


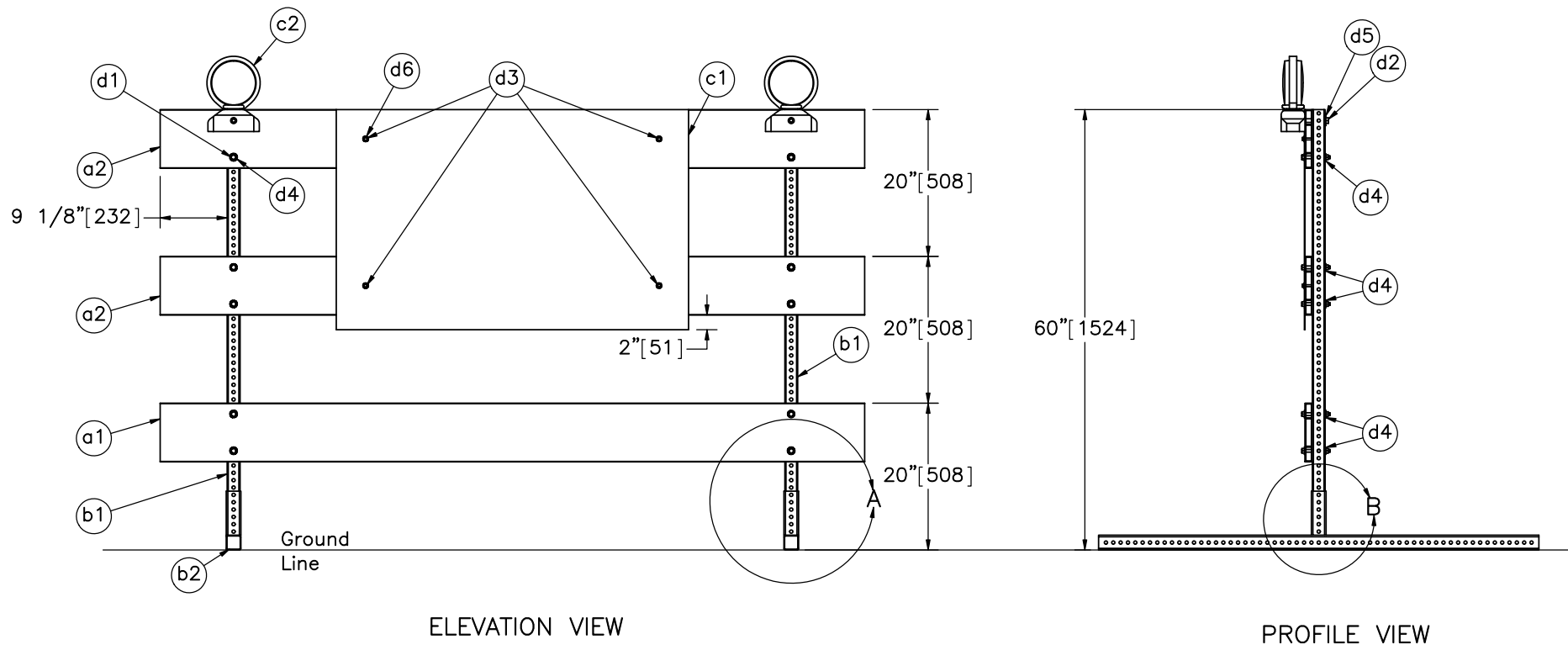
PLAN VIEW



ELEVATION VIEW

- Notes: (1) Test shall be performed according to test designation no. 3-71 of MASH criteria.
 (2) A 50-lb [22.7-kg] sandbag shall be added to each leg (4 per barricade, for 200 lb [90.7 kg]).
 (3) For the second impact, sign (part c1) shall be placed on upstream side of barricade.

 Midwest Roadside Safety Facility	Type 3 Barricade Test No. WZNP-1	SHEET: 1 of 8
	Test Layout	DATE: 6/28/2018
DWG. NAME: WZNP-1_R15	SCALE: 1:130 UNITS: in.[mm]	DRAWN BY: MES/JWB/ MKB/JEK/G REV. BY: JEK/JDS/R KF



ELEVATION VIEW

PROFILE VIEW

Note: (1) Total barricade weight = 61 lb [27.7 kg].
 (2) Additional washers (parts d4, d5, and d6) on the opposite side.



Midwest Roadside Safety Facility

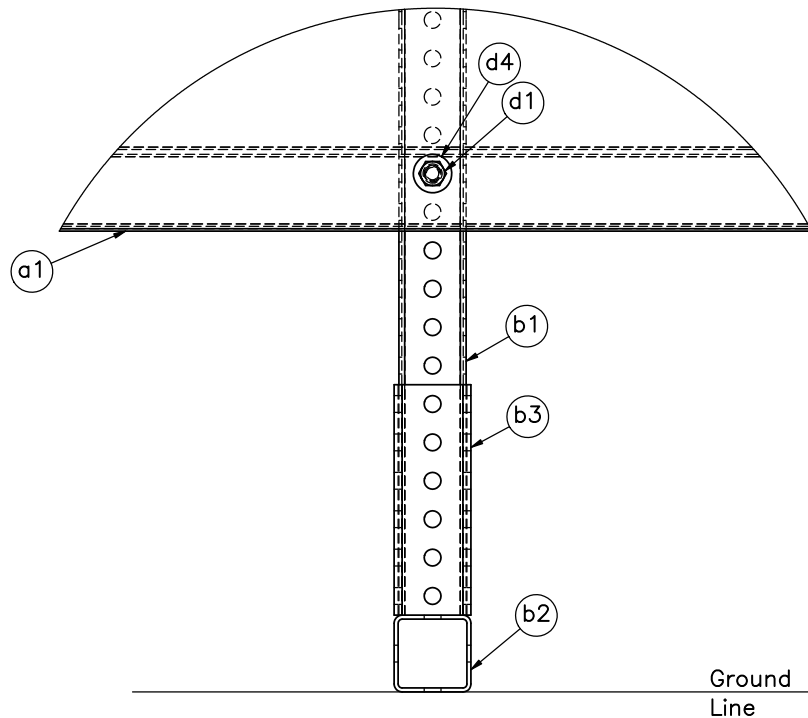
Type 3 Barricade
 Test No. WZNP-1

Barricade Overview

DWG. NAME:
 WZNP-1_R15

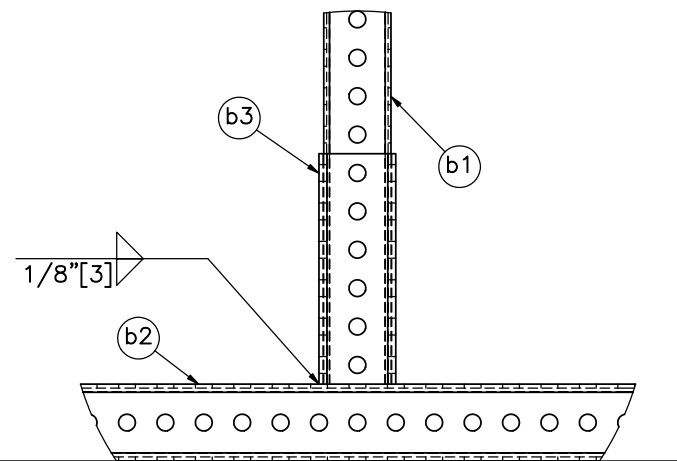
SCALE: 1:22
 UNITS: in.[mm]

SHEET: 2 of 8
DATE: 6/28/2018
DRAWN BY: MES/JWB/ MKB/JEK/G
REV. BY: JEK/JDS/R KF



Ground
Line

DETAIL A



DETAIL B



Midwest Roadside
Safety Facility

Type 3 Barricade
Test No. WZNP-1

Barricade Details

DWG. NAME.
WZNP-1_R15

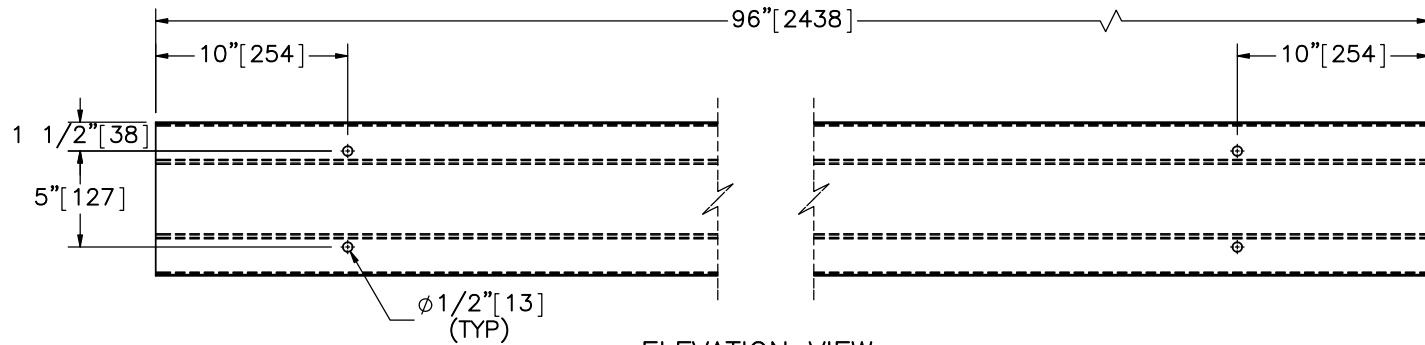
SCALE: 1:5
UNITS: in.[mm]

SHEET:
3 of 8

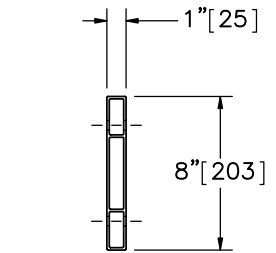
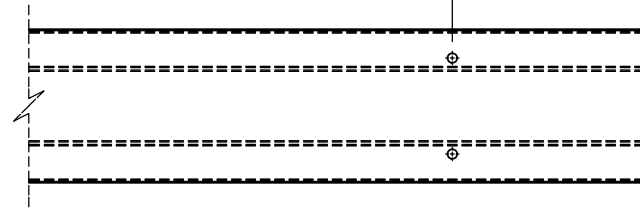
DATE:
6/28/2018

DRAWN BY:
MES/JWB/
MKB/JEK/G
RL

REV. BY:
JEK/JDS/R
KF

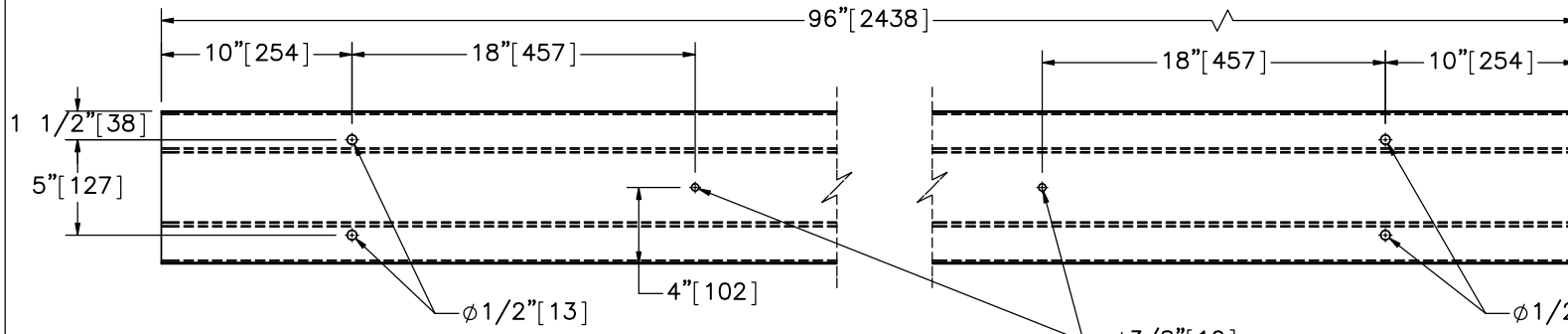


ELEVATION VIEW

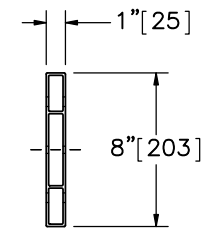
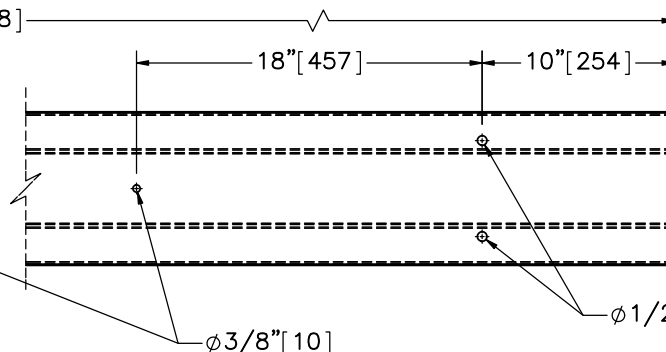


PROFILE VIEW

Part a1



ELEVATION VIEW



PROFILE VIEW

Part a2

Note: (1) Holes will be drilled at site after ordering.
 (2) Board height, width, and profile may vary by manufacturer.



Midwest Roadside
 Safety Facility

Type 3 Barricade
 Test No. WZNP-1

Plastic I-Beam Details

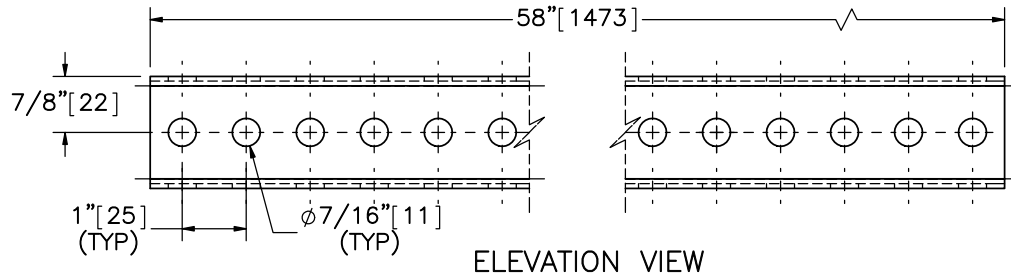
DWG. NAME:
 WZNP-1_R15

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

SHEET:
 4 of 8

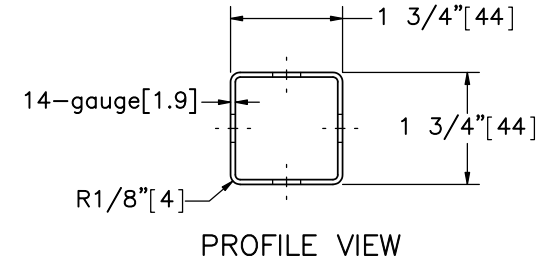
DATE:
 6/28/2018

DRAWN BY:
 MES/JWB/
 MKB/JEK/G
 REV. BY:
 JEK/JDS/R
 KF

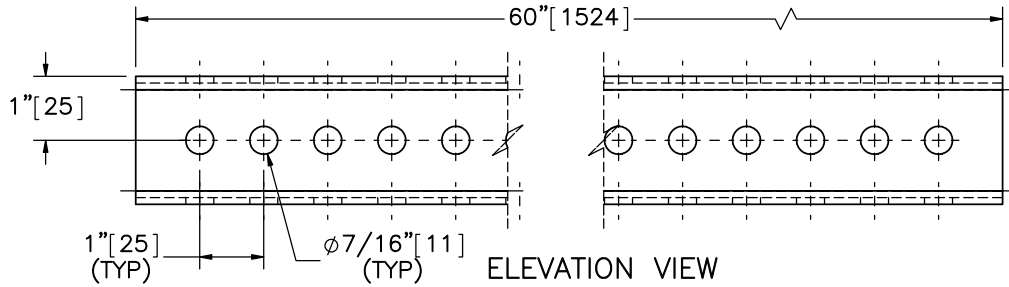


ELEVATION VIEW

Part b1

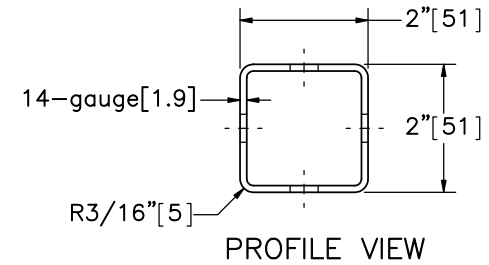


PROFILE VIEW

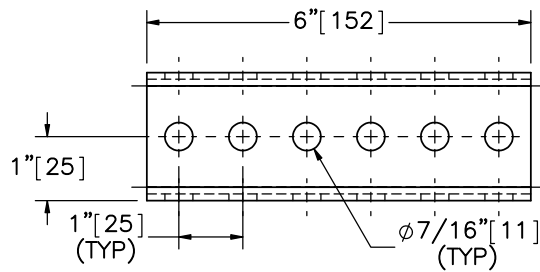


ELEVATION VIEW

Part b2

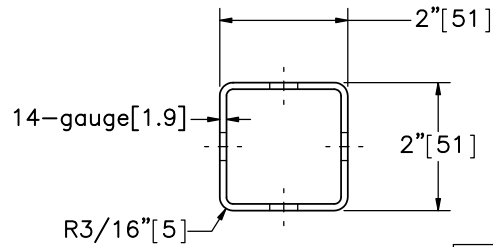


PROFILE VIEW



ELEVATION VIEW

Part b3

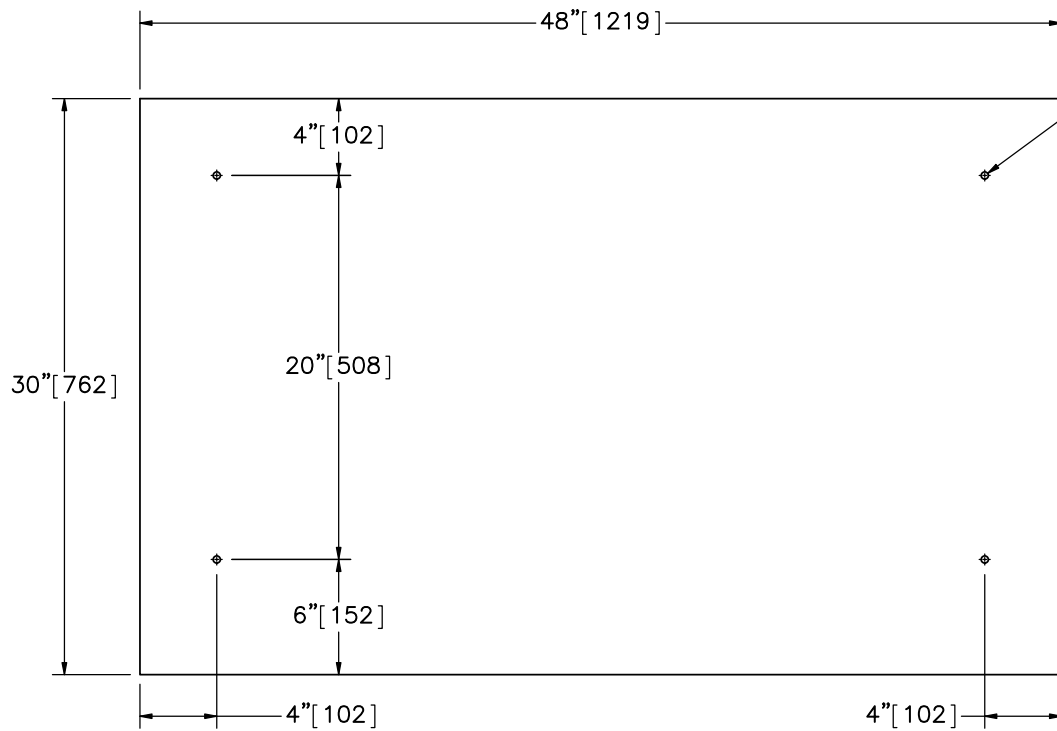


PROFILE VIEW



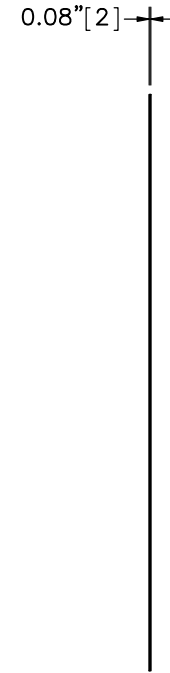
Midwest Roadside
Safety Facility

Type 3 Barricade Test No. WZNP-1		SHEET: 5 of 8
		DATE: 6/28/2018
		DRAWN BY: MES/JWB/ MKB/JEK/G B
Perforated Steel Tube Details		REV. BY: JEK/JDS/R KF
DWG. NAME: WZNP-1_R15	SCALE: 1:3 UNITS: in.[mm]	

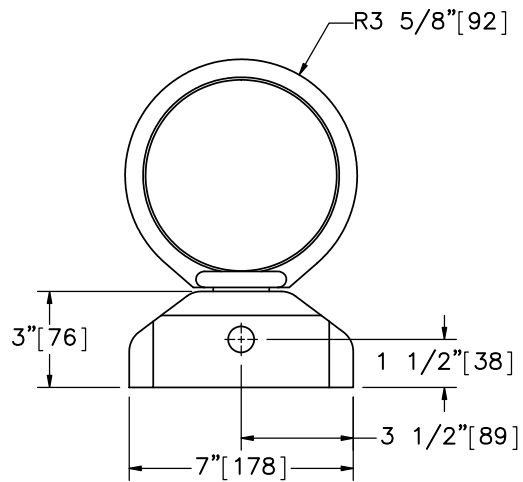


ELEVATION VIEW

Part c1

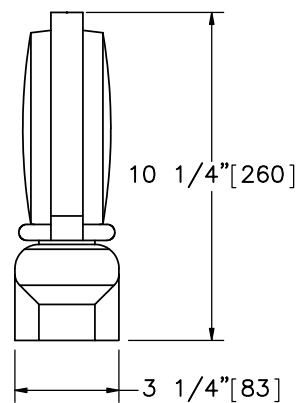


PROFILE VIEW



ELEVATION VIEW

Part c2



PROFILE VIEW

Note: (1) Dimensions for part c2 will vary by manufacturer.



Midwest Roadside Safety Facility

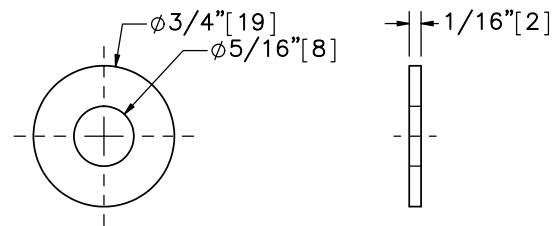
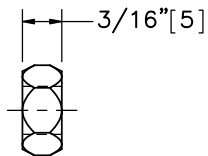
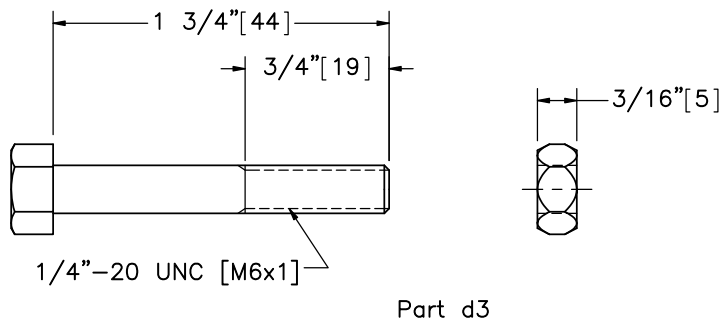
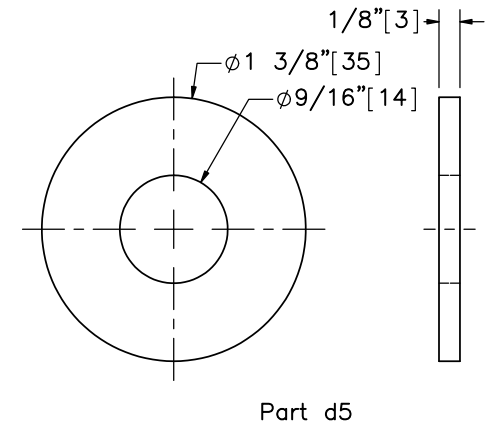
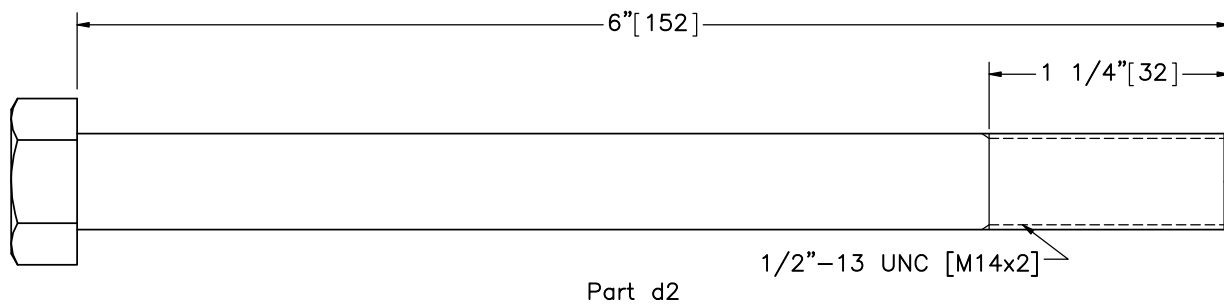
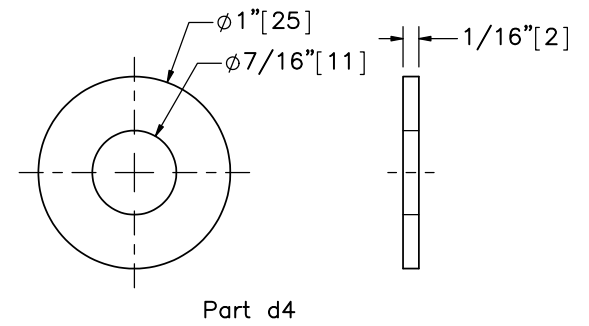
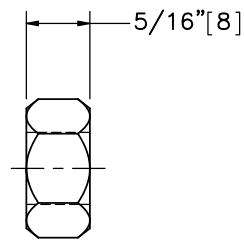
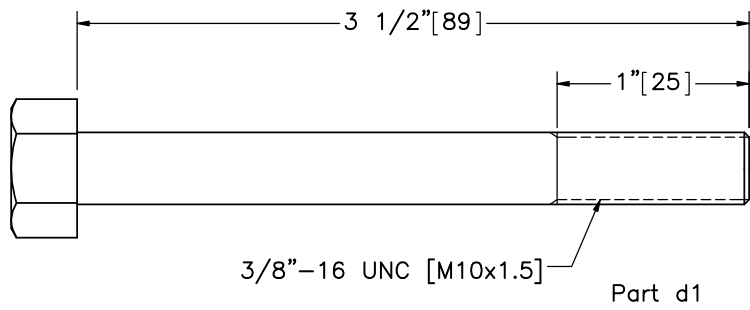
Type 3 Barricade
Test No. WZNP-1

Sign and Warning Light Details

DWG. NAME:
WZNP-1_R15

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

SHEET:
6 of 8
DATE:
6/28/2018
DRAWN BY:
MES/JWB/
MKB/JEK/G
REV. BY:
JEK/JDS/R
KF



Note: (1) Part d2 length may vary by barricade rail manufacturer and diameter may vary by warning light manufacturer. Hole size in parts a2 and b1 may need to be adjusted to accommodate part d2.



Midwest Roadside
Safety Facility

Type 3 Barricade
Test No. WZNP-1

System Hardware


DWG. NAME:
WZNP-1_R15

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

SHEET:
7 of 8
DATE:
6/28/2018
DRAWN BY:
MES/JWB/
MKB/JEK/G
REV. BY:
JEK/JDS/R
KF

Item No.	QTY.	Description	Material Specification	Treatment Specification
a1	2	Plastic Panel, 96" [2,438] Long	High Density Polyethylene	—
a2	4	Plastic Panel, 96" [2,438] Long	High Density Polyethylene	—
b1	4	1 3/4"x1 3/4"x14-gauge [44x44x1.9], 58" [1,473] Long Perforated Square Tubing	ASTM 1011 Gr. 55 Min. yield 60 ksi [414 MPa]	ASTM A653-G90 or AASHTO M-120
b2	4	2"x2"x14-gauge [51x51x1.9], 60" [1,524] Long Perforated Square Tubing	ASTM 1011 Gr. 55 Min. yield 60 ksi [414 MPa]	ASTM A653-G90 or AASHTO M-120
b3	4	2"x2"x14-gauge [51x51x1.9], 6" [152] Long Perforated Square Tubing	ASTM 1011 Gr. 55 Min. yield 60 ksi [414 MPa]	ASTM A653-G90 or AASHTO M-120
c1	2	48"x30"x0.08" [1,219x762x2] Sign with Reflective Sheeting	Aluminum Alloy 5052 or similar	—
c2	4	Warning Light (Type A or C)	As Supplied	—
d1	20	3/8"-16 UNC [M10x1.5], 3 1/2" [89] Long Hex Head Bolt and Lock Nut	Bolt - ASTM A307 Gr. A or equivalent Nut - SAE J995 Gr. 2 or equivalent	Fe/Zn 3AN per ASTM F1941
d2	4	1/2"-13 UNC [M14x2], 6" [152] Long Hex Head Bolt	ASTM A307 Gr. A or equivalent	Fe/Zn 3AN per ASTM F1941
d3	8	1/4"-20 UNC [M6x1], 1 3/4" [44] Long Hex Head Bolt and Lock Nut	Bolt - ASTM A307 Gr. A or equivalent Nut - SAE J995 Gr. 2 or equivalent	Fe/Zn 3AN per ASTM F1941
d4	40	3/8" [10] Dia. Plain Round Washer	Low Carbon Steel	Fe/Zn 3AN per ASTM F1941
d5	4	1/2" [13] Dia. Plain Round Washer	Low Carbon Steel	Fe/Zn 3AN per ASTM F1941
d6	16	1/4" [6] Dia. Plain Round Washer	Low Carbon Steel	Fe/Zn 3AN per ASTM F1941

Note: (1) Part c1 shall have a reflective sheeting.
(2) Parts a1 & a2 will have orange and white striped reflective sheeting on at least one side (sign panel side).

	Type 3 Barricade Test No. WZNP-1		SHEET: 8 of 8
			DATE: 6/28/2018
Midwest Roadside Safety Facility		Bill of Materials	DRAWN BY: MES/JWB/ MKB/JEK/G
DWG. NAME: WZNP-1_R15	SCALE: None UNITS: in.[mm]	REV. BY: JEK/JDS/R KF	

REV.	DATE OF ISSUE	Page	NATURE OF CHANGES	REVIEWER	REVISED BY
1	1/29/2018	-	Shortened b1 on ground, calling it b5.	JEK	JWB
		1	Dim edit. Added elevation view.		
		2	Combined pages 2 and 3. Scale change. Dim edit.		
		3	Added hidden lines to Detail A. Leader edit.		
		4	Dim edit. Added centerlines for holes. Removed Detail C.		
		6	Added dim. Dim edit.		
		7	Dim edit.		
		8	Dim edit.		
		BOM	QTY: b1, b5. Description: b3, b4, b5, c1. Material Spec: b1, b2, b3, b4, b5, c1, c2. Treatment Spec: b1, b2, b3, b5.		
2	1/30/2018	2	Annotation edit.	JEK	JWB
		3	Part b5 change.		
		4	Added centerlines to Part a2 Profile View.		
		5	Added Elevation View and Profile View for Part b5.		
3	1/30/2018	1	Dim units edit.	JEK	JWB
		2	Part b5 shift.		
		5	Parts b2, b5 change.		
		BOM	Item No: b5. Description: b5.		
4	2/1/2018	3	Flipped direction of bolts d1, d3.	JEK	JWB
		5	Dim edit.		
5	2/19/2018	-	Sleeve to leg connection changed to welded. Moved c2 down. Shortened b2, now called b1. Removed page 6. b2 renamed b1. b5 renamed b2. d4 renamed d3.	JDS	JWB
		1	Added note.		
		3	Added weld note.		
		4	Added note.		
		5	Removed b1. Dim edit.		
		6	Removed page.		
		7	Part c2 change.		
		8	Removed part d3.		

		BOM	Added note. Removed: b1, b4, d3. b2 became b1. b5 became b2. d4 became d3. Qty: d1. Description: a1, a2, b1, b2, b3, c1, d1, d2, d3. Material Spec: b1, b2, b3. Treatment Spec: b1, b2, b3.		
6	2/26/2018	5	Annotation shift. Dim edit. Added dim.	JEK	JWB
		6	Dim edit. Part c2 change.		
		BOM	Description: b1, b2, b3.		
7	3/14/2018	2	Dim edit. Part d2 moved. General shift.	JDS	MKB
		3	Removed part d2.		
		4	Dim edit. Added note.		
		5	Dim edit. Part b1 change.		
		6	Dim edit. Part c2 change.		
		7	Part d2 dim edit.		
		BOM	Added note. QTY: d1. Description: b1,b3,d2.		
8	3/16/2018	1	Added note.	JDS	MKB
9	3/26/2018	1	Note 2 edit. Note 4 add. Offset note edits.	RKF	JEK
		2	Ground line add.		
		3	Ground line add. Weld size edit.		
		BOM	Description: b1-b3, c2, d1-d3. Mtrl: d1-d3. Treatment: d1-d3. HWG: d1-d3.		
10	4/30/2018	1	Dim remove. Note 2 edit. Note 3 remove.	JDS	JEK
		2	Sign moved down. Washer adds. Note adds. Label adds. General shift.		
		3	Label add.		
		4	Part a2 hole location edits (sign attachment).		
		5	Part changes: b1, b2, b3.		
		6	Part changes: c1.		
		7	New: washers. Part changes: d1, d2, d3. Note add.		
		BOM	New: d4-6. Qty: a1-2. Description: b1-3, c1, d1-3. Material: d1-3. Treatment: d1-3. HWG column removed.		
11	5/1/2018	7	Note 1 edit. Changes to d4, d5, d6.	JDS	JEK
		BOM	Treat: d1-3.		
12	5/18/2018	2	Label adds. Note 1 and 2 edits.	JDS	JEK
13	5/22/2018	4	Note 2 edit.	JDS	JEK
		7	Note 1 edit.		

System: SWZDI Barricade

Revision History

Drawing: WZNP-1

13	5/22/2018	BOM	Mtrl: a1-2, b1-3, c1. Note 2 edit.	JDS	JEK
14	6/6/2018	3	Weld symbol edit.	JDS	GRL
15	6/28/2018	6	Part c1 thickness edit.	JDS	JEK
		BOM	Description: c1.		