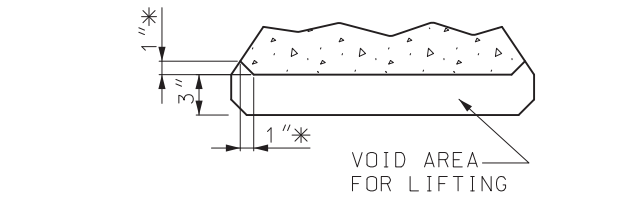
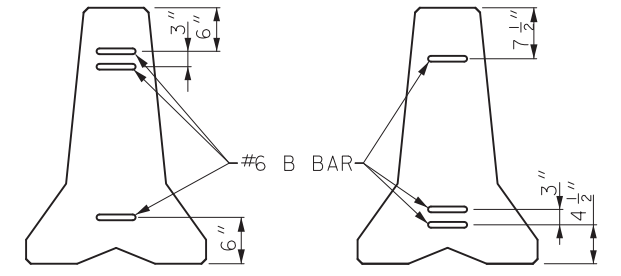


ELEVATION VIEW

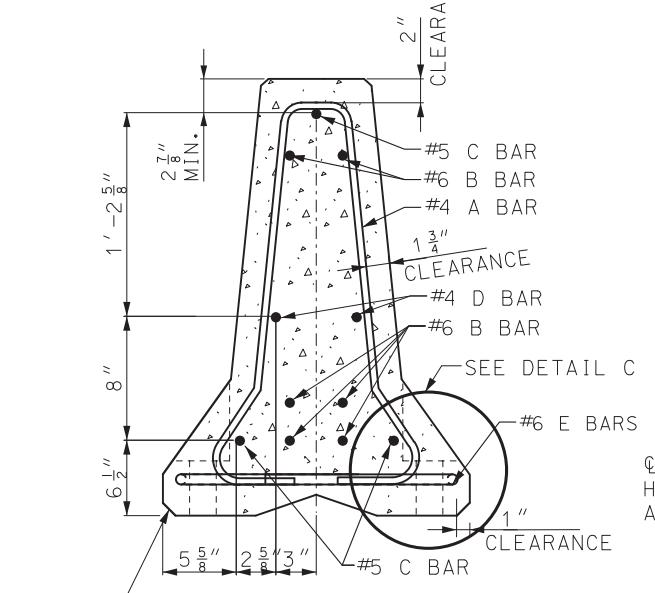
(1) 4 INCH DIAMETER - 11 GAUGE STEEL ROUND MECHANICAL TUBING SLEEVE. THESE HOLES ARE OPTIONAL.



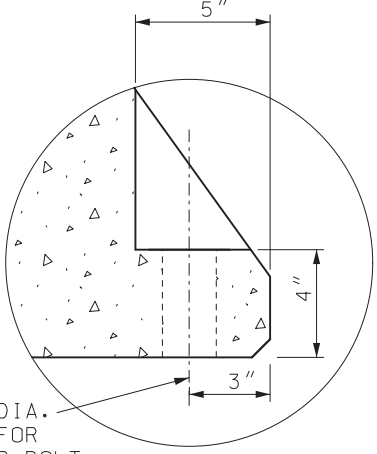
PART SECTION C-C LIFTING SLOT DETAIL  
\* RADIUS EDGER TO PREVENT SPALLING



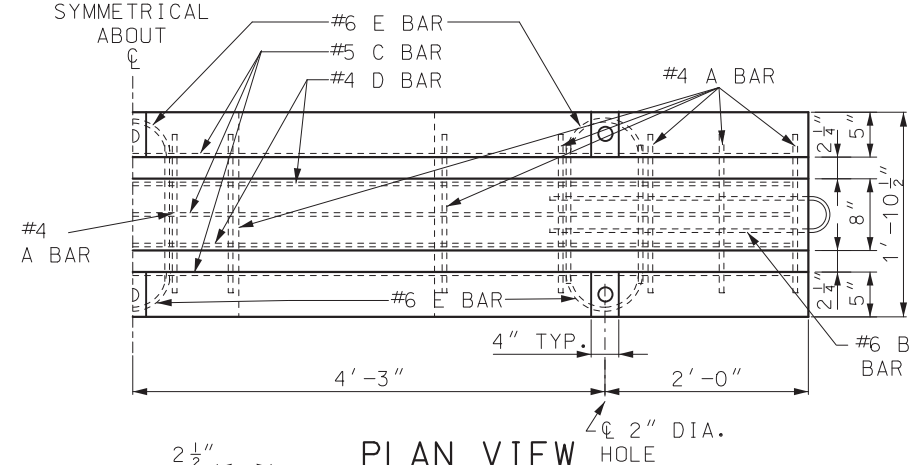
ALTERNATING END VIEWS FOR BARRIER LOOP CONNECTION



SECTION B-B  
\* V-NOTCH OPTIONAL

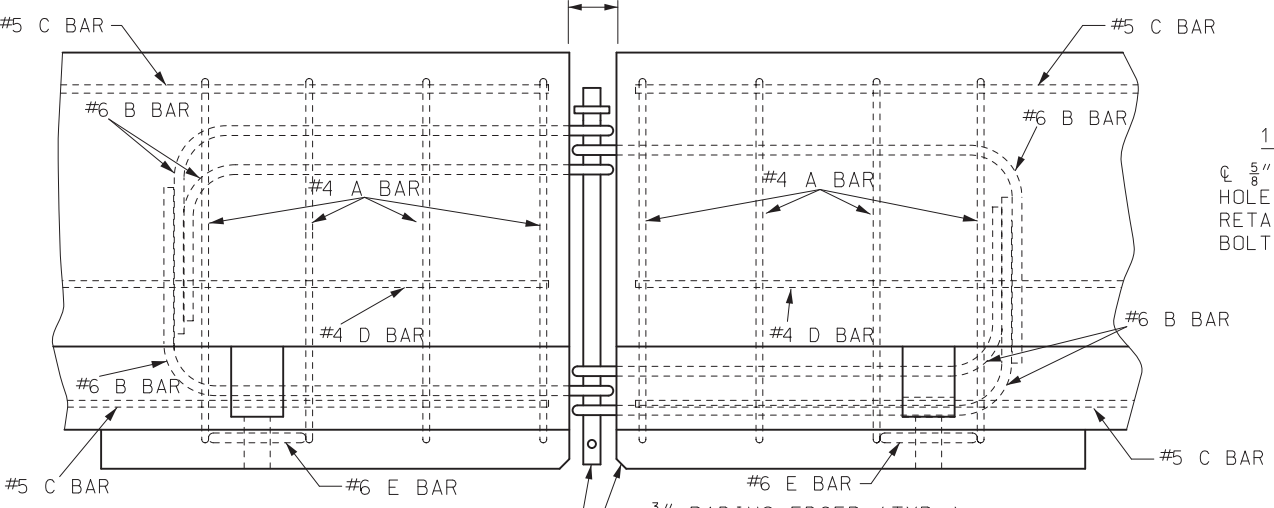


DETAIL C

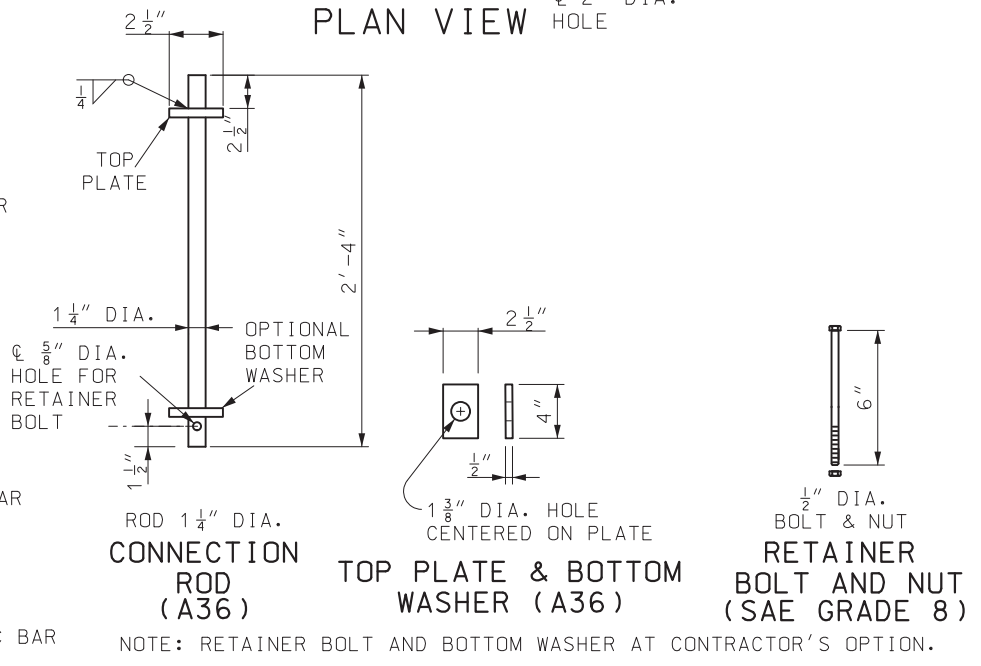


PLAN VIEW

SECTION A-A STIRRUP PLACEMENT WITH BAR REINFORCEMENT



SEE DETAIL A  
DETAILS OF BARRIER CONNECTION



DETAIL A  
CONNECTION ROD ASSEMBLY

GENERAL NOTES:

- ALL REINFORCING SHALL MEET REQUIREMENTS OF CRSI EXCEPT WHERE SHOWN ON PLANS.
- REINFORCING STEEL CLEARANCE TO EDGE OF CONCRETE SHALL BE 1 3/4" UNLESS OTHERWISE SHOWN.
- AT NO TIME SHALL THE BARRIERS BE LIFTED OR MOVED BY USE OF THE LOOP BARS.
- THE SECTION FURNISHED SHALL COMPLY WITH DIMENSIONS SHOWN, AS APPROVED BY THE ENGINEER.
- SEE SHEET 3 FOR DELINEATOR DETAILS.

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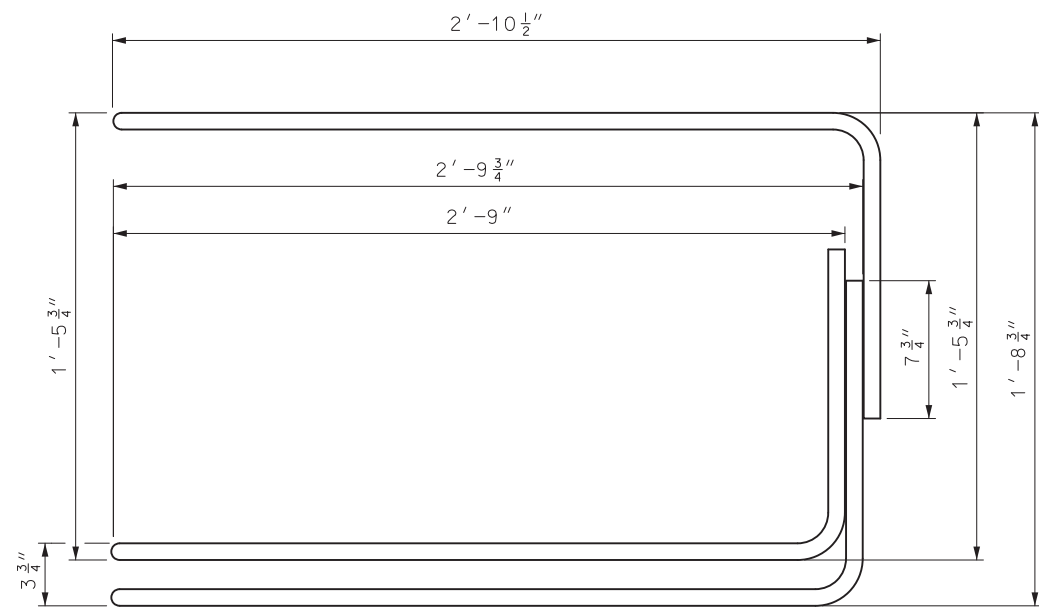
STATE OF MISSOURI  
 ERIC E. SCHROETER  
 NUMBER PE-28411  
 PROFESSIONAL ENGINEER

**TEMPORARY CONCRETE TRAFFIC BARRIER**  
 TYPE F

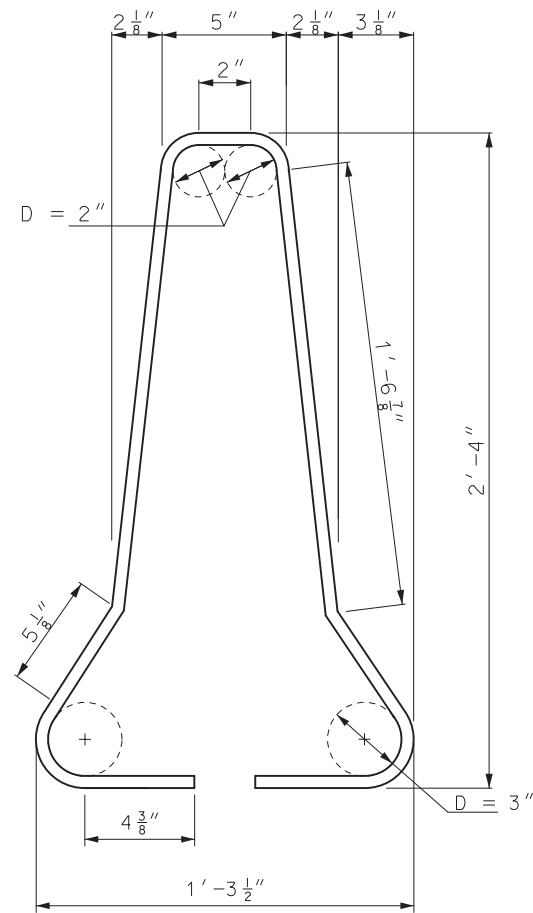
DATE EFFECTIVE: 01/01/2018	<b>617.20E</b>	SHEET NO. 1 OF 8
DATE PREPARED: 5/14/2018		

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

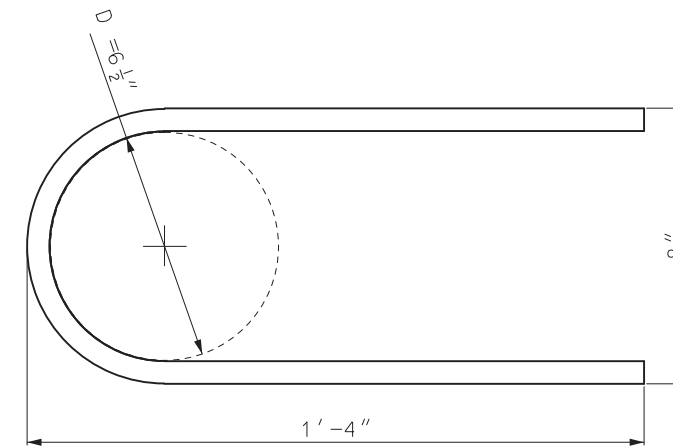
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



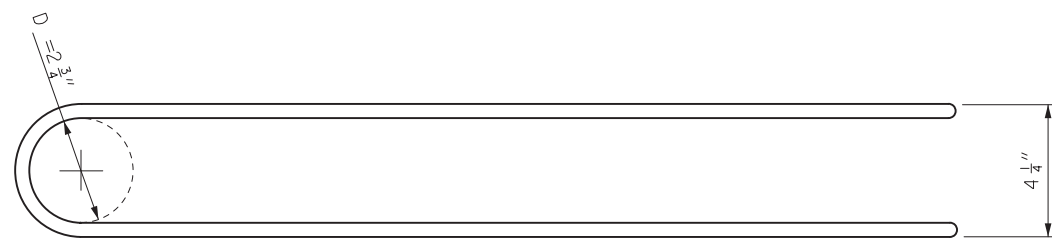
#6 B BAR ELEVATION








#4 A BARS



#6 E BAR



#6 B BAR PLAN

REINFORCING BARS					
PER 12'-6" BARRIER SECTION					
MARK	BAR SIZE	NO. OF BARS	SHAPE OF EACH	LENGTH EACH (NOM.)	WEIGHT
A	4	14		6'-5"	60.8 lbs
C	5	3		12'-2"	38.1 lbs
D	4	2		12'-2"	16.3 lbs
E	6	6		2'-11"	26.3 lbs
LOOP ASSEMBLY					
B	6	6		7'-10"	70.5 lbs

CONCRETE VOLUME 1.3 CU YDS APPROXIMATE WEIGHT 5601 LBS.

GENERAL NOTE:

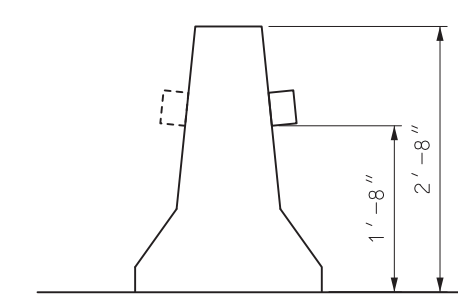
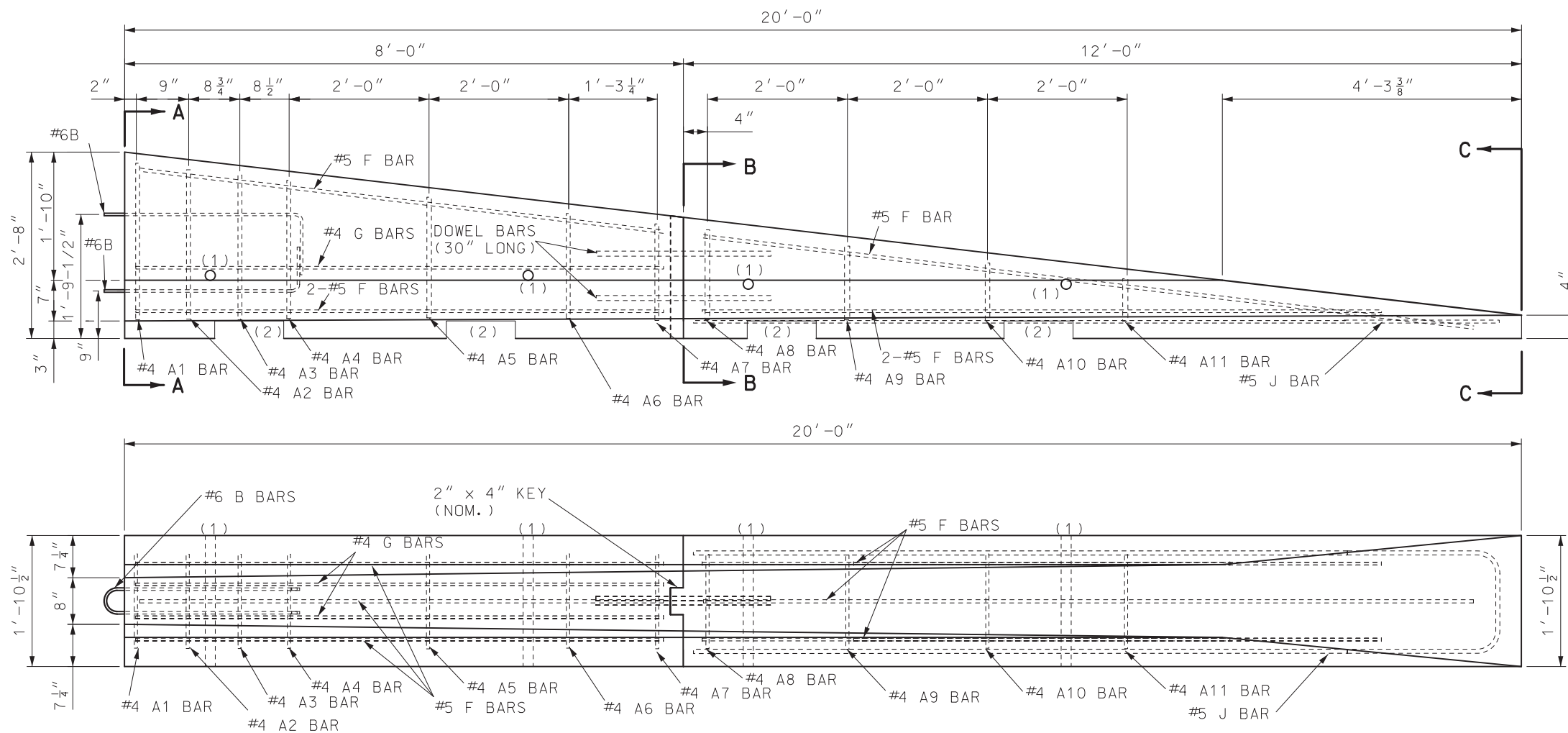
DIMENSIONS ARE OUT TO OUT OF BARS UNLESS OTHERWISE NOTED.

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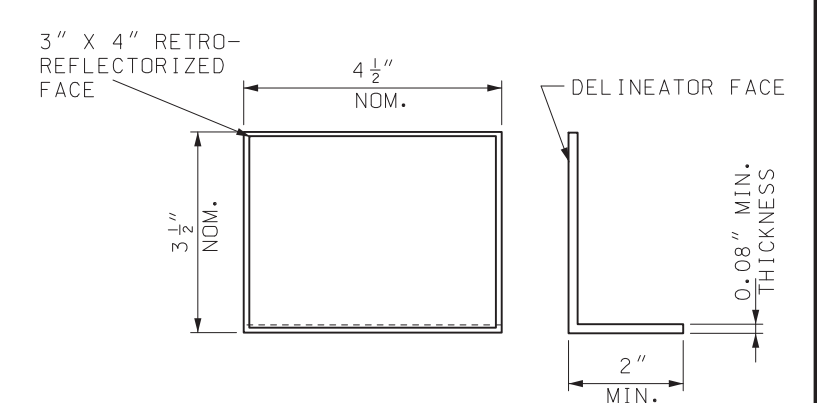
STATE OF MISSOURI  
 ERIC E. SCHROETER  
 NUMBER PE-28411  
 PROFESSIONAL ENGINEER  
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**TEMPORARY CONCRETE TRAFFIC BARRIER**  
 TYPE F

DATE EFFECTIVE: 10/01/2015	<b>617.20E</b>	SHEET NO. 2 OF 8
DATE PREPARED: 5/14/2018		



TRAFFIC BARRIER DELINEATORS



DELINEATOR

**PRECAST BARRIER HEIGHT TRANSITION  
(TEMPORARY INSTALLATIONS ONLY)**

- (1) OPTIONAL 4 INCH DIAMETER, 11 GAUGE STEEL ROUND MECHANICAL TUBING SLEEVE FOR LIFT HOLE ALLOWED. THE LOCATION OF THE HOLE MAY VARY TO ACCOMMODATE THE DIFFERING WEIGHT DISTRIBUTIONS OF TRANSITION SECTIONS.
- (2) 3" X 1'-0" SLOTS FOR LIFTING - TWO PER SECTION. LOCATION TO BE DETERMINED BY CONTRACTOR.

**GENERAL NOTES:**

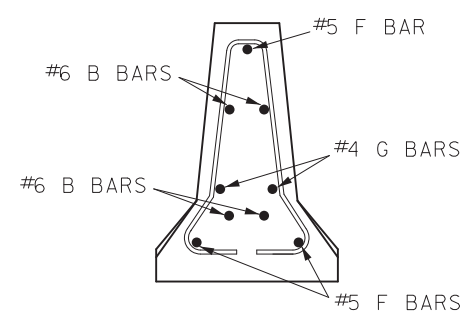
REINFORCING STEEL CLEARANCE TO EDGE OF CONCRETE SHALL BE 1 3/4" UNLESS OTHERWISE SHOWN.

HEIGHT TRANSITIONS SHALL NOT BE USED ON INTERSTATE ROUTES OR IN LOCATIONS WHERE THE POSTED SPEED PRIOR TO CONSTRUCTION IS GREATER THAN 35 MPH.

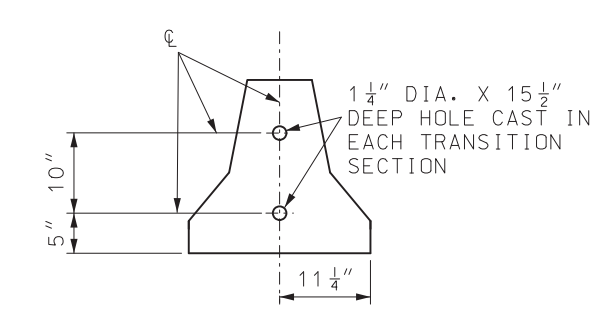
AT NO TIME SHALL THE BARRIERS BE LIFTED OR MOVED BY USE OF THE LOOP BARS.

RETAINER BOLT AND NUT MUST BE USED WITH TRANSITION BARRIER.

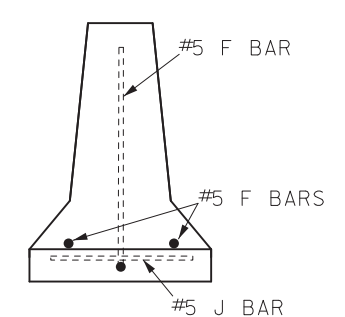
AT THE OPTION OF THE CONTRACTOR, HEIGHT TRANSITIONS MAY BE MANUFACTURED IN ONE SECTION. THE PLANS FOR REINFORCEMENT ACROSS JOINT SHALL BE APPROVED BY THE ENGINEER PRIOR TO MANUFACTURE.



SECTION A-A



SECTION B-B



SECTION C-C

NOTE: SECTIONS TO BE CONNECTED WITH TWO- 1" DIA. BARS OR #8 REINFORCING BARS 30" LONG IN 1 1/4" DIA. HOLES AS SHOWN.

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STATE OF MISSOURI  
ERIC E. SCHROETER  
NUMBER PE-28411  
PROFESSIONAL ENGINEER

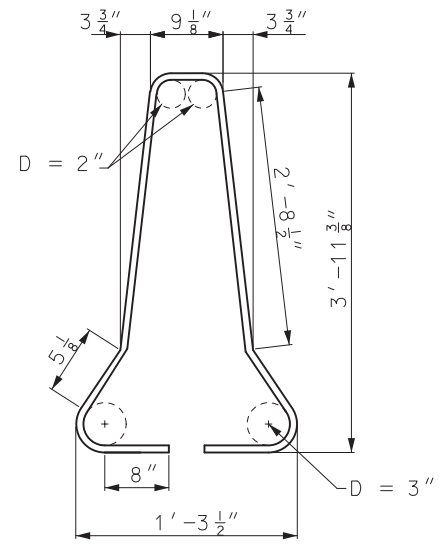
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**TEMPORARY CONCRETE TRAFFIC BARRIER  
TYPE F HEIGHT TRANSITIONS**

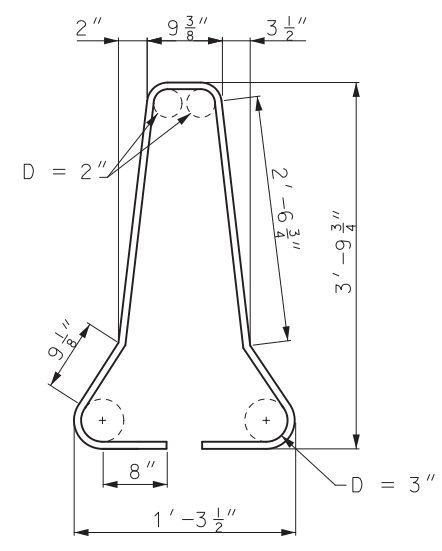
DATE EFFECTIVE: 10/01/2015	<b>617.20E</b>	SHEET NO. 3 OF 8
DATE PREPARED: 5/14/2018		

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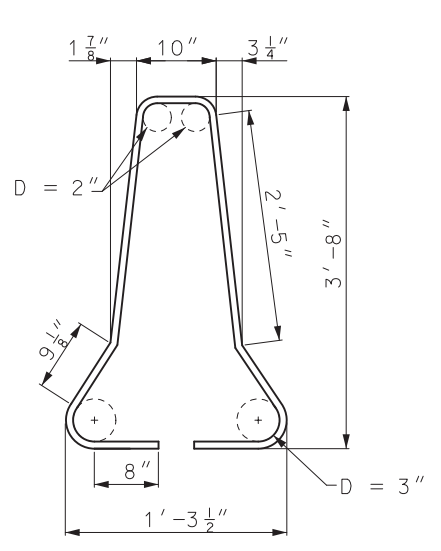
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



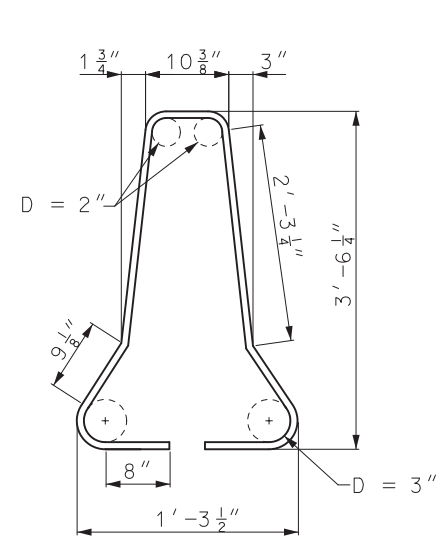
#4 A1 BAR



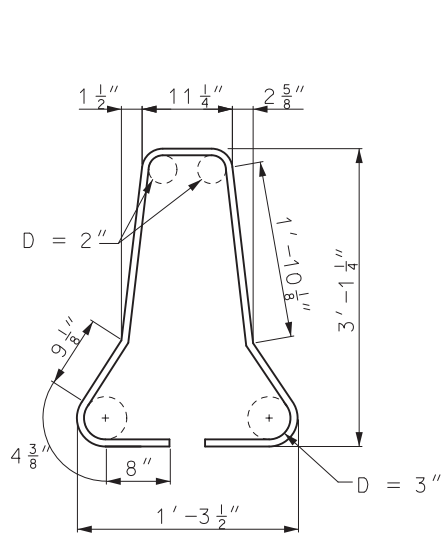
#4 A2 BAR



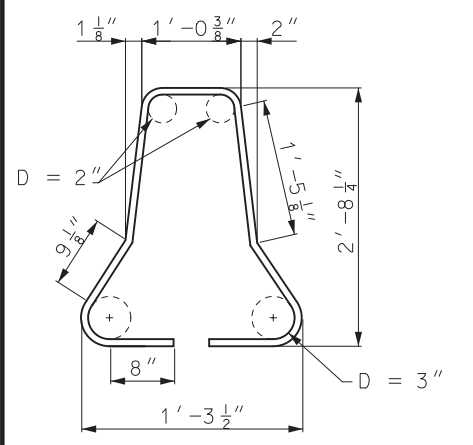
#4 A3 BAR



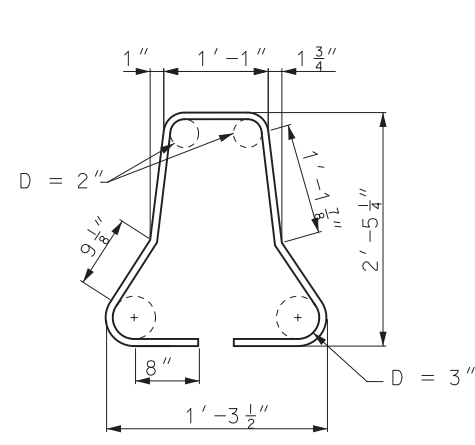
#4 A4 BAR



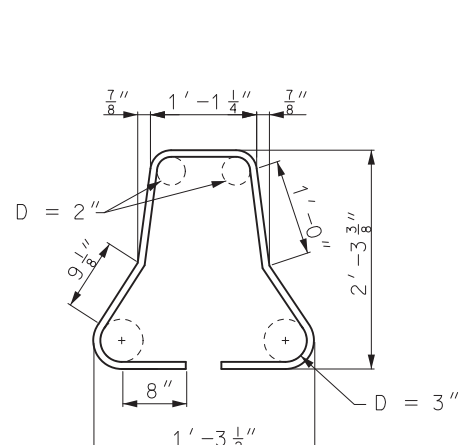
#4 A5 BAR



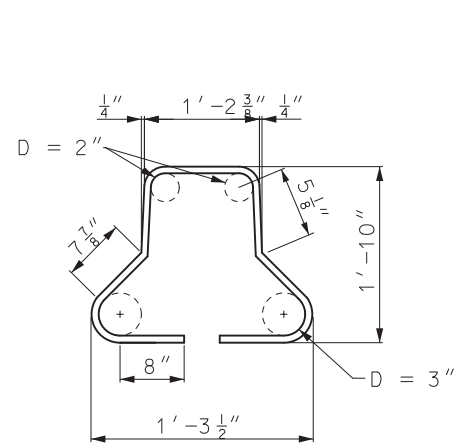
#4 A6 BAR



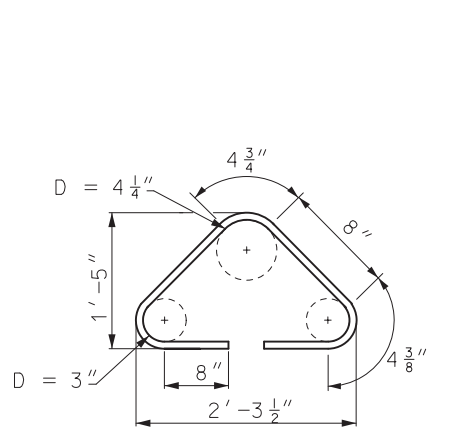
#4 A7 BAR



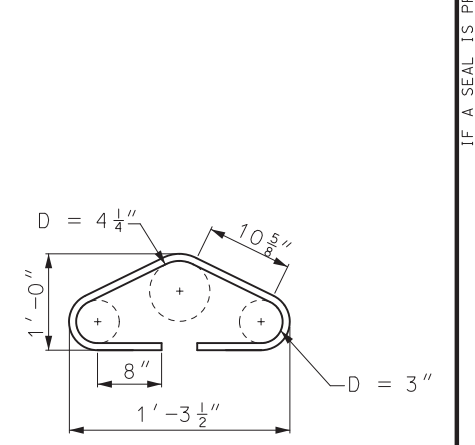
#4 A8 BAR



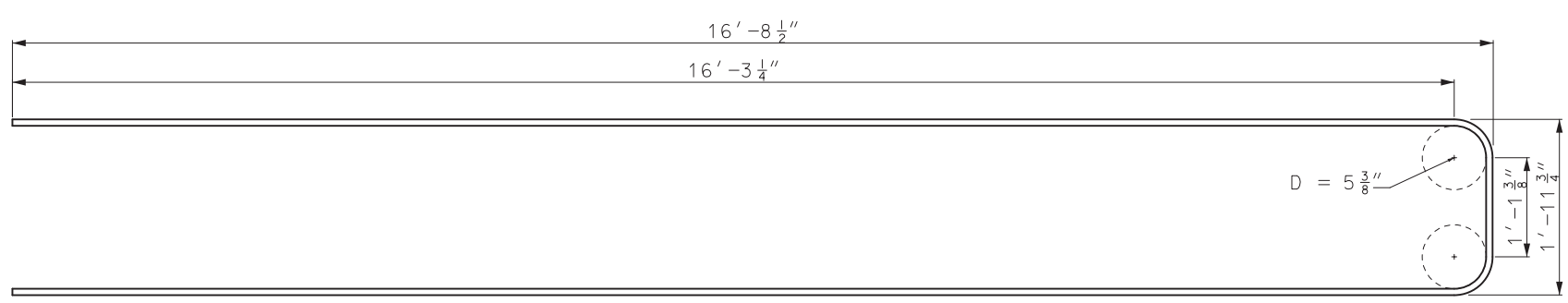
#4 A9 BAR



#4 A10 BAR



#4 A11 BAR



#5 J BAR

NOTE: FOR DETAILS OF B BARS, SEE SHEET 2 OF 6.

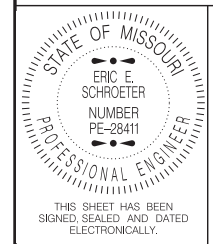
GENERAL NOTES:

DIMENSIONS ARE OUT TO OUT OF BARS UNLESS OTHERWISE NOTED.



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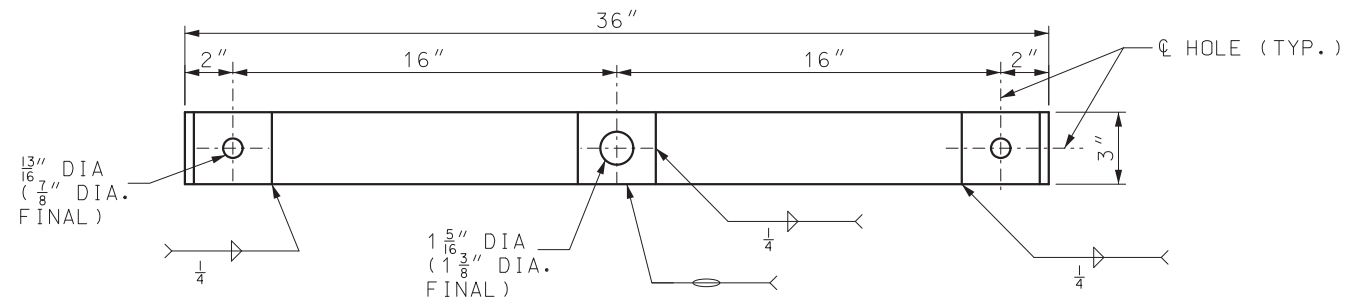
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TEMPORARY CONCRETE TRAFFIC BARRIER  
TYPE F HEIGHT TRANSITIONS

DATE EFFECTIVE: 10/01/2015  
DATE PREPARED: 5/14/2018

617.20E

SHEET NO.  
4 OF 8



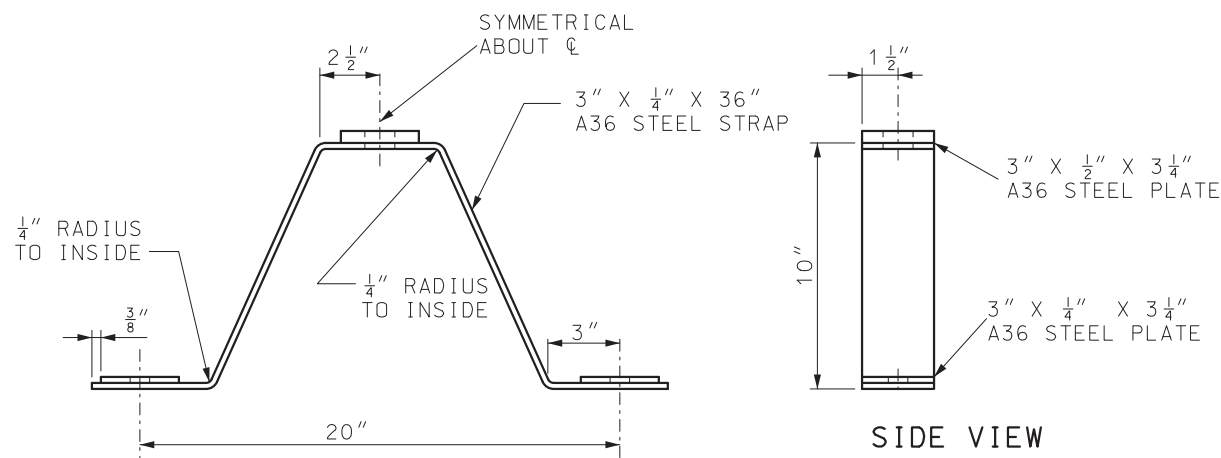
PLAN OF TIE-DOWN STRAP

(1) TIE-DOWN STRAP ANCHOR SHALL BE ONE OF THE FOLLOWING:

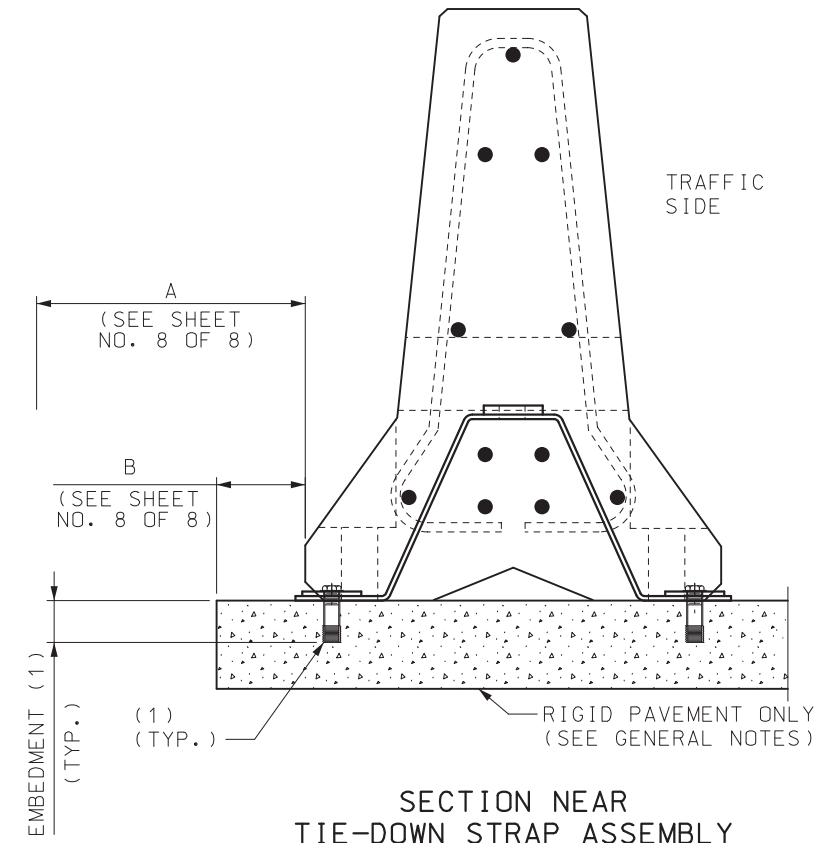
3/4" DROP IN ANCHOR WITH A 3 1/4" EMBEDMENT AND 3/4" DIA. X 1 3/4" LONG GRADE 5 BOLT.

RED HEAD LARGE DIAMETER TAPCON (LDT) 3/4" X 4 1/2" LONG WITH A 4" EMBEDMENT.

SIMPSON TITEN HD 3/4" DIA. X 5" LONG WITH A 4 1/2" EMBEDMENT.

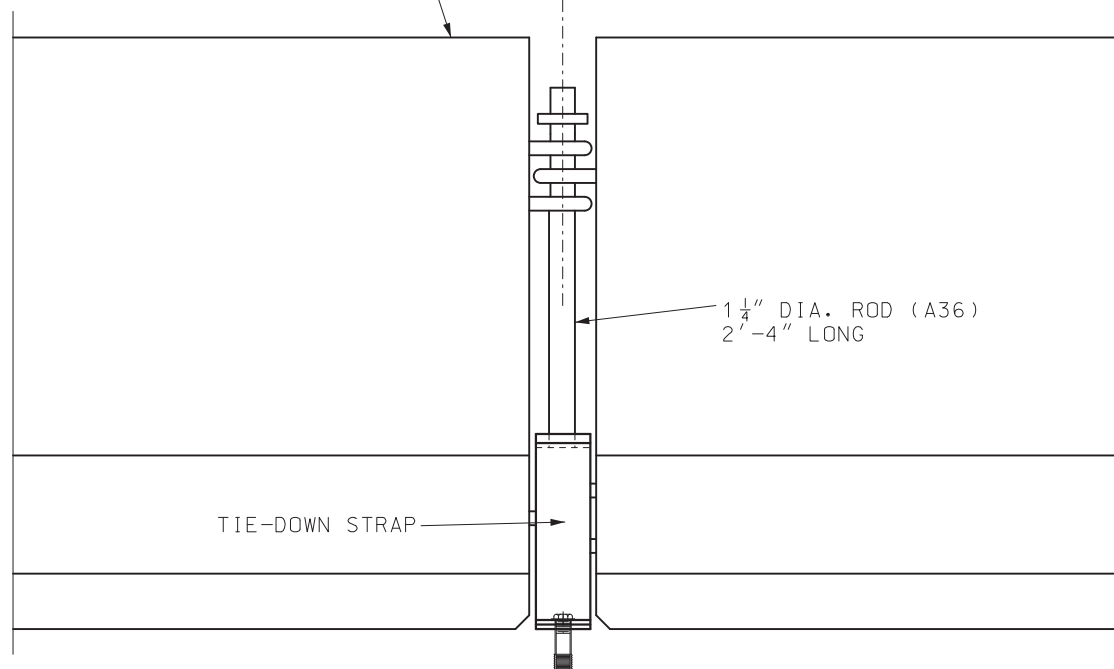


DETAILS OF TYPE F TEMPORARY BARRIER TIE-DOWN STRAP

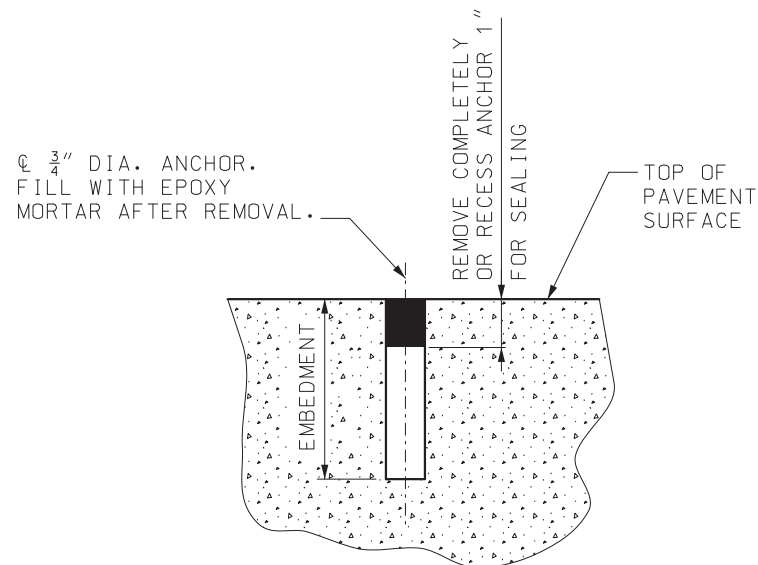


SECTION NEAR TIE-DOWN STRAP ASSEMBLY

TYPE F BARRIER (TYP.) CONNECTION ROD ASSEMBLY



PART ELEVATION OF BARRIER



DETAIL SHOWING SEALING OF HOLES AFTER REMOVAL OF TIE-DOWN BOLTS

GENERAL NOTES:

- TIE-DOWN STRAP SYSTEMS ARE ONLY APPLICABLE ON RIGID PAVEMENTS.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD BEFORE ORDERING NEW MATERIAL.
- SEE OTHER SHEETS FOR DETAILS NOT SHOWN.

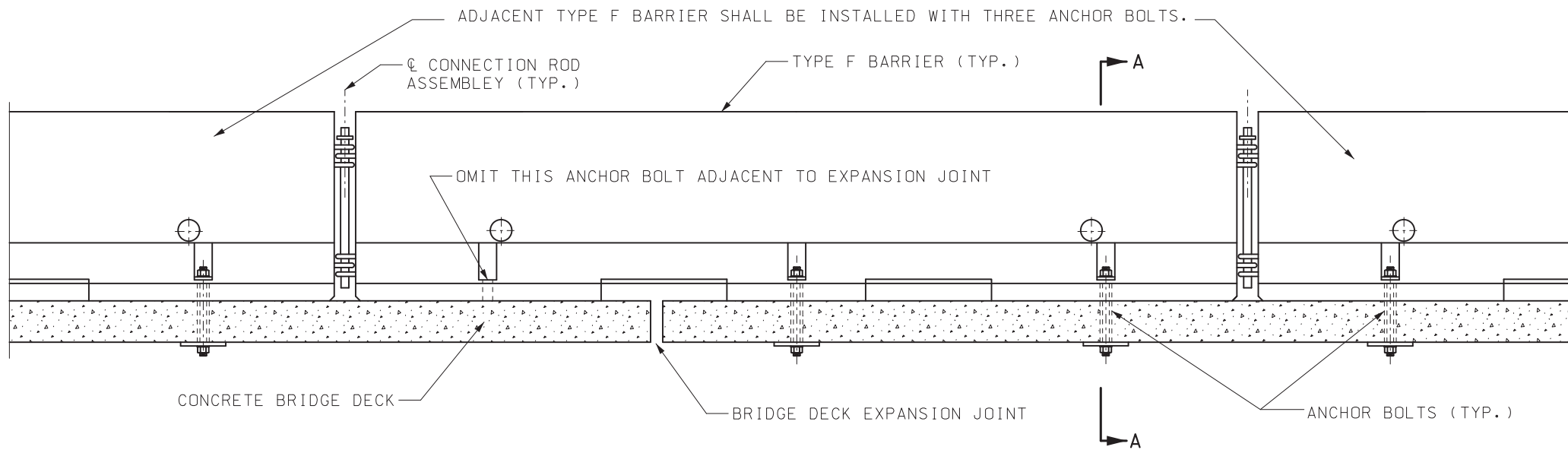
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STATE OF MISSOURI  
 ERIC E. SCHROETER  
 NUMBER PE-28411  
 PROFESSIONAL ENGINEER  
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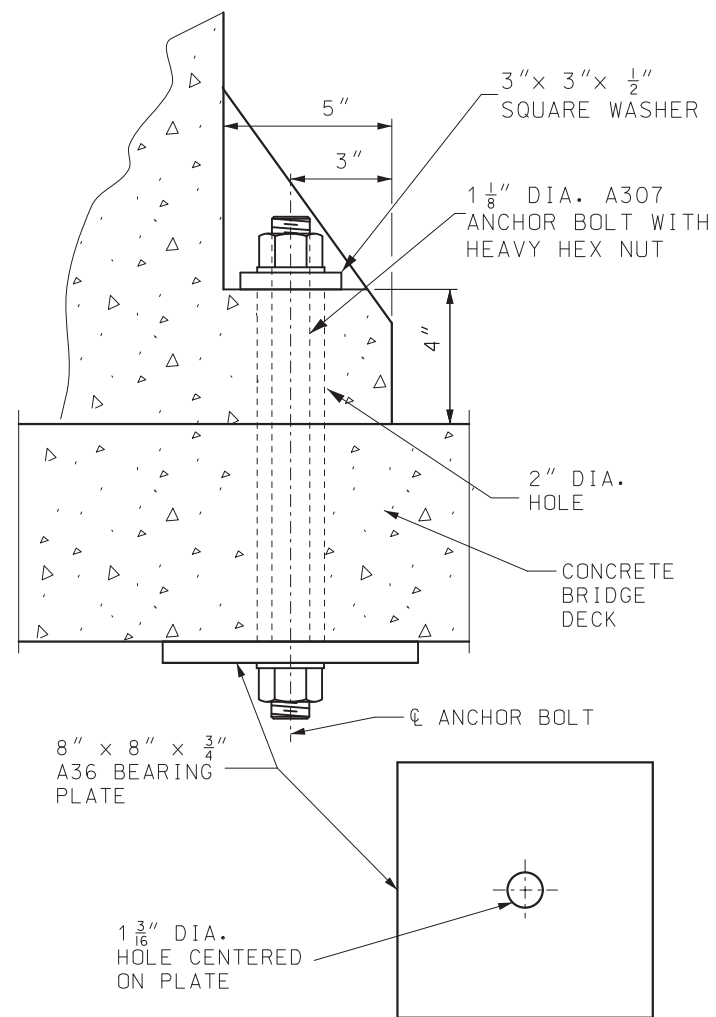
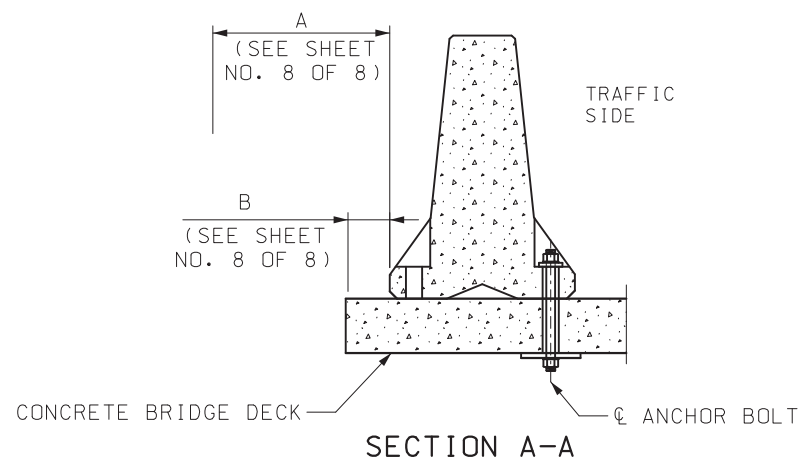
**TEMPORARY CONCRETE TRAFFIC BARRIER**  
 ANCHORED  
 (TIE-DOWN STRAP SYSTEM)

DATE EFFECTIVE: 07/01/2018	<b>617.20E</b>	SHEET NO. 5 OF 8
DATE PREPARED: 5/3/2018		

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BOLT THROUGH DECK AT THERMAL EXPANSION JOINTS



BOLT THROUGH DECK DETAIL

GENERAL NOTES:

ANCHOR BOLT SYSTEMS ARE ONLY APPLICABLE ON BRIDGE DECKS AND RIGID PAVEMENTS.

CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD BEFORE ORDERING NEW MATERIAL.

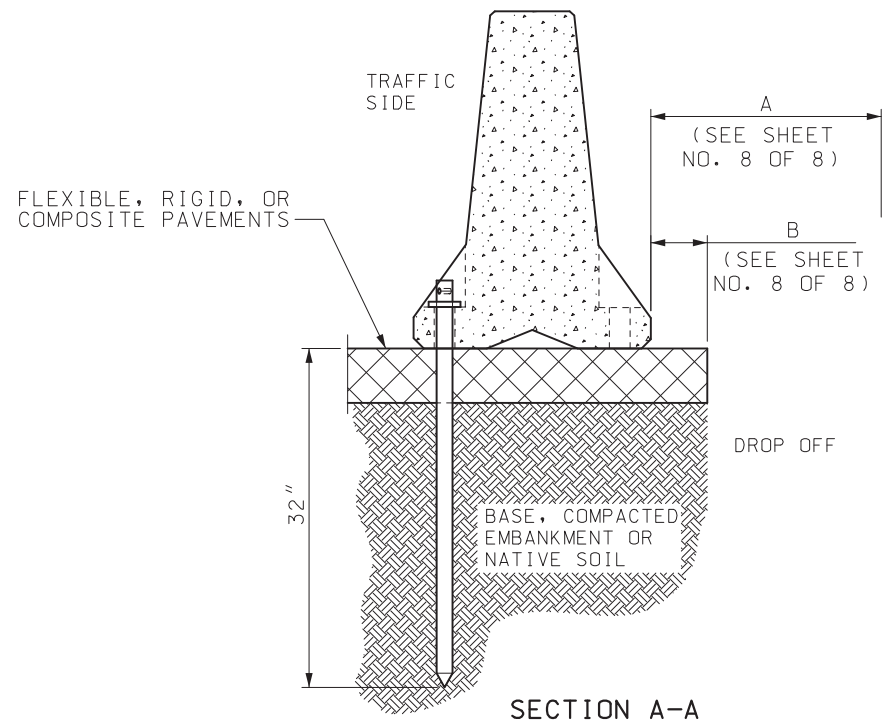
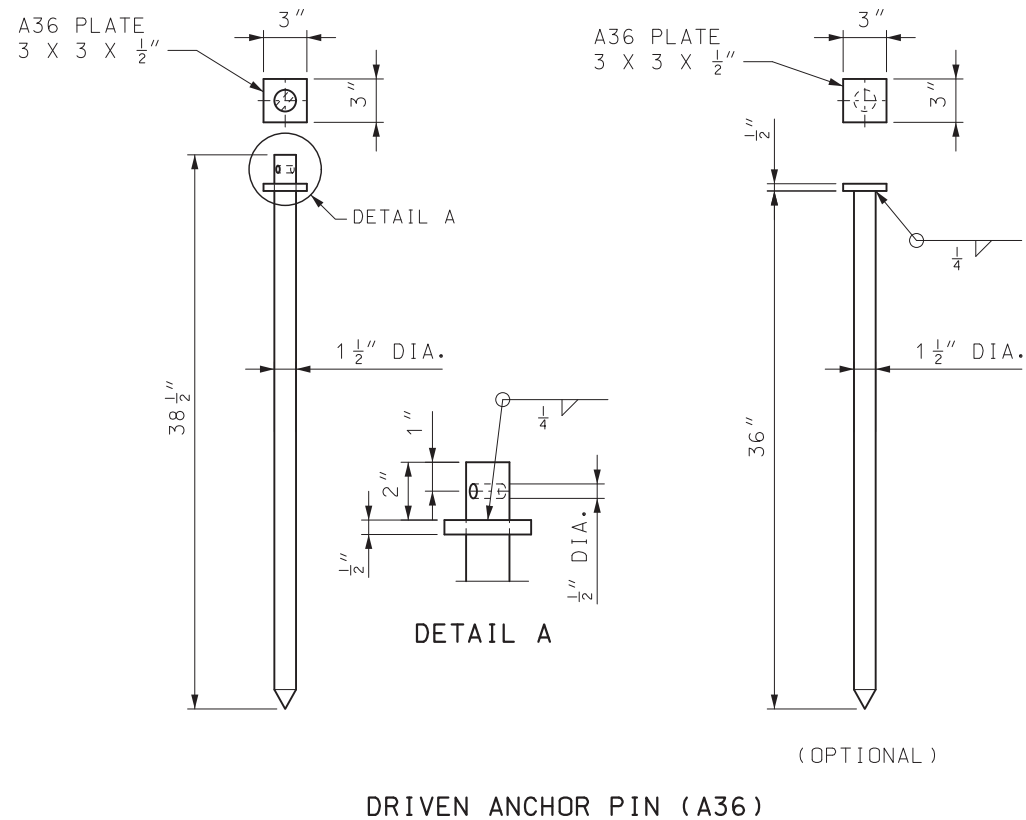
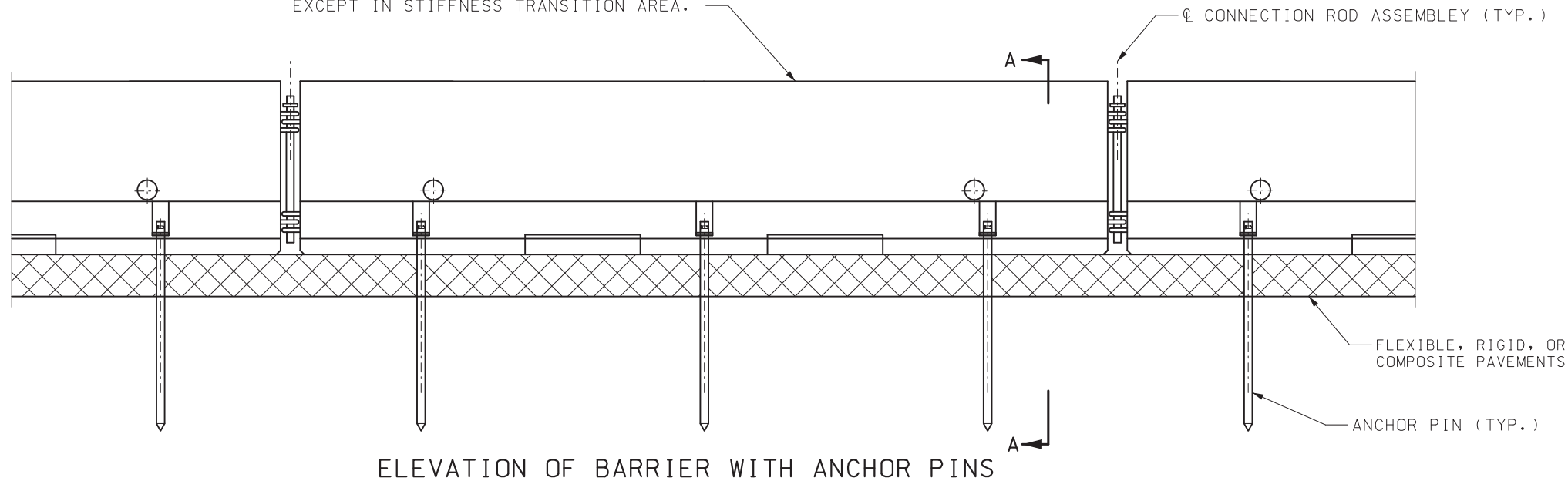
SEE OTHER SHEETS FOR DETAILS NOT SHOWN.

AFTER REMOVAL OF ANCHOR BOLTS HOLES SHALL BE FILLED WITH QUALIFIED SPECIAL MORTAR IN ACCORDANCE WITH SEC 704.

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		<b>TEMPORARY CONCRETE TRAFFIC BARRIER</b> ANCHORED (BOLT SYSTEM)
DATE EFFECTIVE: 10/01/2015 DATE PREPARED: 5/14/2018	<b>617.20E</b>	SHEET NO. 6 OF 8

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

TYPE F BARRIER SHALL BE INSTALLED WITH THREE DRIVEN ANCHOR PINS (TYP.), EXCEPT IN STIFFNESS TRANSITION AREA.



GENERAL NOTES:

CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD BEFORE ORDERING NEW MATERIAL.

WHERE EXISTING FLEXIBLE PAVEMENT OR RIGID PAVEMENT IS NOT PRESENT A 2" THICK X 30" WIDE MINIMUM ASPHALT PAD SHALL BE CONSTRUCTED.

COST OF FURNISHING AND INSTALLING THE ASPHALT PAD COMPLETE-IN-PLACE WILL BE CONSIDERED INCIDENTAL TO OTHER PAY ITEMS.

SEE OTHER SHEETS FOR DETAILS NOT SHOWN.

AFTER REMOVAL OF ANCHOR PINS HOLES SHALL BE FILLED WITH QUALIFIED SPECIAL MORTAR IN ACCORDANCE WITH SEC 704.

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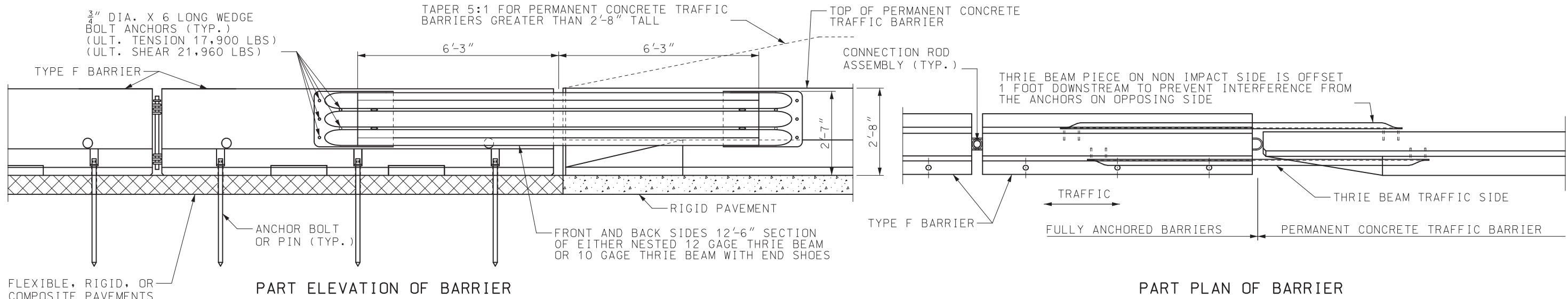
STATE OF MISSOURI  
ERIC E. SCHROETER  
NUMBER PE-28411  
PROFESSIONAL ENGINEER

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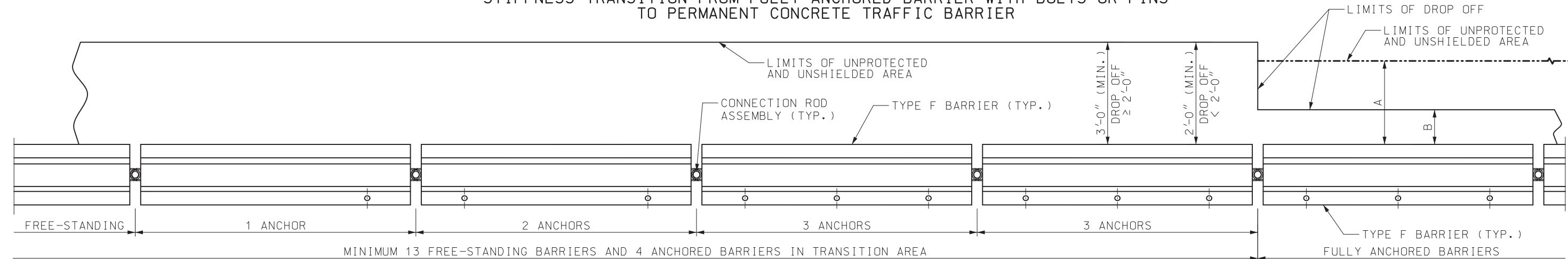
**TEMPORARY CONCRETE TRAFFIC BARRIER**  
ANCHORED (PIN SYSTEM)

DATE EFFECTIVE: 07/01/2018	<b>617.20E</b>	SHEET NO. 7 OF 8
DATE PREPARED: 5/3/2018		

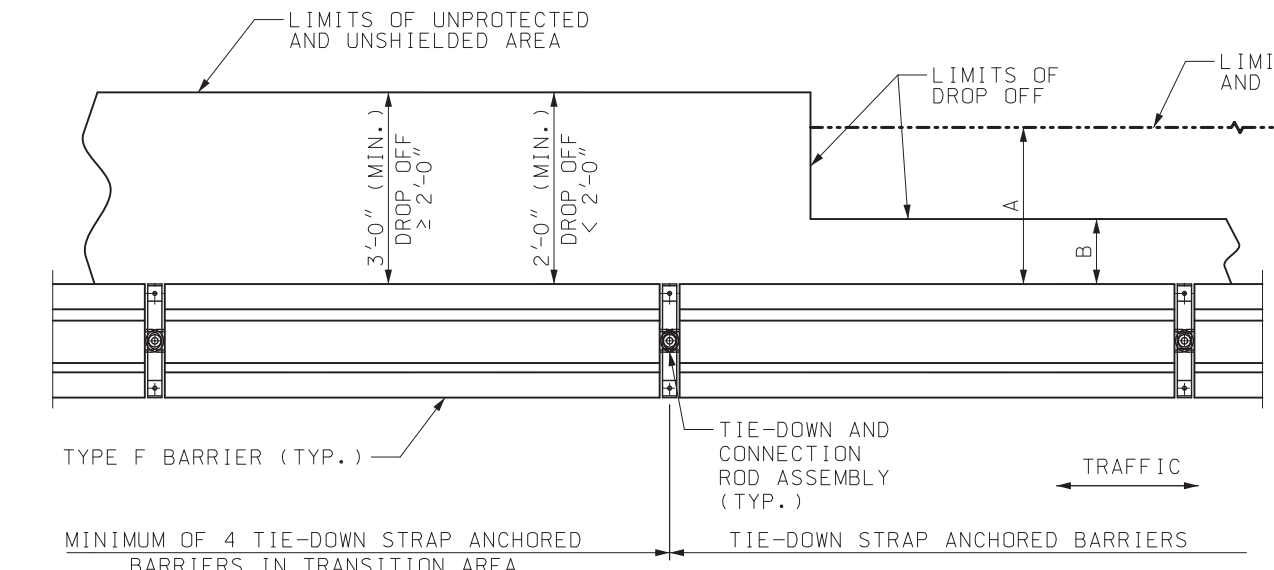
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STIFFNESS TRANSITION FROM FULLY ANCHORED BARRIER WITH BOLTS OR PINS TO PERMANENT CONCRETE TRAFFIC BARRIER



PLAN OF STIFFNESS TRANSITION FROM FREE-STANDING BARRIERS TO FULLY ANCHORED BARRIER WITH BOLTS OR PINS



STIFFNESS TRANSITION FOR BARRIER ANCHORED WITH TIE-DOWN STRAPS (13 FREE-STANDING BARRIERS NOT REQUIRED)

LIMITS OF UNPROTECTED AND UNSHIELDED AREA	
$6'' \leq A < 2'$	ANCHOR EACH BARRIER WITH 3 ANCHOR BOLTS OR PINS
$2' \leq A < 3'$	ANCHOR WITH BOLTS, PINS, OR TIE-DOWN STRAPS
$A \geq 3'$	NO ANCHORAGE REQUIRED UNLESS SHOWN ON PLANS

EDGE OF DROP OFF	
$1'' \leq B < 6''$	ANCHOR EACH BARRIER WITH 3 ANCHOR BOLTS OR PINS
$6'' \leq B < 2'$	ANCHOR WITH BOLTS, PINS, OR TIE-DOWN STRAPS
$B \geq 2'$	NO ANCHORAGE REQUIRED UNLESS SHOWN ON PLANS

NOTE: TEMPORARY CONCRETE TRAFFIC BARRIER MUST MEET BOTH A AND B DIMENSIONS, UNLESS OTHERWISE SHOWN ON PLANS.

GENERAL NOTES:  
 CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD BEFORE ORDERING NEW MATERIAL.  
 COST OF FURNISHING AND INSTALLING THE ANCHOR BOLT SYSTEM, ANCHOR PINS SYSTEM, TIE-DOWN STRAP SYSTEM AND THRIE BEAM COMPLETE-IN-PLACE WILL BE CONSIDERED INCIDENTAL TO OTHER PAY ITEMS.

ALL TYPE F BARRIERS SHALL BE CONNECTED TO ADJACENT TYPE F BARRIERS WITH CONNECTION ROD ASSEMBLY, AND PULLED TIGHT DURING INSTALLATION TO REMOVE SLACK TO PROVIDE LONGITUDINAL TENSION DURING IMPACT.

AFTER REMOVAL OF ANCHORS HOLES SHALL BE FILLED WITH QUALIFIED SPECIAL MORTAR IN ACCORDANCE WITH SEC 704.

SEE OTHER SHEETS FOR DETAILS NOT SHOWN.

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STATE OF MISSOURI  
 ERIC E. SCHROETER  
 NUMBER PE-28411  
 PROFESSIONAL ENGINEER  
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**TEMPORARY CONCRETE TRAFFIC BARRIER STIFFNESS TRANSITION**

DATE EFFECTIVE: 07/01/2018	617.20E	SHEET NO. 8 OF 8
DATE PREPARED: 5/3/2018		

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