

SECTION S: SIGNING PLAN

FOR BIDDING PURPOSES ONLY

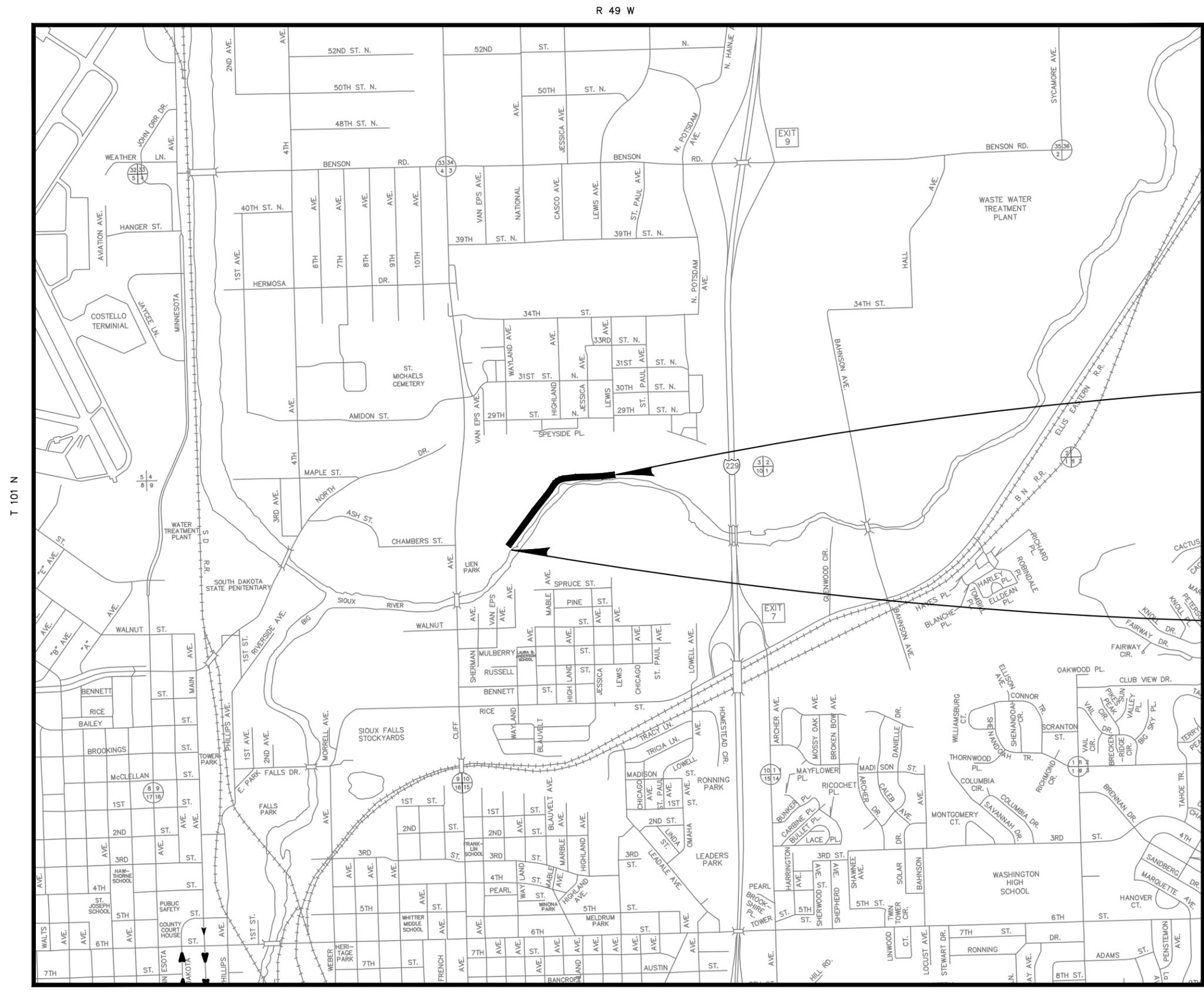
STATE OF SOUTH DAKOTA	PROJECT EM 8050(65)	SHEET NO. S1	TOTAL SHEETS S8
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FILE: 1412 - Title Page.dwg
 PLOTTING DATE: 2014-04-29 INITIALS: JRK
 REVISION DATE:



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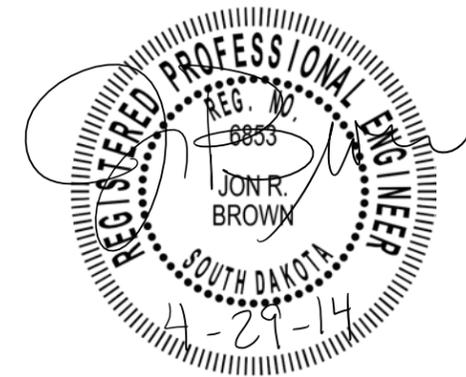


END PROJECT EM 8050(65)

SIoux FALLS BIKE TRAIL STA. 25+75
 APPROX. 4500' EAST OF CLIFF AVENUE
 ALONG THE BIG SIOUX RIVER

BEGIN PROJECT EM 8050(65)

SIoux FALLS BIKE TRAIL STA. 0+99
 APPROX. 2000' EAST OF CLIFF AVENUE
 ALONG THE BIG SIOUX RIVER



600 N. MAIN AVENUE #100
 SIOUX FALLS, SD 57104
 PH. (605) 338-6668
 FAX (605) 338-8750
 WWW.STOCKWELLENGINERS.COM

SECTION S ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
632E1320	2.0"x2.0" Perforated Tube Post	8.0	Ft
632E3203	Flat Aluminum Sign, Nonremovable Copy High Intensity	4.0	SqFt
632E3600	Temporary Signing	32.0	SqFt
900E6000	Kiosk Information Unit	2	Each

CONSTRUCTION REQUIREMENTS

Highway signs and delineators shall comply with the MUTCD and Standard Highway Signs, issued by the U.S. Department of Transportation, FHWA.

Traffic Sign Installation:

- A. **Location and Position:** The location of each sign shall be established by referring to the station located on the Permanent Sign Installation table. The installation of the sign shall correspond to the typical sign mounting details.

Traffic signs shall be installed on posts, light poles, or mast arms as specified in the contract. The Contractor will be responsible to furnish the necessary mounting hardware for each sign.

- B. **Perforated Tube Posts:** Post size will be specified in the contract for each type of sign. Sign post lengths shown in the contract are estimates for bidding purposed only. The exact post lengths will be determined during construction. Posts shall be in a plumb position. Unless otherwise specified all signs, including those salvaged for reset by the Contractor will be place on new posts.

PERMANENT SIGNING:

The Contractor shall furnish all signs, posts, stiffeners, bases, hardware, and labor for installation of permanent signs in size, type, and quantity as shown in these plans and/or as required by the Engineer.

The Contractor shall provide all labor and equipment necessary to install permanent signing, as detailed in these plans and/or as required by the Engineer. Payment for furnishing and installing permanent signs will be paid for at the contract unit price for each type of sign based on sheeting requirements per square foot of sign. All signs shall have ASTM D4956-09 Type IV (High Intensity). Payment for new signposts, hardware, bases, and labor will be made at the contract unit price per foot for 2.0" x 2.0" PERFORATED TUBE POST. See breakaway post details, and fixed post details regarding posts, hardware, bases, and footings. Measurement of post lengths for payment will be for above ground post lengths as field measured. The sign post contract items shall include post bases and all hardware. The lengths of the posts in the sign tables are approximate lengths only. The post lengths shall be verified by the Contractor. The Contractor is urged to cut posts to length on job site after site verifications of post length.

The Contractor shall use Telespar brand (or equals) posts and bases on all new standard highway signs as approved by the Engineer. All post materials

shall conform to Section 982 of the Standard Specifications, and be in accordance with ASTM specifications. Signs designated as requiring a shear slip base shall have a 4 foot long base assembly with a shear breakaway base connecting the base to the signpost. The height of the post shall not exceed the minimum height needed by more than 0.5 feet. Any portion that extends above the sign shall be cut off. No separate payment will be made for cutting the post or for that length cut off. All sign assemblies mounted in concrete surfacing shall utilize a flush mount breakaway post base. All posts and bases shall be accompanied by Certificates of Compliance and shall meet all safety standards as set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD).

The Contractor shall stake the signs and the Engineer will verify the location prior to installation. The lateral distance from the roadway and the height of the sign shall be established by the Contractor according to the Standard Plates in the plans and the MUTCD.

When signs are vertically mounted in succession, they shall be 1-2 inches apart. Lateral placement of signs shall be determined by the Engineer.

PERFORATED TUBE POST:

Payment for 2.0" x 2.0" perforated tube post shall include all cost for labor, equipment, and materials necessary to complete the following work:

1. Furnish all posts, stiffeners, breakaway bases, soil stabilizers, and hardware.
2. Assembly and installation of breakaway base sign supports as per details shown in these plans.
3. Assembly of sign(s) to sign post as per erection details for Highway Signs as shown in these plans.
4. Installation of signpost and sign(s).

SHEETING REQUIREMENTS:

All legend and border utilizing the color black shall be vinyl or screen printed black, non-reflectorized material. All other legend and border shall be of same type of sheeting as the background of the same sign. All signs in the table for Permanent Signing, (not labeled "custom"), shall have High Intensity Prismatic retroreflective background, Type IV as per AASHTO designation M 268 (ASTM D4956-09). All Permanent signs labeled "custom" shall utilize sheeting as depicted on the special details for each sign.

KIOSK INFORMATION UNIT

All Kiosk Information Units shall be constructed of weathering steel conforming to the following specifications:

Steel Tubing: Weathering steel 4"x4" - 1/4" wall thickness
ASTM A847

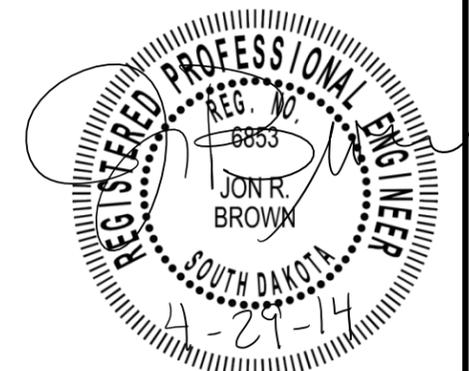
Steel Plate: Weathering steel 1/4" wall thickness
ASTM A588

Shop Connections: Weld connection shall comply with AWS D1.1 for welding procedure specifications, tolerances, appearance, and quality of welds and for methods used in correcting welding work. Remove backing bars or runoff tabs, back gouge and grind steel smooth. Verify that weld sizes, fabrication sequence, and equipment used for architecturally exposed structural steel will limit distortions to allowable tolerances. Prevent weld show-through on exposed steel surfaces.

Field Connection: Weld connections comply with AWS D1.1 for welding procedure specifications, tolerances, appearance, and quality of welds and for methods used in correcting welding work. Remove backing bars or runoff tabs, back gouge and grind steel smooth. Verify that weld sizes, fabrication sequence, and equipment used for architecturally exposed structural steel will limit distortions to allowable tolerances. Prevent weld show-through on exposed steel surfaces.

Quality Control: Field welds will be visually inspected according to AWS D1.1. Correct deficiencies in work that inspections indicate does not comply with the contract documents.

All costs associated with fabricating and installing Kiosk Information Units, including but not limited to: steel, laser cutting, letters, sign panels, hardware concrete, reinforcing steel and labor shall be incidental to the contract unit price per each of "Kiosk Information Unit".



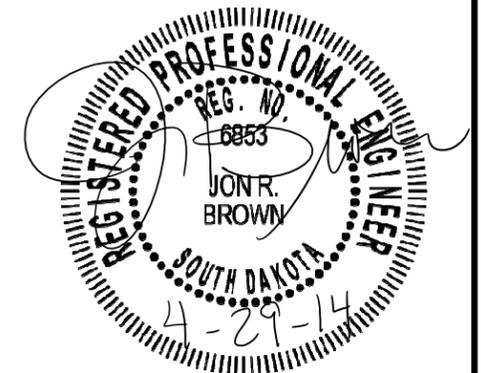
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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	EM 8050(65)	S3	S8

TABLE OF PERMANENT SIGNS

STATION	DESCRIPTION	SIGN CODE	SIZE	TRAFFIC SIGN AREA (SF)	2.0"x2.0" Tube (FT)	2.25"x2.25" Tube (FT)	2.5"x2.5" Tube (FT)	INSTALL TRAFFIC SIGN ON POST (EACH)	CUSTOM MONUMENT (EACH)
0+99.00 - 8.7' RT	Kiosk Information Unit								1
20+75.00 - 10' RT	Bike Route Sign	D11-1	24"X18'	3.0	8.0	*4.0'	*1.5'	*1	
20+75.00 - 10' RT	Ends 500'	D3-1	24"X6"	1.0				*1	
25+65 - 13' RT	Kiosk Information Unit								1
TOTALS				4.0	8.0'	*4.0'	*1.5'	*2	2

* For informational purpose, costs included in the per foot price for 2"x2" Perforated Tube Post.



SIGNING

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	EM 8050(65)	S4	S8

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PLOTING DATE: 2014-04-29 INITIALS:
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D11-1 (1EA)

BIKE ROUTE
ENDS 500'
D3-1
20+75 - 10.0'RT

BIG SIOUX RIVER



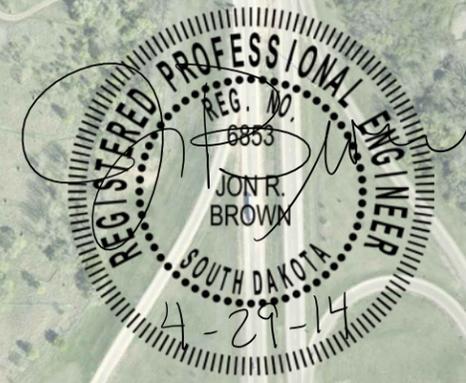
KIOSK INFORMATION UNIT (2EA)
STA. 0+99.00 - 8.7'RT
STA. 25+65 - 13'RT
SEE DETAIL



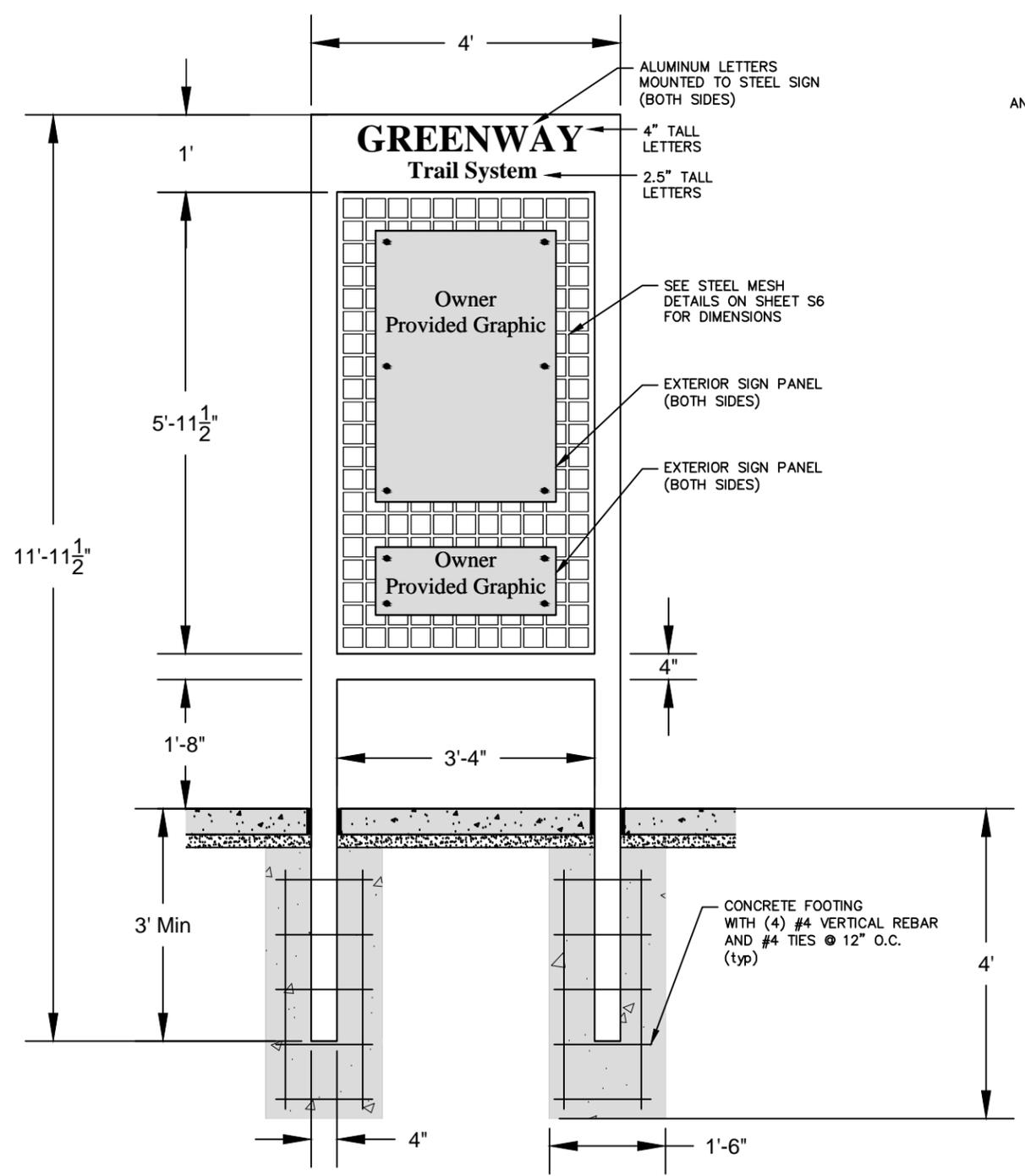
INSTALL TEMPORARY
CONSTRUCTION SIGN (32SqFt)
SEE DETAIL



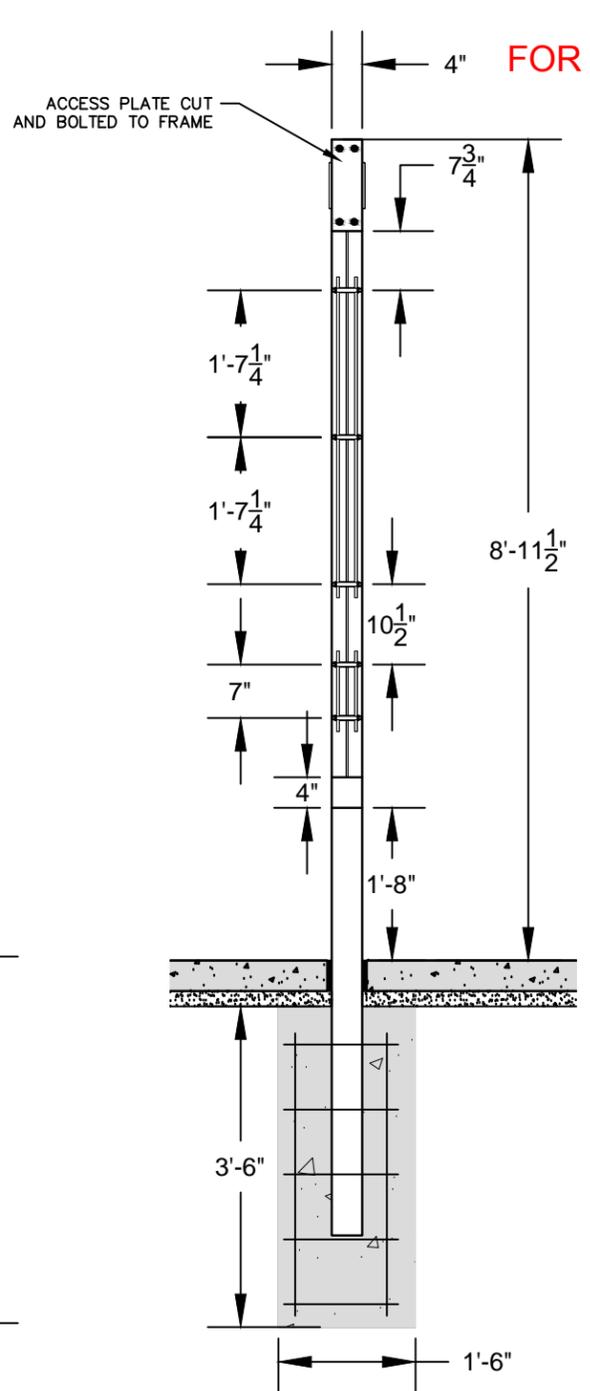
I-229



FOR BIDDING PURPOSES ONLY



ELEVATION VIEW



SECTION VIEW

ALL LETTERS ARE TO BE "GEMINI, INC. 3/8" THICK, WATER JET CUT, ALUMINUM LETTERS.

LETTERING MODEL: FLAT CUT METAL
 STYLE: TIMES NEW ROMAN
 FINISH: POLISHED CLEAR ANODIZED
 MOUNTING: FLAT METAL WALL MOUNTING

APPROVED SUPPLIER:
 GEMINI, INCORPORATED
 103 MENSING WAY
 CANNON FALLS MINNESOTA, 55009-1143

SIGN PANELS

PANEL: 1/4" NUDO POLYMETAL PANEL OR APPROVED EQUAL
 GRAPHIC: WEATHERPROOF GRAPHIC PRINTED AND APPLIED DIRECTLY TO EXTERIOR SIGN PANEL.
 OWNER WILL PROVIDE CONTRACTOR WITH DIGITAL IMAGE FOR PRINTING

STEEL FRAMEWORK

TUBING: WEATHERING STEEL 4"x4" - 1/4" WALL THICKNESS
 ALL STEEL TUBING USED IN CONSTRUCTION OF SIGN FRAMES SHALL CONFORM TO ASTM A847
 PLATE: WEATHERING STEEL 1/4" WALL THICKNESS
 ALL STEEL PLATE USED IN CONSTRUCTION OF SIGN FRAMES SHALL CONFORM TO ASTM A588
 WELDING: ALL WELD CONNECTIONS SHALL COMPLY WITH AWS D1.1 FOR WELDING PROCEDURE SPECIFICATIONS, TOLERANCES, APPEARANCE, AND QUALITY OF WELDS AND FOR METHODS USED IN CORRECTING WELDING WORK.

KIOSK INFORMATION UNIT DETAIL

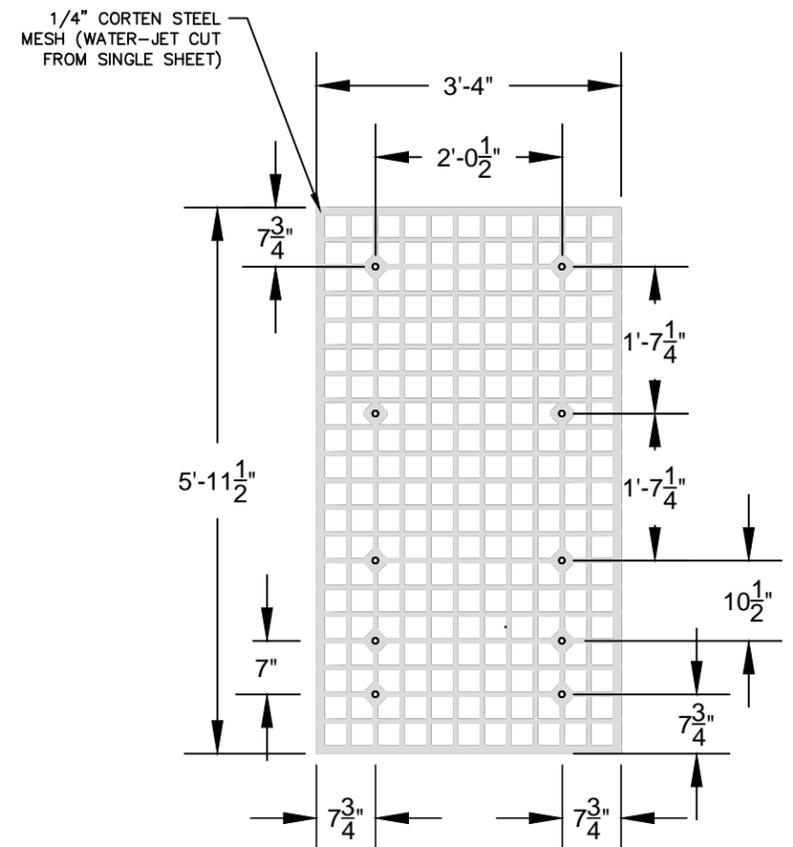
SCALE 1" = 2'-0"

NOTES

- ALL FRAMEWORK FOR KIOSK SHALL BE CONSTRUCTED FROM 1/4"CORTEN (OR APPROVED EQUAL) WEATHERING STEEL.
- PIPE SELVES ARE TO BE CONSTRUCTED THROUGH FRAMEWORK AT ALL BOLT LOCATIONS.
- ALL CONNECTIONS EXCEPT FOR ATTACHING SIGN PANELS ARE TO BE WELDED.
- ALL WELDS ARE TO BE GROUND SMOOTH.
- ALL CONCRETE USED FOR SIGN FOOTINGS TO BE CLASS M6.
- KIOSKS ARE TO BE SET PLUMB.
- ANY CONCRETE SPLATTERED ON SIGNS DURING CONSTRUCTION MUST BE REMOVED IMMEDIATELY AND NOT ALLOWED TO CURE ON THE SIGNS FINISH.
- ALL SIGN PANELS ARE TO BE CONSTRUCTED USING A 1/4" "NUDO POLYMETAL" EXTERIOR SIGN MATERIAL, OR APPROVED EQUAL.
- A COLOR GRAPHIC SHALL BE PRINTED AND APPLIED DIRECTLY TO THE POLYMETAL PANELS. THE OWNER WILL PROVIDE A DIGITAL IMAGE FOR PRINTING
- SIGN PANELS ARE TO BE MOUNTED TO THE STEEL MESH FRAMEWORK USING 1/2" STAINLESS STEEL BOLTS, WITH STAINLESS STEEL NUT COVERS ON ALL ENDS
- KIOSK SHALL BE PAID ON A PER EACH BASIS AND SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO PROVIDE A COMPLETE, IN-PLACE PRODUCT.
- OWNER TO PROVIDE CAD FILE FOR WATER JET CUTTING.

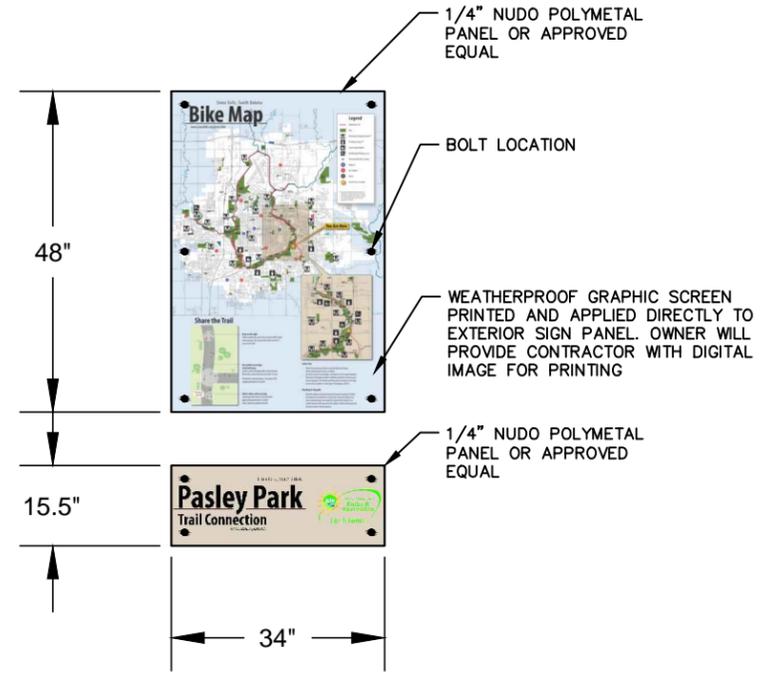


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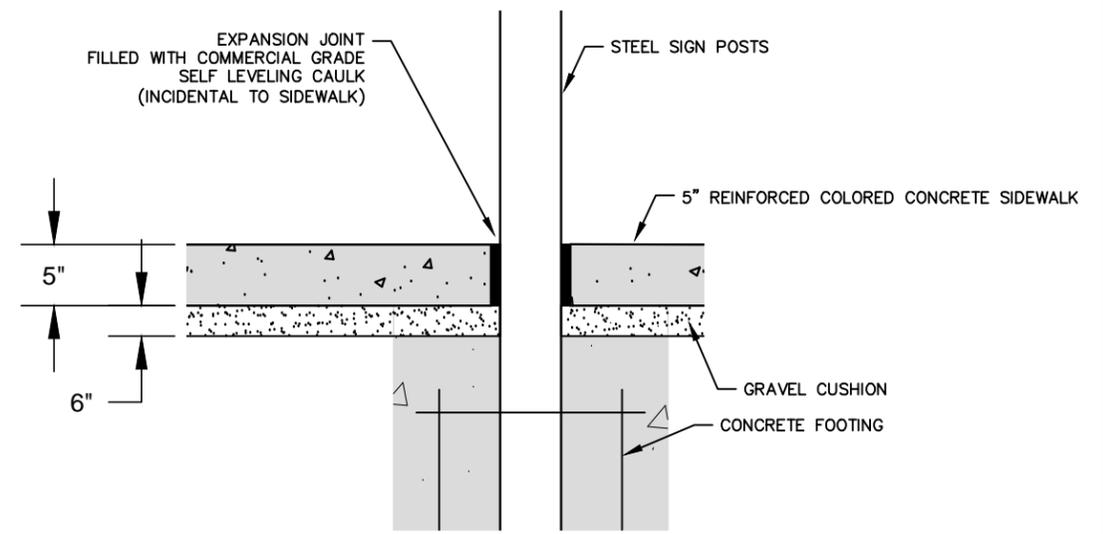
KIOSK MESH DETAIL

SCALE = 1"=2'-0"



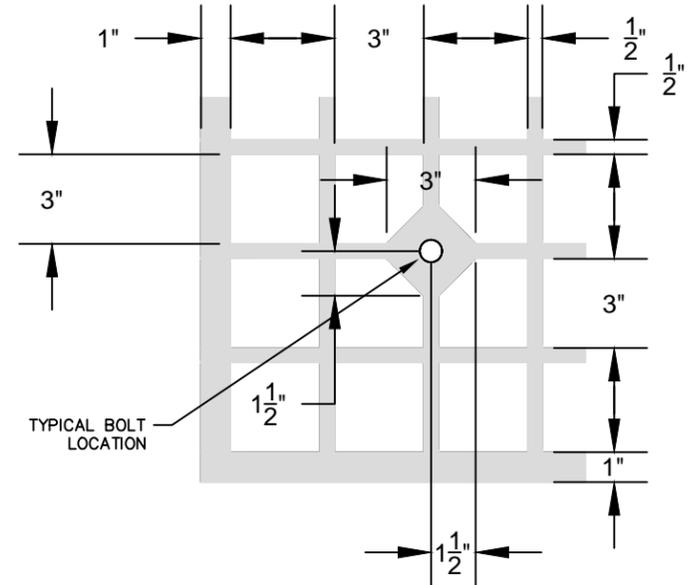
SIGN PANEL DETAIL

NOT TO SCALE



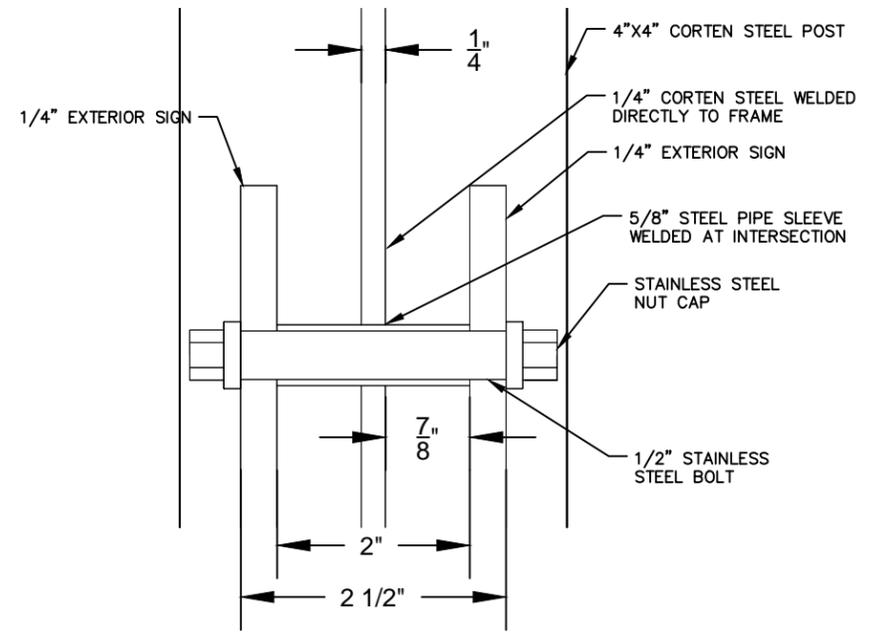
SIDEWALK DETAIL

SCALE 1" = 1'-0"



STEEL MESH CLOSE-UP

NOT TO SCALE



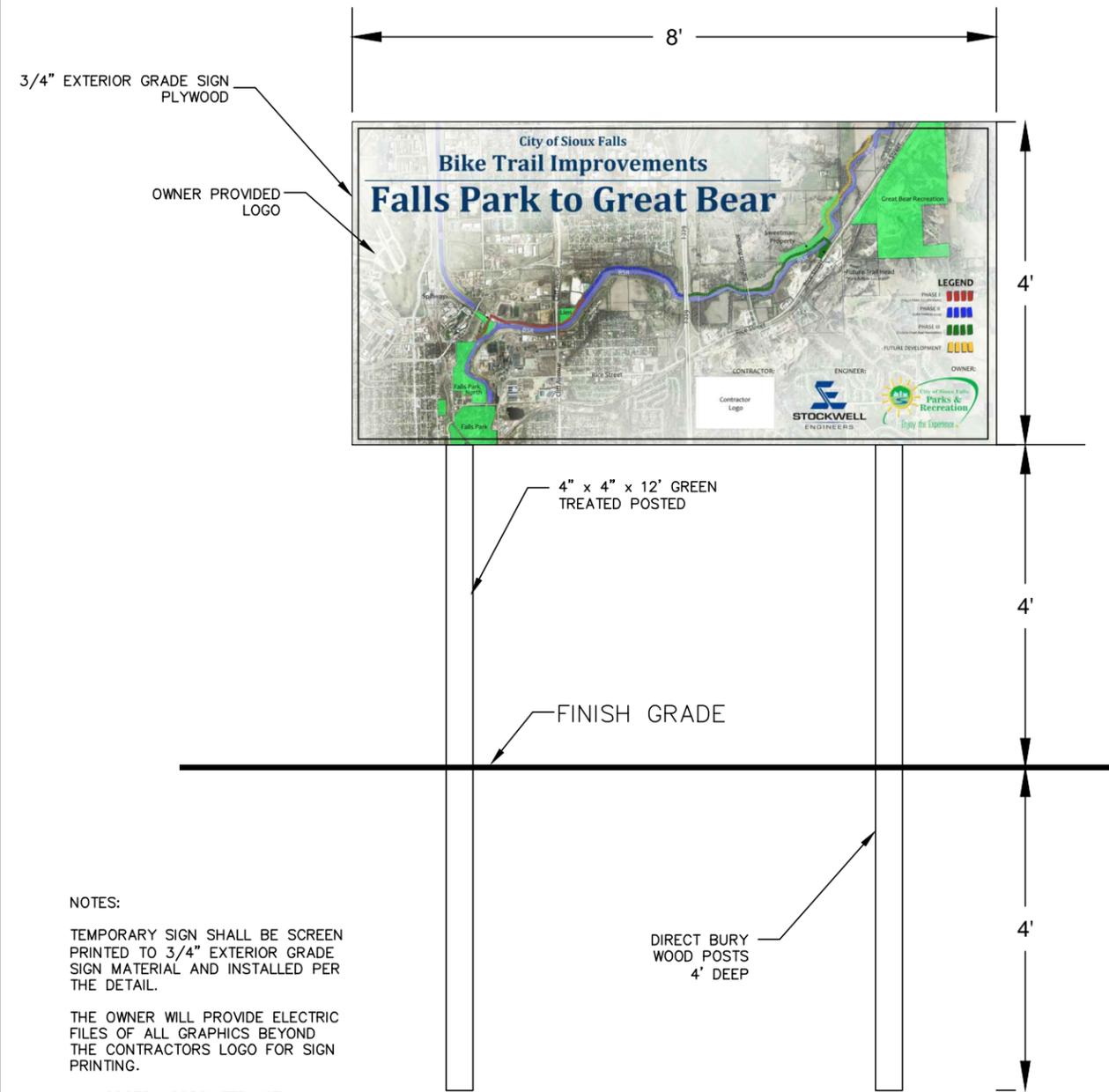
MOUNTING DETAIL

NOT TO SCALE



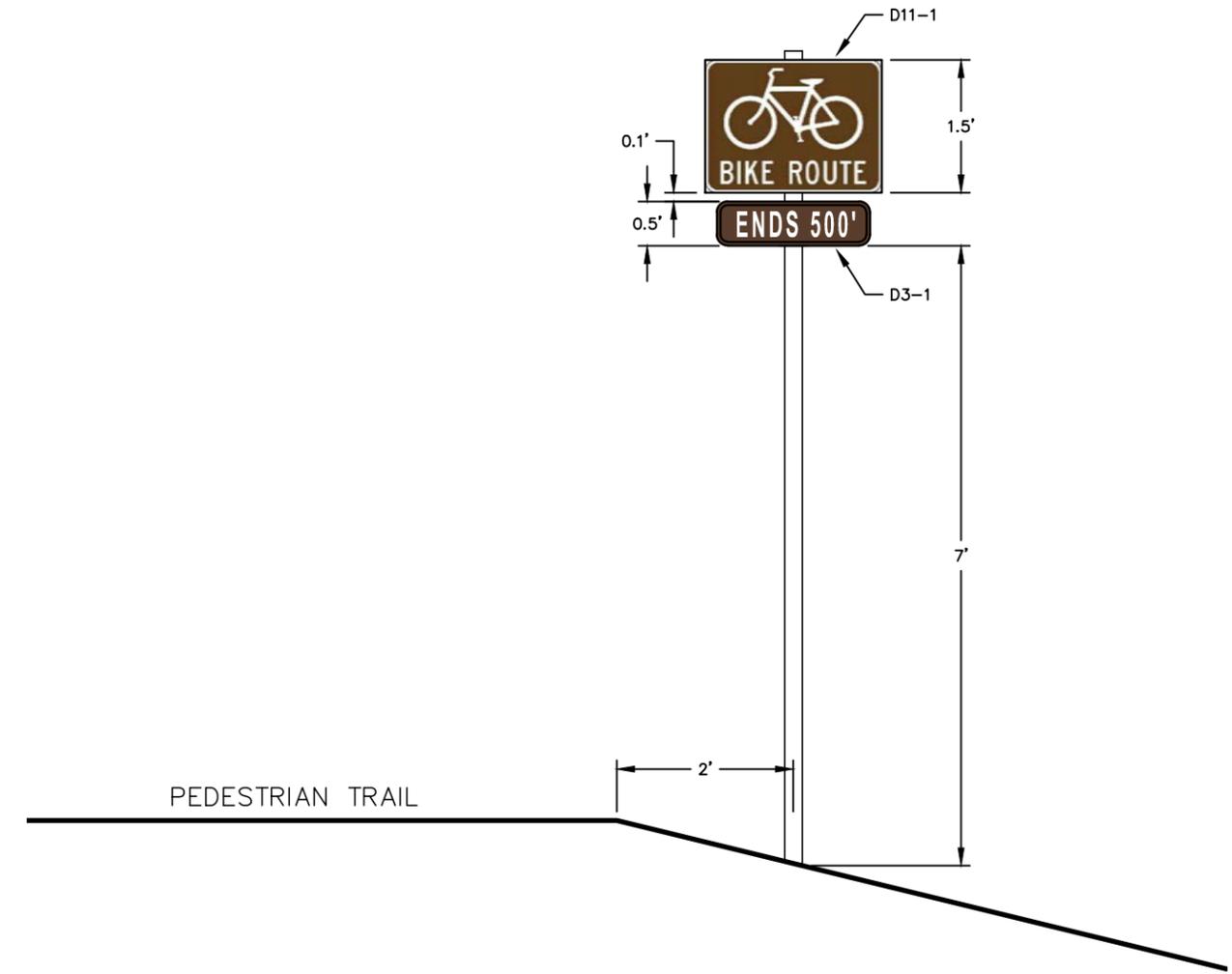
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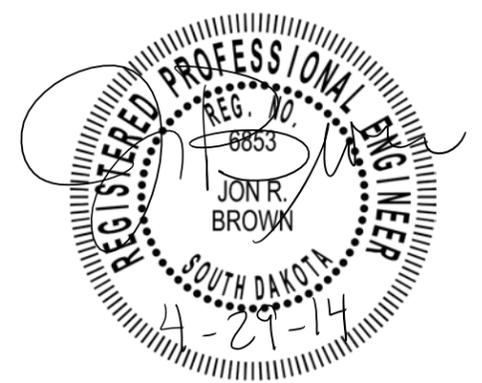


NOTES:
 TEMPORARY SIGN SHALL BE SCREEN PRINTED TO 3/4" EXTERIOR GRADE SIGN MATERIAL AND INSTALLED PER THE DETAIL.
 THE OWNER WILL PROVIDE ELECTRIC FILES OF ALL GRAPHICS BEYOND THE CONTRACTORS LOGO FOR SIGN PRINTING.
 ALL COSTS ASSOCIATED WITH INSTALLATION INCLUDING: SIGN MATERIAL, POSTS, MOUNTING HARDWARE, LABOR AND PRINTING SHALL BE INCIDENTAL TO THE BID ITEM PER SQUARE FOOT OF "TEMPORARY SIGNING".

CONSTRUCTION SIGN DETAIL
 SCALE: 1" = 2'-0"

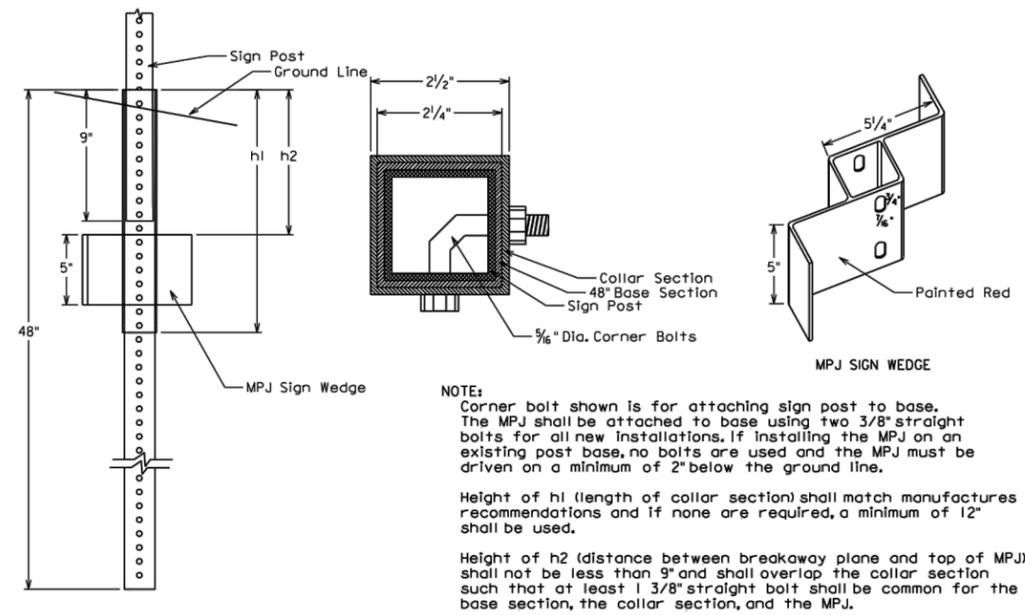


TRAIL SIGN DETAIL
 NO SCALE



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SIGN BASE DETAILS FOR A 2" SIGN POST

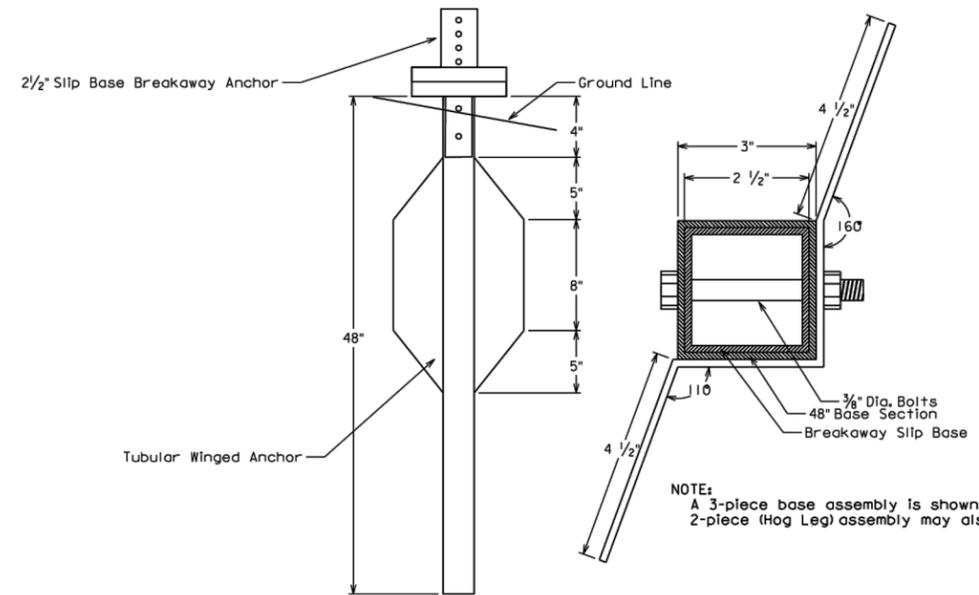


NOTE:
 Corner bolt shown is for attaching sign post to base. The MPJ shall be attached to base using two 3/8" straight bolts for all new installations. If installing the MPJ on an existing post base, no bolts are used and the MPJ must be driven on a minimum of 2" below the ground line.

Height of h1 (length of collar section) shall match manufacturer's recommendations and if none are required, a minimum of 12" shall be used.

Height of h2 (distance between breakaway plane and top of MPJ) shall not be less than 9" and shall overlap the collar section such that at least 1 3/8" straight bolt shall be common for the base section, the collar section, and the MPJ.

SIGN BASE DETAILS FOR A 2 1/2" SIGN POST



NOTE:
 A 3-piece base assembly is shown, however, a 2-piece (Hog Leg) assembly may also be used.

July 16, 2013

S D D O T	TUBULAR POST BASE DETAILS (Typical Soil Installation)	SPECIAL DETAIL L21
		Sheet 1 of 1