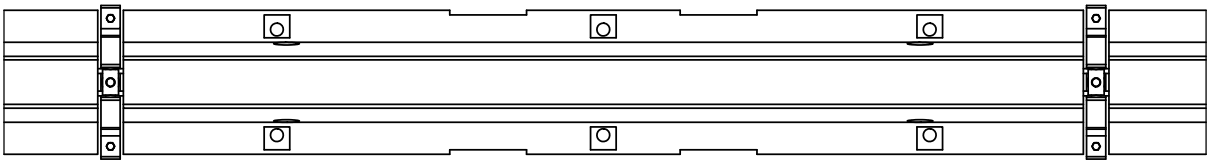
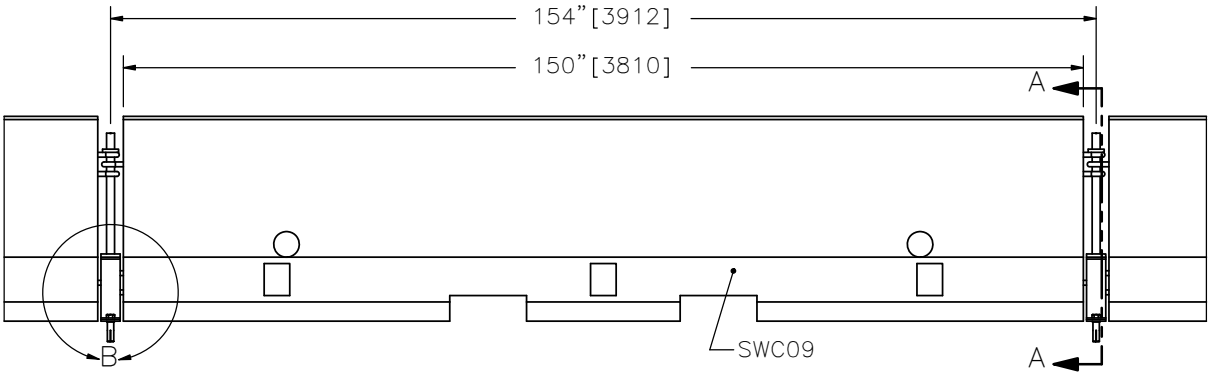
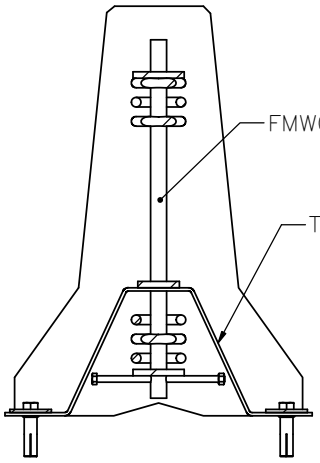


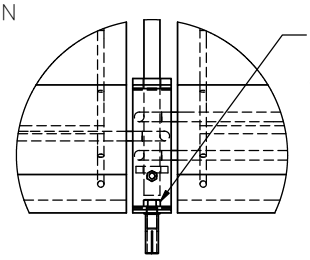
PLAN



ELEVATION



SECTION A–A
SCALE 1 : 15



DETAIL B
SCALE 1 : 15

NOTE: ACCEPTABLE SCREW–IN ANCHOR ALTERNATIVES FOR THE DROP–IN ANCHOR:
(1) 3/4" [19] D RED HEAD LARGE DIAMETER TAPCON(LDT),
4 1/2" [114] MINIMUM LENGTH
(2) 3/4" [19] D SIMPSON TITEN HO, 5" [127] MINIMUM LENGTH

TIE-DOWN STRAP SYSTEM FOR F-SHAPE CONCRETE BARRIER

MwRSF

SWC10

SHEET NO.	DATE:
1 of 4	10/22/2008

SPECIFICATIONS

Components shall be formed from ASTM A36/A36M steel plate and zinc–coated according to AASHTO M111 (ASTM A123). No punching, drilling or cutting is permitted after the bracket is zinc–coated.

Dimension tolerances not shown or implied are intended to be those consistent with the proper functioning of the part, including its appearance and accepted manufacturing practices.

INTENDED USE

Tie–Down Strap System for F–Shape Concrete Barriers (SWC10) is a non–proprietary system and is to be used as a work–zone barrier to protect traffic and workers. Tie–Down Strap System for F–Shape Concrete Barriers should be used in locations where a dynamic deflection of 33 1/2" [850] or less is acceptable and where a working width of 57 1/2" [1460] is provided. The Tie–Down Strap System for F–Shape Concrete Barriers may be used with a minimum gap of 6" [150] between the backside of the barrier and the edge of the bridge deck. The Tie–Down System was designed for use in concrete with a minimum compressive strength of 4,000 psi [28 MPa] and should not be placed in asphalt. The Tie–Down Strap is only intended for use with the redesigned and tested Portable F–Shape Temporary Concrete Barrier Element (SWC09) and the Temporary Barrier Connector Pin with Retaining Bolt (FMW03). The Tie–Down Strap System for F–Shape Concrete Barriers is TL–3 NCHRP 350 accepted.

COMPONENTS

Unit Length = 154" [3912]

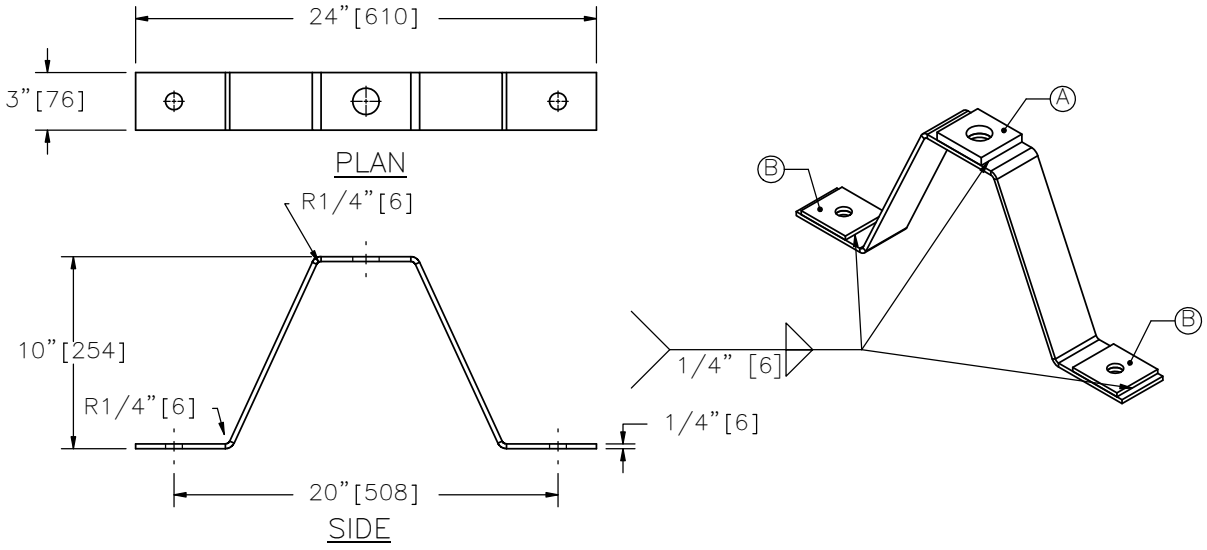
DESIGNATOR	COMPONENT	SYSTEM	NUMBER
SWC09	Portable F–Shape Concrete Barrier		1
FMW03	Portable Concrete Barrier Connector Pin with Retaining Bolt		1
FBX20a	Hex Head Bolt		1
–––––	Red Head Multi–Set II Drop–in Anchors		2
–––––	Tie Down Strap		1

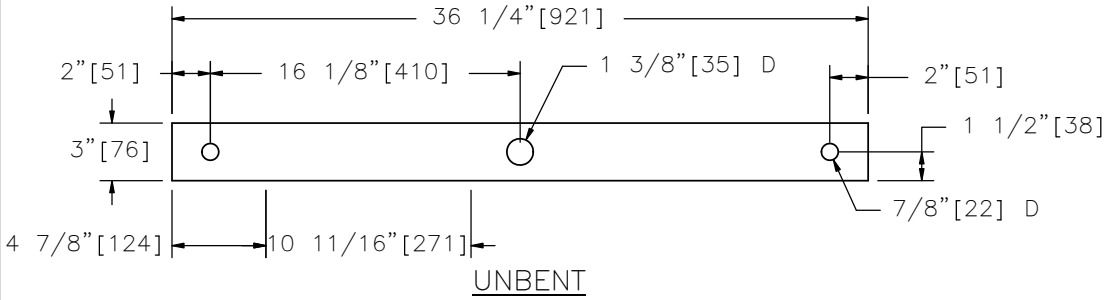
ACCEPTANCE

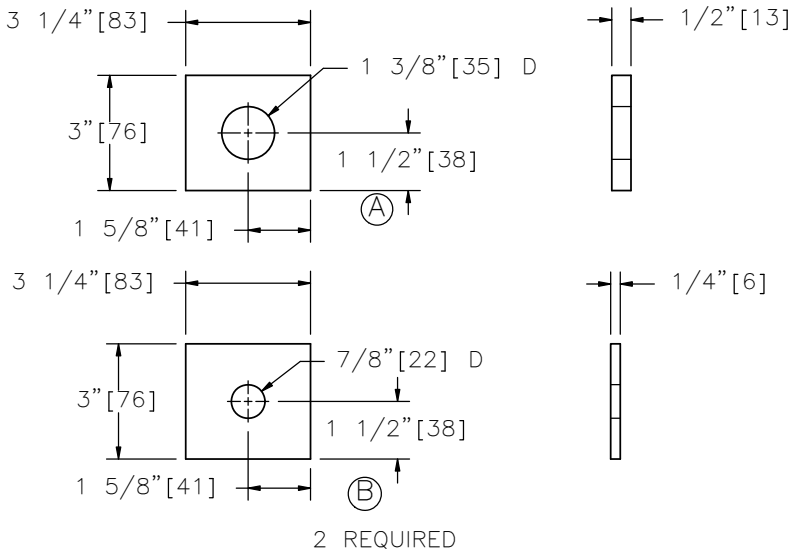
FHWA Acceptance Letter B–112, March 14 2003.

REFERENCES

Bielenberg, B.W., Faller, R.K., Reid, J.D., Holloway, J.C., Rohde, J.R., and Sicking, D.L., *Development of a Tie–Down System for Temporary Concrete Barriers*, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP–03–115–02, Project No. SPR–3(017)–Year 9, Midwest Roadside Safety Facility, University of Nebraska–Lincoln, August 16, 2002.







NOTE: All components are ASTM A36/A36M1

TIE-DOWN STRAP SYSTEM FOR F-SHAPE CONCRETE BARRIER

MwRSF

SWC10	
SHEET NO.	DATE:
3 of 4	10/22/2008

REFERENCES

Bielenberg, B.W., Faller, R.K., Reid, J.D., Holloway, J.C., Rohde, J.R., and Sicking, D.L., *Development of a Tie–Down System for Temporary Concrete Barriers*, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP–03–115–02, Project No. SPR–3(017)–Year 9, Midwest Roadside Safety Facility, University of Nebraska–Lincoln, August 16, 2002.

Bielenberg, B.W., Faller, R.K., Reid, J.D., Rohde, J.R., and Sicking, D.L., *Design and Testing of Tie–Down Systems for Temporary Barriers*, Paper No. 03–3146, Transportation Research Record No. 1851, Transportation Research Board, National Research Council, Washington, D.C., January 2003. pp. 83–94.

Bielenberg, R.W., *Dynamic Component Testing of Potential Alternative Anchors for the F–Shape Concrete Barrier Steel Strap Tie–Down System*, Final Report (Letter Report) to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP–03–182–07, Midwest Roadside Safety Facility, University of Nebraska–Lincoln, April 9, 2007.

Midwest States' Pooled Fund Progress Report for April 2006 to August 2006, Email Subject: *F–shape Barrier Strap Tie–Down Update*, Consulting Summary, July 7, 2006.

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