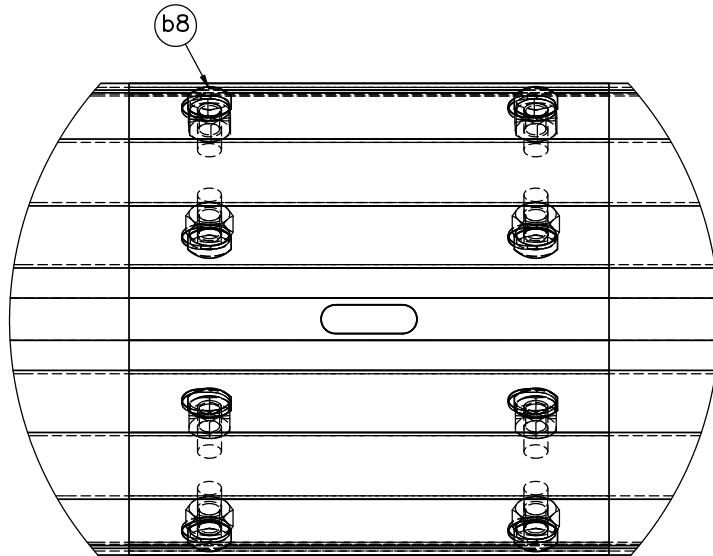
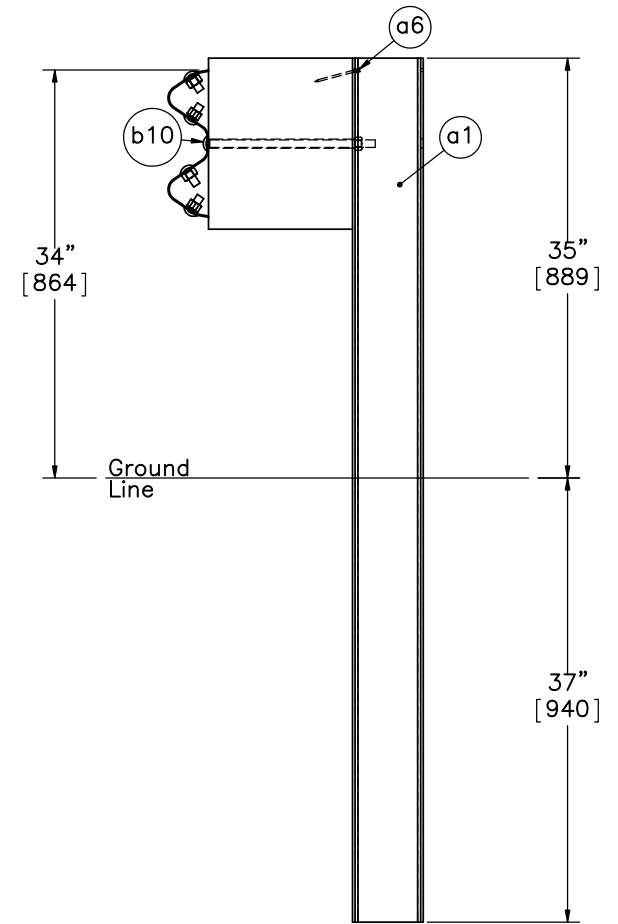


DETAIL A
SCALE 1 : 30



DETAIL C
SCALE 1 : 5



SECTION B-B



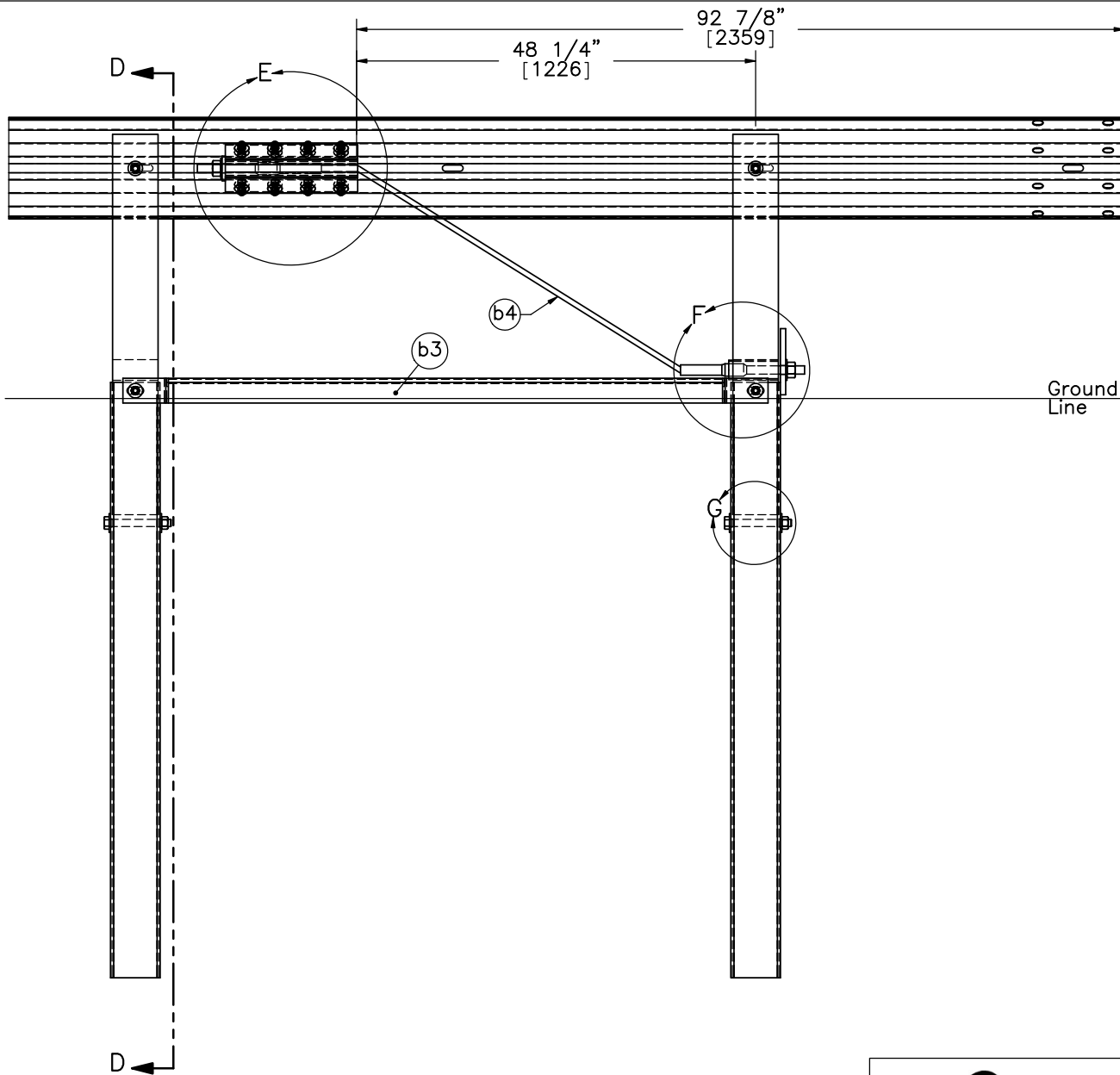
Midwest Roadside
Safety Facility

MGS Maximum Height
Posts 3-27 Detail

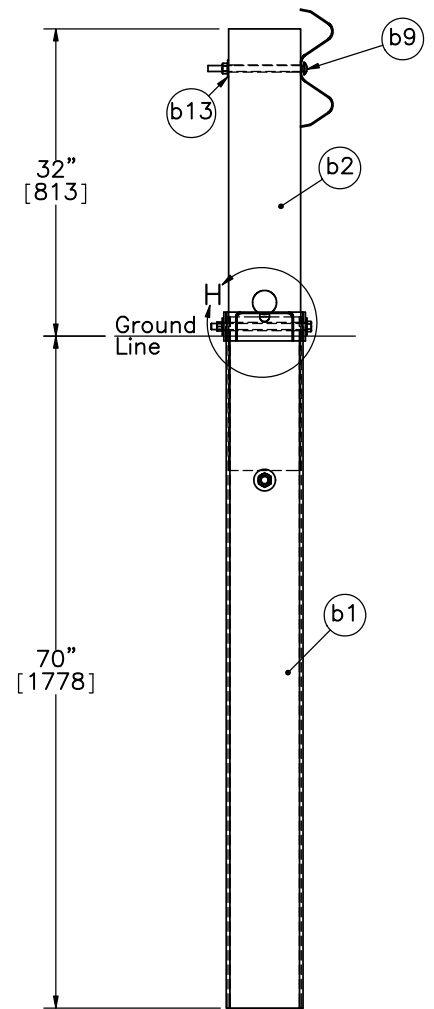
DWG. NAME.
MGS_34Ht_R5

SCALE: 1:16
UNITS: In.[mm]

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7/13/2011
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DMH
REV. BY:
KAL



END SECTION DETAIL



SECTION D-D



Midwest Roadside
Safety Facility

MGS Maximum Height
End Rail Details

SHEET:
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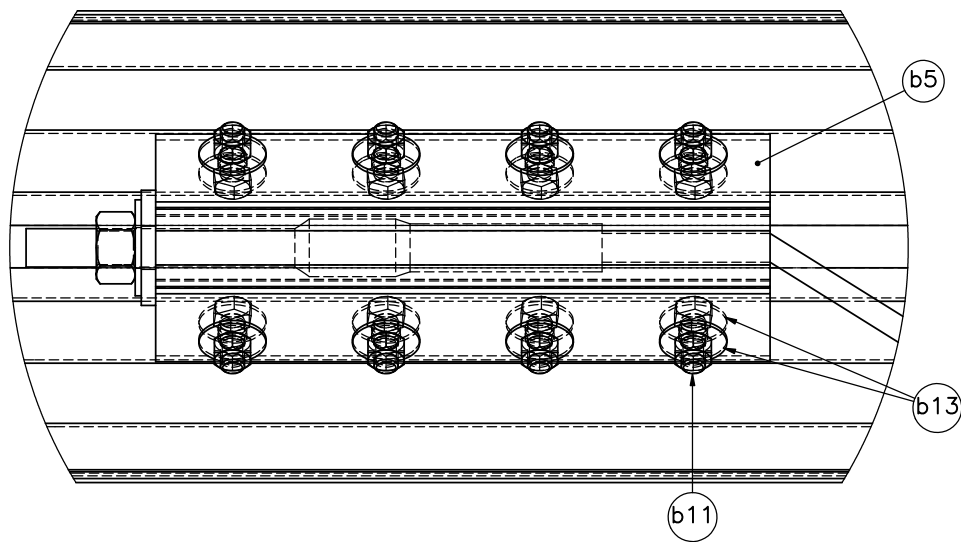
DATE:
7/13/2011

DRAWN BY:
GEP/MDM/
DMH

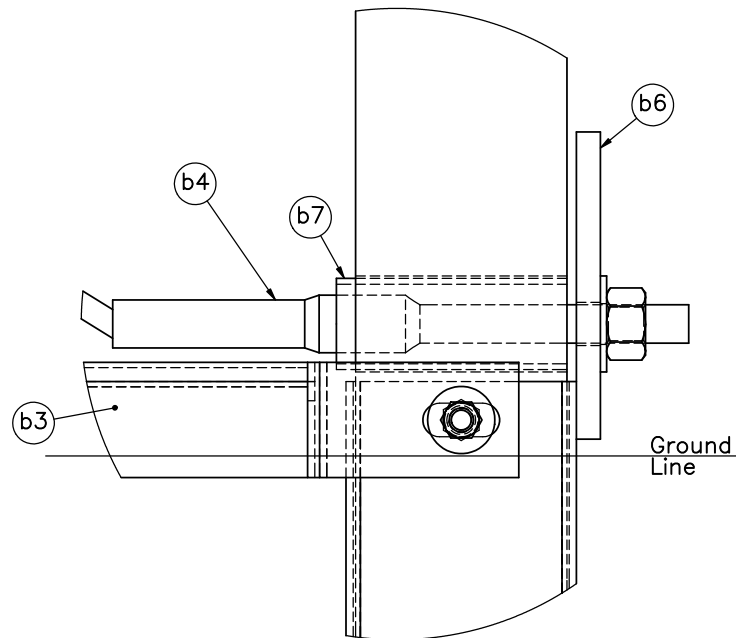
DWG. NAME:
MGS_34Ht_R5

SCALE: 1:20
UNITS: In.[mm]

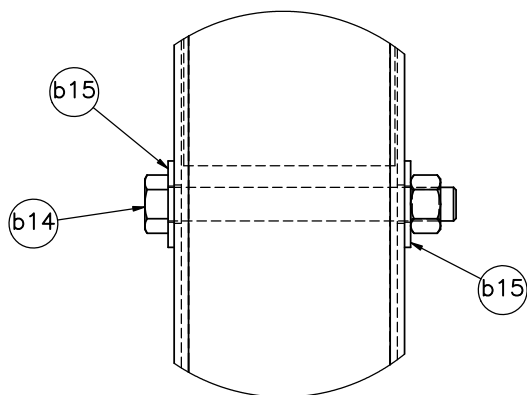
REV. BY:
KAL



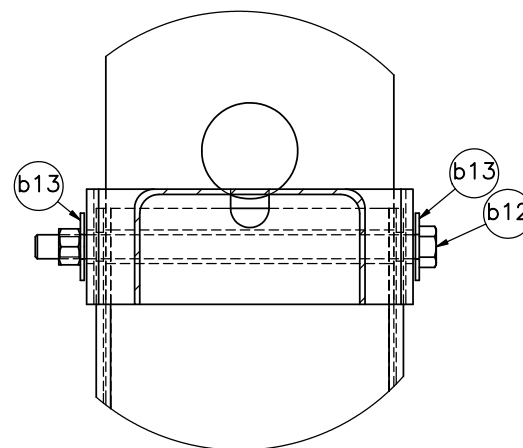
DETAIL E



DETAIL F



DETAIL G



DETAIL H



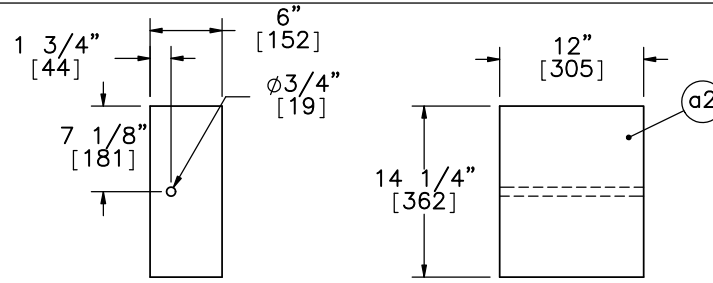
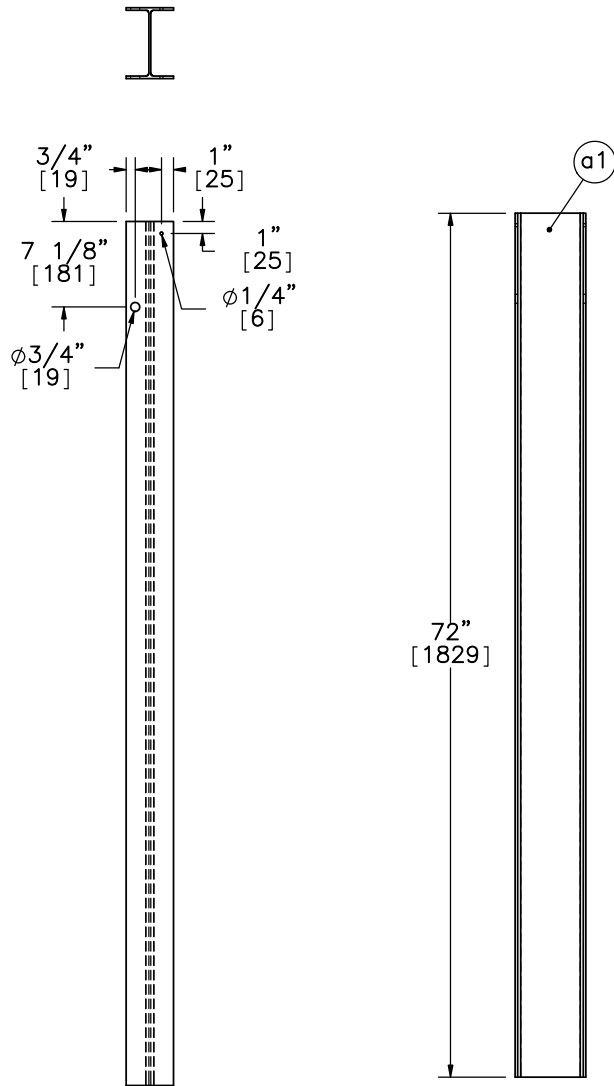
Midwest Roadside
Safety Facility

MGS Maximum Height
BCT Timber Posts &
Foundation Tube Detail

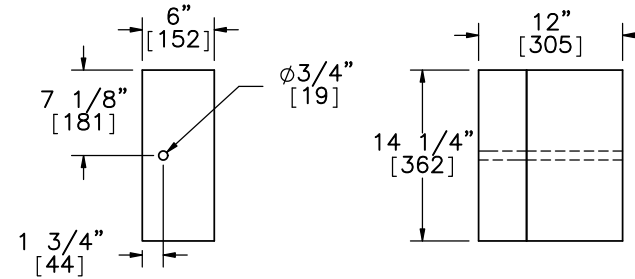
DWG. NAME.
MGS_34Ht_R5

SCALE: 1:5
UNITS: In.[mm]

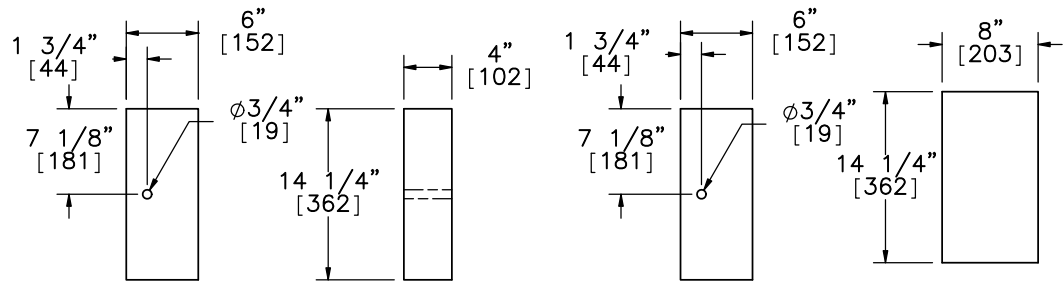
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DATE:
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DMH
REV. BY:
KAL



W-Beam Blockout



Alternate Blockout Option –
6"x4"x14 1/4" Blockout
with 6"x8"x14 1/4" Blockout



6"x4"x14 1/4" Blockout

6"x8"x14 1/4" Blockout

Line Post



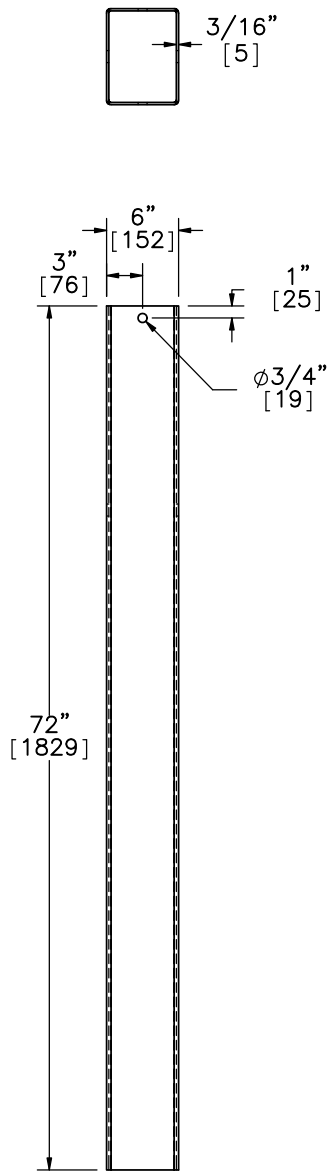
Midwest Roadside Safety Facility

MGS Maximum Height
Post No. 3-27 Details

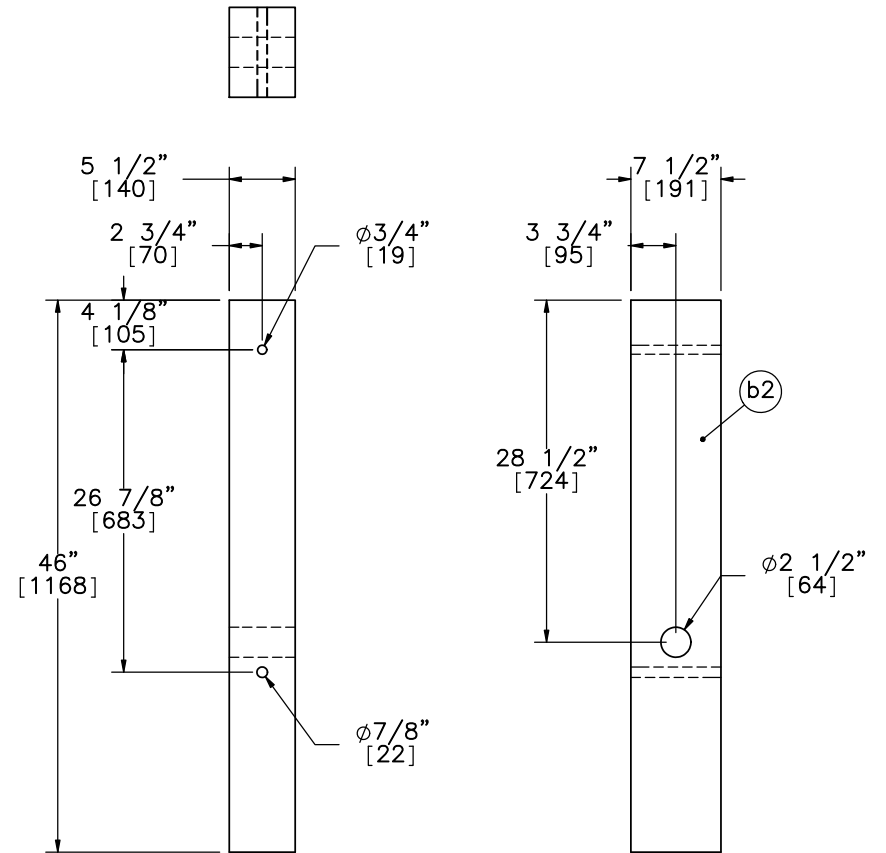
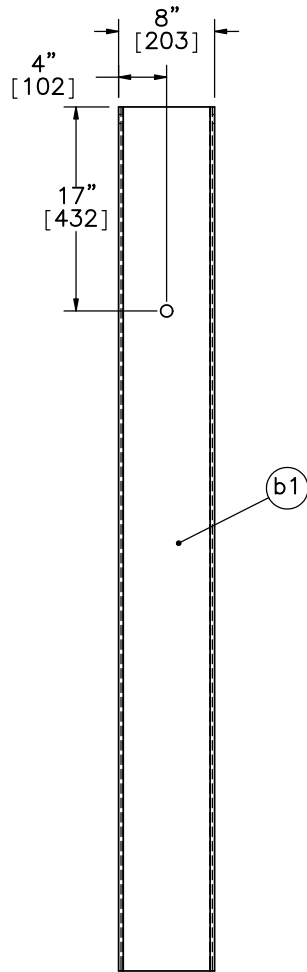
DWG. NAME:
MGS_34Ht_R5

SCALE: 1:16
UNITS: In.[mm]

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Foundation Tube



BCT (MGS) Timber Post



Midwest Roadside
Safety Facility

MGS Maximum Height

BCT Timber Post and
Foundation Tube

DWG. NAME.
MGS_34Ht_R5

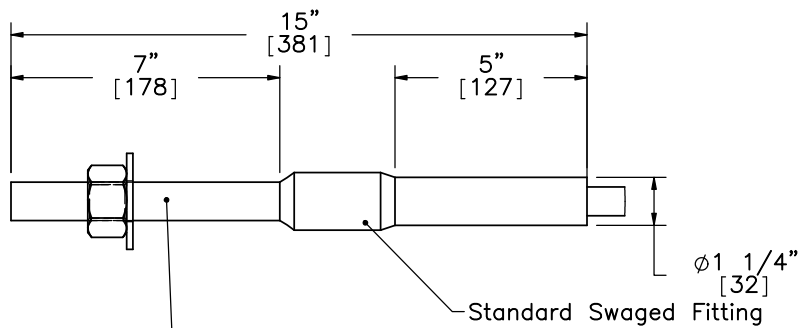
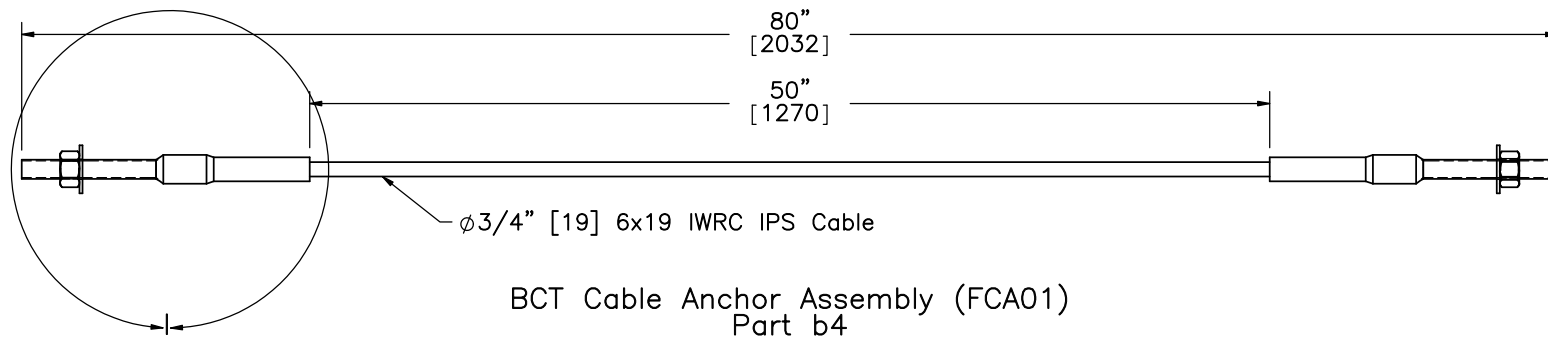
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UNITS: In.[mm]

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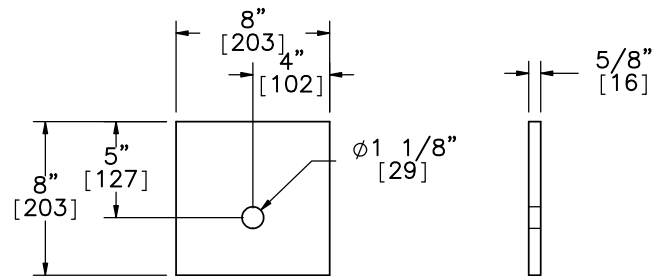
DRAWN BY:
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DMH

REV. BY:
KAL



DETAIL I
SCALE 1 : 5

1"-8UNC [M24] Stud
Threaded Entire Length



Anchor Cable Bearing Plate
Part b6

Note: (1) 6x25 IWRC IPS cables meet the minimum breaking strength of 42.7 kips [190 kN] and may be substituted for the 6x19 IWRC IPS cables.



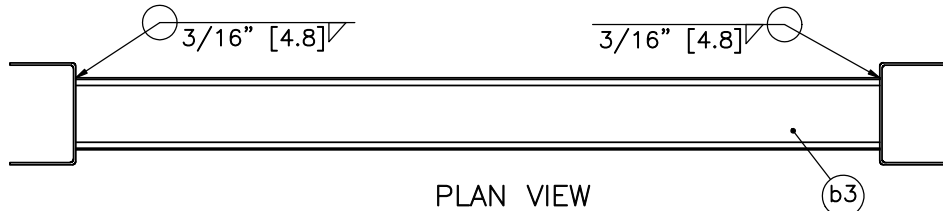
Midwest Roadside
Safety Facility

MGS Maximum Height
BCT Anchor Cable Detail

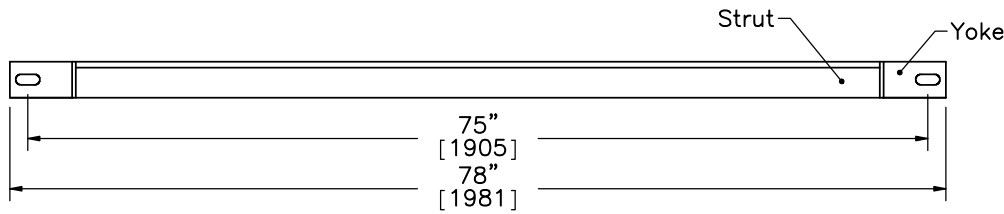
DWG. NAME.
MGS_34Ht_R5

SCALE: 1:10
UNITS: In.[mm]

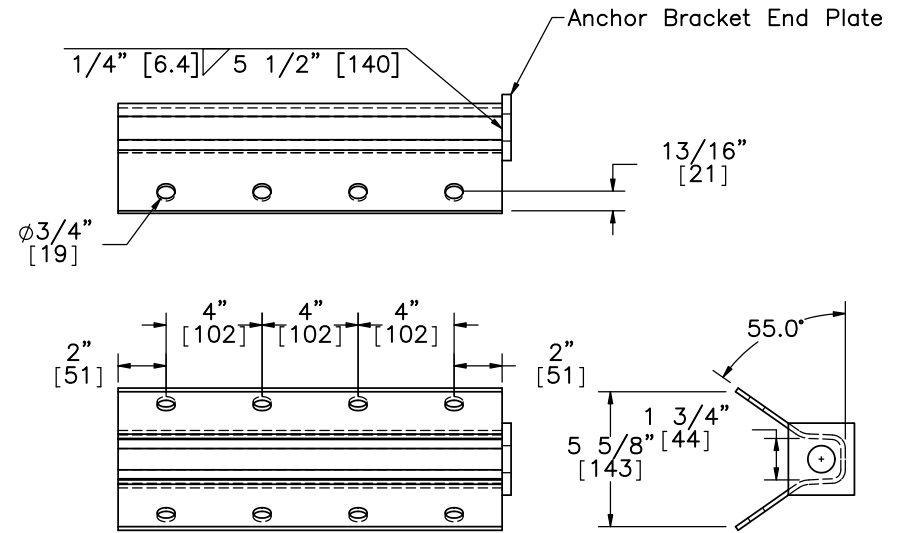
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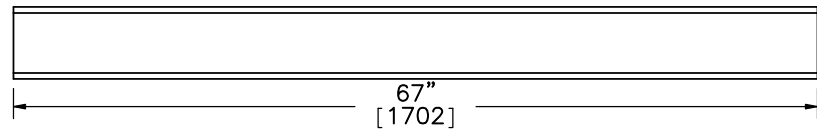
PLAN VIEW



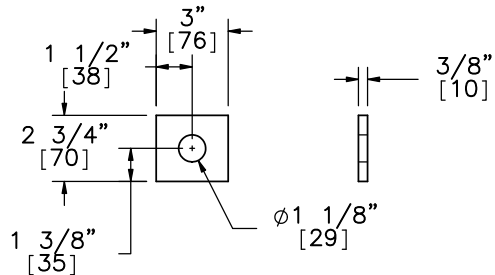
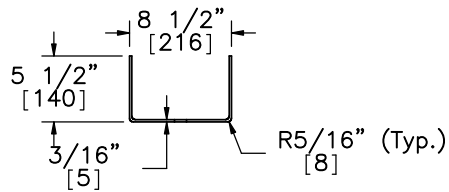
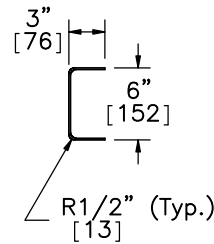
FRONT VIEW
Strut and Yoke
Assembly



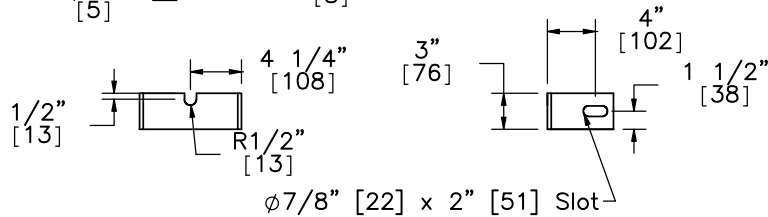
Anchor Bracket
(FPA01)
Part b5
SCALE 1:8



Strut
6" x 3" [152x76] 10 Gauge



Anchor Bracket End Plate
SCALE 1:8



Yoke



Midwest Roadside
Safety Facility

MGS Maximum Height

Ground Strut &
Anchor Bracket Details

DWG. NAME:
MGS_34Ht_R5

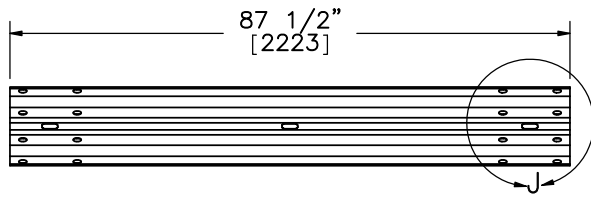
SCALE: 1:16
UNITS: In.[mm]

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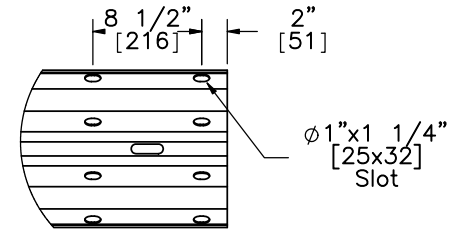
DATE:
7/13/2011

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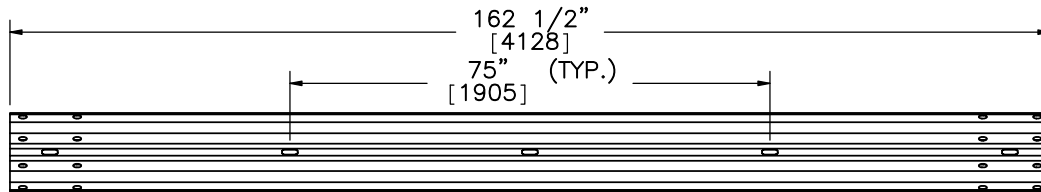
REV. BY:
KAL



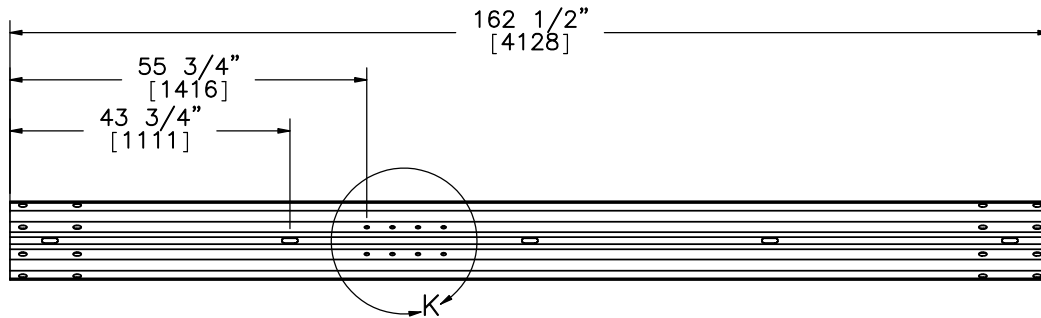
6'-3" [1905] W-Beam Section, 12 gauge
Part a5



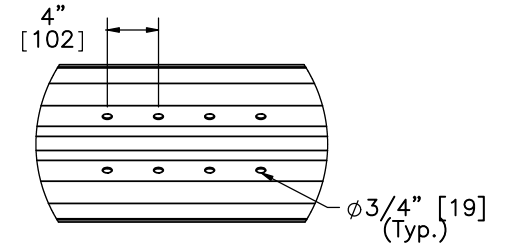
DETAIL J
SCALE 1 : 15



12'-6" [3810] W-Beam Section, 12 gauge
Part a3



12'-6" [3810] W-Beam Section, 12 gauge, End Section
Part a4



DETAIL K
SCALE 1 : 15



Midwest Roadside
Safety Facility

MGS Maximum Height
Rail Section Details

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DWG. NAME:
MGS_34Ht_R5

SCALE: 1:31
UNITS: In.[mm]

REV. BY:
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Midwest Guardrail System at 34" Rail Height

Item No.	QTY.	Description	Material Specification	Hardware Guide
a1	25	W6x8.5 72in [W152x12.6 1829] long Steel Post	ASTM A36 Steel	PWE06
a2	25	6"x12"x14 1/4" [152x305x362] Blockout	SYP Grade No.1 or better	PDB10a-b
a3	12	12'-6" [3810] W-Beam MGS Section	12 gauge [2.7] AASHTO M180	RWM04a
a4	2	12'-6" [3810] W-Beam MGS End Section	12 gauge [2.7] AASHTO M180	RWM14a
a5	1	6'-3" [1905] W-Beam MGS Section	12 gauge [2.7] AASHTO M180	RWM01a
a6	25	16D Double Head Nail	-	-
b1	4	72" [1829] Foundation Tube	ASTM A500 Grade B	PTE06
b2	4	BCT Timber Post -MGS Height	SYP Grade No. 1 or better (No knots, 18" [457] above or below ground tension face)	PDF01
b3	2	Strut and Yoke Assembly	ASTM A36 Steel Galvanized	-
b4	2	BCT Cable Anchor Assembly	ϕ3/4" [19] 6x19 IWRC IPS Galvanized Wire Rope	FCA01-02
b5	2	Anchor Bracket Assembly	ASTM A36 Steel	FPA01
b6	2	8"x8"x5/8" [203x203x16] Anchor Bearing Plate	ASTM A36 Steel	FPB01
b7	2	2 3/8" [60] O.D.x 6" [152] long BCT Post Sleeve	ASTM A53 Grade B Schedule 40	FMM02
b8	112	5/8"Dia. x 1 1/2" [M16 x 38] Guardrail Bolt and Nut	ASTM A307	FBB01
b9	4	5/8"Dia. x 10" [M16 x 254] long Guardrail Bolt and Nut	ASTM A307	FBB03
b10	25	5/8"Dia. x 14" [M16 x 356] long Guardrail Bolt and Nut	ASTM A307	FBB06
b11	16	5/8"Dia. x 1 1/2" [M16 x 38] long Hex Head Bolt and Nut	ASTM A307	FBX16a
b12	4	5/8"Dia. x 9 1/2" [M16 x 241] long Hex Head Bolt and Nut	ASTM A307	FBX16a
b13	44	5/8"Dia. [16] Flat Washer	ASTM F436 Grade 1	FWC14a
b14	4	3/4"Dia. x 7 1/2" [M20 x 191] long Hex Head Bolt and Nut	ASTM A325	FBX22a
b15	8	3/4"Dia. [19] Flat Washer	ASTM F436 Grade 1	FWC22a



Midwest Roadside
Safety Facility

MGS Maximum Height

Bill of Materials

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DMH

DWG. NAME:
MGS_34Ht_R5

SCALE: None
UNITS: In.[mm]

REV. BY:
KAL