

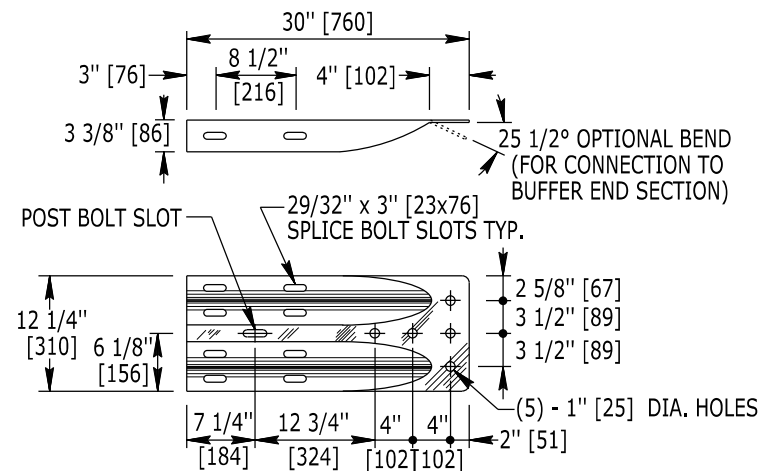
CORRUGATED BEAM FABRICATION STANDARD SHEETS

INDEX OF SHEETS

1. MGS Rail End Sections and Hole Details
2. Standard Rail Elements
3. Transition Rail Elements
4. Special MSKT, FLEAT, and SOFTSTOP Rail Elements
5. Post Details
6. Blockouts and Reflective Tab
7. Transition A & B SBR Connectors
8. Transition A & B Lower Angle Assembly
9. Transition A Upper Angle Assembly
10. Transition B Upper Angle Assembly
11. Transition C Connector Plate
12. Transition C Connector Plate (Con't.)
13. Transition D Connector Plate
14. Transition D Connector Plate (Con't.)
15. Transition F Connector Plate

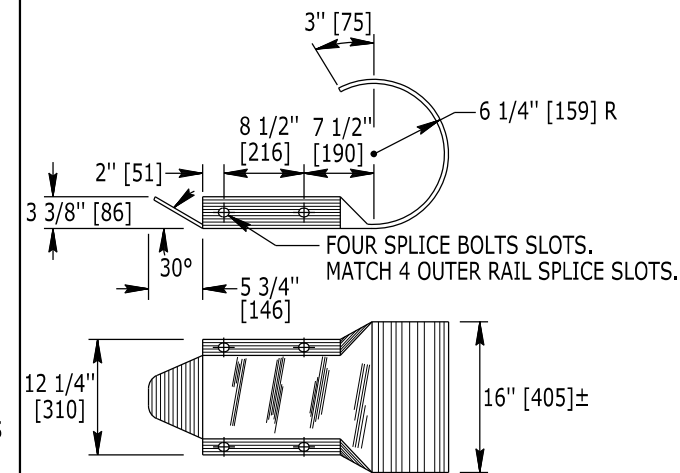
GENERAL NOTES:

1. All welding must be performed by certified welders using industry standard practices.
2. Galvanize after fabrication is complete.



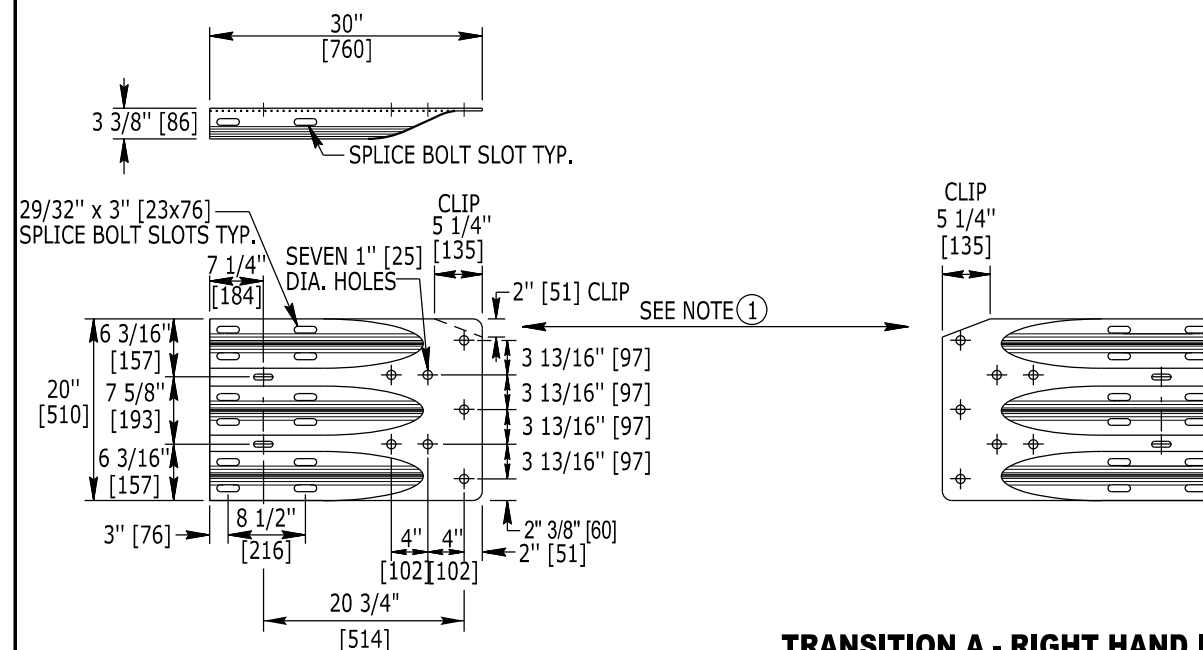
W-BEAM CONNECTOR (END SHOE)

10 Gauge [3.5 Thick]



ROUNDED END SECTION

10 Gauge [3.5 Thick]



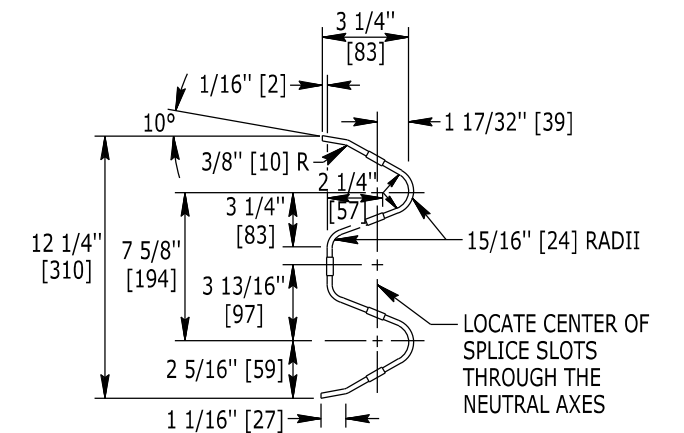
STANDARD THRIE BEAM END SHOE

**TRANSITION A - RIGHT HAND INSTALLATION
END SHOE CLIP DETAIL**

THRIE BEAM CONNECTOR (END SHOE)

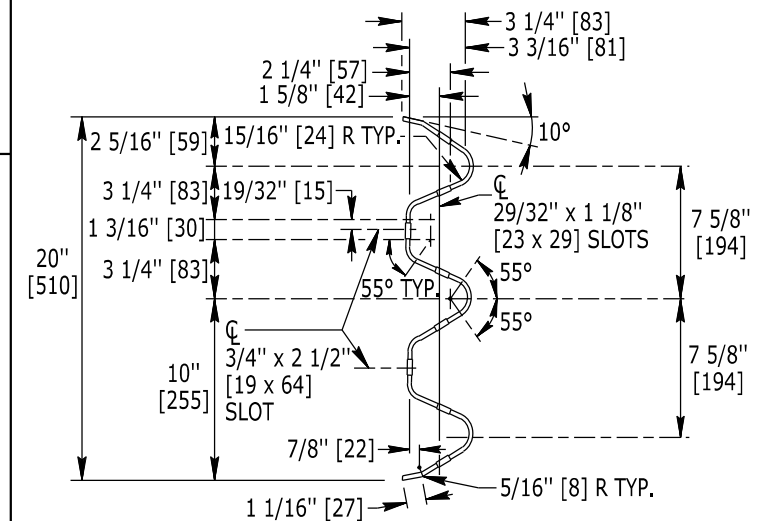
10 Gauge [3.5 Thick]

NOTE: ① For Transition A Only, clip corners as shown for either a left hand, or a right hand installation, as applicable.



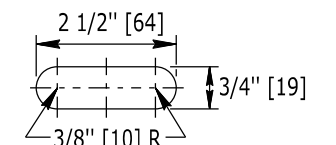
W-BEAM SECTION VIEW

12-Gauge [2.8 Thick] unless otherwise specified.

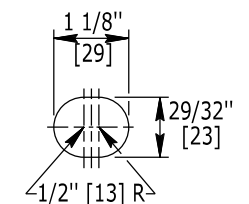


THRIE-BEAM SECTION VIEW

12-Gauge [2.8 Thick] unless otherwise specified.



TYPICAL POST BOLT SLOT



TYPICAL SPLICE BOLT SLOT

STANDARD CORRUGATED BEAM DETAILS

Designed by: WBW
Drawn by: GLD
Checked by: WBW
Previous Dwg. No. 606-3A

MGS RAIL END SECTIONS AND HOLE DETAILS

Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.



MGS FABRICATION STANDARDS

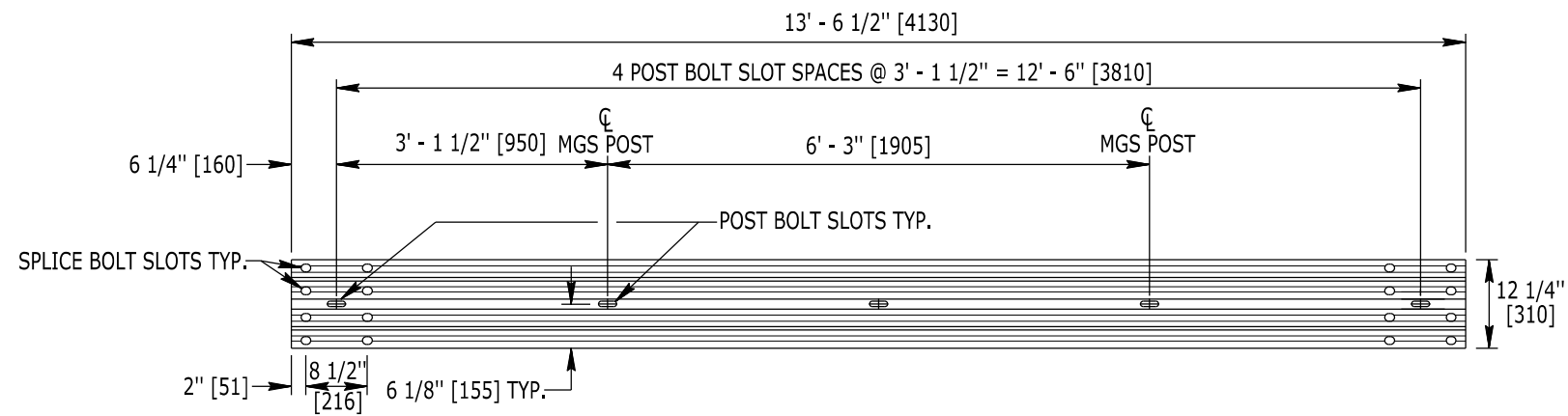
STANDARD PLAN

STANDARD PLAN NUMBER

606-3B

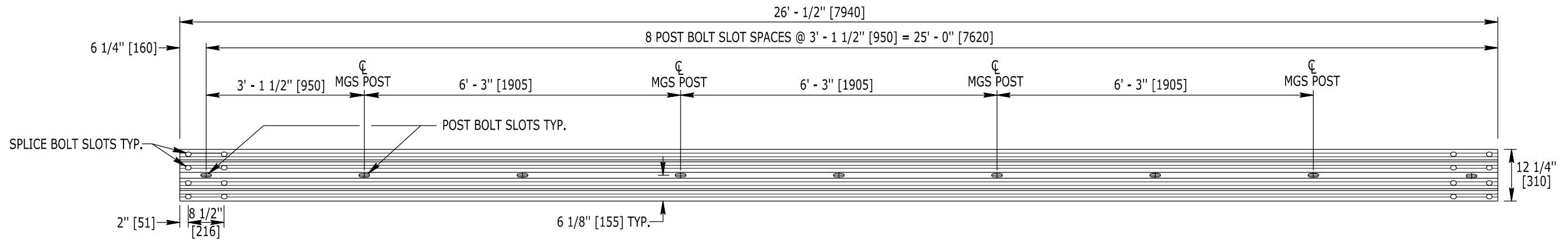
SHEET 1 of 15

Issued by: ENGINEERING SERVICES
Date Issued: SEPTEMBER 2023



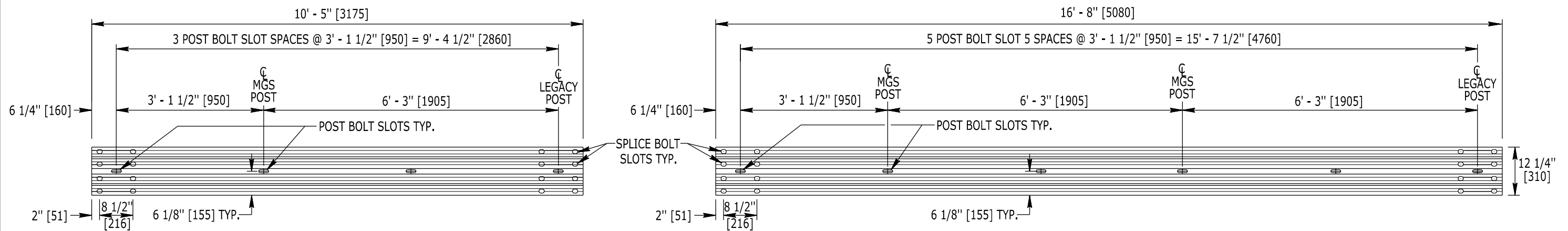
STANDARD MGS TWO POST BAY 12' - 6" [3810] W-BEAM RAIL

12 Gauge [2.8 Thick]



STANDARD MGS FOUR POST BAY 25' - 0" [7620] W-BEAM RAIL

12 Gauge [2.8 Thick]



MGS TO LEGACY RAIL 9'-4 1/2" [2860] (1 1/2 STD. SPACE)

12 Gauge [2.8 Thick]

MGS TO LEGACY RAIL 15' - 7 1/2" [4760] (2 1/2 STD. SPACE)

12 Gauge [2.8 Thick]

Designed by: WBW
 Drawn by: GLD
 Checked by: WBW
 Previous Dwg. No. 606-3A

STANDARD RAIL ELEMENTS

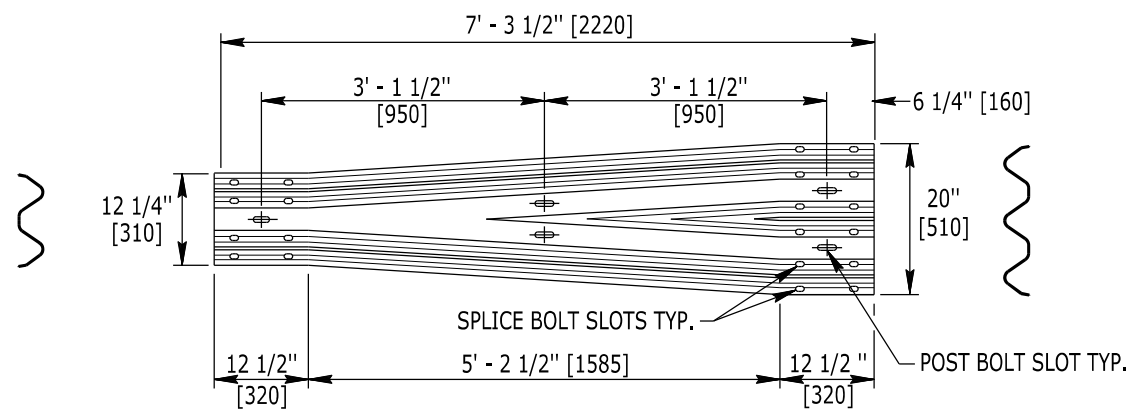


MGS FABRICATION STANDARDS

STANDARD PLAN NUMBER
606-3B
 SHEET 2 of 15
 Issued by: ENGINEERING SERVICES
 Date Issued: SEPTEMBER 2023

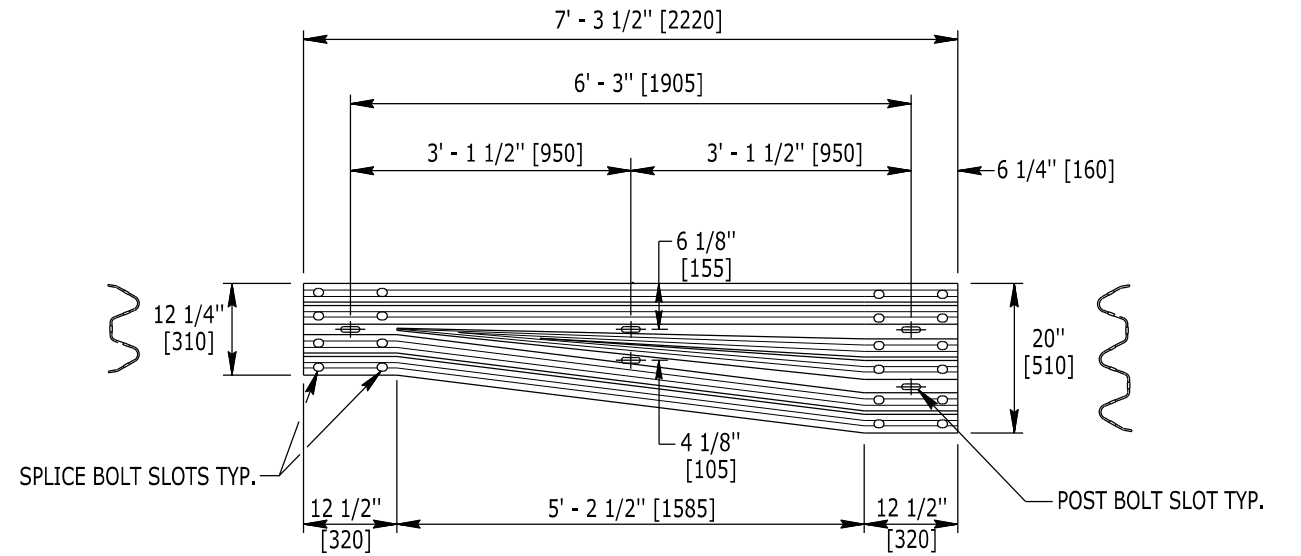
Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.

STANDARD PLAN



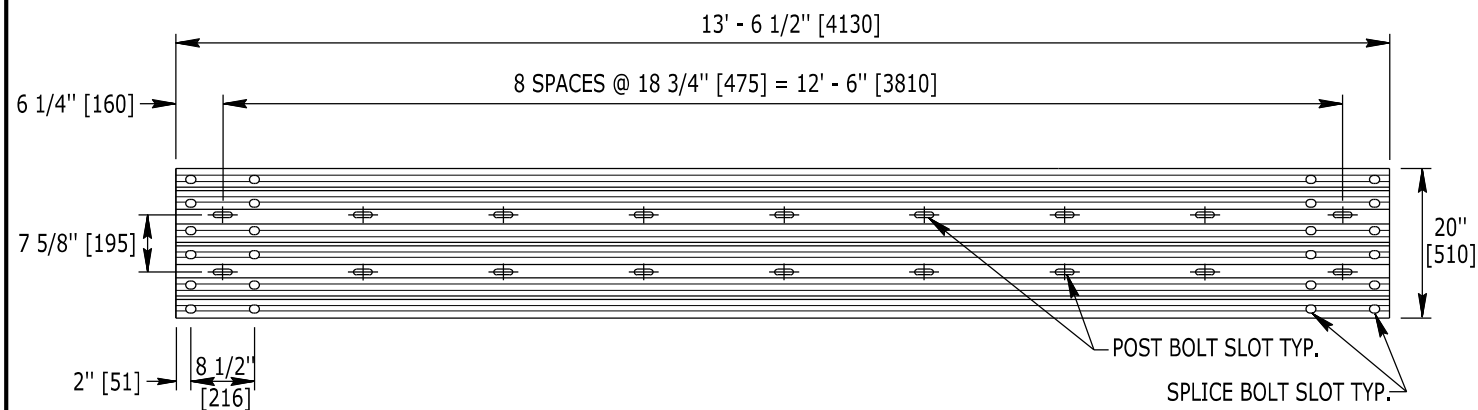
SYMMETRICAL TRANSITION RAIL

12 - Gauge [2.8] Thick



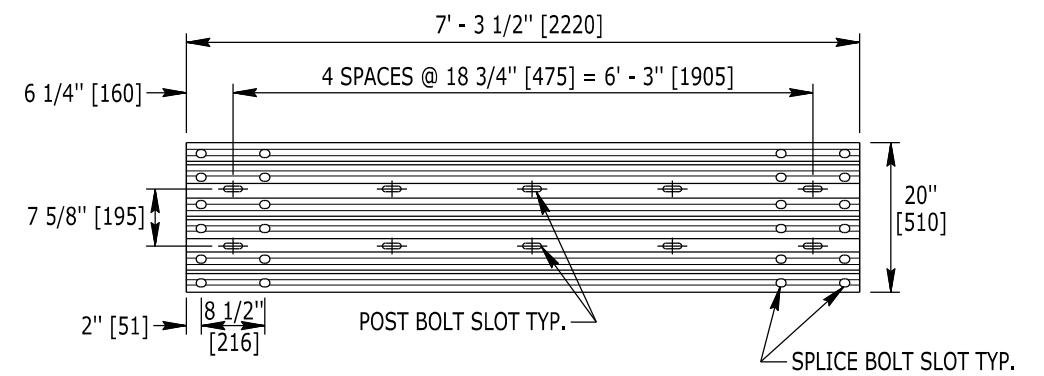
MGS ASYMMETRICAL TRANSITION RAIL

10 - Gauge [3.5] Thick



THRIE-BEAM TRANSITION RAIL

12 - Gauge [2.8] Thick



THRIE BEAM MGS SHORT TRANSITION RAIL

12 - Gauge [2.8] Thick

Designed by: WBW
 Drawn by: GLD
 Checked by: WBW
 Previous Dwg. No. 606-3A

TRANSITION RAIL ELEMENTS

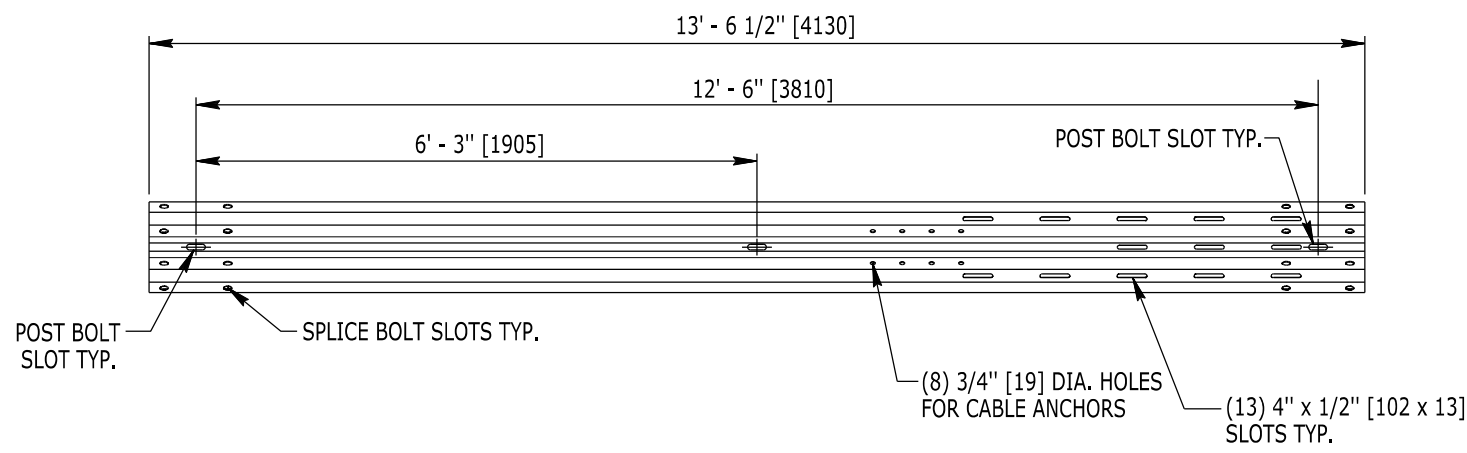
Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.



MGS FABRICATION STANDARDS

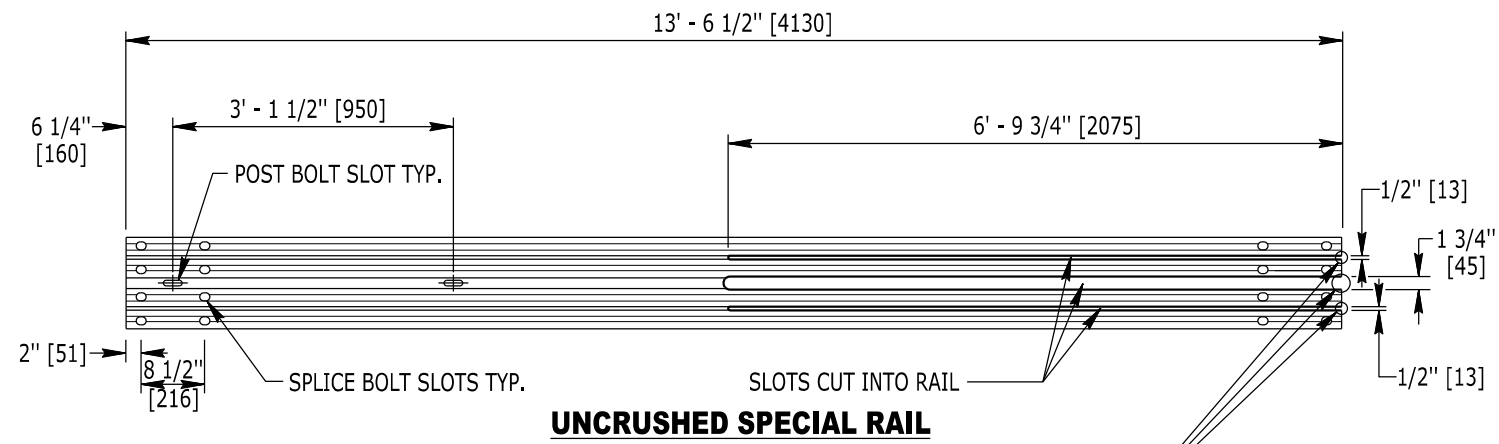
STANDARD PLAN

STANDARD PLAN NUMBER
606-3B
 SHEET 3 of 15
 Issued by: ENGINEERING SERVICES
 Date Issued: SEPTEMBER 2023



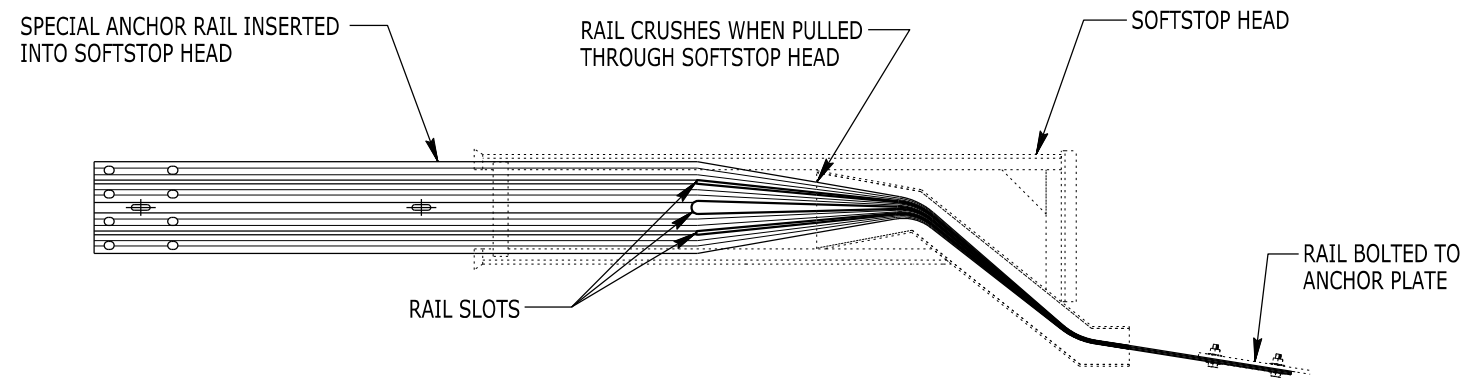
FLEAT AND MSKT RAIL ELEMENT (12' - 6\" [3810])

This rail element is the first rail element in the FLEAT and MSKT Terminals (POSTS 1 - 3). Details shown above are approximate. The special MSKT/FLEAT MGS Terminal rail element shown herein is proprietary and can only be manufactured and sold by Road Systems Inc. or its duly authorized representative.



UNCRUSHED SPECIAL RAIL

REMOVE SHIPPING TABS IF PRESENT AND INSTALL RAIL INTO HEAD IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS (UNLESS SHIPPED WITH RAIL ALREADY CRUSHED).



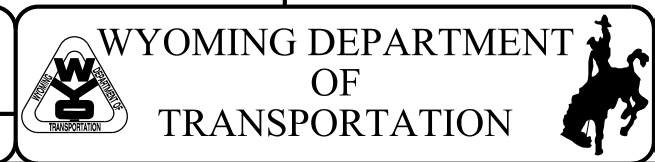
SPECIAL SOFTSTOP ANCHOR RAIL ELEMENT (13' - 6 5/8\" [4130])

This rail element is the first rail element in the SoftStop Terminal, it also acts as an anchor to hold the system in tension. Details shown above are approximate. The special SoftStop Terminal rail element shown herein is proprietary and can only be manufactured and sold by Trinity Highway Products, LLC. or its duly authorized representative.

Designed by: WBW
 Drawn by: GLD
 Checked by: WBW
 Previous Dwg. No. 606-3A

SPECIAL MGS MSKT, FLEAT, AND SOFTSTOP RAIL ELEMENTS

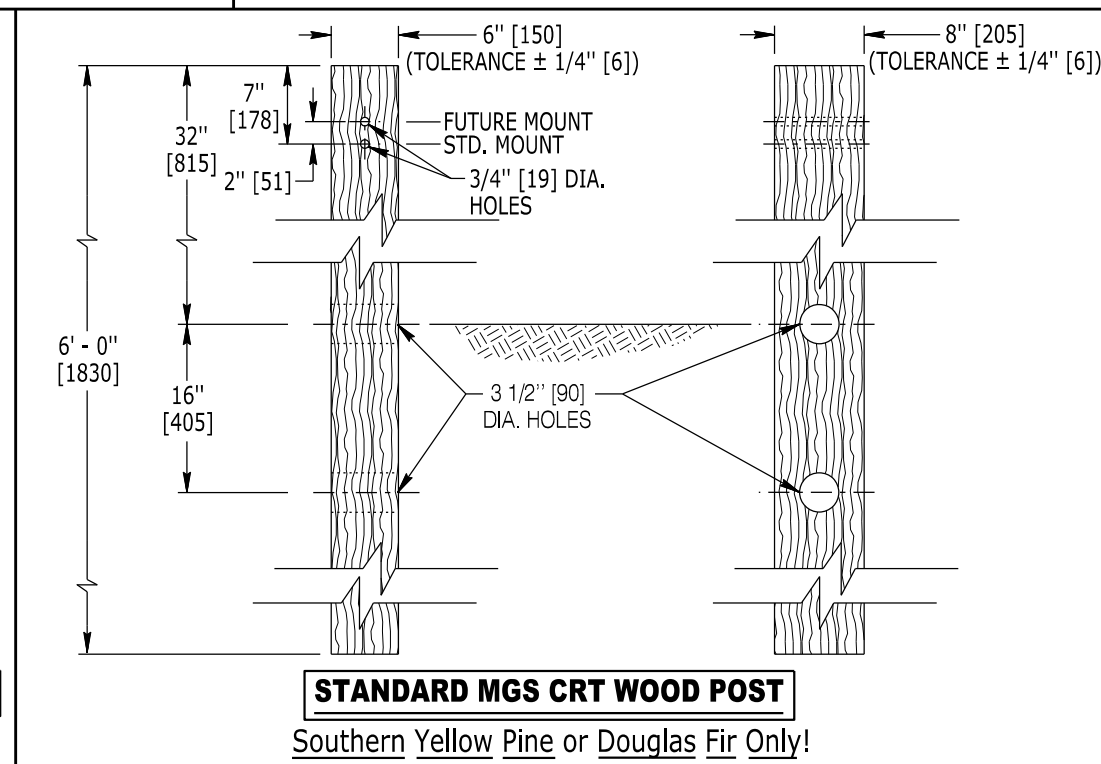
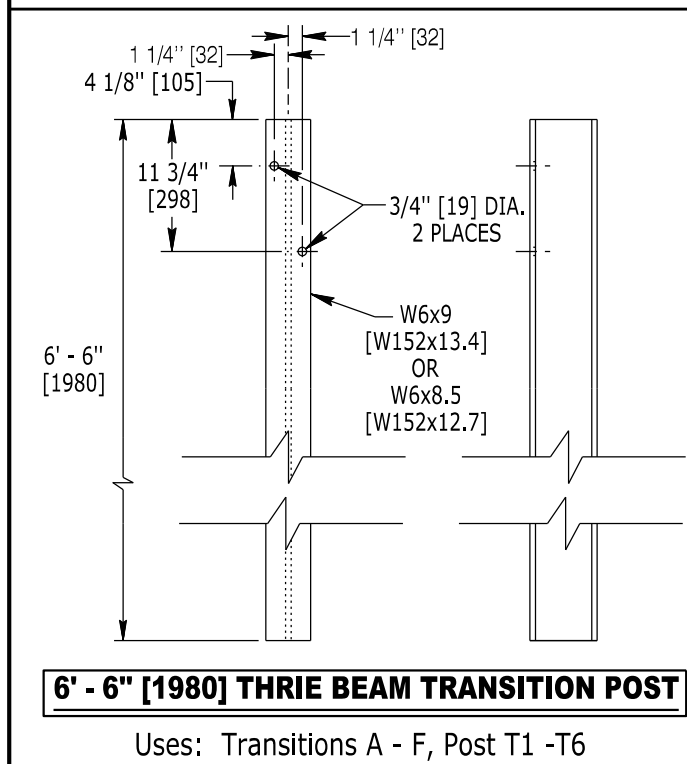
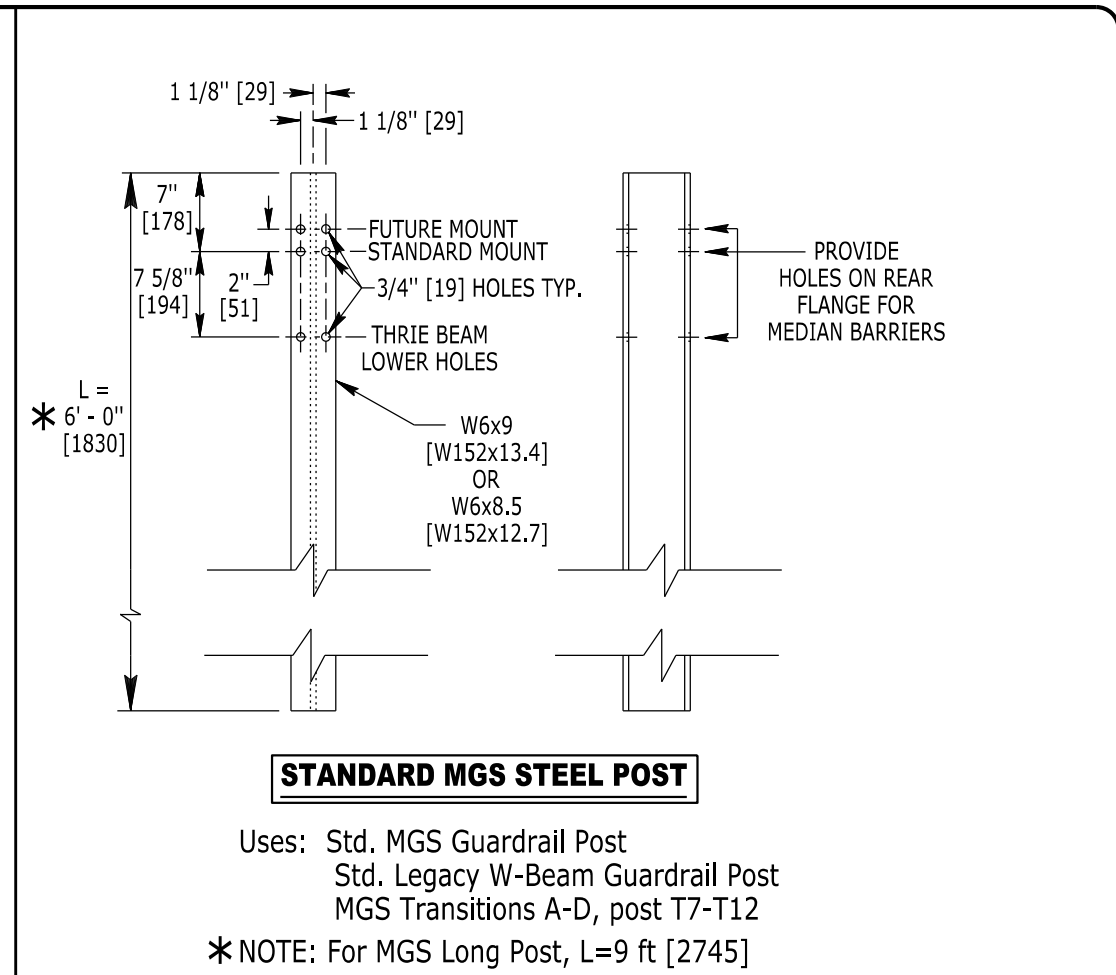
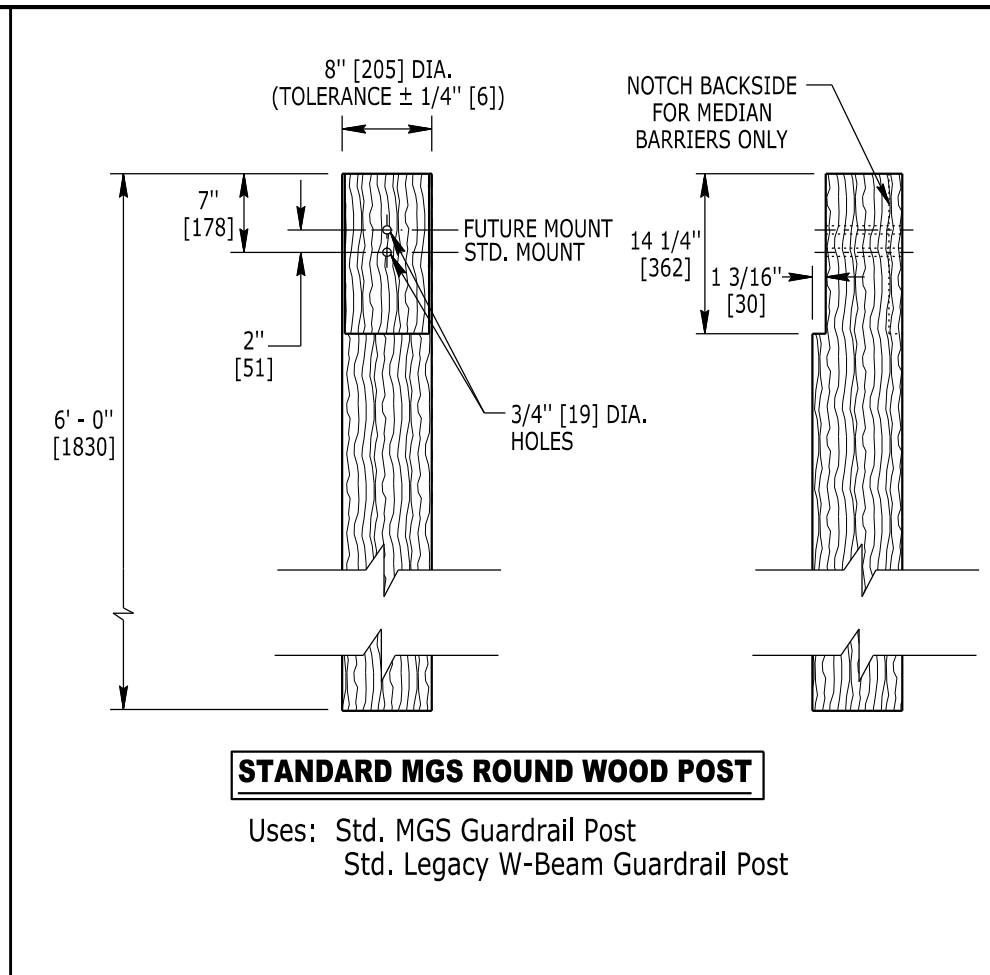
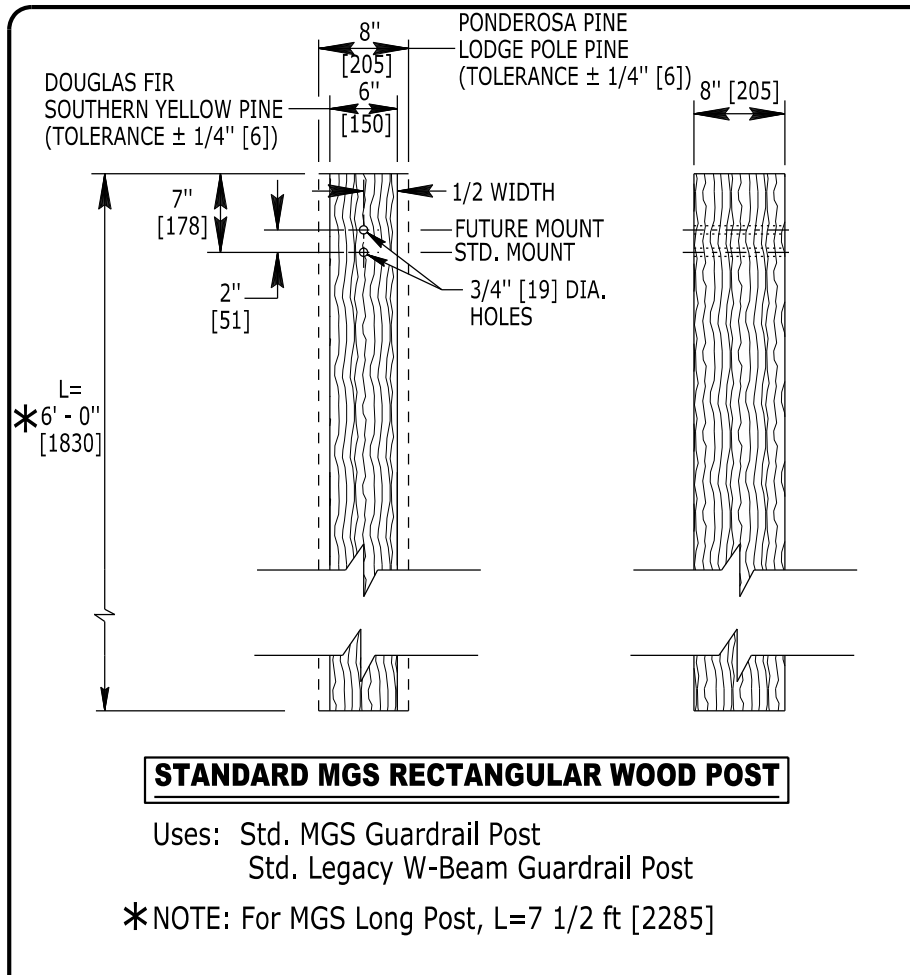
Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.



MGS FABRICATION STANDARDS

STANDARD PLAN

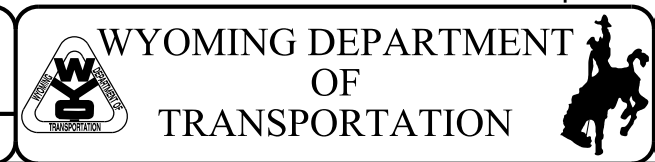
STANDARD PLAN NUMBER
606-3B
 SHEET 4 of 15
 Issued by: ENGINEERING SERVICES
 Date Issued: SEPTEMBER 2023



Designed by: WBW
Drawn by: GLD
Checked by: WBW
Previous Dwg. No. 606-3A

POST DETAILS

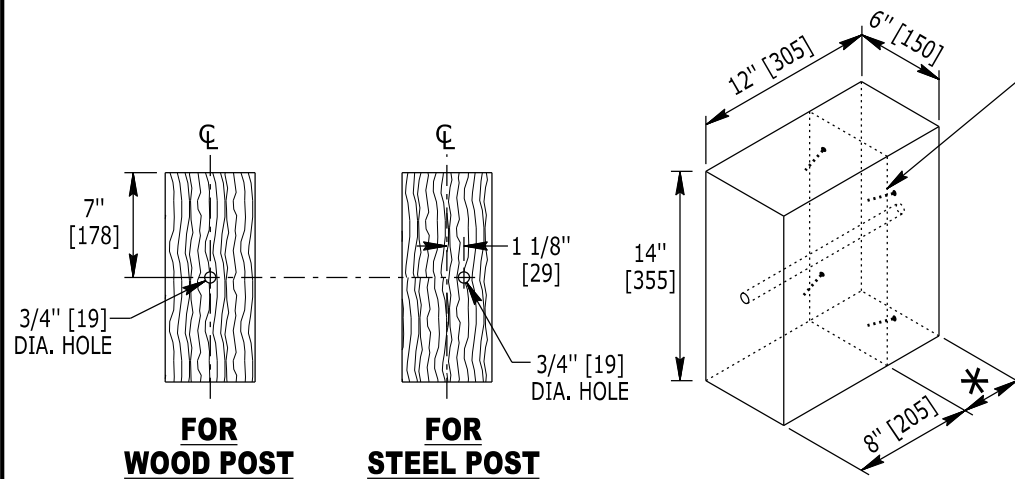
Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.



MGS FABRICATION STANDARDS

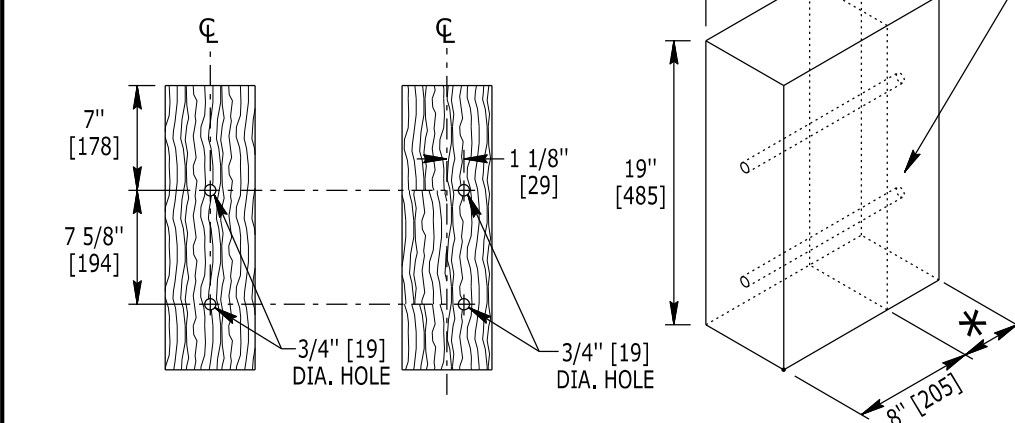
STANDARD PLAN

STANDARD PLAN NUMBER
606-3B
SHEET 5 of 15
Issued by: ENGINEERING SERVICES
Date Issued: SEPTEMBER 2023



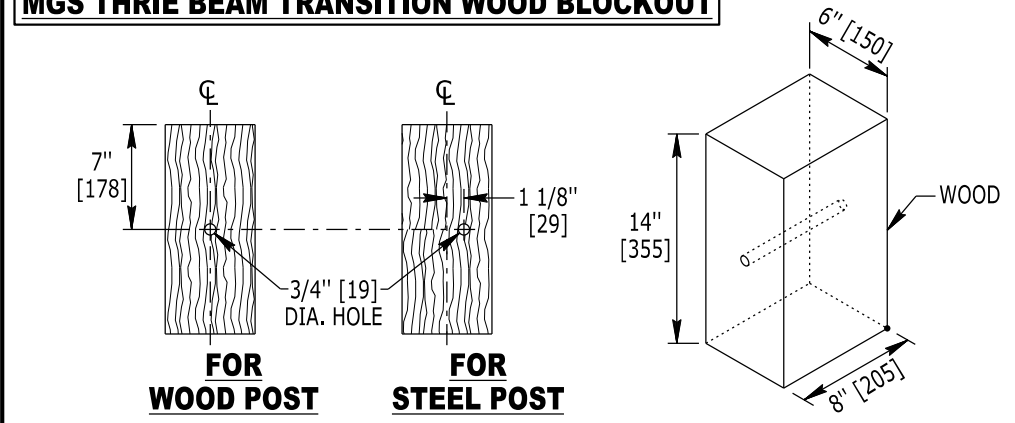
STANDARD MGS WOOD BLOCKOUT

* The standard MGS blockout can be formed with one single piece of wood, or using a standard wood 6" x 8" x 14" [150 x 205 x 355] blockout and an additional blockout 6" x __ x 14" [150 x __ x 355] of sufficient depth to form a 2-piece wood blockout 12" [305] deep. If a 2-piece wood blockout is provided, toe nail the first block to the second block with four 20d [105 long] nails to prevent rotation. Toe nail blockouts to the post in a similar fashion. Tolerance ±1/4" [6] for the depth dimension.



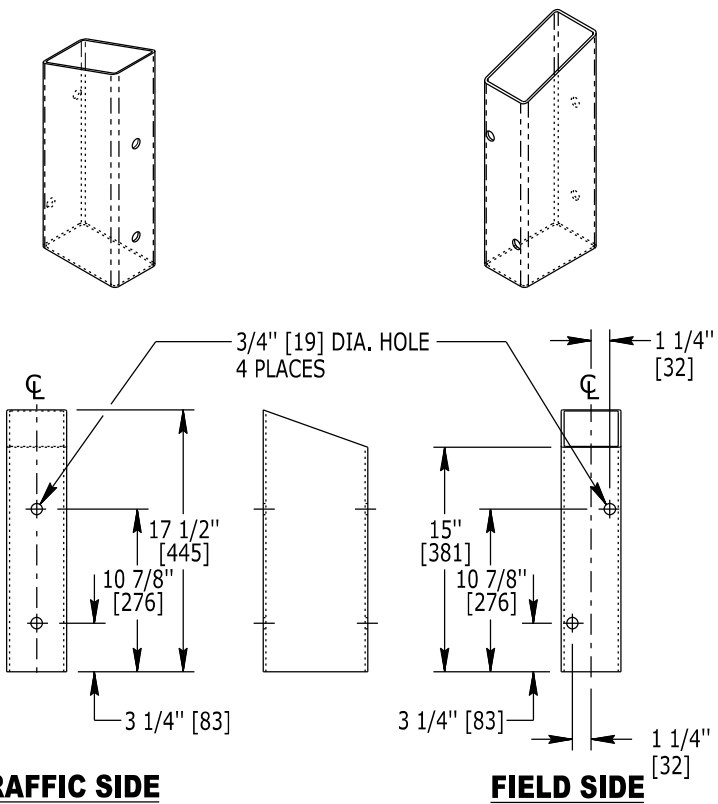
MGS THRIE BEAM TRANSITION WOOD BLOCKOUT

* The standard MGS Thrie-Beam blockout can be formed with one single piece of wood, or using a standard wood 6" x 8" x 19" [150 x 205 x 485] blockout and an additional blockout 6" x __ x 19" [150 x __ x 485] of sufficient depth to form a 2-piece blockout 12" [305] deep. Tolerance ±1/4" [6] for the depth dimension.



SPECIAL 8" [205] MGS WOOD BLOCKOUT

USE ONLY WHEN SPECIFIED IN THE CONTRACT

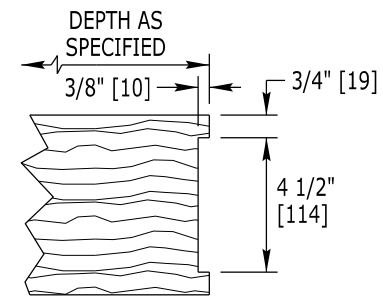


MGS THRIE BEAM STEEL BLOCKOUT

HSS7"x4"x3/16" [178x102x5]
ASTM A500 GRADE B
USE FOR POSTS T1 - T6

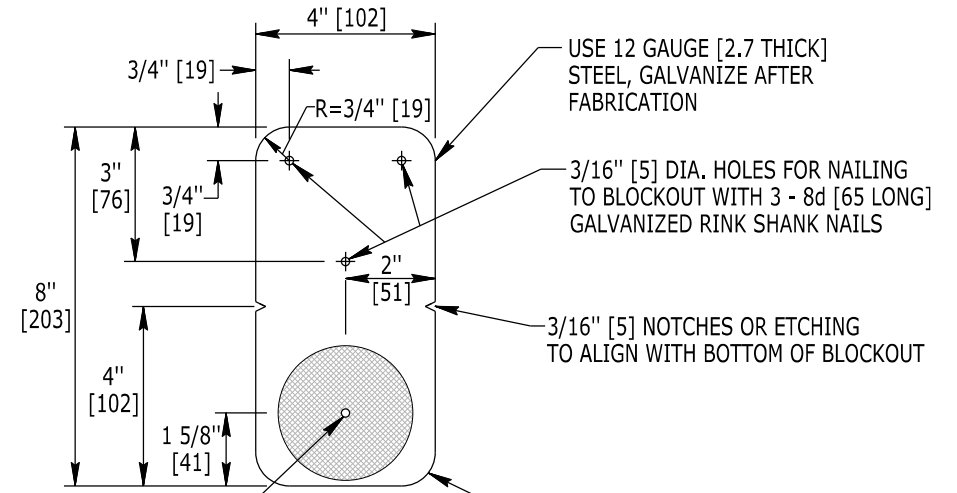
PLASTIC COMPOSITE BLOCKOUTS

One piece plastic composite blocks which have been crash tested to MASH, have FHWA Eligibility or Acceptance Letters **and are of the same overall dimensions shown herein**, may be substituted for **wood blocks with steel posts only**. Provide routing in blocks to prevent rotation on post. Attach reflective tabs to composite blockouts by pre-drilling blockouts and using three #8 Screws 1 1/4" [32] long.



ROUTING DETAIL FOR BLOCKOUTS

Routed wood blockouts may be provided for steel posts in lieu of toe nailing flat face blockouts to post.



3/16" [5] DIA. HOLE, ATTACH 3" [76] DIA. REFLECTIVE BUTTON WITH 3/16" DIA. X 1/2" [5 DIA. X 13] ALUMINUM BLIND RIVET WITH STEEL MANDREL

REFLECTIVE BUTTON COLOR:
CRYSTAL (WHITE) FOR OUTSIDE SHOULDERS
AMBER (YELLOW) FOR MEDIANS
(MATCH ROADWAY EDGELINE STRIPE COLOR)

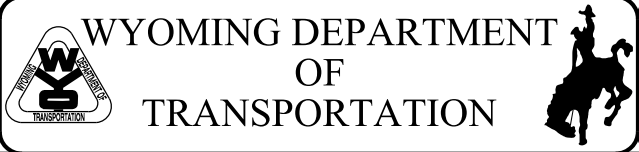
REFLECTIVE TAB

Attach to blockout every 25 ft [7.6 m] of guardrail.

Designed by: WBW
Drawn by: GLD
Checked by: WBW
Previous Dwg. No. 606-3A

BLOCKOUTS AND REFLECTIVE TAB

Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.

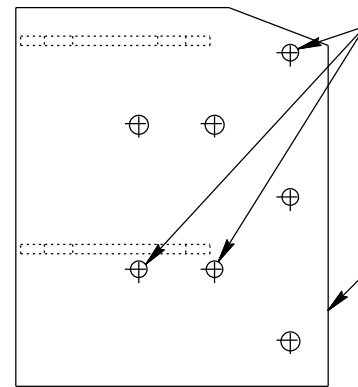
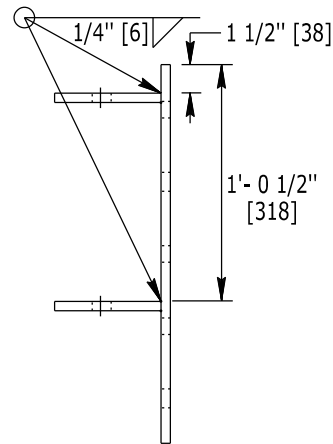
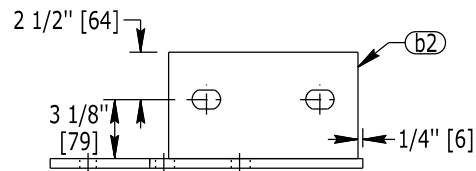
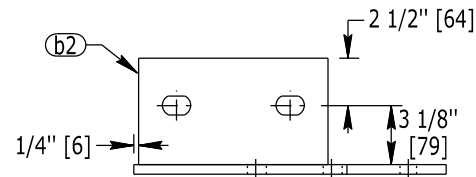


MGS FABRICATION STANDARDS

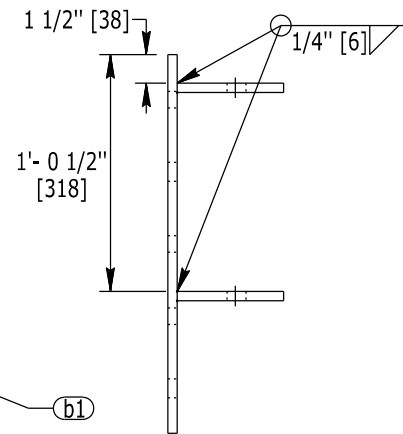
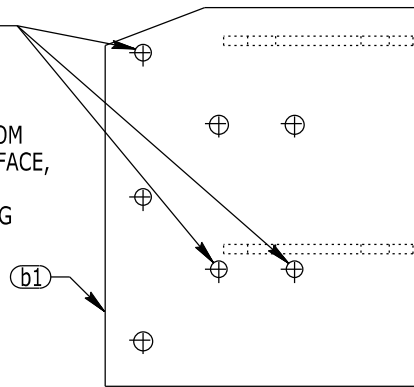
STANDARD PLAN

STANDARD PLAN NUMBER
606-3B
SHEET 6 of 15
Issued by: ENGINEERING SERVICES
Date Issued: SEPTEMBER 2023

ITEM	QTY	DESCRIPTION	MATERIAL
AL/AT	1	THRIE-BEAM END SHOE	10 GAGE
BL/BR	1	MOUNTING PLATE	
b1	1	FACE PLATE	1/2" [13] A36 PLATE
b2	2	BACK PLATE	1/2" [13] A36 PLATE



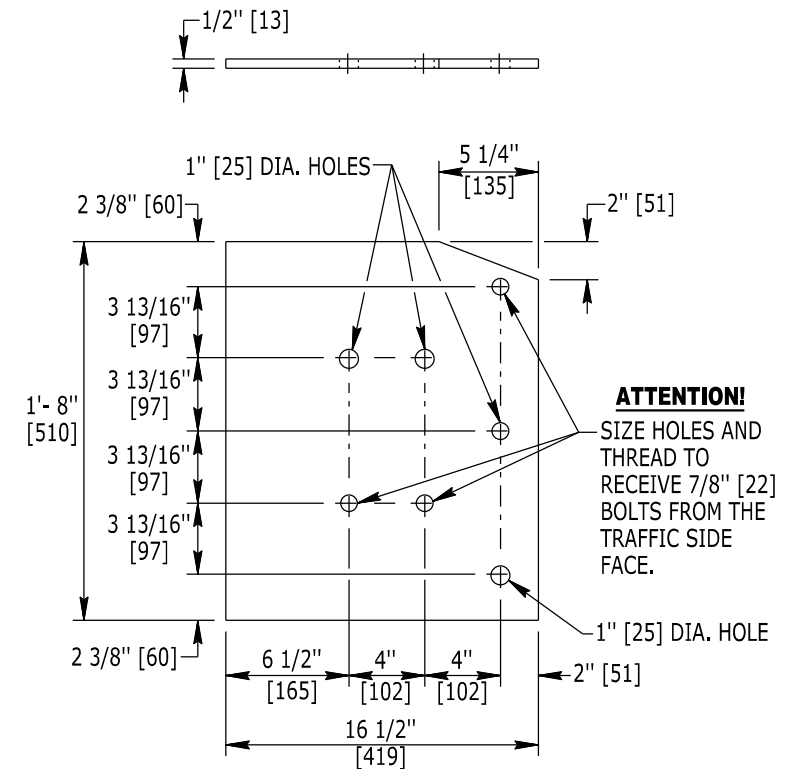
THESE THREE LOCATIONS ONLY, ENSURE HOLES ARE THREADED TO RECEIVE BOLTS FROM THE TRAFFIC SIDE FACE, BRUSH THREADS AFTER GALVANIZING AND GREASE



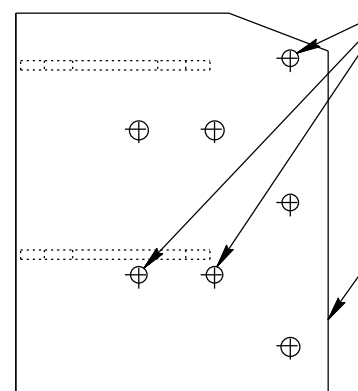
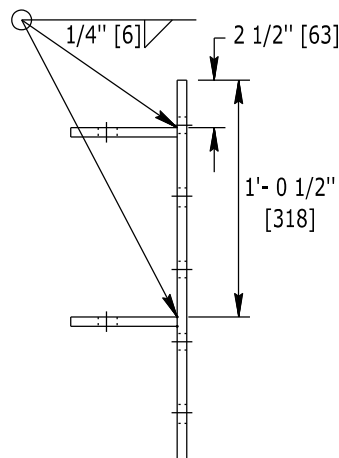
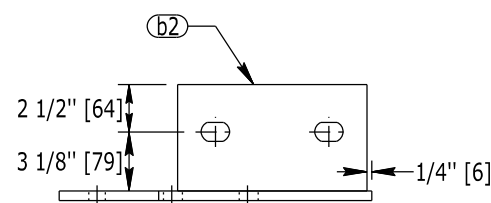
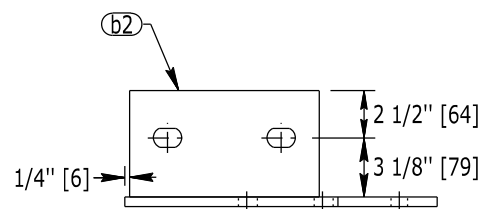
BL - TL-3 SBR CONNECTOR (LEFT HAND RAIL) BACKSIDE

TL-3

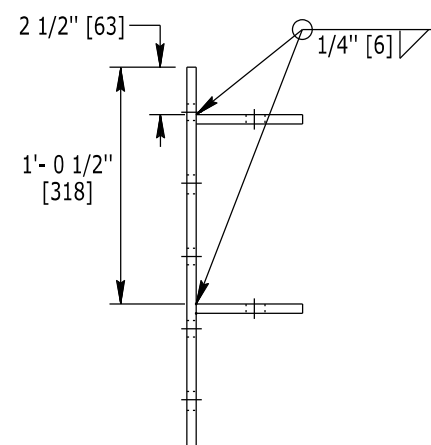
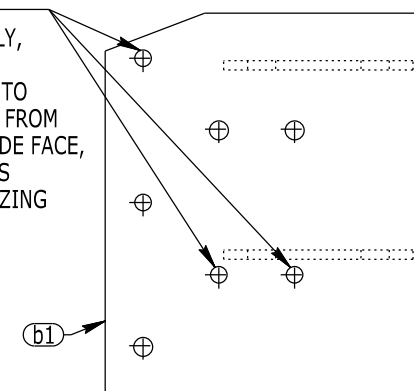
BR - TL-3 SBR CONNECTOR (RIGHT HAND RAIL) BACKSIDE



b1 - FACE PLATE



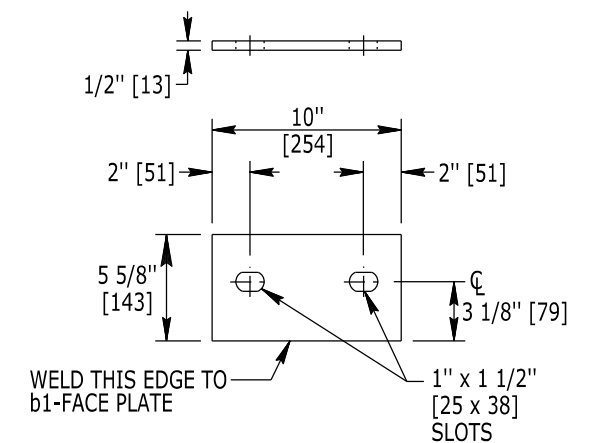
THESE THREE LOCATIONS ONLY, ENSURE HOLES ARE THREADED TO RECEIVE BOLTS FROM THE TRAFFIC SIDE FACE, BRUSH THREADS AFTER GALVANIZING AND GREASE



BL - TL-4 CONNECTOR (LEFT HAND RAIL) BACKSIDE

TL-4

BR - TL-4 SBR CONNECTOR (RIGHT HAND RAIL) BACKSIDE



b2 - BACK PLATE

Designed by: WBW
 Drawn by: GLD
 Checked by: WBW
 Previous Dwg. No. 606-3A

TRANSITION A & B SBR CONNECTORS

Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.

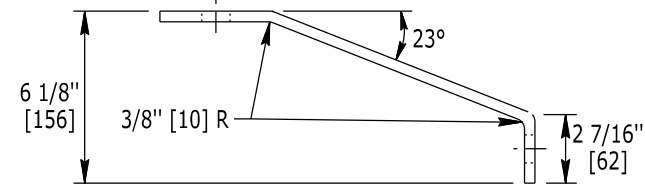


MGS FABRICATION STANDARDS

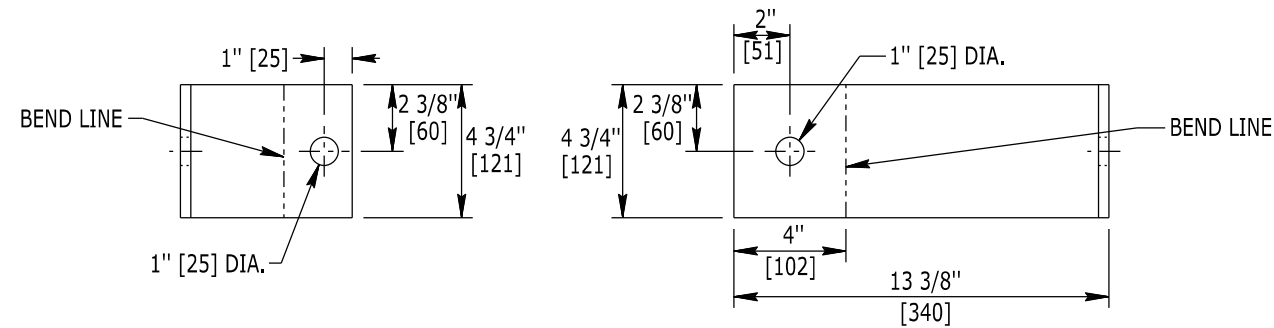
STANDARD PLAN

STANDARD PLAN NUMBER
606-3B
 SHEET 7 of 15
 Issued by: ENGINEERING SERVICES
 Date Issued: SEPTEMBER 2023

ITEM	QTY	DESCRIPTION	MATERIAL
	1	LOWER ANGLE ASSEMBLY	
c1	1	LOWER ANGLE PLATE	3/8" [10] A36 PLATE
c2	1	GUSSET	1/4" [6] A36 PLATE



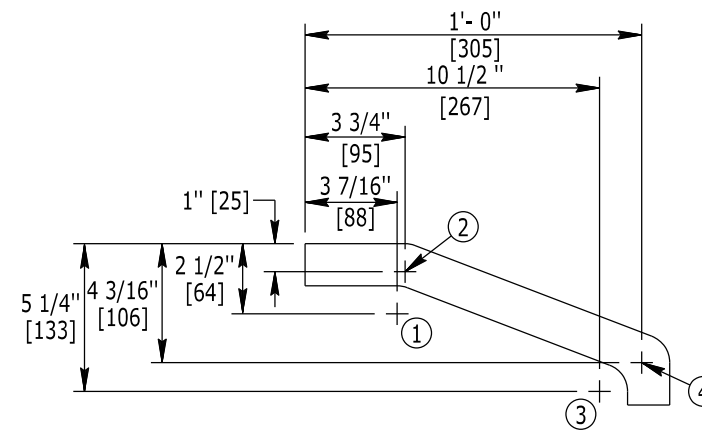
TOP VIEW



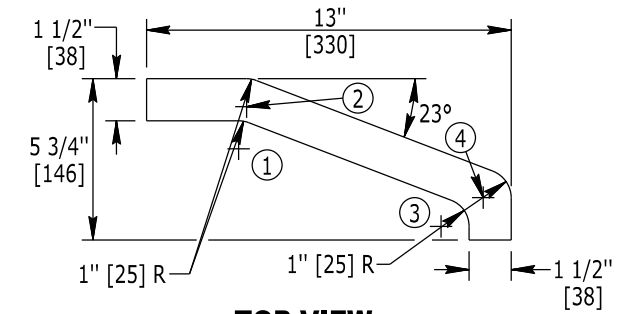
END VIEW

BACK VIEW

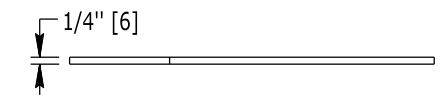
c1 - LOWER ANGLE PLATE



TOP VIEW

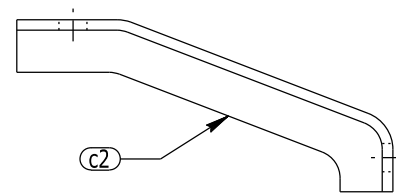


TOP VIEW

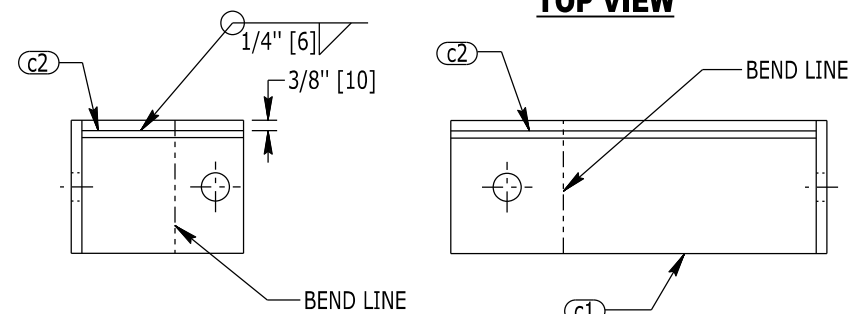


BACK VIEW

c2 - GUSSET



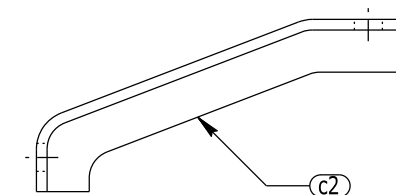
TOP VIEW



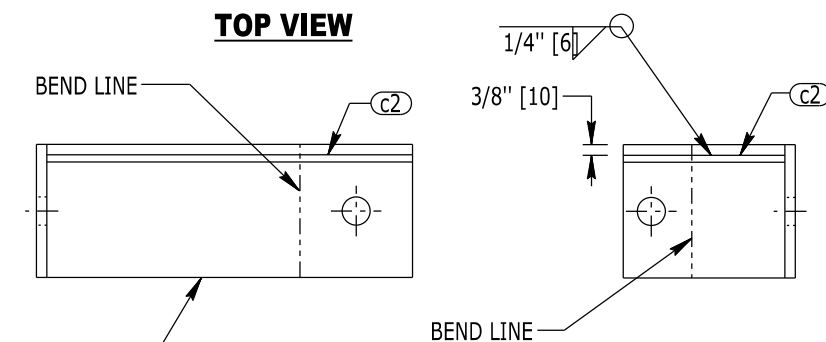
END VIEW

BACK VIEW

**LOWER ANGLE ASSEMBLY
(LEFT HAND TRANSITION)**



TOP VIEW



BACK VIEW

END VIEW

**LOWER ANGLE ASSEMBLY
(RIGHT HAND TRANSITION)**

Designed by: WBW
 Drawn by: GLD
 Checked by: WBW
 Previous Dwg. No. 606-3A

TRANSITION A & B LOWER ANGLE ASSEMBLY

Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.

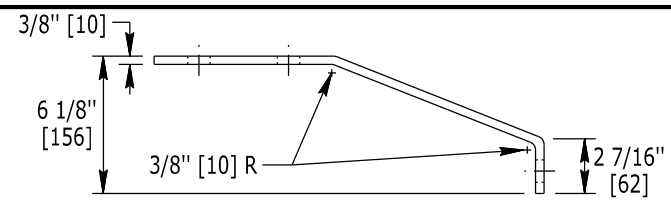


MGS FABRICATION STANDARDS

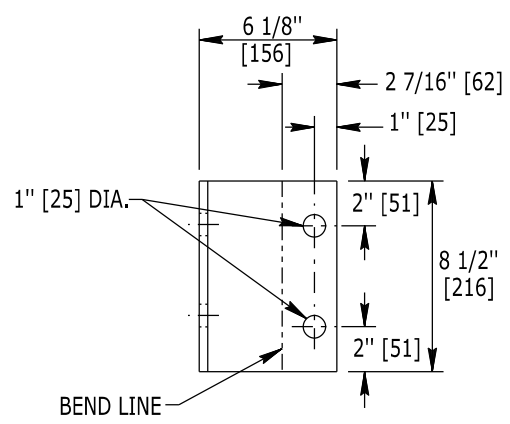
STANDARD PLAN

STANDARD PLAN NUMBER
606-3B
 SHEET 8 of 15
 Issued by: ENGINEERING SERVICES
 Date Issued: SEPTEMBER 2023

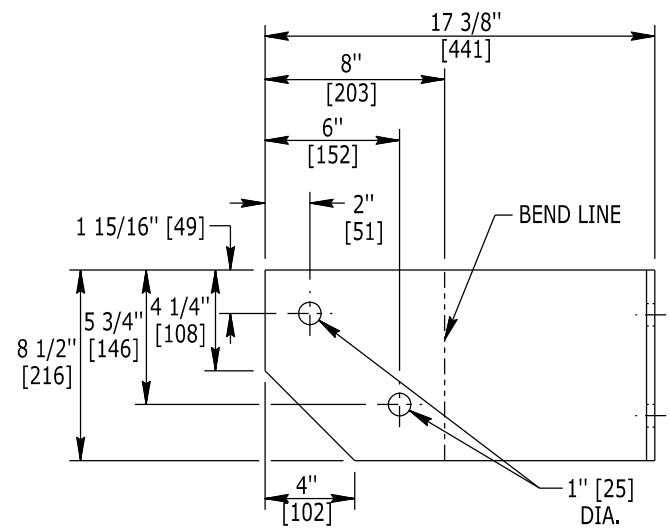
ITEM	QTY	DESCRIPTION	MATERIAL
c2	2	SEE LOWER ASSEMBLY SHEET	
	1	UPPER ANGLE ASSEMBLY	
d1L/d1R	1	UPPER ANGLE PLATE	3/8" [10] A36 PLATE



TOP VIEW

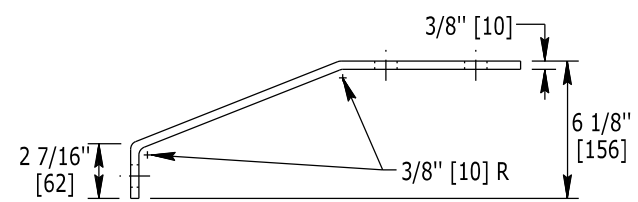


END VIEW

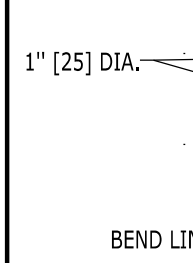


BACK VIEW

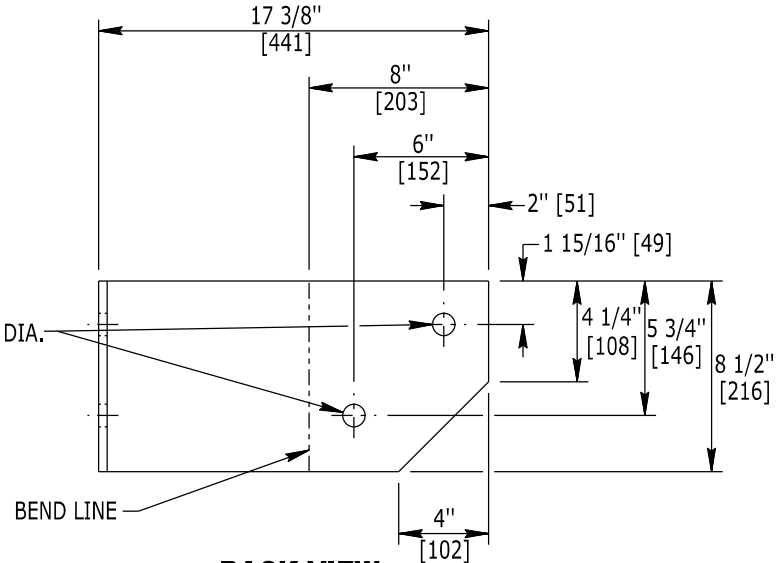
**d1L - UPPER ANGLE PLATE
(LEFT HAND TRANSITION)**



TOP VIEW

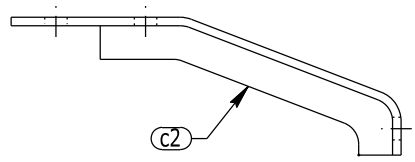


END VIEW

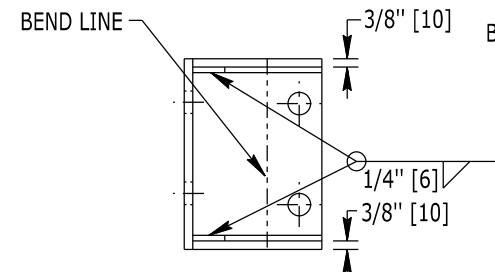


BACK VIEW

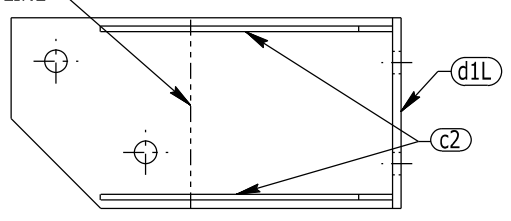
**d1R - UPPER ANGLE PLATE
(RIGHT HAND TRANSITION)**



TOP VIEW

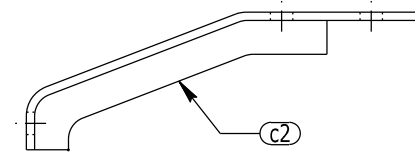


END VIEW

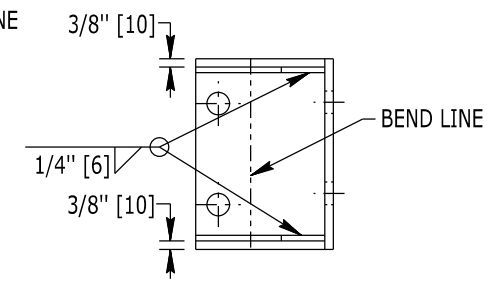


BACK VIEW

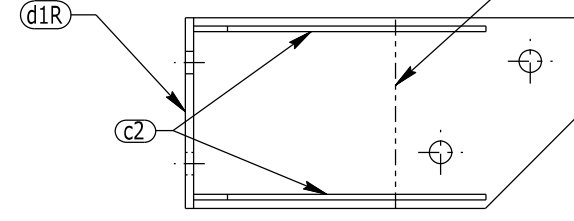
**TL-3 UPPER ANGLE ASSEMBLY
(LEFT HAND TRANSITION)**



TOP VIEW



END VIEW



BACK VIEW

**TL-3 UPPER ANGLE ASSEMBLY
(RIGHT HAND TRANSITION)**

Designed by: WBW
 Drawn by: GLD
 Checked by: WBW
 Previous Dwg. No. 606-3A

TRANSITION A UPPER ANGLE ASSEMBLY

Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.

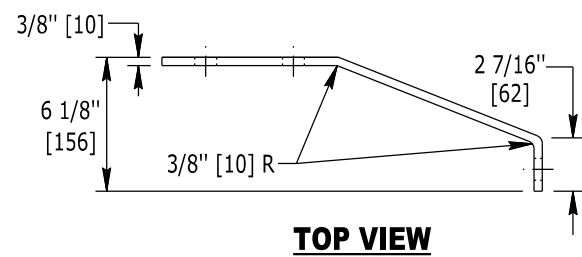


MGS FABRICATION STANDARDS

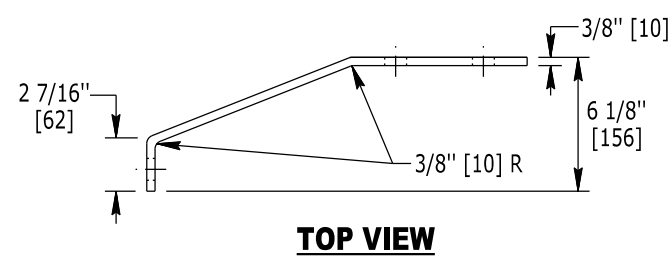
STANDARD PLAN

STANDARD PLAN NUMBER
606-3B
 SHEET 9 of 15
 Issued by: ENGINEERING SERVICES
 Date Issued: SEPTEMBER 2023

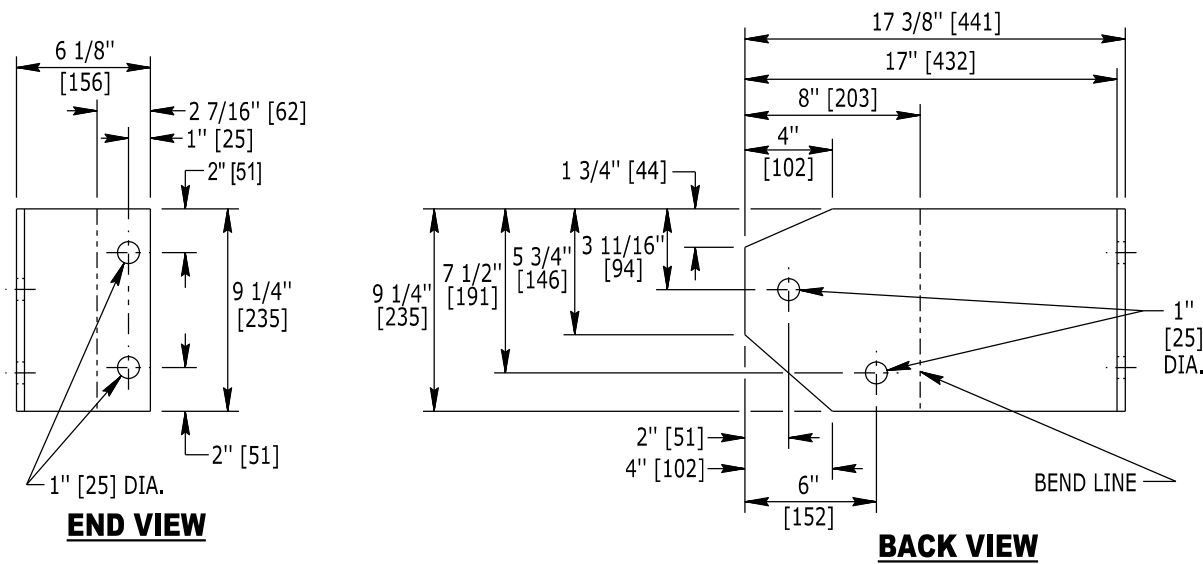
ITEM	QTY	DESCRIPTION	MATERIAL
c2	2	SEE LOWER ASSEMBLY SHEET	
	1	UPPER ANGLE ASSEMBLY	
d2L/d2R	1	UPPER ANGLE PLATE	3/8" [10] A36 PLATE



TOP VIEW



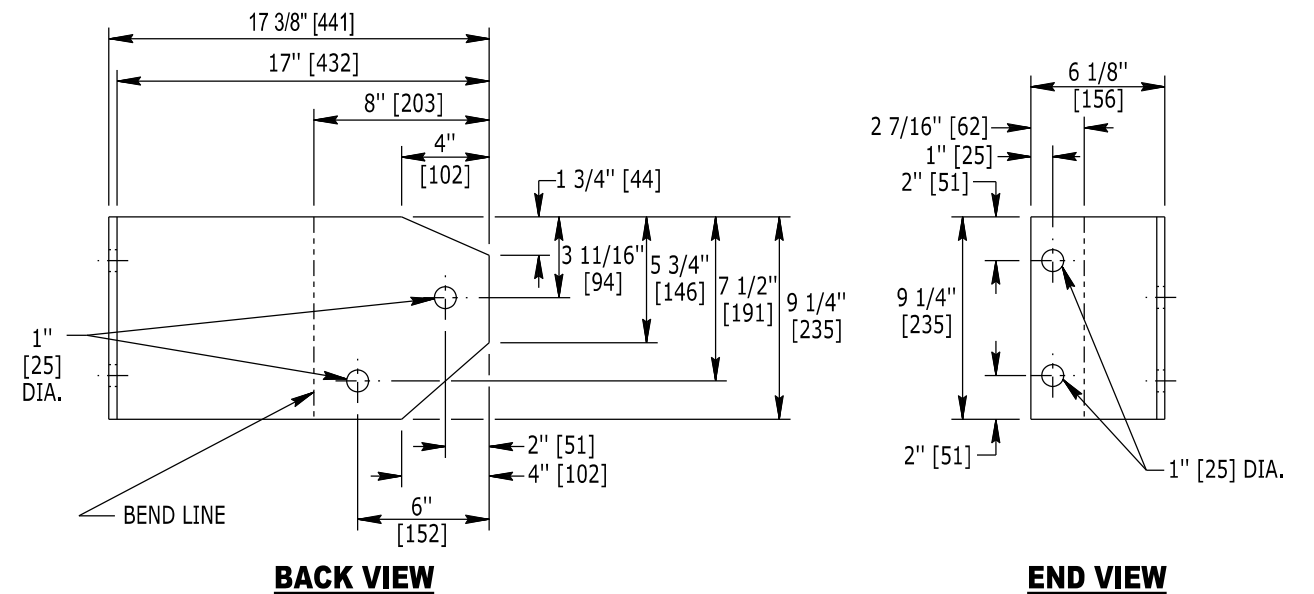
TOP VIEW



END VIEW

BACK VIEW

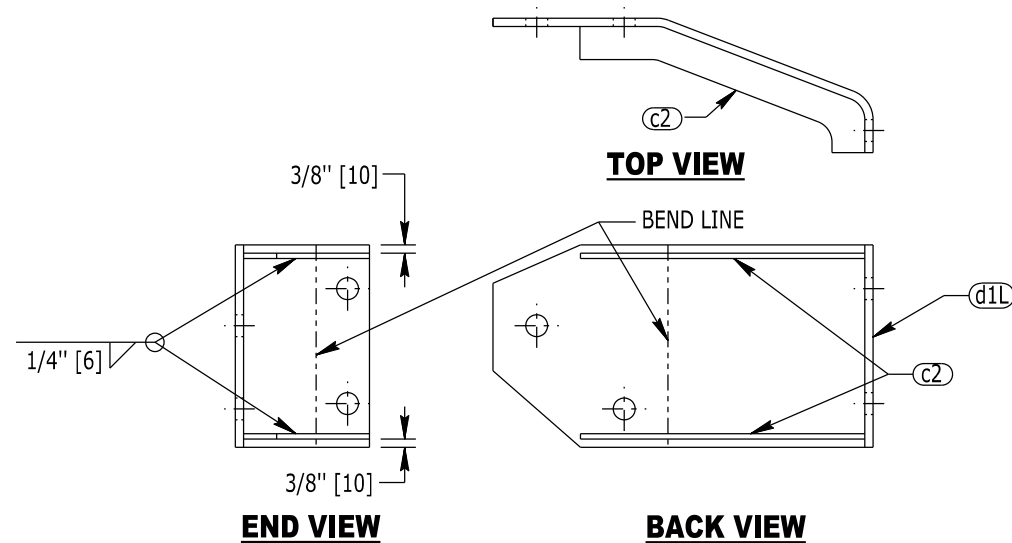
**d2L - UPPER ANGLE PLATE
(LEFT HAND TRANSITION)**



END VIEW

BACK VIEW

**d2R - UPPER ANGLE PLATE
(RIGHT HAND TRANSITION)**

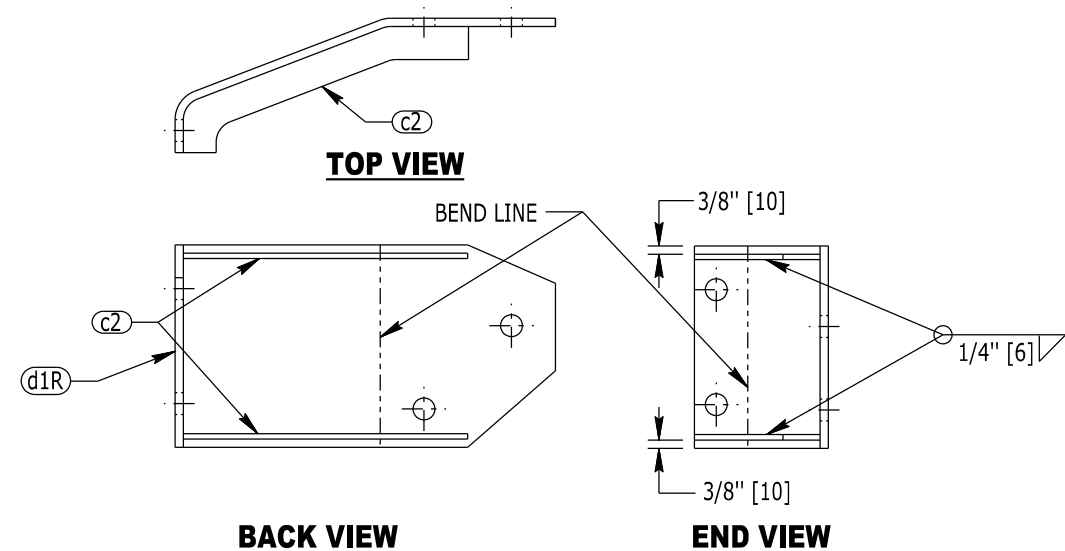


TOP VIEW

END VIEW

BACK VIEW

**TL-4 UPPER ANGLE ASSEMBLY
(LEFT HAND TRANSITION)**



TOP VIEW

BACK VIEW

END VIEW

**TL-4 UPPER ANGLE ASSEMBLY
(RIGHT HAND TRANSITION)**

Designed by: WBW
 Drawn by: GLD
 Checked by: WBW
 Previous Dwg. No. 606-3A

TRANSITION B UPPER ANGLE ASSEMBLY

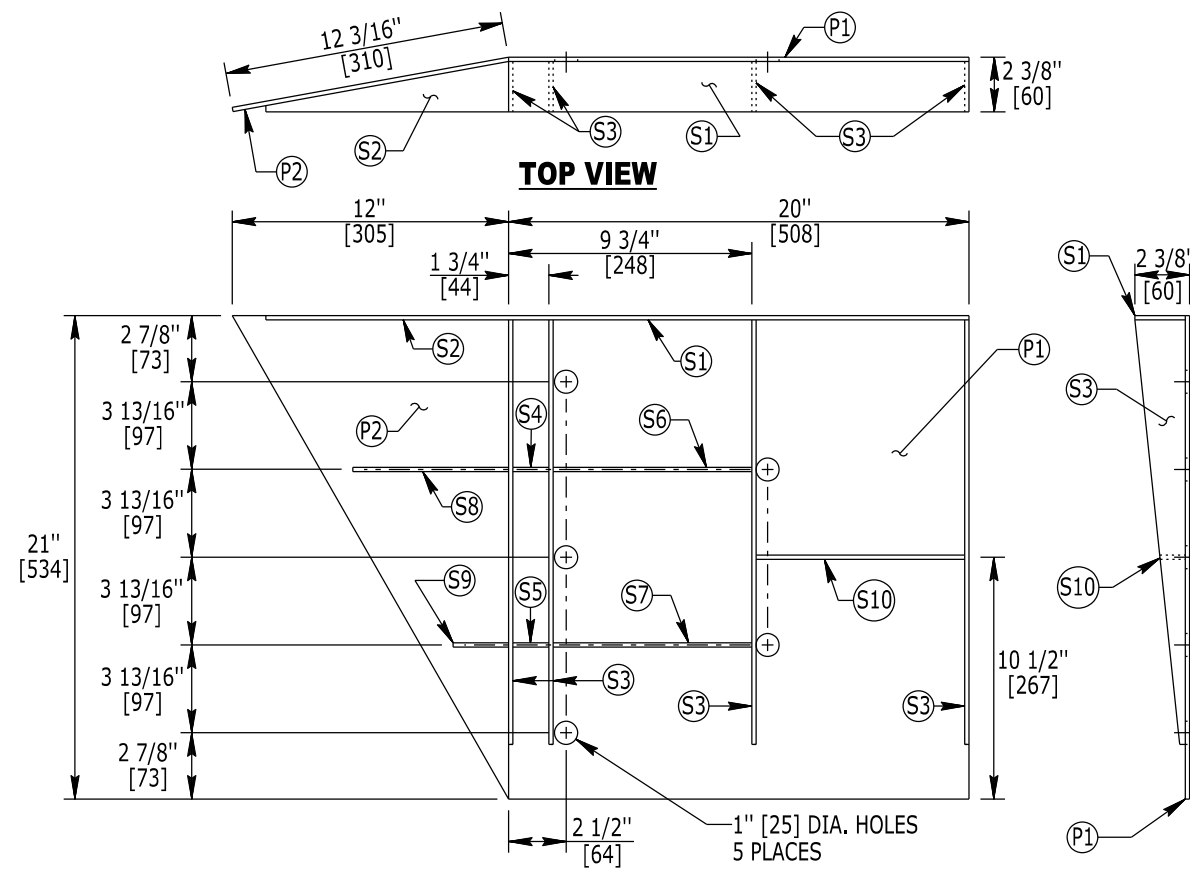
Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.



MGS FABRICATION STANDARDS

STANDARD PLAN

STANDARD PLAN NUMBER
606-3B
 SHEET 10 of 15
 Issued by: ENGINEERING SERVICES
 Date Issued: SEPTEMBER 2023



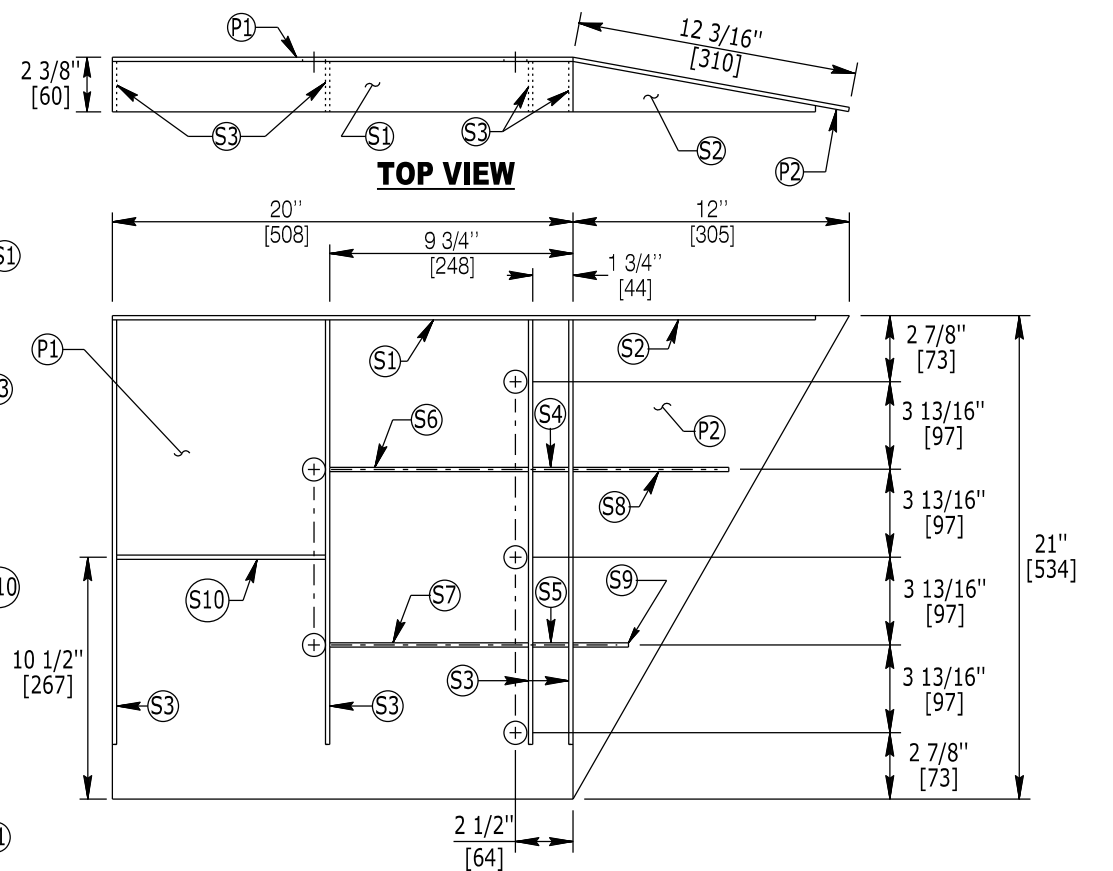
**ELEVATION VIEW
(BACK SIDE)**

**LEFT HAND NEW JERSEY
CONNECTION PLATE**

CONCRETE BARRIER ← → THRIE BEAM SIDE

WELDING INSTRUCTIONS:

- (A) Weld stiffeners located on the outside edges of the cover plates as follows: 3/16" [5] continuous back weld on external sides and 3/16" [5] fillet weld by 1" [25] long spaced at 2" [51] on internal sides.
- (B) Weld stiffeners located on the inside of the cover plates as follows: 3/16" [5] fillet weld by 1" [25] long spaced at 2" [51] both sides.
- (C) Weld rectangular and triangular cover plates together with a full penetration groove weld.



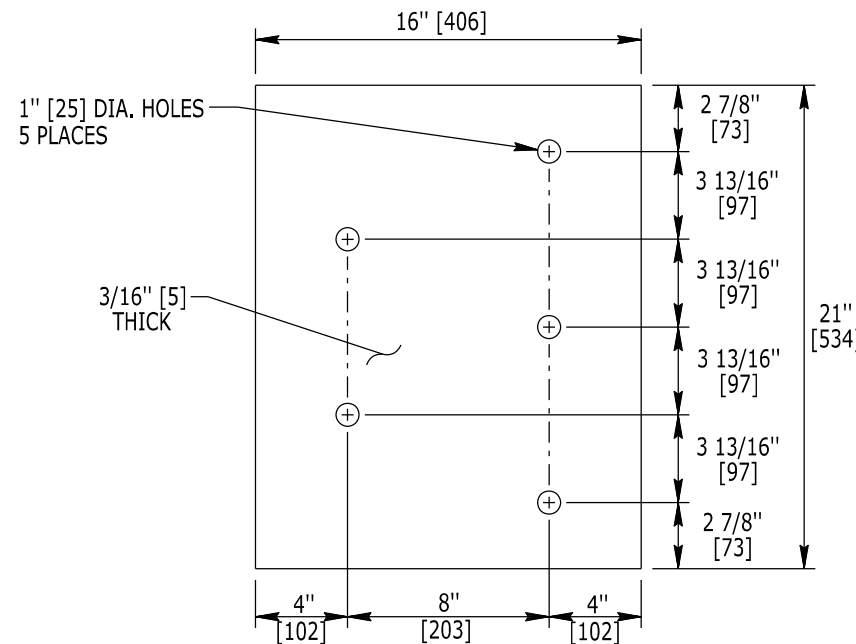
**ELEVATION VIEW
(BACK SIDE)**

**RIGHT HAND NEW JERSEY
CONNECTION PLATE**

THRIE BEAM ← → CONCRETE BARRIER SIDE

GENERAL NOTES

1. Provide steel in accordance with ASTM A36.
2. Weld components with E60 rod.
3. Galvanize in accordance with the Standard Specifications for Road and Bridge Construction.



BACKING PLATE

Install on back side of concrete barrier.

Designed by: WBW
Drawn by: GLD
Checked by: WBW
Previous Dwg. No. 606-3A

TRANSITION C CONNECTOR PLATE

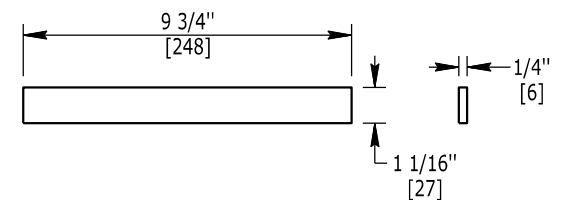
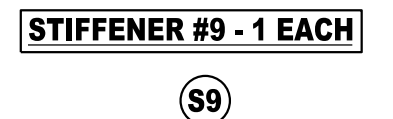
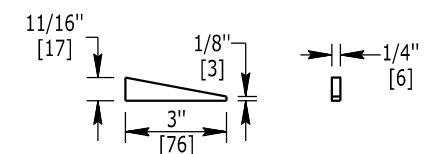
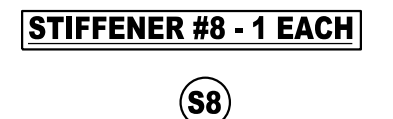
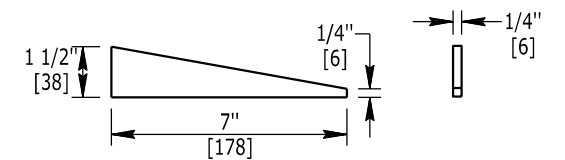
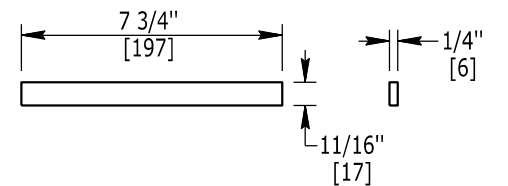
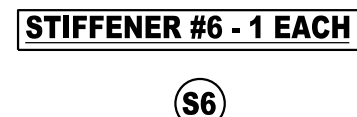
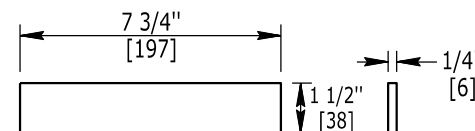
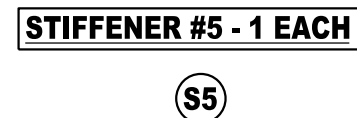
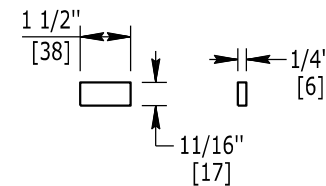
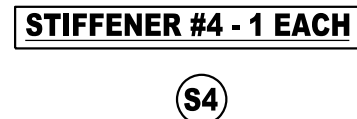
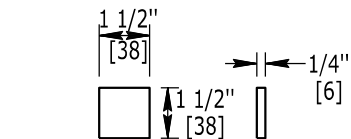
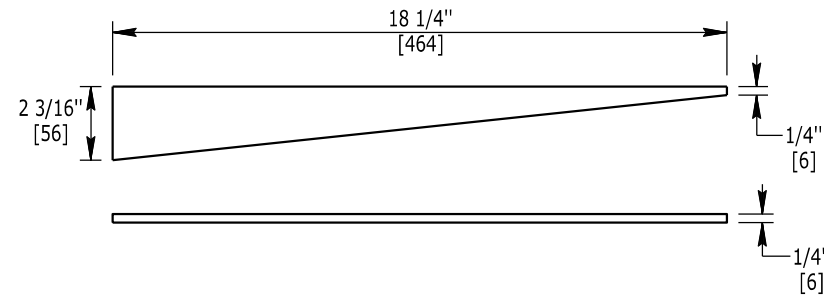
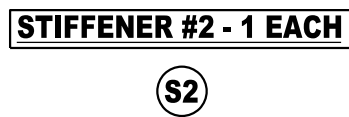
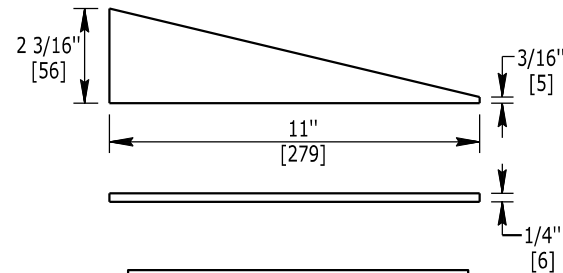
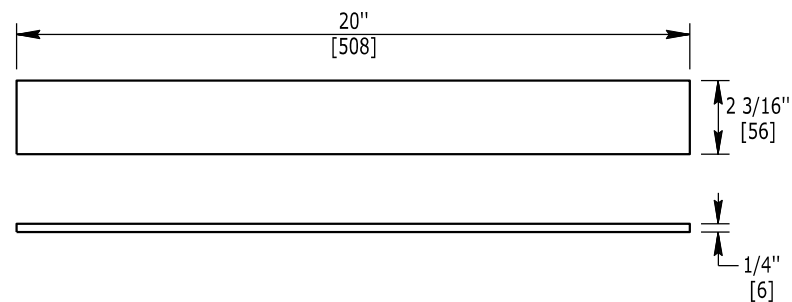
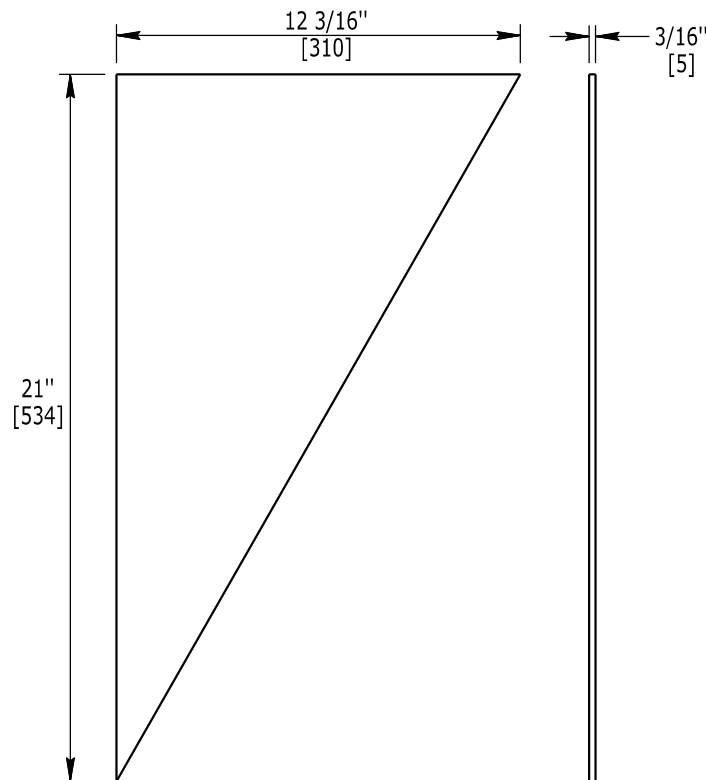
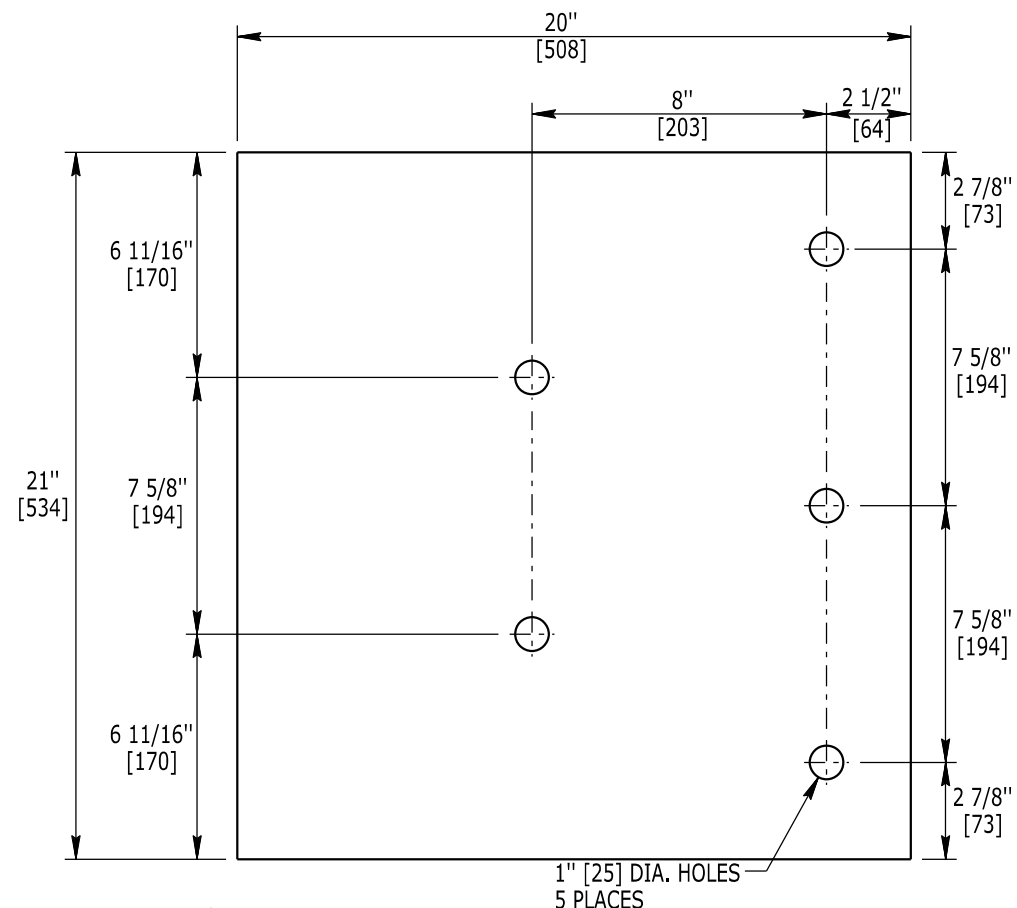
Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.



MGS FABRICATION STANDARDS

STANDARD PLAN

STANDARD PLAN NUMBER
606-3B
SHEET 11 of 15
Issued by: ENGINEERING SERVICES
Date Issued: SEPTEMBER 2023



SEE NOTES ON PREVIOUS SHEET

Designed by: WBW
Drawn by: GLD
Checked by: WBW
Previous Dwg. No. 606-3A

TRANSITION C CONNECTOR PLATE (CON'T.)

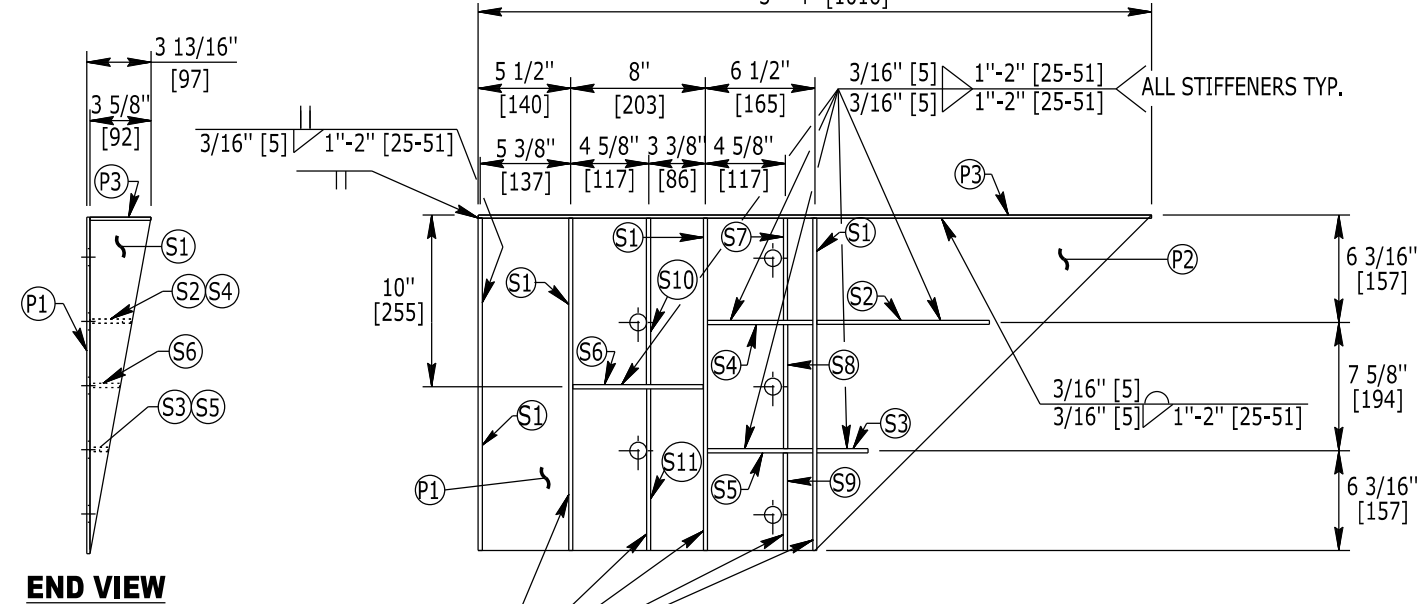
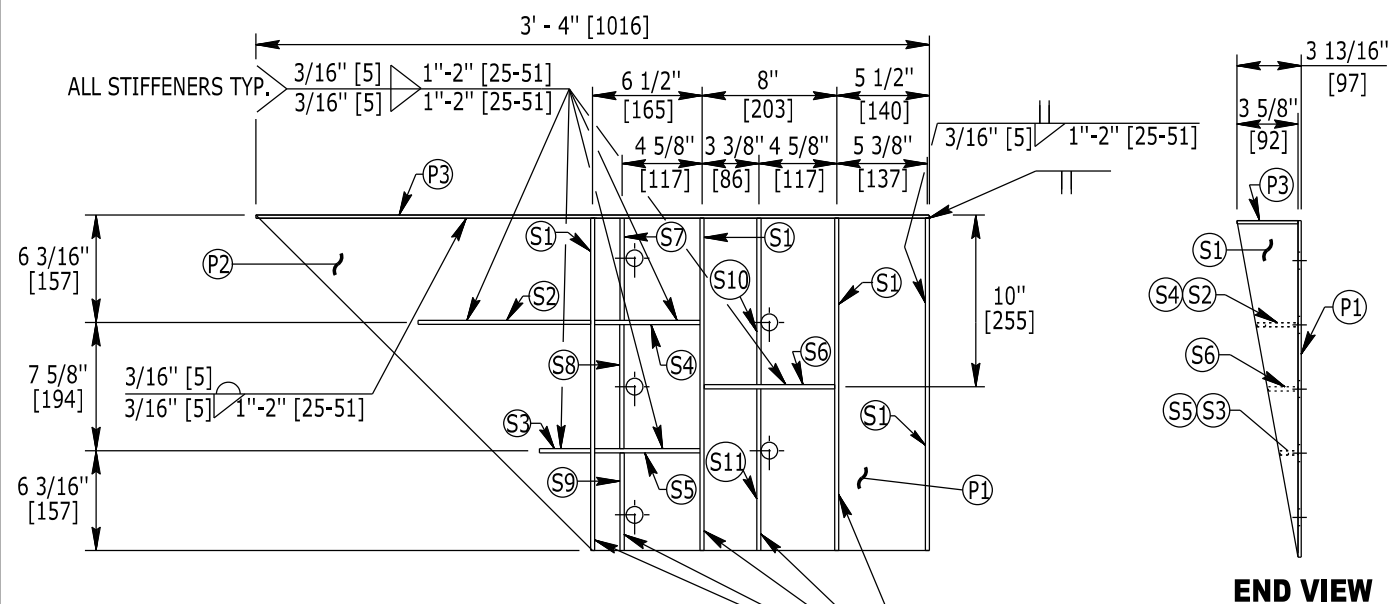
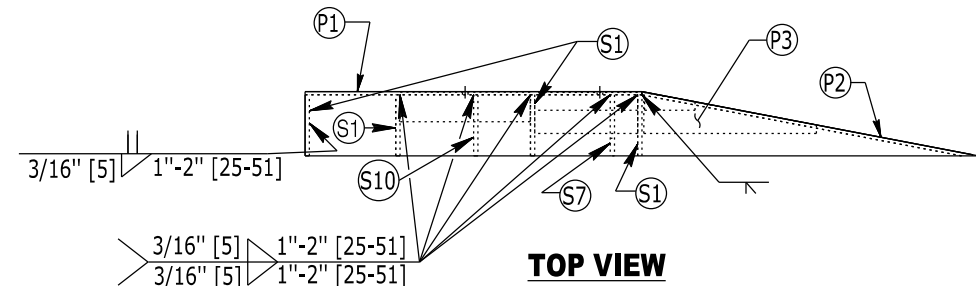
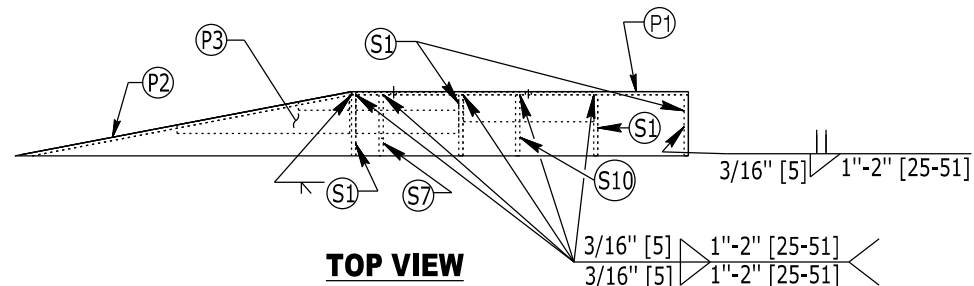
Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.



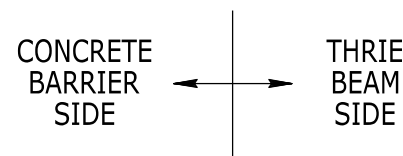
MGS FABRICATION STANDARDS

STANDARD PLAN

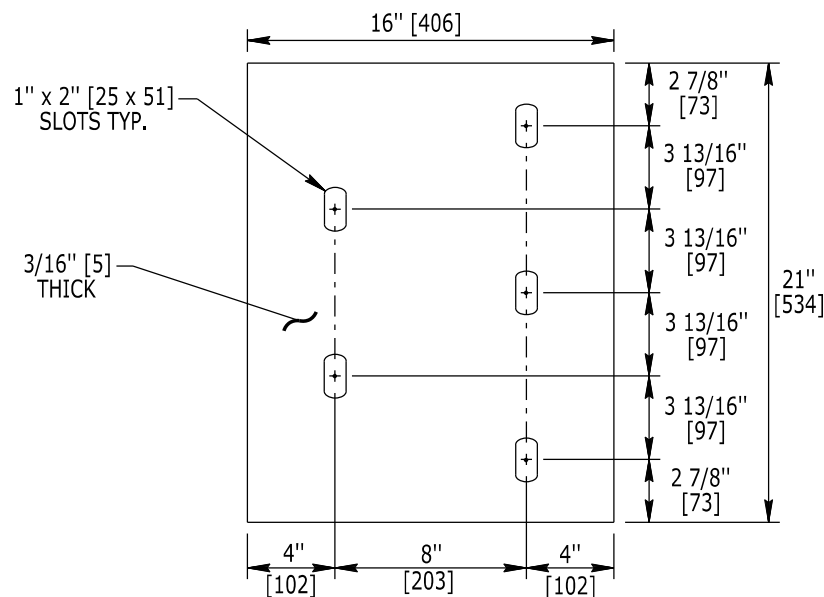
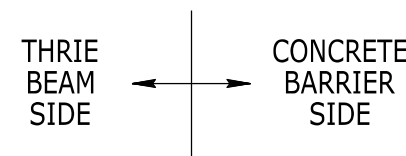
STANDARD PLAN NUMBER
606-3B
SHEET 12 of 15
Issued by: ENGINEERING SERVICES
Date Issued: SEPTEMBER 2023



LEFT HAND SINGLE SLOPE CONNECTION PLATE



RIGHT HAND SINGLE SLOPE CONNECTION PLATE



BACKING PLATE
Install on back side of concrete barrier.

WELDING INSTRUCTIONS

1. Weld plate P3 as follows: 3/16" [5] continuous back weld on exterior sides and 3/16" [5] fillet weld 1" [25] long spaced at 2" [51] on interior sides.
2. Weld stiffeners located on the inside of the cover plates as follows: 3/16" [5] fillet weld 1" [25] long spaced at 2" [51] both sides.
3. Weld together cover plates P1 and P2 with full penetration groove weld.

NOTES

1. P1, P2 and P3 will be fabricated of 3/16" [5] thick A36 grade structural steel.
2. Galvanize connector plates in accordance with AASHTO M111.
3. Fabricate stiffener plates of 1/4" [6] thick A36 Grade structural steel.

Designed by: WBW
Drawn by: GLD
Checked by: WBW
Previous Dwg. No. 606-3A

TRANSITION D CONNECTOR PLATE

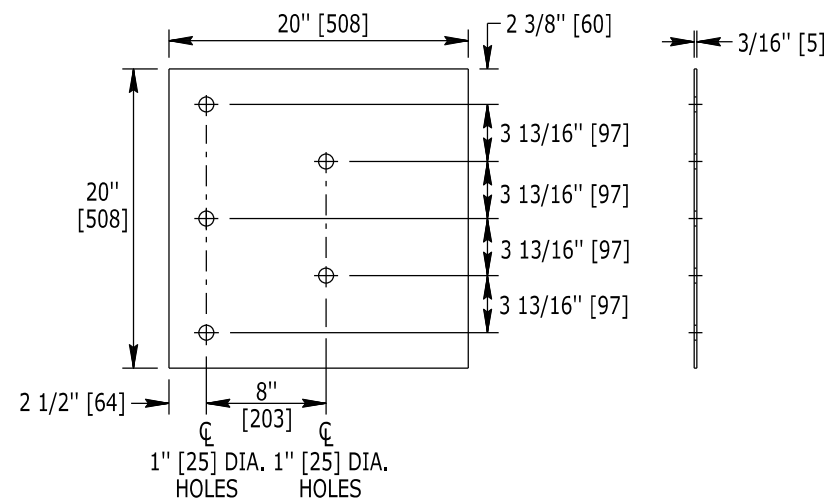
Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.



MGS FABRICATION STANDARDS

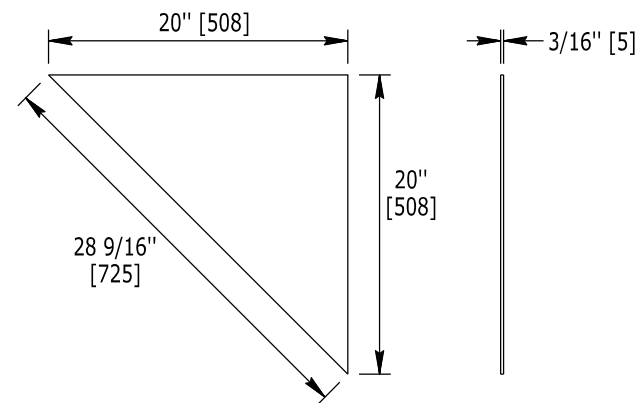
STANDARD PLAN

STANDARD PLAN NUMBER
606-3B
SHEET 13 of 15
Issued by: ENGINEERING SERVICES
Date Issued: SEPTEMBER 2023



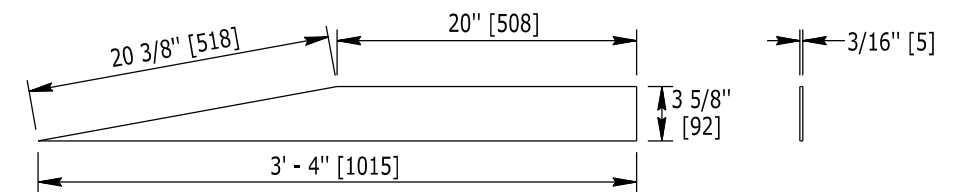
COVER PLATE #1

(P1)



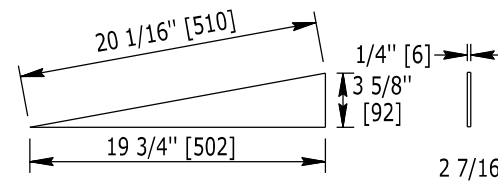
COVER PLATE #2

(P2)



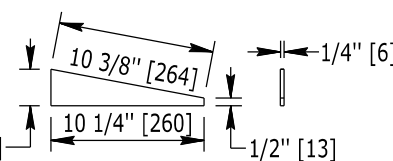
COVER PLATE #3

(P3)



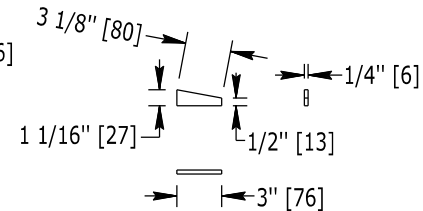
STIFFENER #1 - 4 EACH

(S1)



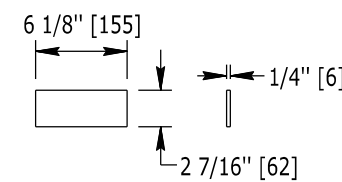
STIFFENER #2 - 1 EACH

(S2)



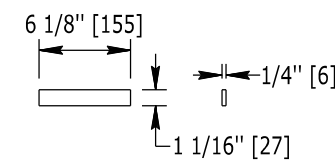
STIFFENER #3 - 1 EACH

(S3)



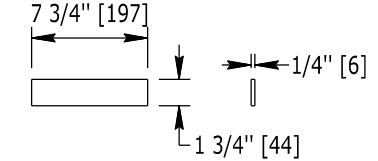
STIFFENER #4 - 1 EACH

(S4)



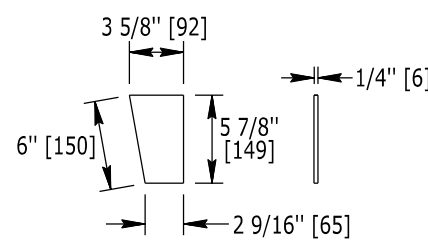
STIFFENER #5 - 1 EACH

(S5)



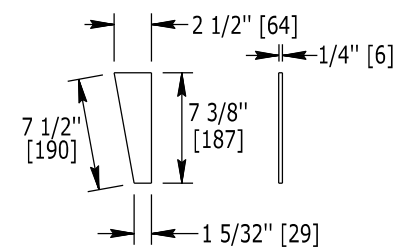
STIFFENER #6 - 1 EACH

(S6)



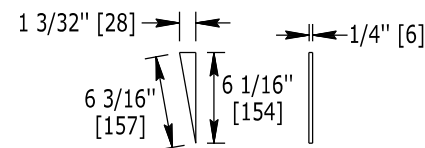
STIFFENER #7 - 1 EACH

(S7)



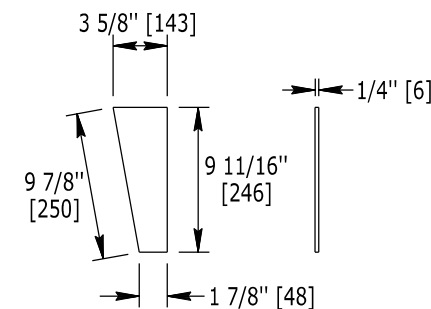
STIFFENER #8 - 1 EACH

(S8)



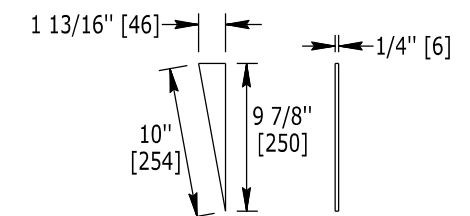
STIFFENER #9 - 1 EACH

(S9)



STIFFENER #10 - 1 EACH

(S10)



STIFFENER #11 - 1 EACH

(S11)

NOTE

P - Cover Plate
S - Stiffener Plate

Designed by: WBW
Drawn by: GLD
Checked by: WBW
Previous Dwg. No. 606-3A

TRANSITION D CONNECTOR PLATE (CON'T.)

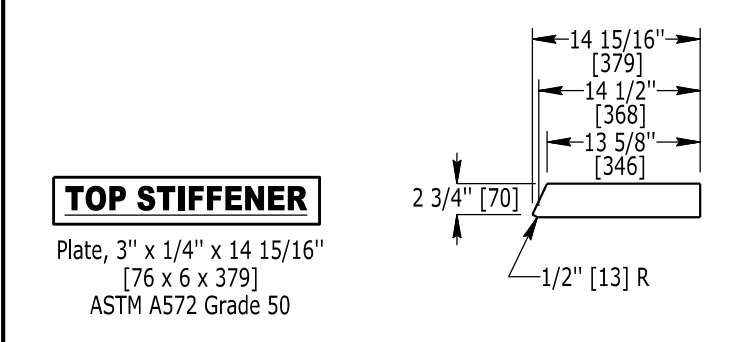
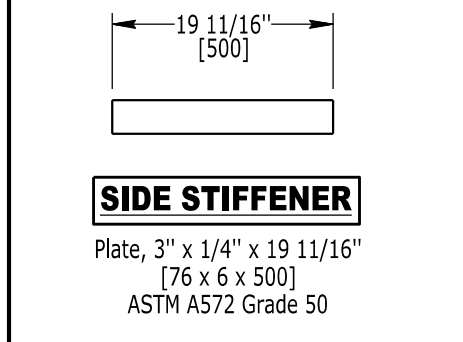
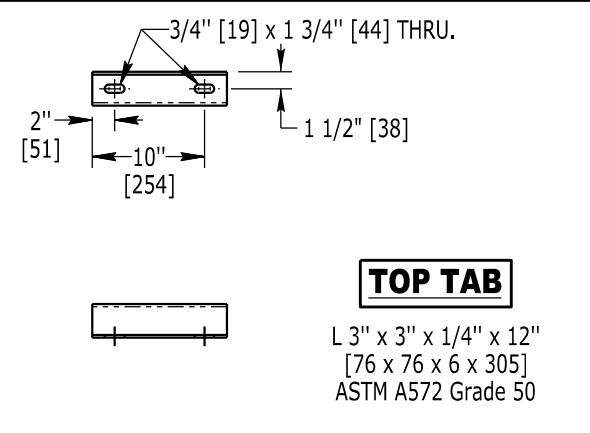
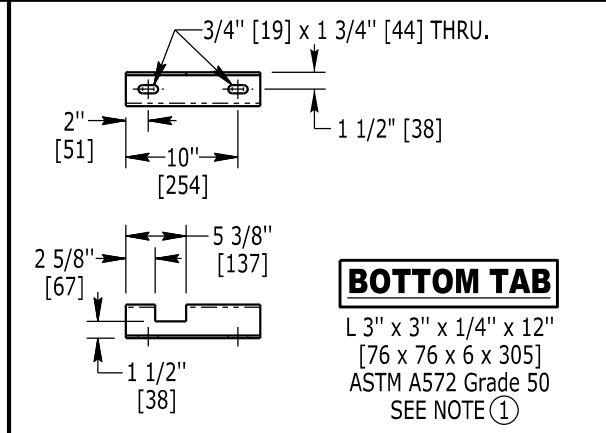
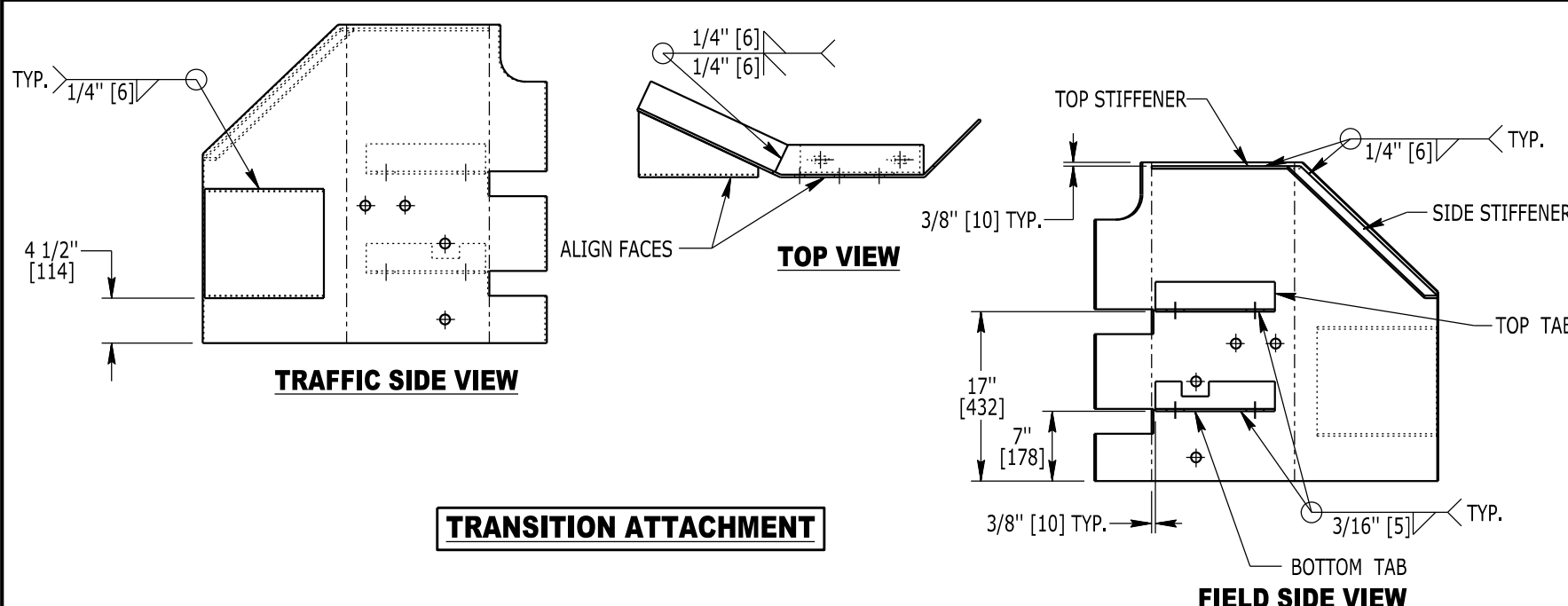
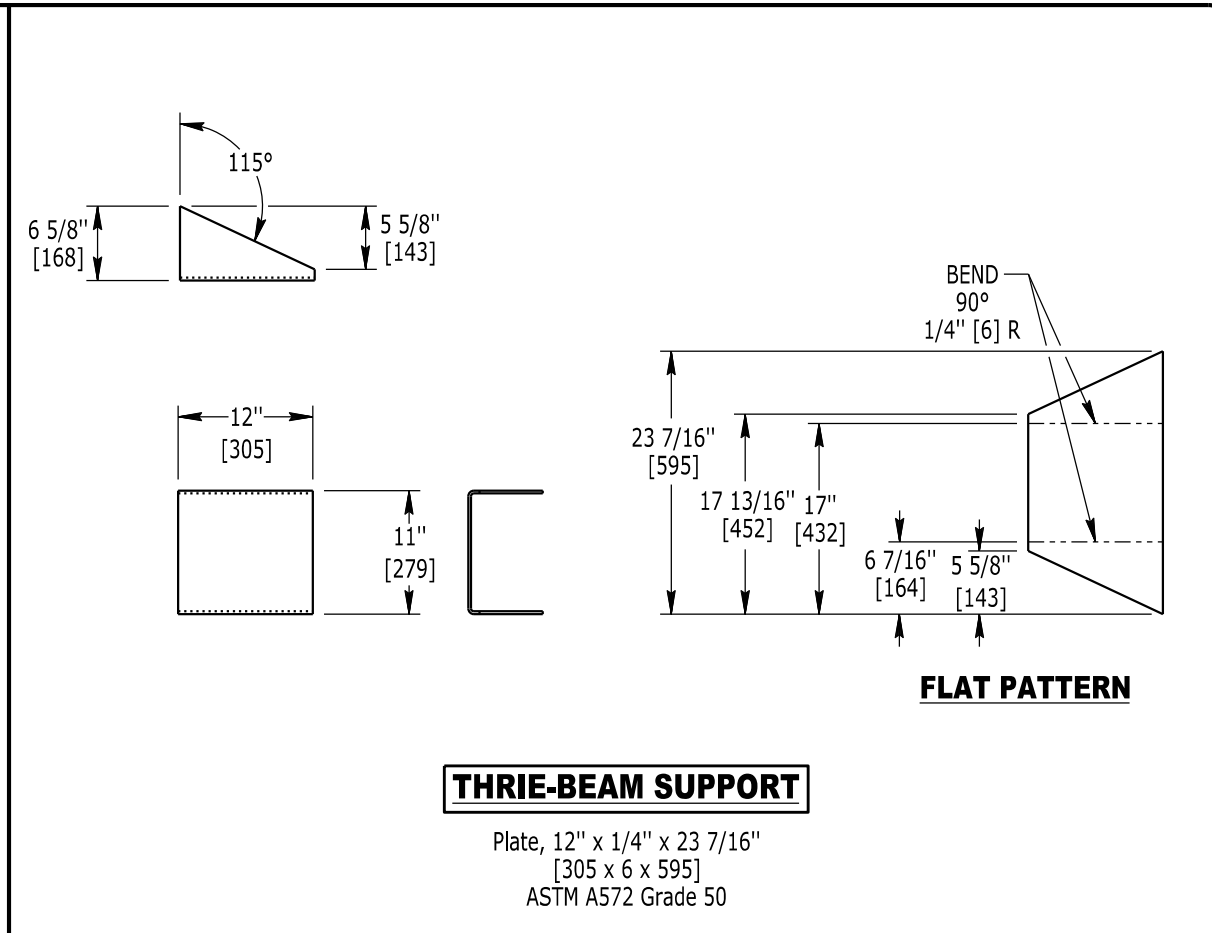
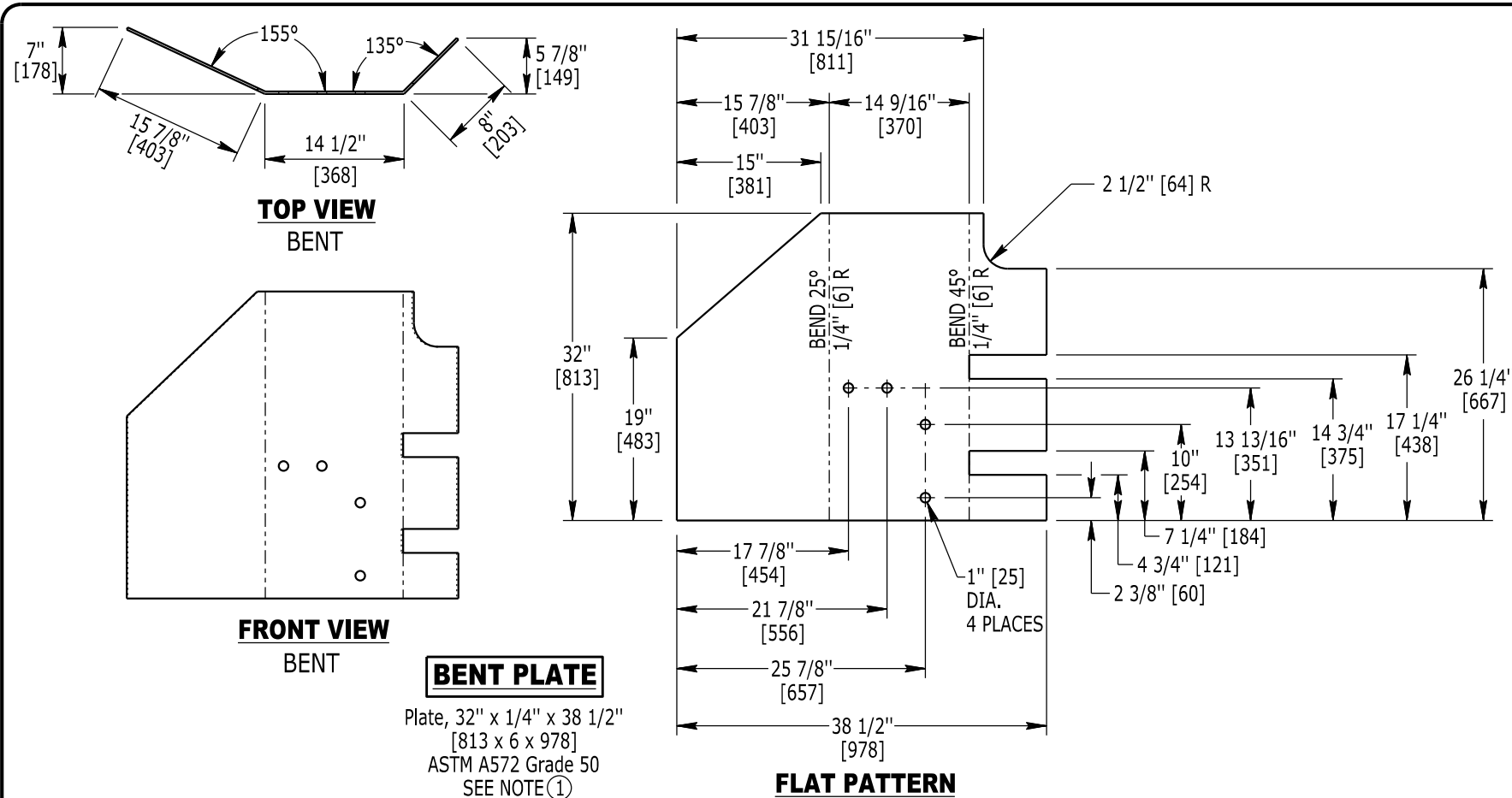
Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.



MGS FABRICATION STANDARDS

STANDARD PLAN

STANDARD PLAN NUMBER
606-3B
SHEET 14 of 15
Issued by: ENGINEERING SERVICES
Date Issued: SEPTEMBER 2023



NOTE:
 ① SHOWN FOR LEFT HAND TRANSITION (MIRROR DETAILS FOR RIGHT HAND TRANSITION)