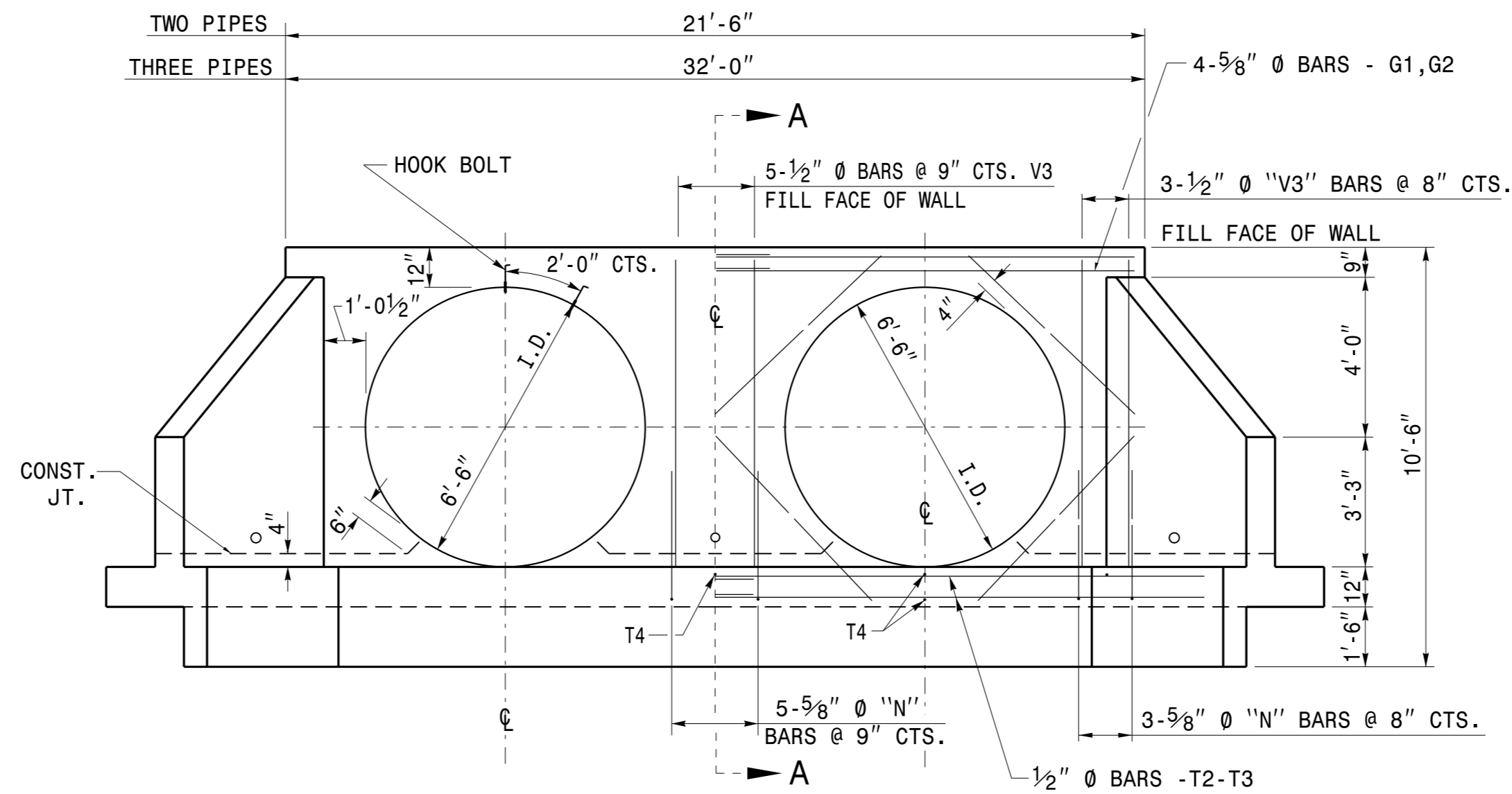
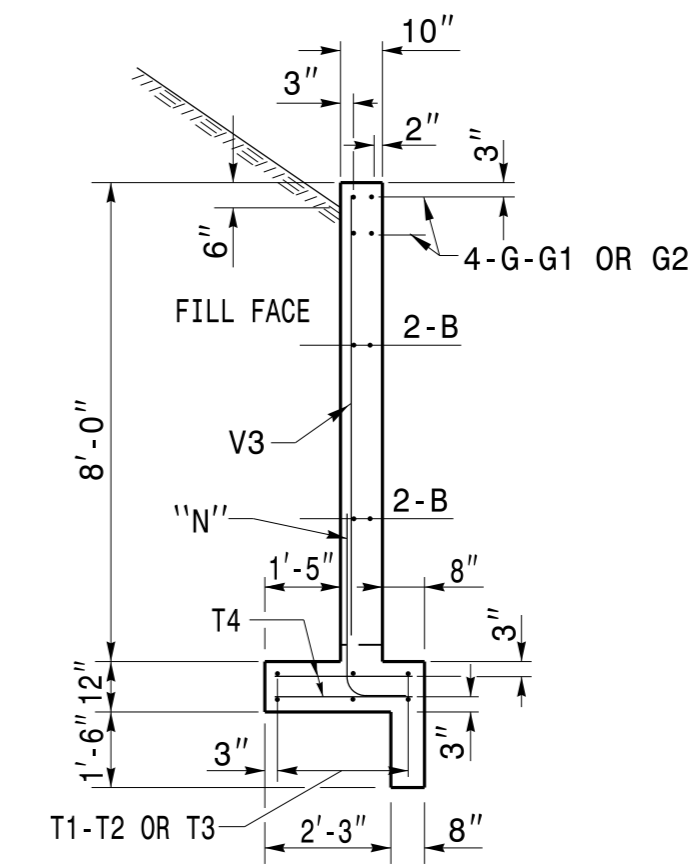


END ELEVATION



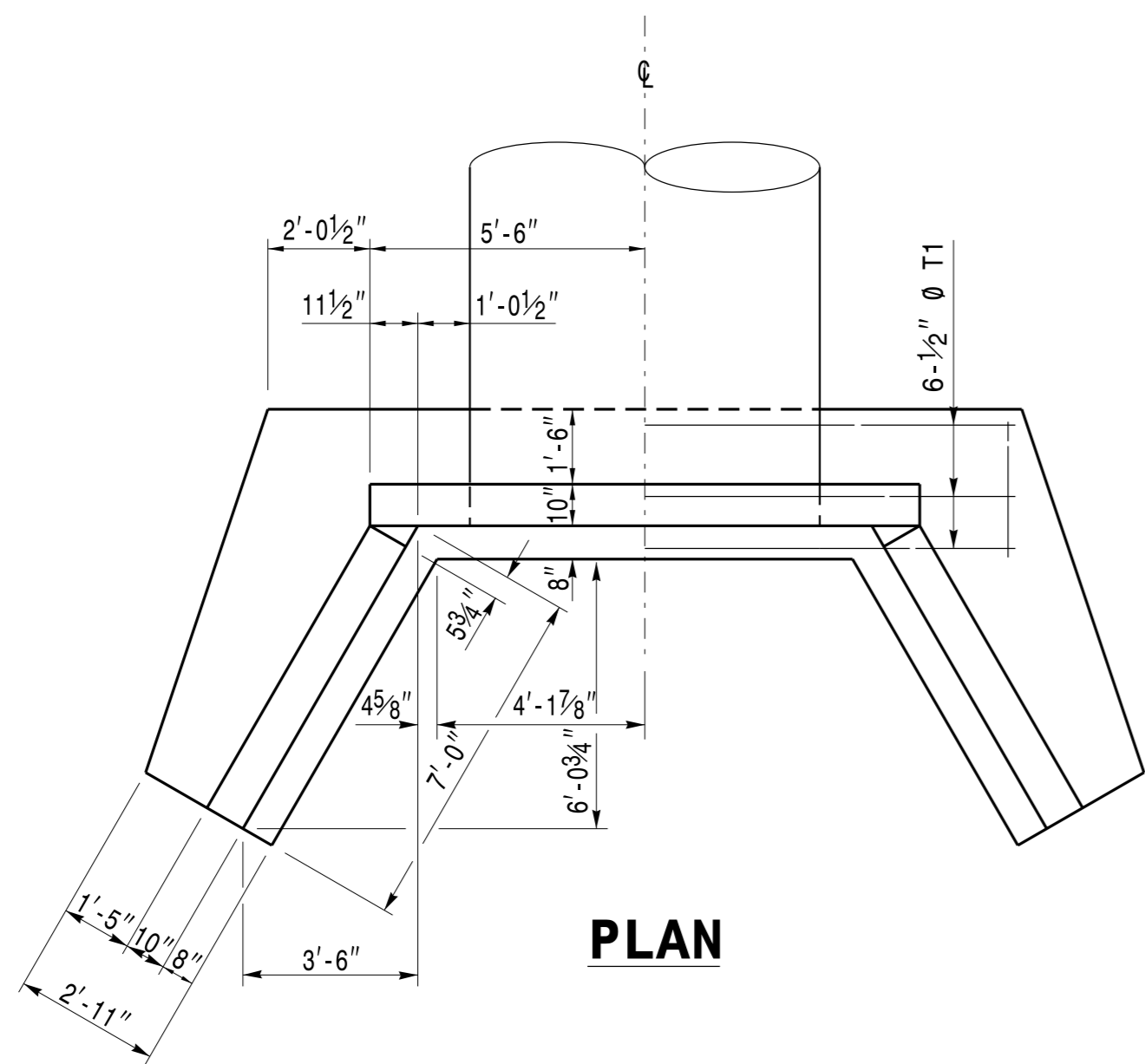
END ELEVATION



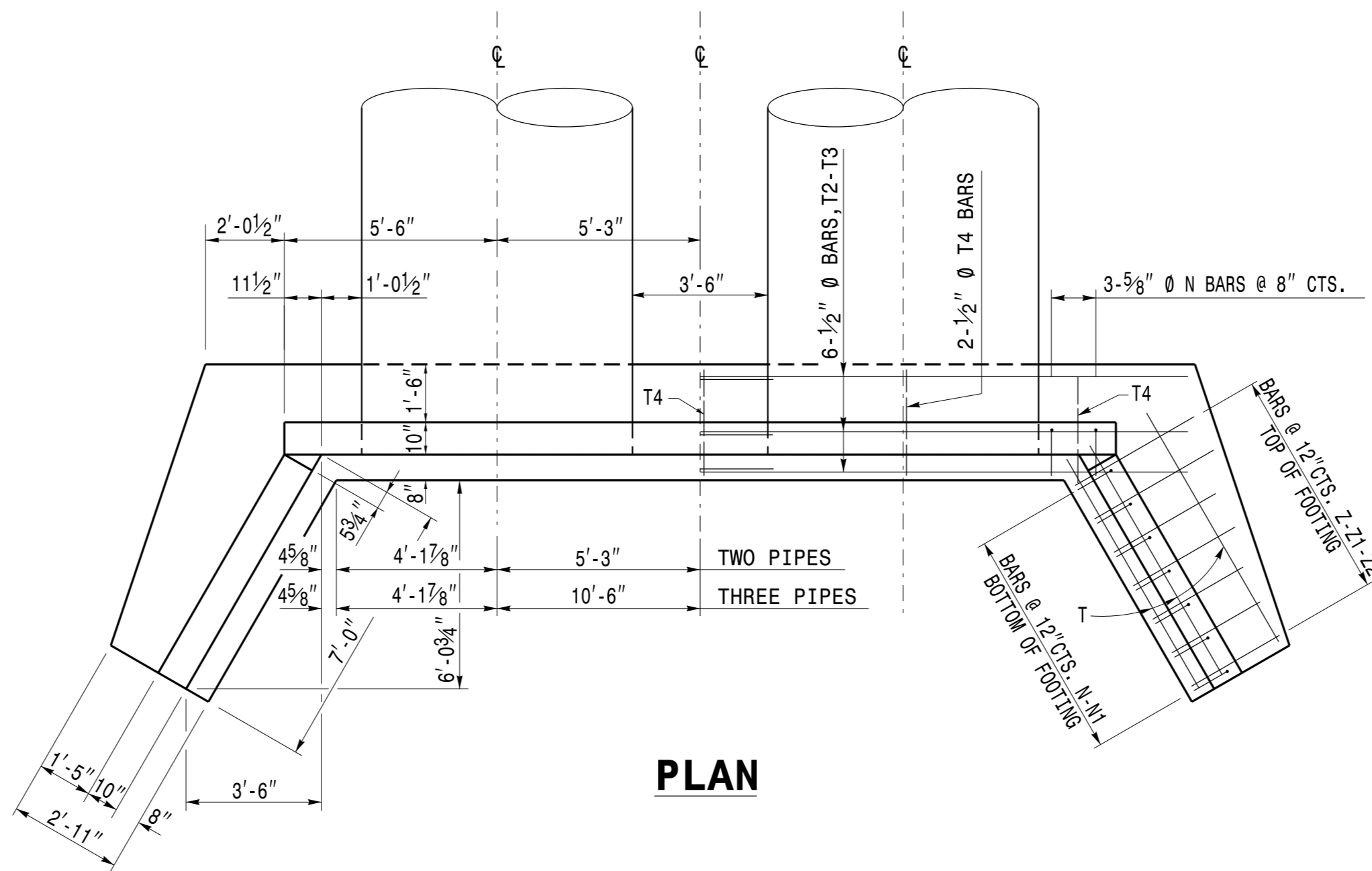
SECTION A-A FOR ALL ENDWALLS

NOTES:

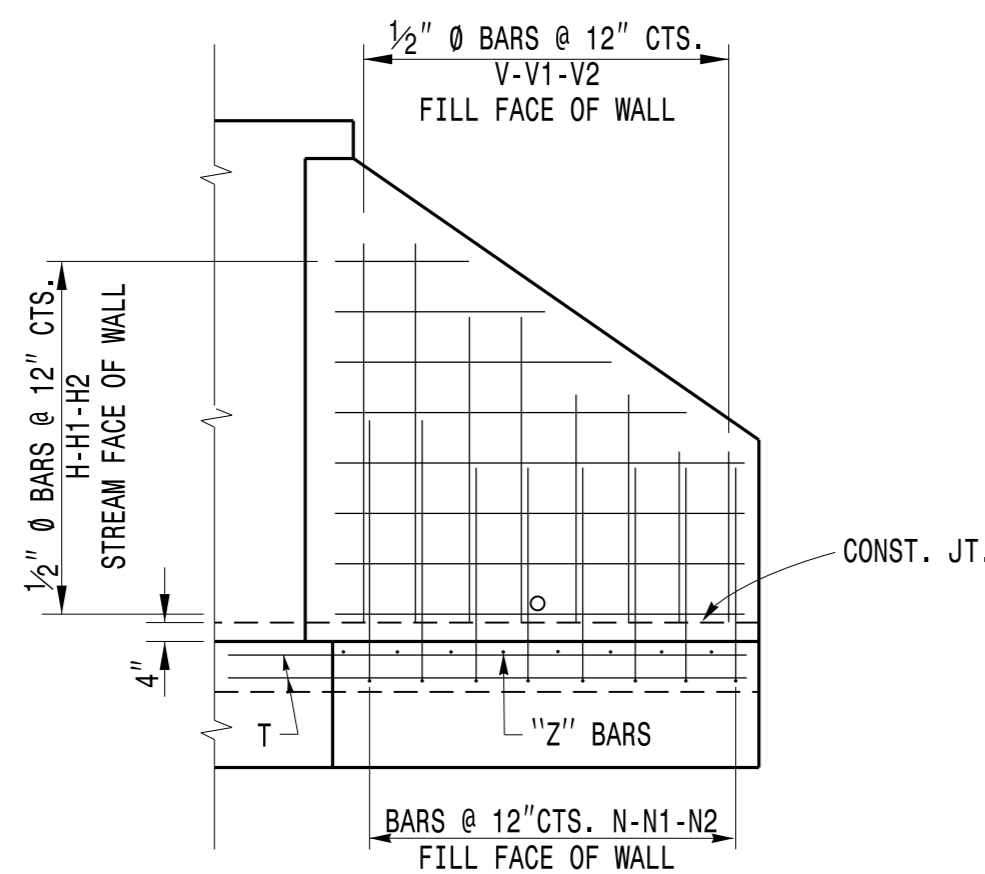
- USE CLASS 'A' CONCRETE.
- USE ASTM A615-GRADE 60 REINFORCING STEEL.
- USE DEFORMED BARS FOR ALL REINFORCING STEEL. WHERE SPLICING OF REINFORCEMENT IS NECESSARY, BARS ARE TO BE LAPPED 45 DIAMETERS. ALL DIMENSIONS RELATIVE TO REINFORCEMENT ARE TO CENTERS OF BARS.
- THE FOOTING, CURTAIN WALL AND 4" OF WALL ARE TO BE POURED IN ONE OPERATION ALLOWING NO TIME FOR INITIAL SET TO TAKE PLACE BETWEEN THEM. POUR THE REMAINING WALL IN ONE OPERATION.
- CHAMFER ALL EXPOSED CORNERS 1".
- PLACE 3" DIAMETER DRAINS IN WALL AS SHOWN 6" ABOVE NORMAL FLOW LINE.



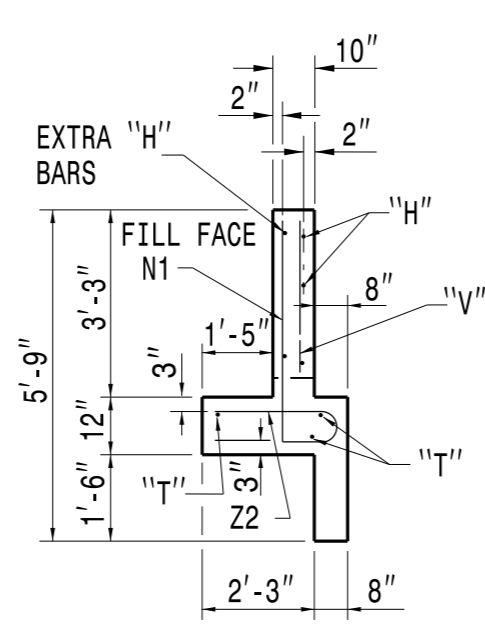
PLAN



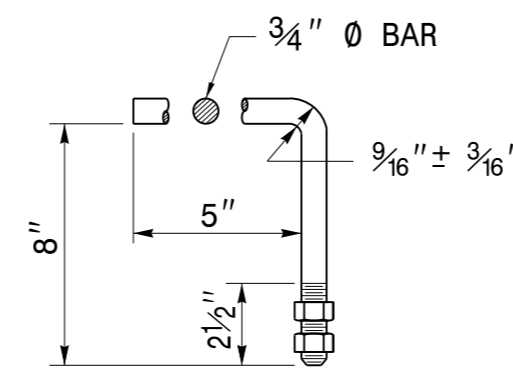
PLAN



ELEVATION OF WING SHOWING REINFORCEMENT

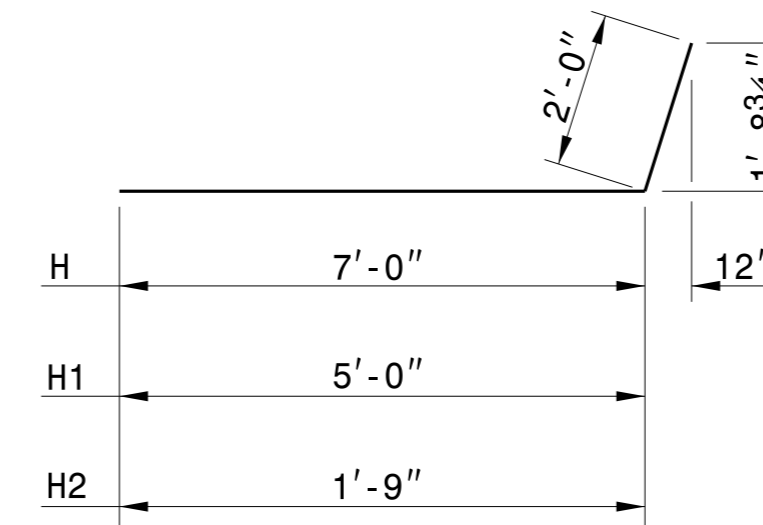


END OF WING

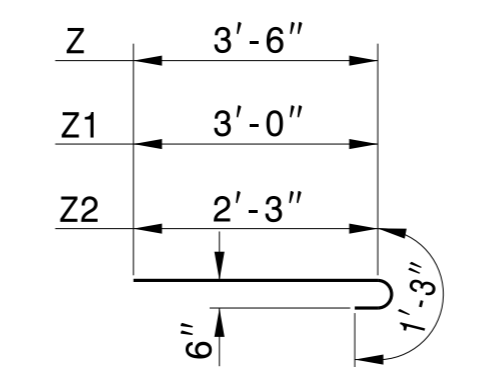


HOOK BOLT

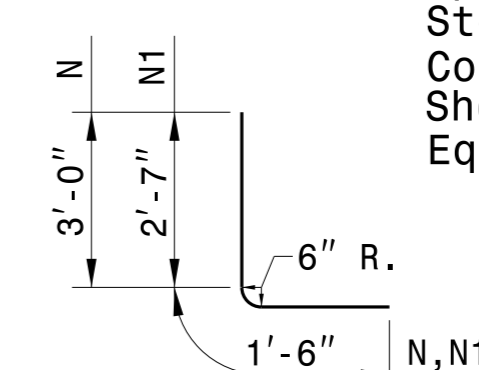
HOOK BOLTS (CONSTRUCT ANCHORS AT 2'-0" CTS. ALONG THE CIRCUMFERENCE OF THE 6'-6" CSP. EMBED THE HOOK BOLTS IN THE CONCRETE ENDWALL 8" IN DEPTH. THE GALVANIZED 3/4" DIA. HOOK BOLTS MUST MEET ASTM A-307 OR ASTM A-836. BOTH BOLTS AND NUTS MUST BE IN ACCORDANCE WITH ASTM A-153 FOR GALVANIZING.



BARS H-H1-H2



BARS Z-Z1-Z2



BARS N-N1

BILL OF MATERIAL FOR ONE ENDWALL

REINFORCING STEEL	1 PIPE	2 PIPES	3 PIPES
BAR #4	NO.	NO.	NO.
B	8	16	24
G	45	-	-
G1	-	8	98
G2	-	-	8
H	10	10	10
H1	6	6	6
H2	4	4	4
N	10	15	20
N1	10	10	10
T	6	6	6
T1	6	-	-
T2	-	12	110
T3	-	-	12
T4	4	7	13
V	6	6	6
V1	6	6	6
V2	8	8	8
V3	6	11	16
Z	4	4	4
Z1	4	4	4
Z2	4	4	4
TOTAL REINF. STEEL (lbs.)	473	662	834
CLASS "A" CONC. (cu. yds.)	7.9	10.8	13.8

DESIGN DATA

Specifications A.A.S.H.T.O.
 Steel in tension 20,000 LBS. PER SQ. IN.
 Concrete in compression 1,200 LBS. PER SQ. IN.
 Shear Class "A" Concrete SEE A.A.S.H.T.O.
 Equiv. fluid pressure of earth 30 LBS. PER CU. FT.



3/23/2015

DocuSigned by: Joel Houten

CONTRACT STANDARDS & DEVELOPMENT UNIT
 STANDARDS AND SPECIAL DESIGN
 Office 919-707-6950 FAX 919-250-4119

DETAIL OF REINFORCED CONCRETE ENDWALL FOR 78" DIAMETER PIPE - 90° SKEW

ORIGINAL BY: R.S.WICKER DATE: 6-46
 MODIFIED BY: R.E.D.&T.S.S. DATE: 6-96 & 5-00
 CHECKED BY: DATE:
 FILE SPEC.: w:details/stand/endwppip84sk90.dgn

\$\$\$\$\$C:\TIME\$\$\$\$\$
 \$\$\$CON\$\$\$\$\$
 \$\$\$USER\$\$\$\$\$