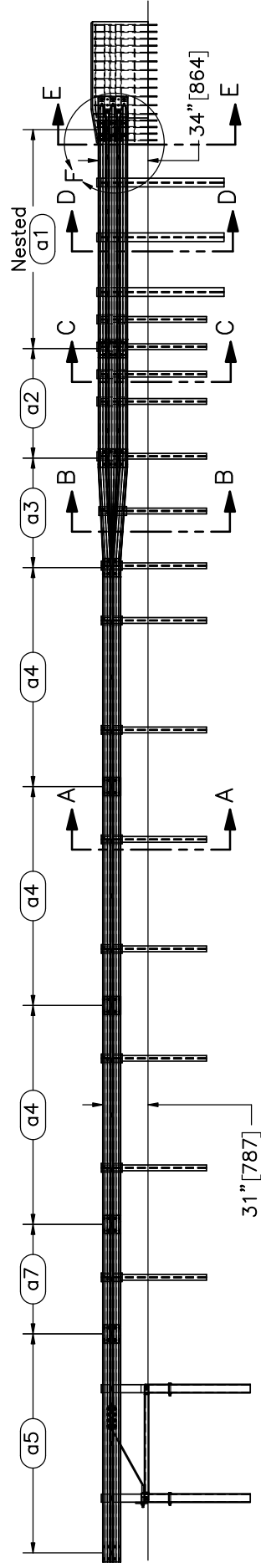


PLAN VIEW



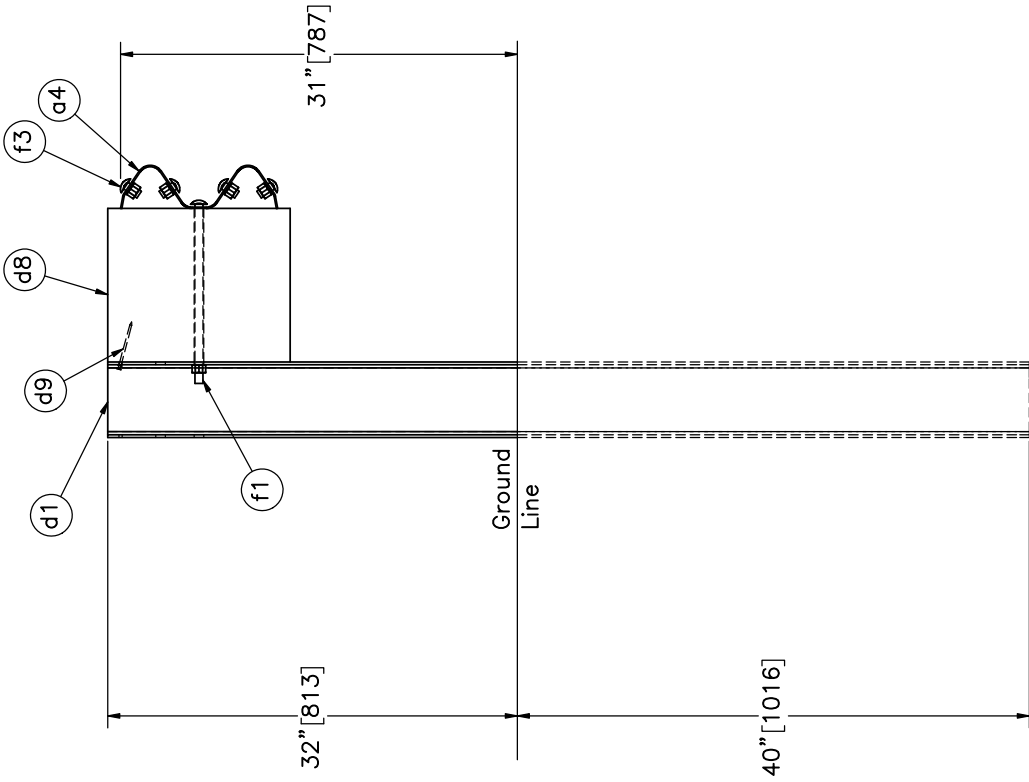
ELEVATION VIEW



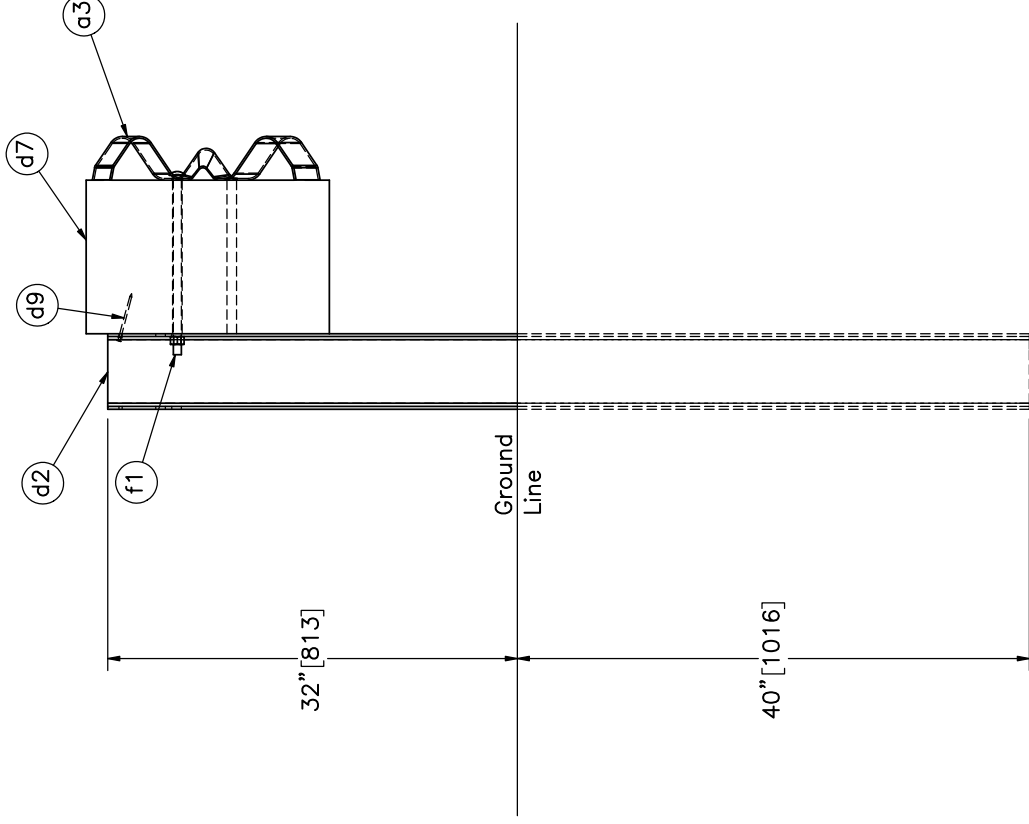
Midwest Roadside Safety Facility

| | | | |
|-------------------|---|-----------|-----------|
| SHEET: 1 of 23 | 34" Thrie-Beam AGT to Concrete Buttress | DATE: | 6/24/2019 |
| | | DRAWN BY: | JRD |
| REV. BY: | SKR | SCALE: | 1:110 |
| DWG. NAME: | 34AGT_Revised-Implementation_R1 | UNITS: | in,[mm] |

Notes: (1) The upstream end of part a3 is rotated upward 3/4" [19] to accommodate the 31" [787] MGS guardrail height.




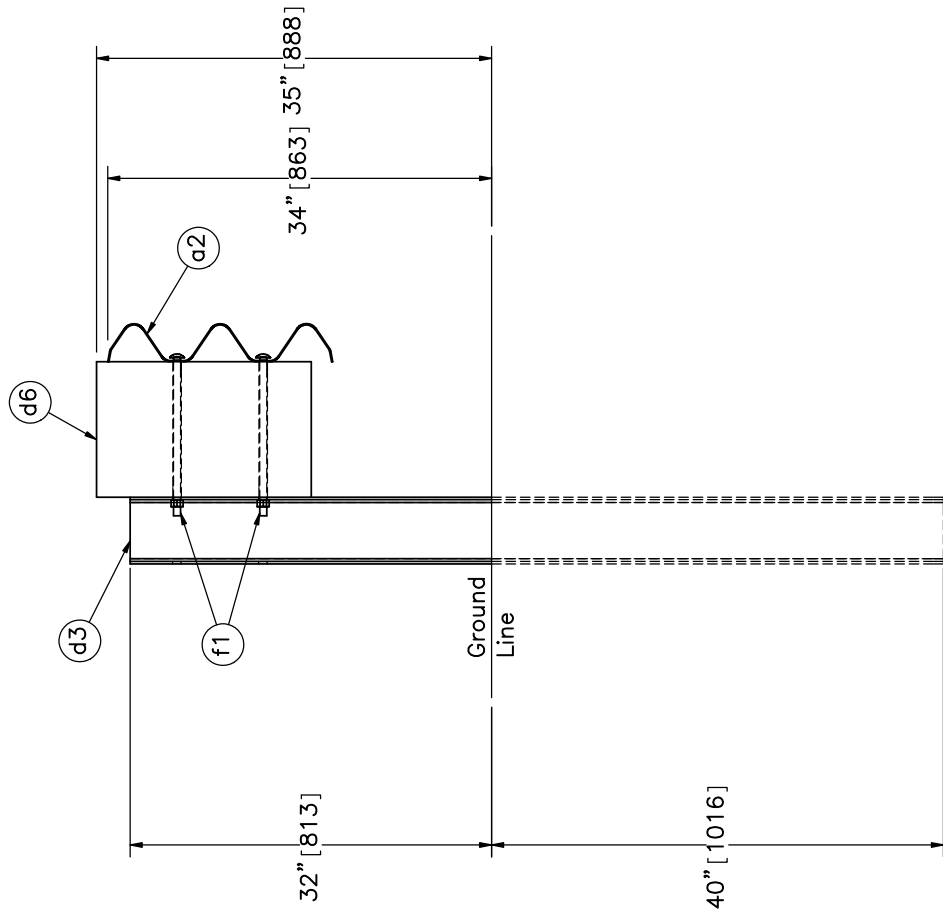
SECTION A-A
Post Nos. 3-10



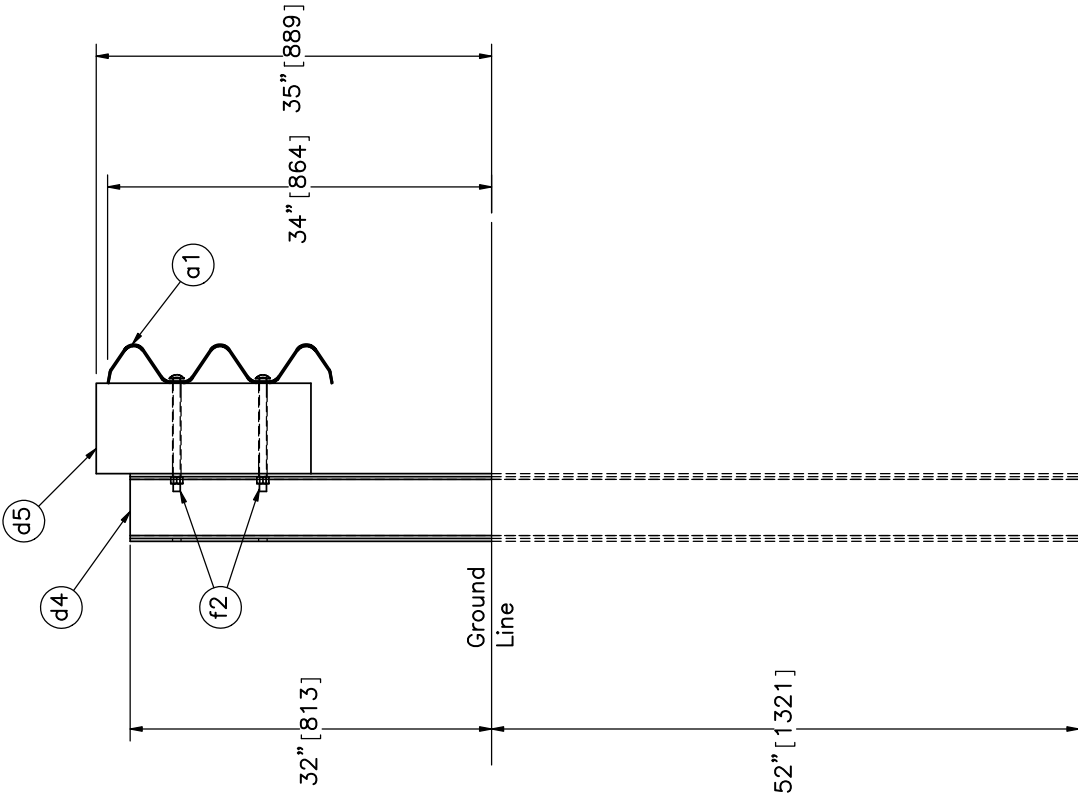
SECTION B-B
Post No. 11

Note: (1) No bolt placed in lower hole of post no. 11.

| | | |
|---|---|--|
|  | SHEET: 2 of 23 DATE: 6/24/2019 DRAWN BY: JRD REV. BY: SKR | |
| | 34" Thrie-Beam AGT to Concrete Buttress Post Nos. 3-11 Details DWG. NAME: 34AGT_Revised-Implementation_R1 SCALE: 1:15 UNITS: in, [mm] | |



SECTION C-C
Post Nos. 12-16

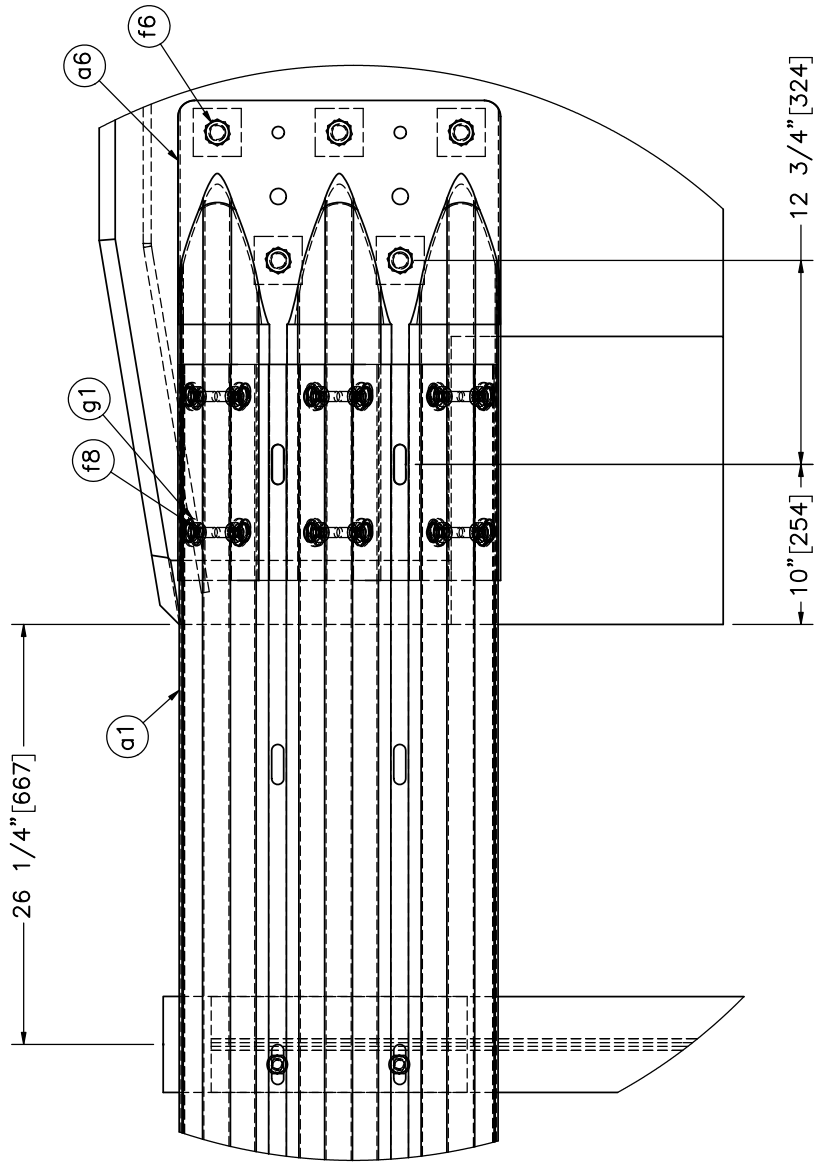


SECTION D-D
Post Nos. 17-19

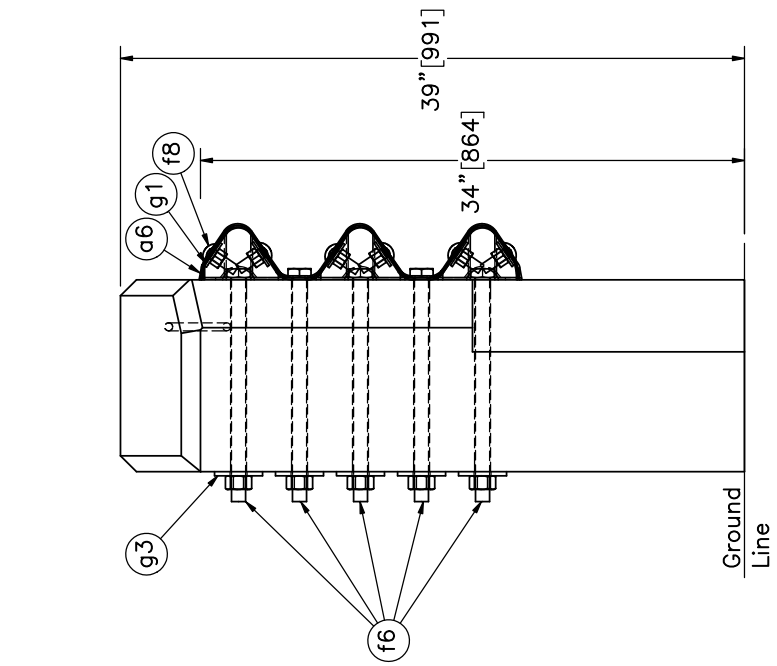


Midwest Roadside
Safety Facility

| | | |
|---|--|-------------------------------|
| SHEET: 3 of 23 | 34" Thrie-Beam AGT to Concrete Buttress | |
| | DATE: 6/24/2019 | DRAWN BY: JRD |
| Post Nos. 12-19 Details | | REV. BY: SKR |
| DWG. NAME: 34AGT_Revised-Implementation_R1 | | SCALE: 1:17 UNITS: in.[mm] |




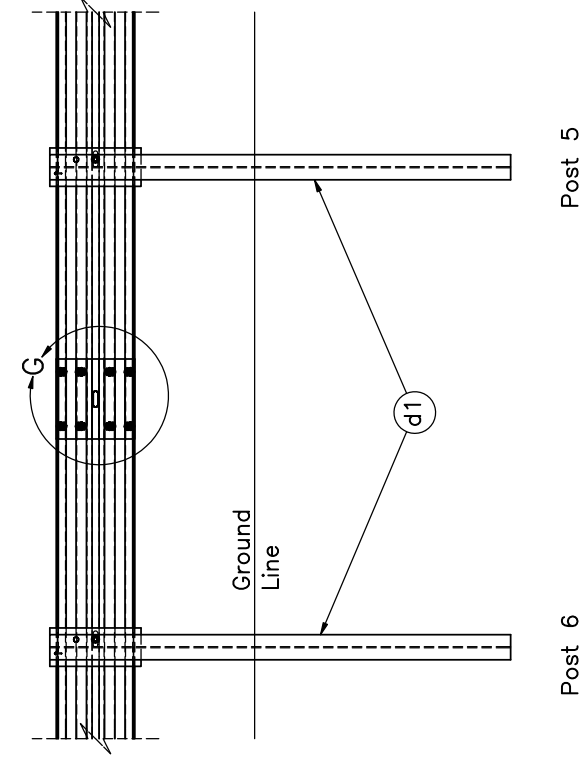
SECTION E-E
(REBAR HIDDEN)



DETAIL F
(REBAR HIDDEN)

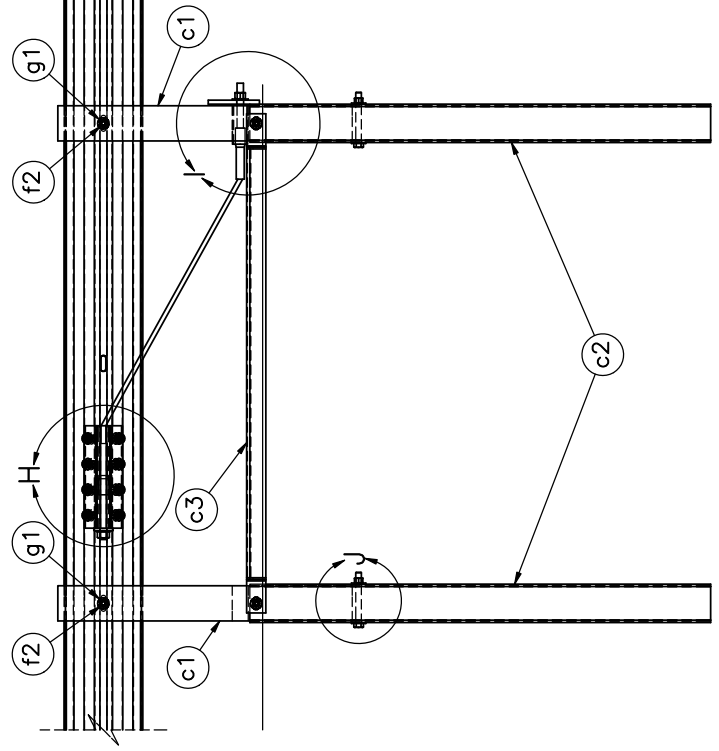
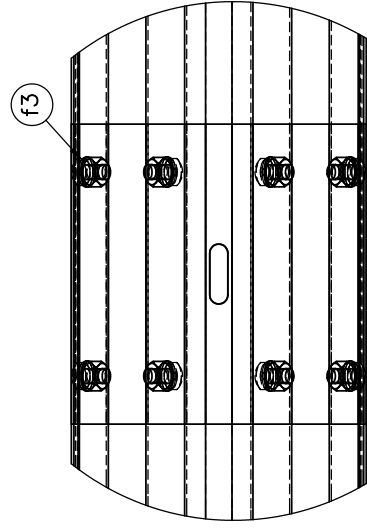
Note: (1) g1 washers placed between nuts and thrie beam end connector.

| | | |
|---|---|--|
|  | SHEET: 4 of 23 DATE: 6/24/2019 | |
| | 34" Thrie-Beam AGT to Concrete Buttress | |
| Midwest Roadside Safety Facility | DRAWN BY: JRD REV. BY: SKR | |
| | Thrie Beam Buttress and End Shoe Details DWG. NAME: 34AGT_Revised-Implementation_R1 SCALE: 1:12 UNITS: in,[mm] | |



SPLICE DETAIL
BACKSIDE

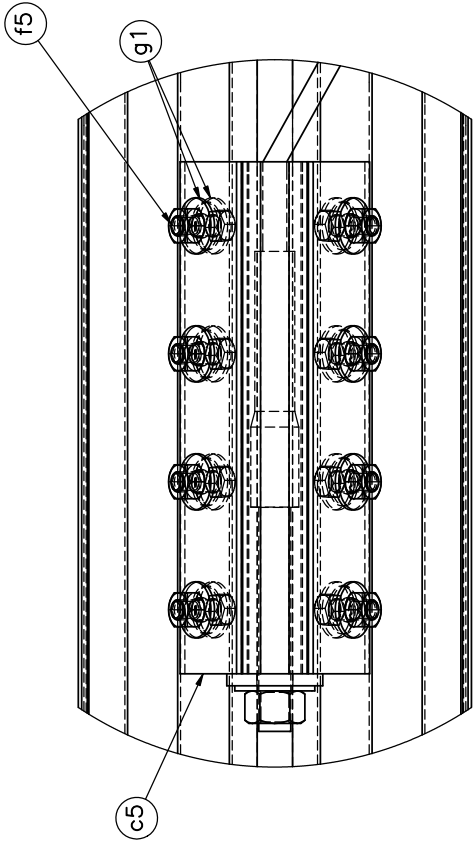
DETAIL G
SCALE 1 : 8



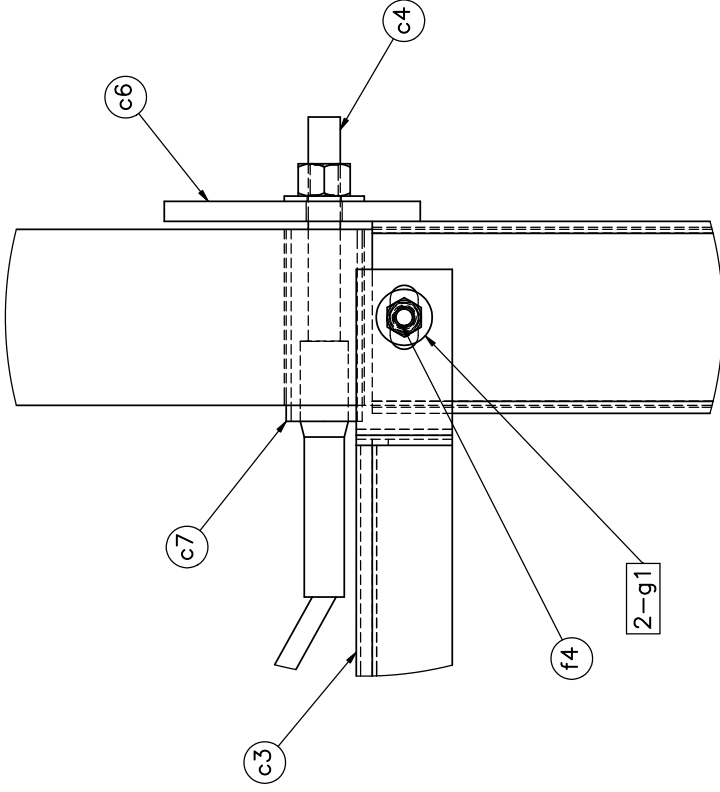
END SECTION DETAIL
BACKSIDE

Midwest Roadside Safety Facility

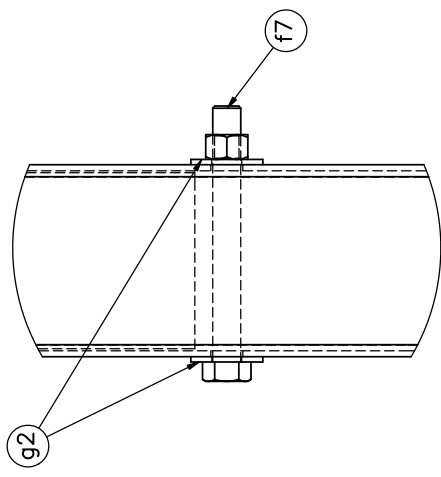
| | | |
|---|--|------------------|
| SHEET: 5 of 23 | 34" Thrie-Beam AGT to Concrete Buttress | |
| | DATE: 6/24/2019 | DRAWN BY: JRD |
| DWG. NAME: 34AGT_Revised-Implementation_R1 | SCALE: 1:30 | REV. BY: SKR |
| End Section and Splice Detail | | UNITS: in,[mm] |




DETAIL H

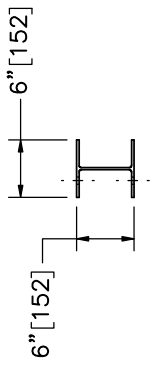


DETAIL I

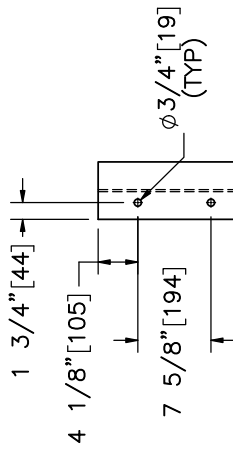


DETAIL J

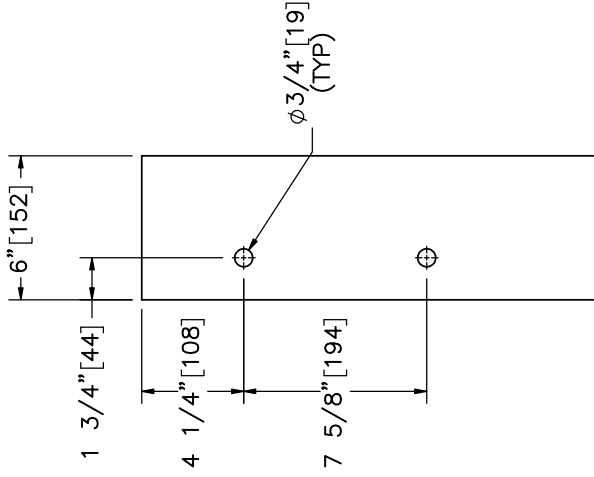
| | | |
|---|--|-----------------------------------|
|  | 34" Thrie-Beam AGT to Concrete Buttress | SHEET: 6 of 23 DATE: 6/24/2019 |
| | BCT Anchor Details | DRAWN BY: JRD REV. BY: SKR |
| Midwest Roadside Safety Facility | DWG. NAME: 34AGT_Revised-Implementation_R1 SCALE: 1:6 UNITS: in,[mm] | |



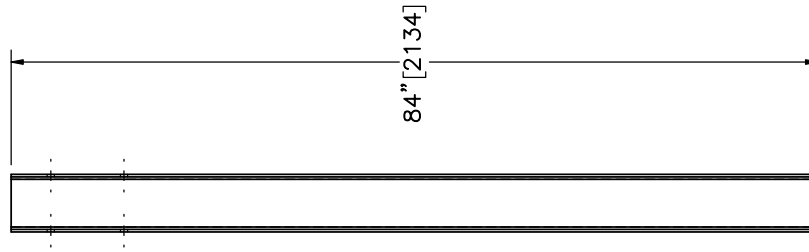
PLAN VIEW



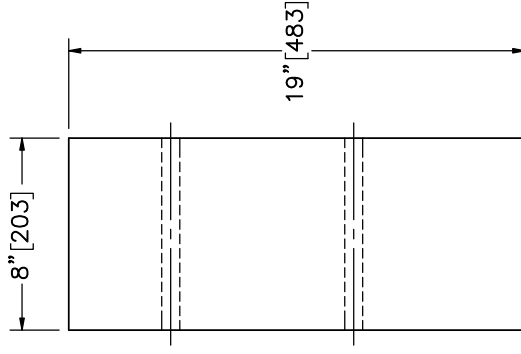
ELEVATION VIEW



ELEVATION VIEW



PROFILE VIEW



PROFILE VIEW

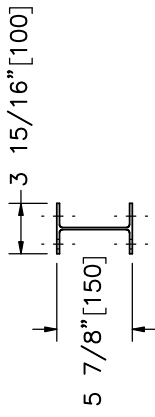
Part d5
SCALE 1:8



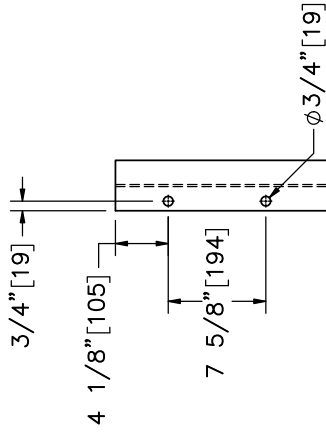
Midwest Roadside
Safety Facility

| | | |
|---|--|-------------------------------|
| SHEET: 7 of 23 | 34" Thrie-Beam AGT to Concrete Buttress | |
| | DATE: 6/24/2019 | DRAWN BY: JRD |
| Post Nos. 17-19 Components | | REV. BY: SKR |
| DWG. NAME: 34AGT_Revised-Implementation_R1 | | SCALE: 1:20 UNITS: in,[mm] |

Part d4

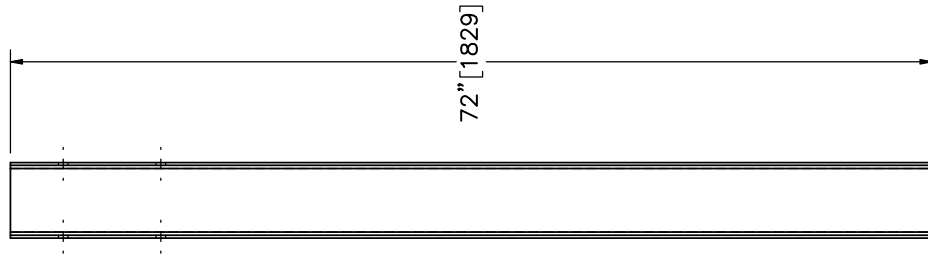


PLAN VIEW

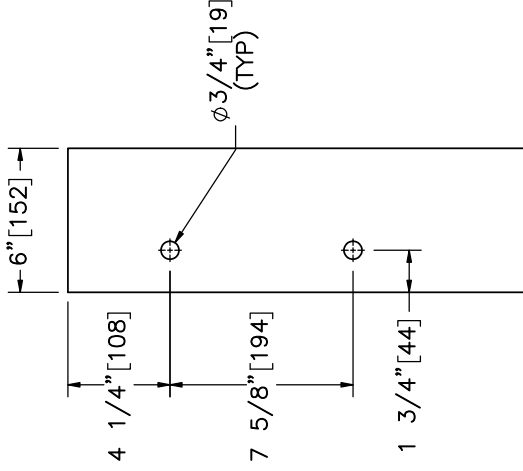


ELEVATION VIEW

Part d3



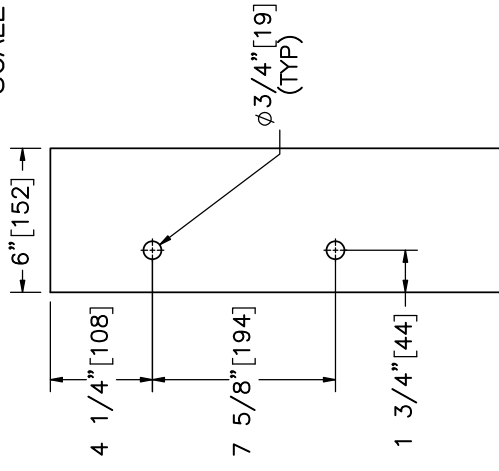
PROFILE VIEW



ELEVATION VIEW

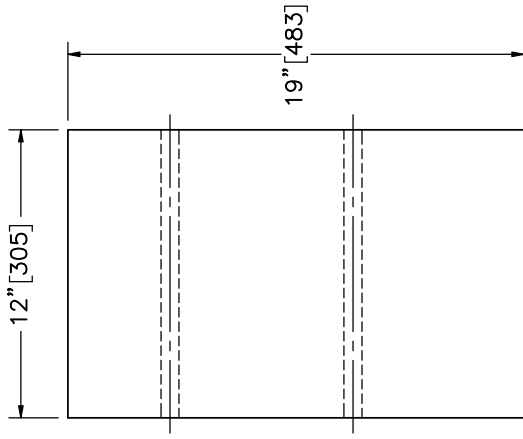
Part d6

SCALE 1:8

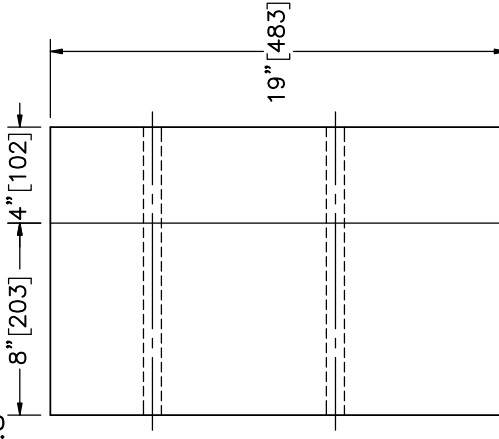


ELEVATION VIEW

Alternate Blockout Option



PROFILE VIEW

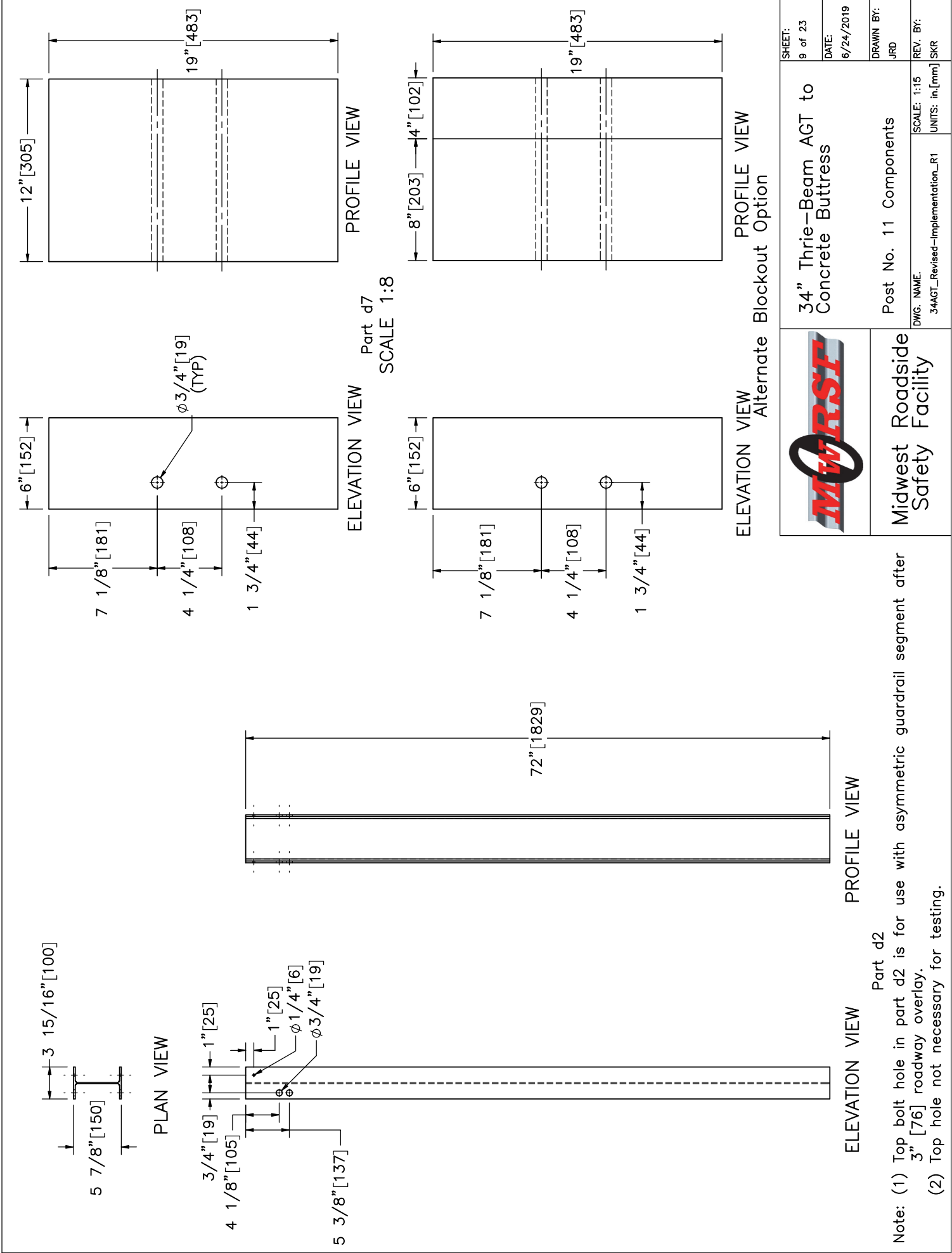


PROFILE VIEW

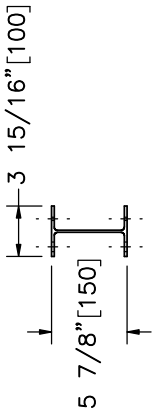


Midwest Roadside Safety Facility

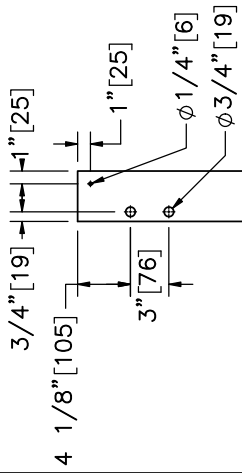
| | | |
|-------------------|---|----------------------------|
| SHEET: 8 of 23 | 34" Thrie-Beam AGT to Concrete Buttress | |
| | DATE: 6/24/2019 | DRAWN BY: JRD |
| REV. BY: SKR | SCALE: 1:15 | Post Nos. 12-16 Components |
| UNITS: in, [mm] | DWG. NAME: 34AGT_Revised-Implementation_R1 | |



Note: (1) Top bolt hole in part d2 is for use with asymmetric guardrail segment after 3" [76] roadway overlay.
 (2) Top hole not necessary for testing.



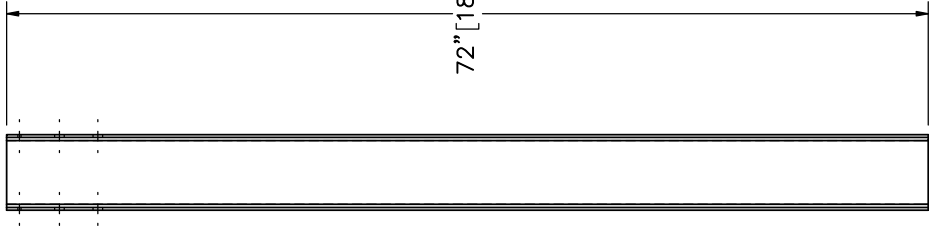
PLAN VIEW



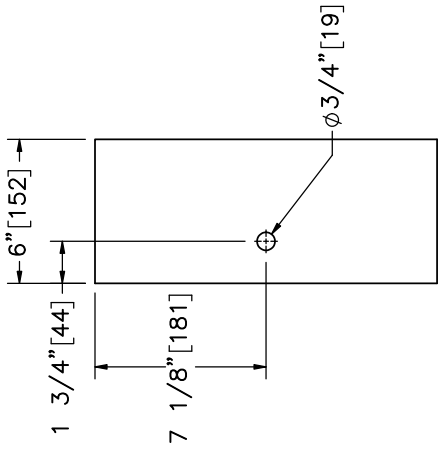
ELEVATION VIEW

Part d1

Note: (1) Top bolt hole in part d1 for use to attach rail and blackout after 3" [76] roadway overlay.
 (2) Top hole not necessary for testing.



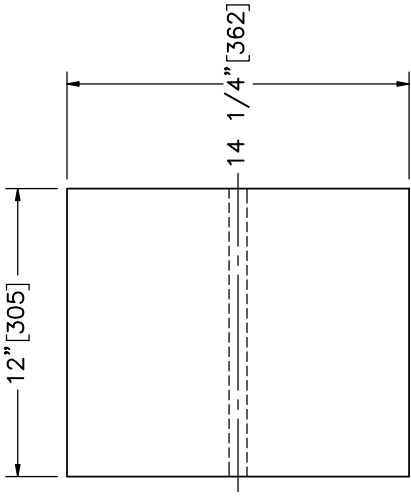
PROFILE VIEW



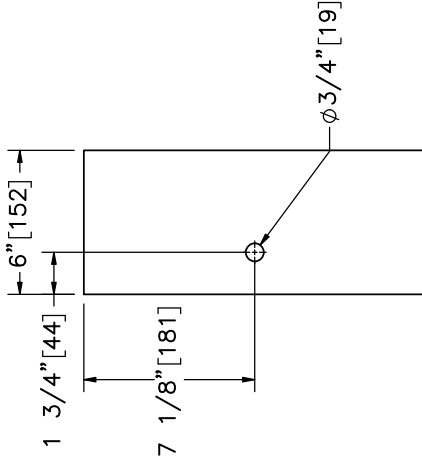
ELEVATION VIEW

Part d8

SCALE 1:8

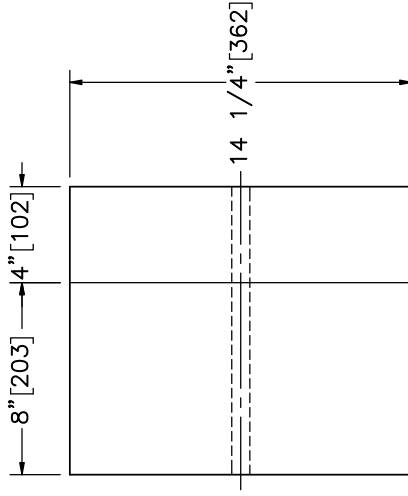


PROFILE VIEW



ELEVATION VIEW

Alternate Blockout Option

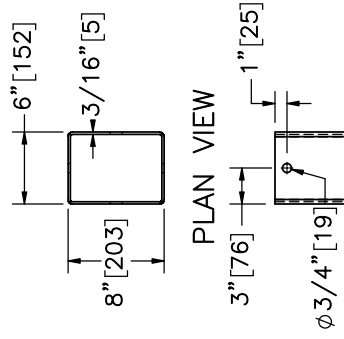


PROFILE VIEW

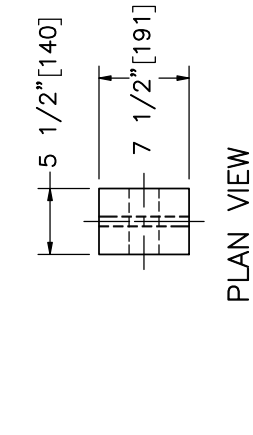


Midwest Roadside Safety Facility

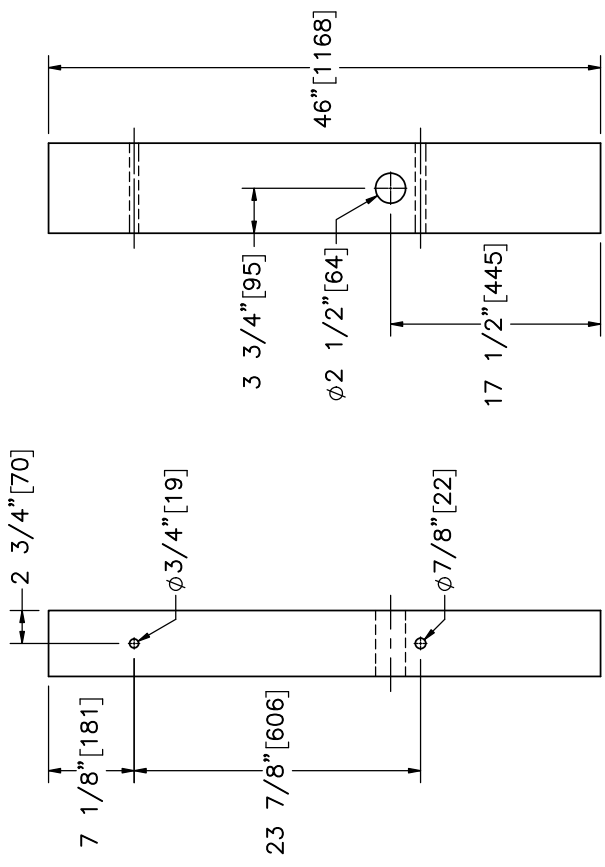
| | | |
|---|---|------------------|
| SHEET: 10 of 23 | 34" Thrie-Beam AGT to Concrete Buttress | |
| | DATE: 6/24/2019 | DRAWN BY: JRD |
| DWG. NAME: 34AGT_Revised-Implementation_R1 | SCALE: 1:15 | REV. BY: SKR |
| Post Nos. 3-10 Components | | UNITS: in.[mm] |



PLAN VIEW

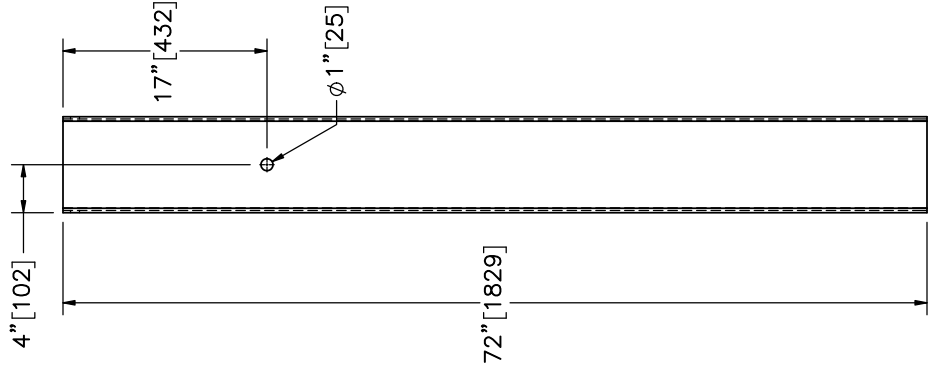


PLAN VIEW



ELEVATION VIEW


Part c1

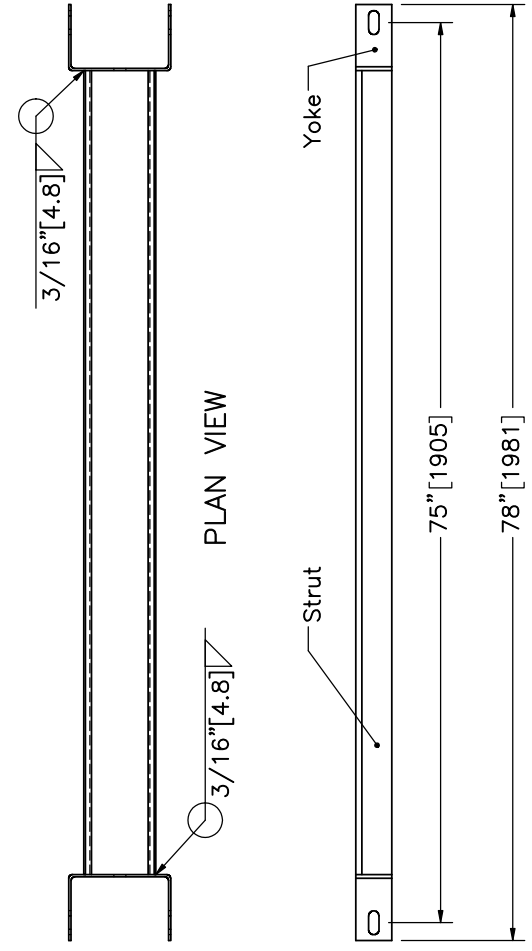


PROFILE VIEW

Part c2

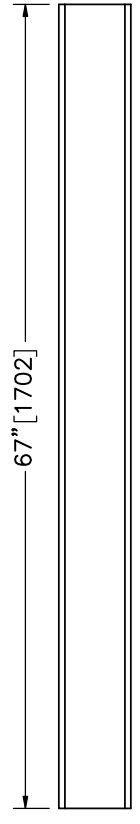
ELEVATION VIEW

| | |
|---|---|
|  | SHEET: 11 of 23 DATE: 6/24/2019 DRAWN BY: JRD REV. BY: SKR |
| | 34" Thrie-Beam AGT to Concrete Buttress BCT Timber Post & Foundation Tube Details DWG. NAME: 34AGT_Revised-Implementation_R1 SCALE: 1:16 UNITS: in,[mm] |



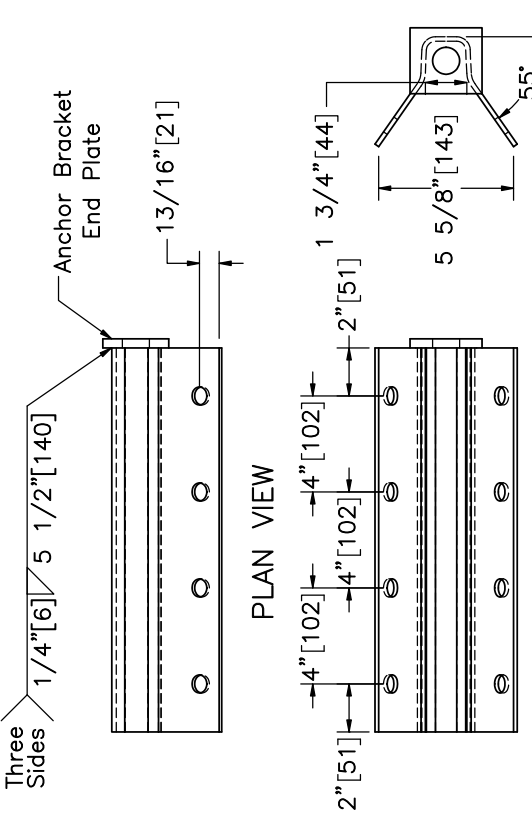
PLAN VIEW

ELEVATION VIEW
Part c3



ELEVATION VIEW

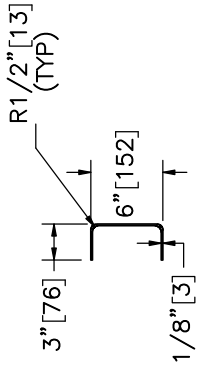
6" x 3" [152x76] 10 Gauge [3.4] Strut



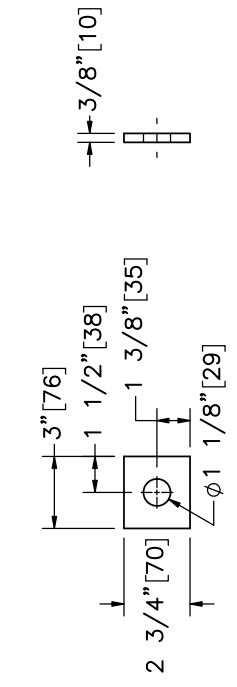
PLAN VIEW

PROFILE VIEW

ELEVATION VIEW
Part c5
SCALE 1:8

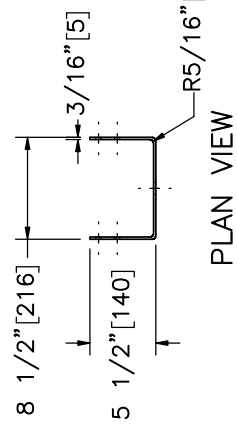


PROFILE VIEW

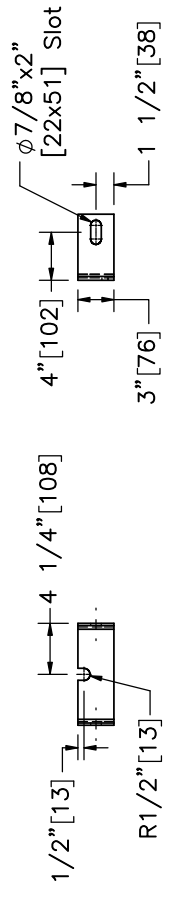


ELEVATION VIEW

Anchor Bracket End Plate
SCALE 1:8



PLAN VIEW



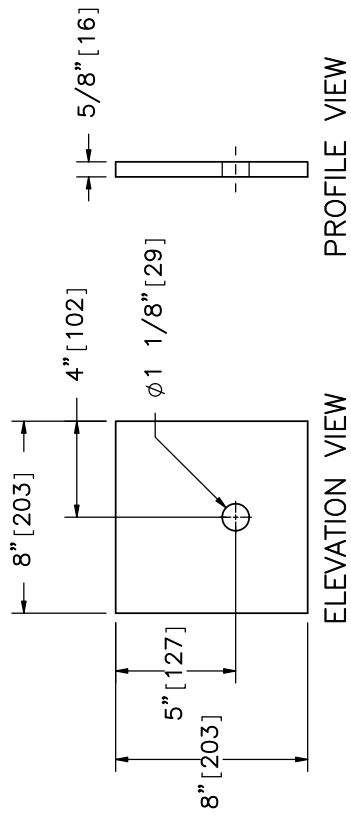
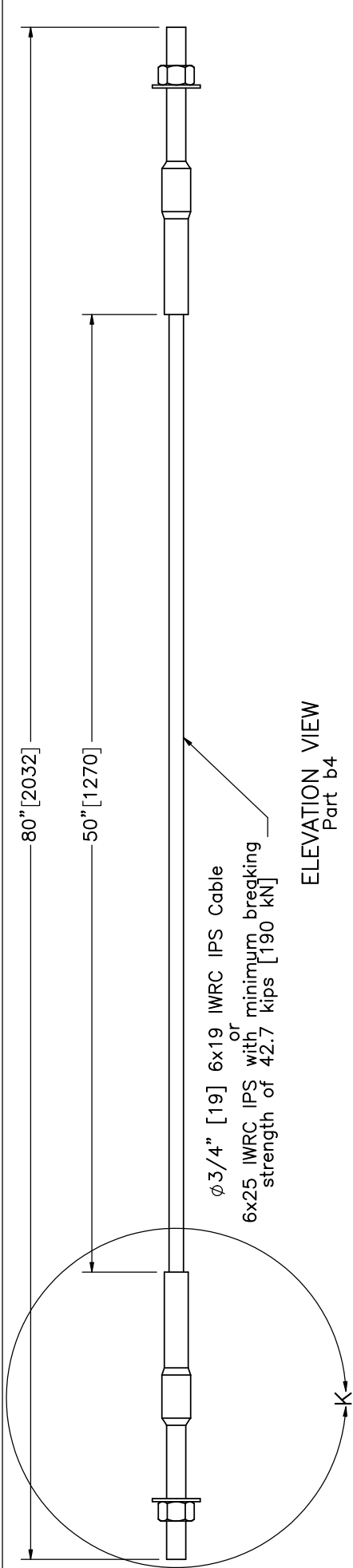
PROFILE VIEW

ELEVATION VIEW
Yoke

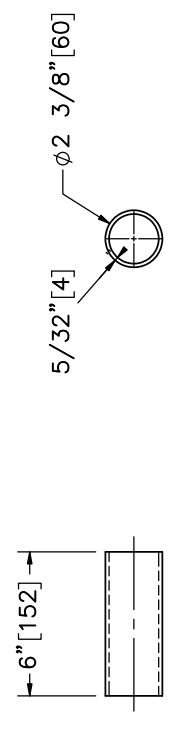
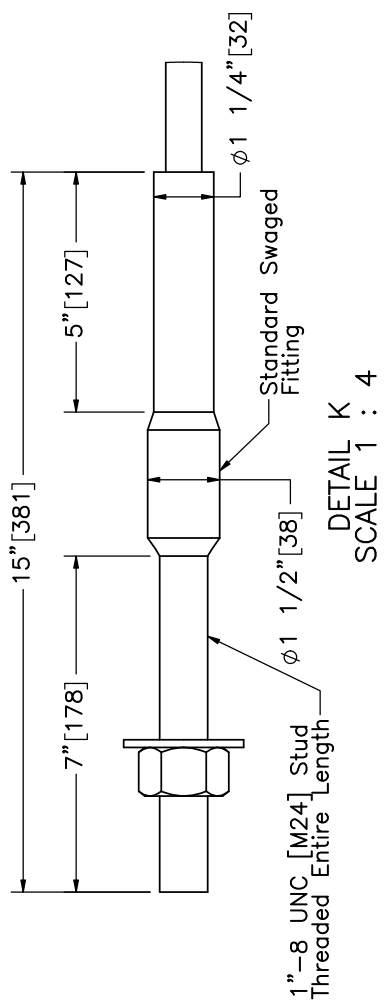


Midwest Roadside Safety Facility

| | | | |
|---|--------------------|------------------|-----------------|
| SHEET: 12 of 23 | DATE: 6/24/2019 | DRAWN BY: JRD | REV. BY: SKR |
| | | | |
| 34" Thrie-Beam AGT to Concrete Buttress | | SCALE: 1:16 | |
| Ground Strut Details | | UNITS: in, [mm] | |



Part c6

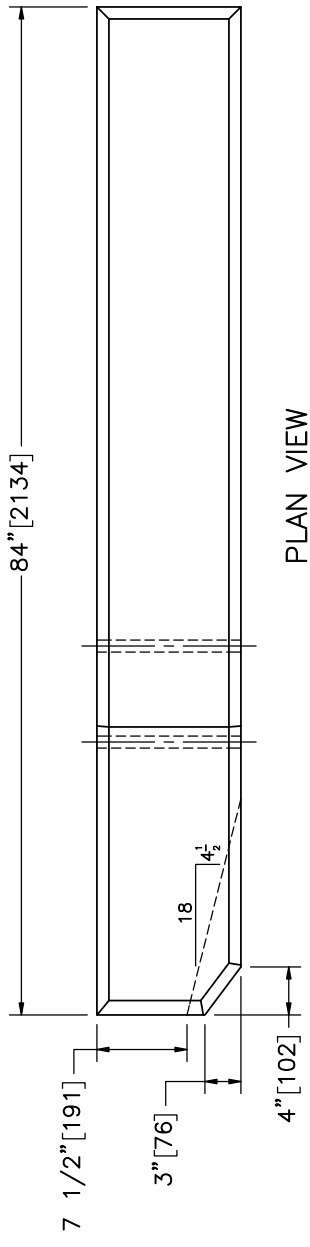


Part c7

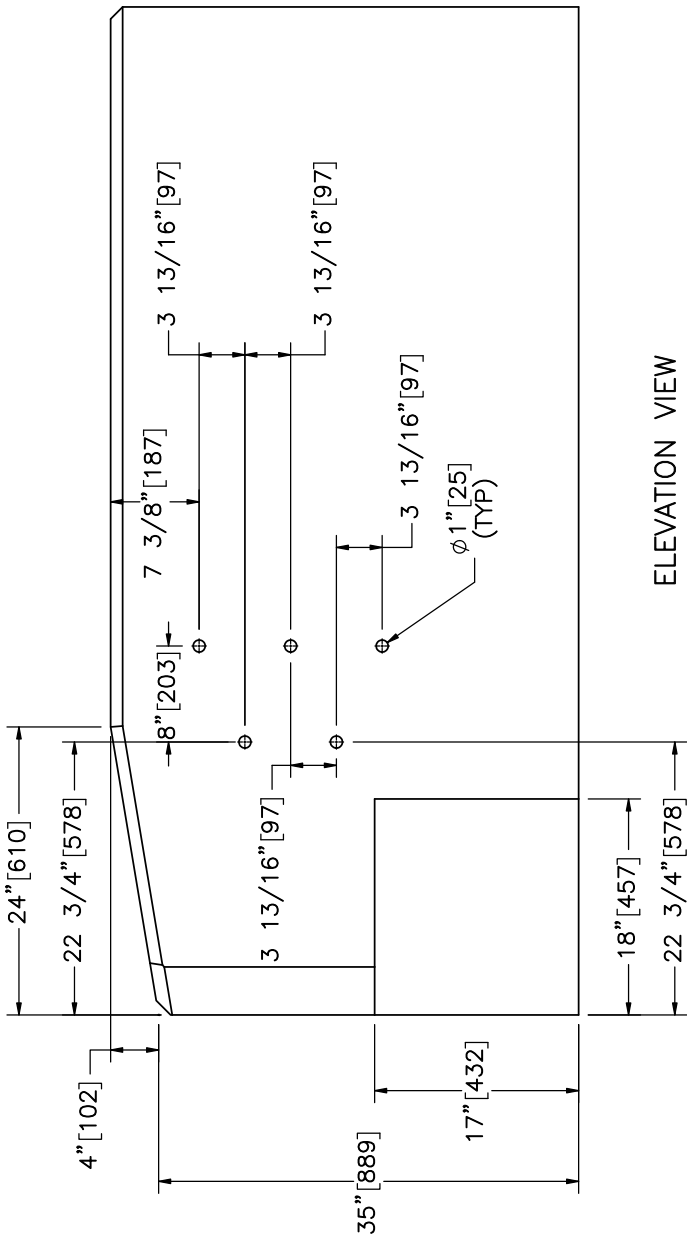


Midwest Roadside Safety Facility

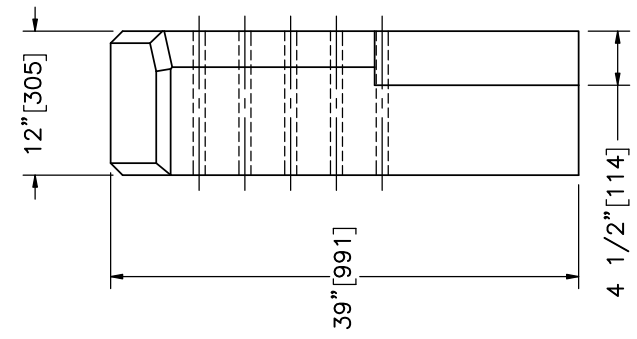
| | | | |
|---|--------------------|------------------|-----------------|
| SHEET: 13 of 23 | DATE: 6/24/2019 | DRAWN BY: JRD | REV. BY: SKR |
| | | | |
| 34" Thrie-Beam AGT to Concrete Buttress | | BCT Anchor Cable | |
| DWG. NAME: 34AGT_Revised-Implementation_R1 | | SCALE: 1:8 | |



PLAN VIEW




ELEVATION VIEW

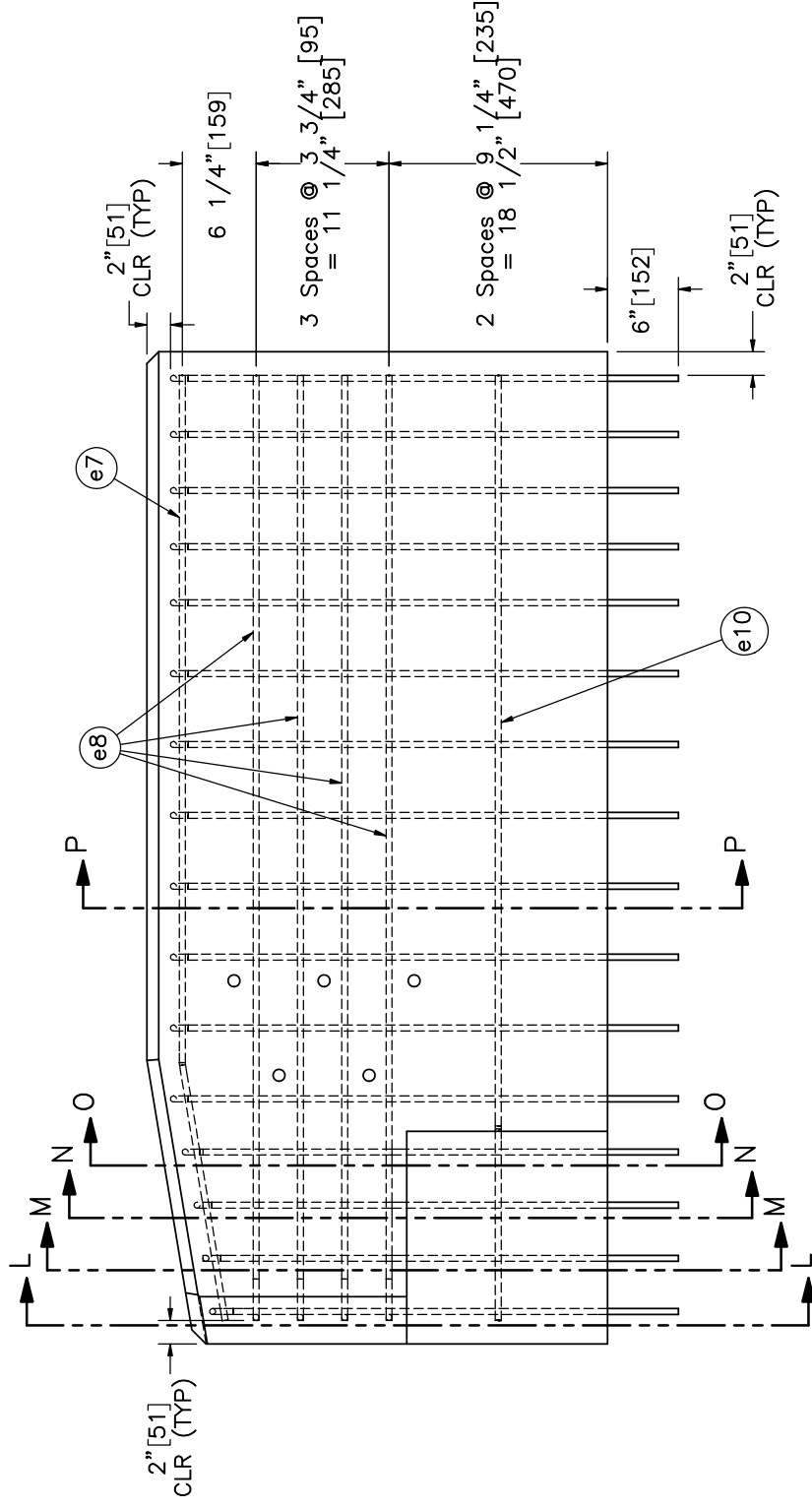
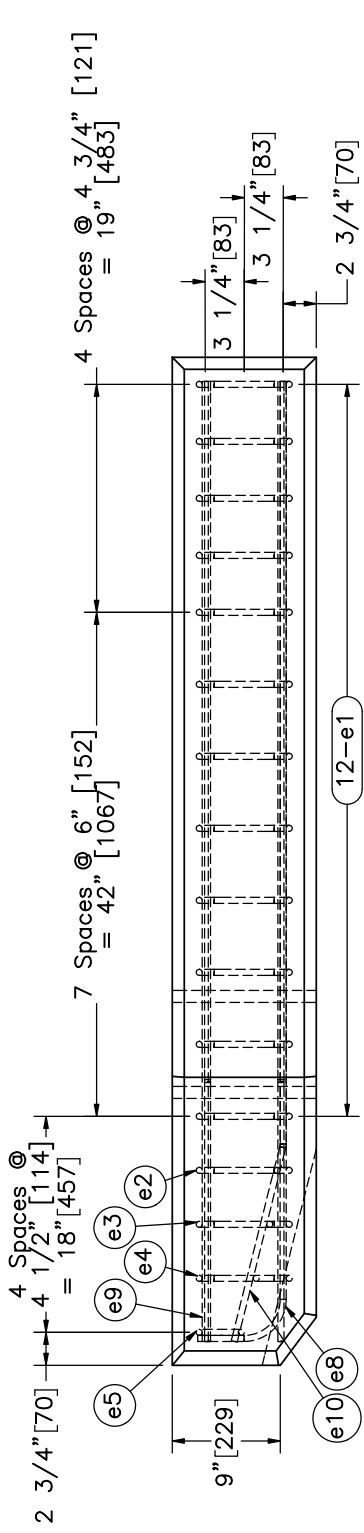


PROFILE VIEW

Part b1

| | | |
|---|--|---|
|  | 34" Thrie-Beam AGT to Concrete Buttress | SHEET: 14 of 23 DATE: 6/24/2019 |
| | Buttress Details | DWG. NAME: 34AGT_Revised-Implementation_R1 SCALE: 1:16 UNITS: in,[mm] |
| Midwest Roadside Safety Facility | DRAWN BY: JRD REV. BY: SKR | |

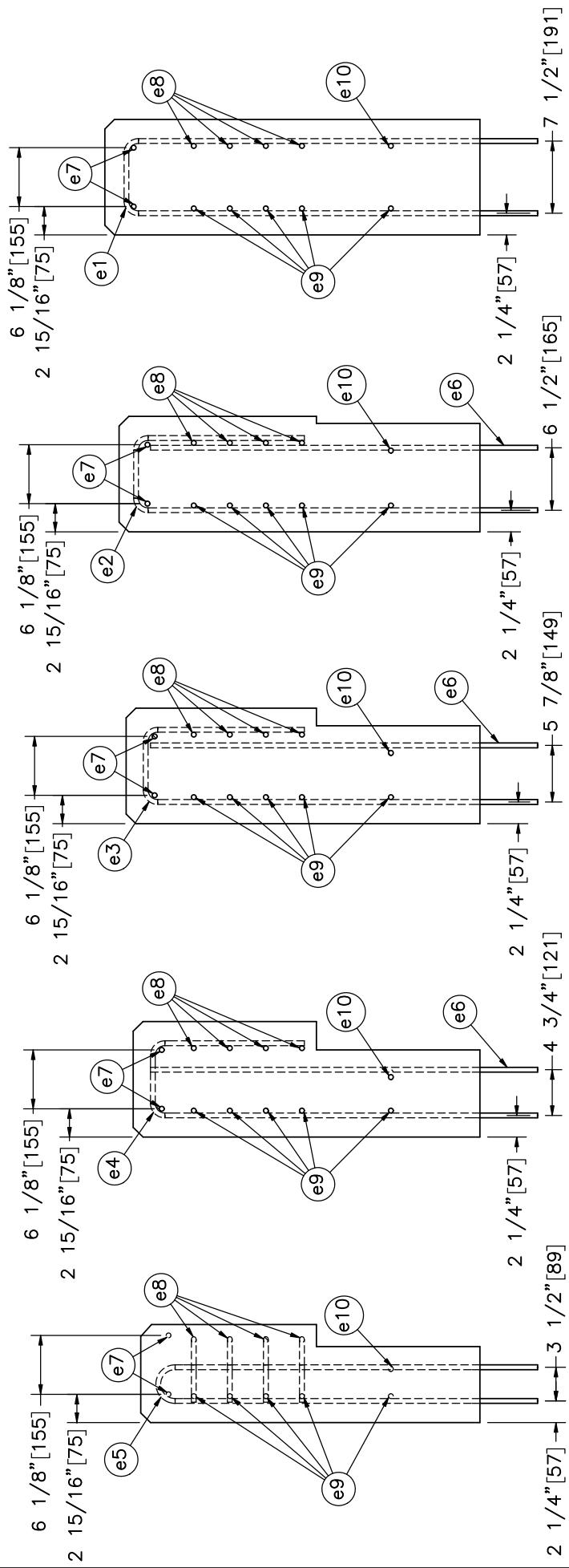
Notes: (1) Lower setback has lateral flare of 1:4.
 (2) Five 1" [25] diameter holes are required for placement of 7/8" [22] diameter bolts.



Midwest
Roadside
Safety
Facility

| | | | |
|---|--------------------|------------------|-----------------|
| SHEET: 15 of 23 | DATE: 6/24/2019 | DRAWN BY: JRD | REV. BY: SKR |
| | | | |
| 34" Thrie-Beam AGT to Concrete Buttress | | | Rebar Detail |
| DWG. NAME: 34AGT_Revised-Implementation_R1 | | | |

- Notes:
- (1) Vertical rebar embedded in tarmac with chemical epoxy adhesive with a minimum bond strength of 1,450 psi [10.0 MPa].
 - (2) All edges of the top of the buttress are chamfered 1" [25].



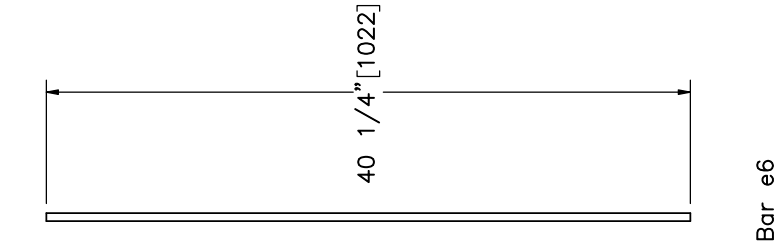
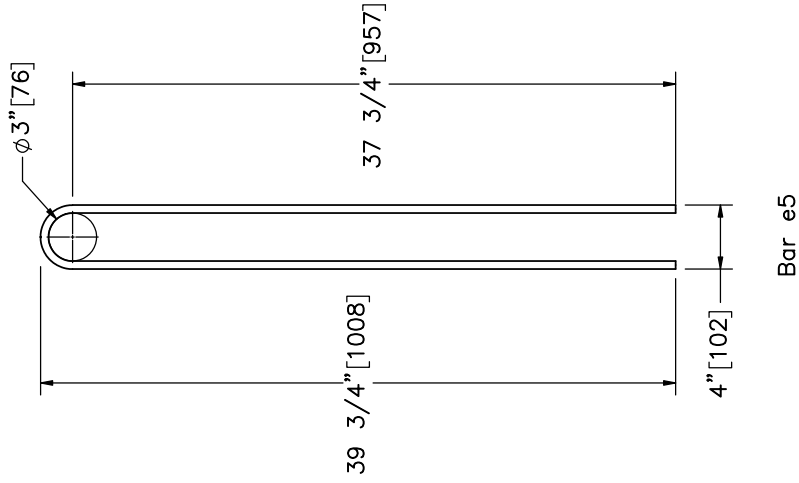
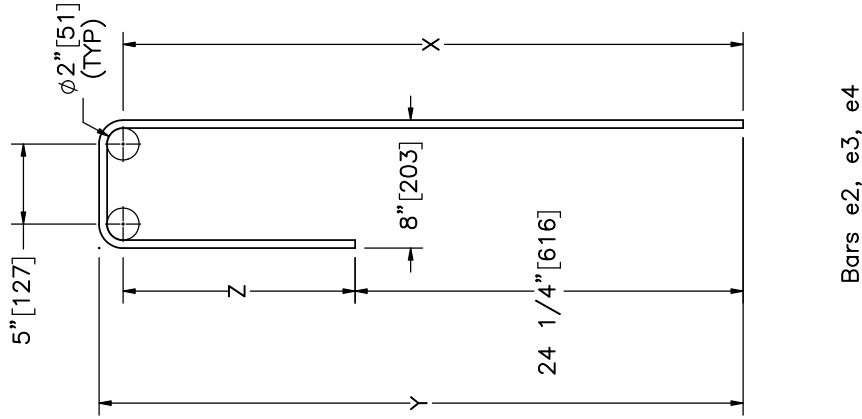
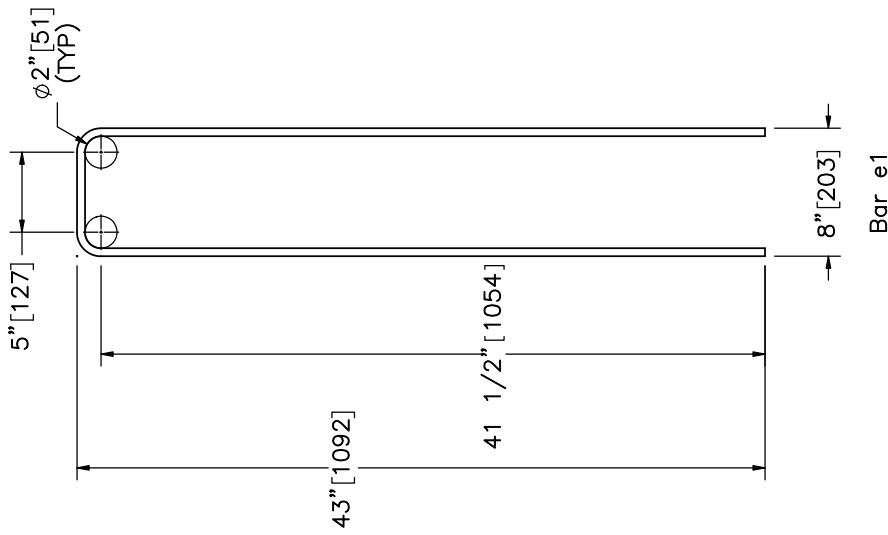
SECTION L-L SECTION M-M SECTION N-N SECTION O-O SECTION P-P



Midwest Roadside Safety Facility

| | |
|--|-----------------|
| SHEET: 16 of 23 | |
| DATE: 6/24/2019 | |
| DRAWN BY: JRD | |
| REV. BY: SKR | |
| 34" Thrie-Beam AGT to Concrete Buttruss | |
| Buttruss Sections | |
| DWG. NAME: 34AGT_Revised-Implementation_R1 | SCALE: 1:16 |
| | UNITS: in, [mm] |

Note: (1) All stirrups have minimum 2" [51] concrete clear cover.



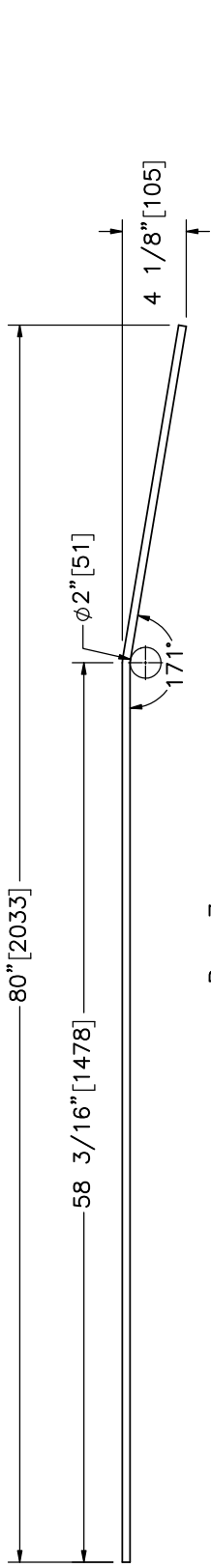
Midwest Roadside
Safety Facility

| Bill of Bars | | | | | | |
|--------------|-----|------|-----------------|-----------------|---------------|-----------------|
| Part No. | QTY | Size | X | Y | Z | Unbent Length |
| e1 | 12 | #4 | 41 1/2" [1,054] | 43" [1,092] | — | 92" [2,337] |
| e2 | 1 | #4 | 40 1/2" [1,029] | 42" [1,067] | 16 1/4" [413] | 65 3/4" [1,670] |
| e3 | 1 | #4 | 39 1/2" [1,003] | 41" [1,042] | 15 1/4" [387] | 63 1/2" [1,612] |
| e4 | 1 | #4 | 38 3/4" [984] | 40 1/4" [1,022] | 14 1/2" [368] | 62 1/4" [1,581] |
| e5 | 1 | #4 | 37 3/4" [959] | 39 3/4" [1,010] | — | 80 3/4" [2,051] |
| e6 | 1 | #4 | — | — | — | 40 1/4" [1,022] |

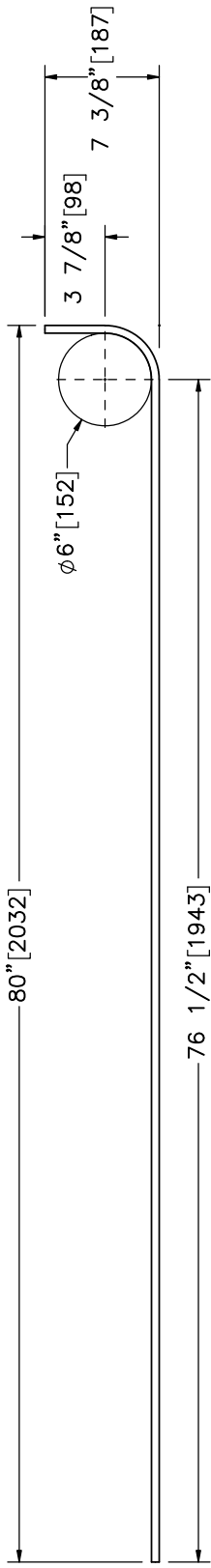
| | |
|------------|---------------------------------|
| SHEET: | 17 of 23 |
| DATE: | 6/24/2019 |
| DRAWN BY: | JRD |
| REV. BY: | SKR |
| DWG. NAME: | 34AGT_Revised-Implementation_R1 |
| SCALE: | 1:12 |
| UNITS: | in. [mm] |

34" Thrie-Beam AGT to
Concrete Buttress

Vertical Rebar Details



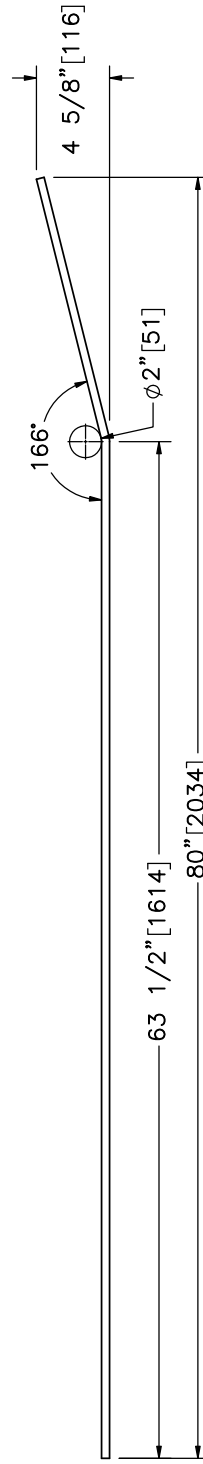
Bar e7



Bar e8



Bar e9



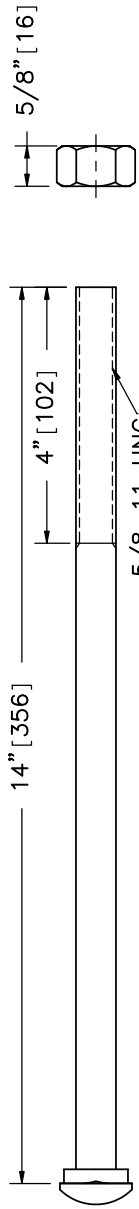
Bar e10

| Bill of Bars | | | |
|--------------|-----|------|-----------------|
| Part No. | QTY | Size | Unbent Length |
| e7 | 2 | #4 | 80 1/4" [2,038] |
| e8 | 4 | #4 | 85 1/2" [2,171] |
| e9 | 5 | #4 | 80" [2,032] |
| e10 | 1 | #4 | 80 1/2" [2,045] |

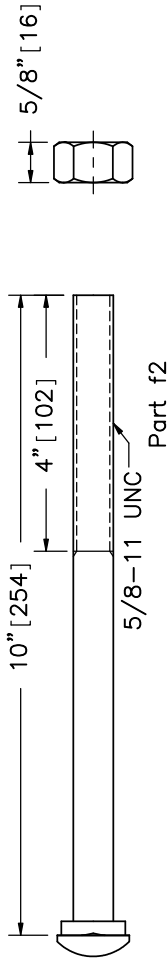


Midwest Roadside Safety Facility

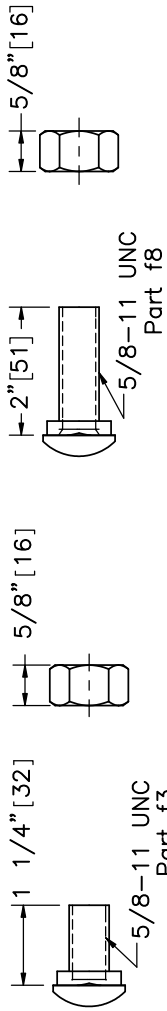
| | | | | | |
|--------------------|--------------------|------------------|-----------------|--------------------------------|--|
| SHEET: 18 of 23 | DATE: 6/24/2019 | DRAWN BY: JRD | REV. BY: SKR | SCALE: 1:12 UNITS: in, [mm] | 34" Thrie-Beam AGT to Concrete Buttress |
| | | | | | |



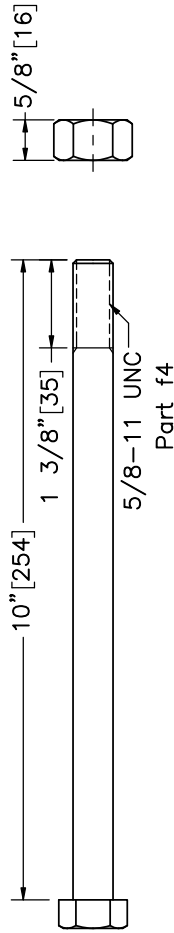
Part f1



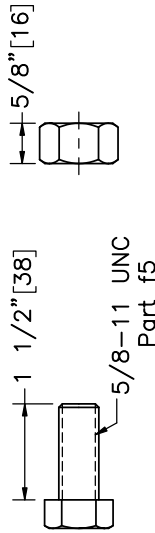
Part f2



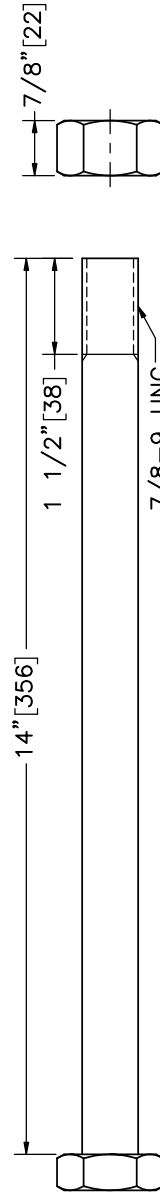
Part f3



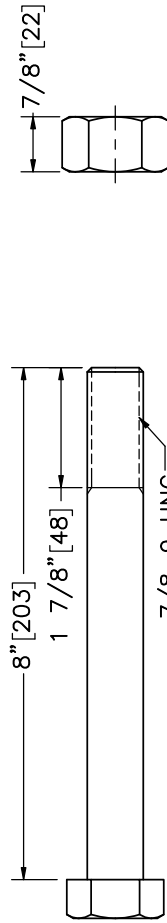
Part f4



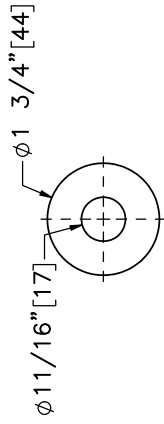
Part f5



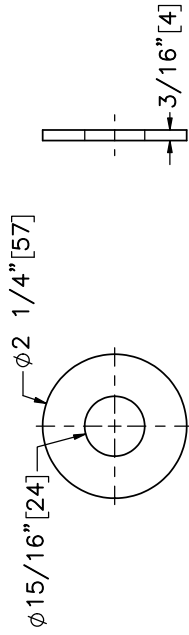
Part f6



Part f7



Part g1

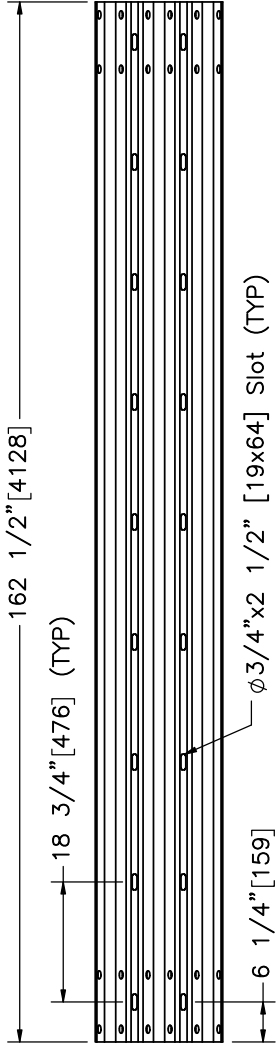


Part g2



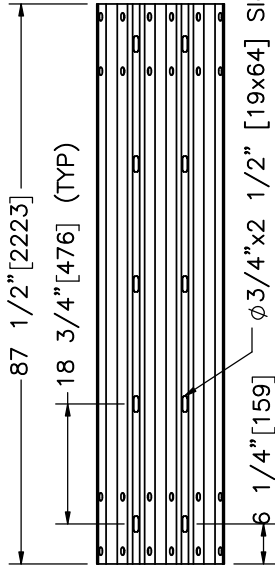
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| | | | |
|---|--------------------|------------------|-----------------|
| SHEET: 19 of 23 | DATE: 6/24/2019 | DRAWN BY: JRD | REV. BY: SKR |
| | | | |
| 34" Thrie-Beam AGT to Concrete Buttress | | Fastener Details | |
| DWG. NAME: 34AGT_Revised-Implementation_R1 | | | |



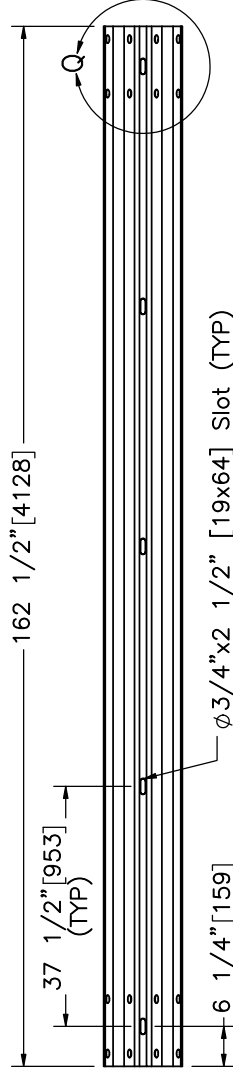
ELEVATION VIEW

Part a1



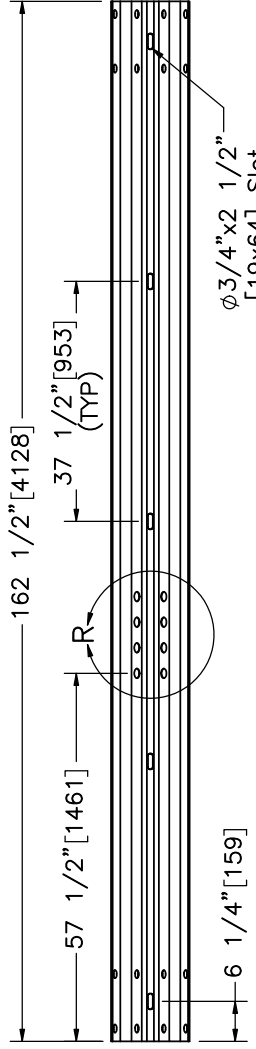
ELEVATION VIEW

Part a2



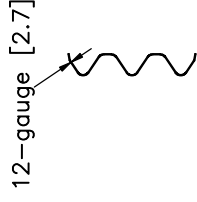
ELEVATION VIEW

Part a4



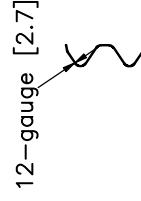
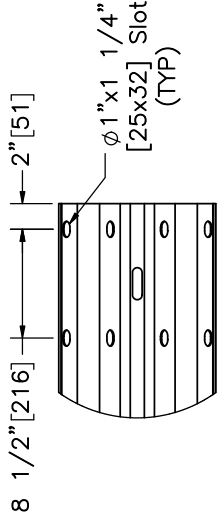
ELEVATION VIEW

Part a5



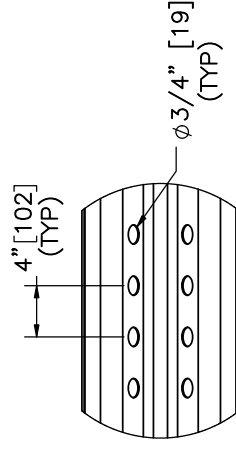
PROFILE VIEW

DETAIL Q
SCALE 1 : 15



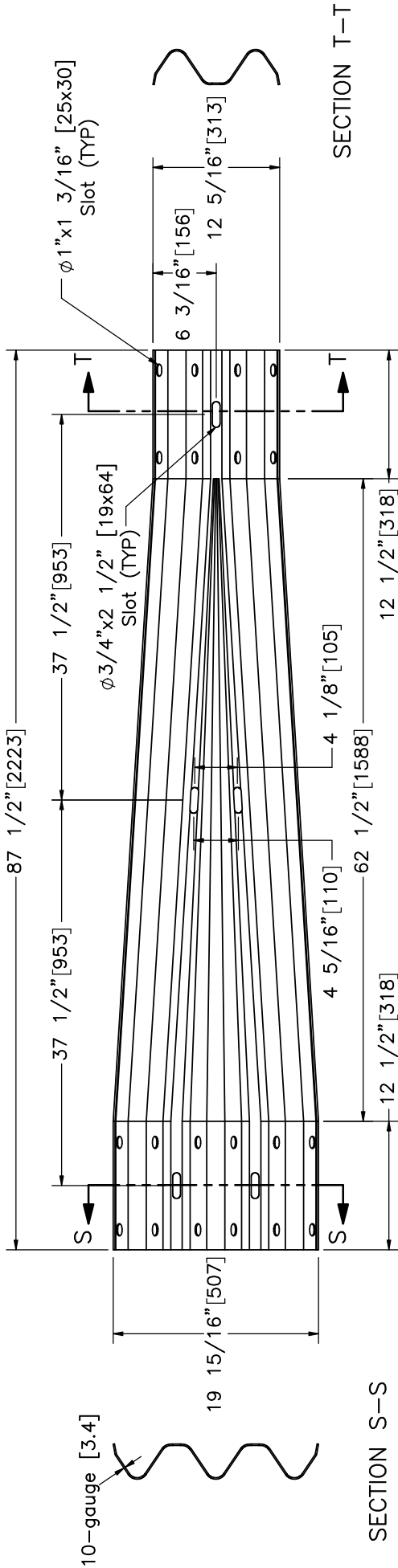
PROFILE VIEW

DETAIL R
SCALE 1 : 15

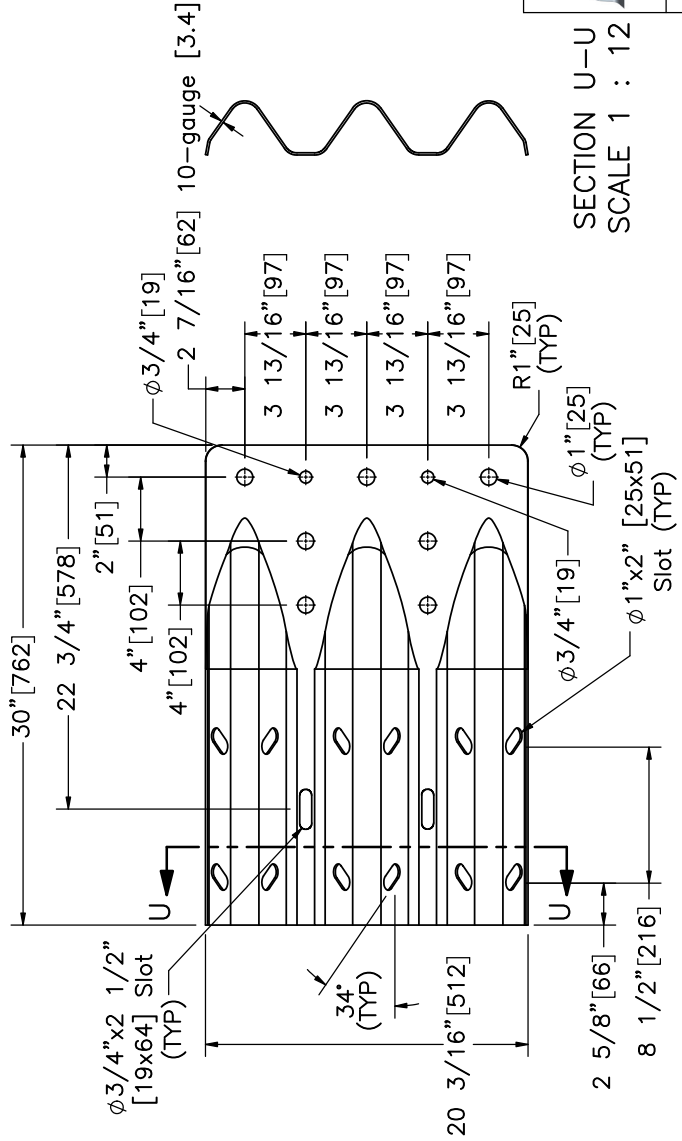


Midwest Roadside Safety Facility

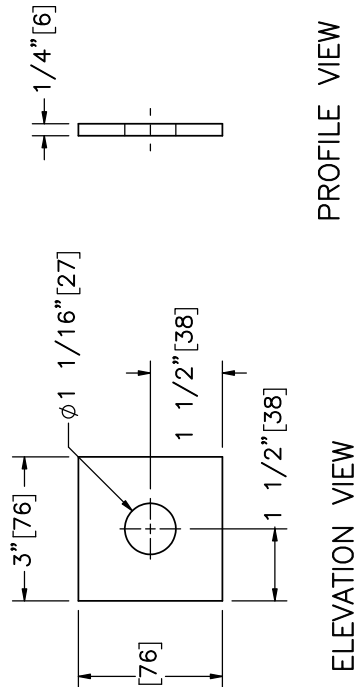
| | | | |
|---|--------------------|------------------|-----------------|
| SHEET: 20 of 23 | DATE: 6/24/2019 | DRAWN BY: JRD | REV. BY: SKR |
| | | | |
| Guardrail Details | | | SCALE: 1:30 |
| DWG. NAME: 34AGT_Revised-Implementation_R1 | | | UNITS: in,[mm] |



ELEVATION VIEW
Part a3



ELEVATION VIEW
Part a6




Midwest Roadside Safety Facility

SECTION U-U
SCALE 1 : 12

| | | | |
|---|--------------------|------------------|-----------------|
| SHEET: 21 of 23 | DATE: 6/24/2019 | DRAWN BY: JRD | REV. BY: SKR |
| | | | |
| Rail Transition and Component Details | | SCALE: 1:15 | |
| DWC. NAME: 34AGT_Revised-Implementation_R1 | | UNITS: in,[mm] | |

| Item No. | QTY. | Description | Material Specification | Galvanization Specification | Hardware Guide |
|----------|------|---|--|-----------------------------|----------------|
| a1 | 2 | 12'-6" [3,810] 12-gauge [2.7] Thrie Beam Section | AASHTO M180 | ASTM A653 | RTM08a |
| a2 | 1 | 6'-3" [1,905] 12-gauge [2.7] Thrie Beam Section | AASHTO M180 | ASTM A653 | RTM19a |
| a3 | 1 | 10-gauge [3.4] Symmetrical W-beam to Thrie Beam Transition | AASHTO M180 | ASTM A653 | RWT01b |
| a4 | 3 | 12'-6" [3,810] 12-gauge [2.7] W-Beam Section | AASHTO M180 | ASTM A653 | RWM04a |
| a5 | 1 | 12'-6" [3,810] 12-gauge [2.7] W-Beam MGS End Section | AASHTO M180 | ASTM A653 | RWM14a |
| a6 | 1 | 10-gauge [3.4] Thrie Beam End Shoe Section | AASHTO M180 | ASTM A653 | RTE01b |
| a7 | 1 | 6'-3" [1,905] 12-gauge [2.7] W-Beam MGS Section | AASHTO M180 | ASTM A653 | RWM04a |
| b1 | 1 | Concrete - 21.9 cubic ft [0.62 cubic m] | Min. f'c = 4,000 psi [27.6 MPa] | - | - |
| c1 | 2 | BCT Timber Post - MGS Height | SYP Grade No. 1 or better (No knots +/- 18" [457] from ground on tension face) | - | PDF01 |
| c2 | 2 | 72" [1,829] Long Foundation Tube | ASTM A500 Gr. B | *AASHTO M111 (ASTM A123) | PTE06 |
| c3 | 1 | Ground Strut Assembly | ASTM A36 | *AASHTO M111 (ASTM A123) | PFPO2 |
| c4 | 2 | BCT Cable Anchor Assembly | - | - | FCA01 |
| c5 | 1 | Anchor Bracket Assembly | ASTM A36 | *AASHTO M111 (ASTM A123) | FPA01 |
| c6 | 1 | 8"x8"x5/8" [203x203x16] Anchor Bearing Plate | ASTM A36 | *AASHTO M111 (ASTM A123) | FPB01 |
| c7 | 1 | 2 3/8" [60] O.D. x 6" [152] Long BCT Post Sleeve | ASTM A53 Gr. B Schedule 40 | *AASHTO M111 (ASTM A123) | FMM02 |
| d1 | 8 | W6x8.5 [W152x12.6] or W6x9 [W152x13.4], 72" [1,829] Long Steel Post | ASTM A992 | *AASHTO M111 (ASTM A123) | - |
| d2 | 1 | W6x8.5 [W152x12.6] or W6x9 [W152x13.4], 72" [1,829] Long Steel Post | ASTM A992 | *AASHTO M111 (ASTM A123) | - |
| d3 | 5 | W6x8.5 [W152x12.6] or W6x9 [W152x13.4], 72" [1,829] Long Steel Post | ASTM A992 | *AASHTO M111 (ASTM A123) | - |
| d4 | 3 | W6x15 [W152x22.3], 84" [2,134] Long Steel Post | ASTM A992 | *AASHTO M111 (ASTM A123) | PWE12 |
| d5 | 3 | 6"x8"x19" [152x203x483] Timber Blockout | SYP Grade No.1 or better | - | PDB17 |
| d6 | 5 | 6"x12"x19" [152x305x483] Timber Blockout | SYP Grade No.1 or better | - | - |
| d7 | 1 | 6"x12"x19" [152x305x483] Timber Blockout | SYP Grade No.1 or better | - | PDB18 |
| d8 | 8 | 6"x12"x14 1/4" [152x305x368] Timber Blockout | SYP Grade No.1 or better | - | PDB10a |

* Component does not need to be galvanized for testing purposes.



Midwest Roadside Safety Facility

34" Thrie-Beam AGT to Concrete Buttress

Bill of Materials

DWG. NAME: 34AGT_Revised-Implementation_R1

SCALE: None
UNITS: in,[mm] SKR

SHEET: 22 of 23
DATE: 6/24/2019
DRAWN BY: JRD
REV. BY: SKR

| Item No. | QTY. | Description | Material Specification | Galvanization Specification | Hardware Guide |
|----------|------|--|---|---|----------------|
| d9 | 9 | 16D Double Head Nail | - | - | - |
| e1 | 12 | 1/2" [13] Dia., 92" [2,337] Long Bent Rebar | ASTM A615 Gr. 60 | **Epoxy-Coated | - |
| e2 | 1 | 1/2" [13] Dia., 65 3/4" [1,670] Long Bent Rebar | ASTM A615 Gr. 60 | **Epoxy-Coated | - |
| e3 | 1 | 1/2" [13] Dia., 63 1/2" [1,612] Long Bent Rebar | ASTM A615 Gr. 60 | **Epoxy-Coated | - |
| e4 | 1 | 1/2" [13] Dia., 62 1/4" [1,581] Long Bent Rebar | ASTM A615 Gr. 60 | **Epoxy-Coated | - |
| e5 | 1 | 1/2" [13] Dia., 80 3/4" [2,051] Long Bent Rebar | ASTM A615 Gr. 60 | **Epoxy-Coated | - |
| e6 | 3 | 1/2" [13] Dia., 40 1/4" [1,022] Long Rebar | ASTM A615 Gr. 60 | **Epoxy-Coated | - |
| e7 | 2 | 1/2" [13] Dia., 80 5/16" [2,039] Long Bent Rebar | ASTM A615 Gr. 60 | **Epoxy-Coated | - |
| e8 | 4 | 1/2" [13] Dia., 85 1/2" [2,171] Long Bent Rebar | ASTM A615 Gr. 60 | **Epoxy-Coated | - |
| e9 | 5 | 1/2" [13] Dia., 80" [2,032] Long Rebar | ASTM A615 Gr. 60 | **Epoxy-Coated | - |
| e10 | 1 | 1/2" [13] Dia., 80 1/2" [2,045] Long Bent Rebar | ASTM A615 Gr. 60 | **Epoxy-Coated | - |
| f1 | 19 | 5/8" [16] Dia. UNC, 14" [356] Long Guardrail Bolt and Nut | Bolt - ASTM A307 Gr. A Nut - ASTM A563A | AASHTO M232 (ASTM A153) for Class C or AASHTO M298 (ASTM B695) for Class 50 | FBB06 |
| f2 | 8 | 5/8" [16] Dia. UNC, 10" [254] Long Guardrail Bolt and Nut | Bolt - ASTM A307 Gr. A Nut - ASTM A563A | AASHTO M232 (ASTM A153) for Class C or AASHTO M298 (ASTM B695) for Class 50 | FBB03 |
| f3 | 52 | 5/8" [16] Dia. UNC, 1 1/4" [32] Long Guardrail Bolt and Nut | Bolt - ASTM A307 Gr. A Nut - ASTM A563A | AASHTO M232 (ASTM A153) for Class C or AASHTO M298 (ASTM B695) for Class 50 | FBB01 |
| f4 | 2 | 5/8" [16] Dia. UNC, 10" [254] Long Hex Head Bolt and Nut | Bolt - ASTM A307 Gr. A Nut - ASTM A563A | AASHTO M232 (ASTM A153) for Class C or AASHTO M298 (ASTM B695) for Class 50 | FBX16a |
| f5 | 8 | 5/8" [16] Dia. UNC, 1 1/2" [38] Long Hex Head Bolt and Nut | Bolt - ASTM A307 Gr. A Nut - ASTM A563A | AASHTO M232 (ASTM A153) for Class C or AASHTO M298 (ASTM B695) for Class 50 | FBX16a |
| f6 | 5 | 7/8" [22] Dia. UNC, 14" [356] Long Heavy Hex Bolt and Nut | Bolt - ASTM A325 Type 1 or ASTM A449 or SAI J429 Gr. 5 Nut - ASTM A563DH or ASTM A194 Gr. 2H | AASHTO M232 (ASTM A153) for Class C or AASHTO M298 (ASTM B695) for Class 50 | FBX22b |
| f7 | 2 | 7/8" Dia. [22] UNC, 8" [203] Long Hex Head Bolt and Nut | Bolt - ASTM A307 Gr. A Nut - ASTM A563A | AASHTO M232 (ASTM A153) for Class C or AASHTO M298 (ASTM B695) for Class 50 | FBX22a |
| f8 | 24 | 5/8" [16] Dia. UNC, 2" [51] Long Guardrail Bolt and Nut | Bolt - ASTM A307 Gr. A Nut - ASTM A563A | AASHTO M232 (ASTM A153) for Class C or AASHTO M298 (ASTM B695) for Class 50 | FBB02 |
| g1 | 34 | 5/8" [16] Dia. Plain Round Washer | ASTM F844 | AASHTO M232 (ASTM A153) for Class C or AASHTO M298 (ASTM B695) for Class 50 | FWC16a |
| g2 | 4 | 7/8" [22] Dia. Plain Round Washer | ASTM F844 | AASHTO M232 (ASTM A153) for Class C or AASHTO M298 (ASTM B695) for Class 50 | - |
| g3 | 5 | 3"x3"x1/4" [76x76x6] or 3 1/2"x3 1/2"x1/4" [89x89x6] Square Plate Washer | ASTM A572 Gr. 50 | *AASHTO M111 (ASTM A123) | FWR10 |

* Component does not need to be galvanized for testing purposes.

** Rebar does not need to be epoxy-coated for testing purposes.



Midwest Roadside Safety Facility

| | | | |
|--------------------|---|-------------------|--------------------|
| SHEET: 23 of 23 | 34" Thrie-Beam AGT to Concrete Buttress | Bill of Materials | SCALE: None |
| | | | UNITS: in,[mm] SKR |
| DATE: 6/24/2019 | | | DRAWN BY: JRD |
| | | | REV. BY: SKR |

| REV. | DATE OF ISSUE | Page | NATURE OF CHANGES | REVIEWER | REVISED BY |
|------|---------------|------|--|----------|------------|
| 0 | 6/24/2019 | - | Drawing created from Thrie_Buttress-2_R2 | - | JRD |
| 1 | 6/25/2019 | - | Drawing renamed to 34AGT_Revised-Implementation | SKR | JRD |
| | | 1 | Removed notes 1 through 4. Renamed note 5 to note 1. | | |