

Tom Girard  
U of M DESIGN SUPERVISOR

APPROVED BY  
AEC - Architecture & Engineering  
REPRESENTING

AF/BB WPG  
DRAWN BY PROJECT LEAD  
CWV/VSM REVIEWED BY  
DESIGNED BY

MARK

New Master 03/20/15  
ISSUED FOR/REVISIONS DATE

Tunnels

Tool Kit

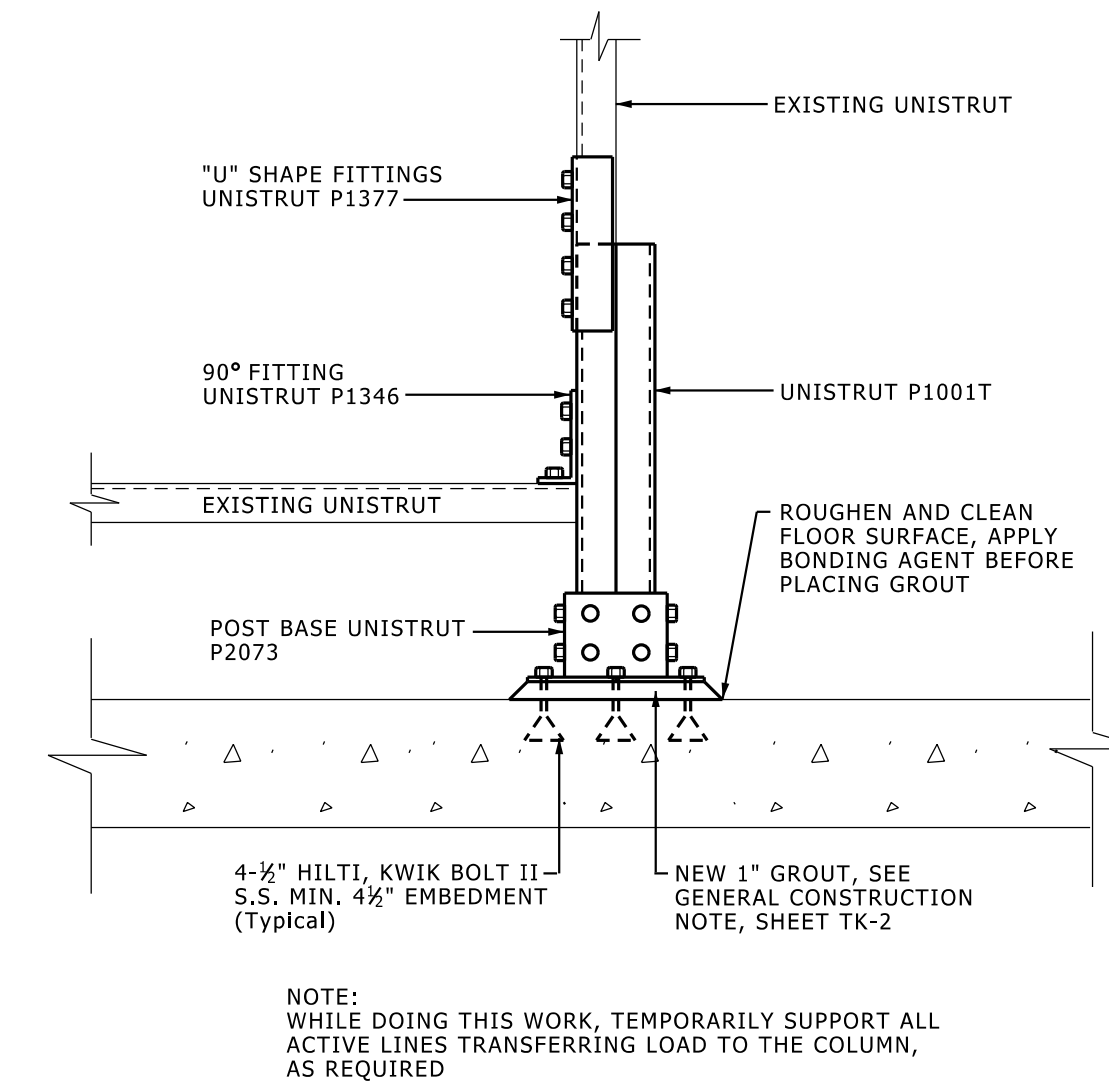
University Of Michigan  
Ann Arbor , MI

P00009388 9980  
U OF M PROJECT NO. BUILDING NO.

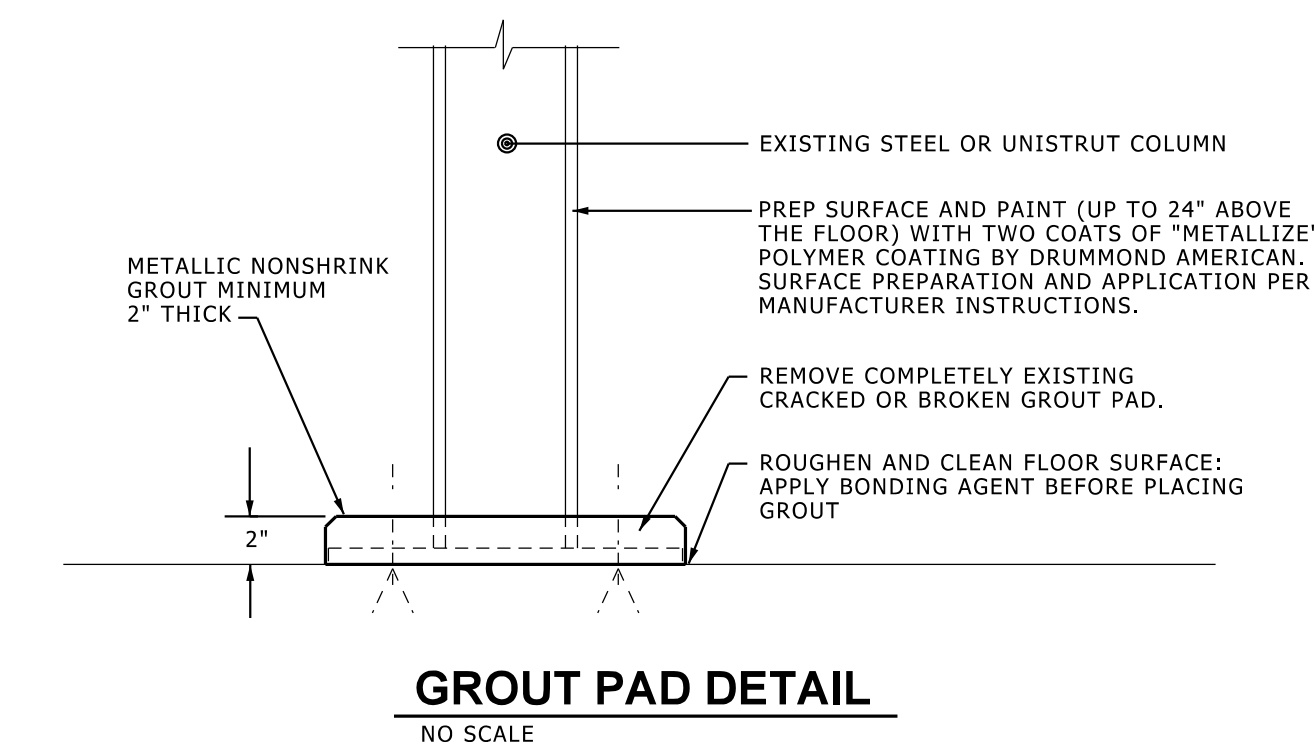
SHEET TITLE Tunnels

Typical Tunnel  
Details

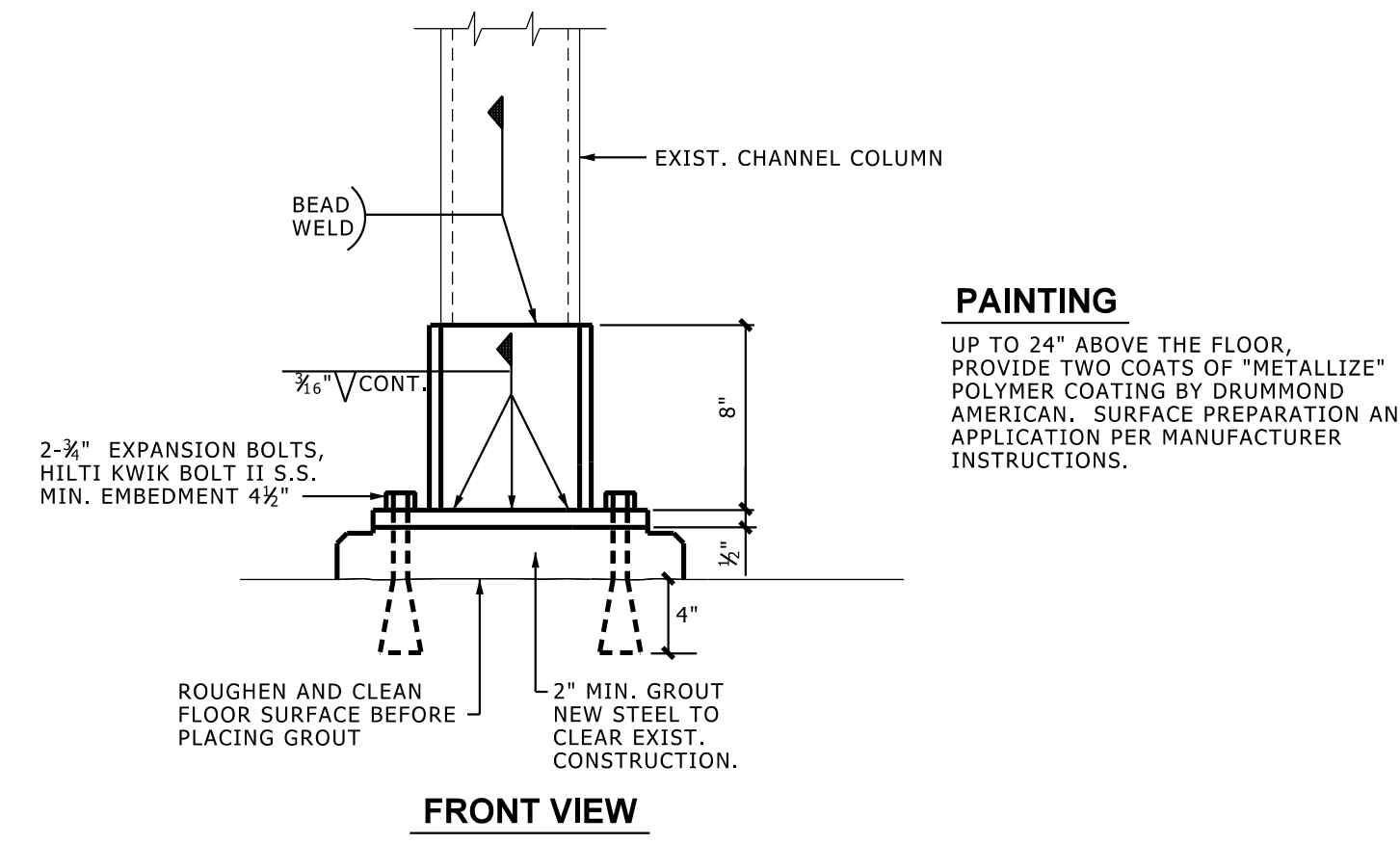
SHEET NO.  
TK-7



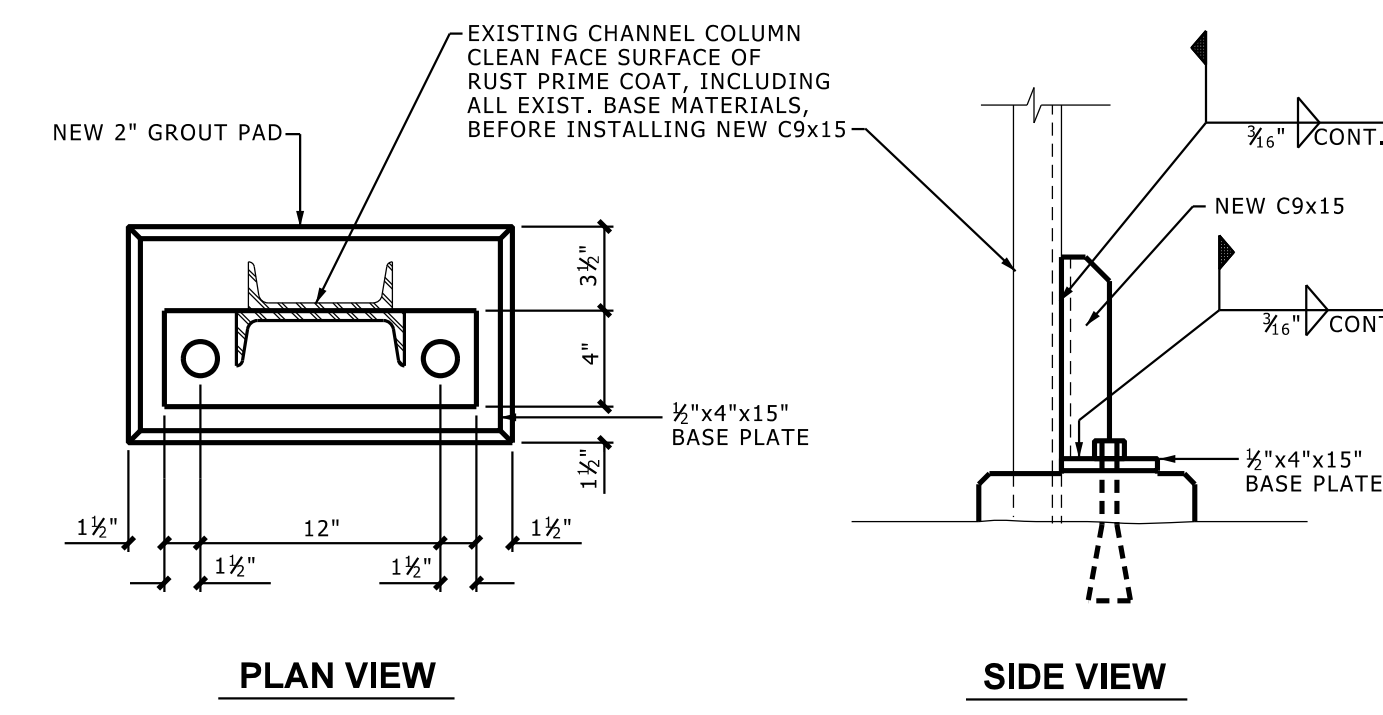
UNISTRUT COLUMN BASE REPAIR DETAIL  
SCALE: 1 1/2" = 1'-0"



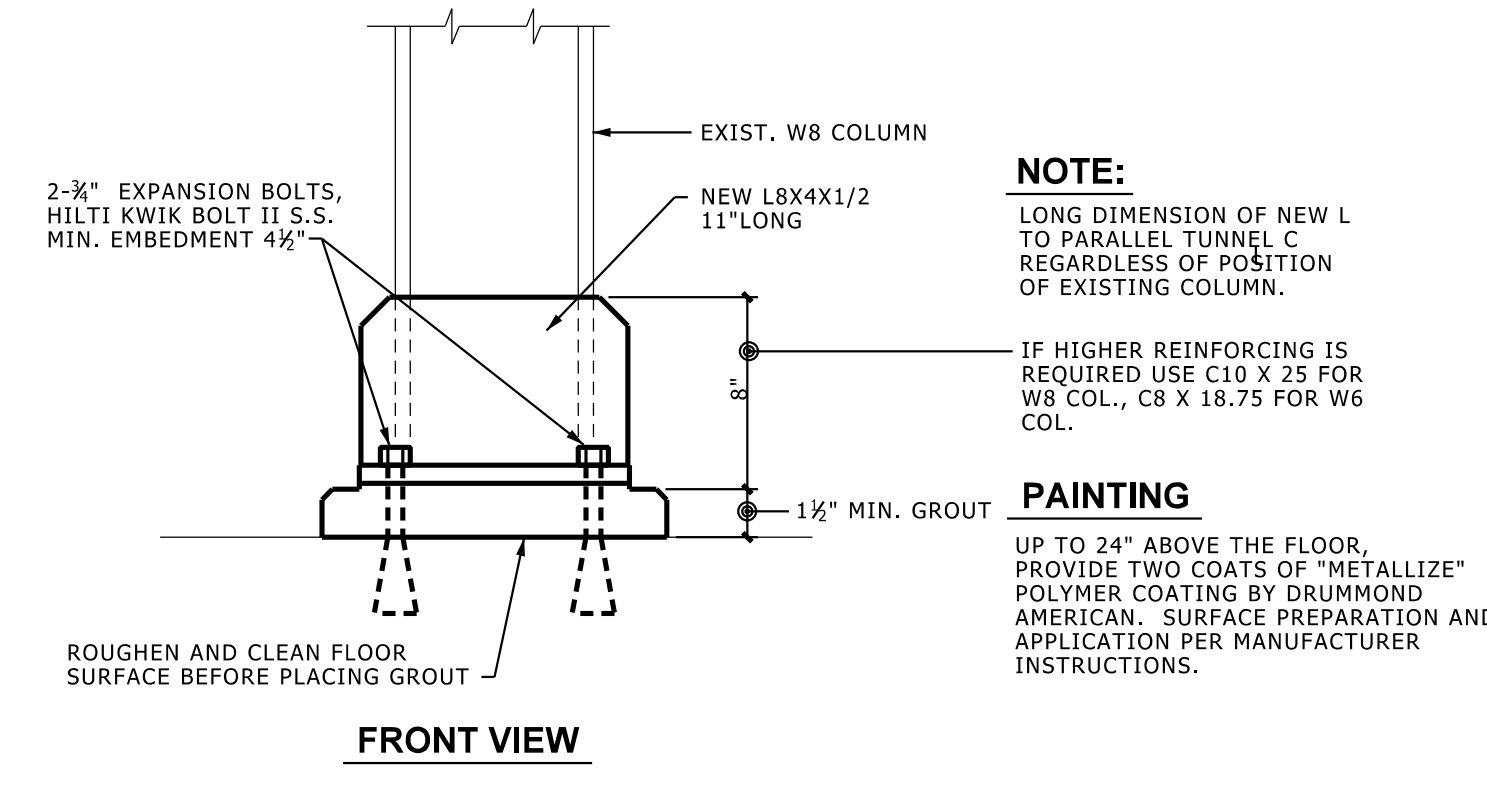
GROUT PAD DETAIL  
NO SCALE



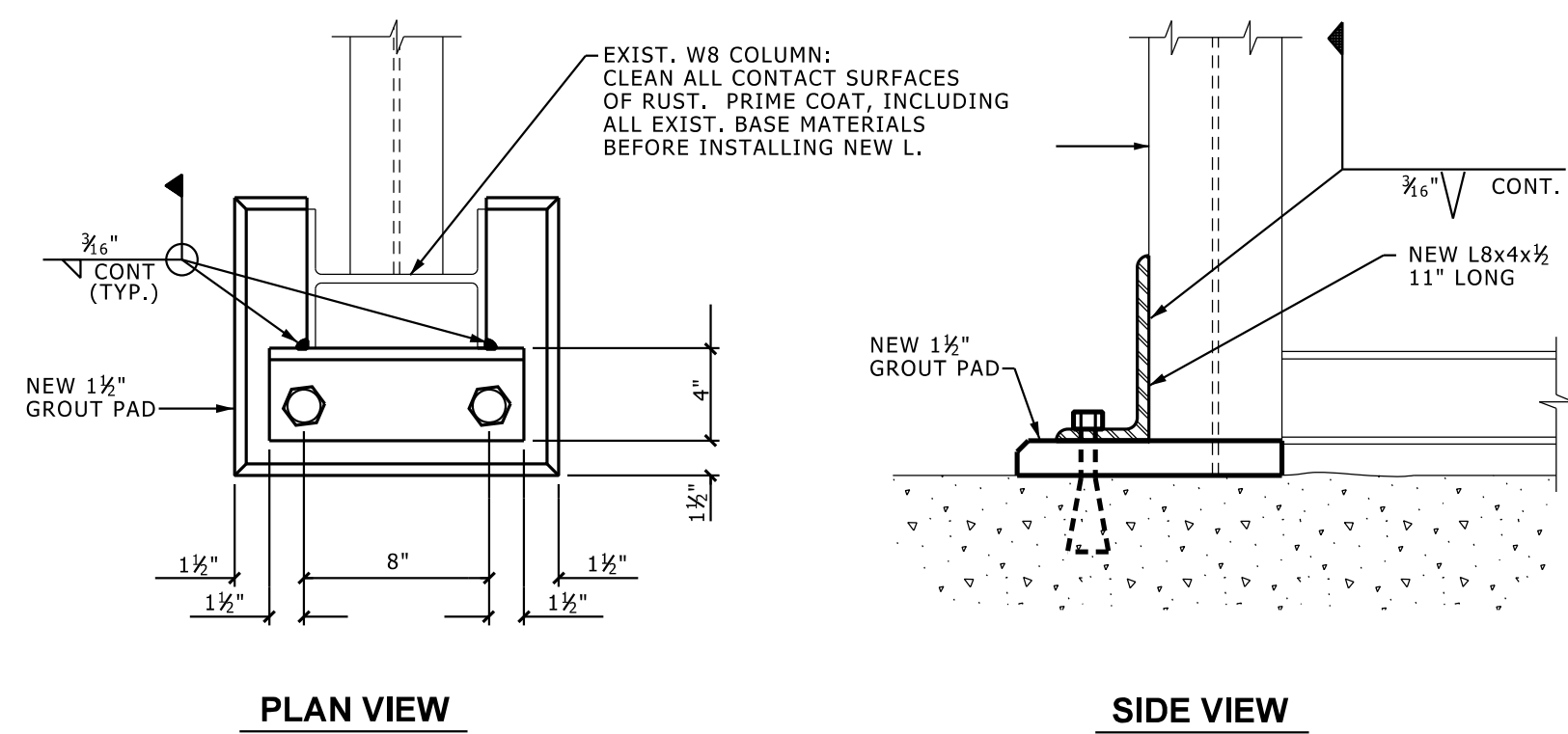
CHANNEL COLUMN BASE REPAIR DETAIL  
NO SCALE



CHANNEL COLUMN BASE REPAIR DETAIL  
NO SCALE



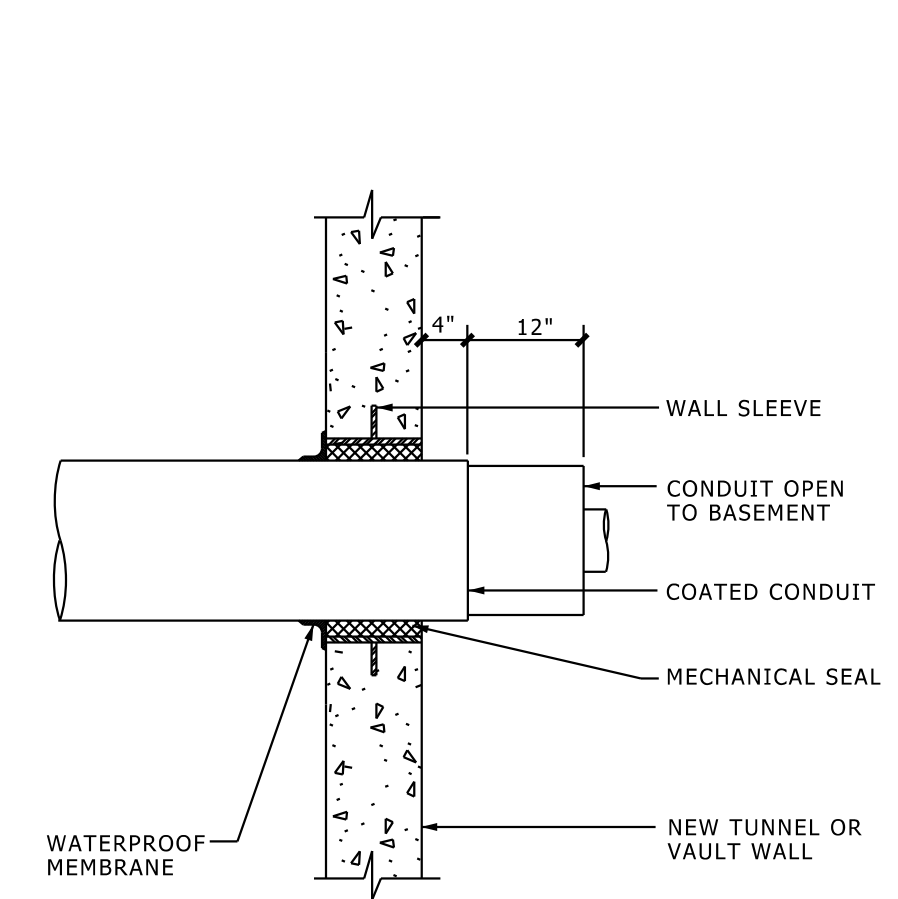
W8 COLUMN BASE REPAIR DETAIL  
NO SCALE



W8 COLUMN BASE REPAIR DETAIL  
NO SCALE

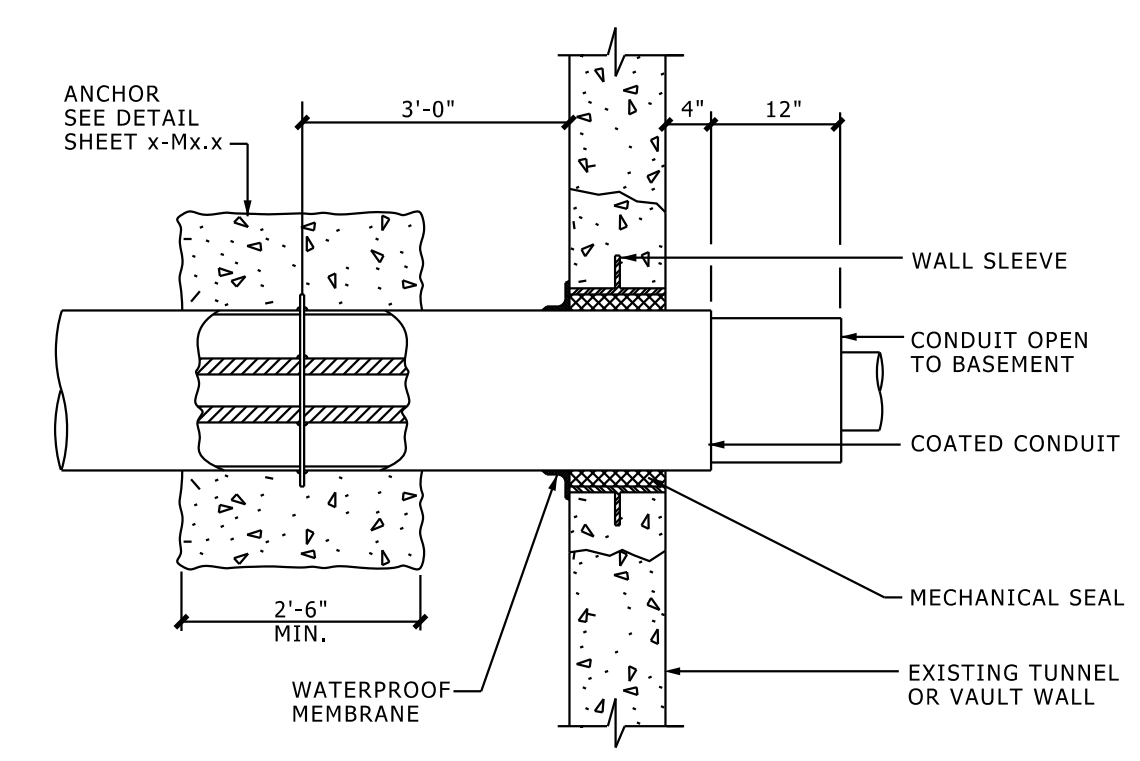
STRUCTURAL DETAILS USED TO REINFORCE EXISTING STEEL SUPPORT COLUMNS

CONDUIT DETAILS USED TO PENETRATE TUNNELS OR VAULTS  
COORDINATE WITH LATEST SPEC.



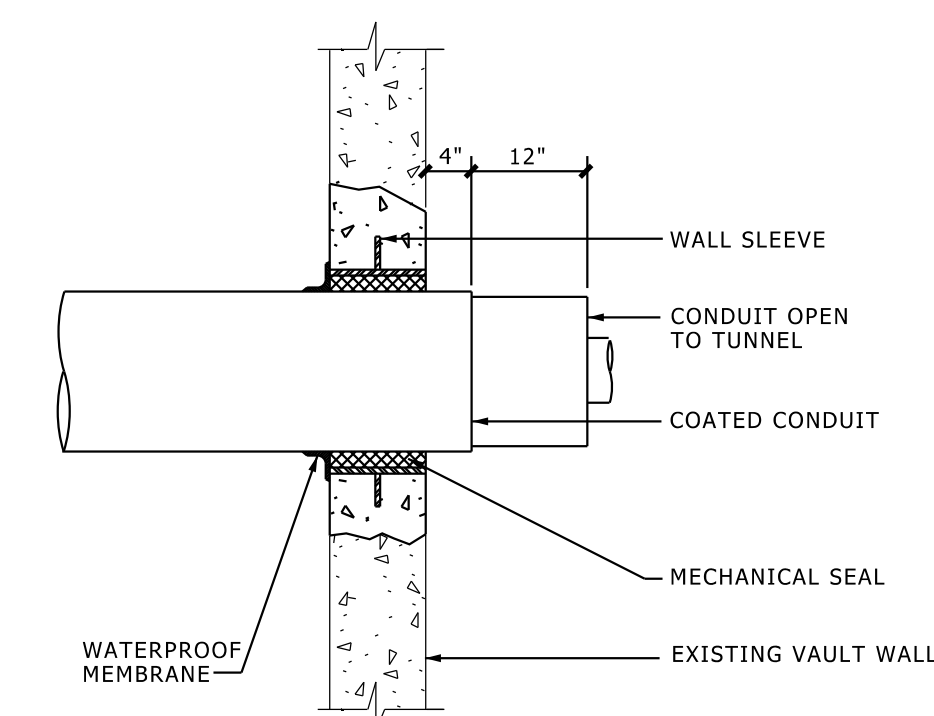
- 1 SUBMIT MODULAR MECHANICAL SEAL DATA FOR OWNER APPROVAL.
- 2 WATERPROOF MEMBRANE SHALL BE BITUMASTIC TAR COATING, IF NO MEMBRANE WATERPROOFING IS CALLED FOR ELSEWHERE.
- 3 LEAVE THE x" SPARE PIPE CAPPED ±14" FROM WALL.
- 4 PROVIDE NEW SLEEVE PER DETAIL x-Mx.x.

CONDUIT ENTRY AT NEW TUNNEL WALL OR VAULT  
NO SCALE



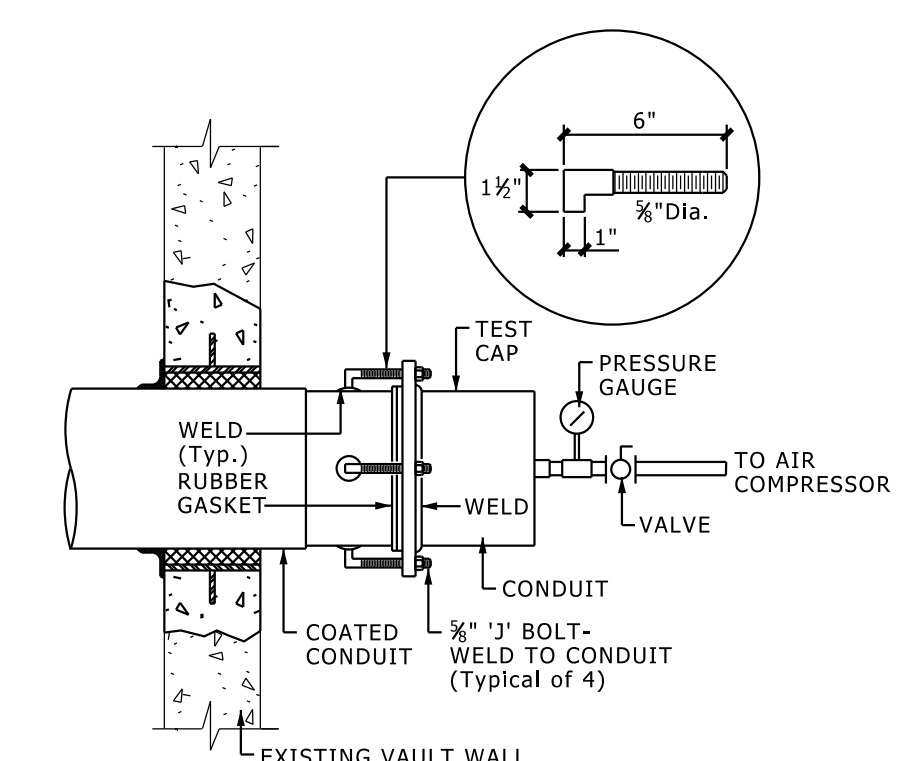
- 1 SEE ANCHOR DETAILS THIS SHEET. ANCHORS SHALL BE KEPT WITHIN 3 FEET OF WALL.
- 2 WALL SLEEVE SHALL BE STANDARD WEIGHT PIPE.
- 3 SUBMIT MODULAR MECHANICAL SEAL DATA FOR OWNER APPROVAL.
- 4 WATERPROOF MEMBRANE SHALL BE BITUMASTIC TAR COATING, IF NO MEMBRANE WATERPROOFING IS CALLED FOR ELSEWHERE.
- 5 REWORK EXISTING WALL OPENING, REMOVE, REPAIR AND REPOUR WALL AS REQUIRED TO SUIT NEW CONDUIT SYSTEM.
- 6 LEAVE THE x" SPARE PIPE CAPPED ±14" FROM WALL.

CONDUIT ENTRY AT NEW TUNNEL WALL OR VAULT  
NO SCALE TYPICAL WITH ANCHOR OUTSIDE TUNNEL



- 1 SUBMIT MODULAR MECHANICAL SEAL DATA FOR OWNER APPROVAL.
- 2 WATERPROOF MEMBRANE SHALL BE BITUMASTIC TAR COATING, IF NO MEMBRANE WATERPROOFING IS CALLED FOR ELSEWHERE.
- 3 LEAVE THE 6" SPARE PIPE CAPPED 14" FROM VAULT WALL.
- 4 REFER TO CONDUIT AIR TEST DETAIL THIS SHEET FOR TEMPORARY TEST CAP AND PRESSURE TESTING OF CONDUIT.
- 5 REWORK EXISTING WALL OPENING, REMOVE, REPAIR AND REPOUR WALL AS REQUIRED TO SUIT NEW CONDUIT SYSTEM.

CONDUIT ENTRY AT EXISTING TUNNEL OR VAULT  
NO SCALE



- NOTES:
1. TEST CAP 'J' BOLTS AND RUBBER GASKET FURNISHED BY THERMACOR FOR EACH CONDUIT SIZE.
  2. TEMPORARILY CAP THE OTHER END WHILE AIR TESTING.

CONDUIT AIR TEST DETAIL  
NO SCALE

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4/7/2015