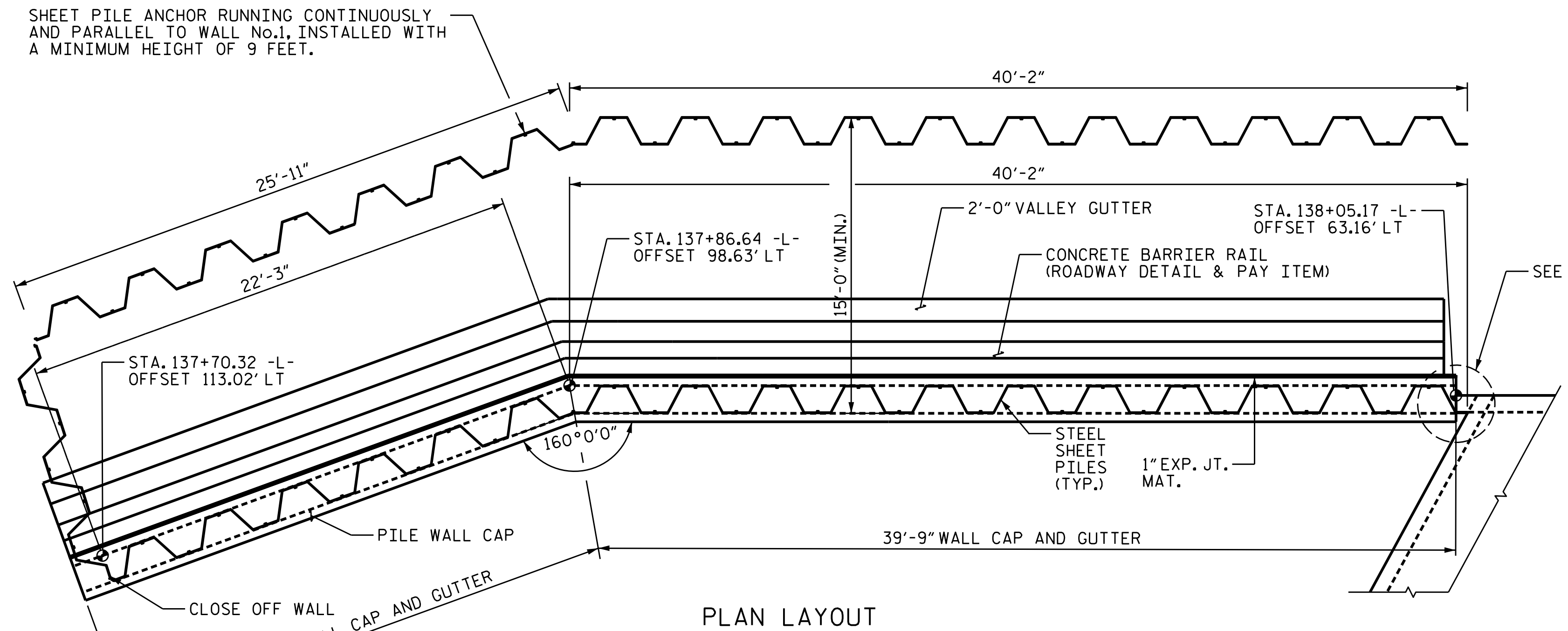


ELEVATION

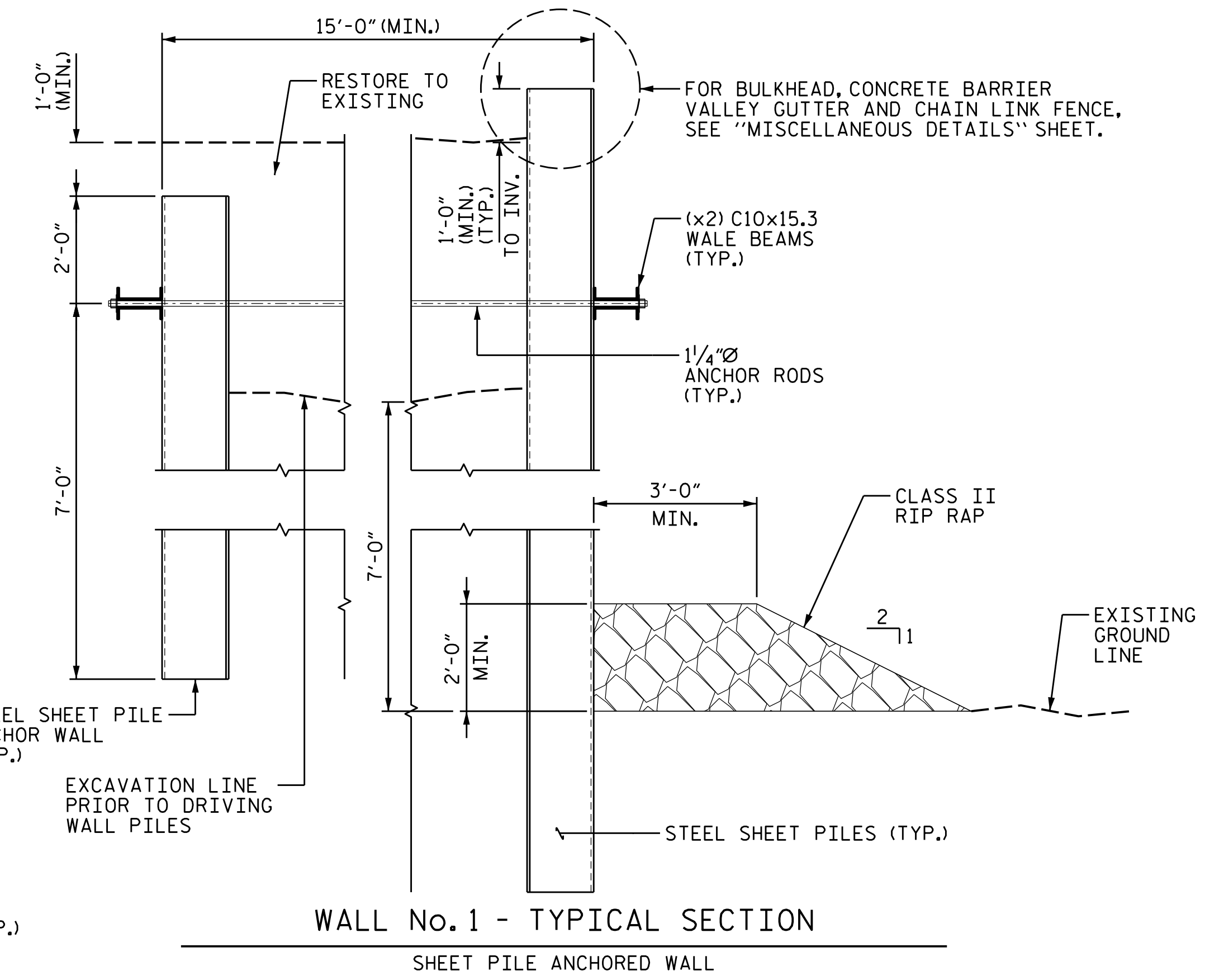
BULKHEAD, CONCRETE BARRIER AND SHEET PILE ANCHOR WALL NOT SHOWN FOR CLARITY



PLAN LAYOUT

FOR BULKHEAD DETAILS, SEE SHEET C1-17
FENCING NOT SHOWN FOR CLARITY

BILL OF MATERIAL FOR INLET WING 1	
PAY ITEM	QUANTITY
ANCHORED SHEET PILE WALL	2,363 SQ. FT.
CONCRETE VALLEY GUTTER	64.0 LIN. FT.

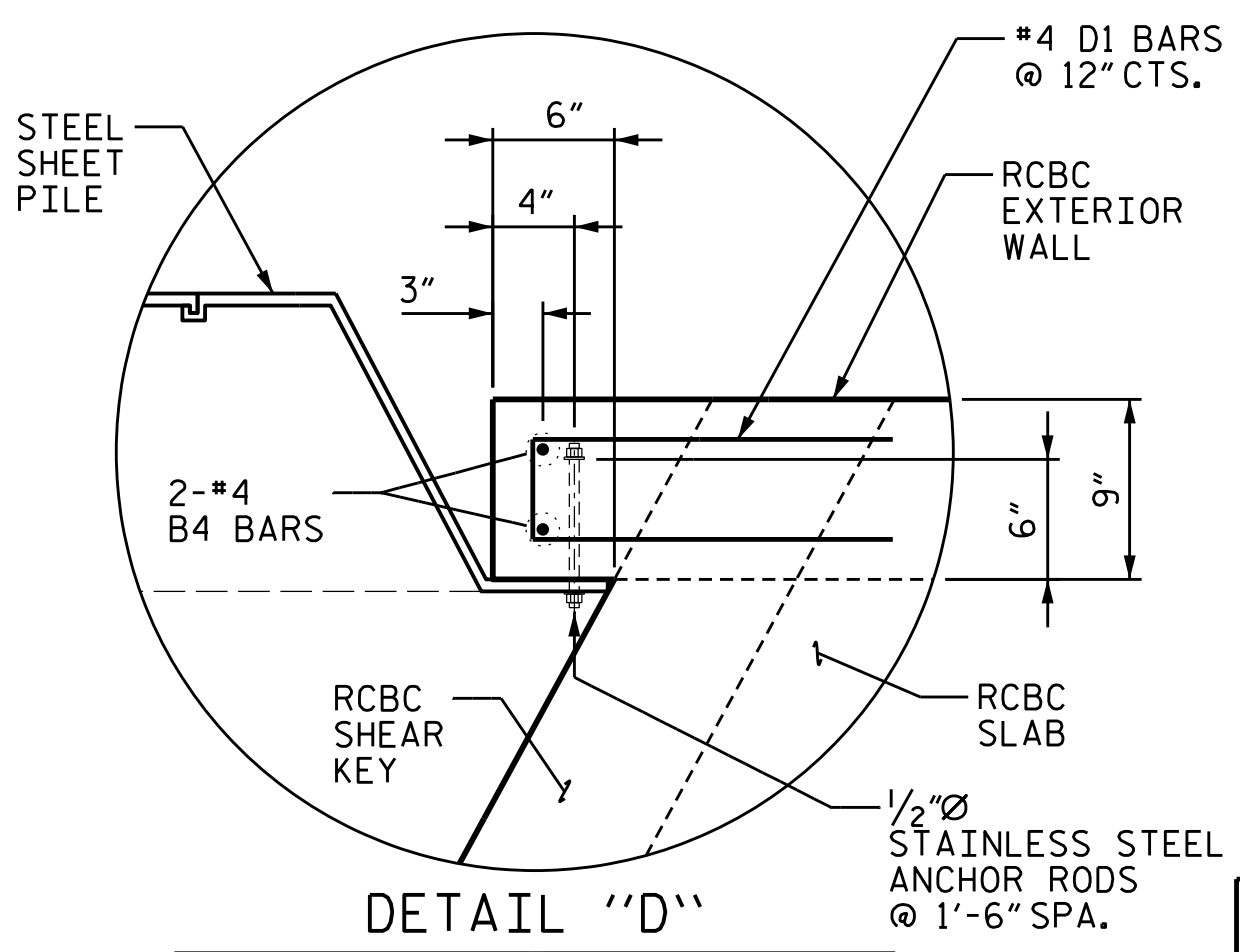


WALL No. 1 - TYPICAL SECTION

SHEET PILE ANCHORED WALL

ANCHORED SHEET PILE WALL NOTES:

- FOR ANCHORED SHEET PILE WALL, SEE SPECIAL PROVISIONS.
- FOR STEEL SHEET PILES, SEE SECTION 1084-2 OF THE STANDARD SPECIFICATIONS.
- STEEL SHEET PILES SHALL BE GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS.
- SHEETING SHALL BE CONTINUOUS ALONG THE LENGTH OF THE WALL. INSTALL SHEET PILING TO THE MINIMUM DEPTH SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.
- FURNISH 1/4" HOT DIP GALVANIZED STEEL THREADED RODS IN ACCORDANCE WITH ASTM F1554 GRADE 55. ANCHOR RODS AT WALL No.1 SHALL BE CONNECTED TO THE SHEET PILE ANCHOR AS SHOWN IN TYPICAL SECTION. A MINIMUM TIE-BACK LOAD OF 6 KIPS IS REQUIRED FOR EACH ANCHOR ROD (LOCK-OFF LOAD). ANCHOR RODS MAY BE SLIGHTLY SHIFTED AS NECESSARY TO MAINTAIN A 12" COVER FROM THE FINISHED GRADE.
- FURNISH 1/2" STAINLESS STEEL ANCHOR RODS IN ACCORDANCE WITH ASTM A193 GRADE B8M. FURNISH STAINLESS STEEL NUTS IN ACCORDANCE WITH ASTM F594 TYPE 316. FURNISH STAINLESS STEEL WASHERS UNDER HEADS AND NUTS, COMPATIBLE WITH BOLTS, THREADED RODS, AND NUTS. KEEP THREADS ON BOLTS, THREADED RODS, AND NUTS FREE FROM DIRT, COARSE GRIME AND SAND TO PREVENT GALLING AND SEIZING DURING TIGHTENING.
- SHEET PILE ANCHOR SHALL BE INSTALLED AT LEAST 15 FEET AWAY FROM WALL No.1, RUNNING CONTINUOUSLY AND PARALLEL ALONG THE ENTIRE LENGTH OF THE WALL. THE SHEET PILE ANCHOR SHALL BE INSTALLED WITH A MINIMUM HEIGHT OF 9 FEET.
- ANCHORED SHEET PILE WALL No.1 WAS DESIGNED USING A MAXIMUM FILL HEIGHT OF 15 FEET AND A LIVE LOAD SURCHARGE OF 240 PSF. ACCORDINGLY, STEEL SHEET PILES SHALL HAVE MINIMUM MOMENT OF INERTIA I = 360 IN⁴/FT AND A MINIMUM SECTION MODULUS S = 48.5 IN³/FT. THE MAXIMUM FILL, OR EXCAVATION HEIGHT, PRIOR TO ANCHOR ROD INSTALLATION IS 7 FEET.
- FURNISH GALVANIZED C-SHAPE WALE BEAMS IN ACCORDANCE WITH ASTM A36. WALE BEAMS SHALL BE GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS.
- FOR VALLEY GUTTER, SEE SECTION 846 OF THE STANDARD SPECIFICATIONS.



DETAIL "D"

PROJECT NO. U-4405
CUMBERLAND COUNTY
STATION: 137+99.59 -L-

SHEET 11 OF 18



DocuSigned by:
Jacob H. Duke
6/13/2018 12:14:58 PM PDT

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
CULVERT EXTENSION INLET WING W1 ANCHORED SHEET PILE WALL					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO.	C1-11
TOTAL SHEETS	18

KCA 4800 SIX FORKS ROAD SUITE 120
KISINGER CAMPO & ASSOCIATES RALEIGH, NC 27609
(919) 882-7839

DRAWN BY : DIEGO A. AGUIRRE DATE : 5-18-18
CHECKED BY : JACOB H. DUKE DATE : 5-22-18
DESIGN ENGINEER OF RECORD : JACOB H. DUKE DATE : 5-25-18

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED