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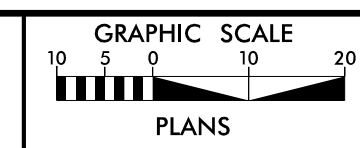
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8/17/99



PROJECT REFERENCE NO. U-5710A	SHEET NO. W-1
RW SHEET NO.	

GEOTECHNICAL ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

HDR HDR Engineering, Inc. of the Carolinas
555 Fayetteville St. Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

NOTES:

FOR SHEET PILE RETAINING WALLS, SEE SECTION 452 OF THE STANDARD SPECIFICATIONS.

STEEL SHEET PILES SHALL BE PZ-35 SECTIONS OR EQUIVALENT AND SHALL CONFORM TO ASTM A690. SEE SECTION 1084 OF THE STANDARD SPECIFICATIONS.

INSTALL SHEET PILES TO A TIP ELEVATION NO HIGHER THAN -19.0 FT.

CONSTRUCT COPING IN ACCORDANCE WITH SECTION 825 OF THE STANDARD SPECIFICATIONS. THE CLASS A CONCRETE REQUIRED FOR COPING SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT UNIT PRICE BID PER SQUARE FOOT FOR SHEET PILE RETAINING WALLS.

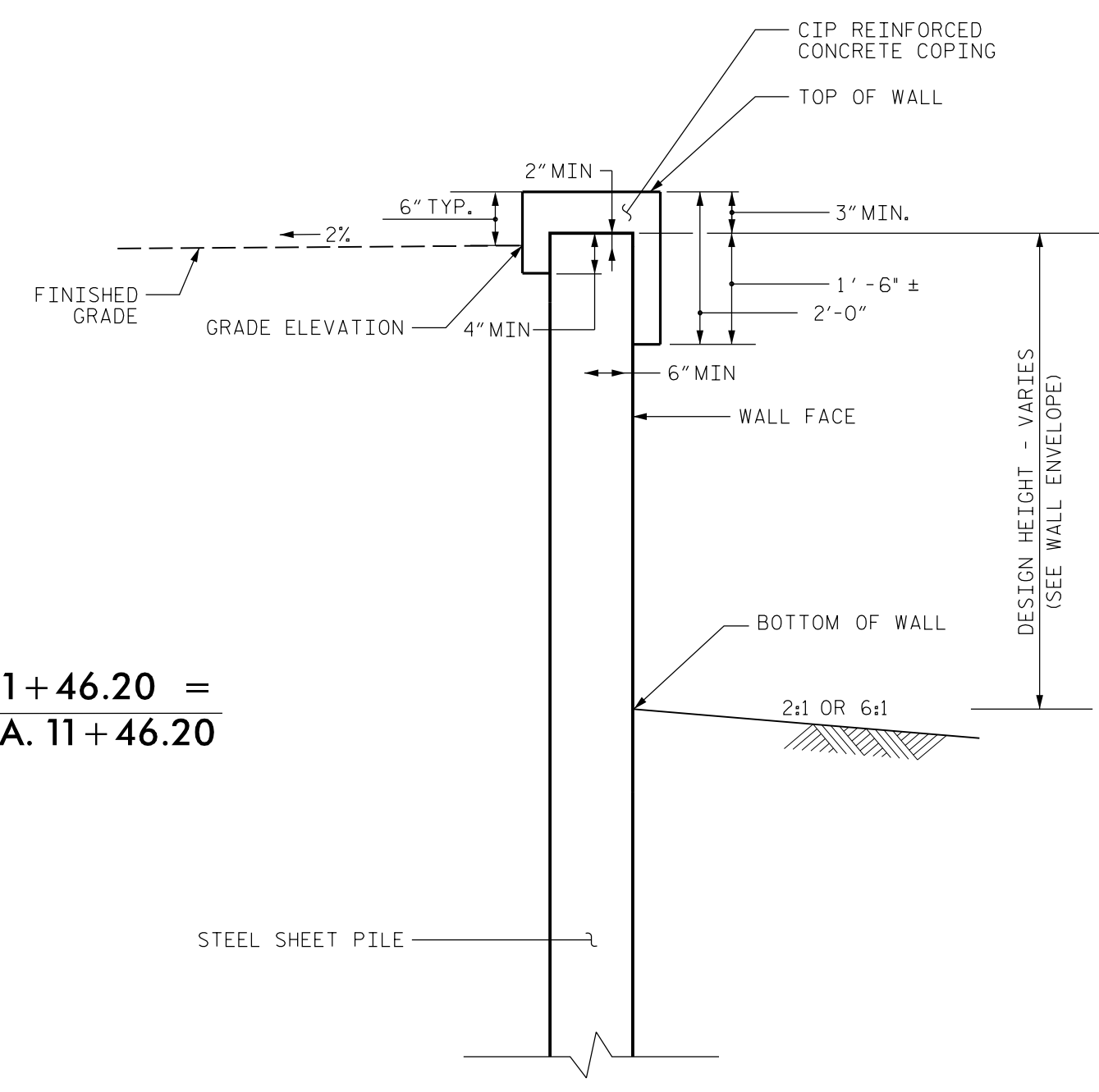
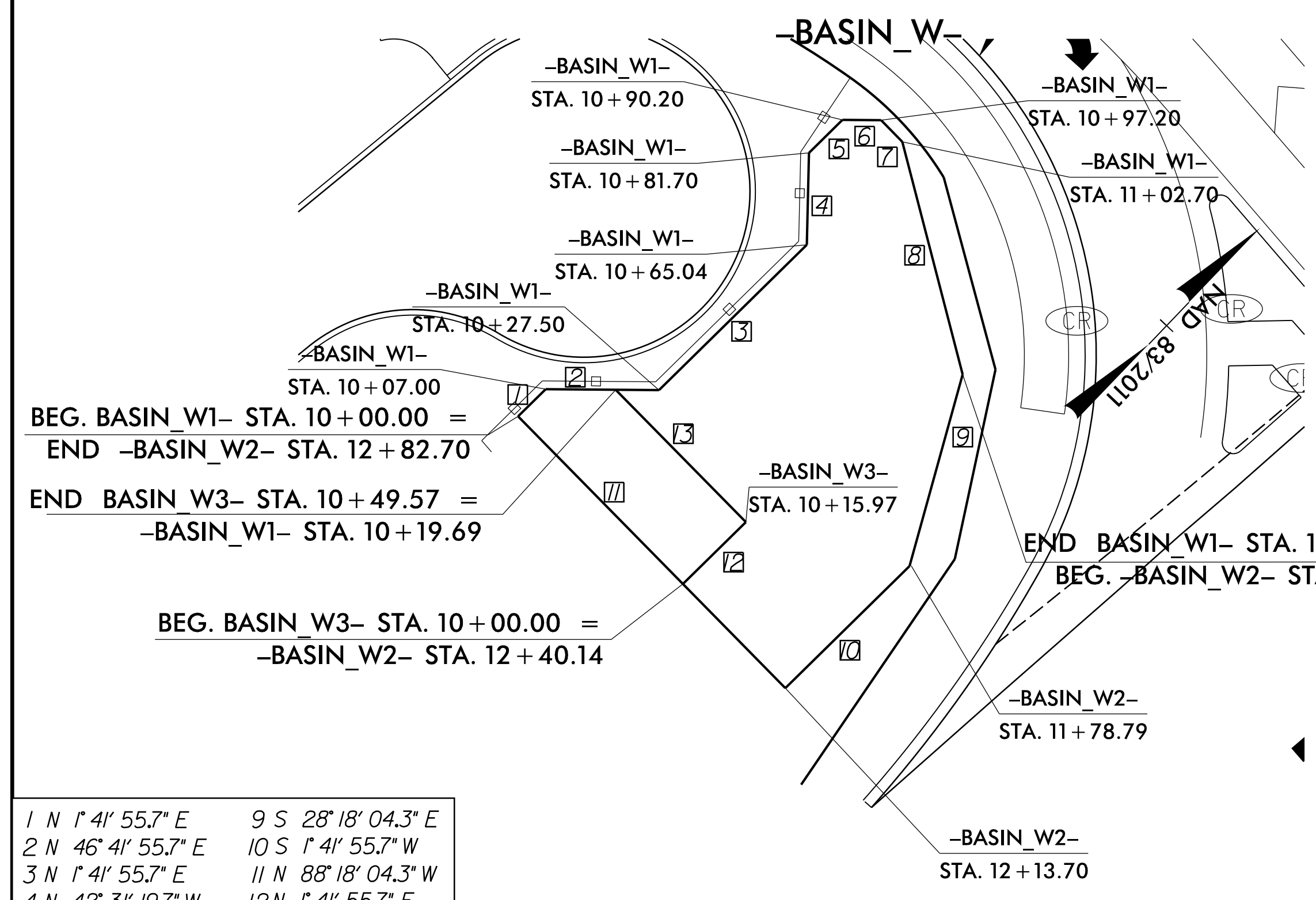
CUTTING OF HOLES ARE REQUIRED FOR INSTALLING 15" & 24" DIAMETER RCP PIPES THROUGH THE RETAINING WALLS AFTER INSTALLATION OF SHEET PILES. TO FINAL TIP ELEVATION. FOR THE LOCATION OF THE PIPES, SEE THE WALL ENVELOPES AND ROADWAY PLAN. MINIMUM 7" LONG C12X25 SHALL BE FULL PENETRATION WELDED AS A WALER LOCATED ABOVE THE PIPES AS SHOWN ON PLAN PRIOR TO CUTTING OF HOLES IN THE SHEET PILES. USE TYPICAL PIPE PENETRATION DETAIL TO CARRY RCP PIPES THROUGH STEEL PIPE SLEEVED THROUGH SHEET PILE WALL.

USE STANDARD PZ TYPE CORNER PILE INTERLOCKS FOR ANGLES THAT REQUIRE GREATER THAN 10 DEGREES OF ROTATION BETWEEN INDIVIDUAL SHEET PILES. SUBMIT SHOP DRAWINGS FOR ENTIRE WALL ASSEMBLY, INCLUDING CORNER PILE INTERLOCKS FOR ENGINEER REVIEW AND APPROVAL.

REFER TO SPECIAL PROVISION FOR INSTRUMENTATION AND MONITORING OF ADJACENT STRUCTURES FOR ALL SHEET PILE INSTALLATION.

SHEET PILES SHALL BE PRESSED INTO THE GROUND AND SHALL NOT BE DRIVEN USING A VIBRATORY HAMMER NOR IMPACT HAMMER FOR ALL SHEET PILES THAT ARE WITHIN 30 FT OF AN ADJACENT STRUCTURE OR UNDERGROUND UTILITY.

WALL ENVELOPE

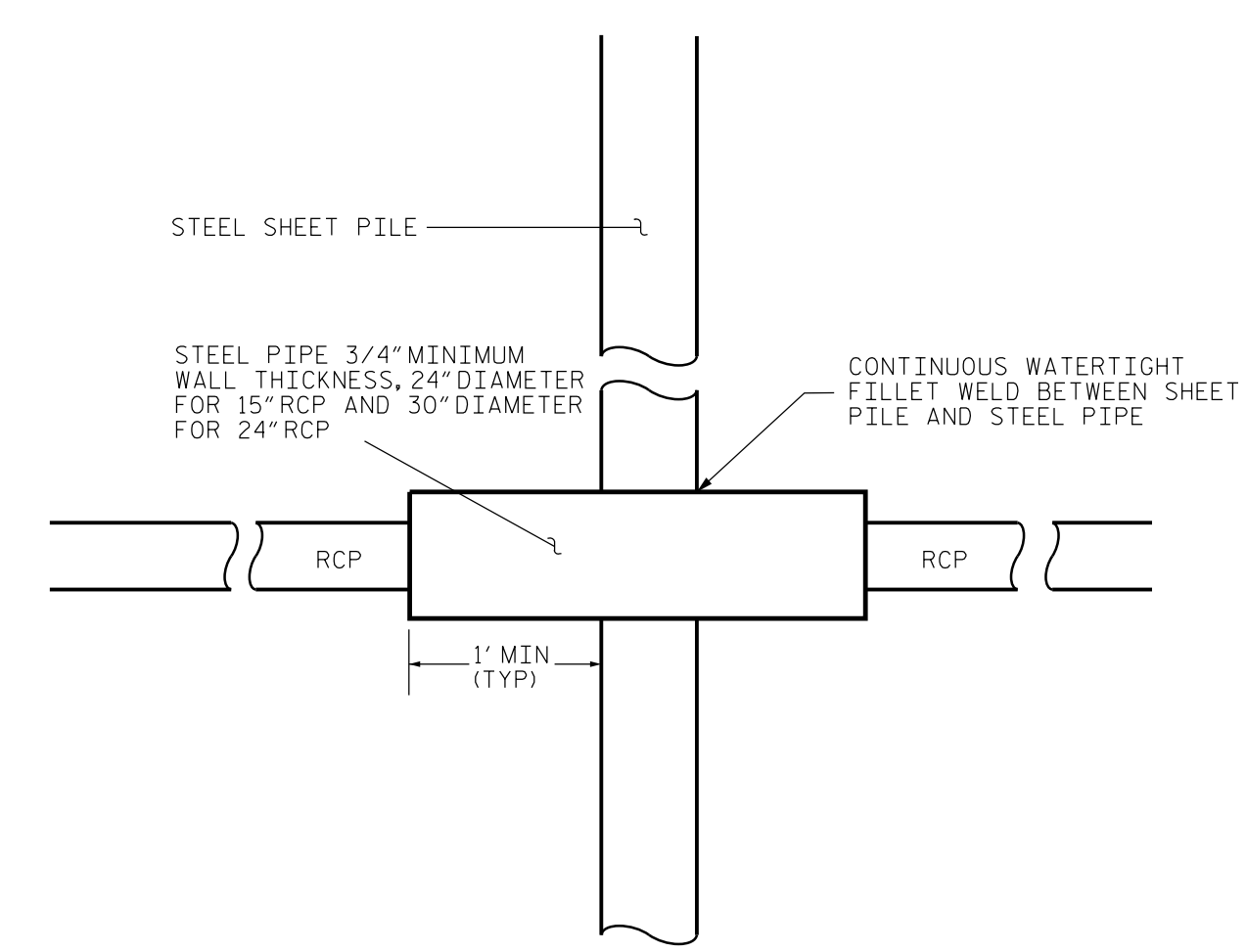


SHEET PILE WALL - TYPICAL SECTION
NOT TO SCALE

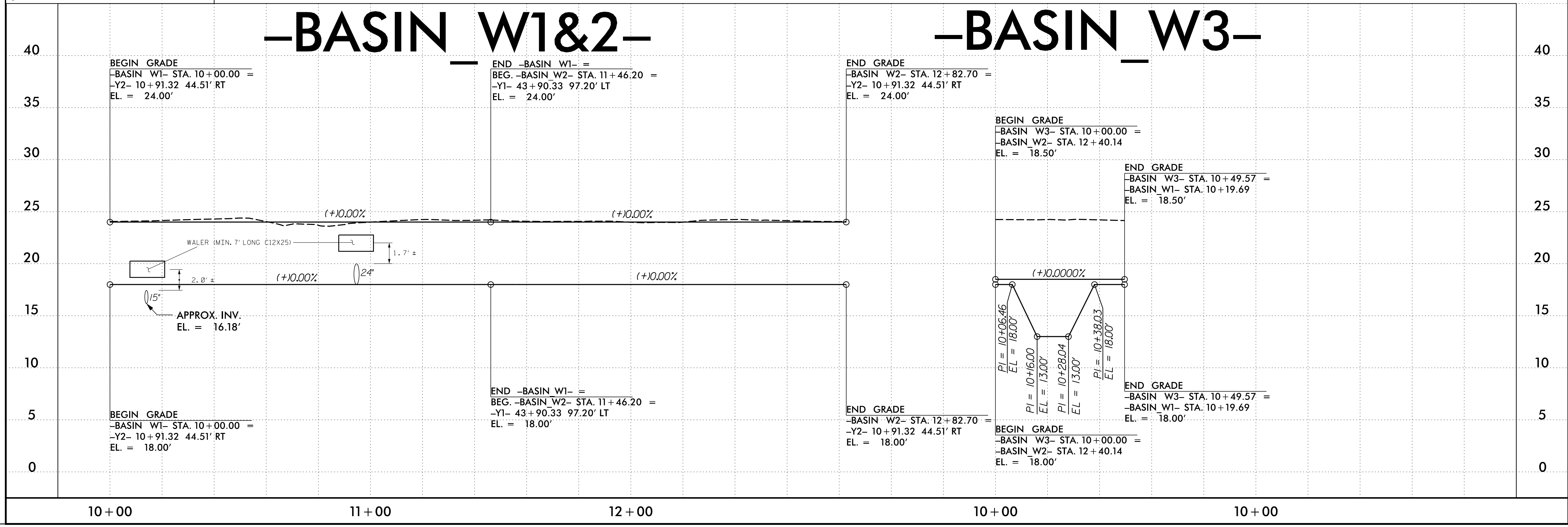
ESTIMATED SHEET PILE WALL QUANTITIES

RETAINING WALL NO.	SHEET PILE RETAINING WALLS (SQUARE FEET)
W1	877
W2	819
W3	298
TOTAL QUANTITY = 1,994 SF	

* WALL QUANTITIES ARE CALCULATED BASED ON EXPOSED WALL SURFACE



TYPICAL PIPE PENETRATION DETAIL
NOT TO SCALE



PLOT DRIVER: \$PLTDVRS\$
 USER: \$USER\$
 FILE: \$PWVAVAU\TPATH\DESIG\$
 DATE: \$DATE\$
 TIME: \$TIME\$
 PENTABLE: \$PENTBL\$
 REVISIONS