

1 SECTION - PIPE SUPPORT
S3.1 SCALE: 1/2" = 1'-0"

- NOTE:
- THIS SECTION APPLIES TO PIPE SUPPORT AND PIPE GUIDE LOCATIONS. SEE 1A/S3.1 FOR PIPE SUPPORT DETAILS AT PIPE ANCHOR LOCATIONS. PIPES SHALL BE SUPPORTED AT 12'-0" (MAX).
 - MAINTAIN MINIMUM 1'-0" FROM SUPPORT LOCATION TO JOINT BETWEEN PRECAST UNITS.
 - SEE 1A/S3.1 AND 4/S3.1 FOR ADDITIONAL INFORMATION.

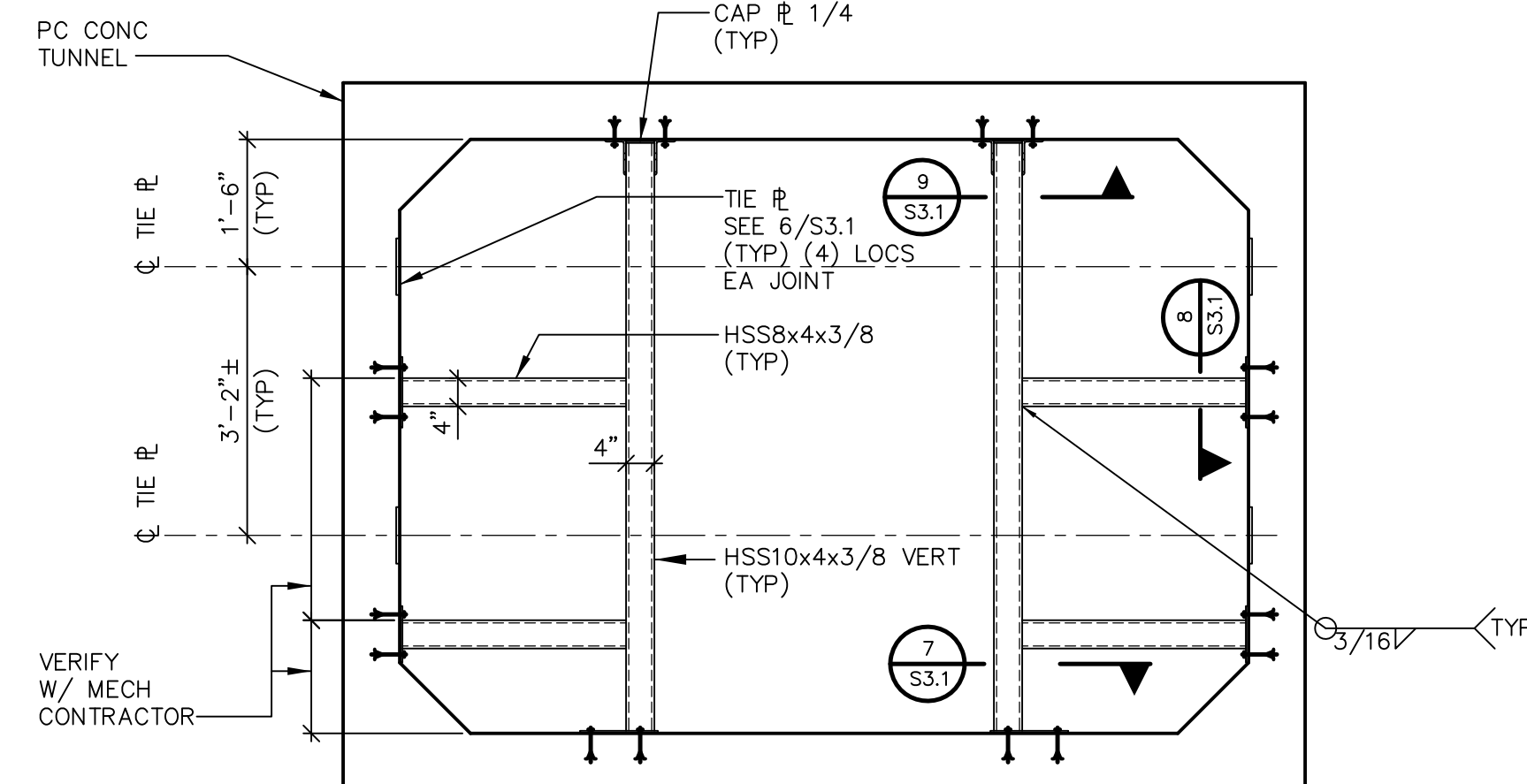
LOAD DESIGNATION	PIPE SUPPORT AND GUIDE LOCATIONS			PIPE ANCHOR LOCATIONS		
	VERTICAL	LONGITUDINAL	TRANSVERSE	VERTICAL	LONGITUDINAL	TRANSVERSE
(A)	3,000 POUNDS	500 POUNDS	400 POUNDS	3,000 POUNDS	30,000 POUNDS	4,000 POUNDS
(B)	1,500 POUNDS	500 POUNDS	*800 POUNDS	1,500 POUNDS	26,000 POUNDS	7,000 POUNDS
(C)	1,500 POUNDS	500 POUNDS	*800 POUNDS	1,500 POUNDS	26,000 POUNDS	7,000 POUNDS
(D)	-	-	-	-	22,000 POUNDS	4,000 POUNDS

* AT PIPE GUIDE LOCATIONS, TRANSVERSE FORCE AT B AND C EQUALS 2,000 POUNDS.

- NOTES:
- LONGITUDINAL LOAD DIRECTION IS PARALLEL TO CENTERLINE OF TUNNEL.
 - TRANSVERSE LOAD DIRECTION IS PERPENDICULAR TO CENTERLINE OF TUNNEL.
 - LOADS SHOWN ARE UN-FACTORED SERVICE LOADS.
 - PIPE SUPPORT LOADS BASED ON MAXIMUM 12'-0" SPACING CENTER TO CENTER OF SUPPORTS. APPROXIMATE PIPE ANCHOR LOCATIONS ARE SHOWN ON S1.1. COORDINATE ACTUAL SUPPORT, GUIDE AND ANCHOR LOCATIONS WITH MECHANICAL DRAWINGS AND MECHANICAL CONTRACTOR.
 - PIPE ANCHOR, GUIDE, AND SUPPORT LOADS BASED ON LOAD INFORMATION SHOWN ON MECHANICAL DRAWINGS. NOTIFY STRUCTURAL ENGINEER IF LOADS DIFFER FROM THAT SHOWN ON MECHANICAL DRAWINGS. COORDINATE ANCHOR LOCATIONS WITH MECHANICAL CONTRACTOR AND ACCEPTED PIPING SUBMITTAL DRAWINGS.

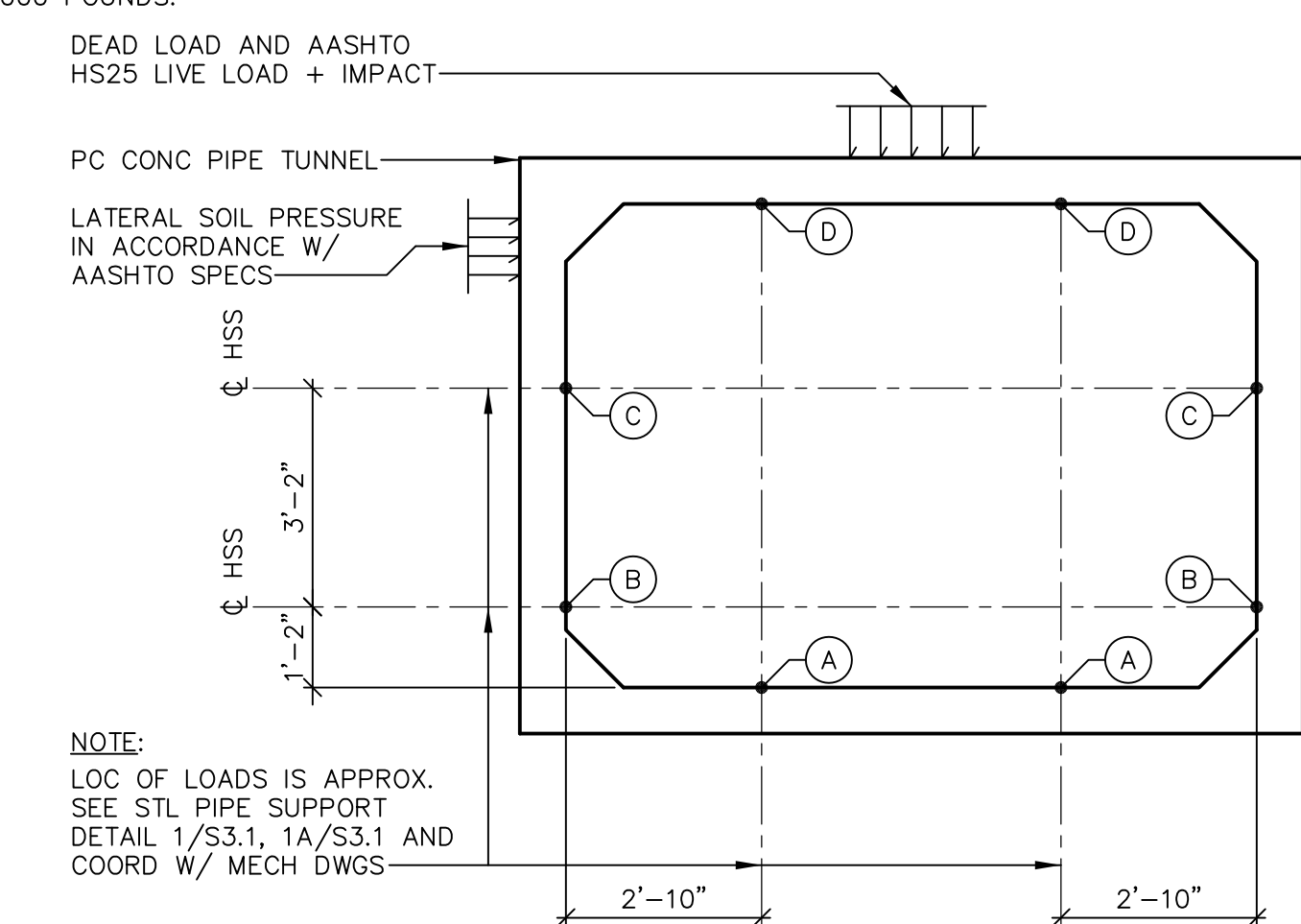
PRECAST PIPE TUNNEL NOTES:

- SEE 4/S3.1 AND PIPE TUNNEL LOAD SCHEDULE FOR REQUIRED DESIGN LOADING. COMPLY WITH ACI 318 AND AASHTO SPECS.
- JOINTS: EACH SECTION SHALL HAVE A MALE AND FEMALE END WITH NOT LESS THAN 4" OF CONCRETE OVERLAP. EACH SECTION SHALL HAVE ONE PREPLACED 1" SQUARE NEOPRENE GASKET CEMENTED TO JOINT SURFACE. SEE 6/S3.1.
- AT PRECAST UNITS AT PIPE ANCHOR LOCATIONS AND AT PRECAST UNITS AT EACH END OF TUNNEL, PROVIDE MINIMUM #4 AT 12"OC LONGITUDINAL BARS IN EACH WALL, FLOOR AND CEILING.
- SUBMIT SHOP DRAWINGS SHOWING DIMENSIONS OF EACH UNIT AND REINFORCEMENT SIZE AND LOCATION. DRAWINGS SHALL BE STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND ACCOMPANIED BY DESIGN CALCULATIONS.
- MATERIAL PROPERTIES:
STEEL REINFORCEMENT - ASTM A615, GRADE 60
CONCRETE MINIMUM COMPRESSIVE STRENGTH - 5000 PSI AT 28 DAYS

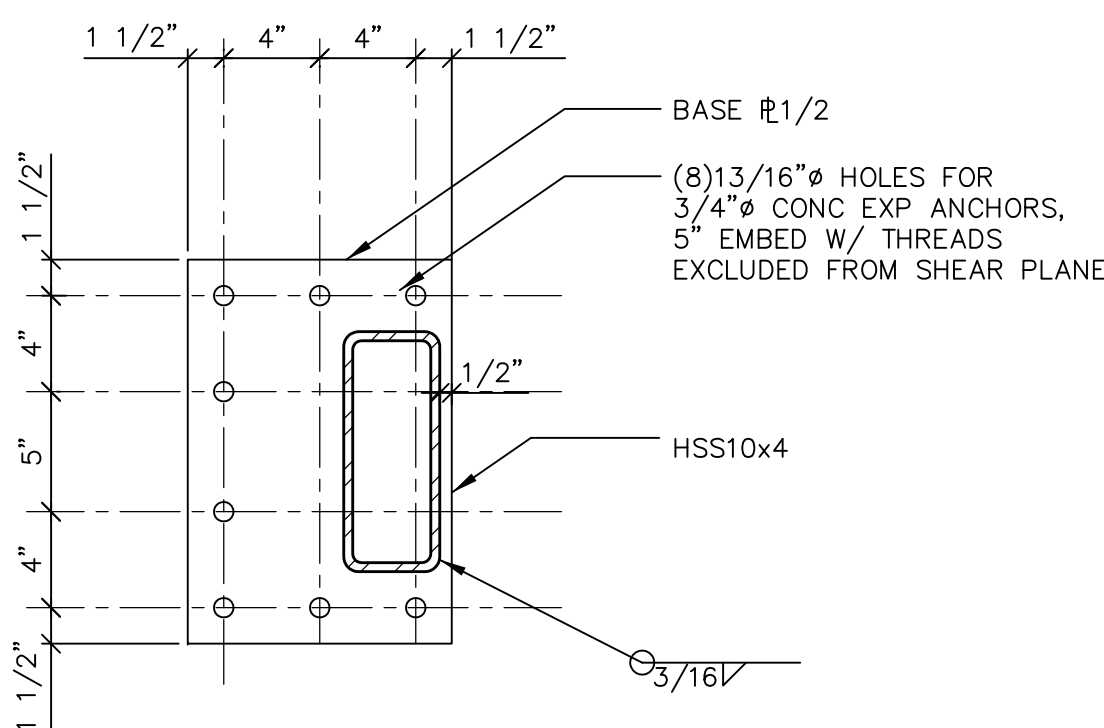


1A SECTION - PIPE SUPPORT AT ANCHOR LOCATIONS
S3.1 SCALE: 1/2" = 1'-0"

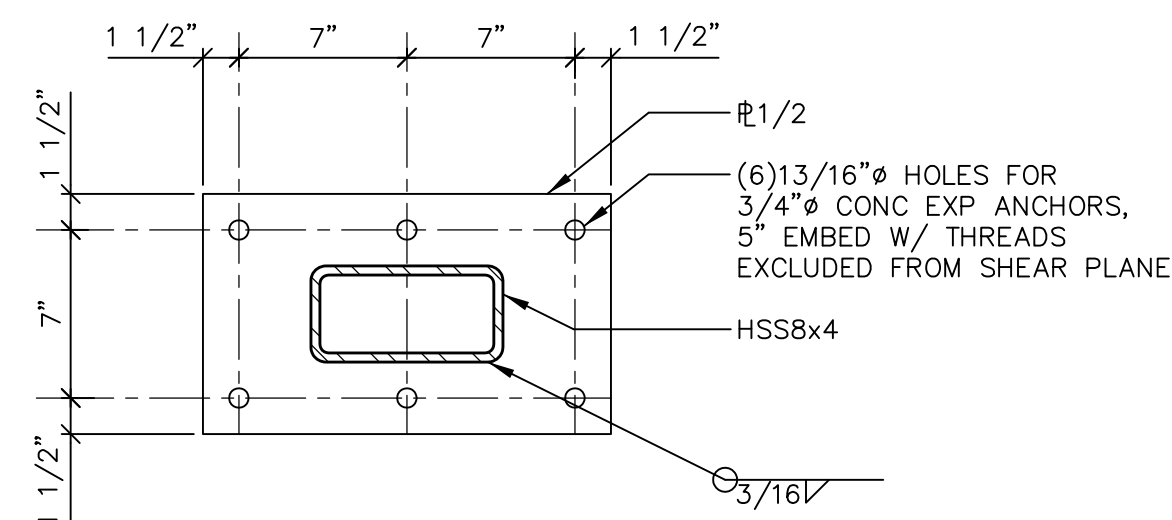
- PIPE SUPPORT NOTES:
- PIPE SUPPORT FRAMING INCLUDING ALL STEEL COMPONENTS AND FASTENERS SHALL BE HOT-DIP GALVANIZED.
 - CONCRETE EXPANSION ANCHORS SHALL BE HOT-DIP GALVANIZED.
 - REPAIR GALVANIZING AT FIELD WELDED AND DAMAGED AREAS USING ZINC-RICH COLD GALVANIZING PAINT.
 - COORDINATE PIPE LOCATIONS AND DIMENSIONS AND PIPE SUPPORT AND ANCHOR LOCATIONS, DIMENSIONS, CLEARANCES AND ATTACHMENTS WITH MECHANICAL DRAWING AND MECHANICAL CONTRACTOR. NOTIFY STRUCTURAL ENGINEER OF DISCREPANCIES OR CONFLICTS.



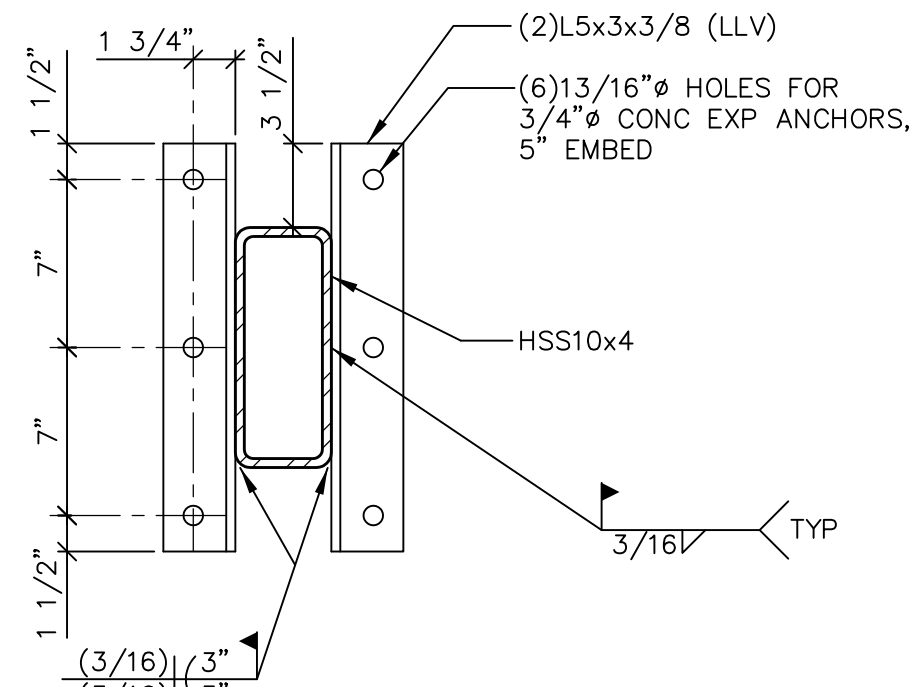
4 PIPE TUNNEL SCHEMATIC DIAGRAM
S3.1 NOT TO SCALE



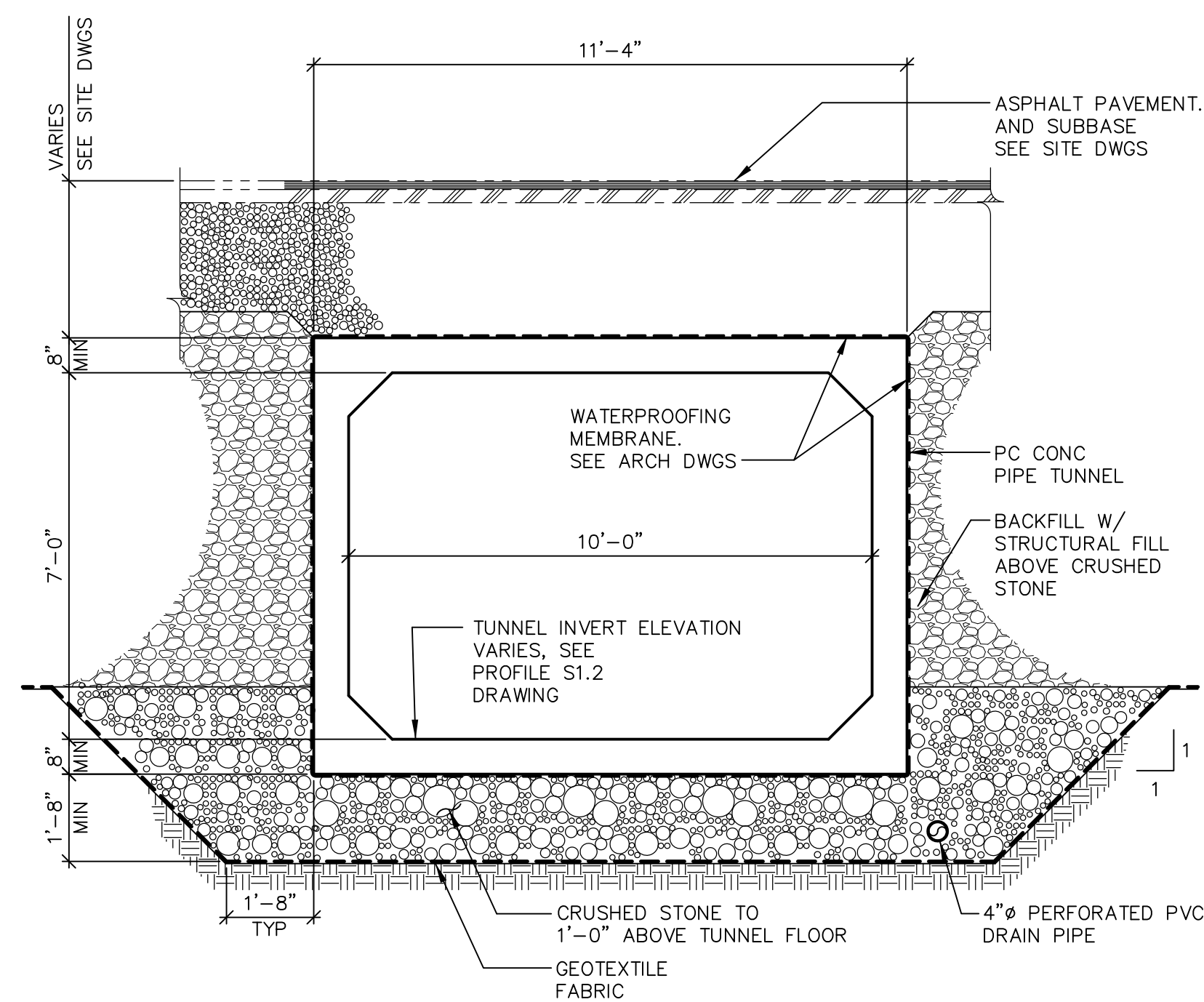
7 DETAIL
S3.1 SCALE: 1 1/2" = 1'-0"



8 DETAIL
S3.1 SCALE: 1 1/2" = 1'-0"

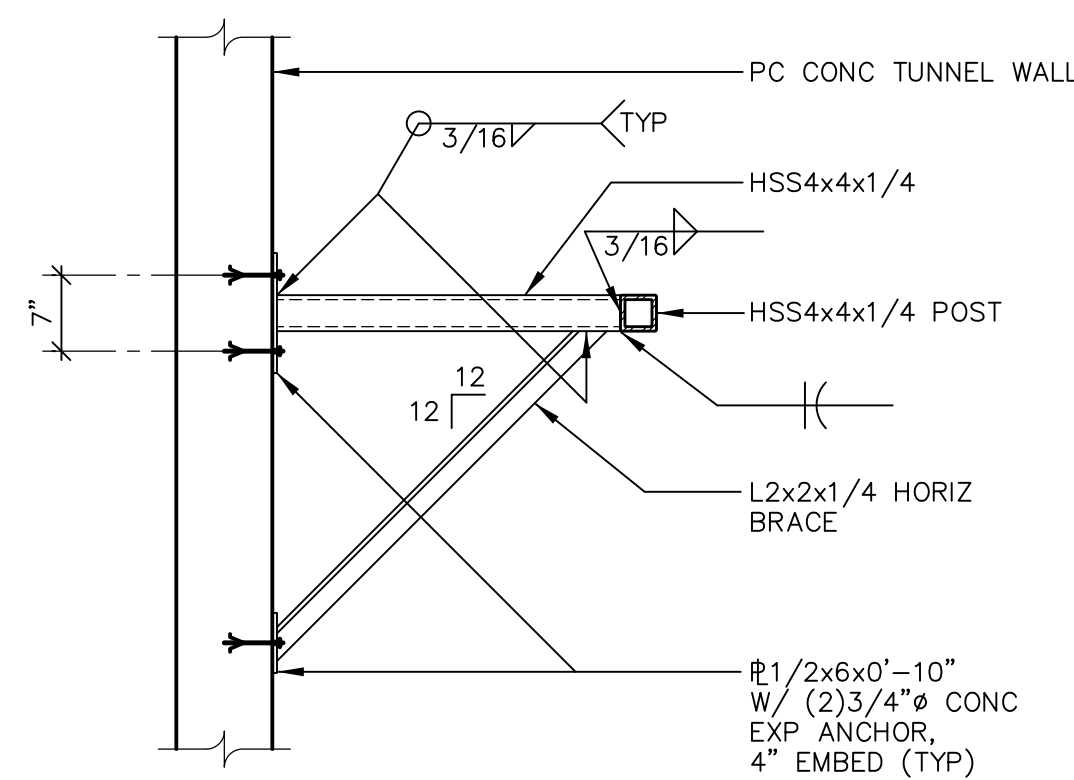


9 DETAIL
S3.1 SCALE: 1 1/2" = 1'-0"

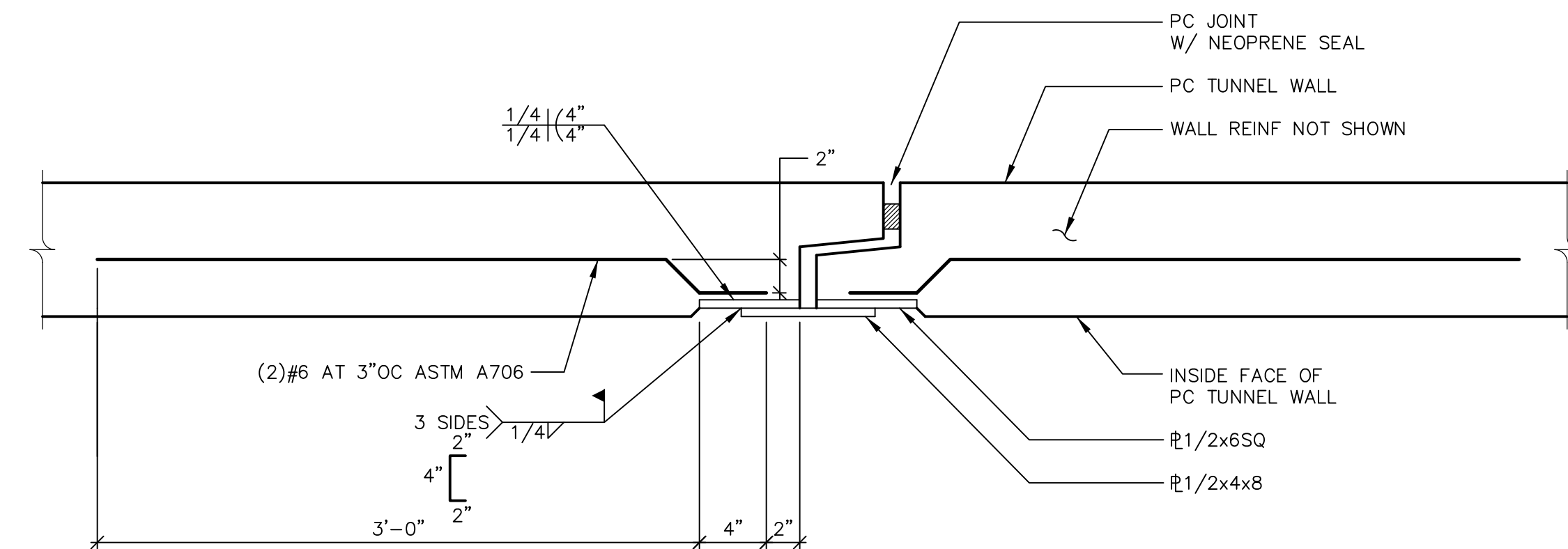


2 SECTION
S3.1 SCALE: 3/8" = 1'-0"

- NOTE:
- SEE 6/S3.1 FOR JOINT DETAIL BETWEEN TUNNEL SECTIONS.

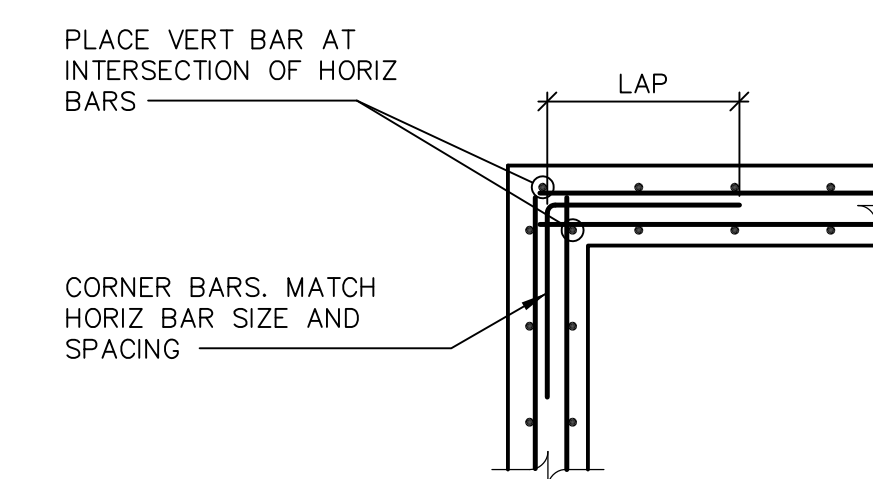


5 PLAN DETAIL
S3.1 SCALE: 3/4" = 1'-0"



6 DETAIL - TIE PLATE AT PRE-CAST WALLS
S3.1 SCALE: 1 1/2" = 1'-0"

- NOTES:
- PROVIDE (8) EMBEDDED PLATES FOR FIELD INSTALLED TIE PLATES AT EACH PC UNIT. OMIT TIE PLATES AT PRECAST JOINT ADJACENT TO CAST-IN-PLACE CLOSURE FOUR. SEE 1A/S3.1 FOR TIE PLATE LOCATIONS.
 - UN-FACTORED DESIGN AXIAL LOAD = 26K.



10 TYPICAL WALL INTERSECTION REINFORCEMENT
S3.1 SCALE: 1/2" = 1'-0"

- NOTE:
- LAPS ARE CLASS B, BUT NOT LESS THAN 2'-0".

UNREVIEWED FINAL DESIGN (100%)
NOT FOR CONSTRUCTION

CONSULTANTS:		ARCHITECT/ENGINEERS:		Drawing Title		Project Title		Project Number		Office of Construction and Facilities Management			
FRIEDMAN FISHER ASSOCIATES, P.C. CONSULTING ENGINEERS 22 Aviation Road, Albany, New York 12205 TEL (518) 458-7040 FAX (518) 458-7043 mail@friedmanfisher.com		RYAN-BIGGS ASSOCIATES, P.C. 251 Wilkes Road, Albany, New York 12205 TEL (518) 458-7040 FAX (518) 458-7043 www.ryanbiggs.com		SECTIONS AND DETAILS		REPAIR HOT WATER LINES PHASE III Stratton VA Medical Center		VA 528A8-10-814					
EBERLIN AND EBERLIN, P.C. 31 SODOM ROAD, BREWSTER, NEW YORK 12509 CONSULTING ENGINEERS, PLANNERS, LANDSCAPE ARCHITECTS 845.562.0359 PHONE 845.279.3062 FAX		Hyman & Hayes ASSOCIATES 6 WEMBLEY COURT, ALBANY, NEW YORK 12205 (518) 452-3470		Approved Project Director		Location Albany, New York		Drawing Number S3.1					
Revisions:		Date		Date		Date		Checked		Drawn			
								</					