
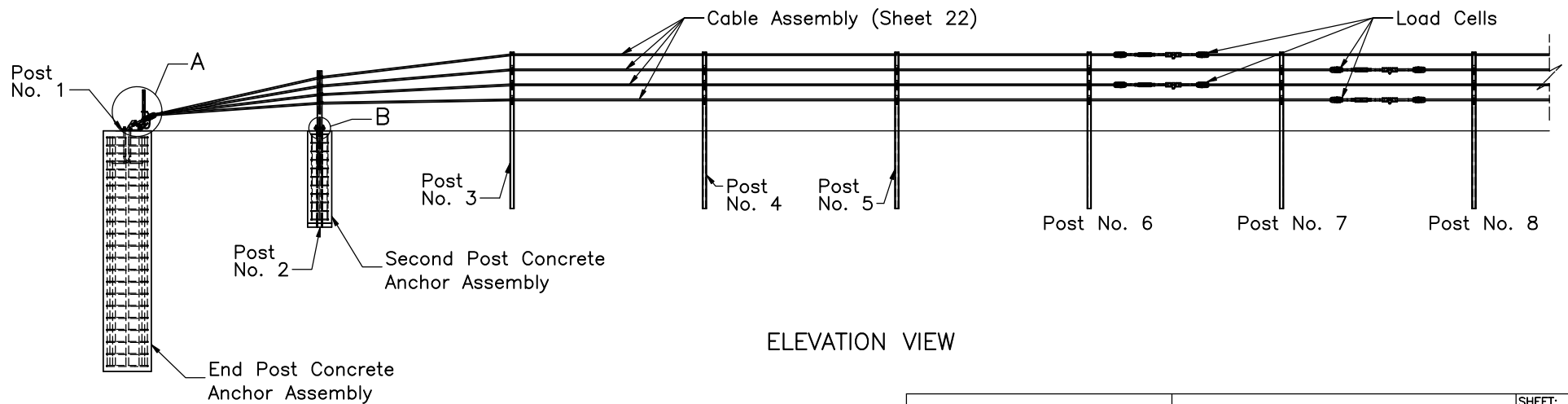


- Notes: (1) Test shall be performed according to test designation no. 3-11 using MASH 2016 criteria.  
 (2) The impact location is 12" [305] upstream from post no. 32.  
 (3) At a minimum, critical post nos. 26-48 are placed in 18" [457] diameter hole backfilled and tamped in well compacted soil.  
 (4) Test cable tensions of  $2500 \pm 200$  lb [ $11.1 \pm 0.890$  kN].  
 (5) Bottom cable attached to line posts on non-impact side.  
 (6) Span between posts 68 and 69 is 144" [3658].


 Midwest Roadside Safety Facility	Non-Proprietary Cable Median Barrier Test No. MTP-1 System Layout		SHEET: 1 of 26
	DWG. NAME: MTP-1_R5	SCALE: 1:750 UNITS: in./mm	DATE: 6/11/2019  DRAWN BY: MBD/MKB/ JEK/DJW  REV. BY: KAL/JCH

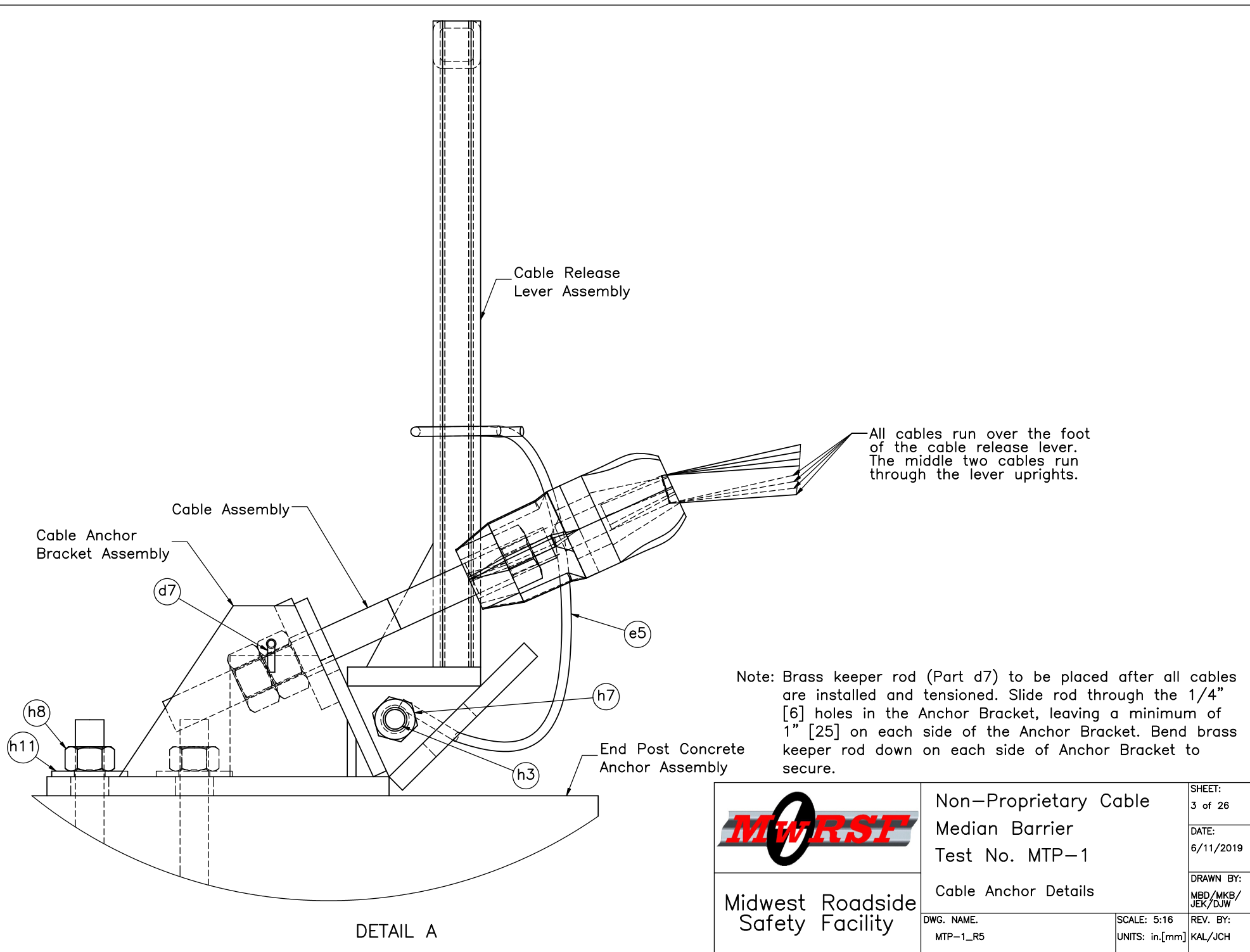


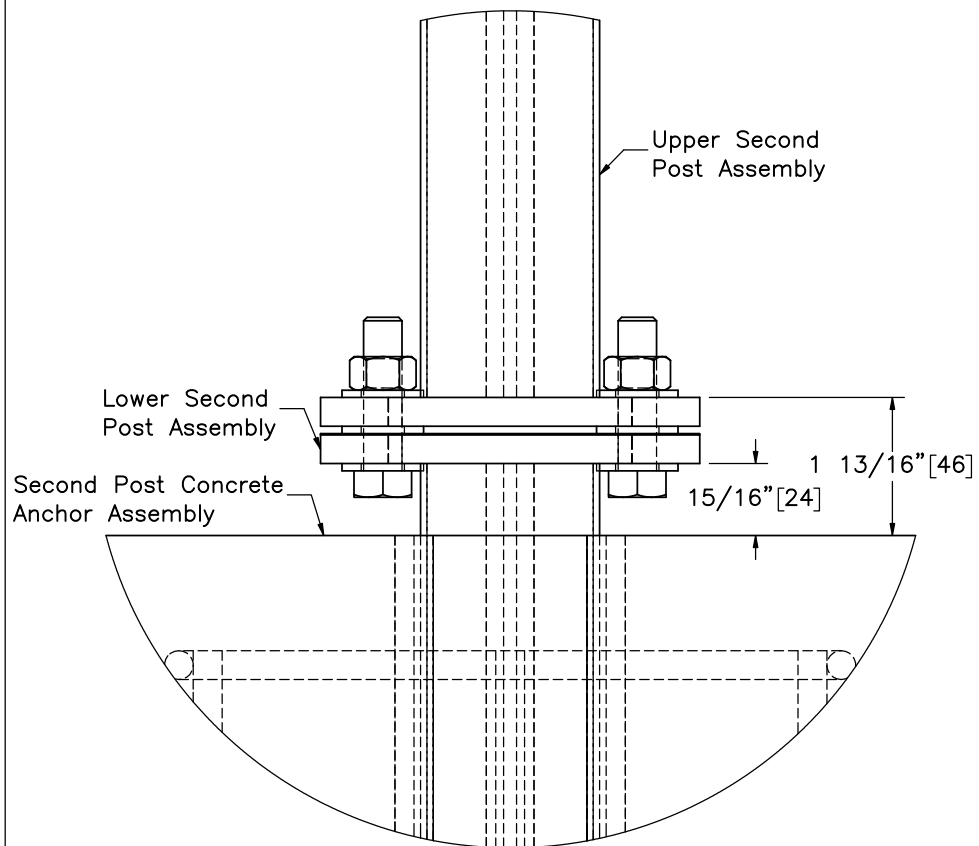
PLAN VIEW



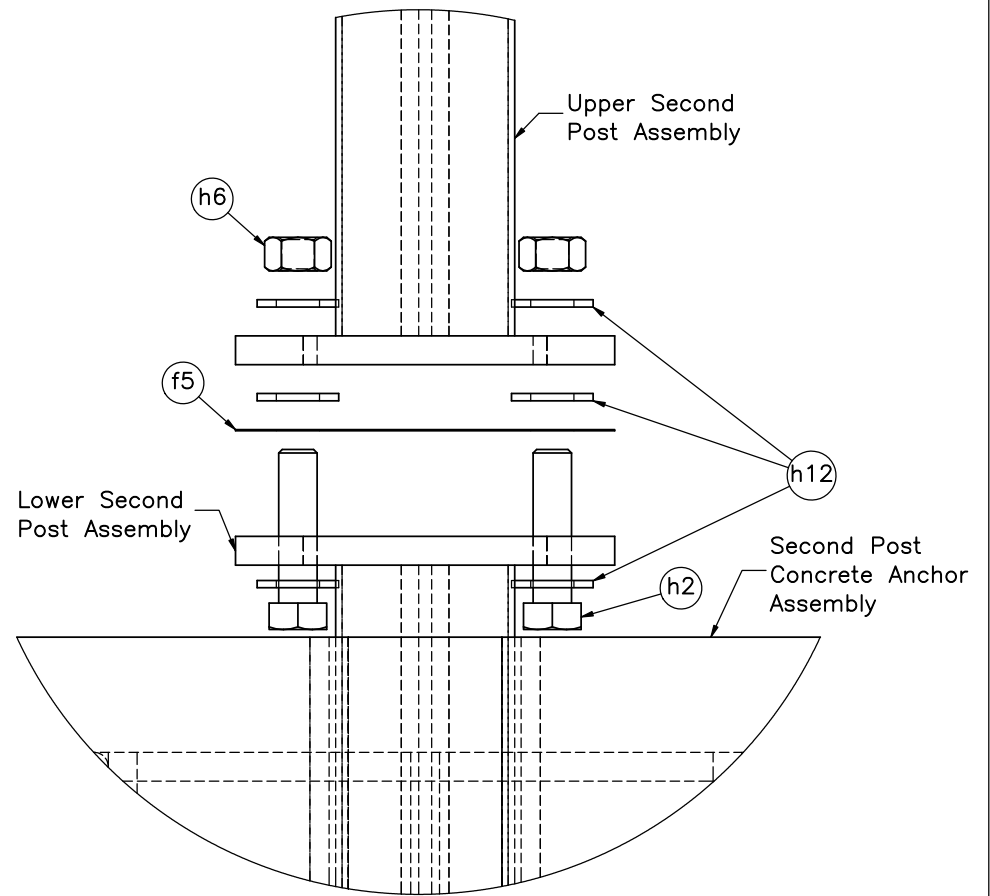
ELEVATION VIEW

	Non-Proprietary Cable Median Barrier		SHEET: 2 of 26
	Test No. MTP-1		DATE: 6/11/2019
Midwest Roadside Safety Facility	Cable Terminal Detail		DRAWN BY: MBD/MKB/JEK/DJW
	DWG. NAME: MTP-1_R5	SCALE: 1:78 UNITS: in./mm	REV. BY: KAL/JCH





DETAIL B



DETAIL B  
(EXPLODED)

Note: (1) Part h2 to be torqued to 25 ft-lb [33.9 N-m].



Midwest Roadside  
Safety Facility

Non-Proprietary Cable  
Median Barrier  
Test No. MTP-1

2nd Post Attachment Detail

DWG. NAME.  
MTP-1\_R5

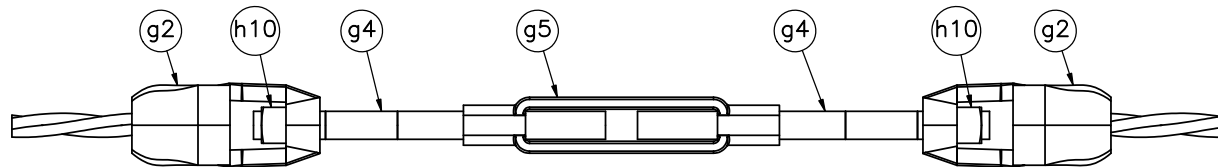
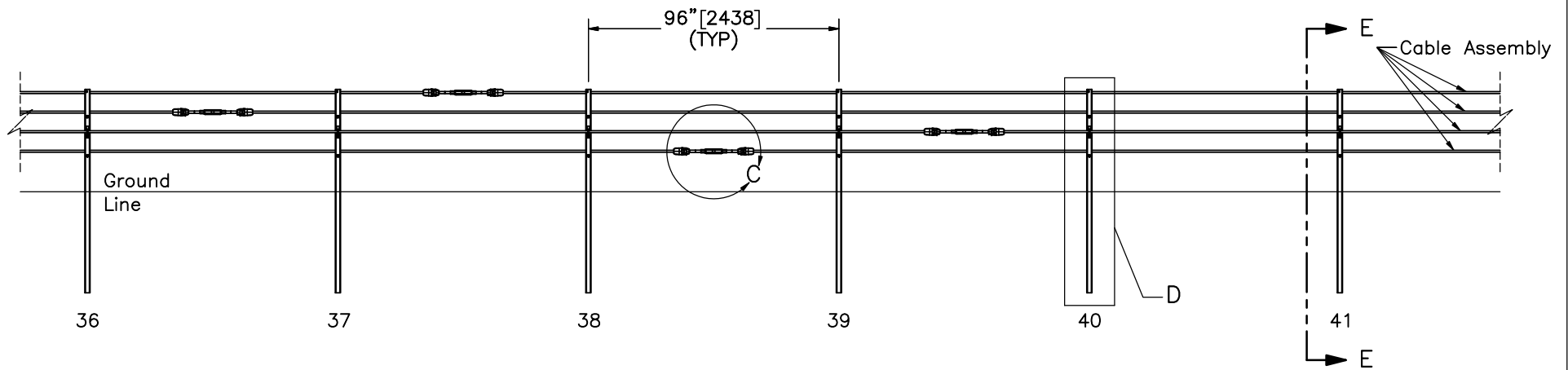
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UNITS: in.[mm]

SHEET:  
4 of 26

DATE:  
6/11/2019


DRAWN BY:  
MBD/MKB/  
JEK/DJW

REV. BY:  
KAL/JCH

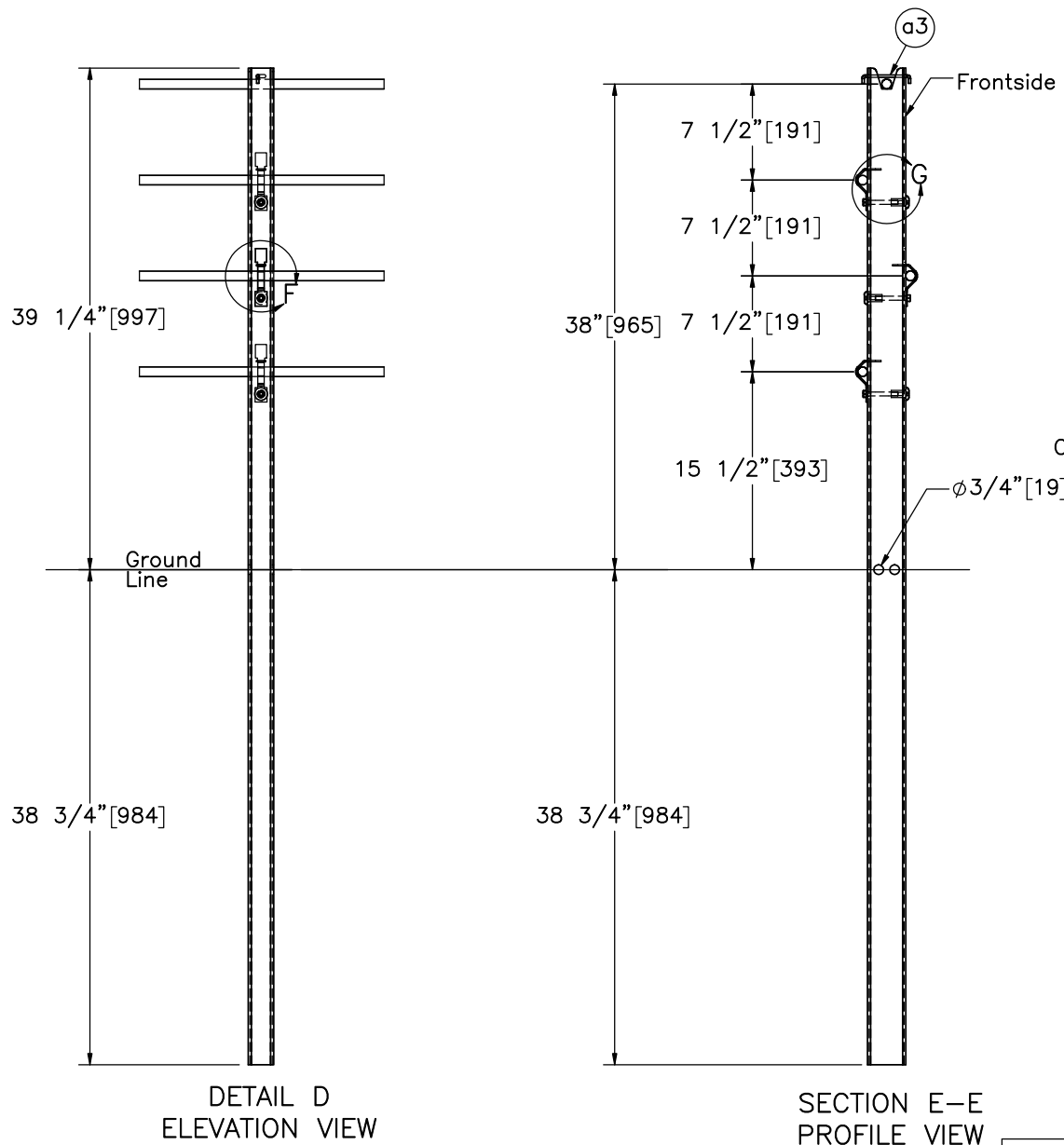


DETAIL C  
SCALE 1:6

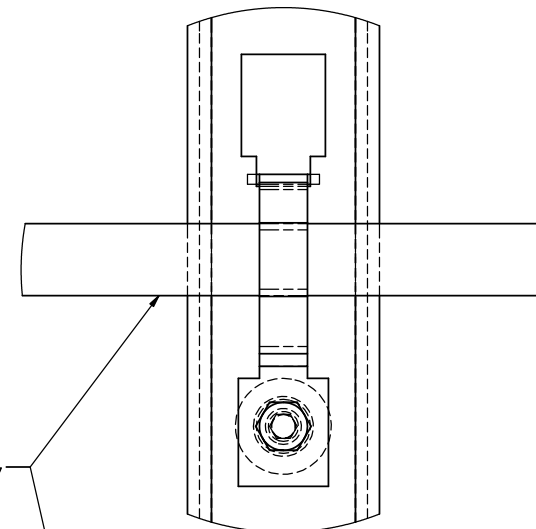
Notes: (1) The splice locations may be moved as long as two adjacent cable splices are not located on top of one another in the same post span and are not too far from impact location.

	Non-Proprietary Cable Median Barrier Test No. MTP-1		SHEET: 5 of 26
	Cable Splice Location and Detail		DATE: 6/11/2019
DWG. NAME: MTP-1_R5	SCALE: 1:60 UNITS: in./mm	DRAWN BY: MBD/MKB/ JEK/DJW	REV. BY: KAL/JCH

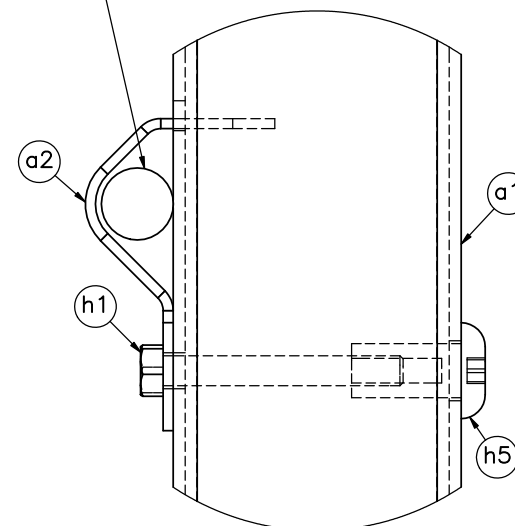
Midwest Roadside  
Safety Facility



Cable Assembly



DETAIL F  
SCALE 1:2



DETAIL G  
SCALE 1:2

Note: (1) Brass cable clip (Part a3) should be inserted into designated hole and slot in the post top.



Midwest Roadside  
Safety Facility

Non-Proprietary Cable  
Median Barrier  
Test No. MTP-1

Cable Post Details

DWG. NAME:  
MTP-1\_R5

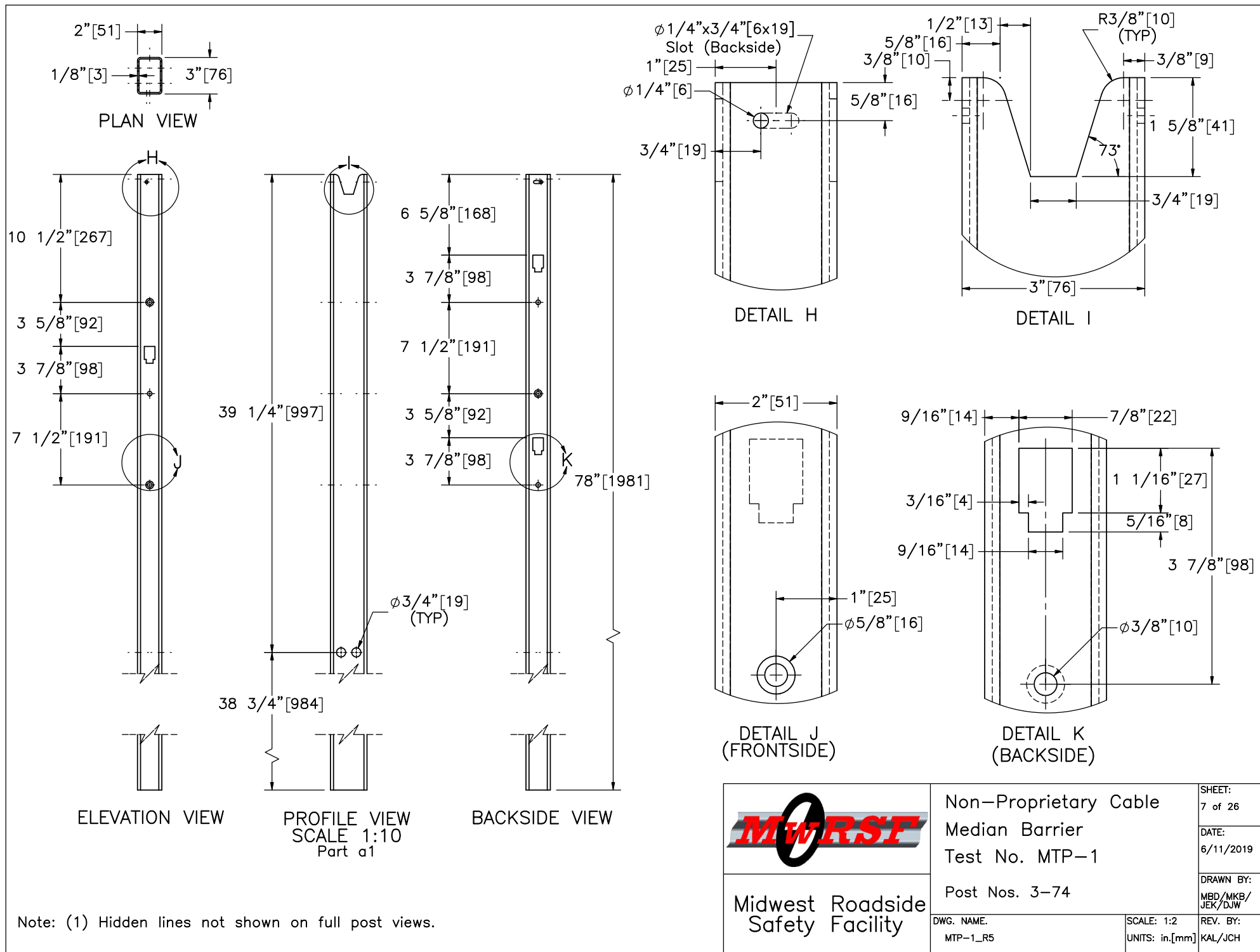
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SHEET:  
6 of 26

DATE:  
6/11/2019

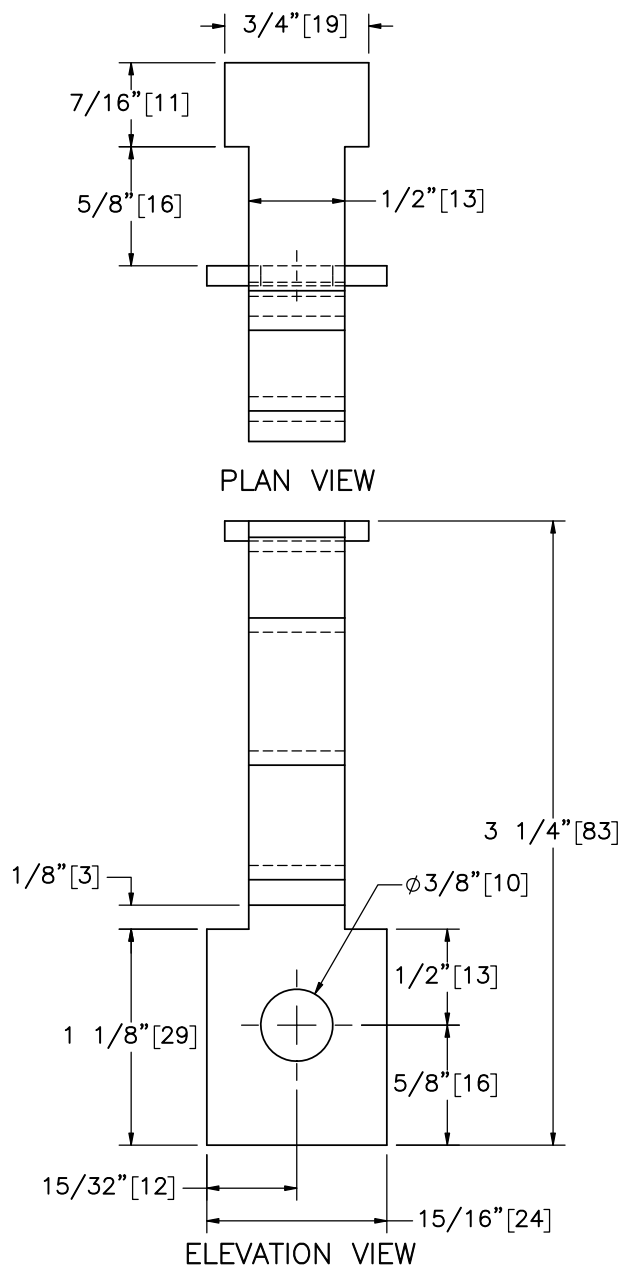
DRAWN BY:  
MBD/MKB/  
JEK/DJW

REV. BY:  
KAL/JCH

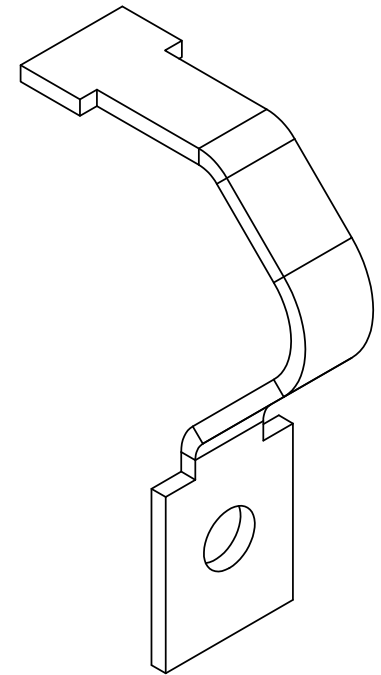
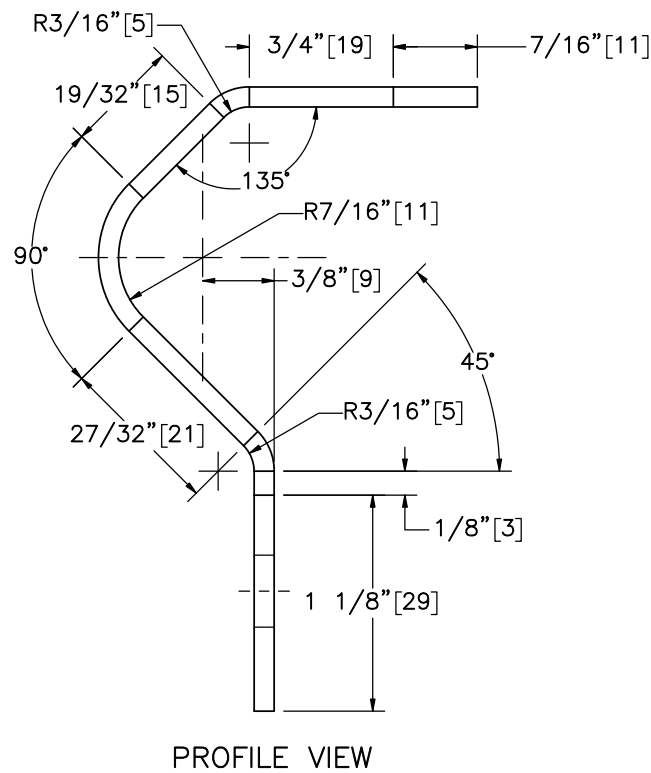


Midwest Roadside  
Safety Facility

Non-Proprietary Cable Median Barrier Test No. MTP-1		SHEET: 7 of 26
Post Nos. 3-74		DATE: 6/11/2019
DWG. NAME: MTP-1_R5		DRAWN BY: MBD/MKB/ JEK/DJW
SCALE: 1:2 UNITS: in./mm		REV. BY: KAL/JCH



Part a2



ISOMETRIC VIEW



Midwest Roadside  
Safety Facility

Non-Proprietary Cable  
Median Barrier  
Test No. MTP-1

Tabbed Bracket

DWG. NAME.  
MTP-1\_R5

SCALE: 1:1  
UNITS: in.[mm]

SHEET:  
8 of 26

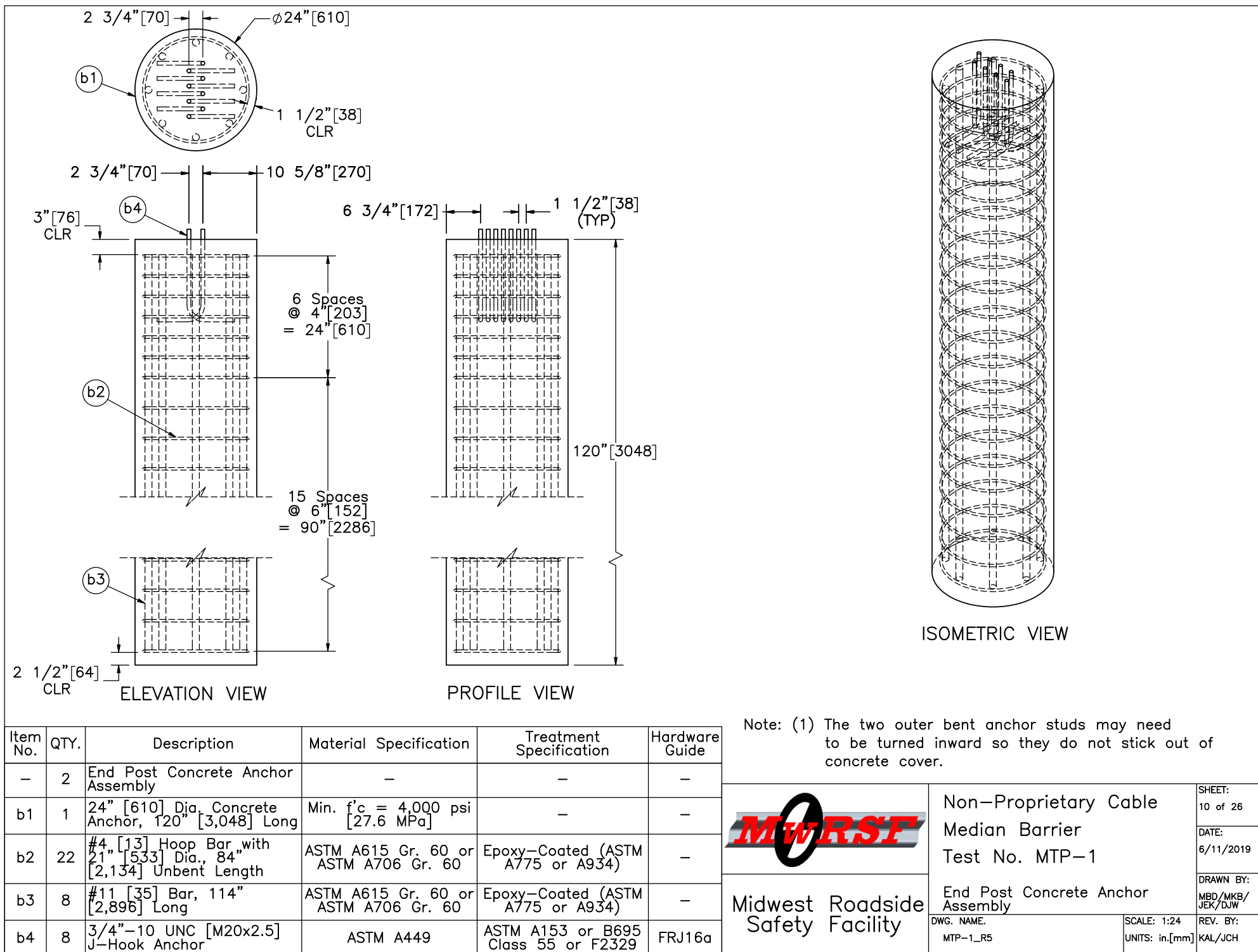
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6/11/2019

DRAWN BY:  
MBD/MKB/  
JEK/DJW

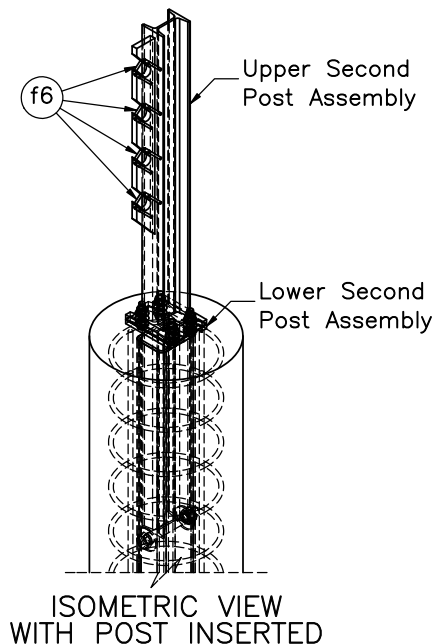
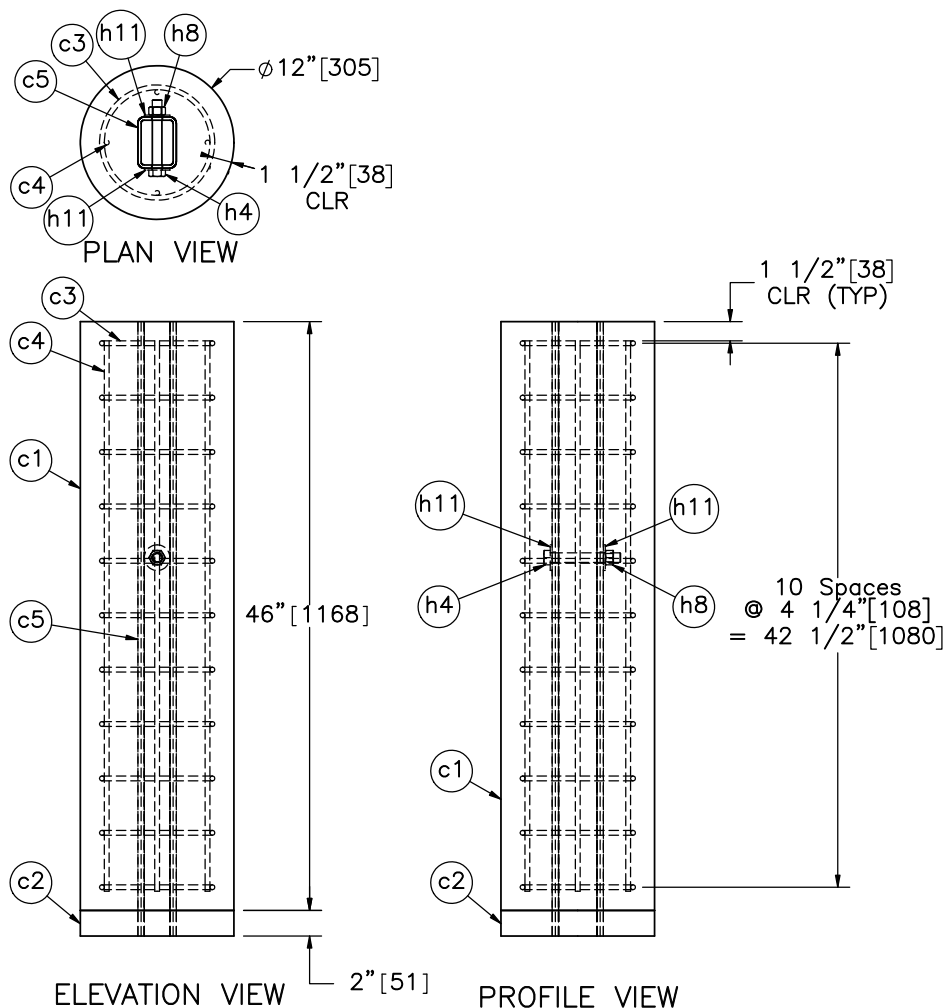
REV. BY:  
KAL/JCH






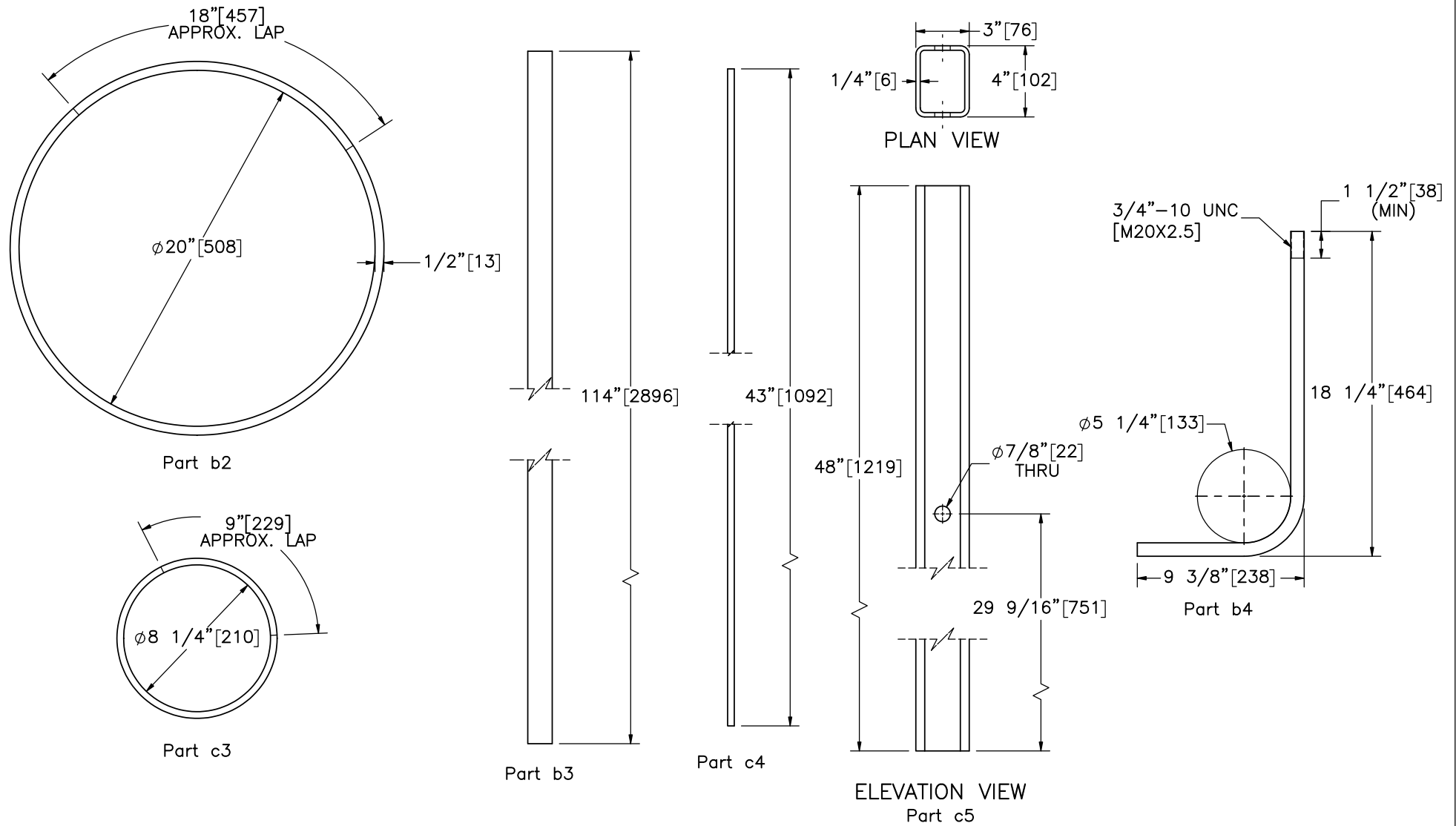


Item No.	QTY.	Description	Material Specification	Treatment Specification	Hardware Guide
—	2	Second Post Concrete Anchor Assembly	—	—	—
c1	1	12" [305] Dia. 2nd Post Concrete Anchor, 46" [1,168] Long	Min. f'c = 4,000 psi [27.6 MPa]	—	—
c2	1	12" [305] Dia. 2nd Post Anchor Aggregate, 2" [51] Deep	Standard Strong Soil	—	—
c3	11	#3 [10] Hoop Bar with 9" [229] Dia., 37" [940] Unbent Length	ASTM A615 Gr. 60 or ASTM A706 Gr. 60	Epoxy-Coated (ASTM A775 or A934)	—
c4	4	#3 [10] Bar, 43" [1,092] Long	ASTM A615 Gr. 60 or ASTM A706 Gr. 60	Epoxy-Coated (ASTM A775 or A934)	—
c5	1	4"x3"x1/4" [102x76x6] Foundation Tube, 48" [1,219] Long	ASTM A500 Gr. B	ASTM A123	—
h4	1	3/4"-10 UNC [M20x2.5], 5 1/2" [140] Long Hex Bolt	ASTM A307 Gr. A	ASTM A153 or B695 Class 55 or F2329	FBX20a
h8	1	3/4"-10 UNC [M20x2.5] Hex Nut	ASTM A563A or equivalent	ASTM A153 or B695 Class 55 or F2329	FNX20a
h11	2	3/4" [19] Dia. Plain USS Washer	ASTM F844	ASTM A123 or A153 or F2329	FWC20a



Note: (1) Brass cable retainers (Part f6) should be inserted into designated holes, and the ends of the retainers should be bent to retain retainers in the holes.

	Non-Proprietary Cable Median Barrier		SHEET: 11 of 26
	Test No. MTP-1		DATE: 6/11/2019
Midwest Roadside Safety Facility	Second Post Concrete Anchor Assembly		DRAWN BY: MBD/MKB/JEK/DJW
	DWG. NAME: MTP-1_R5	SCALE: 1:15 UNITS: in./mm	REV. BY: KAL/JCH



Note: (1) Part b4 total unbent length is 25 9/16" [649].

Bill of Bars					
Bar	QTY.	Size	Total Unbent Length	Material Specification	Treatment Specification
b2	44	#4	84" [2,134]	ASTM A615 Gr. 60 or ASTM A706 Gr. 60	Epoxy-Coated (ASTM A775 or A934)
b3	16	#11	114" [2,896]	ASTM A615 Gr. 60 or ASTM A706 Gr. 60	Epoxy-Coated (ASTM A775 or A934)
c3	22	#3	37" [940]	ASTM A615 Gr. 60 or ASTM A706 Gr. 60	Epoxy-Coated (ASTM A775 or A934)
c4	8	#3	43" [1,092]	ASTM A615 Gr. 60 or ASTM A706 Gr. 60	Epoxy-Coated (ASTM A775 or A934)



Midwest Roadside  
Safety Facility

Non-Proprietary Cable  
Median Barrier  
Test No. MTP-1

Reinforcement Details

DWG. NAME.  
MTP-1\_R5

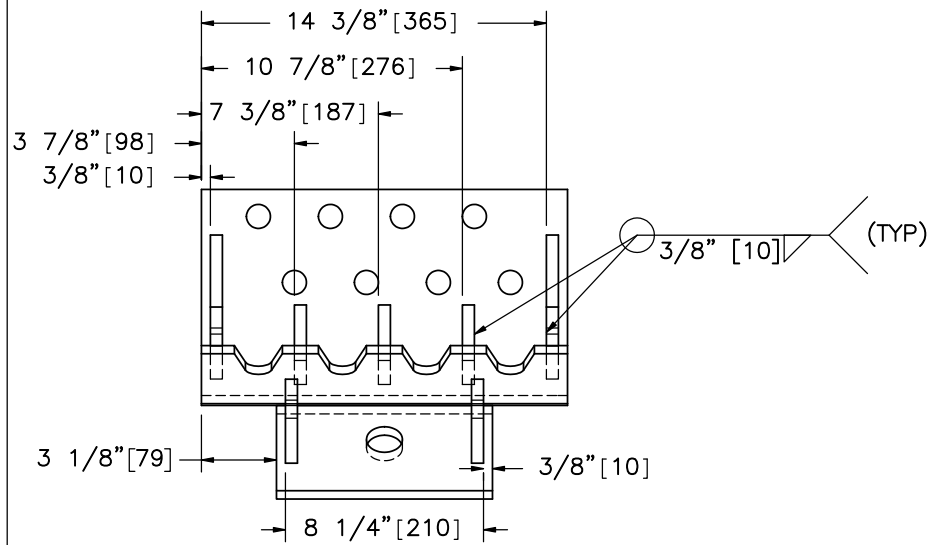
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SHEET:  
12 of 26

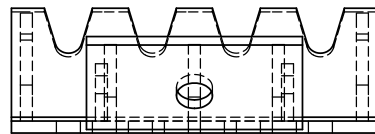
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6/11/2019

DRAWN BY:  
MBD/MKB/  
JEK/DJW

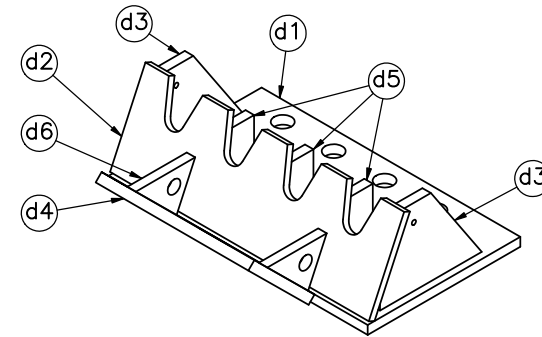
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KAL/JCH



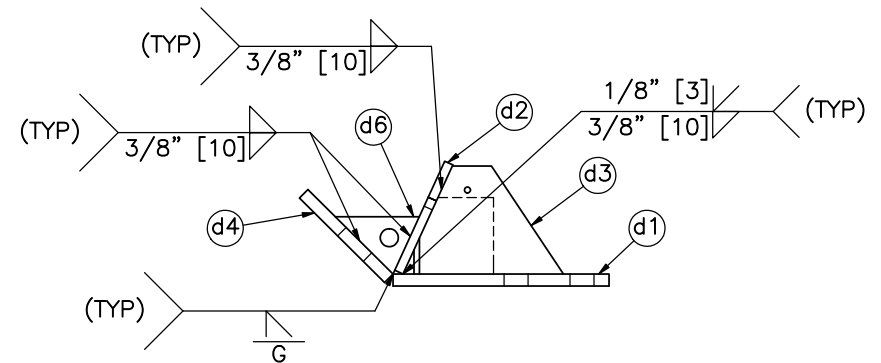
PLAN VIEW



ELEVATION VIEW



ISOMETRIC VIEW



PROFILE VIEW

Item No.	QTY.	Description	Material Specification	Treatment Specification	Hardware Guide
—	2	Cable Anchor Bracket Assembly	—	ASTM A123	FPA02
d1	1	15 1/4"x9"x1/2" [387x229x13] Cable Anchor Base Plate	ASTM A36	See Assembly	—
d2	1	15 1/4"x5"x3/8" [387x127x10] Anchor Bracket Plate	ASTM A36	See Assembly	—
d3	2	6"x4 1/2"x1/2" [152x114x13] Exterior Cable Plate Gusset	ASTM A36	See Assembly	—
d4	1	9"x5"x1/2" [229x127x13] Release Lever Plate	ASTM A36	See Assembly	—
d5	3	3 5/16"x3 3/16"x1/2" [84x81x13] Interior Cable Plate Gusset	ASTM A36	See Assembly	—
d6	2	3 1/2"x2 3/8"x1/2" [89x61x13] Release Gusset	ASTM A36	See Assembly	—



Midwest Roadside  
Safety Facility

Non-Proprietary Cable  
Median Barrier  
Test No. MTP-1

Cable Anchor Bracket Assembly

DWG. NAME.  
MTP-1\_R5

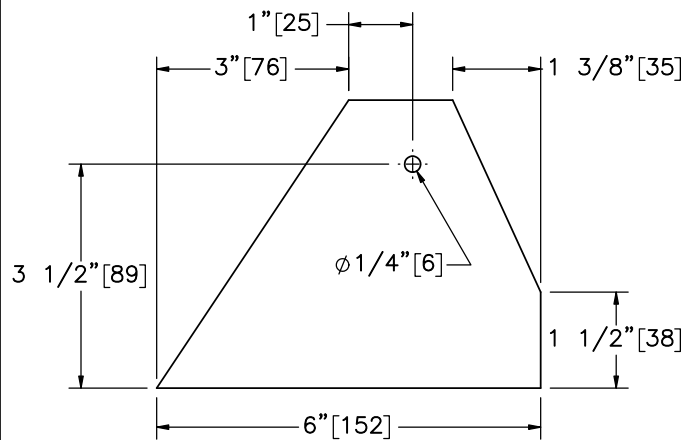
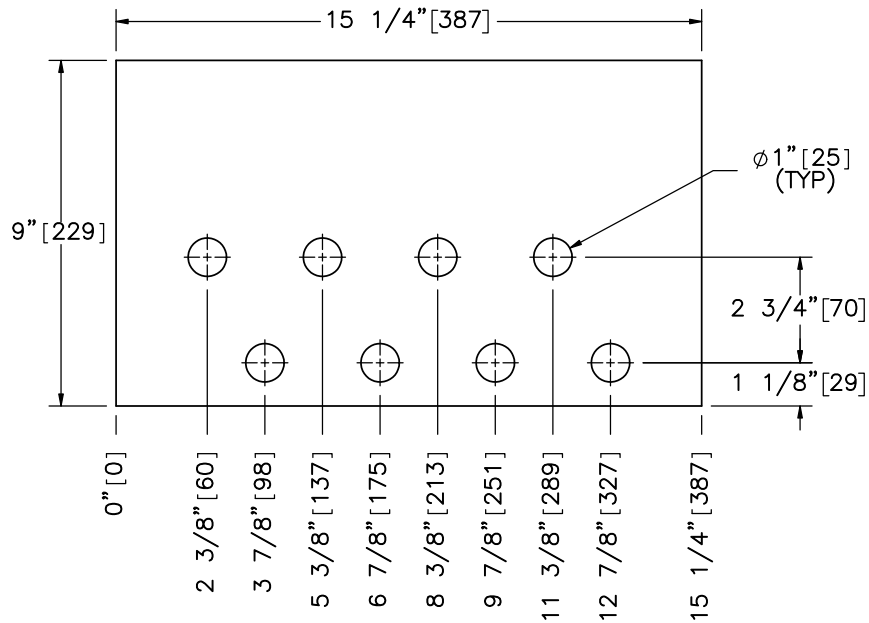
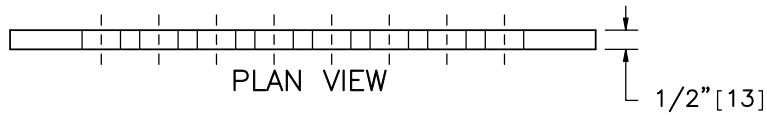
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SHEET:  
13 of 26

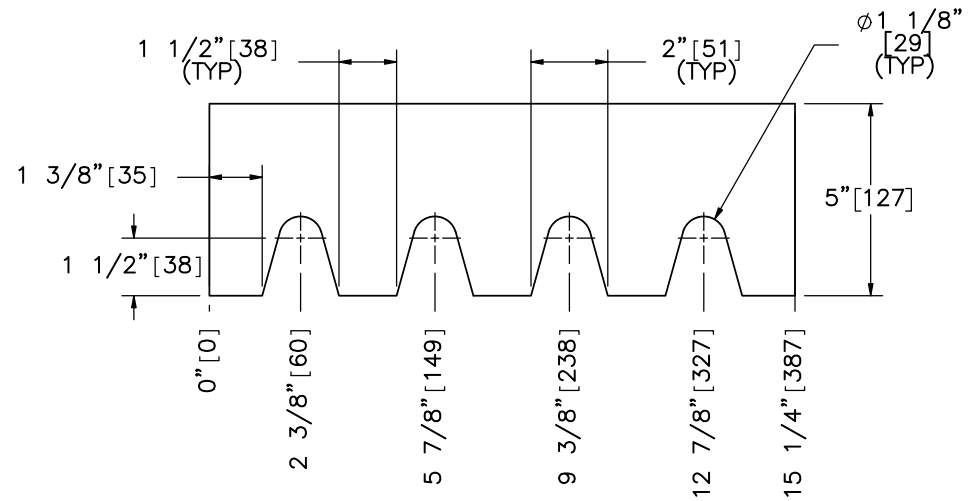
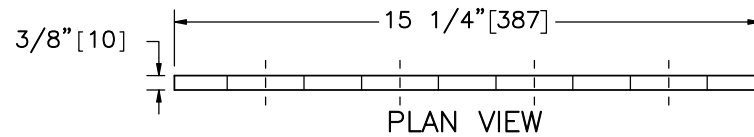
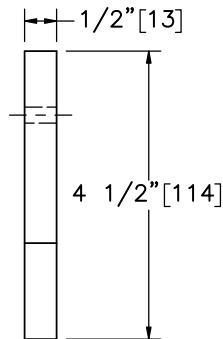
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6/11/2019

DRAWN BY:  
MBD/MKB/  
JEK/DJW

REV. BY:  
KAL/JCH



SCALE 1:3  
Part d3



Midwest Roadside  
Safety Facility

Non-Proprietary Cable  
Median Barrier  
Test No. MTP-1

Cable Anchor Bracket  
Components

DWG. NAME:  
MTP-1\_R5

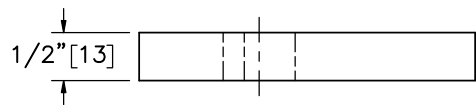
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SHEET:  
14 of 26

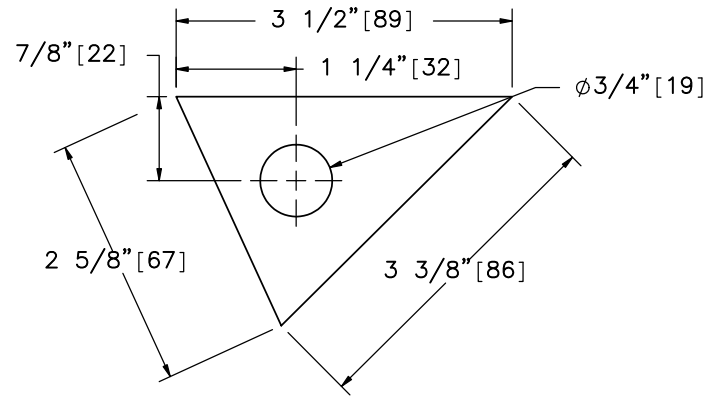
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6/11/2019

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MBD/MKB/  
JEK/DJW

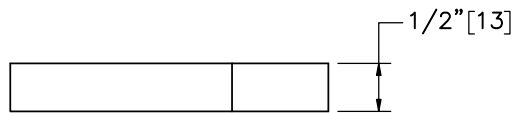
REV. BY:  
KAL/JCH



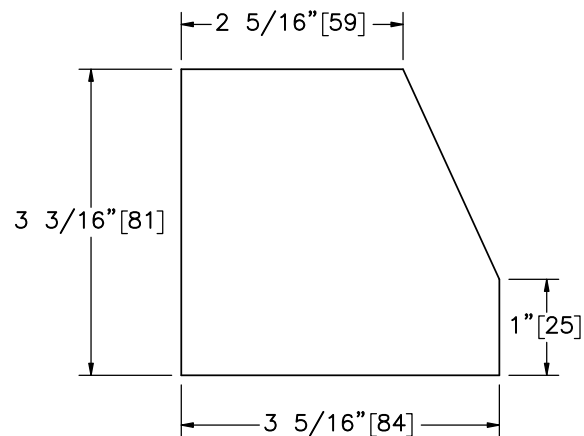
PLAN VIEW



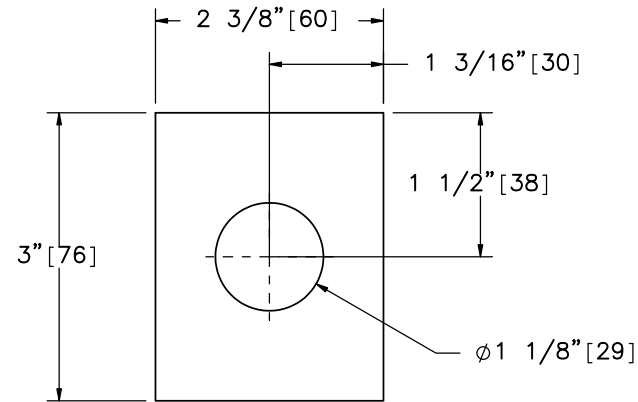
ELEVATION VIEW  
Part d6



PLAN VIEW

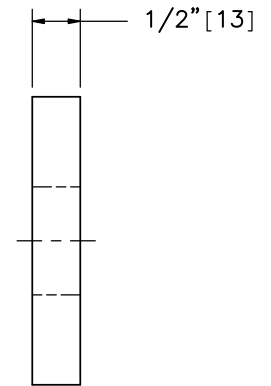


ELEVATION VIEW  
Part d5

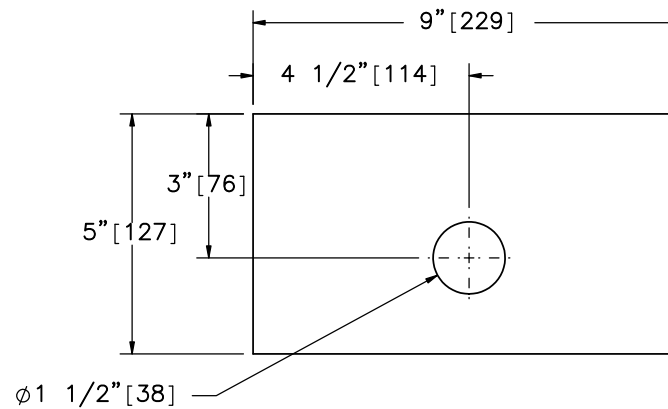


ELEVATION VIEW

Part h13

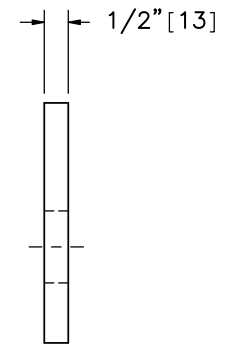


PROFILE VIEW



ELEVATION VIEW

SCALE 1:4  
Part d4



PROFILE VIEW



Midwest Roadside  
Safety Facility

Non-Proprietary Cable  
Median Barrier  
Test No. MTP-1

Cable Anchor Bracket  
Components

DWG. NAME:  
MTP-1\_R5

SCALE: 1:2  
UNITS: in.[mm]

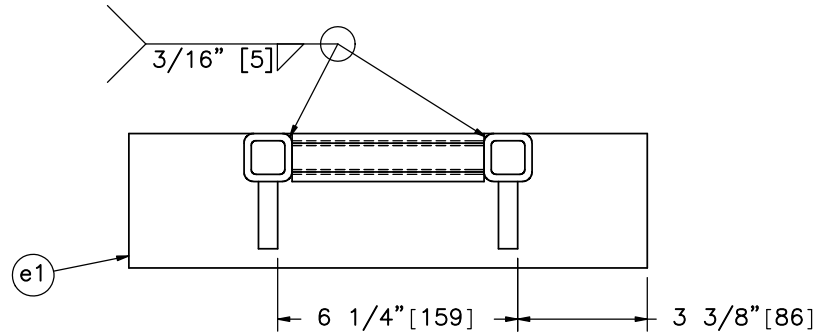
SHEET:  
15 of 26

DATE:  
6/11/2019

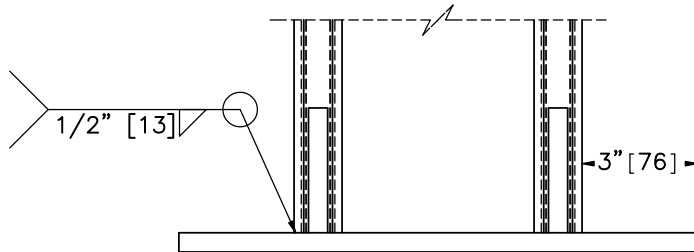
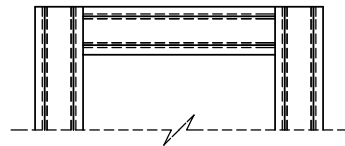
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MBD/MKB/  
JEK/DJW

REV. BY:  
KAL/JCH

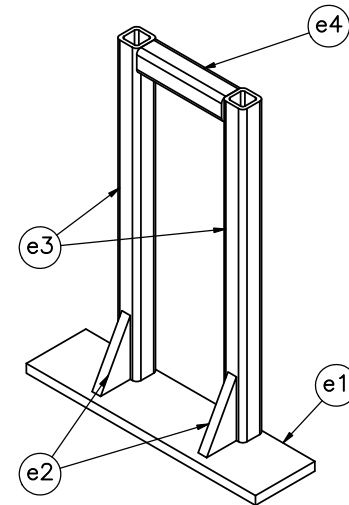
- Notes: (1) The kicker lever should be flush with the top of the kicker plate.  
 (2) The 3 1/4" [83] leg of the kicker plate gusset should line up with the kicker lever.  
 (3) The bottom of the cable release lever should rest upon part d6.



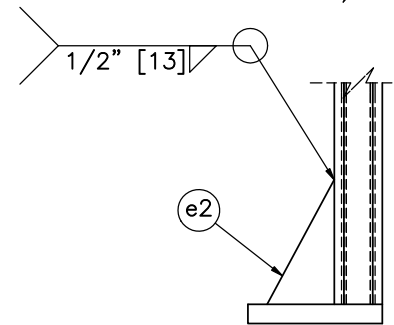
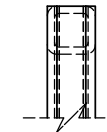
PLAN VIEW



ELEVATION VIEW



ISOMETRIC VIEW



PROFILE VIEW

Item No.	QTY.	Description	Material Specification	Treatment Specification	Hardware Guide
—	2	Cable Release Lever Assembly	—	ASTM A123	—
e1	1	13 1/2"x3 1/2"x1/2" [343x89x13] Kicker Plate	ASTM A36	See Assembly	—
e2	2	3 1/4"x1 3/4"x1/2" [83x44x13] Kicker Gusset	ASTM A36	See Assembly	—
e3	2	1 1/4"x1 1/4"x3/16" [32x32x5], 17" [432] Long Square Tube	ASTM A500 Gr. B	See Assembly	—
e4	1	1 1/4"x1 1/4"x3/16" [32x32x5], 5" [127] Long Square Tube	ASTM A500 Gr. B	See Assembly	—



Midwest Roadside  
Safety Facility

Non-Proprietary Cable  
Median Barrier  
Test No. MTP-1

Cable Release Lever Assembly

DWG. NAME.  
MTP-1\_R5

SCALE: 1:5  
UNITS: in./mm

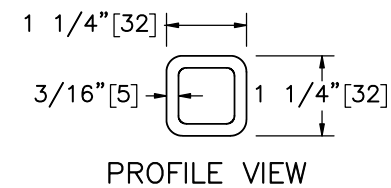
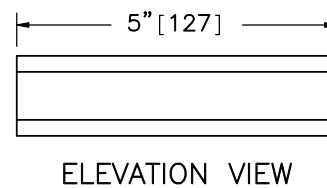
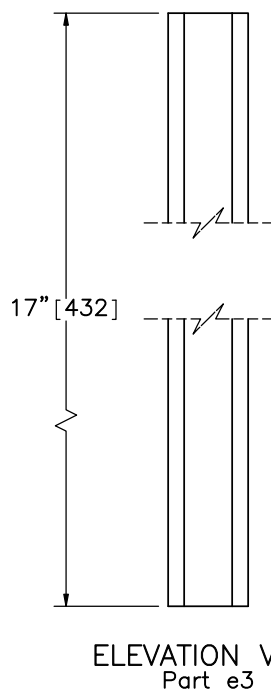
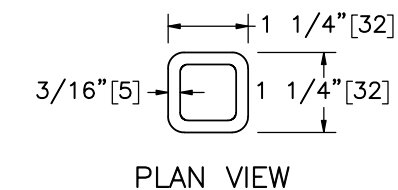
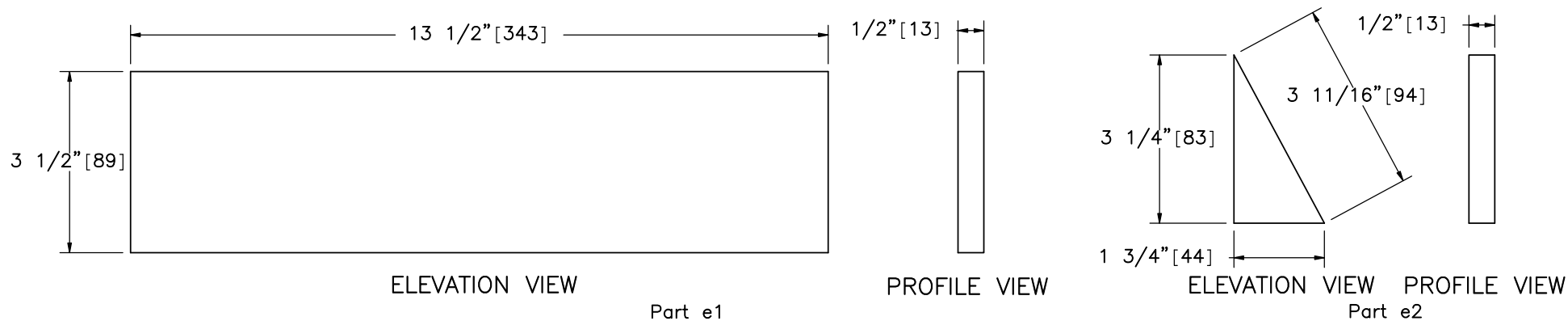
SHEET:  
16 of 26

DATE:  
6/11/2019

DRAWN BY:  
MBD/MKB/  
JEK/DJW

REV. BY:  
KAL/JCH





Midwest Roadside  
Safety Facility

Non-Proprietary Cable  
Median Barrier  
Test No. MTP-1

Cable Release Lever  
Components

DWG. NAME.  
MTP-1\_R5

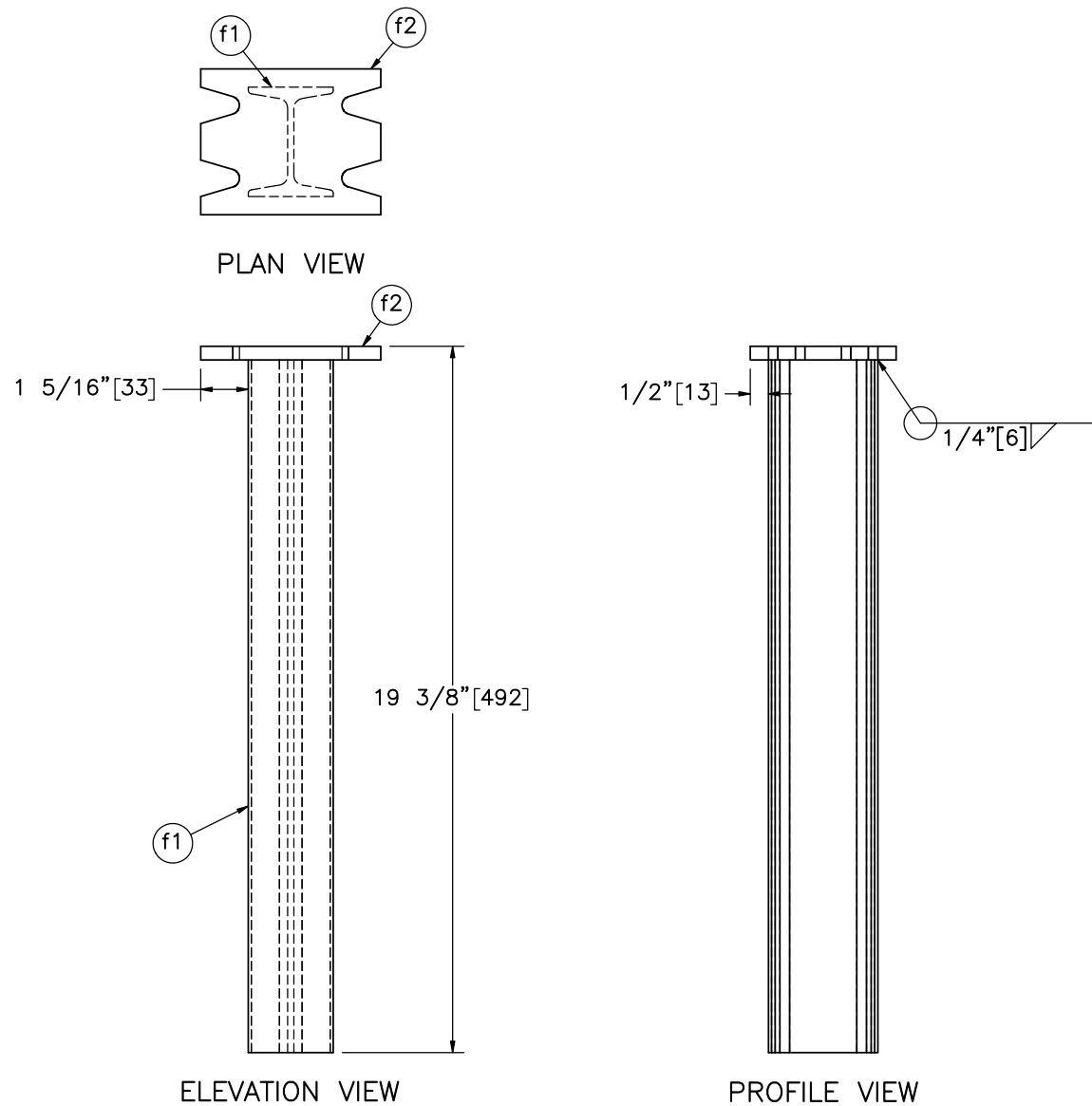
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SHEET:  
17 of 26

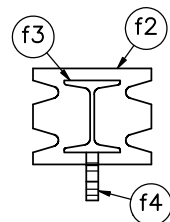
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6/11/2019

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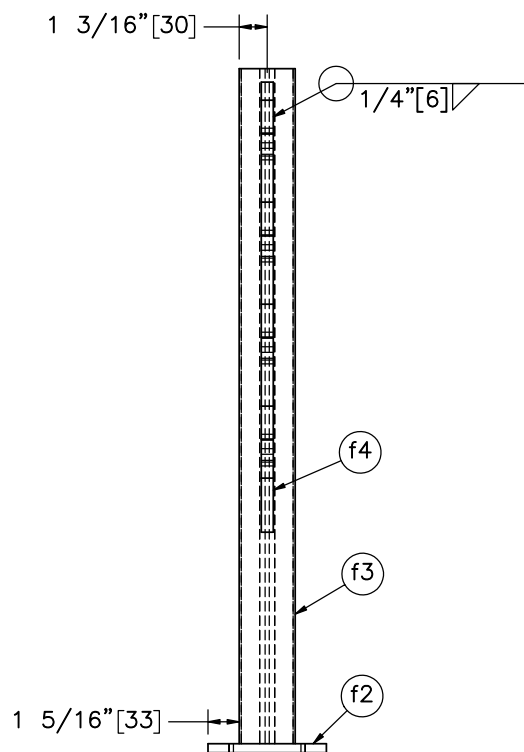
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KAL/JCH



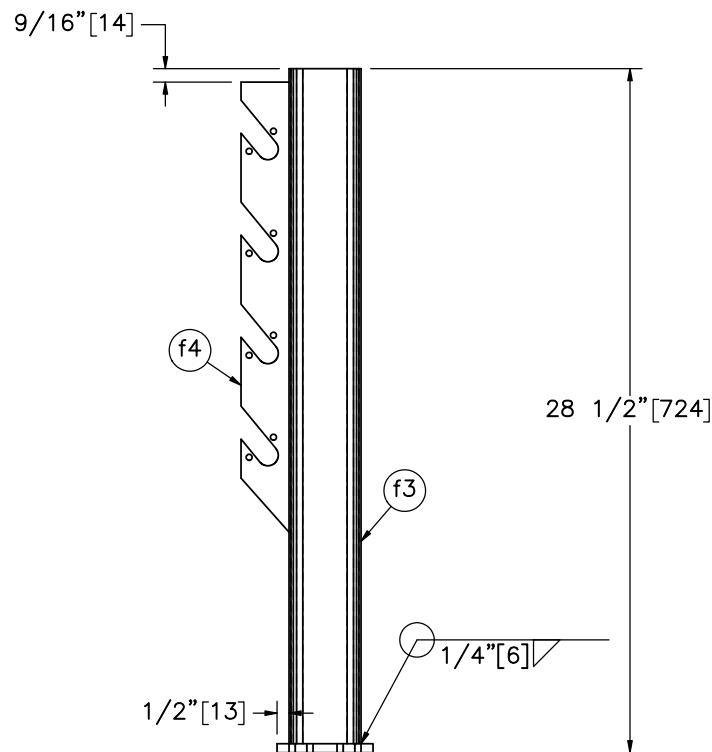
Item No.	QTY.	Description	Material Specification	Treatment Specification		Non-Proprietary Cable Median Barrier Test No. MTP-1 Lower Second Post Assembly	SHEET: 18 of 26	
							DATE: 6/11/2019	
							DRAWN BY: MBD/MKB/JEK/DJW	
							REV. BY: KAL/JCH	
f1	1	S3x5.7 [S75x8.5], 19" [483] Long Post	ASTM A36	See Assembly	Midwest Roadside Safety Facility	DWG. NAME: MTP-1_R5	SCALE: 1:5 UNITS: in./mm	
f2	1	4 15/16"x4"x3/8" [125x102x10] Base Plate	ASTM A36	See Assembly				




PLAN VIEW

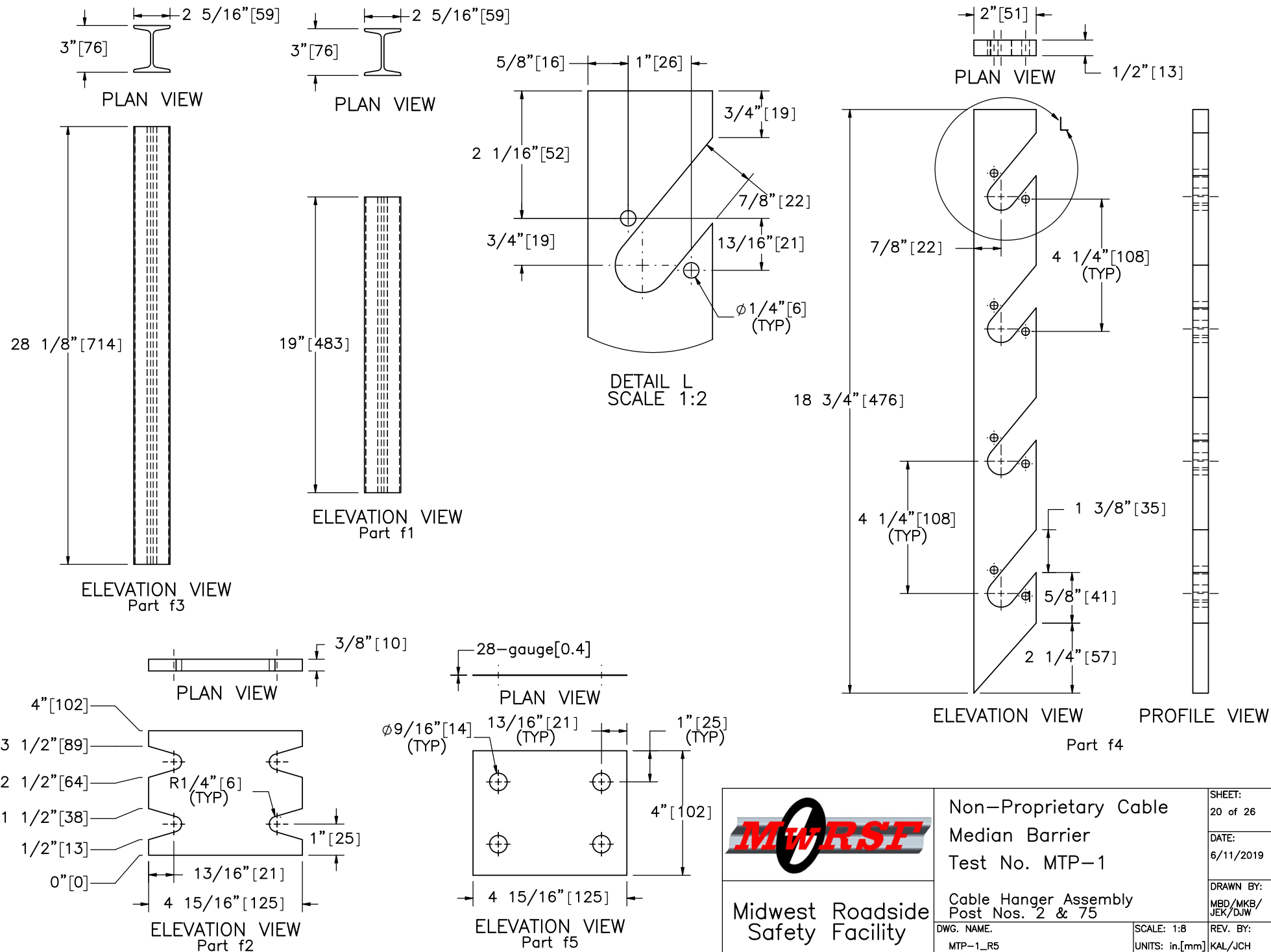


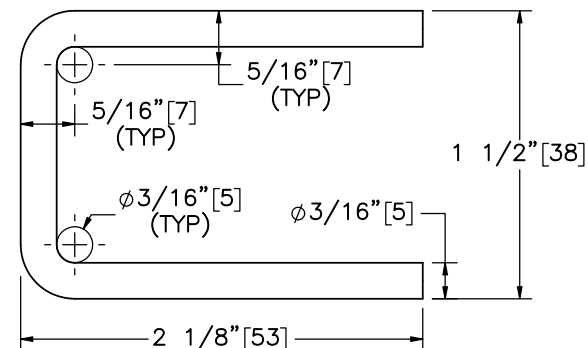
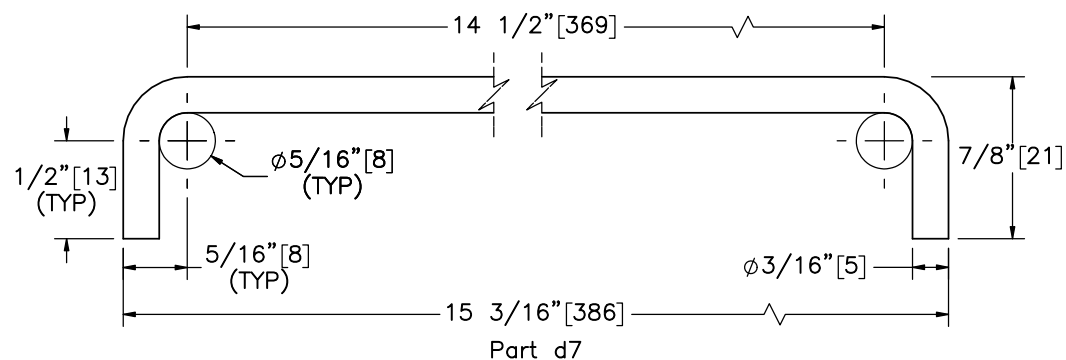
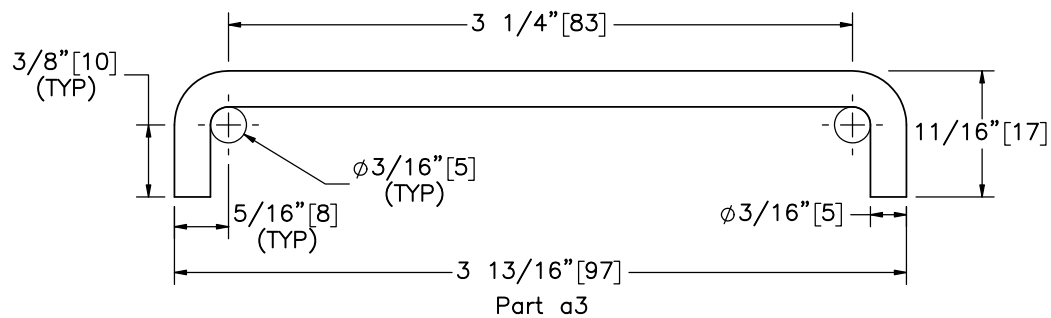
ELEVATION VIEW



PROFILE VIEW

Item No.	QTY.	Description	Material Specification	Treatment Specification	 Midwest Roadside Safety Facility	Non-Proprietary Cable Median Barrier Test No. MTP-1 Upper Second Post Assembly		SHEET: 19 of 26
—	2	Upper Second Post Assembly	—	ASTM A123				DATE: 6/11/2019
f2	1	4 15/16"x4"x3/8" [125x102x10] Base Plate	ASTM A36	See Assembly				DRAWN BY: MBD/MKB/JEK/DJW
f3	1	S3x5.7 [S75x8.5], 28 1/8" [714] Long Post	ASTM A36	See Assembly				REV. BY: KAL/JCH
f4	1	18 3/4"x2"x1/2" [476x51x13] Cable Hanger	ASTM A36	See Assembly				
					DWG. NAME: MTP-1_R5	SCALE: 1:8 UNITS: in./mm		





Bar	Total Unbent Length
a3	4 9/16" [116]
d7	16 1/4" [413]
f6	5 1/8" [130]



Midwest Roadside  
Safety Facility

Non-Proprietary Cable  
Median Barrier  
Test No. MTP-1

Brass Cable Clip Details

DWG. NAME.  
MTP-1\_R5

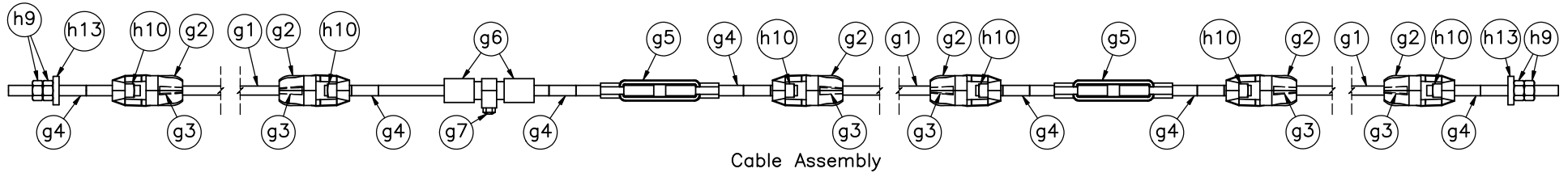
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UNITS: in./mm

SHEET:  
21 of 26

DATE:  
6/11/2019

DRAWN BY:  
MBD/MKB/  
JEK/DJW

REV. BY:  
KAL/JCH



Item No.	QTY.	Description	Material Specification	Treatment Specification	Hardware Guide
—	4	Cable Assembly	—	—	—
g1	3	3/4" [19] Dia. 3x7 IWRC IPS Wire Rope — Lengths as Needed	ASTM A741 Type 1	Class A Coating	RCM01
g2	6	Bennett Cable End Fitter — 7/8" [22] Dia.	ASTM A220 Gr. 50005	ASTM A153 or B695	RCE03
g3	6	Cable Wedge	ASTM A47 Gr. 32510 or A536 Gr. 65–45–12	—	FMM01
g4	7	7/8"—9 UNC [M22x2.5], 11" [279] Long Threaded Rod	ASTM A449 Type 1 or ASTM A193 Gr. B7	ASTM A153 or B695 Class 55 or F2329	RCE03
g5	2	Bennett Short 7/8"—9 UNC [M22x2.5] Threaded Turnbuckle	As Supplied	As Supplied	—
g6	2	Threaded Load Cell Coupler	—	—	—
g7	1	50,000-lb [222.4-kN] Load Cell	—	—	—
h9	4	7/8"—9 UNC [M22x2.5] Heavy Hex Nut	ASTM A563C or equivalent	ASTM A153 or B695 Class 55 or F2329	FNX22b
h10	6	7/8"—9 UNC [M22x2.5] Heavy Square Nut	ASTM A563DH or equivalent	ASTM A153 or B695 Class 55 or F2329	—
h13	2	3"x2 3/8"x1/2" [76x60x13] Rectangular Washer Plate	ASTM A36	ASTM A123	—



Midwest Roadside  
Safety Facility

Non-Proprietary Cable  
Median Barrier  
Test No. MTP-1

Cable Assembly

DWG. NAME.  
MTP-1\_R5

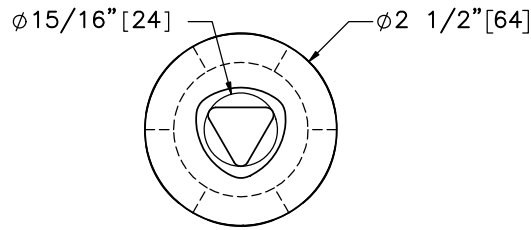
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SHEET:  
22 of 26

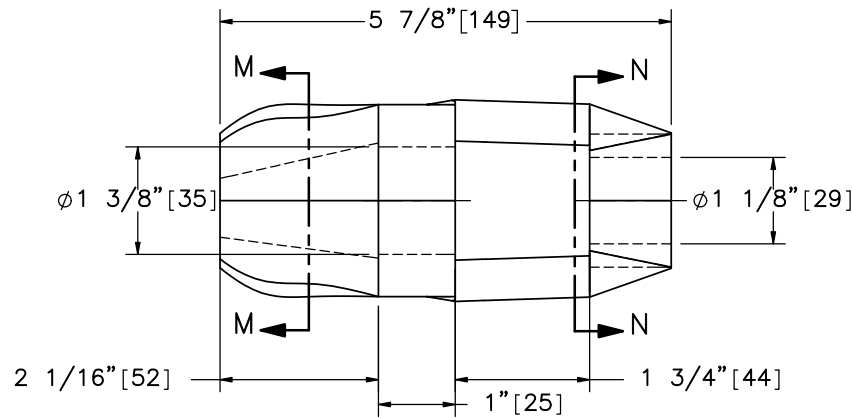
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6/11/2019

DRAWN BY:  
MBD/MKB/  
JEK/DJW

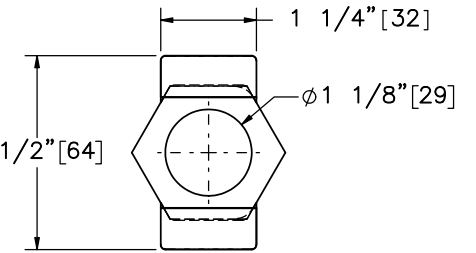
REV. BY:  
KAL/JCH



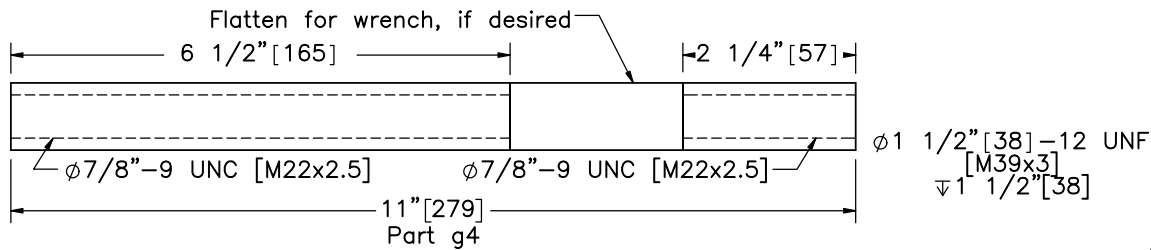
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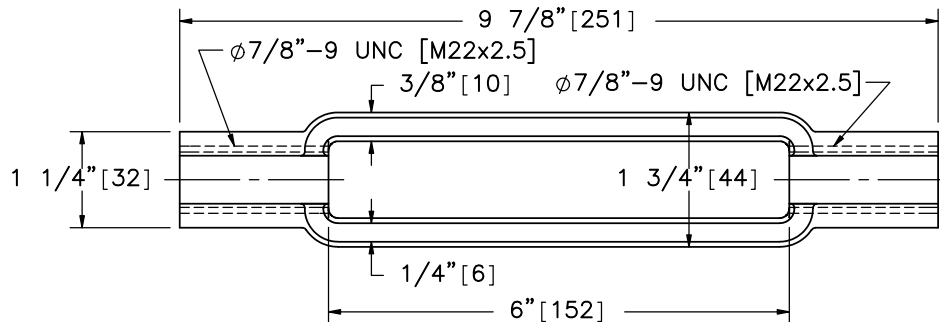
ELEVATION VIEW  
Part g2



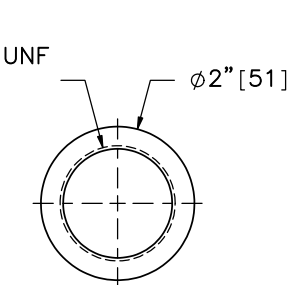
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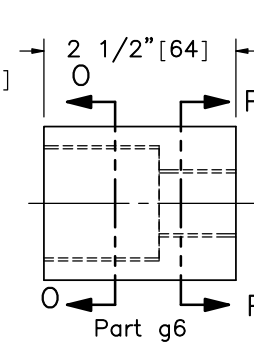
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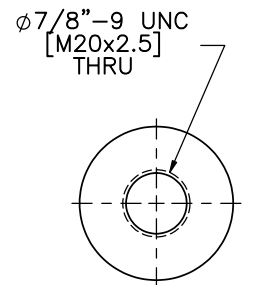
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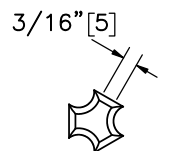
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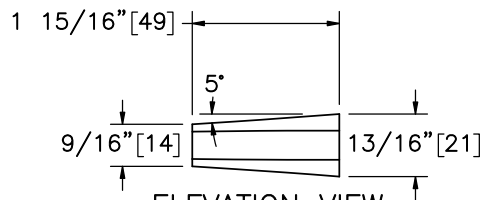
Part g6



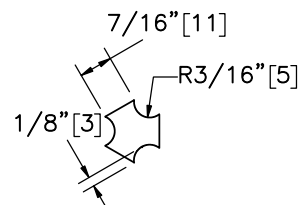
SECTION P-P



REAR VIEW



ELEVATION VIEW  
Part g3



PROFILE VIEW



Midwest Roadside  
Safety Facility

Non-Proprietary Cable  
Median Barrier  
Test No. MTP-1

Load Cell Assembly Component  
Details

DWG. NAME:  
MTP-1\_R5

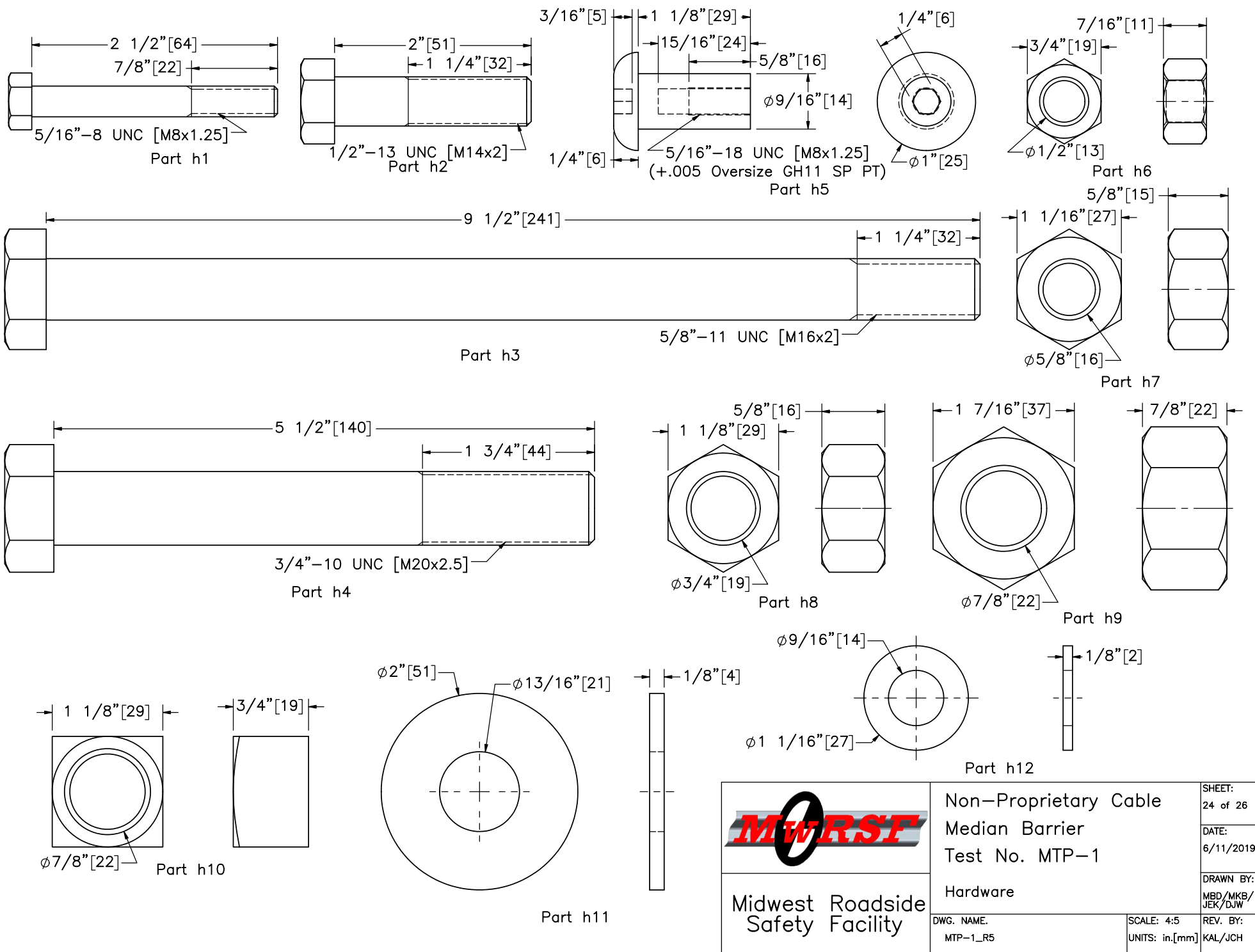
SCALE: 2:5  
UNITS: in./mm

SHEET:  
23 of 26

DATE:  
6/11/2019

DRAWN BY:  
MBD/MKB/  
JEK/DJW

REV. BY:  
KAL/JCH





Item No.	QTY.	Description	Material Specification	Treatment Specification	Hardware Guide
a1	72	HSS 3x2x1/8 [76x51x3], 78" [1,981] Long Steel Post with two 3/4" [19] holes	ASTM A500 Gr. C	ASTM A123	—
a2	216	5"x15/16"x12—Gauge [128x24x2.7] Tabbed Bracket	Hot—Rolled ASTM A1011 HSLA Gr. 50	ASTM A123	—
a3	72	3/16" [5] Dia. Brass Cable Clip, 4 9/16" [116] Long Unbent	ASTM B16—00	—	—
b1	2	24" [610] Dia. Concrete Anchor, 120" [3,048] Long	Min. f'c = 4,000 psi [27.6 MPa]	—	—
b2	44	#4 [13] Hoop Bar with 21" [533] Dia., 84" [2,134] Unbent Length	ASTM A615 Gr. 60 or ASTM A706 Gr. 60	Epoxy—Coated (ASTM A775 or A934)	—
b3	16	#11 [35] Bar, 114" [2,896] Long	ASTM A615 Gr. 60 or ASTM A706 Gr. 60	Epoxy—Coated (ASTM A775 or A934)	—
b4	16	3/4"—10 UNC [M20x2.5] J—Hook Anchor	ASTM A449	ASTM A153 or B695 Class 55 or F2329	FRJ16a
c1	2	12" [305] Dia. 2nd Post Concrete Anchor, 46" [1,168] Long	Min. f'c = 4,000 psi [27.6 MPa]	—	—
c2	2	12" [305] Dia. 2nd Post Anchor Aggregate, 2" [51] Deep	Standard Strong Soil	—	—
c3	22	#3 [10] Hoop Bar with 9" [229] Dia., 37" [940] Unbent Length	ASTM A615 Gr. 60 or ASTM A706 Gr. 60	Epoxy—Coated (ASTM A775 or A934)	—
c4	8	#3 [10] Bar, 43" [1,092] Long	ASTM A615 Gr. 60 or ASTM A706 Gr. 60	Epoxy—Coated (ASTM A775 or A934)	—
c5	2	4"x3"x1/4" [102x76x6] Foundation Tube, 48" [1,219] Long	ASTM A500 Gr. B	ASTM A123	—
d1	2	15 1/4"x9"x1/2" [387x229x13] Cable Anchor Base Plate	ASTM A36	See Assembly	—
d2	2	15 1/4"x5"x3/8" [387x127x10] Anchor Bracket Plate	ASTM A36	See Assembly	—
d3	4	6"x4 1/2"x1/2" [152x114x13] Exterior Cable Plate Gusset	ASTM A36	See Assembly	—
d4	2	9"x5"x1/2" [229x127x13] Release Lever Plate	ASTM A36	See Assembly	—
d5	6	3 5/16"x3 3/16"x1/2" [84x81x13] Interior Cable Plate Gusset	ASTM A36	See Assembly	—
d6	4	3 1/2"x2 3/8"x1/2" [89x61x13] Release Gusset	ASTM A36	See Assembly	—
d7	2	3/16" [5] Dia. Brass Keeper Rod, 16 1/4" [413] Long Unbent	ASTM B16—00	—	—
e1	2	13 1/2"x3 1/2"x1/2" [343x89x13] Kicker Plate	ASTM A36	See Assembly	—
e2	4	3 1/4"x1 3/4"x1/2" [83x44x13] Kicker Gusset	ASTM A36	See Assembly	—
e3	4	1 1/4"x1 1/4"x3/16" [32x32x5], 17" [432] Long Square Tube	ASTM A500 Gr. B	See Assembly	—
e4	2	1 1/4"x1 1/4"x3/16" [32x32x5], 5" [127] Long Square Tube	ASTM A500 Gr. B	See Assembly	—
e5	2	1/4" [6] Dia. 7x19 Aircraft Retaining Cable, 36" [914] Long	ASTM A1023	Hot—Dipped Galvanized	—



Midwest Roadside  
Safety Facility

Non—Proprietary Cable  
Median Barrier  
Test No. MTP—1

Bill of Materials

DWG. NAME.  
MTP—1\_R5

SCALE: None  
UNITS: in.[mm]

SHEET:  
25 of 26

DATE:  
6/11/2019

DRAWN BY:  
MBD/MKB/  
JEK/DJW

REV. BY:  
KAL/JCH

Item No.	QTY.	Description	Material Specification	Treatment Specification	Hardware Guide
f1	2	S3x5.7 [S75x8.5], 19" [483] Long Post	ASTM A36	See Assembly	—
f2	4	4 15/16"x4"x3/8" [125x102x10] Base Plate	ASTM A36	See Assembly	—
f3	2	S3x5.7 [S75x8.5], 28 1/8" [714] Long Post	ASTM A36	See Assembly	—
f4	2	18 3/4"x2"x1/2" [476x51x13] Cable Hanger	ASTM A36	See Assembly	—
f5	2	4 15/16"x4"x28—Guage [125x102x0.4] Keeper Plate	ASTM A36	—	—
f6	8	3/16" [5] Dia., 5 1/8" [130] Long Unbent Brass Rod	ASTM B16—00	—	—
g1	12	3/4" [19] Dia. 3x7 IWRC IPS Wire Rope — Lengths as Needed	ASTM A741 Type 1	Class A Coating	RCM01
g2	24	Bennett Cable End Fitter — 7/8" [22] Dia.	ASTM A220 Gr. 50005	ASTM A153 or B695	RCE03
g3	24	Cable Wedge	ASTM A47 Gr. 32510 or A536 Gr. 65—45—12	—	FMM01
g4	28	7/8"—9 UNC [M22x2.5], 11" [279] Long Threaded Rod	ASTM A449 Type 1 or ASTM A193 Gr. B7	ASTM A153 or B695 Class 55 or F2329	RCE03
g5	8	Bennett Short 7/8"—9 UNC [M22x2.5] Threaded Turnbuckle	As Supplied	As Supplied	—
g6	8	Threaded Load Cell Coupler	—	—	—
g7	4	50,000—lb [222.4—kN] Load Cell	—	—	—
h1	216	5/16"—18 UNC [M8x1.25], 2 1/2" [64] Long Heavy Hex Bolt	SAE J429 Gr. 5	ASTM A153 or B695 Class 55 or F2329	FBX08b
h2	8	1/2"—13 UNC [M14x2], 2" [51] Long Hex Bolt	ASTM A307 Gr. A	ASTM A153 or B695 Class 55 or F2329	FBX14a
h3	2	5/8"—11 UNC [M16x2], 9 1/2" [241] Long Heavy Hex Bolt	ASTM A449 or equivalent	ASTM A153 or B695 Class 55 or F2329	FBX16b
h4	2	3/4"—10 UNC [M20x2.5], 5 1/2" [140] Long Hex Bolt	ASTM A307 Gr. A	ASTM A153 or B695 Class 55 or F2329	FBX20a
h5	216	5/16"—18 UNC [M8x1.25] Sleeve Nut	ASTM A311 Gr. 1144 Class B	ASTM A123 or A153	—
h6	8	1/2"—13 UNC [M14x2] Hex Nut	ASTM A563A or equivalent	ASTM A153 or B695 Class 55 or F2329	FBX14a
h7	2	5/8"—11 UNC [16x2] Heavy Hex Nut	ASTM A563C or equivalent	ASTM A153 or B695 Class 55 or F2329	FNX16b
h8	18	3/4"—10 UNC [M20x2.5] Hex Nut	ASTM A563A or equivalent	ASTM A153 or B695 Class 55 or F2329	FNX20a
h9	16	7/8"—9 UNC [M22x2.5] Heavy Hex Nut	ASTM A563C or equivalent	ASTM A153 or B695 Class 55 or F2329	FNX22b
h10	24	7/8"—9 UNC [M22x2.5] Heavy Square Nut	ASTM A563DH or equivalent	ASTM A153 or B695 Class 55 or F2329	—
h11	20	3/4" [19] Dia. Plain USS Washer	ASTM F844	ASTM A123 or A153 or F2329	FWC20a
h12	24	1/2" [13] Dia. Plain SAE Washer	ASTM F844	ASTM A123 or A153 or F2329	—
h13	8	3"x2 3/8"x1/2" [76x60x13] Rectangular Washer Plate	ASTM A36	ASTM A123	—



Midwest Roadside  
Safety Facility

Non—Proprietary Cable  
Median Barrier  
Test No. MTP—1

Bill of Materials

DWG. NAME.  
MTP—1\_R5

SCALE: None  
UNITS: in./mm

SHEET:  
26 of 26

DATE:  
6/11/2019

DRAWN BY:  
MBD/MKB/  
JEK/DJW

REV. BY:  
KAL/JCH

REV.	DATE OF ISSUE	Page	NATURE OF CHANGES	REVIEWER	REVISED BY
0	10/29/2018	–	Created from drawing MWP-9_R6.	–	MBD/MKB/ JEK
1	10/30/2018	–	System title edit. Posts/cables flipped so that bottom cable is on the non-impact side of the system for truck testing.	KAL	JEK
		1	Impact location add. Note 1, 2, 5 edits.		
		2	Post label adds.		
		5	Dim removals. Splice move. Label edits. Note 1 edit.		
		6	View orientation(s) edited. Label add.		
		7	View orientations edited.		
		11	Label edits.		
		13	Weld note moved.		
		16	Note 1, 2 edits.		
		22	Label fixes.		
		24	Part h5 thread spec edit.		
		BOM	Description: g2, g5. Mrtl: g2.		
2	1/31/2019	23	Dim edits.	KAL/JCH	DJW
		BOM	Item No. h1 material spec edit.		
3	2/12/2019	–	Modify system overall span dimension. Edit spacing between posts 68 and 69.	KAL	DJW
		1	Corresponding dim edits and adds. Added note.		
4	6/11/2019	1	Note 5 edit.	KAL	DJW
5	4/2/2021	2	Added note calling out load cells.	KAL	CJN
			Added note showing what page cable assembly was on.		