

GENERAL NOTES

CODES AND MANUALS

- BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 318-14

DESIGN CRITERIA

DESIGN SOIL BEARING PRESSURES:
 MAXIMUM ALLOWABLE SOIL BEARING PRESSURE = 2,500 PSF
 EQUIVALENT FLUID PRESSURE - AT REST = 55 PCF

GENERAL STRUCTURAL NOTES

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.

DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE SHOWN ON DRAWINGS.

NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.

THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION.

THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION, AS WELL AS WORKER SAFETY AND COMPLIANCE WITH OSHA OR OTHER AGENCY SAFETY GUIDELINES. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC.

NOTCHING OR CUTTING OF ANY STRUCTURAL MEMBER IN THE FIELD IS PROHIBITED.

REMOVAL OF FORMS AND SHORING SHALL BE IN ACCORDANCE WITH ACI 347. SHOP DRAWINGS SHALL BE REVIEWED PRIOR TO FABRICATION OR ERECTION. THE CONTRACTOR SHALL REVIEW AND APPROVE SHOP DRAWINGS PRIOR TO SUBMITTAL TO AMAFCA FOR REVIEW. POORLY EXECUTED SHOP DRAWINGS WILL BE REJECTED AND SHALL BE RESUBMITTED.

STRUCTURAL STEEL COATING TO BE COLOR COATED. COLOR COATING SHALL BE DUNN-EDWARDS RUST PREVENTION ALKYD SEMI-GLOSS ENAMEL 9 SERIES OR APPROVED EQUAL. PRIOR TO COLOR COATING, ALL METAL IS TO BE PRIMED WITH TWO COATS OF PRIMER BY THE RESPECTIVE MANUFACTURER.

COLORS	
ELEMENT	COLOR
PEDESTRIAN RAILING	OWNER DIRECTIONAL
CONCRETE RETAINING WALLS	OWNER DIRECTIONAL
CONCRETE SLAB/SLOPE PAVING	NOT APPLICABLE
DEBRIS FENCE STEEL	OWNER DIRECTIONAL

ALL JOINTS SHALL BE CLEANED AND SEALED. THE JOINT SEALANT SHALL BE NP-1 OR APPROVED EQUAL. WORK INCLUDES CLEANING JOINT WITH WIRE WHEEL, PRIMER APPLICATION (PER MANUFACTURER'S RECOMMENDED PRODUCT) AND SEALANT.

STRUCTURAL STEEL

STRUCTURAL STEEL SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC "MANUAL OF STEEL CONSTRUCTION", LATEST EDITION.

STRUCTURAL AND MISCELLANEOUS STEEL:
 CHANNELS, ANGLES AND STRUCTURAL PLATES:
 ASTM A36
 Fy = 36,000 PSI
 STRUCTURAL TUBE:
 ASTM A500
 GRADE B
 Fy = 46,000 PSI
 STRUCTURAL PIPE:
 ASTM A53
 GRADE B

UNLESS NOTED OTHERWISE

NEW AND UNSPLICED MATERIAL SHALL BE USED THROUGHOUT.

BOLTS SHALL CONFORM TO ASTM A325 TENSION CONTROL BOLTS UNLESS NOTED OTHERWISE, WITH A MINIMUM DIAMETER OF 3/4" UNLESS NOTED OTHERWISE ON THE DRAWINGS.

SHOP CONNECTIONS MAY BE WELDED OR BOLTED UNLESS SPECIFICALLY DETAILED OTHERWISE. FIELD CONNECTIONS SHALL BE BOLTED UNLESS OTHERWISE NOTED.

ALL ANCHOR BOLTS EMBEDDED IN CONCRETE SHALL BE ASTM A307 BOLTS OR A36 THREADED BARS, UNLESS OTHERWISE NOTED. PROVIDE FLAT WASHERS BETWEEN ALL NUTS AND BASEPLATES.

ALL BOLTS HOLES THAT ARE REQUIRED TO BE FIELD DRILLED SHALL BE DRILLED WITH A MAG DRILL. FLAME CUTTING OF HOLES OR ENLARGING OF UNFAIR HOLES WILL NOT BE ALLOWED.

WELDS OVER 5/16" SHALL BE INSPECTED VIA ULTRASONIC TESTING. TESTING TO BE PROVIDED BY OWNER.

ALL WELDING OR GAS CUTTING SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS OF THE AMERICAN WELDING SOCIETY D1.1-2000. ALL WELDING SHALL USE E70XX ELECTRODES AND BE PERFORMED BY CERTIFIED WELDERS QUALIFIED BY THE AMERICAN WELDING SOCIETY, CODE D1.1, LATEST REVISION.

NO FIELD WELDING SHALL BE DONE IF THE TEMPERATURE IS BELOW 10 DEGREES FAHRENHEIT, OR IF THE WIND SPEED IS OVER 20 MPH WITHOUT WIND BREAKS.

CAST-IN-PLACE CONCRETE

ALL EXPOSED EDGES OF CONCRETE SHALL HAVE A 3/4" CHAMFER UNLESS NOTED OTHERWISE.

NORMAL WEIGHT CONCRETE: 4000 PSI @ 28 DAYS UNLESS OTHERWISE NOTED.

THE CONTRACTOR SHALL NOT CAST FOUNDATIONS, STEM WALLS OR RETAINING WALLS AGAINST EXCAVATED VERTICAL SIDE SURFACES WITHOUT PRIOR APPROVAL FROM AMAFCA.

DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI CODES AND REPORTS 301, 318, AND 530.

EMBEDDED PIPES AND CONDUITS: NO PIPES, CONDUITS OR ANY OTHER ITEMS USED BY OTHER TRADES EXCEPT THOSE SHOWN ON THE DRAWINGS SHALL BE EMBEDDED IN CONCRETE OR PASS THROUGH CONCRETE MEMBERS WITHOUT PRIOR APPROVAL OF AMAFCA.

IF OWNER DIRECTED, EXPOSED WALL SURFACES SHALL RECEIVE A THOROCCOAT, OR EQUIVALENT.

CONCRETE PLACEMENT DURING INCLEMENT WEATHER SHALL CONFORM TO THE NEW MEXICO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SECTION 511.3.4.1, 2019 EDITION OR LATEST EDITION AS ACCEPTED BY AMAFCA.

REINFORCING STEEL

ALL REINFORCING STEEL SHALL BE FABRICATED AND PLACED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE 2015 REQUIREMENTS AND THE DETAILING OF CONCRETE REINFORCEMENT MANUAL, LATEST EDITION. SEE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SECTION 540 AS CURRENTLY MODIFIED BY AND ACCEPTED BY AMAFCA.

ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60; EXCEPT STIRRUPS, TIES AND FIELD-BENT BARS MAY CONFORM TO ASTM A615 GRADE 40.

WHERE LAP SPLICES IN REINFORCING OCCUR, THE MINIMUM LAP SHALL BE MADE AS FOLLOWS UNLESS NOTED OTHERWISE ON DRAWINGS:

BAR SIZE	LAP SPLICE LENGTH
#4	2'-0"
#5	2'-6"
#6	3'-0"
#7	3'-6"
#8	4'-6"

ALL HORIZONTAL REINFORCING IN FOOTINGS, WALLS, AND BEAMS SHALL BE CONTINUOUS AROUND CORNERS OR HAVE CORNER BARS OF THE SAME SIZE AND SPACING AS THE HORIZONTAL BARS AND LAP ACCORDING TO THE TABLE ABOVE.

CONCRETE COVER FOR REINFORCING SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:

PLAIN CONCRETE POURED AGAINST EARTH 3 INCHES

CONCRETE SLABS POURED IN FORMS BUT EXPOSED TO WEATHER, EARTH OR WATER:

IF BARS ARE LARGER THAN #5 2 INCHES
 IF BARS ARE #4 OR SMALLER 1 1/2 INCHES
 COLUMNS, GIRDERS AND BEAMS 2 1/2 INCHES
 WALLS 2 INCHES

CONCRETE NOT EXPOSED TO WEATHER, EARTH OR WATER:

IF BARS ARE LARGER THAN #5 2 INCHES
 IF BARS ARE #4 OR SMALLER 1 1/2 INCHES
 WALLS 2 INCHES

FORM TIES SHALL BE EITHER OF THE THREADED OR SNAP-OFF TYPE SO THAT NO METAL WILL BE LEFT WITHIN 1 INCH OF THE SURFACE OF THE WALL. FOLLOWING REMOVAL OF FORM TIES, RECESSES ARE TO BE CAREFULLY FILLED AND POINTED WITH MORTAR.

CHAIRS FOR REINFORCING SHALL BE PROVIDED IN ACCORDANCE WITH ACI 315-92. CHAIRS SHALL BE PROVIDED FOR ALL REINFORCING OF CONCRETE IN CONTACT WITH GRADE. REINFORCING SHALL BE SECURELY TIED TO SUPPORTS.

REINFORCING SHALL BE STORED IN SUCH A MANNER AS TO INHIBIT RUSTING OR THE DEPOSIT OF OILS OR OTHER BOND INHIBITING DEPOSITS.

GRADE 60 DOWELS SHALL NOT BE BENT IN THE FIELD AFTER PLACING.

THE CONTRACTOR SHALL BE RESPONSIBLE THAT ALL REBAR IS PROPERLY ALIGNED AND TIED IN PLACE BEFORE PLACING CONCRETE. ALL COLUMNS, WALL DOWELS, AND VERTICAL STEEL SHALL BE ACCURATELY LOCATED AND SECURED IN PLACE SO THAT IT REMAINS IN THE POSITION SHOWN DURING THE CONCRETE PLACING OPERATION. ANY REBAR FOUND IMPROPERLY INSTALLED SHALL BE REMOVED AT NO ADDITIONAL COST TO AMAFCA.

TACK WELDING OF REINFORCING IS NOT PERMITTED UNLESS DETAILED OR APPROVED BY AMAFCA.

COMPACTION REQUIREMENTS

SUBGRADE SOILS AND STRUCTURAL FILL MATERIALS SHALL BE COMPACTED TO 95% OF THE ASTM D1557 MAXIMUM DRY DENSITY AT ±3 % OPTIMUM MOISTURE CONTENT:

EXCAVATION AND BACKFILL SHALL BE IN CONFORMANCE WITH THE PROJECT GEOTECHNICAL REPORT IF APPLICABLE OR IN CONFORMANCE WITH SPECIFICATIONS. DURING BACKFILL, THE CONTRACTOR SHALL BE LIMITED TO THE USE OF HAND OPERATED COMPACTION EQUIPMENT WITHIN A ZONE OF 5 FEET FROM THE BACK OF ANY WALL. ALL BACKFILL MATERIAL SHALL BE NON EXPANSIVE, FREE OF VEGETATION AND DEBRIS AND CONTAIN NO ROCKS LARGER THAN 6 INCHES. GRADATION OF THE BACKFILL MATERIAL, AS DETERMINED IN ACCORDANCE WITH ASTM D-422 SHOULD BE AS FOLLOWS:

SIEVE SIZE	% PASSING
4 INCH	100
1 INCH	60 - 100
NO. 4	70 - 100
NO. 200	10 - 40

THE PLASTICITY INDEX SHOULD BE NO GREATER THAN 10 WHEN TESTED IN ACCORDANCE WITH ASTM D-4318.

FILL OR BACKFILL, CONSISTING OF SOIL APPROVED BY AMAFCA, SHALL BE PLACED IN CONTROLLED LAYERS WITH APPROVED COMPACTION EQUIPMENT. ALL COMPACTION SHALL BE TO A MINIMUM OF 95% OF MAXIMUM DRY DENSITY DETERMINED IN ACCORDANCE WITH THE ASTM D-1557 TEST METHOD.

TESTS FOR DEGREE OF COMPACTION SHALL BE DETERMINED BY THE ASTM D-1556 METHOD OR ASTM D-2922. OBSERVATION AND FIELD TEST SHALL BE CARRIED ON DURING FILL AND BACKFILL PLACEMENT BY THE MATERIALS TESTING TECHNICAN TO ASSIST THE CONTRACTOR IN OBTAINING THE REQUIRED DEGREE OF COMPACTION. IF LESS THAN 95 PERCENT RELATIVE COMPACTION IS INDICATED, ADDITIONAL COMPACTION EFFORT SHALL BE MADE WITH ADJUSTMENT OF THE MOISTURE CONTENT AS NECESSARY UNTIL 95 PERCENT COMPACTION IS OBTAINED.

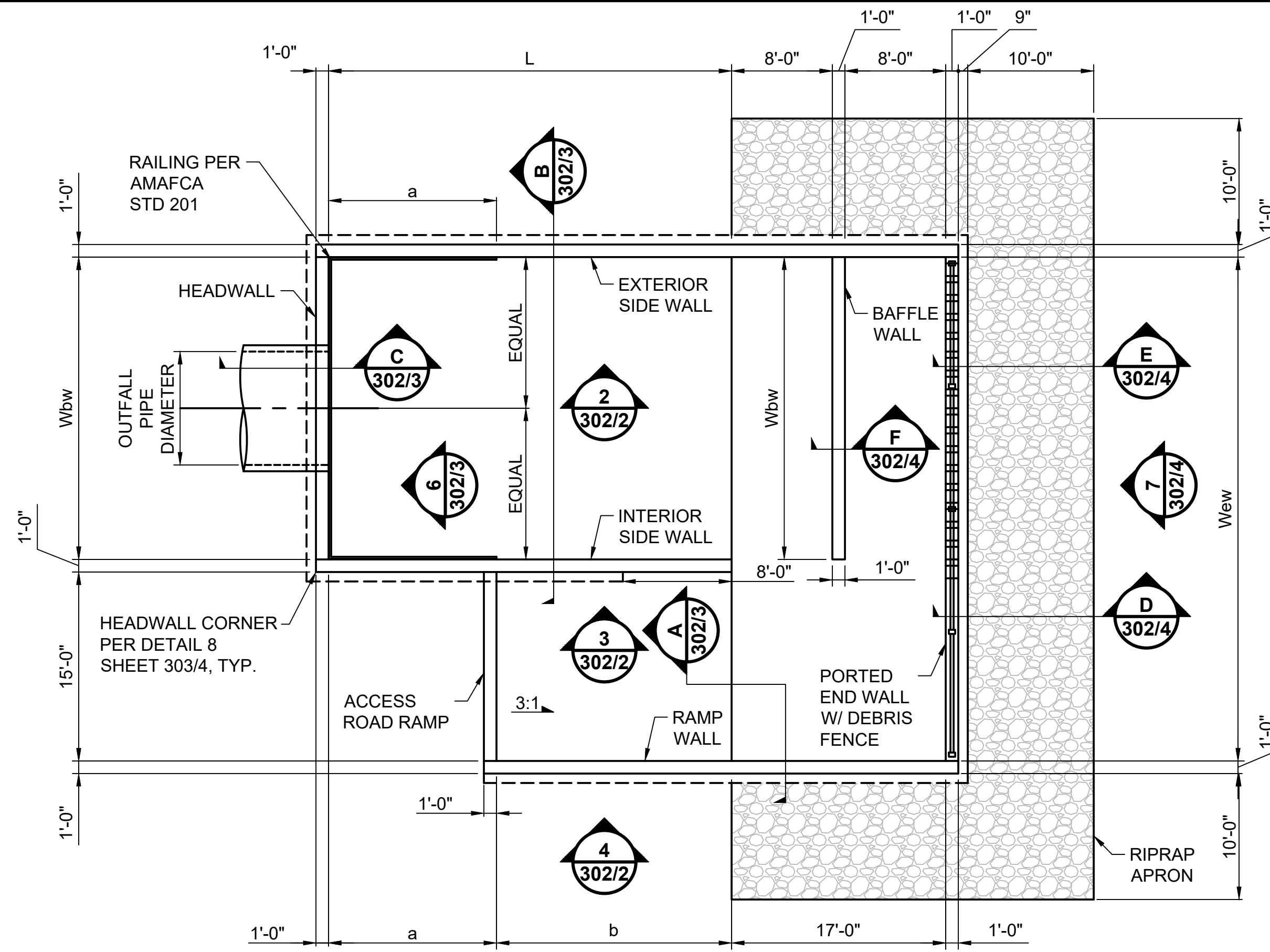
WALL WATERPROOFING

THE EARTH SIDE OF SILL WALLS SHALL BE WATERPROOFED AT IRRIGATED AREAS AND DAMP PROOFED AT ALL OTHER AREAS. WATERPROOFING SHALL BE CONWRAP BARRIER CS-212 AS MANUFACTURED BY CONCRETE SEALANTS, INC. (MEMBRANE THICKNESS 0.100 INCHES MINIMUM) OR AMAFCA APPROVED EQUAL. DAMP PROOFING SHALL BE HYDROCID 700B OR AMAFCA APPROVED EQUAL.

ITEM NO.	ITEM	UNIT	ESTIMATED QUANTITIES												
			OUTFALL PIPE DIAMETER												
			36"	42"	48"	54"	60"	66"	72"	78"	84"	90"	96"	102"	108"
511030	(REINFORCED) STRUCTURAL CONCRETE, CLASS AA	C.Y.	52	59	67	75	84	92	100	111	122	133	150	168	191
540060	REINFORCING BARS GRADE 60 *	LB	11767	13351	15161	16972	19008	20818	22629	25118	27607	30096	33943	38016	43221
541200	STRUCTURAL STEEL DEBRIS SCREEN	LB	941	968	994	1021	1047	1072	1095	1238	1264	1290	1317	1343	1368
602020	RIPRAP	C.Y.	48	48	49	50	67	68	69	70	71	107	108	110	111
607079	PEDESTRIAN RAILING	LF	20	23	26	28	31	33	35	38	41	43	46	49	51
303160	BASE COURSE 6" *	S.Y.	95	96	97	99	100	102	103	104	106	107	108	110	111
604002	GEOTEXTILE CLASS 2 *	S.Y.	109	111	113	114	116	118	119	121	122	124	126	127	129

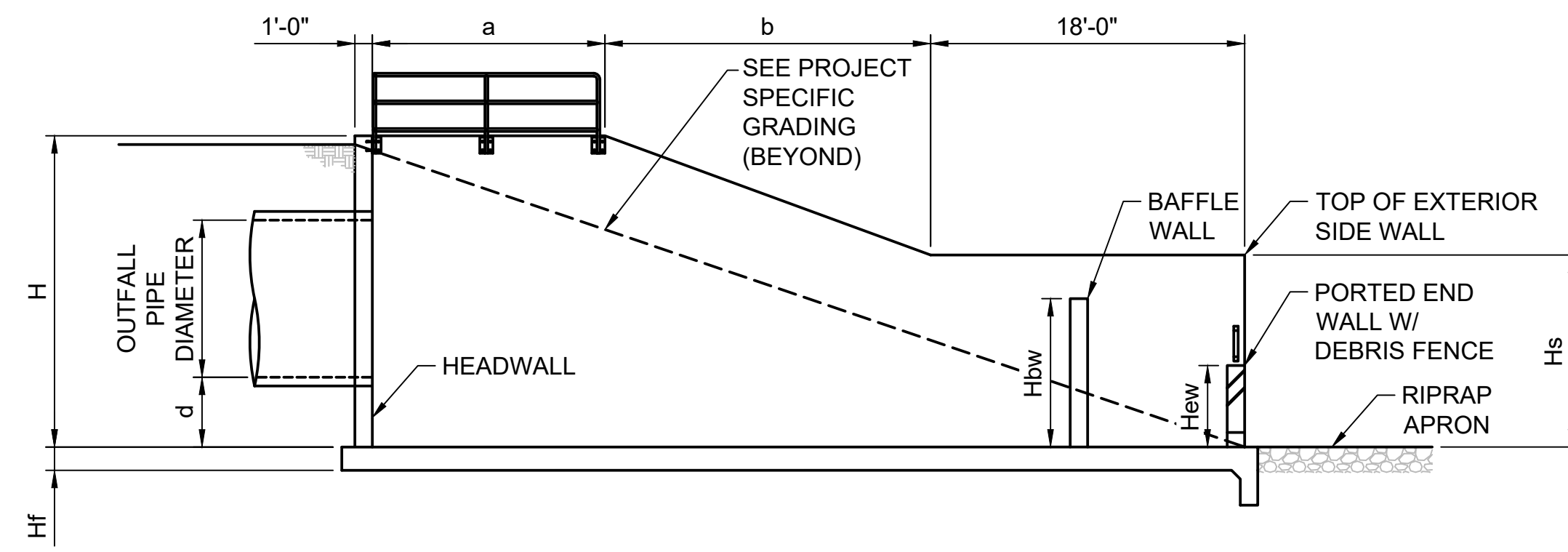
* APPROXIMATE INFORMATIONAL QUANTITIES

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY		
STORM DRAIN OUTFALL IMPACT BASIN		
ISSUE DATE: MARCH 2026	DRAWING NO. 302	SHEET 1 OF 5



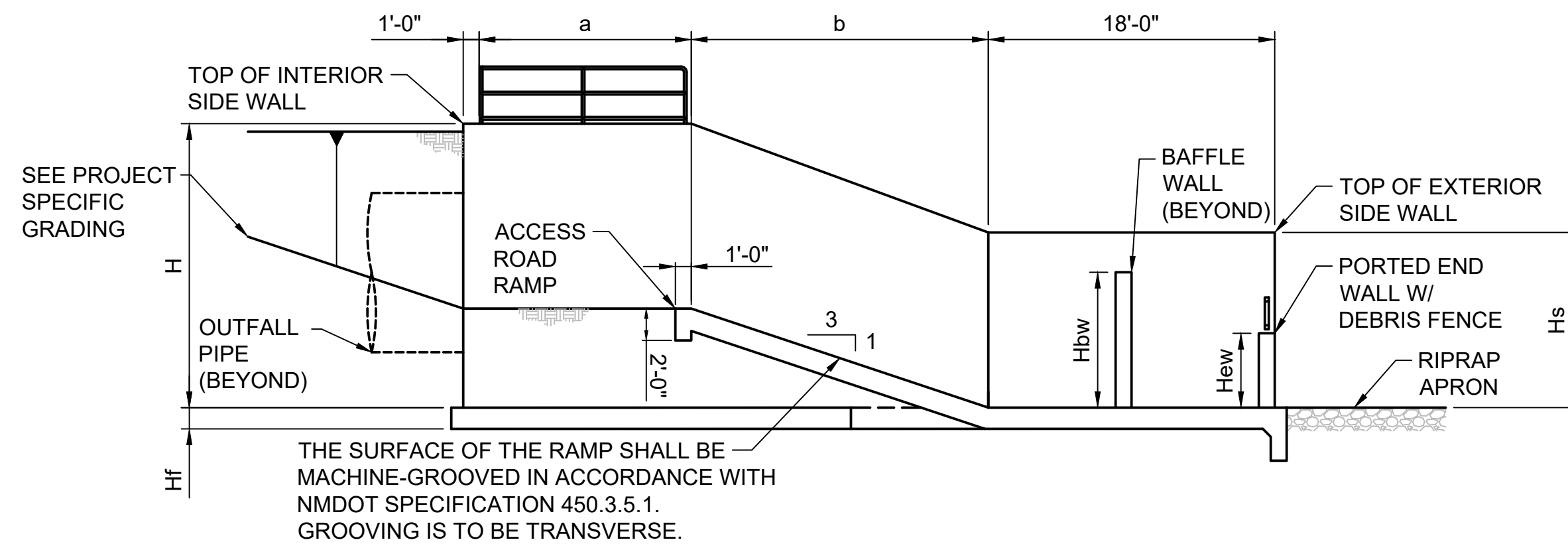
1 PLAN VIEW
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OUTFALL PIPE DIAMETER	WALL DIMENSIONS										
	L	a	b	Wbw	Wew	H	d	Hf	Hbw	Hew	Hs
36"	12'-4"	5'-3"	7'-1"	9'-3"	25'-3"	7'-3"	1'-7"	1'-0"	3'-1"	2'-3"	3'-10"
42"	14'-0"	6'-0"	8'-0"	10'-6"	26'-6"	8'-0"	1'-9"	1'-0"	3'-6"	2'-5"	4'-5"
48"	15'-8"	6'-9"	8'-11"	11'-9"	27'-9"	9'-0"	2'-0"	1'-0"	4'-0"	2'-8"	5'-3"
54"	17'-4"	7'-4"	10'-0"	13'-0"	29'-0"	9'-9"	2'-2"	1'-0"	4'-5"	2'-10"	5'-9"
60"	19'-0"	8'-0"	11'-0"	14'-3"	30'-3"	10'-9"	2'-5"	1'-0"	4'-11"	3'-1"	6'-3"
66"	20'-6"	8'-8"	11'-10"	15'-5"	31'-5"	11'-7"	2'-7"	1'-0"	5'-4"	3'-3"	7'-0"
72"	22'-0"	9'-3"	12'-9"	16'-6"	32'-6"	12'-3"	2'-9"	1'-0"	5'-9"	3'-5"	7'-6"
78"	23'-10"	10'-0"	13'-10"	17'-10"	33'-10"	13'-4"	3'-0"	1'-0"	6'-3"	3'-8"	8'-1"
84"	25'-6"	10'-8"	14'-10"	19'-1"	35'-1"	14'-3"	3'-2"	1'-0"	6'-8"	3'-10"	9'-0"
90"	27'-1"	11'-4"	15'-9"	20'-4"	36'-4"	15'-1"	3'-5"	1'-0"	7'-2"	4'-1"	9'-6"
96"	28'-9"	12'-0"	16'-9"	21'-7"	37'-7"	16'-0"	3'-7"	1'-1"	7'-7"	4'-3"	10'-0"
102"	30'-5"	12'-9"	17'-8"	22'-10"	38'-10"	16'-11"	3'-10"	1'-2"	8'-1"	4'-6"	10'-6"
108"	32'-0"	13'-4"	18'-8"	24'-0"	40'-0"	17'-10"	4'-0"	1'-4"	8'-6"	4'-8"	11'-0"

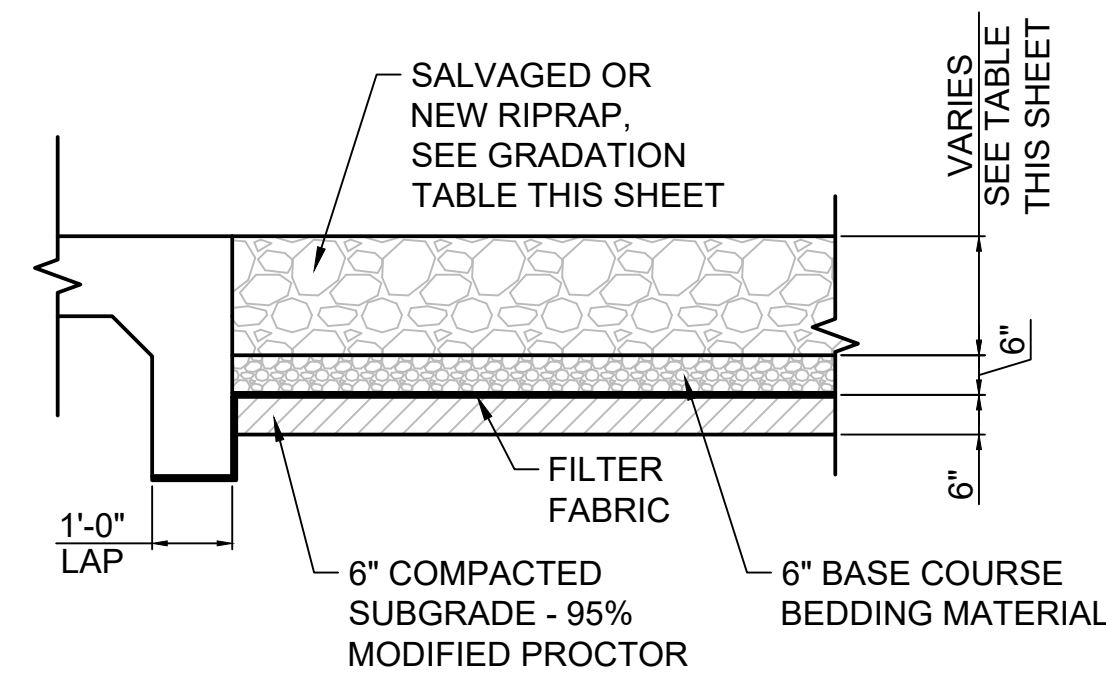


2 PROFILE VIEW
302/2

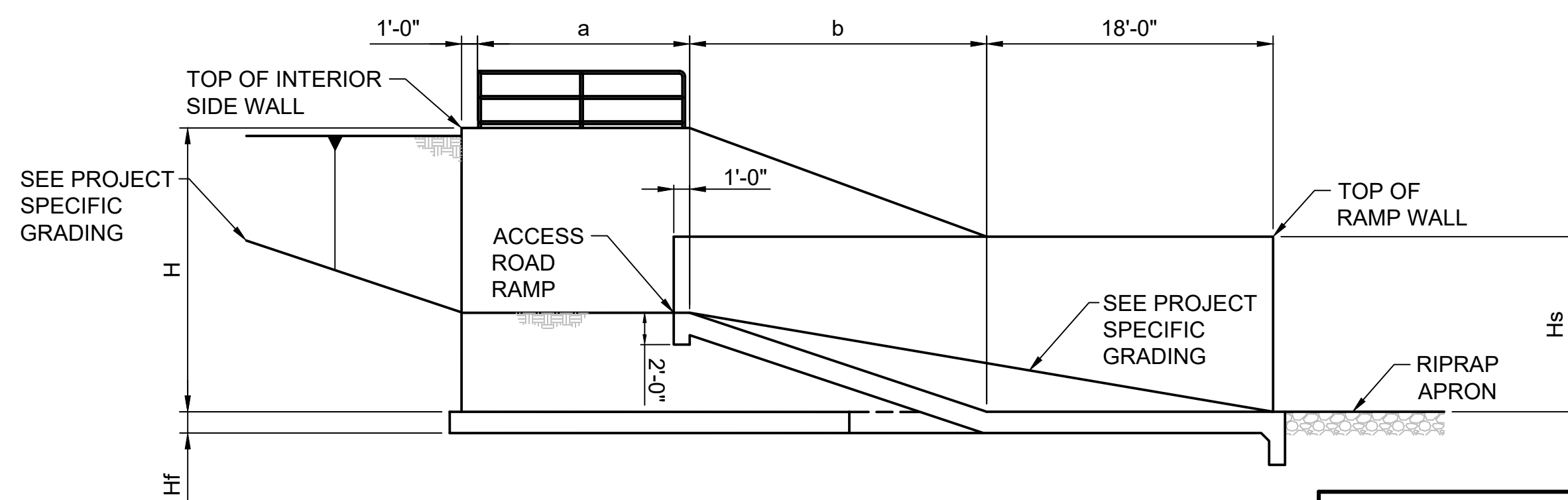
OUTFALL DIAMETER (IN)	MEDIAN STONE SIZE (IN)	MAX. DIMENSIONS (IN)	% PASSING	APRON THICKNESS (IN)
36 - 54	9	15	70-100	18
		12	50-70	
		9	35-50	
		3	2-10	
60 - 84	12	21	70-100	24
		18	50-70	
		12	35-50	
		4	2-10	
90 - 108	18	30	70-100	36
		24	50-70	
		18	35-50	
		6	2-10	



3 PROFILE VIEW
302/2

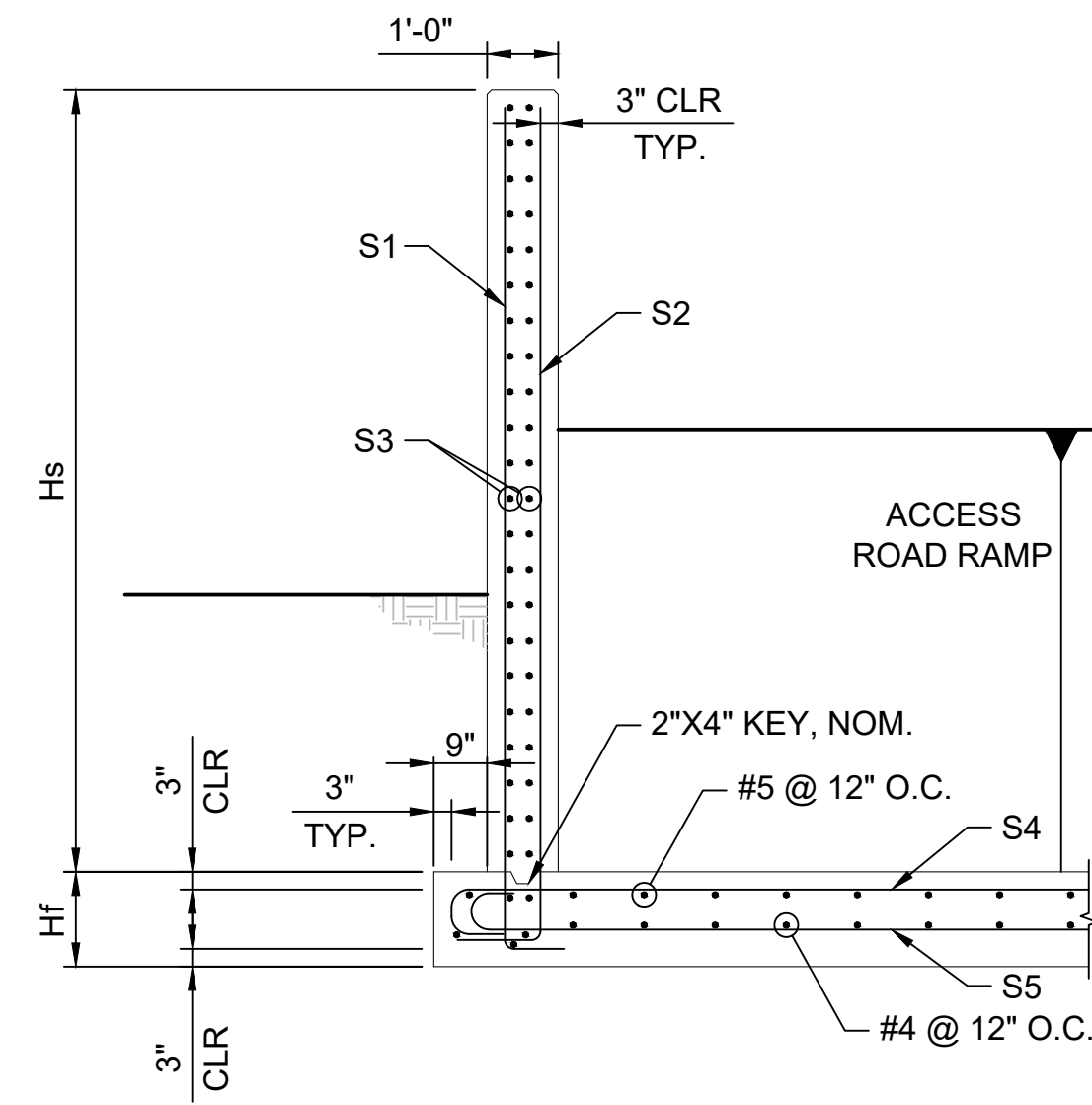


5 TYPICAL RIPRAP SECTION
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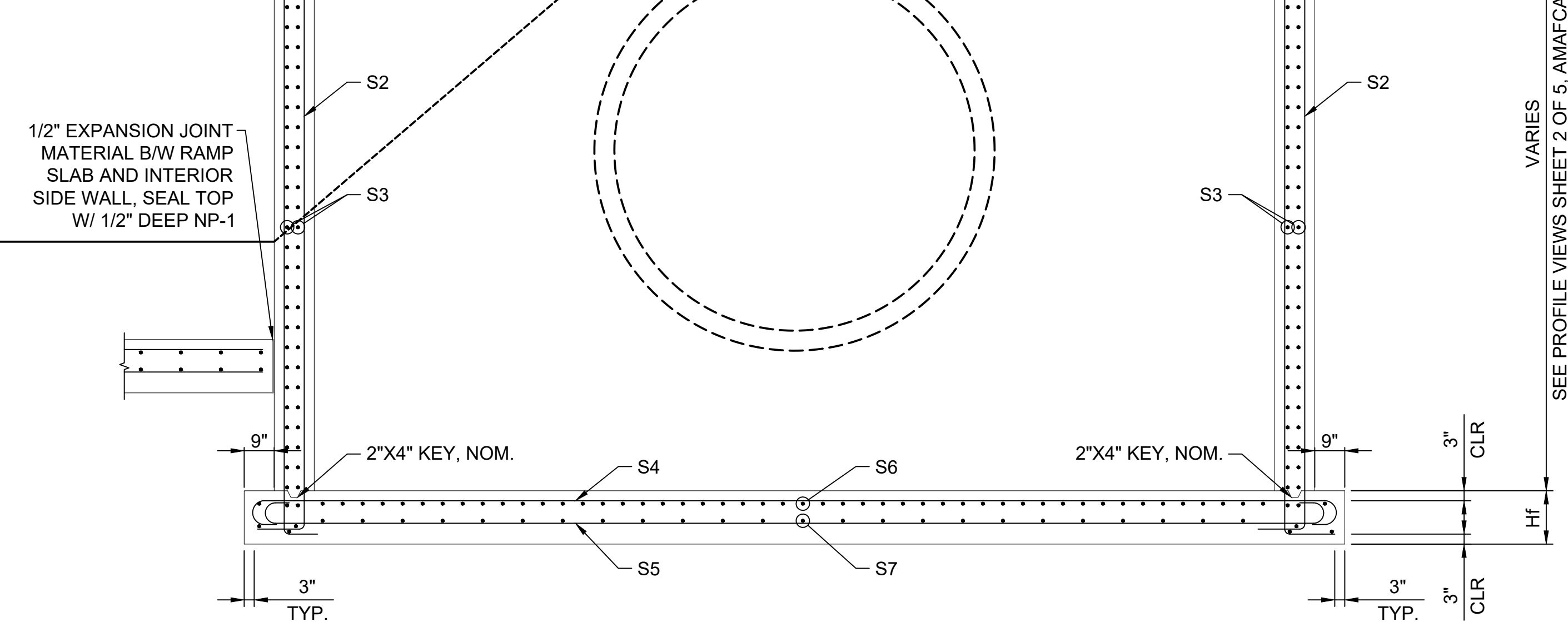


4 PROFILE VIEW
302/2

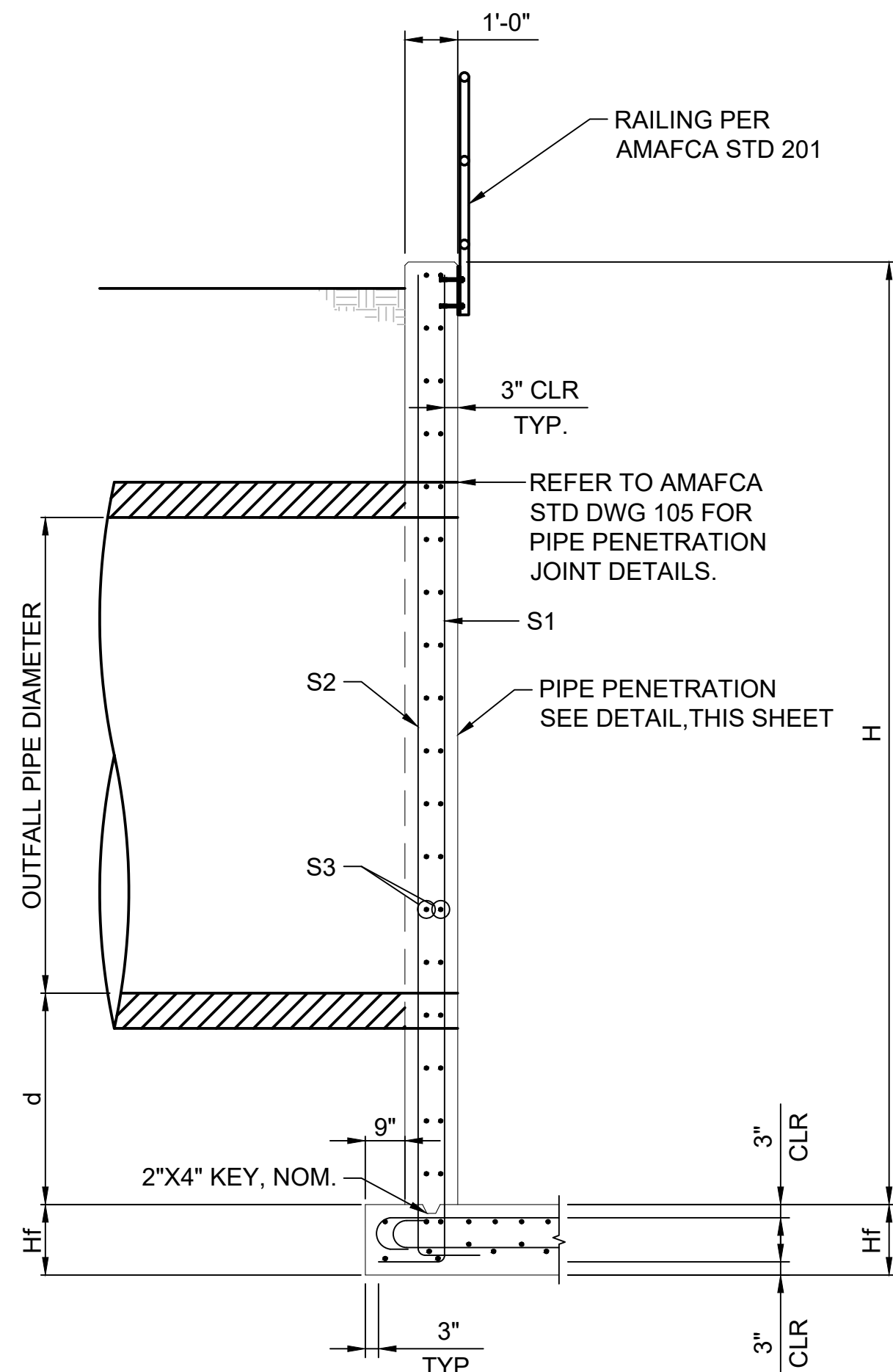
FOUNDATION, RAMP WALL, INTERIOR SIDE WALL, AND EXTERIOR SIDE WALL REINFORCING BAR LIST																
WALL DIMENSIONS			S1		S2		S3		S4		S5		S6		S7	
OUTFALL PIPE DIAMETER	H	Hs	BAR SIZE	SPACING	BAR SIZE	SPACING	BAR SIZE	SPACING	BAR SIZE	SPACING	BAR SIZE	SPACING	BAR SIZE	SPACING	BAR SIZE	SPACING
36"	7'-3"	3'-10"	#4	12"	#4	12"	#4	12"	#4	12"	#4	12"	#5	12"	#4	12"
42"	8'-0"	4'-5"	#4	12"	#4	12"	#4	12"	#5	12"	#4	12"	#5	12"	#4	12"
48"	9'-0"	5'-3"	#4	12"	#4	12"	#4	12"	#5	12"	#4	12"	#6	12"	#4	12"
54"	9'-9"	5'-9"	#4	12"	#4	12"	#4	12"	#6	12"	#4	12"	#6	12"	#4	12"
60"	10'-9"	6'-3"	#4	12"	#4	12"	#4	12"	#7	12"	#5	12"	#7	12"	#4	12"
66"	11'-7"	7'-0"	#4	12"	#5	12"	#4	12"	#7	12"	#5	12"	#7	12"	#4	12"
72"	12'-3"	7'-6"	#4	12"	#5	12"	#4	12"	#7	12"	#5	12"	#7	12"	#4	12"
78"	13'-4"	8'-1"	#4	12"	#6	12"	#5	12"	#6	6"	#6	12"	#6	6"	#5	12"
84"	14'-3"	9'-0"	#4	12"	#7	12"	#5	12"	#6	6"	#7	12"	#6	6"	#5	12"
90"	15'-1"	9'-6"	#5	12"	#7	12"	#6	12"	#7	6"	#7	12"	#7	6"	#6	12"
96"	16'-0"	10'-0"	#4	6"	#5	6"	#5	6"	#7	6"	#7	12"	#7	6"	#6	12"
102"	16'-11"	10'-6"	#4	6"	#6	6"	#5	6"	#7	6"	#7	12"	#7	6"	#7	12"
108"	17'-10"	11'-0"	#5	6"	#7	6"	#5	6"	#7	6"	#7	12"	#7	6"	#7	12"



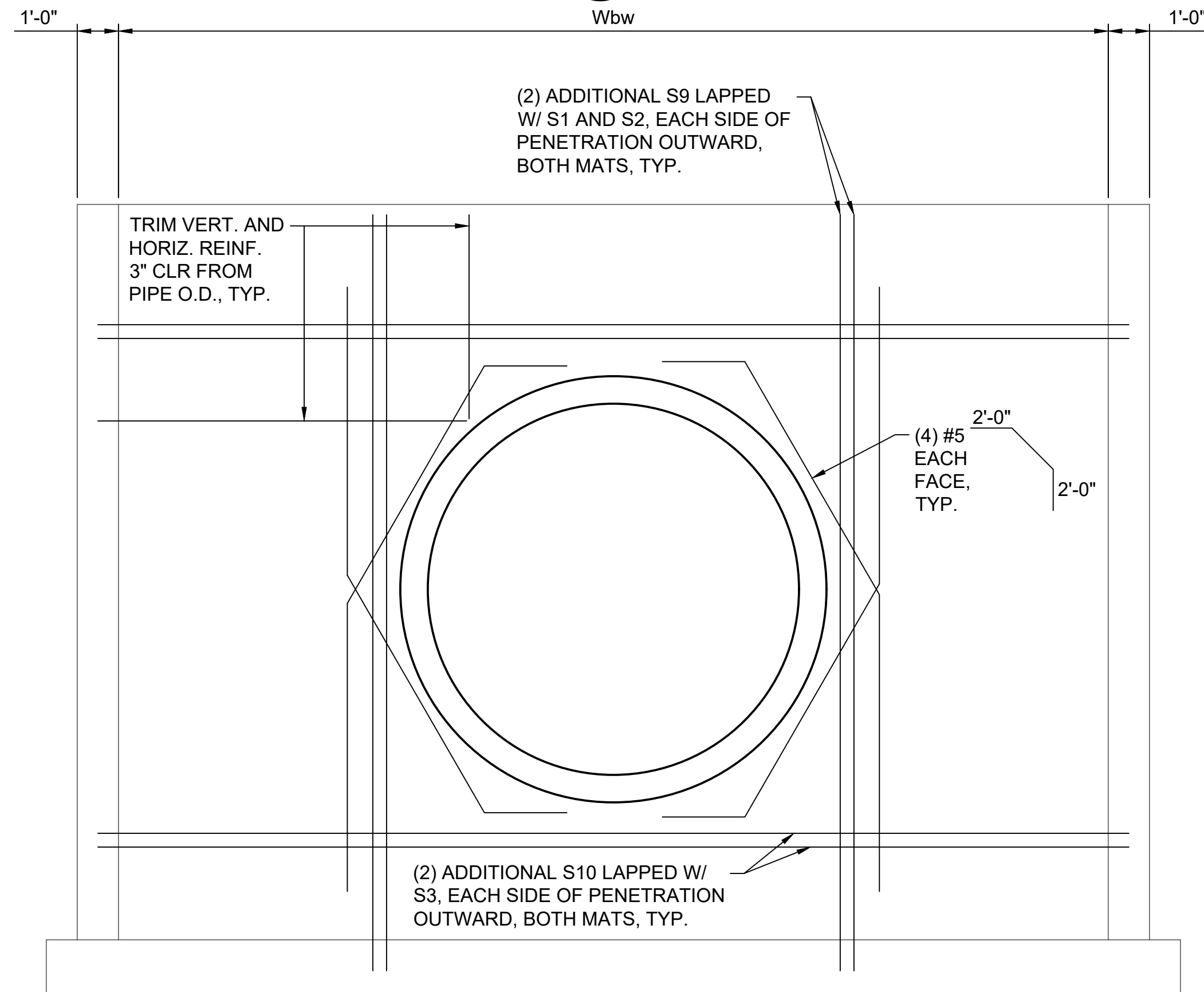
A RAMP WALL SECTION



B INTERIOR SIDE WALL & EXTERIOR SIDE WALL SECTION

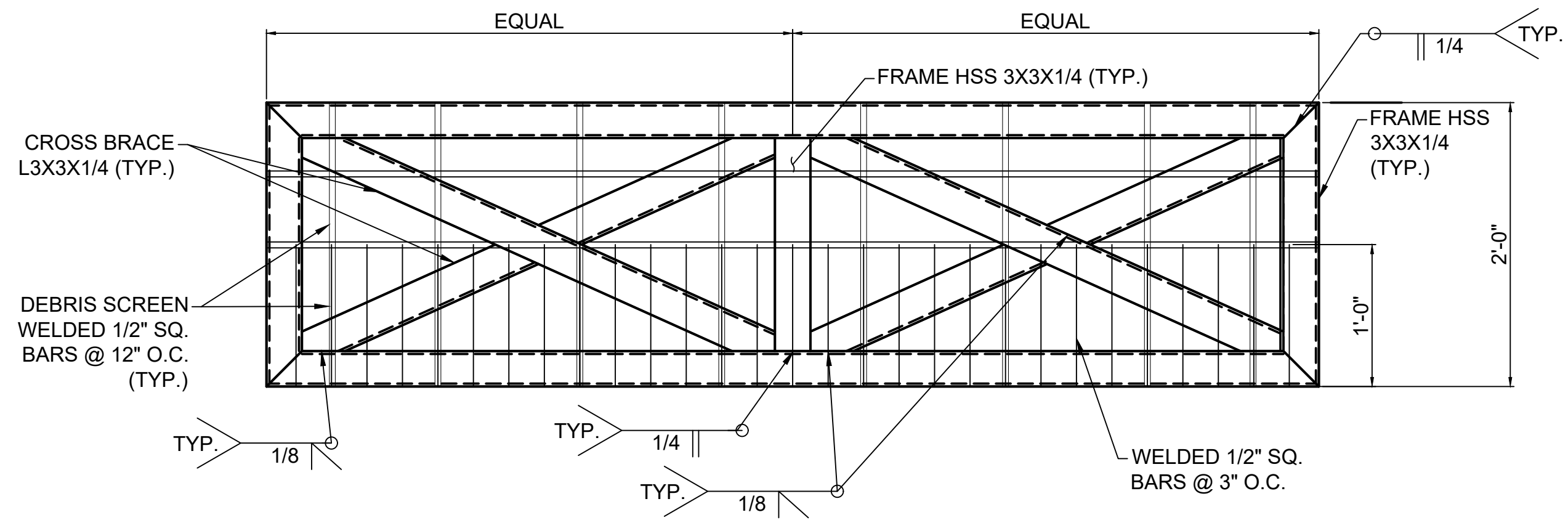


C HEADWALL SECTION

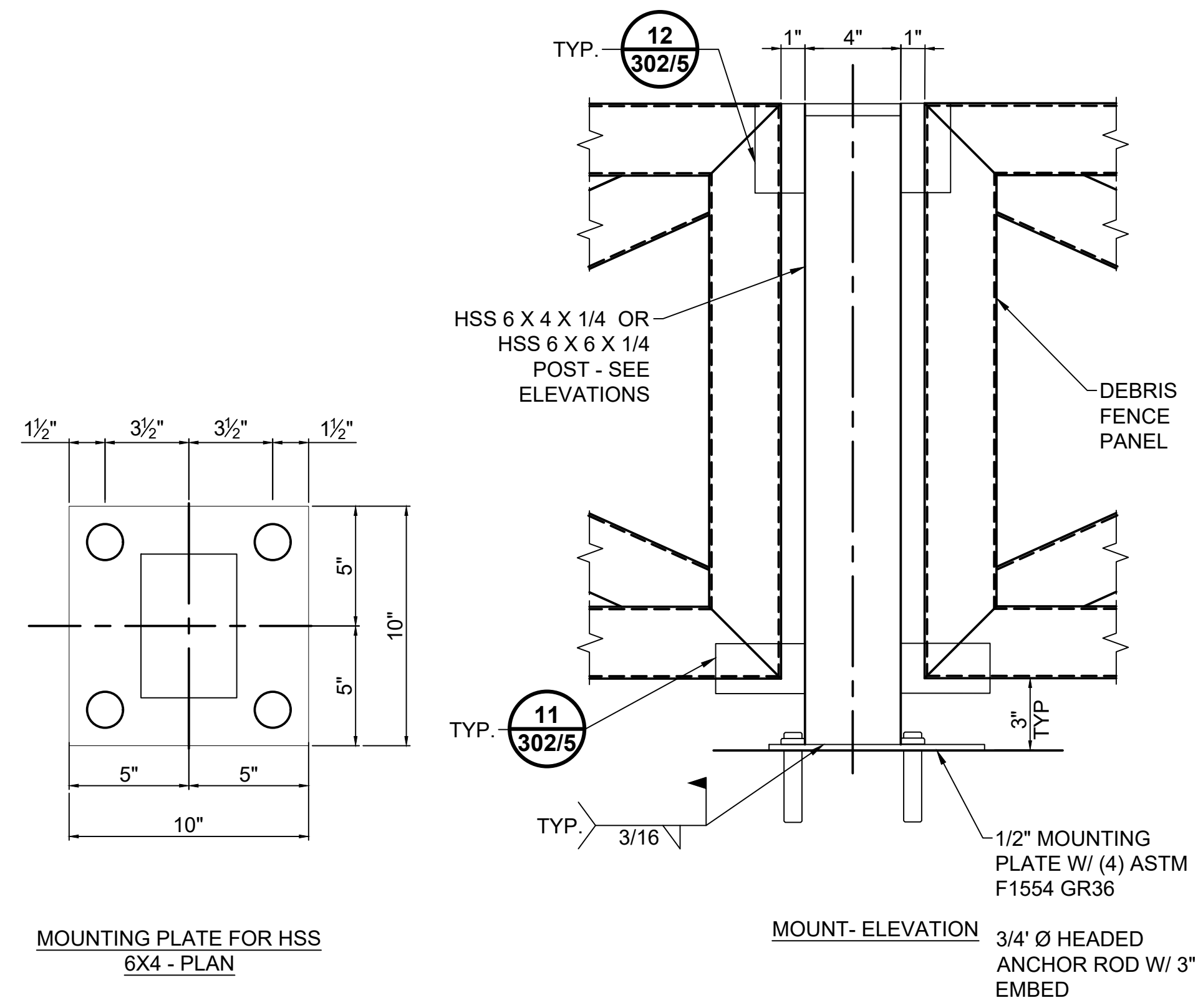


6 PIPE PENETRATION DETAIL - ADDITIONAL REINFORCING

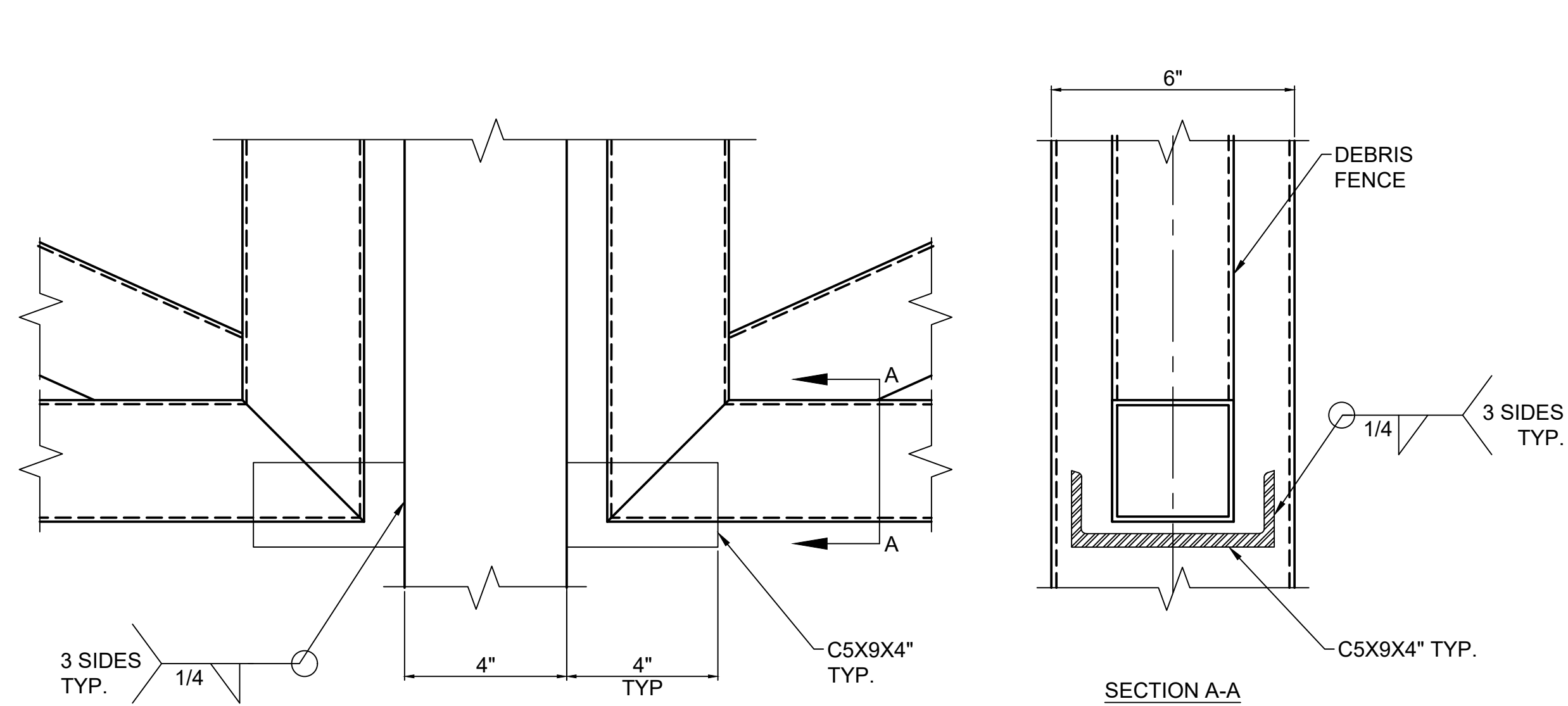
WALL DIMENSIONS			S1		S2		S3		S9		S10			
OUTFALL PIPE DIAMETER	Wbw	H	BAR SIZE	SPACING	BAR SIZE	SPACING	BAR SIZE	SPACING	QUANTITY	BAR SIZE	SPACING	QUANTITY	BAR SIZE	SPACING
36"	9'-3"	7'-3"	#4	12"	#4	12"	#4	12"	2	#4	12"	2	#4	12"
42"	10'-6"	8'-0"	#4	12"	#4	12"	#4	12"	2	#4	12"	2	#4	12"
48"	11'-9"	9'-0"	#4	12"	#4	12"	#4	12"	2	#4	12"	2	#4	12"
54"	13'-0"	9'-9"	#4	12"	#4	12"	#4	12"	2	#4	12"	2	#4	12"
60"	14'-3"	10'-9"	#4	12"	#4	12"	#4	12"	2	#4	12"	2	#4	12"
66"	15'-5"	11'-7"	#4	12"	#4	12"	#4	12"	2	#5	12"	2	#4	12"
72"	16'-6"	12'-3"	#4	12"	#4	12"	#4	12"	2	#5	12"	2	#4	12"
78"	17'-10"	13'-4"	#4	12"	#4	12"	#4	12"	2	#6	12"	2	#5	12"
84"	19'-1"	14'-3"	#4	12"	#5	12"	#5	12"	2	#7	12"	2	#5	12"
90"	20'-4"	15'-1"	#4	12"	#6	12"	#5	12"	3	#7	12"	3	#6	12"
96"	21'-7"	16'-0"	#5	12"	#6	12"	#6	12"	3	#7	6"	3	#7	6"
102"	22'-10"	16'-11"	#5	12"	#7	12"	#7	12"	4	#7	6"	3	#7	6"
108"	24'-0"	17'-10"	#5	12"	#7	12"	#7	12"	5	#7	6"	3	#7	6"



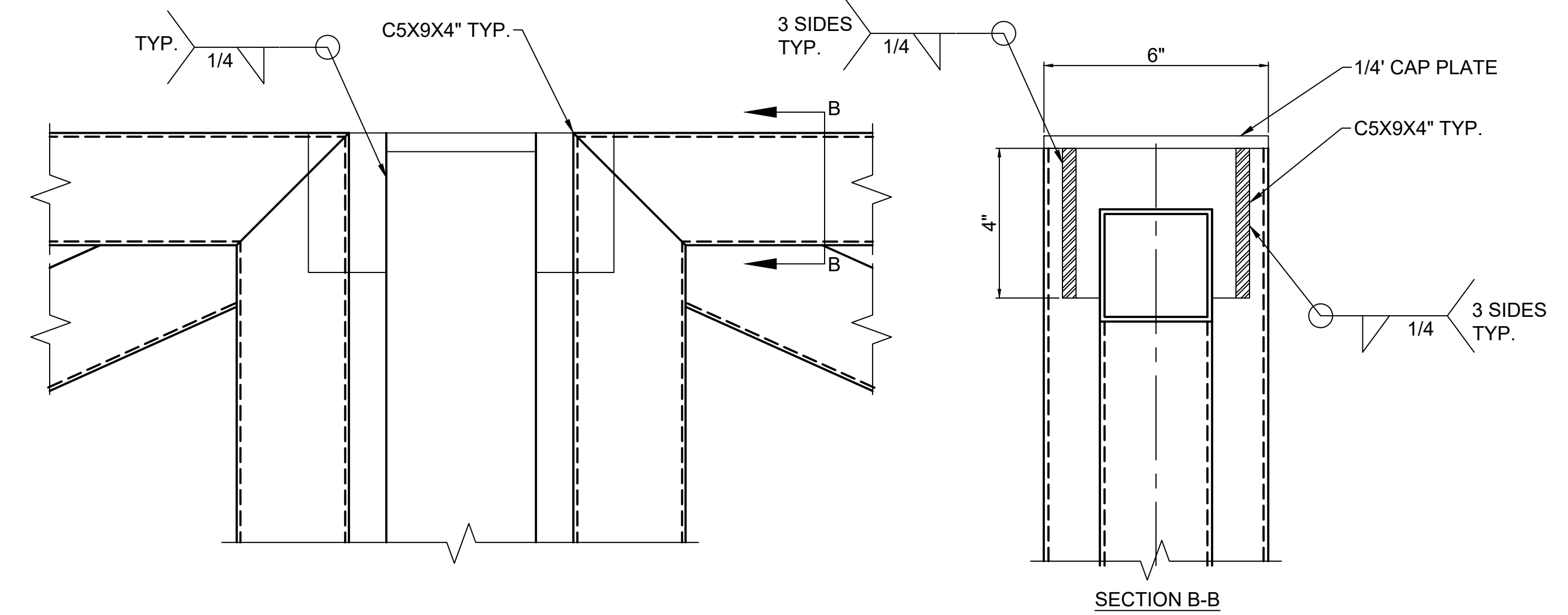
9 DEBRIS FENCE DETAIL
302/4



10 MOUNTING DETAIL - POST AND BASE
302/4



11 MOUNTING DETAIL - PANEL SEAT
302/5



12 MOUNTING DETAIL - PANEL BLOCK
302/5