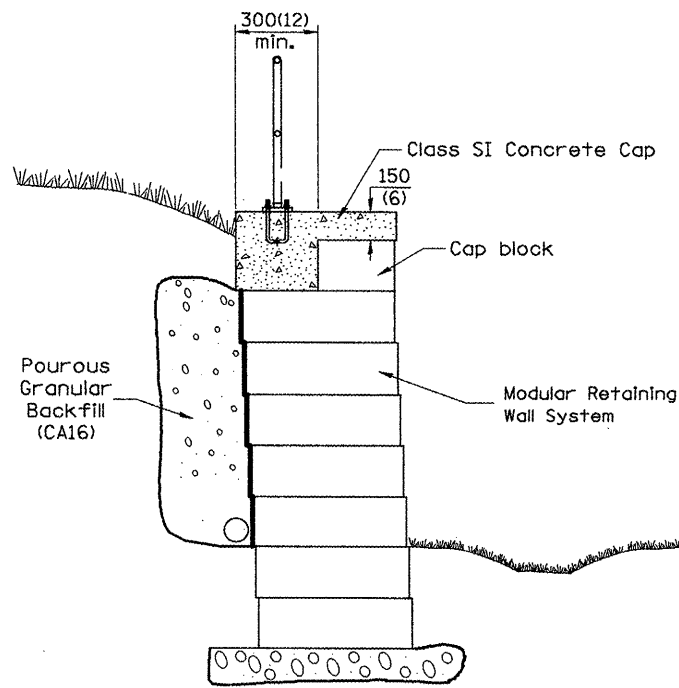
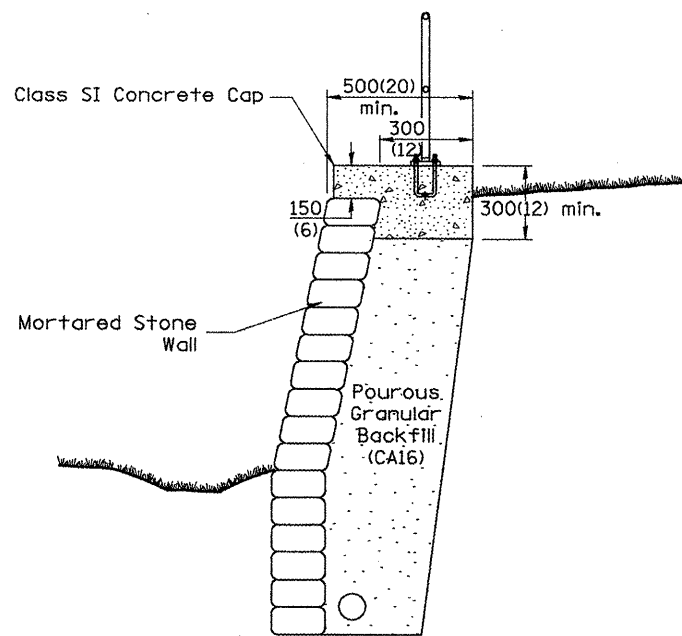


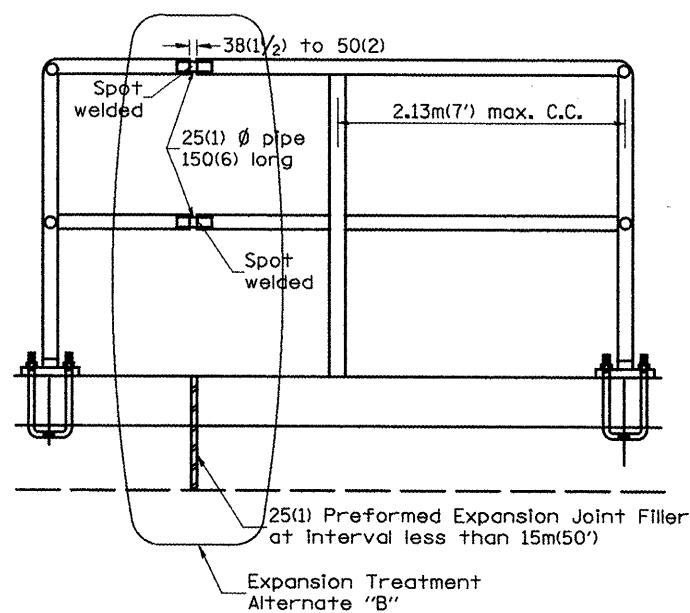
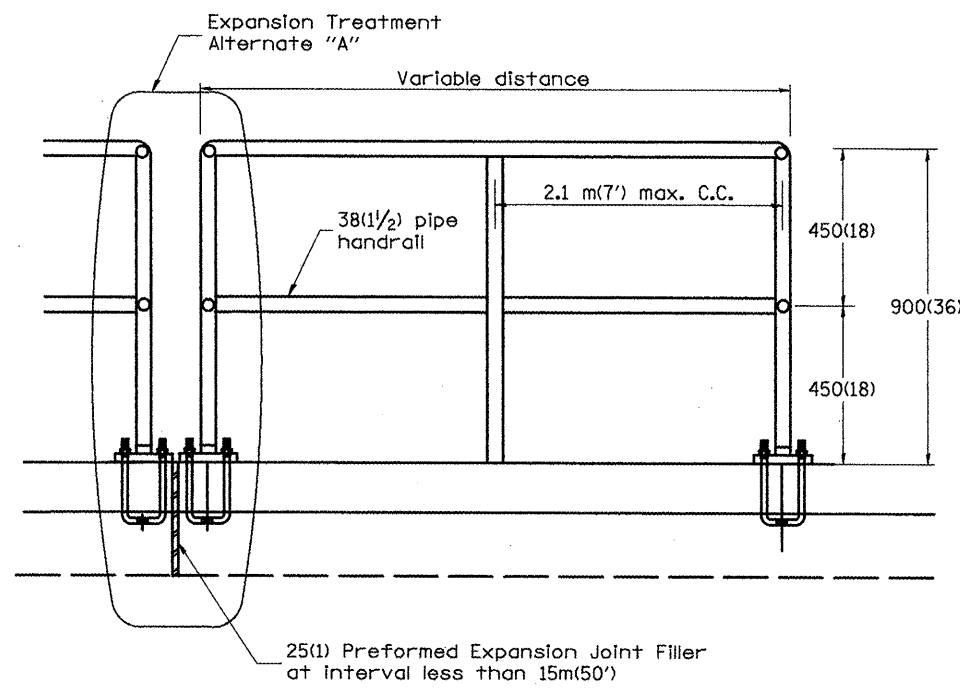
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
399	36R-1, (37R-2)	TAZEWELL	449	259
STA.		TO STA.		
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				



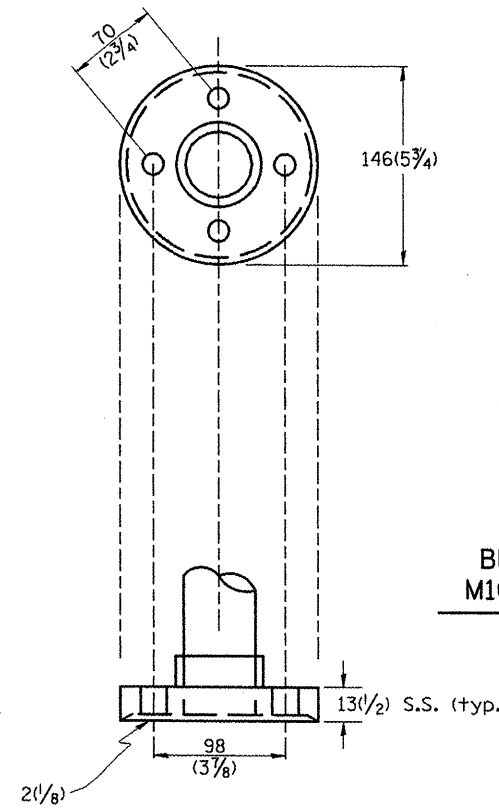
**INSTALLATION AT  
MODULAR RETAINING WALL**



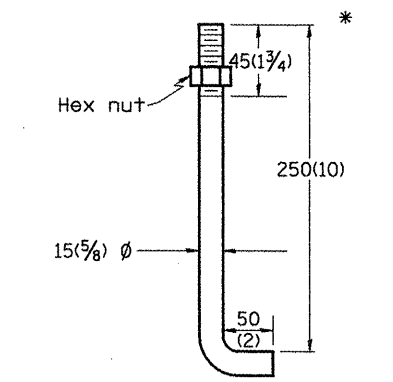
**INSTALLATION AT  
MORTARED STONE WALL**



**PIPE HANDRAIL**



**CAST IRON OR STRUCTURAL  
STEEL FITTING**



**BUILT-IN ANCHOR BOLT  
M16(5/8) DIA., 300(12) LONG  
(See Note No. 3)**

**GENERAL NOTES**

- Article 510.03 of the Standard Specifications shall apply.
- Connection of railing to posts shall be made by continuous welding or with using standard pipe fitting.
- An equivalent epoxy anchor stud can be used in place of anchor shown. Anchor bolt holes shall be 125(5) deep x 20(3/4) Ø to be pre-drilled with an electric hammer drill to a depth of 25(1) prior to use of a pneumatic drill for the remaining 100(4). A two component encapsulated epoxy such as "Parabond" or an equivalent shall be used. Installation shall be according to Manufacturer's recommendations.
- The pipe handrail shall be galvanized by the hot dip process.
- It is Contractor's option to choose the expansion treatment "A" or "B". The spot welded area shall be painted to the satisfaction of the Engineer. This work shall be included in the contract unit price for Pipe Handrail.

All dimensions are in millimeters (inches) unless otherwise noted.

ILLINOIS DEPARTMENT OF TRANSPORTATION		
DISTRICT CADD STANDARD		
DETAIL OF PIPE HANDRAIL FOR MORTARED STONE WALL & MODULAR RETAINING WALL		
CADD STANDARD 510101-D4		
SCALE:	DRAWN BY CADD	
DATE **DATE**	CHECKED BY	

DATE	REVISIONS	BY
1-1-97	RENUM. B-11.02, METRICS, REVISED	T.P.
	TITLE, NEW REVISION BOX, REVISED	
	NOTES	

1. TO BE USED WITH CADD DRAWINGS: "MORTARED STONE WALL", AND/OR "MODULAR RETAINING WALL".  
2. INCLUDE DISTRICT SPECIAL PROVISION. THE UNIT PRICE FOR PIPE HANDRAIL INCLUDES THE CONCRETE CAP, EXPANSION DEVICES, ETC.