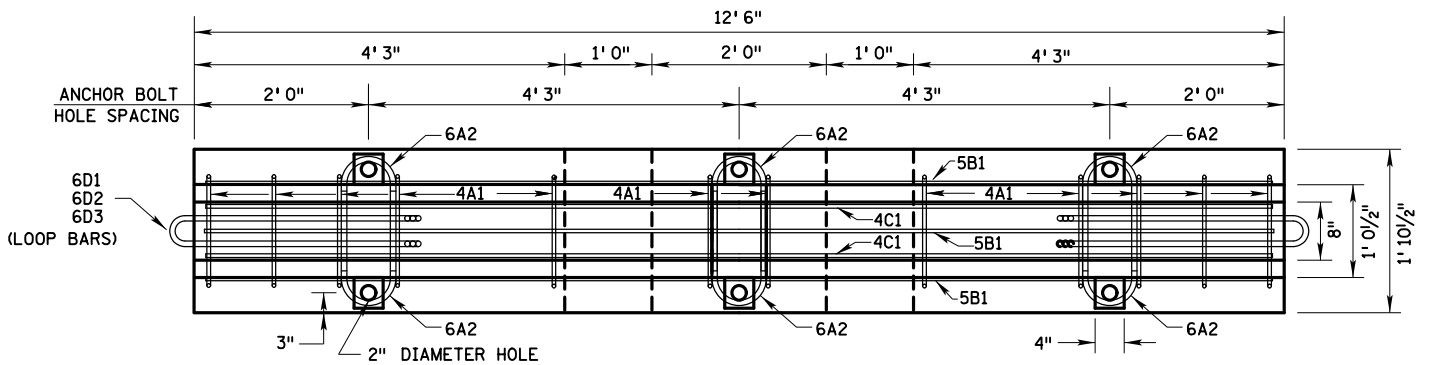
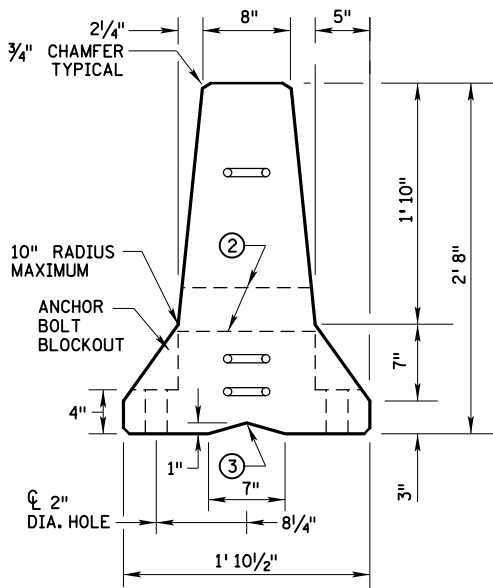


ELEVATION VIEW



PLAN VIEW



END VIEW

NOTES:

THIS BARRIER IS CONSISTENT WITH TYPE SWC09, AS DEFINED IN "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE."

BARRIER SECTIONS SHALL NOT BE PERMANENTLY INCORPORATED INTO CONSTRUCTION OR MAINTENANCE PROJECTS.

AT NO TIME SHALL THE BARRIERS BE LIFTED, MOVED, ETC. BY USE OF THE LOOP BARS: 6D1, 6D2 OR 6D3.

- ① MARKED END: THE MARKED END IS THAT END OF THE BARRIER HAVING ONE LOOP BAR AT THE TOP AND TWO LOOP BARS AT THE BOTTOM. EACH BARRIER SHALL BE PERMANENTLY MARKED ON THIS END BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - TYPE 8337
 - NAME OR TRADEMARK OF MANUFACTURER
 - LOCATION OF PLANT
 - DATE MANUFACTURED (MONTH AND YEAR)
- ② LIFTING HOLE: 4" DIAMETER, 11-GAUGE STEEL ROUND MECHANICAL TUBING SLEEVE. THESE HOLES ARE OPTIONAL.
- ③ V NOTCH IS OPTIONAL.

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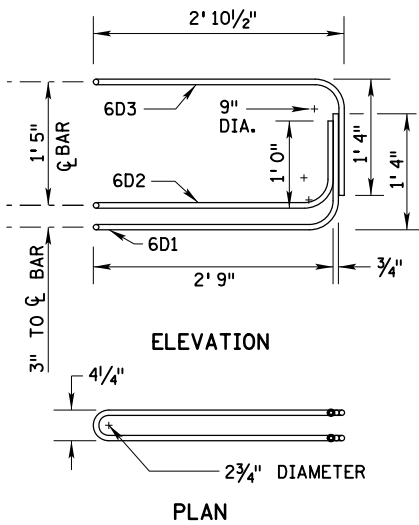
Rom S. Smith
STATE DESIGN ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY PORTABLE PRECAST
CONCRETE BARRIER**
TYPE F

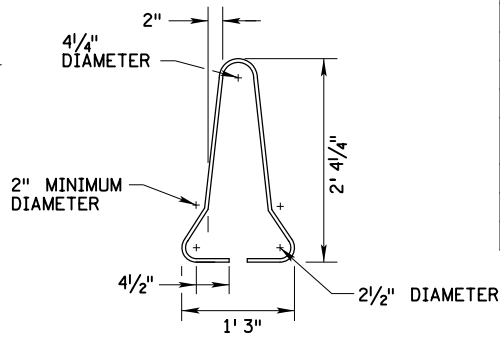
SPECIFICATION
REFERENCE
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STANDARD
PLATE
NO.

8337D
1 OF 3

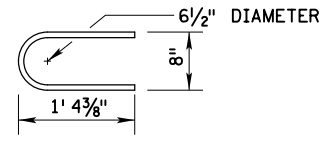


LOOP BAR ASSEMBLY ①
BARS 6D1, 6D2, 6D3

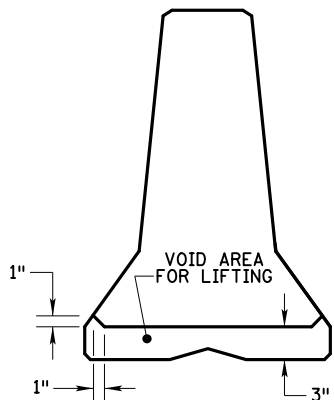


VERTICAL STIRRUP
BAR 4A1

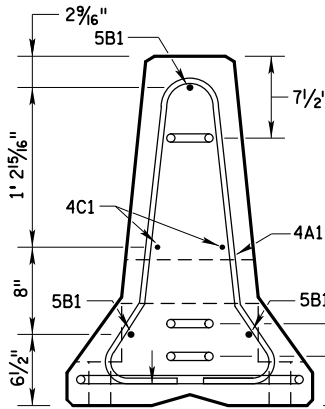
12' 6" BARRIER SECTION					
BILL OF REINFORCING MATERIALS ②					
BAR	BAR SIZE	SHAPE	NO. OF BARS	LENGTH	WEIGHT LBS.
4A1	4		12	6' 0"	48.1
6A2	6		6	2' 11"	26.3
5B1	5		3	12' 2"	38.1
4C1	4		2	12' 2"	16.3
BILL OF LOOP ASSEMBLY MATERIALS ③					
6D1	6		2	8' 5"	25.3
6D2	6		2	7' 7"	22.8
6D3	6		2	8' 6"	25.5



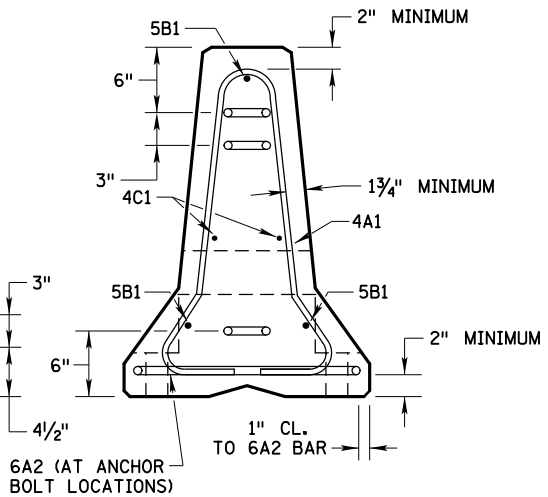
BAR 6A2



SECTION A-A
LIFTING SLOT DETAIL



SECTION B-B
TYPICAL SECTION



SECTION C-C
TYPICAL SECTION

NOTES:

DIMENSIONS ARE OUT-TO-OUT OF BARS UNLESS OTHERWISE NOTED.

CONCRETE SHALL DEVELOP A MINIMUM OF 28-DAY CONCRETE COMPRESSIVE STRENGTH OF NOT LESS THAN 5 KSI. THE CONCRETE SHALL USE A PORTLAND CEMENT SPECIFIED IN AASHTO M 85 FOR TYPE I OR II CEMENT.

SECTION: THE SECTION FURNISHED MUST GENERALLY COMPLY WITH DIMENSIONS SHOWN. REQUESTS FOR MINOR VARIATIONS IN SECTION GEOMETRY AND ATTACHMENTS MAY BE SUBMITTED TO THE STATE MATERIALS ENGINEER FOR APPROVAL.

LIFTING SLOTS: LIFTING SLOTS SHALL BE CONSTRUCTED WHERE SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION ON THE ROADWAY.

① MARKED END SHOWN. INVERT FOR OTHER END.

② REINFORCING STEEL SHALL BE GRADE 60 AND SHALL CONFORM TO EITHER OF THE FOLLOWING:
 - EPOXY-COATED DEFORMED BARS AS SPECIFIED IN SPEC. 3301
 - SPEC. 3301 DEFORMED AND PLAIN BILLET STEEL REINFORCING BARS FOR USE WITH CALCIUM NITRITE CORROSION INHIBITOR (30% CALCIUM NITRITE SOLUTION, AASHTO M 194, TYPE C)

③ LOOP BARS SHALL BE 0.75" DIAMETER SMOOTH STEEL BARS, ASTM A709 GRADE 70W OR ASTM A706 GRADE 60. ALTERNATIVE STEEL CHEMISTRY MAY BE USED AS LONG AS THE ALTERNATIVE MATERIAL PROVIDES A MINIMUM YIELD OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 78 KSI, A MINIMUM 14% ELONGATION IN 8", AND PASSING A 180 DEGREE BEND TEST USING A 3.5D PIN BEND DIAMETER. THE LOOPS SHALL BE INSTALLED WITHIN 1/8" OF THE PLAN DIMENSIONS.

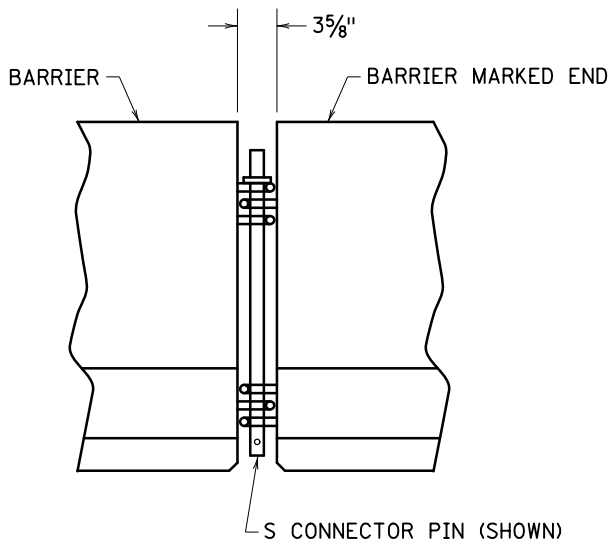
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 STATE DESIGN ENGINEER

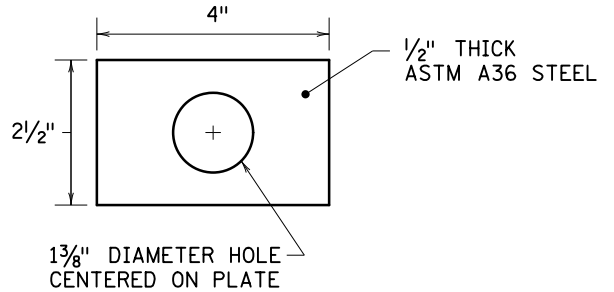
STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION
**TEMPORARY PORTABLE PRECAST
 CONCRETE BARRIER**
 TYPE F

SPECIFICATION
 REFERENCE
 2533 3306
 3301

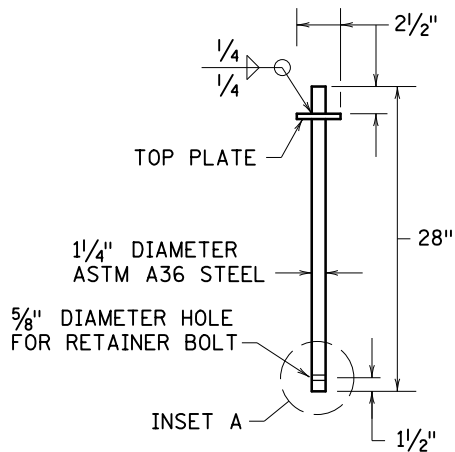
STANDARD
 PLATE
 NO.
8337D
 2 OF 3



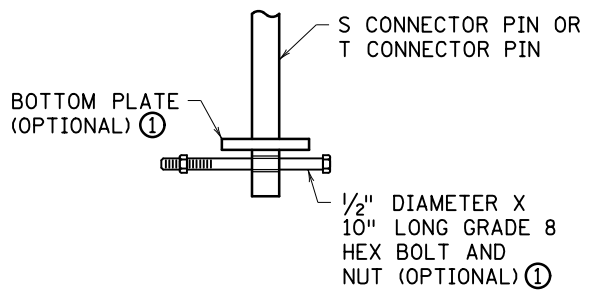
PIN PLACEMENT



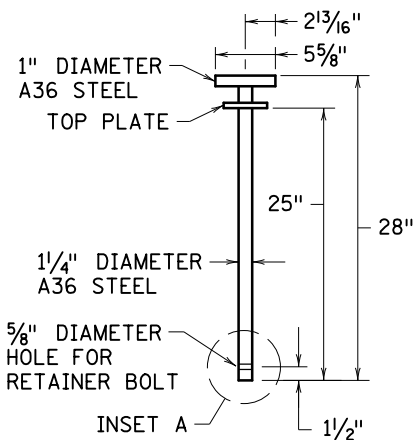
TOP PLATE AND BOTTOM PLATE



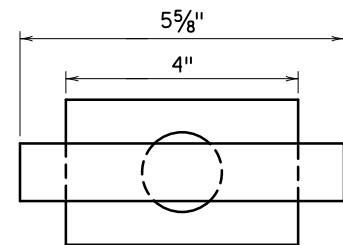
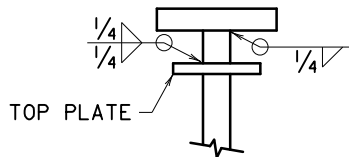
S CONNECTOR PIN



INSET A




T CONNECTOR PIN



PIN AND TOP PLATE ALIGNMENT
TOP VIEW

NOTE:

① BOTTOM PLATE, BOLT, AND NUT ARE REQUIRED WHEN TIE-DOWN STRAP ANCHORS ARE USED.

APPROVED 05-14-2021

 STATE DESIGN ENGINEER

STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION
**TEMPORARY PORTABLE PRECAST
 CONCRETE BARRIER**
 TYPE F

SPECIFICATION
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STANDARD
 PLATE
 NO.
8337D
 3 OF 3