LONGITUDINAL SECTION

10'-10"

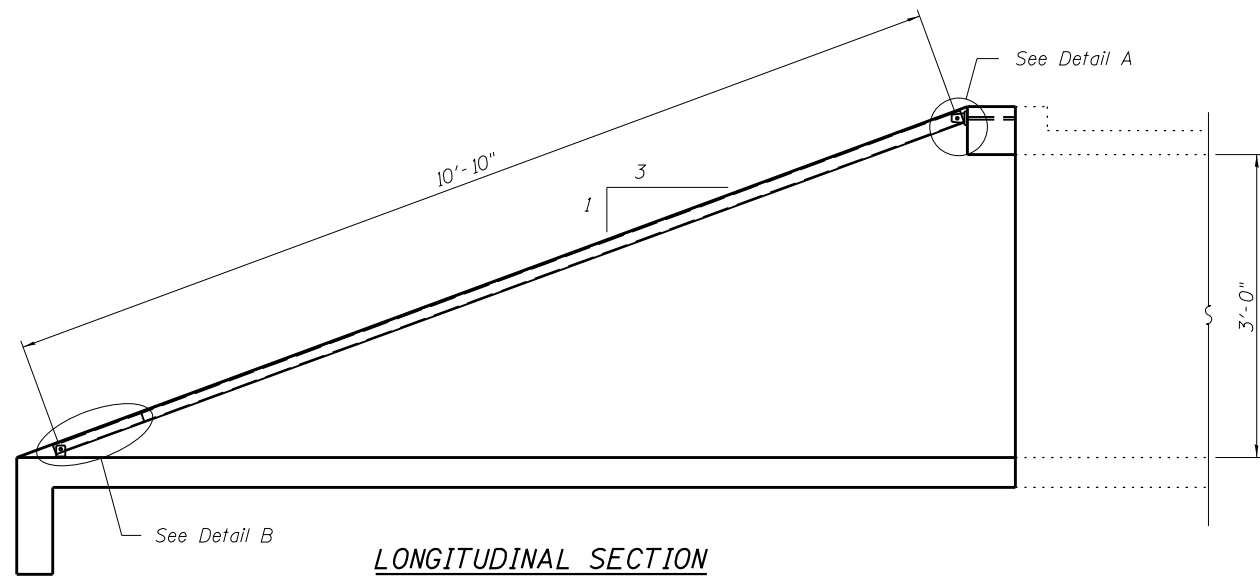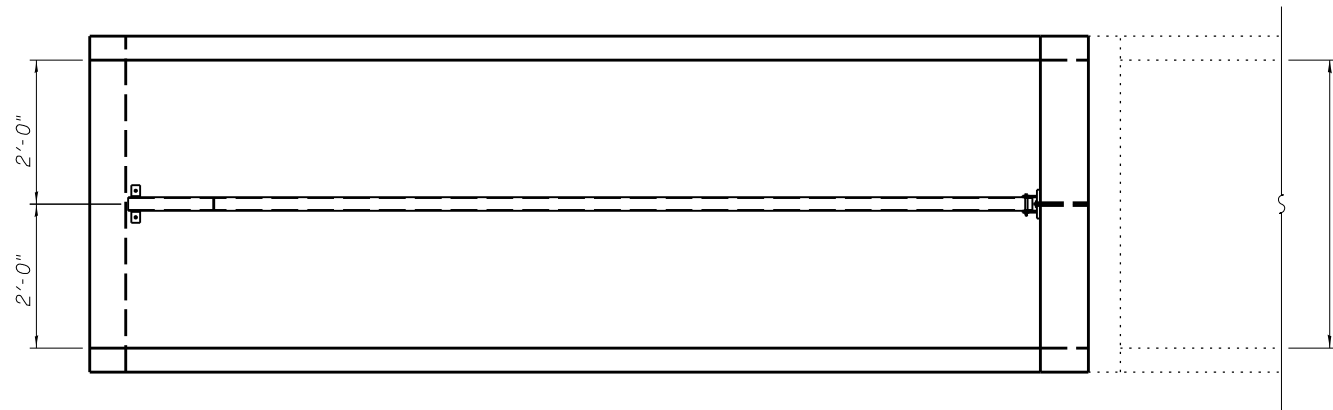3'-0"

See Detail A

See Detail B
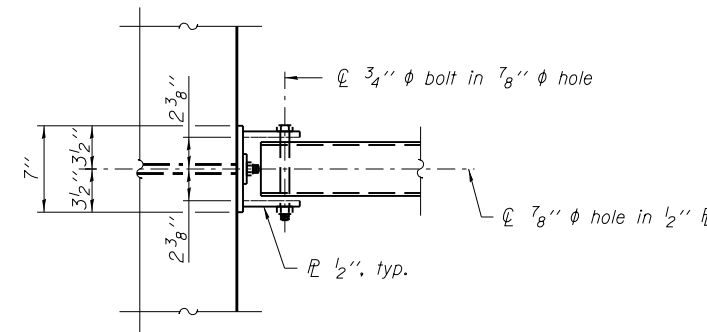
1    3

## GENERAL NOTES

Length shall be determined by the Contractor. All steel pipe shall be standard weight (Sch. 40) unless otherwise noted.

Traversable Steel Pipe System details shown for Box Culvert End Sections. Traversable Steel Pipe System details for other culvert end sections similar.

All components of the Traversable Steel Pipe System shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable.

Fabrication of the Traversable Steel Pipe System shall conform to the requirements in Section 505 of the Standard Specifications unless noted otherwise.

Structural steel shapes and plates shall conform to the requirements of Article 1006.04 of the Standard Specifications. Steel pipes shall conform to the requirements of ASTM A 53 (Type E or S), Grade B.

Anchor rods shall conform to the requirements of ASTM F1554, Grade 105. Anchor rods shall be drilled and epoxy grouted according to the requirements of Section 584 of the Standard Specifications. The chemical adhesive system shall be capable of achieving a minimum proof load of 5000 pounds and an ultimate shear capacity of 8000 pounds per anchor.

Bolts and thru bolts shall conform to the requirements of Article 1006.08 of the Standard Specifications except threaded rods conforming to the requirements of ASTM F1554, Grade 105 may be used for the thru bolts.

The minimum edge distance from the center of a hole to the free edge of a structural shape or plate shall be 1 1/2 '' unless noted otherwise.

Bolts and anchor rods shall be snug tightened by a few impacts of an impact wrench or the full force of a worker using an ordinary spud wrench unless otherwise noted.

All cost associated with fabricating, furnishing, and installing the Traversable Steel Pipe System will be paid for at the contract unit price per lineal foot for Traversable Pipe Grate.
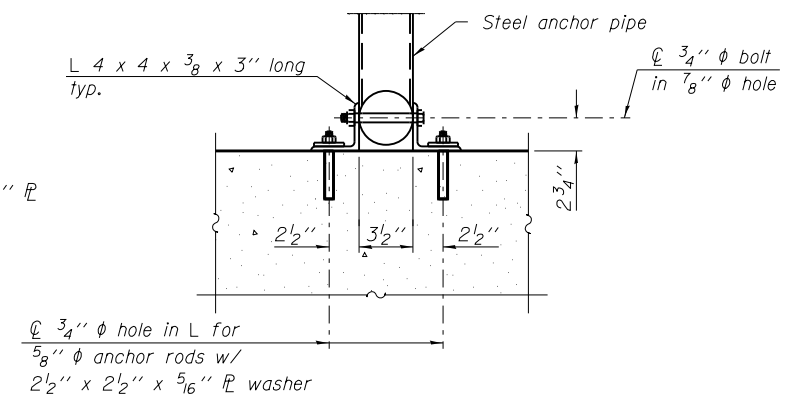
PLAN

2'-0"

2'-0"
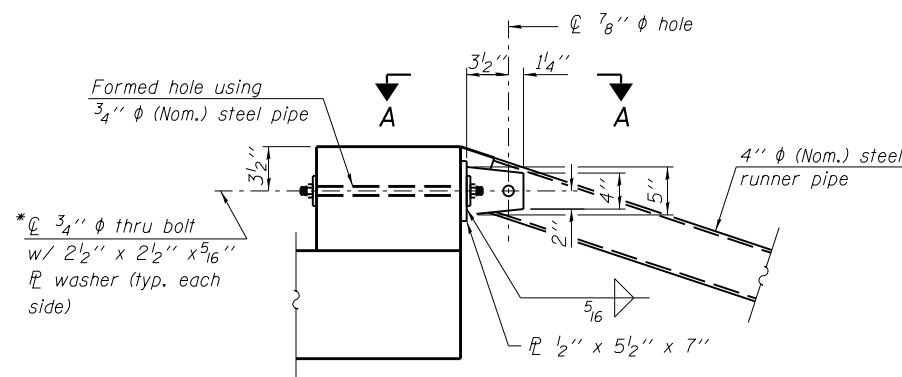
4'-0"
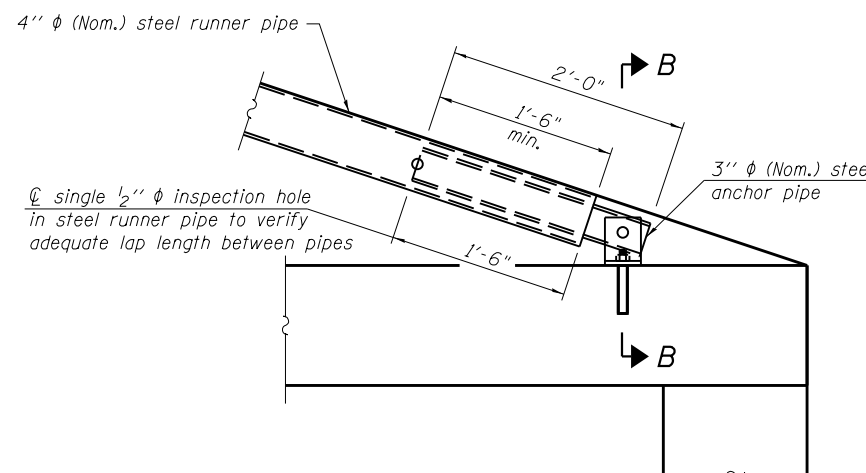
VIEW A-A

℄ $\frac{3}{4}$'' φ bolt in $\frac{7}{8}$'' φ hole

℄ $\frac{7}{8}$'' φ hole in $\frac{1}{2}$'' ℔

℔ $\frac{1}{2}$'', typ.

2$\frac{3}{8}$''

7''

3$\frac{1}{2}$''  3$\frac{1}{2}$''

2$\frac{3}{8}$''

Steel anchor pipe

L 4 x 4 x $\frac{3}{8}$ x 3'' long typ.

℄ $\frac{3}{4}$'' φ bolt in $\frac{7}{8}$'' φ hole

2$\frac{3}{4}$''

2$\frac{1}{2}$''   3$\frac{1}{2}$''   2$\frac{1}{2}$''

℄ $\frac{3}{4}$'' φ hole in L for $\frac{5}{8}$'' φ anchor rods w/ 2$\frac{1}{2}$'' x 2$\frac{1}{2}$'' x $\frac{5}{16}$'' ℔ washer

SECTION B-B

DETAIL A

Formed hole using $\frac{3}{4}$'' φ (Nom.) steel pipe

℄ $\frac{7}{8}$'' φ hole

3$\frac{1}{2}$''   1$\frac{1}{4}$''

A      A

3$\frac{1}{2}$''

4'' φ (Nom.) steel runner pipe

4''  5''

2''

$\frac{5}{16}$

*℄ $\frac{3}{4}$'' φ thru bolt w/ 2$\frac{1}{2}$'' x 2$\frac{1}{2}$'' x$\frac{5}{16}$'' ℔ washer (typ. each side)

℔ $\frac{1}{2}$'' x 5$\frac{1}{2}$'' x 7''

*Bolt shall be tightened per Art. 505.04(f)(2)d of the Standard Specifications

DETAIL B

4'' φ (Nom.) steel runner pipe

2'-0"

1'-6" min.

B

φ

3'' φ (Nom.) steel anchor pipe

℄ single $\frac{1}{2}$'' φ inspection hole in steel runner pipe to verify adequate lap length between pipes

1'-6"

B

*** The lap length between pipes may be adjusted in the field to accommodate construction tolerances but shall not be less than 9''.

| USER NAME = hferstl | DESIGNED - AEU | REVISED - |
| PLOT SCALE = | CHECKED - DLS | REVISED - |
| | DRAWN - AWH | REVISED - |
| PLOT DATE = 3/20/2013 | CHECKED - AEU | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAVERSABLE STEEL PIPE SYSTEM
STA. 937+98.45 LT.
SHEET NO. 7 OF 7 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 599 | (83MFT & 103MFT)W | ROCK ISLAND | 340 | 191 |
| | CONTRACT NO. 64H11 | | | |

FED. ROAD DIST. NO.   ILLINOIS FED. AID PROJECT