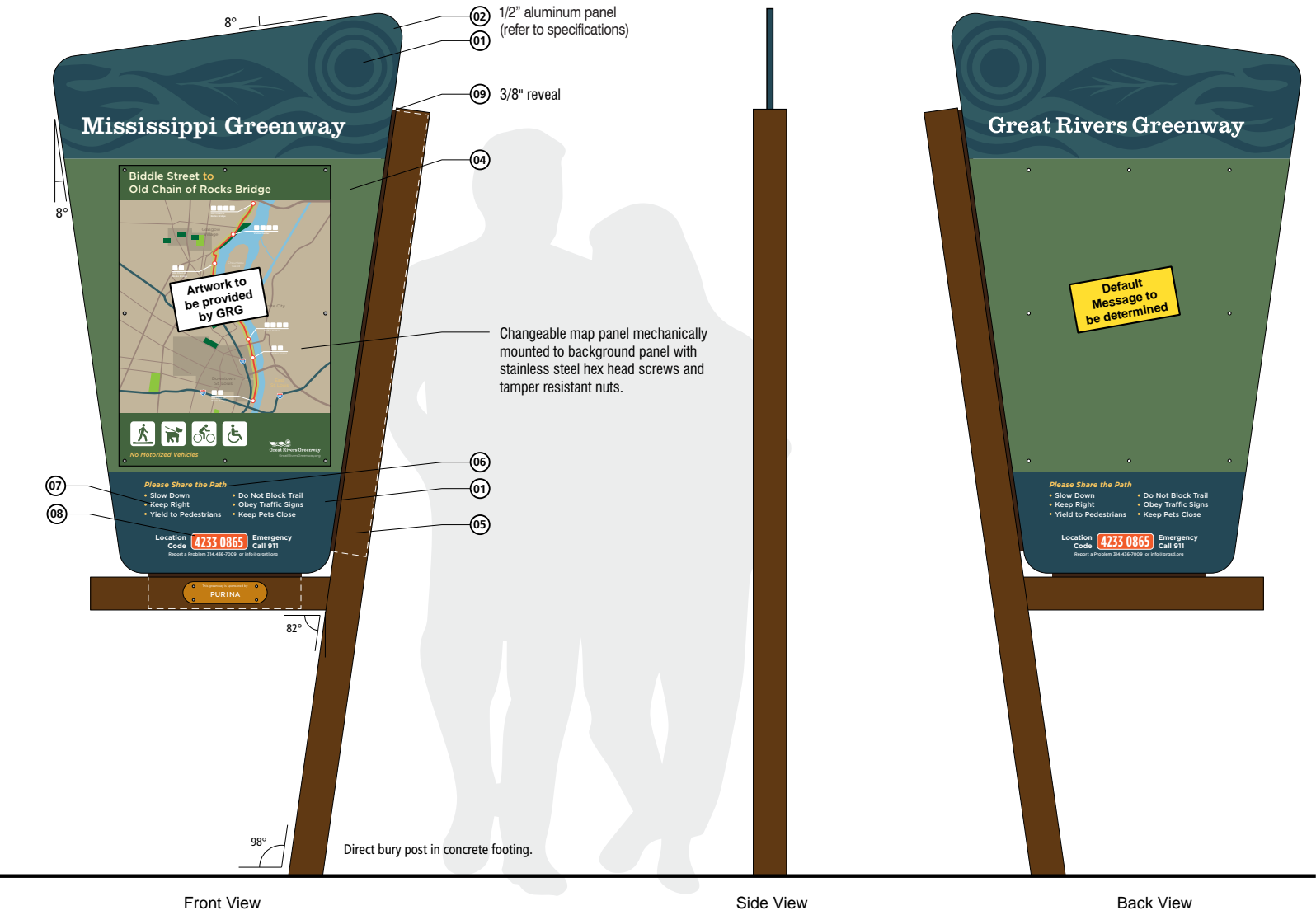
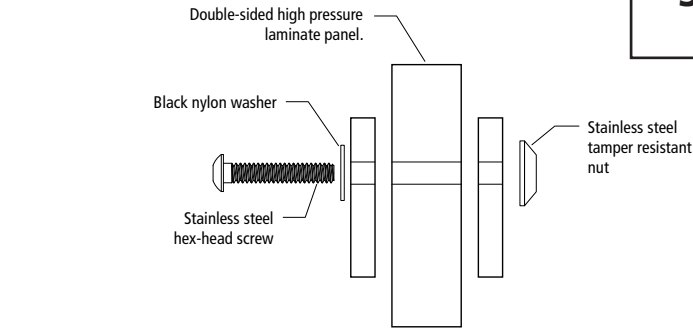
NOTES:
FOR SIGN STRUCTURE NOTES FOR THIS OPTION,
SEE SHEET NO. 2 OF 3.

REV.	DATE	DESCRIPTION	APPROVED

Great Rivers Greenway Sign Array: KX-1 Main Trailhead Kiosk - with alternate backs



REFER TO PAGES 43 & 44 FOR
STRUCTURAL SIGNAGE DETAILS



Download the art template for this sign at:
<https://greatriversgreenway.sharefile.com/d-scbb7e42f064420b9>

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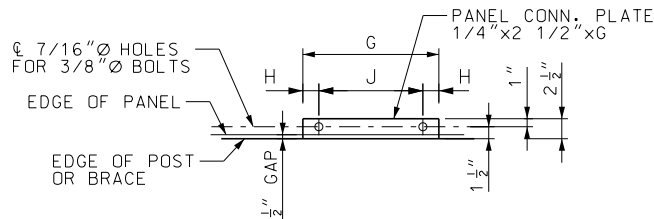
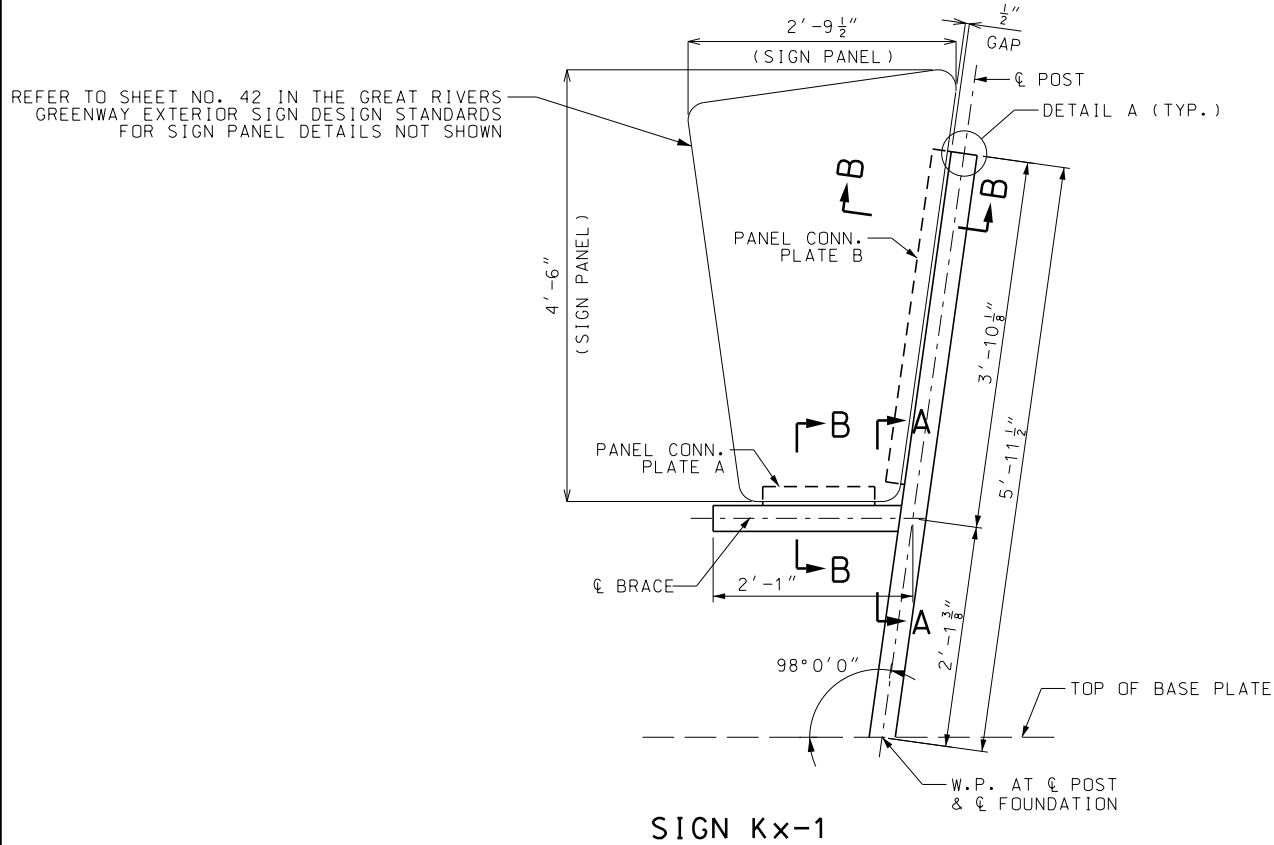


TABLE OF PLATE DIMENSIONS			
PLATE	G	H	J
A	1'-2"	2"	10"
B	3'-6"	3"	3 SPA. @ 12"

PANEL CONNECTION PLATE DETAIL

Note: This drawing is not to scale. Follow dimensions.

GENERAL NOTES:

DESIGN SPECS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS - 2013 (6TH EDITION) AND ALUMINUM ASSOCIATION 2015 ALUMINUM DESIGN MANUAL.

CONCRETE FOR FOUNDATIONS SHALL BE CLASS B CONCRETE, IN ACCORDANCE WITH THE MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, WITH A COMPRESSIVE STRENGTH OF $f'c = 4,000 \text{ PSI}$ @ 28 DAYS.

ALL EXPOSED EDGES OF THE CONCRETE SHALL HAVE A 3/4" CHAMFER.

ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615 GRADE 60, $F_y=60,000 \text{ PSI}$.

ALL REINFORCING STEEL SHALL BE EPOXY COATED IN ACCORDANCE WITH ASTM A775/A775M.

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1 1/2", UNLESS NOTED OTHERWISE.

ALL CAST-IN-PLACE ANCHOR BOLTS SHALL BE ASTM F1554 GRADE 36 BOLTS WITH 90° BEND UNLESS NOTED OTHERWISE.

ALL CAST-IN-PLACE CONCRETE ANCHORS ARE TO BE TIGHTENED TO A "SNUG-TIGHT" CONDITION.

ALL ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED BY THE HOT-DIP PROCESS IN ACCORDANCE WITH ASTM A153.

NON-SHRINK GROUT SHALL BE NON-METALLIC, PRE-PACKAGED GROUT CONFORMING TO CORPS OF ENGINEERS SPECIFICATION CRD C621, WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS WHEN TESTED ACCORDING TO ASTM C109.

THE STRUCTURAL TUBING MATERIAL SHALL BE ALUMINUM, 6063-T6 IN ACCORDANCE WITH ASTM B429.

THE BASE PLATES AND CAP MATERIAL SHALL BE ALUMINUM, 6061-T6 IN ACCORDANCE WITH ASTM B209.

WELD FILLER MATERIAL SHALL BE ALUMINUM, 5356 AND COMPLY WITH AWS A5.10.

ALL WELDING SHALL COMPLY WITH AWS D1.2 "STRUCTURAL WELDING CODE-ALUMINUM".

ALL EXPOSED WELDED JOINTS SHALL BE FILLED AND GROUND SMOOTH SO THAT NO SEAM IS VISIBLE WHEN PAINTED.

BOLTS, NUTS AND WASHERS SHALL BE 300 SERIES STAINLESS STEEL. WASHERS SHALL BE USED UNDER BOLT HEADS.

ALL HARDWARE AND FASTENERS WITHIN REACH SHALL BE VANDAL RESISTANT.

THE SURFACES OF ALUMINUM MEMBERS IN CONTACT WITH CONCRETE SHALL BE BACK PAINTED WITH BITUMINOUS PAINT OF THE CUT-BACK TYPE CONFORMING TO SPECIFICATION MIL-C-450 B (1) OR TT-C-494 OR METHACRYLATE TYPE LACQUERS CONFORMING TO MIL-L-19537C (2).

PROVIDE DRAIN HOLES IN RT TUBES IN LOCATIONS AS NEEDED TO PREVENT THE ACCUMULATION OF MOISTURE IN THE MEMBERS.

HOLES SHALL BE LOCATED TO BE INCONSPICUOUS AND SUCH THAT DRAINAGE DOES NOT OCCUR ONTO SIGNS OR OTHER SURFACES SUBJECT TO STAINING.

PROVIDE COLOR-COORDINATED STAINLESS STEEL BUG MESH OVER DRAIN HOLES.

FOUNDATIONS SHOWN IN THE PLANS HAVE BEEN DESIGNED BASED ON THE PRESUMPTIVE VALUES FOUND IN IBC-2009, TABLE 1806.2, FOR CLASS 5 SOIL MATERIALS. THE FOUNDATIONS SHOWN ARE SUITABLE FOR CONSTRUCTION IN ANY CLASS 5 SOIL OR BETTER. CONSTRUCTION OF THE FOUNDATIONS IN LESSER SOILS SUCH AS MUD, ORGANIC SOILS OR UNPREPARED SOILS IS NOT COVERED BY THIS STANDARD DESIGN AND WILL REQUIRE FURTHER EVALUATION.

THE FINISH ON THE SIGN STRUCTURE (POSTS, BRACES AND PLATES) SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE GREAT RIVERS GREENWAYS EXTERIOR SIGN DESIGN STANDARDS AND SPECIFICATIONS.

PROVIDE 1/2" JOINT FILLER AROUND FOUNDATION AT PAVED WALKING SURFACE LOCATIONS.

NOTES:

FOR SECTION A-A & B-B AND DETAIL A, SEE SHEET NO. 2 OF 2.

FOR SIGN STRUCTURE DETAILS NOT SHOWN, SEE SHEET NO. 2 OF 2.

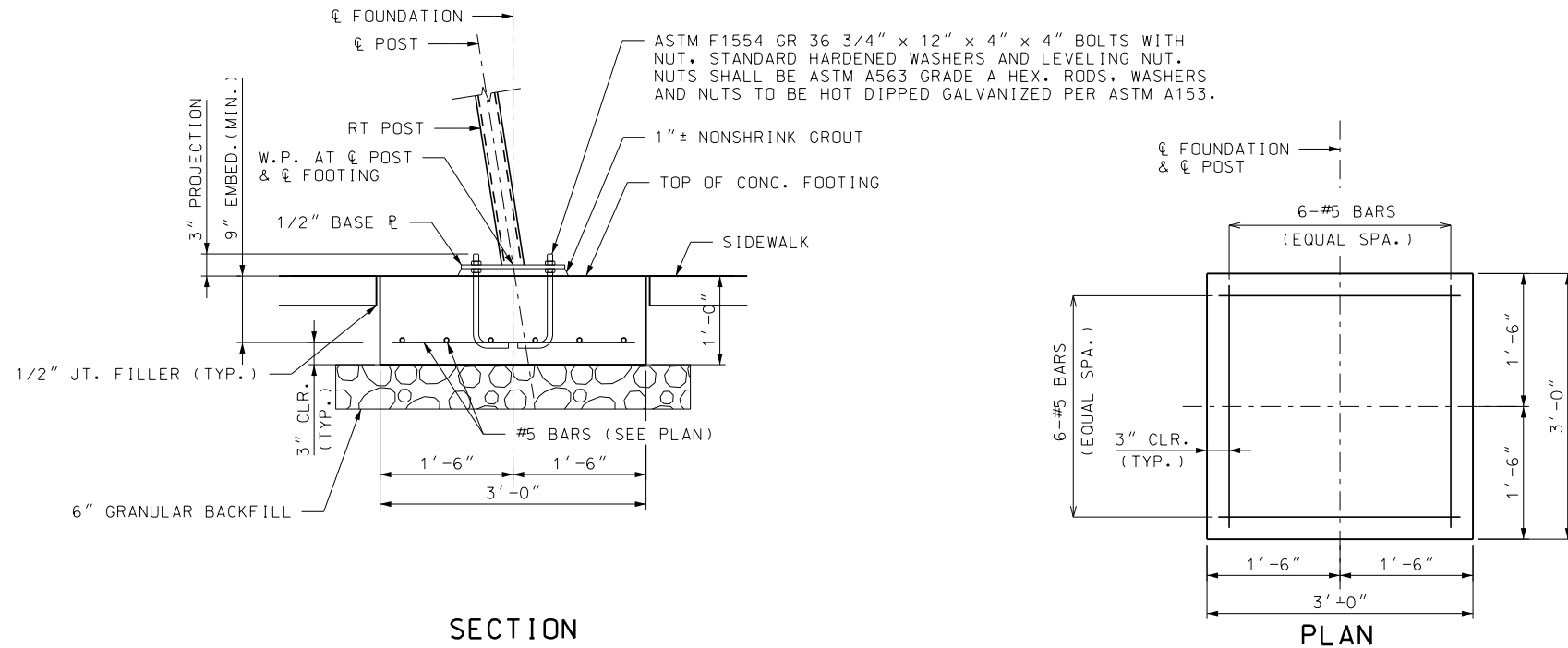
SIGN STRUCTURE Kx-1 AS SHOWN IS NOT INTENDED FOR INSTALLATION WITHIN THE ROADWAY CLEAR ZONE OR IN OTHER AREAS WHERE THEY MAY BE SUSCEPTIBLE TO VEHICULAR COLLISION OR ARE OTHERWISE UNPROTECTED.

SIGN STRUCTURE PLACEMENT MAY BE SUBJECT TO OTHER REQUIREMENTS OR RESTRICTIONS ON A CASE-BY-CASE BASIS.

INDIVIDUAL SIGN STRUCTURE LOCATION AND PLACEMENT SHALL BE THE RESPONSIBILITY OF THE ENGINEER OF RECORD FOR EACH SIGN STRUCTURE INSTALLATION.

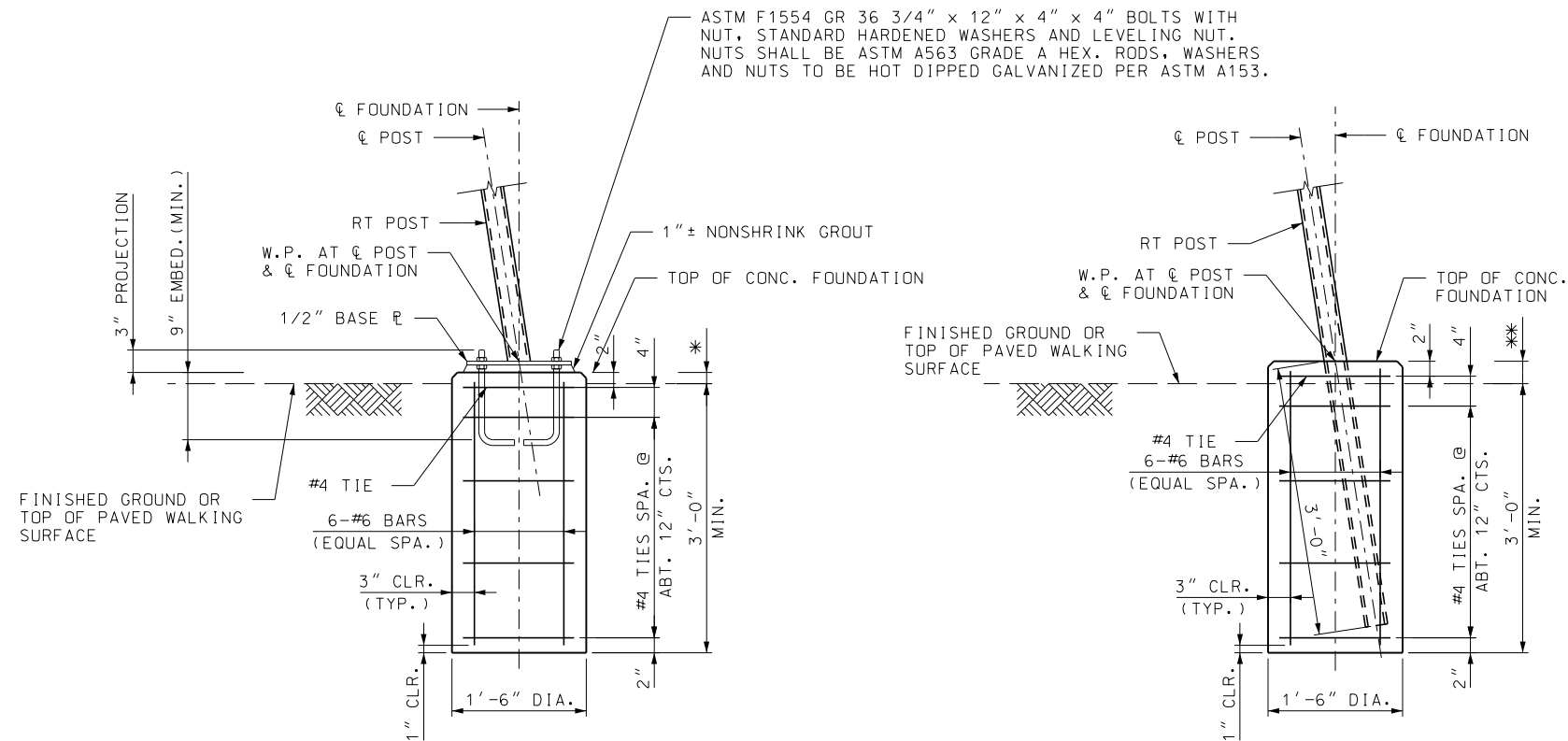
REV.	DATE	DESCRIPTION	APPROVED

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SECTION

DETAILS OF THICKENED SIDEWALK OPTION



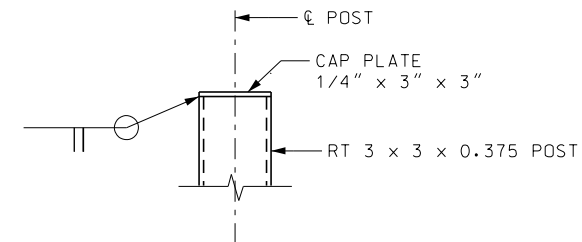
SECTION THRU CONCRETE FOUNDATION

BASE PLATE OPTION

SECTION THRU CONCRETE FOUNDATION

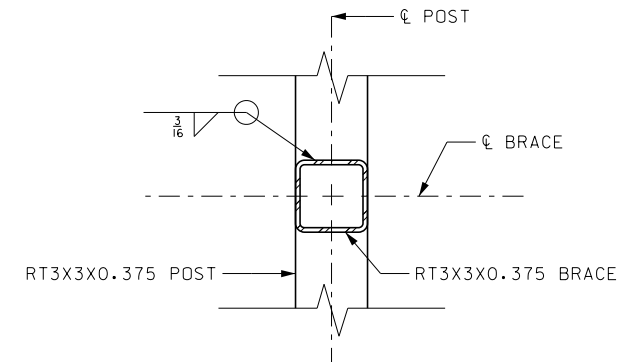
DIRECT BURY OPTION

Note: This drawing is not to scale. Follow dimensions.

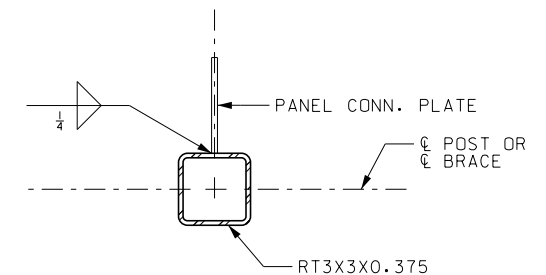


DETAIL A

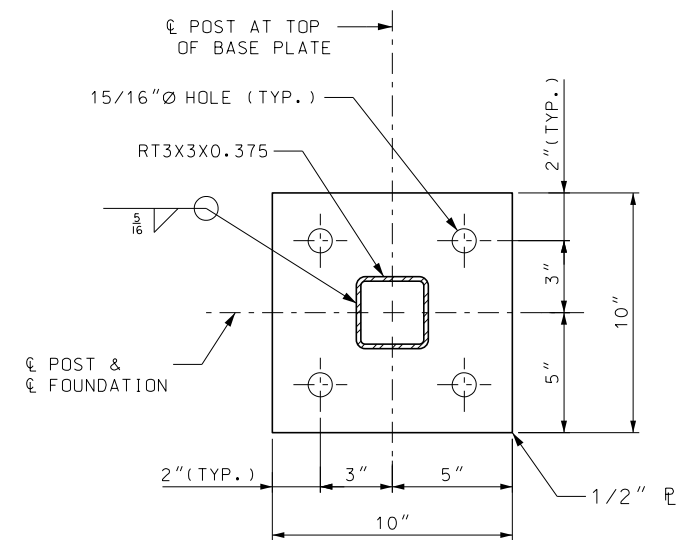
FOR LOCATION, SEE SHEET NO. 1 OF 2.



SECTION A-A



SECTION B-B



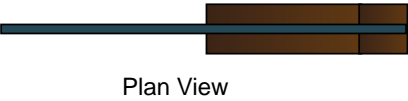
PLAN-BASE PLATE & ANCHOR BOLTS

TABLE OF DIMENSIONS

SURFACE TYPE	*	**
FINISHED GROUND	1 1/2"	3"
PAVED WALKING SURFACE	3/4"	2 1/4"

REV.	DATE	DESCRIPTION	APPROVED

Great Rivers Greenway Sign Array: KX-2 Secondary Trailhead Kiosk



Plan View

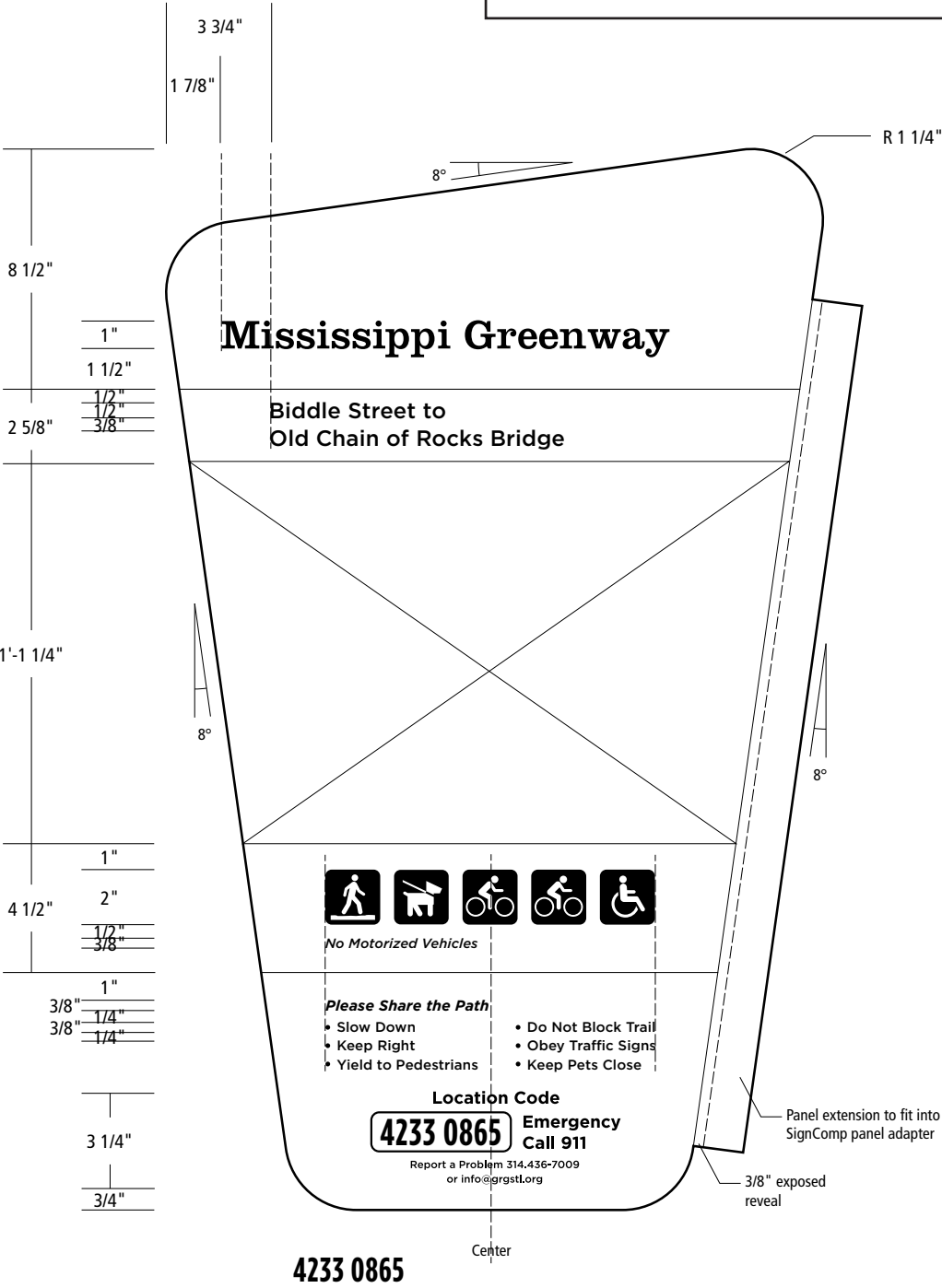


Front View

Side View

Back View

REFER TO PAGES 47 & 48 FOR
STRUCTURAL SIGNAGE DETAILS

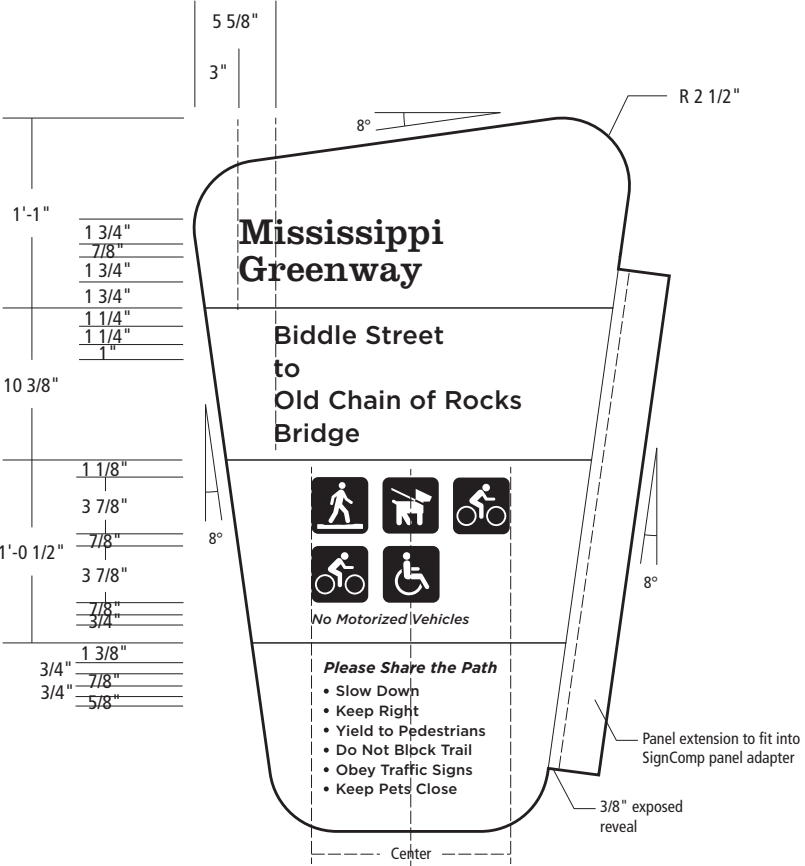
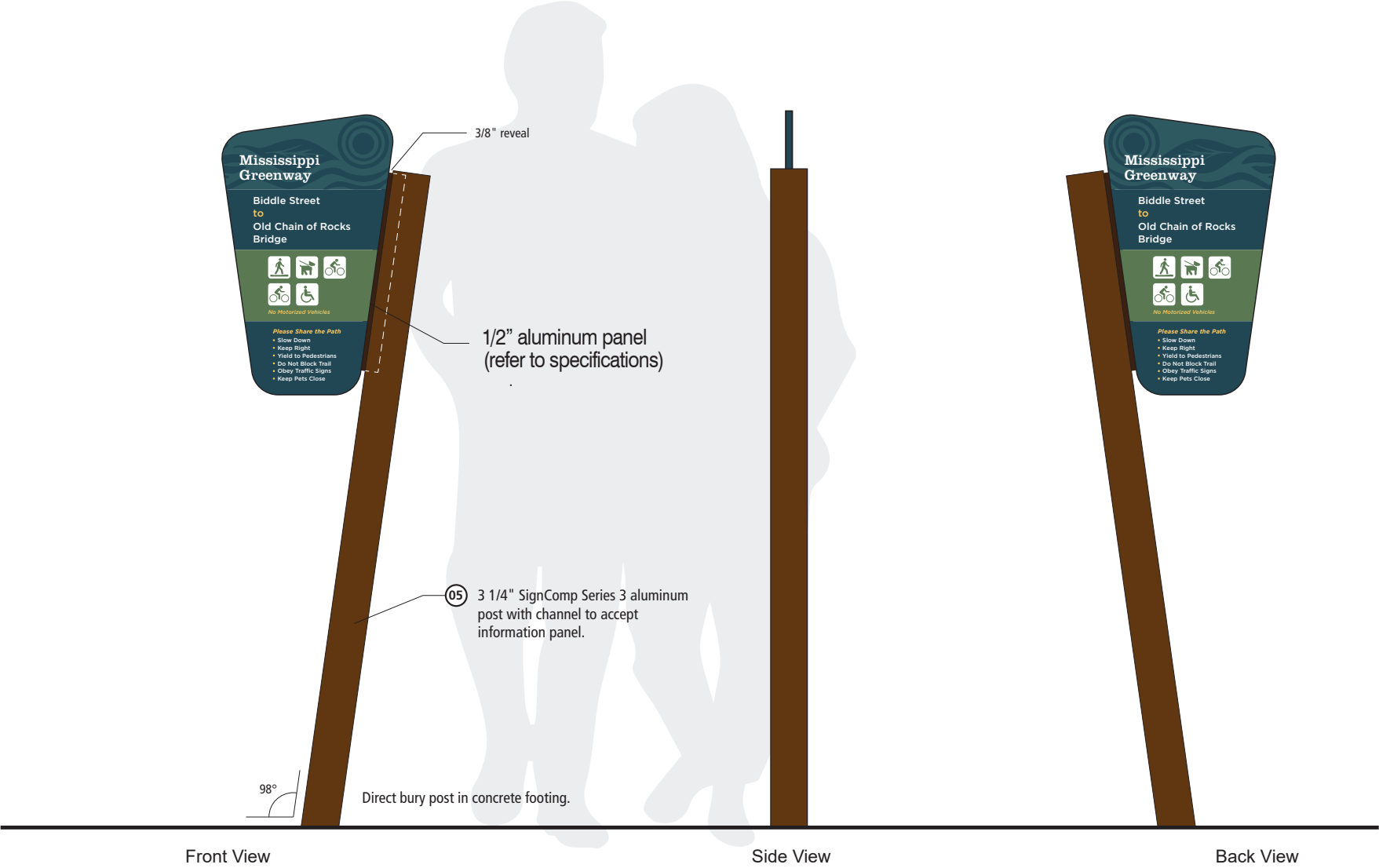


Download the art template for this sign at: <https://greatriversgreenway.sharefile.com/d-se5896c6b99a44d4a>

REFER TO PAGES 47 & 48 FOR
STRUCTURAL SIGNAGE DETAILS

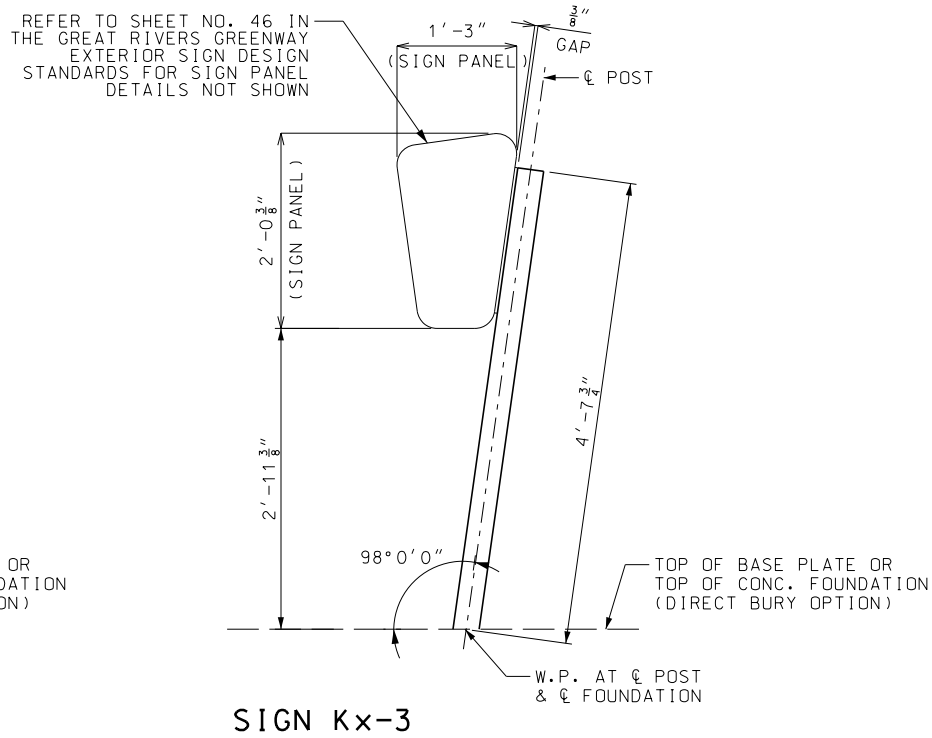
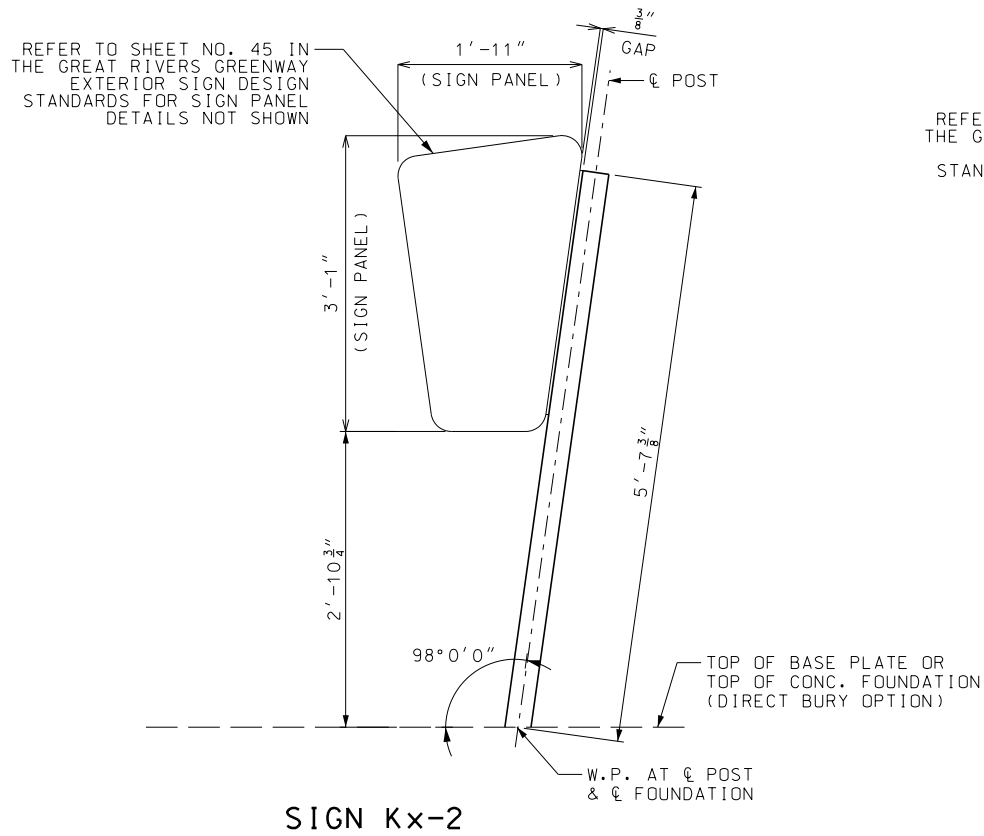


Plan View



Download the art template for this sign at: <https://greatriversgreenway.sharefile.com/d-s0606c1d588249b9a>

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NOTES:

FOR SIGN STRUCTURE DETAILS NOT SHOWN AND NOTES, SEE SHEET NO. 2 OF 2.

SIGN STRUCTURES Kx-2 AND Kx-3 AS SHOWN ARE NOT INTENDED FOR INSTALLATION WITHIN THE ROADWAY CLEAR ZONE OR IN OTHER AREAS WHERE THEY MAY BE SUSCEPTIBLE TO VEHICULAR COLLISION OR ARE OTHERWISE UNPROTECTED.

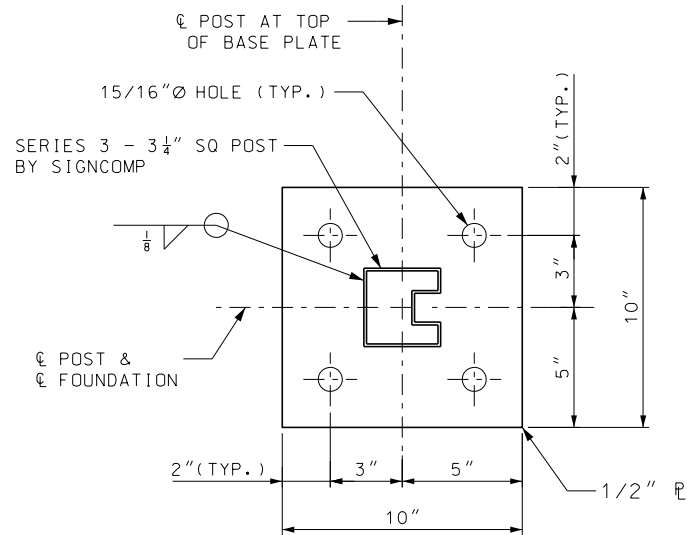
SIGN STRUCTURE PLACEMENT MAY BE SUBJECT TO OTHER REQUIREMENTS OR RESTRICTIONS ON A CASE-BY-CASE BASIS.

INDIVIDUAL SIGN STRUCTURE LOCATION AND PLACEMENT SHALL BE THE RESPONSIBILITY OF THE ENGINEER OF RECORD FOR EACH SIGN STRUCTURE INSTALLATION.

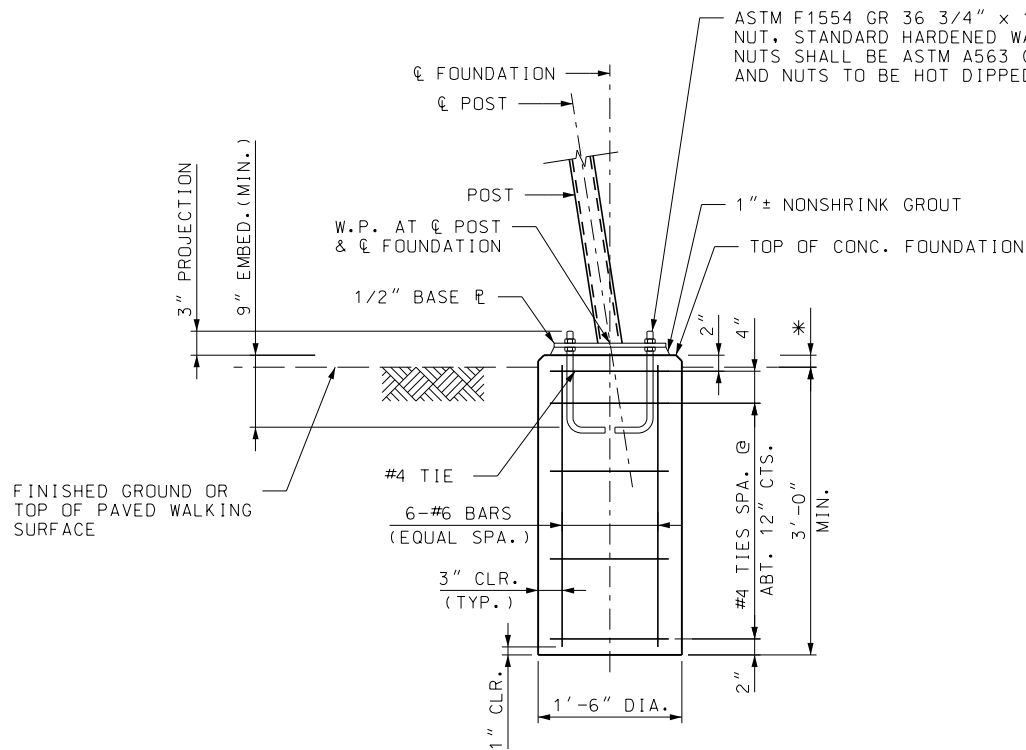
REV.	DATE	DESCRIPTION	APPROVED

Note: This drawing is not to scale. Follow dimensions.

T:\Working\15080 - Wildwood - Strecker Road Bridge Drawings\Bridge\CDs Bridge Template.dgn

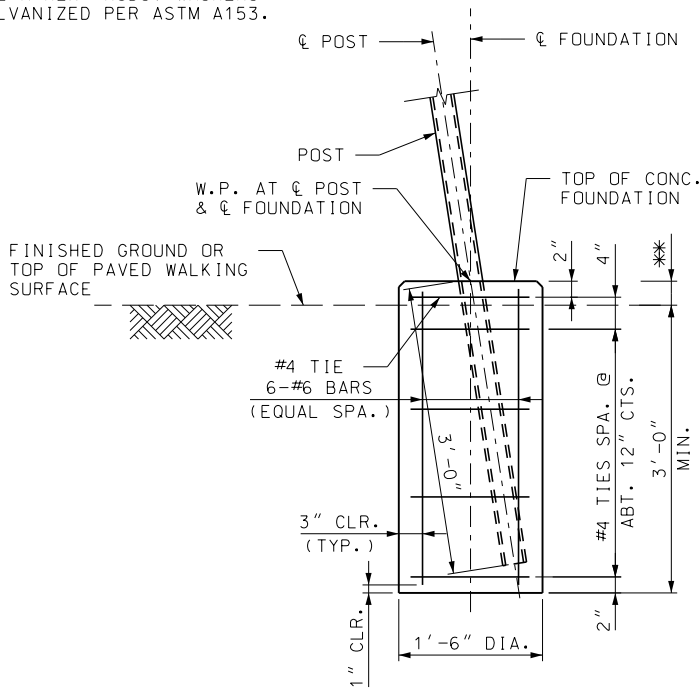


PLAN-BASE PLATE & ANCHOR BOLTS



SECTION THRU CONCRETE FOUNDATION

BASE PLATE OPTION



SECTION THRU CONCRETE FOUNDATION

DIRECT BURY OPTION

GENERAL NOTES:

DESIGN SPECS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS - 2013 (6TH EDITION) AND ALUMINUM ASSOCIATION 2015 ALUMINUM DESIGN MANUAL.

CONCRETE FOR FOUNDATIONS SHALL BE CLASS B CONCRETE, IN ACCORDANCE WITH THE MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, WITH A COMPRESSIVE STRENGTH OF $f'c = 4,000$ PSI @ 28 DAYS.

ALL EXPOSED EDGES OF THE CONCRETE SHALL HAVE A 3/4" CHAMFER.

ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615 GRADE 60, $F_y=60,000$ PSI.

ALL REINFORCING STEEL SHALL BE EPOXY COATED IN ACCORDANCE WITH ASTM A775/A775M.

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1 1/2", UNLESS NOTED OTHERWISE.

ALL CAST-IN-PLACE ANCHOR BOLTS SHALL BE ASTM F1554 GRADE 36 BOLTS WITH 90° BEND UNLESS NOTED OTHERWISE.

ALL CAST-IN-PLACE CONCRETE ANCHORS ARE TO BE TIGHTENED TO A "SNUG-TIGHT" CONDITION.

ALL ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED BY THE HOT-DIP PROCESS IN ACCORDANCE WITH ASTM A153.

NON-SHRINK GROUT SHALL BE NON-METALLIC, PRE-PACKAGED GROUT CONFORMING TO CORPS OF ENGINEERS SPECIFICATION CRD C621, WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS WHEN TESTED ACCORDING TO ASTM C109.

THE SIGN STRUCTURE SHALL BE THE SERIES 3 POST AND PANEL SYSTEM BY SIGNCOMP AND SHALL INCLUDE THE SERIES 3-3 1/4" SQ. POST, PANEL ADAPTOR, REVEAL, CAP AND ALL OTHER APPURTENANCES NECESSARY FOR THE COMPLETE INSTALLATION PER THE MANUFACTURER.

THE BASE PLATE MATERIAL SHALL BE ALUMINUM, 6061-T6 IN ACCORDANCE WITH ASTM B209.

WELD FILLER MATERIAL SHALL BE ALUMINUM, 5356 AND COMPLY WITH AWS A5.10.

ALL WELDING SHALL COMPLY WITH AWS D1.2 "STRUCTURAL WELDING CODE-ALUMINUM".

ALL EXPOSED WELDED JOINTS SHALL BE FILLED AND GROUND SMOOTH SO THAT NO SEAM IS VISIBLE WHEN PAINTED.

BOLTS, NUTS AND WASHERS SHALL BE 300 SERIES STAINLESS STEEL. WASHERS SHALL BE USED UNDER BOLT HEADS.

ALL HARDWARE AND FASTENERS WITHIN REACH SHALL BE VANDAL RESISTANT.

THE SURFACES OF ALUMINUM MEMBERS IN CONTACT WITH CONCRETE SHALL BE BACK PAINTED WITH BITUMINOUS PAINT OF THE CUT-BACK TYPE CONFORMING TO SPECIFICATION MIL-C-450 B (1) OR TT-C-494 OR METHACRYLATE TYPE LACQUERS CONFORMING TO MIL-L-19537C (2).

PROVIDE DRAIN HOLES IN SIGNCOMP MEMBERS IN LOCATIONS AS NEEDED TO PREVENT THE ACCUMULATION OF MOISTURE IN THE MEMBERS.

HOLES SHALL BE LOCATED TO BE INCONSPICUOUS AND SUCH THAT DRAINAGE DOES NOT OCCUR ONTO SIGNS OR OTHER SURFACES SUBJECT TO STAINING.

PROVIDE COLOR-COORDINATED STAINLESS STEEL BUG MESH OVER DRAIN HOLES.

FOUNDATIONS SHOWN IN THE PLANS HAVE BEEN DESIGNED BASED ON THE PRESUMPTIVE VALUES FOUND IN IBC-2009, TABLE 1806.2, FOR CLASS 5 SOIL MATERIALS. THE FOUNDATIONS SHOWN ARE SUITABLE FOR CONSTRUCTION IN ANY CLASS 5 SOIL OR BETTER. CONSTRUCTION OF THE FOUNDATIONS IN LESSER SOILS SUCH AS MUD, ORGANIC SOILS OR UNPREPARED SOILS IS NOT COVERED BY THIS STANDARD DESIGN AND WILL REQUIRE FURTHER EVALUATION.

THE FINISH ON THE SIGN STRUCTURE (POSTS, BRACES AND PLATES) SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE GREAT RIVERS GREENWAYS EXTERIOR SIGN DESIGN STANDARDS AND SPECIFICATIONS.

PROVIDE 1/2" JOINT FILLER AROUND FOUNDATION AT PAVED WALKING SURFACE LOCATIONS.

TABLE OF DIMENSIONS

SURFACE TYPE	*	**
FINISHED GROUND	1 1/2"	3"
PAVED WALKING SURFACE	3/4"	2 1/4"

Note: This drawing is not to scale. Follow dimensions.

REV.	DATE	DESCRIPTION	APPROVED



David Burdick, P.E.
MO# PE-024015

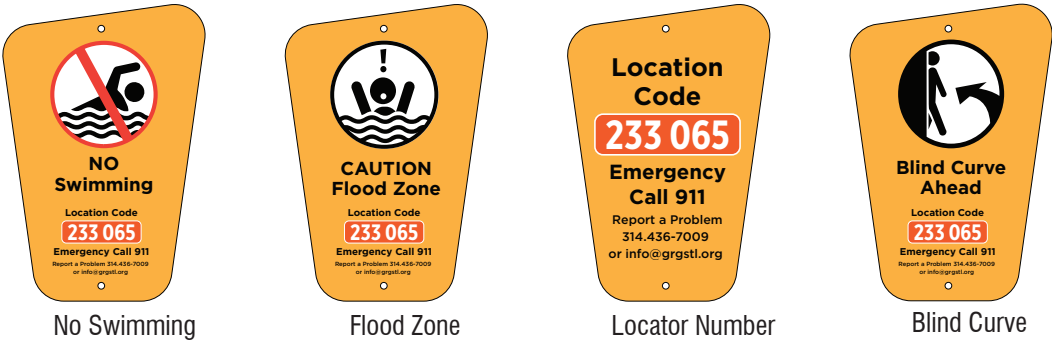
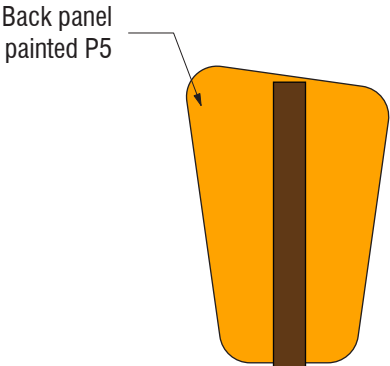
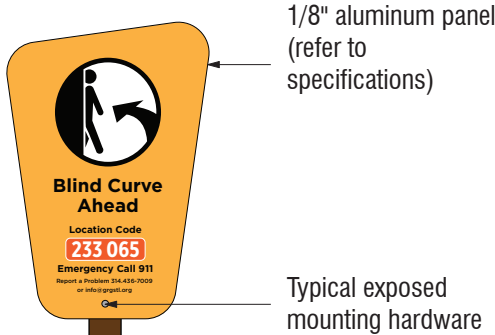
DRAWN BY
DB
CHECKED BY
TRN
DATE
February 3, 2020

GREAT RIVERS GREENWAY
SIGN STRUCTURE STANDARDS
DETAILS OF SIGN STRUCTURES Kx-2 AND Kx-3

STD NO
Kx-2302
SHEET NO.
2 OF 2

SHEET NO.
48

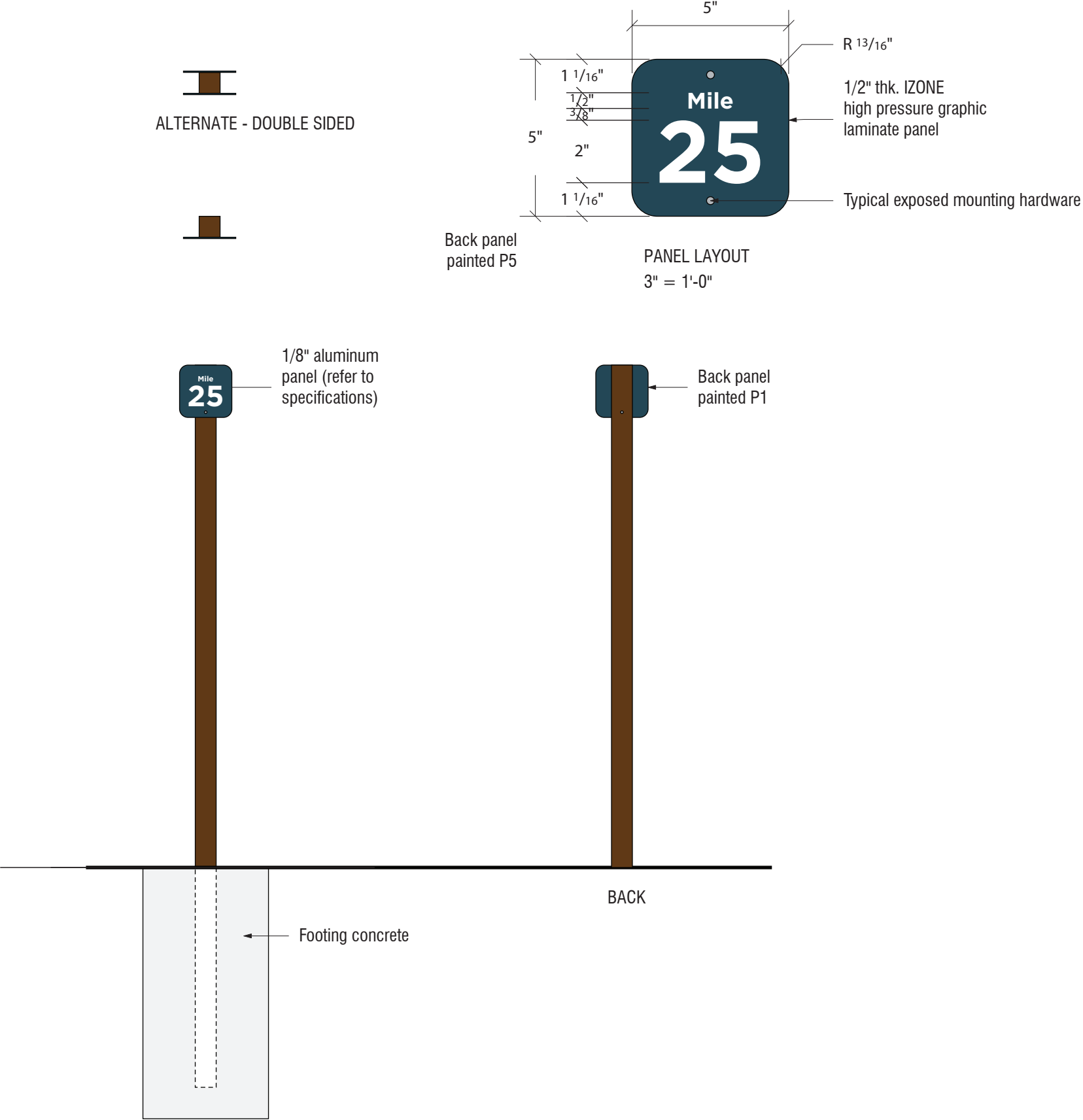
REFER TO PAGES 52 & 53 FOR
STRUCTURAL SIGNAGE DETAILS



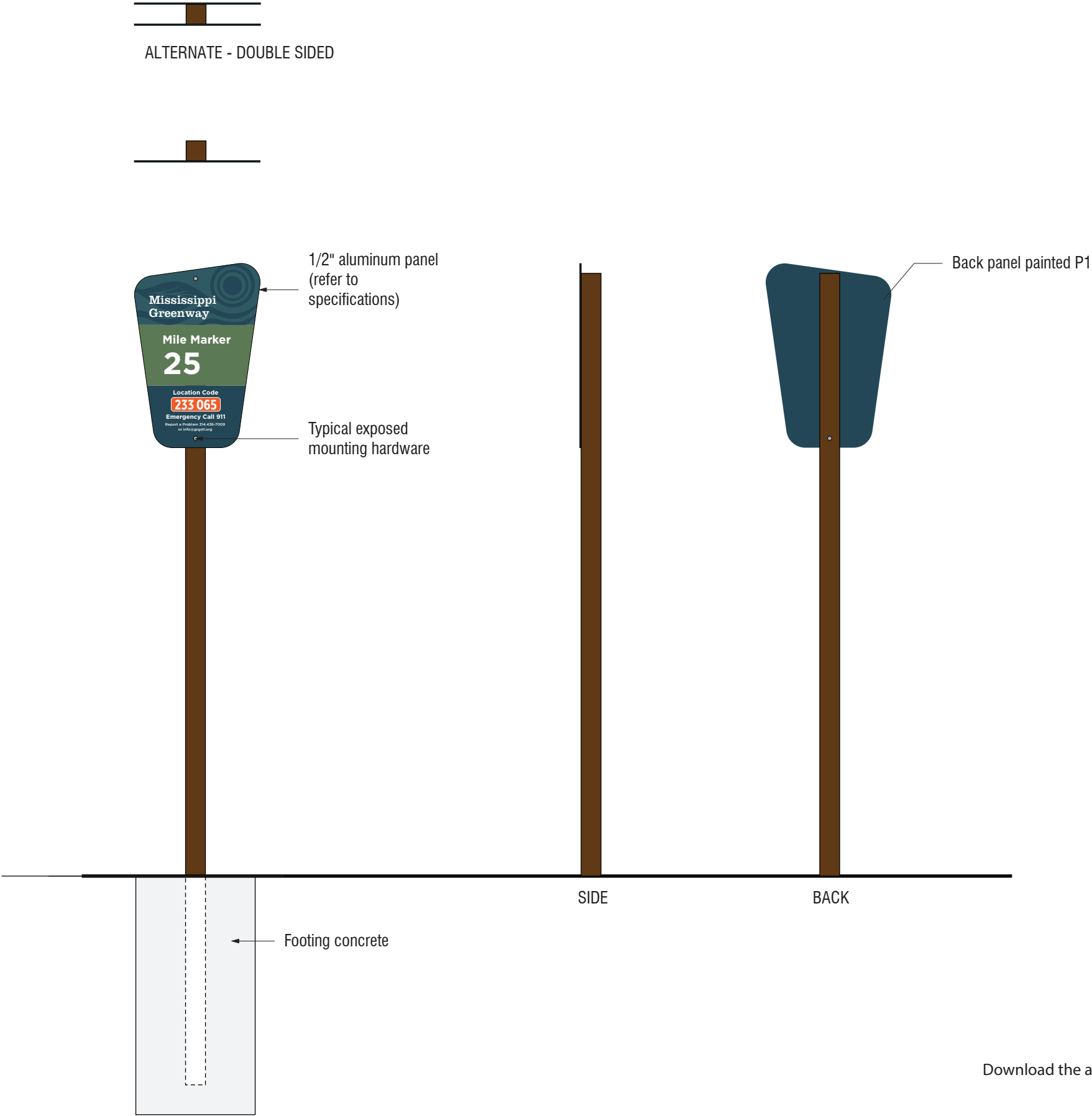
2 ALTERNATE LAYOUTS
1" = 1'-0"



REFER TO PAGES 52 & 53 FOR
STRUCTURAL SIGNAGE DETAILS

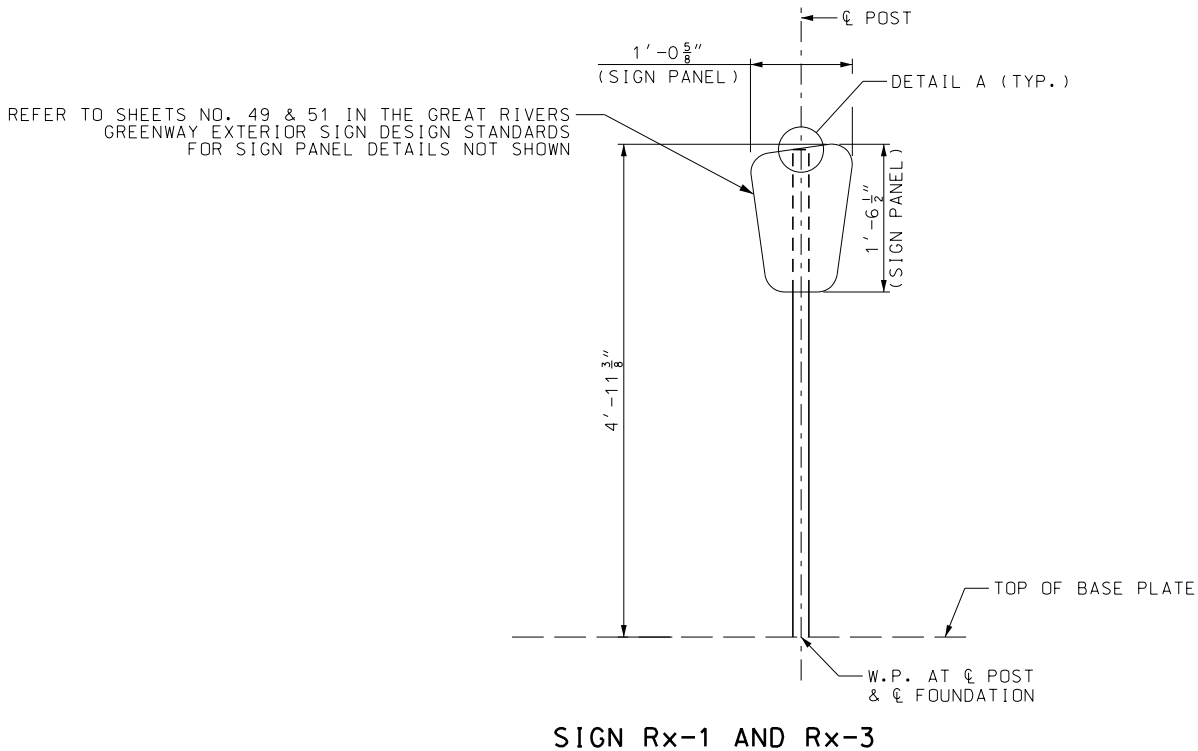
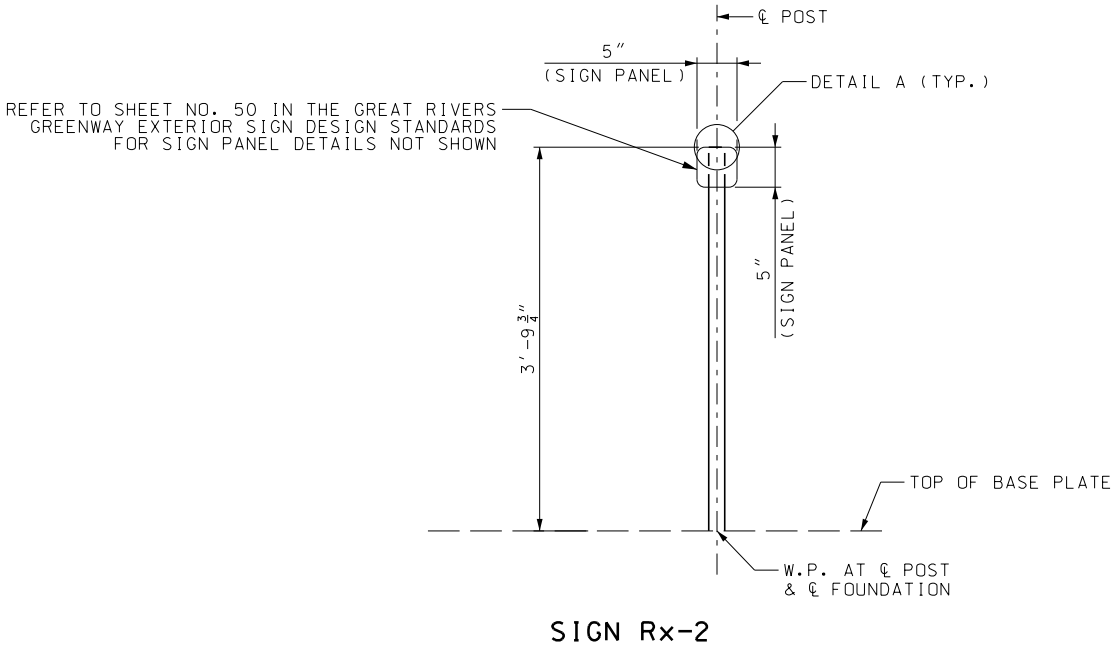


REFER TO PAGES 52 & 53 FOR
STRUCTURAL SIGNAGE DETAILS



Download the art template for this sign at: <https://greatriversgreenway.sharefile.com/d-sf53e58970f84a83b>

T:\Working\15080 - Wildwood - Stecker Road Bridge Drawings\Bridge\CDG Bridge Template.dgn



GENERAL NOTES:

DESIGN SPECS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS. LUMINAIRES AND TRAFFIC SIGNALS - 2013 (6TH EDITION) AND ALUMINUM ASSOCIATION 2015 ALUMINUM DESIGN MANUAL.

CONCRETE FOR FOUNDATIONS SHALL BE CLASS B CONCRETE, IN ACCORDANCE WITH THE MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, WITH A COMPRESSIVE STRENGTH OF $f'c = 4,000$ PSI @ 28 DAYS.

ALL EXPOSED EDGES OF THE CONCRETE SHALL HAVE A 3/4" CHAMFER.

ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615 GRADE 60, $Fy=60,000$ PSI.

ALL REINFORCING STEEL SHALL BE EPOXY COATED IN ACCORDANCE WITH ASTM A775/A775M.

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1 1/2", UNLESS NOTED OTHERWISE.

ALL CAST-IN-PLACE ANCHOR BOLTS SHALL BE ASTM F1554 GRADE 36 BOLTS WITH 90° BEND UNLESS NOTED OTHERWISE.

ALL CAST-IN-PLACE CONCRETE ANCHORS ARE TO BE TIGHTENED TO A "SNUG-TIGHT" CONDITION.

ALL ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED BY THE HOT-DIP PROCESS IN ACCORDANCE WITH ASTM A153.

NON-SHRINK GROUT SHALL BE NON-METALLIC, PRE-PACKAGED GROUT CONFORMING TO CORPS OF ENGINEERS SPECIFICATION CRD C621, WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS WHEN TESTED ACCORDING TO ASTM C109.

THE STRUCTURAL TUBING MATERIAL SHALL BE ALUMINUM, 6063-T6 IN ACCORDANCE WITH ASTM B429.

THE BASE PLATES AND CAP MATERIAL SHALL BE ALUMINUM, 6061-T6 IN ACCORDANCE WITH ASTM B209.

WELD FILLER MATERIAL SHALL BE ALUMINUM, 5356 AND COMPLY WITH AWS A5.10.

ALL WELDING SHALL COMPLY WITH AWS D1.2 "STRUCTURAL WELDING CODE-ALUMINUM".

ALL EXPOSED WELDED JOINTS SHALL BE FILLED AND GROUND SMOOTH SO THAT NO SEAM IS VISIBLE WHEN PAINTED.

BOLTS, NUTS AND WASHERS SHALL BE 300 SERIES STAINLESS STEEL. WASHERS SHALL BE USED UNDER BOLT HEADS.

ALL HARDWARE AND FASTENERS WITHIN REACH SHALL BE VANDAL RESISTANT.

THE SURFACES OF ALUMINUM MEMBERS IN CONTACT WITH CONCRETE SHALL BE BACK PAINTED WITH BITUMINOUS PAINT OF THE CUT-BACK TYPE CONFORMING TO SPECIFICATION MIL-C-450 B (1) OR TT-C-494 OR METHACRYLATE TYPE LACQUERS CONFORMING TO MIL-L-19537C (2).

PROVIDE DRAIN HOLES IN RT TUBES IN LOCATIONS AS NEEDED TO PREVENT THE ACCUMULATION OF MOISTURE IN THE MEMBERS.

HOLES SHALL BE LOCATED TO BE INCONSPICUOUS AND SUCH THAT DRAINAGE DOES NOT OCCUR ONTO SIGNS OR OTHER SURFACES SUBJECT TO STAINING.

PROVIDE COLOR-COORDINATED STAINLESS STEEL BUG MESH OVER DRAIN HOLES.

FOUNDATIONS SHOWN IN THE PLANS HAVE BEEN DESIGNED BASED ON THE PRESUMPTIVE VALUES FOUND IN IBC-2009, TABLE 1806.2, FOR CLASS 5 SOIL MATERIALS. THE FOUNDATIONS SHOWN ARE SUITABLE FOR CONSTRUCTION IN ANY CLASS 5 SOIL OR BETTER. CONSTRUCTION OF THE FOUNDATIONS IN LESSER SOILS SUCH AS MUD, ORGANIC SOILS OR UNPREPARED SOILS IS NOT COVERED BY THIS STANDARD DESIGN AND WILL REQUIRE FURTHER EVALUATION.

THE FINISH ON THE SIGN STRUCTURE (POSTS AND PLATES) SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE GREAT RIVERS GREENWAYS EXTERIOR SIGN DESIGN STANDARDS AND SPECIFICATIONS.

PROVIDE 1/2" JOINT FILLER AROUND FOUNDATION AT PAVED WALKING SURFACE LOCATIONS.

NOTES:

FOR DETAIL A, SEE SHEET NO. 2 OF 2.

FOR SIGN STRUCTURE DETAILS NOT SHOWN, SEE SHEET NO. 2 OF 2.

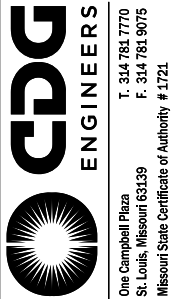
SIGN STRUCTURES Rx-1, Rx-2 AND Rx-3 AS SHOWN ARE NOT INTENDED FOR INSTALLATION WITHIN THE ROADWAY CLEAR ZONE OR IN OTHER AREAS WHERE THEY MAY BE SUSCEPTIBLE TO VEHICULAR COLLISION OR ARE OTHERWISE UNPROTECTED.

SIGN STRUCTURE PLACEMENT MAY BE SUBJECT TO OTHER REQUIREMENTS OR RESTRICTIONS ON A CASE-BY-CASE BASIS.

INDIVIDUAL SIGN STRUCTURE LOCATION AND PLACEMENT SHALL BE THE RESPONSIBILITY OF THE ENGINEER OF RECORD FOR EACH SIGN STRUCTURE INSTALLATION.

REV.	DATE	DESCRIPTION	APPROVED

Note: This drawing is not to scale. Follow dimensions.



David Burdick, P.E.
MO# PE-024015

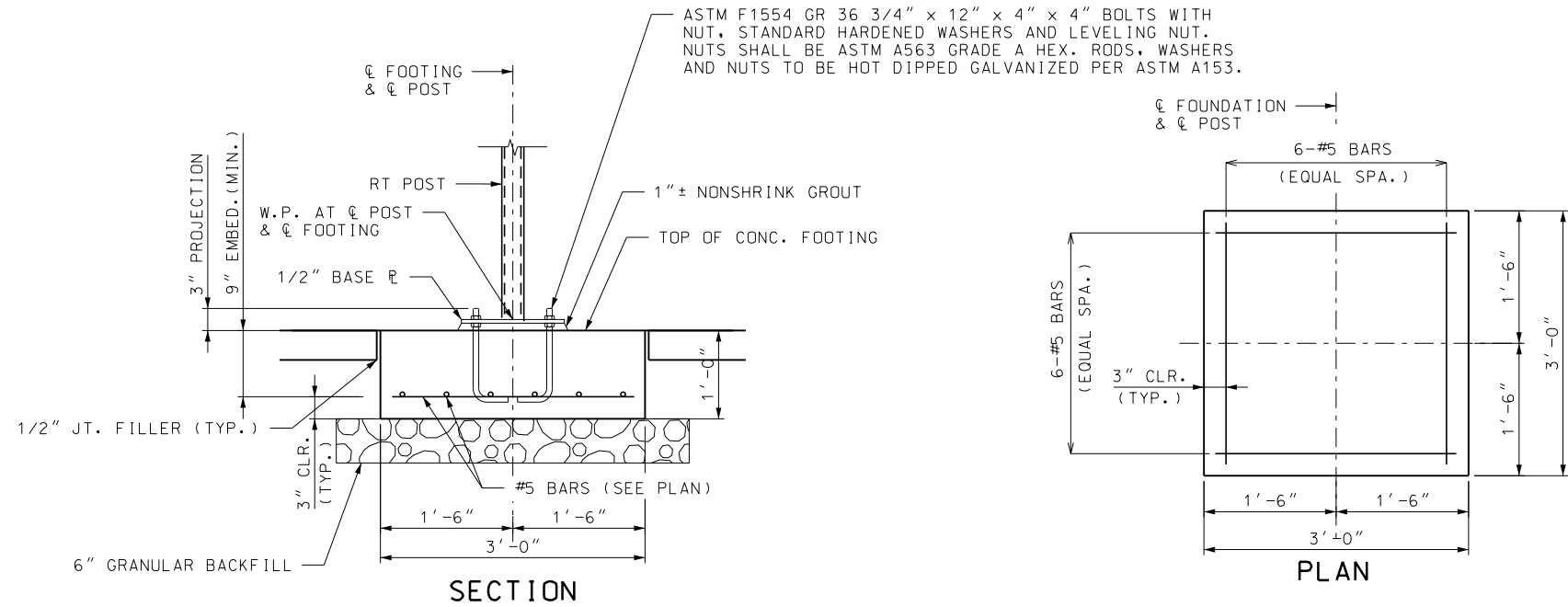
DRAWN BY
DB
CHECKED BY
TRN
DATE
February 3, 2020

GREAT RIVERS GREENWAY
SIGN STRUCTURE STANDARDS
DETAILS OF SIGN STRUCTURES Rx-1, Rx-2 & Rx-3

STD NO
Rx-12301
SHEET NO.
1 OF 2

SHEET NO.
52

T:\Working\15080 - Wildwood - Streeter Road Bridge Drawings\Bridge\GDS Bridge template.dgn



DETAILS OF THICKENED SIDEWALK OPTION

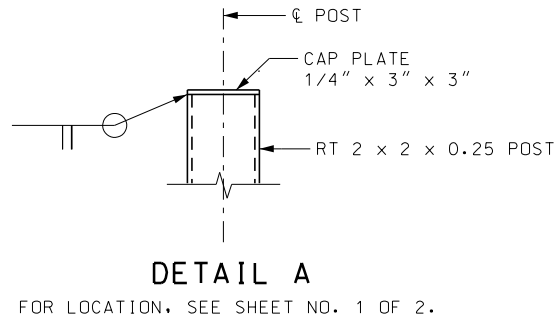
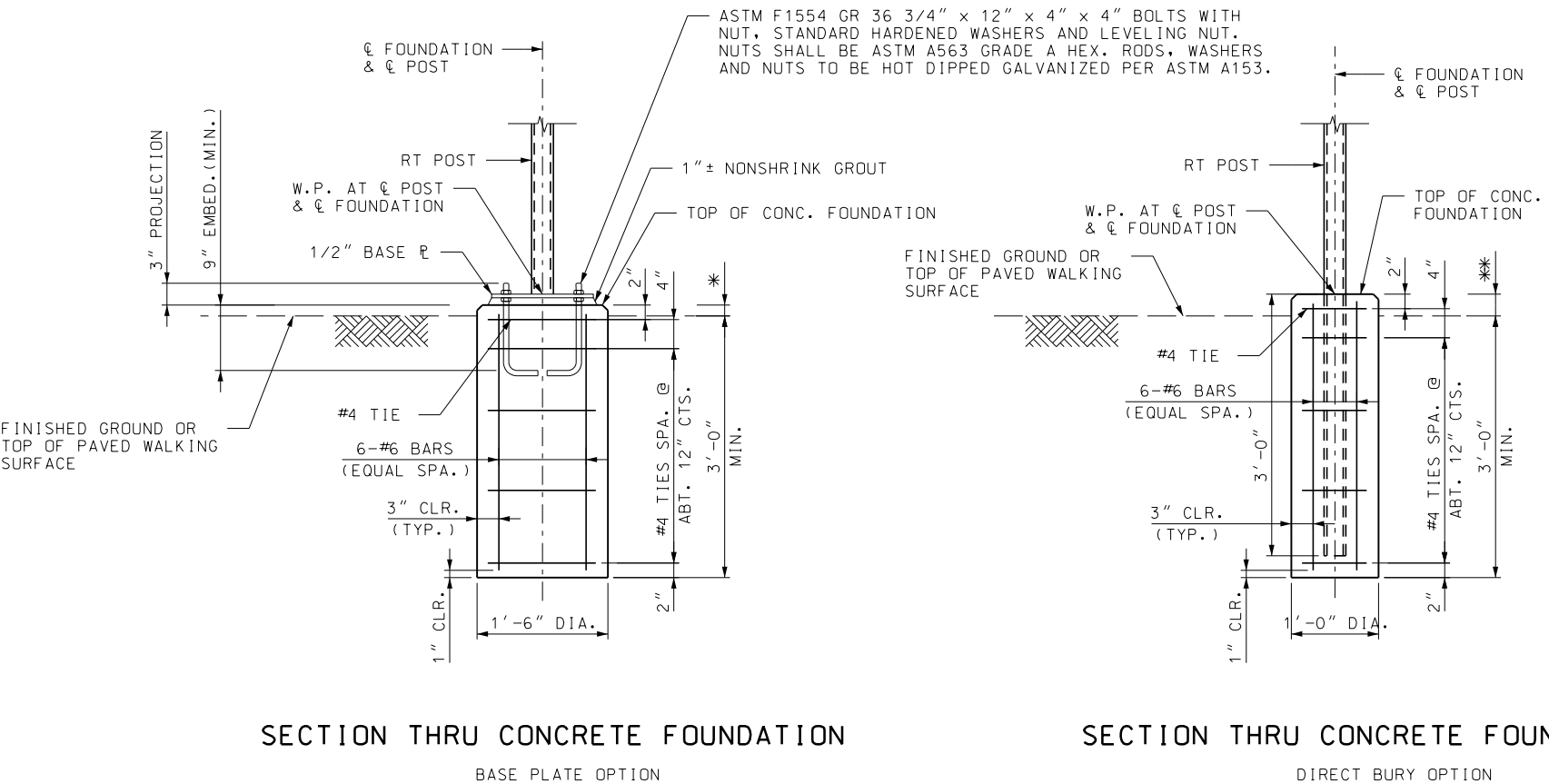
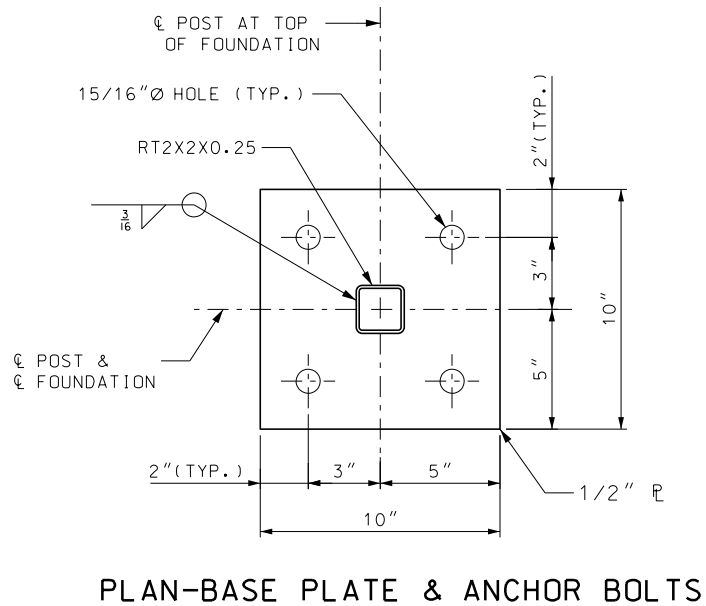


TABLE OF DIMENSIONS		
SURFACE TYPE	*	**
FINISHED GROUND	1 1/2"	3"
PAVED WALKING SURFACE	3/4"	2 1/4"

NOTES:

FOR SIGN STRUCTURE NOTES, SEE SHEET NO. 1 OF 2.

REV.	DATE	DESCRIPTION	APPROVED



CDG ENGINEERS
One Campbell Plaza
St. Louis, Missouri 63139
Missouri State Certificate of Authority # 1721
T. 314.781.7770
F. 314.781.9075



David Burdick, P.E.
MO# PE-024015

DRAWN BY
DB
CHECKED BY
TRN
DATE
February 3, 2020

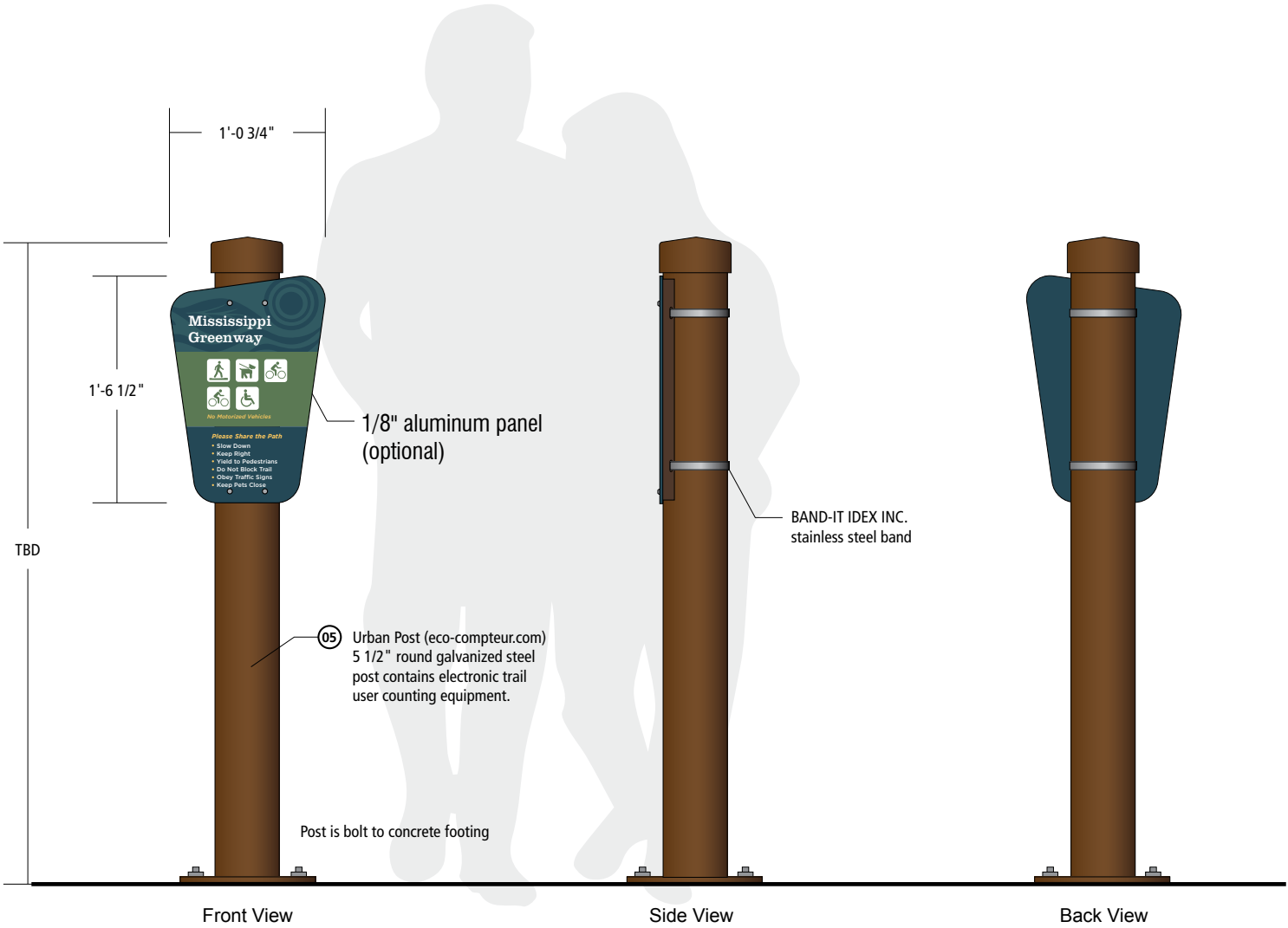
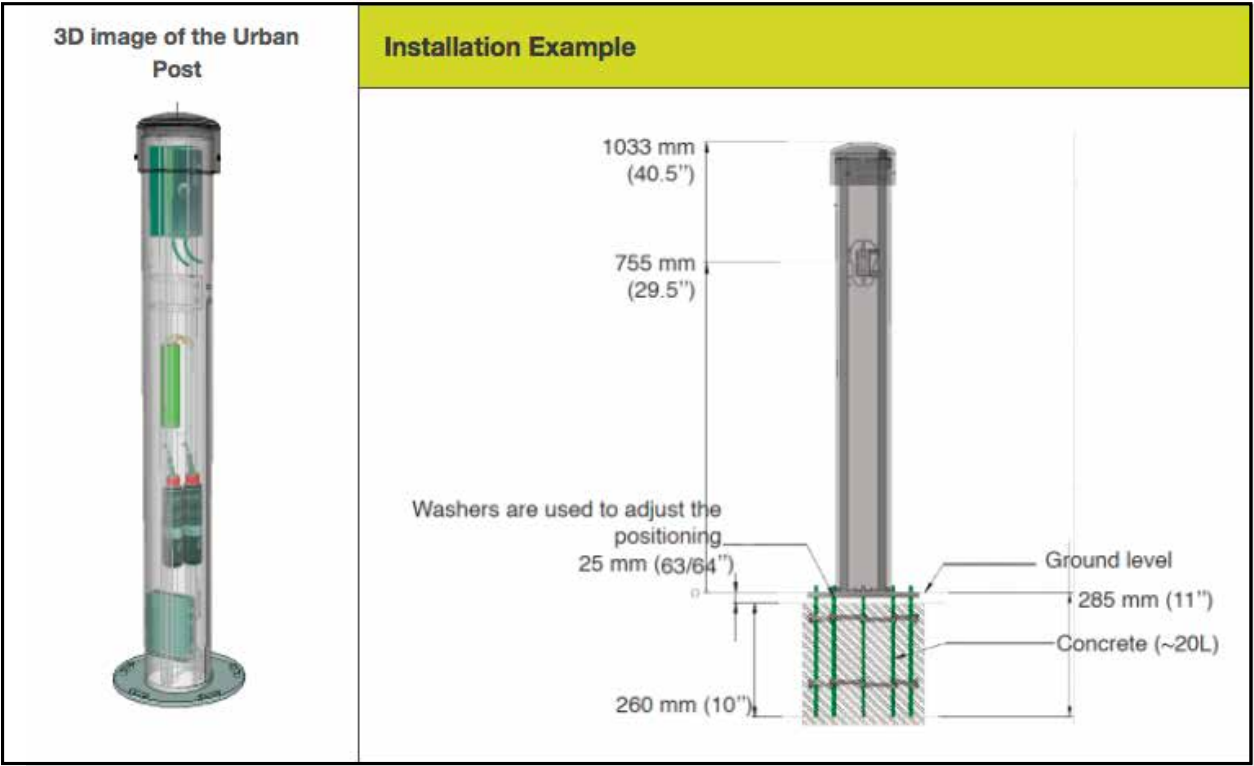
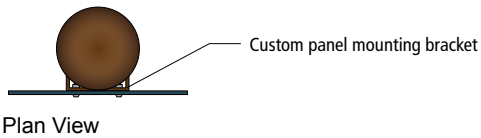
GREAT RIVERS GREENWAY
SIGN STRUCTURE STANDARDS
DETAILS OF SIGN STRUCTURES Rx-1, Rx-2 & Rx-3

STD NO
Rx-12302
SHEET NO.
2 OF 2

SHEET NO.
53

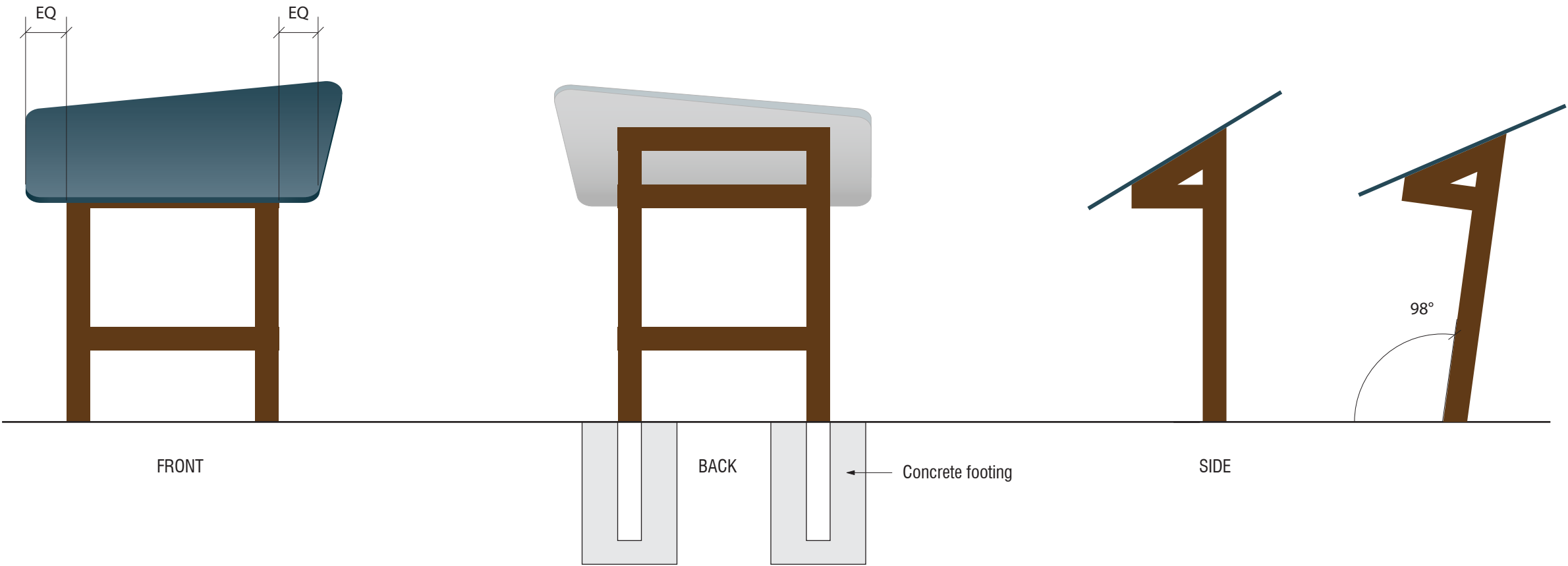
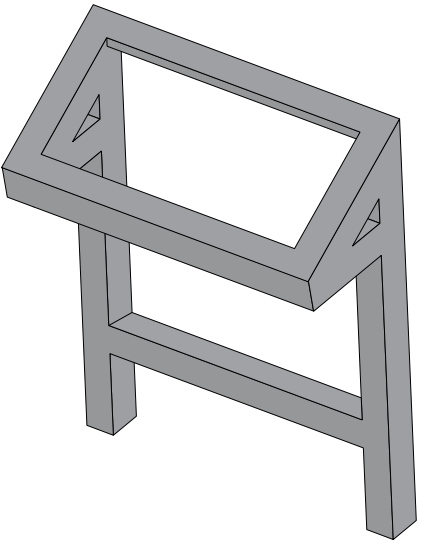
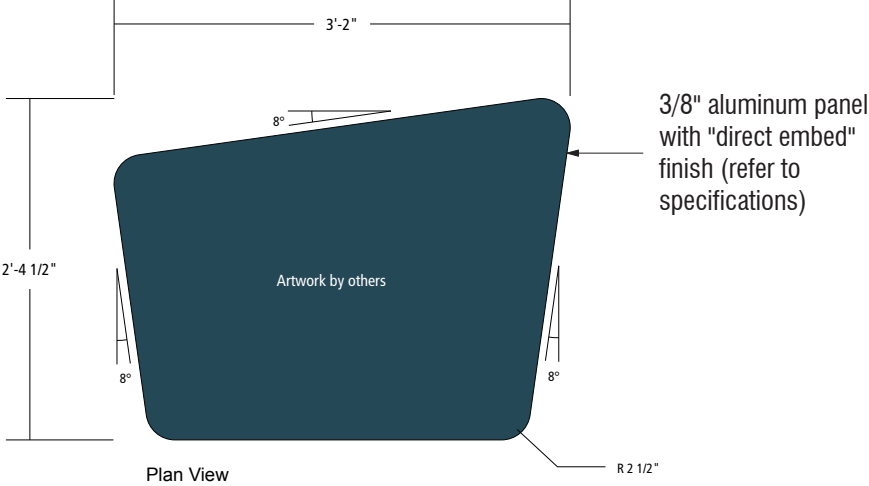
Note: This drawing is not to scale. Follow dimensions.

Great Rivers Greenway Sign Array: TC-1 Trail Counter-Sign Panel (optional)



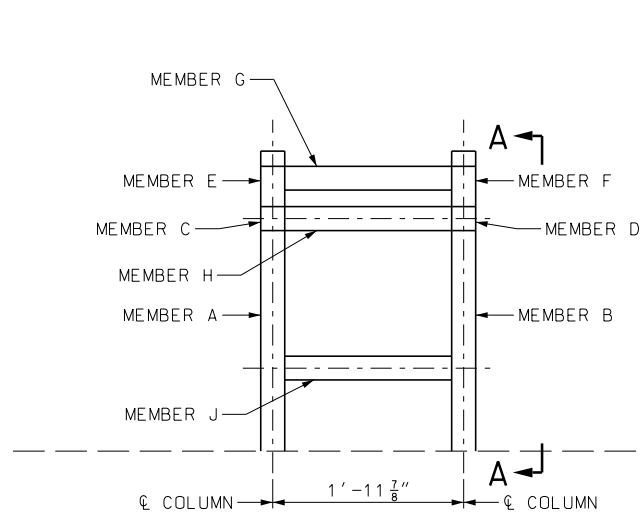
Download the art template for this sign at: <https://greatriversgreenway.sharefile.com/d-s88042125732481d9>

REFER TO PAGES 57 & 58 FOR
STRUCTURAL SIGNAGE DETAILS

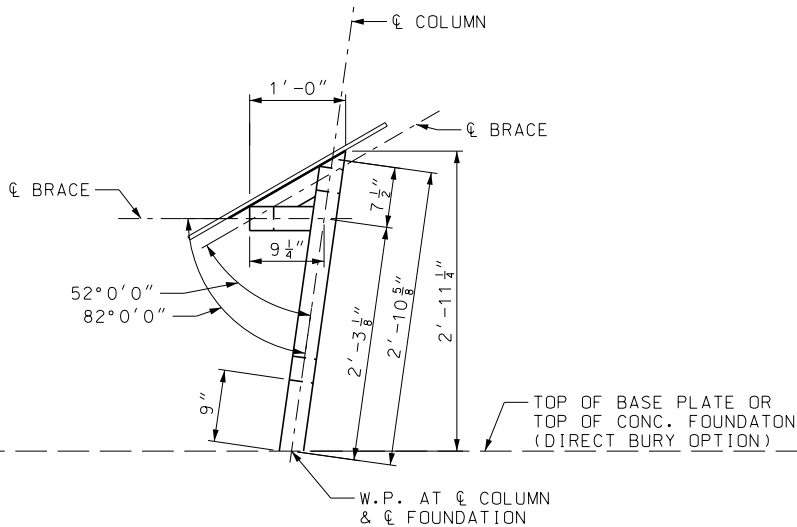


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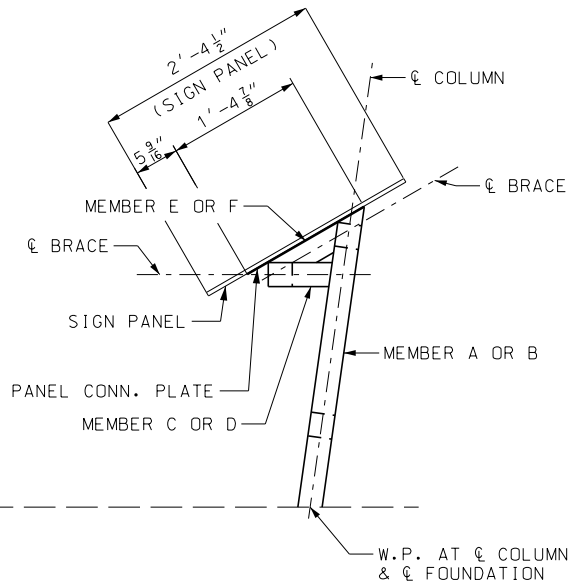
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ELEVATION
SIGN PANEL NOT SHOWN FOR CLARITY

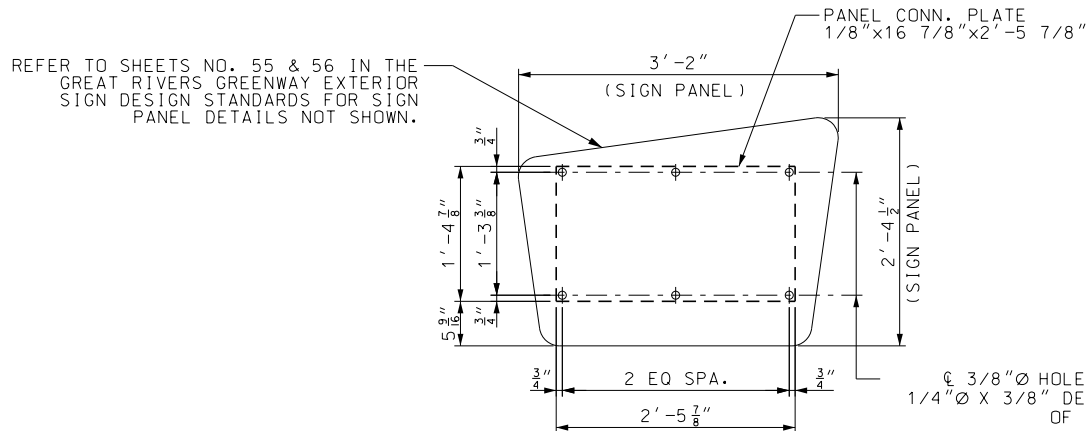


ELEVATION A-A
SHOWING DIMENSIONS



ELEVATION A-A
SHOWING MEMBERS

SIGN IN-1



SIGN PANEL DETAIL

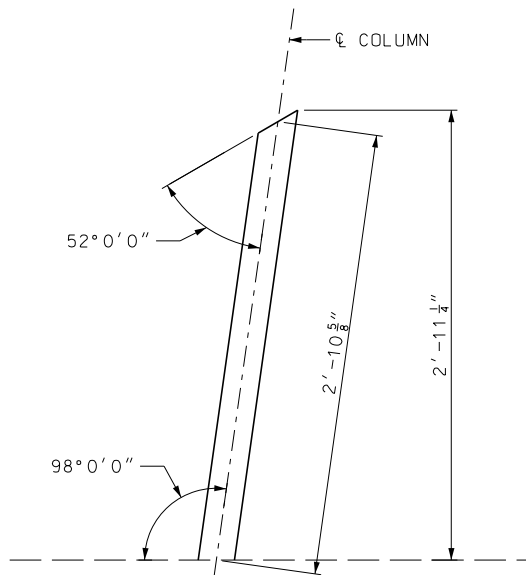
NOTES:

FOR SECTION B-B AND DETAILS NOT SHOWN,
SEE SHEET NO. 2 OF 2.

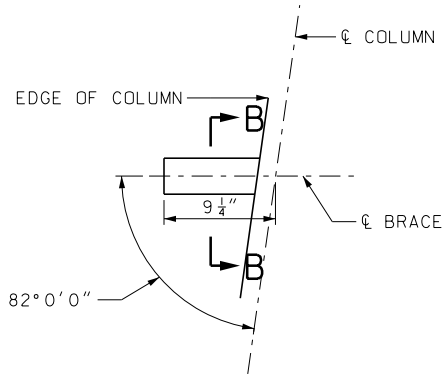
SIGN STRUCTURE IN-1 AS SHOWN IS NOT
INTENDED FOR INSTALLATION WITHIN THE ROADWAY
CLEAR ZONE OR IN OTHER AREAS WHERE THEY MAY BE
SUSCEPTIBLE TO VEHICULAR COLLISION OR ARE
OTHERWISE UNPROTECTED.

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REQUIREMENTS OR RESTRICTIONS ON A CASE-BY-CASE BASIS.

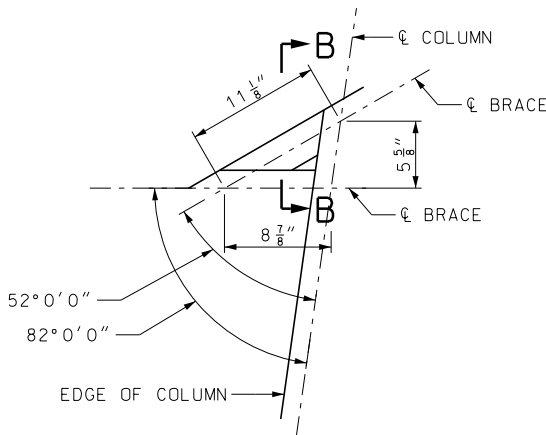
INDIVIDUAL SIGN STRUCTURE LOCATION AND PLACEMENT
SHALL BE THE RESPONSIBILITY OF THE ENGINEER OF
RECORD FOR EACH SIGN STRUCTURE INSTALLATION.



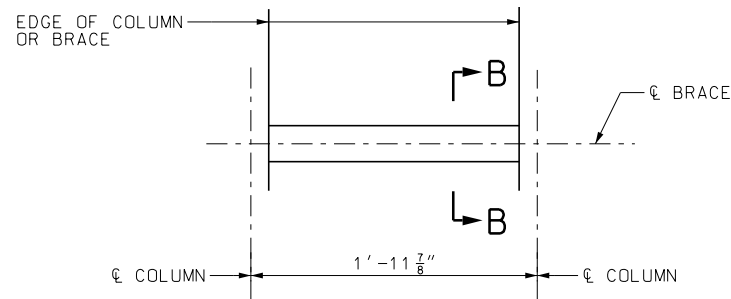
MEMBER A & B



MEMBER C & D



MEMBER E & F



MEMBER G, H & J

REV.	DATE	DESCRIPTION	APPROVED

Note: This drawing is not to scale. Follow dimensions.



BASE PLATE OPTION



DIRECT BURY OPTION

PROVIDE 1/2" JOINT FILLER AROUND FOUNDATION AT PAVED WALKING SURFACE LOCATIONS.

REV.	DATE	DESCRIPTION	APPROVED