

**CONCRETE SHEET PILE DATA**

PILE TYPE	TOTAL NO. REQUIRED	L (FT.)	X (FT.)	TOTAL LIN. FT.
A1	1	51'-0"	10'-0"	51
A2	1	37'-0"	5'-0"	37
A3	48	47'-0"	15'-0"	2,256
A4	78	56'-0"	18'-6"	4,368
A5	30	44'-0"	8'-0"	1,320
A6	51	42'-0"	11'-6"	2,142
A7	18	37'-0"	5'-0"	666
A8	13	51'-0"	10'-0"	663
A9	1	44'-0"	6'-0"	44
A10	2	44'-0"	6'-6"	88
A11	6	51'-0"	9'-6"	306
A12	4	51'-0"	8'-0"	204
A13	2	44'-0"	7'-6"	88
A14	2	37'-0"	5'-0"	74
A15	2	37'-0"	5'-0"	74
A16	2	37'-0"	5'-0"	74
A17	1	44'-0"	6'-6"	44
A18	1	47'-0"	8'-0"	47
A19	1	42'-0"	5'-6"	42
C1	1	51'-0"	9'-6"	51
C2	1	51'-0"	9'-6"	51
C3	1	37'-0"	5'-0"	37

SEE "CONCRETE SHEET PILE RETAINING WALL SHEET PILE DETAILS", SHEETS 6 THRU 16 OF 16, FOR PILE TYPES.

**DESIGN PARAMETERS**

CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS:  
8000 PSI (MIN.)

CONCRETE COMPRESSIVE STRENGTH AT RELEASE OF PRESTRESSING:  
5600 PSI (MIN.)

UNIFORM COMPRESSION AFTER PRESTRESSED LOSSES:  
1000 PSI (MIN.)

PICK-UP, STORAGE, AND TRANSPORTATION:  
0.0 PSI TENSION WITH 1.5 TIMES SELF WEIGHT

ALL PRESTRESSING STRANDS SHALL BE 0.6" DIA, 7-WIRE LOW RELAXATION GRADE 270 STRANDS CONFORMING TO AASHTO M203. STRAND SAMPLING REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

PROPOSED DEVICES FOR LIFTING PILES, RECESS DETAILS, AND PATCHING MATERIAL SHALL BE DETAILED IN SHOP DRAWINGS. AFTER ATTACHMENTS HAVE BEEN REMOVED, OPENINGS SHALL BE REPAIRED SUCH THAT THE APPEARANCE OF THE PILE IS UNIFORM.

INSTALL PILES USING A METHOD APPROVED BY THE ENGINEER, WHEREBY THE HEAD OF THE PILE IS NOT DAMAGED.

ALL CORNERS TO BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.

PICK-UP OF PILE MAY BE EITHER A SINGLE POINT PICK-UP OR A TWO POINT PICK-UP AS SHOWN.

**FOUNDATION NOTES**

CONSTRUCT CONCRETE SHEET PILE RETAINING WALLS IN ACCORDANCE WITH SECTION 452 OF THE STANDARD SPECIFICATIONS EXCEPT USE CONCRETE SHEET PILES IN LIEU OF STEEL SHEET PILES.

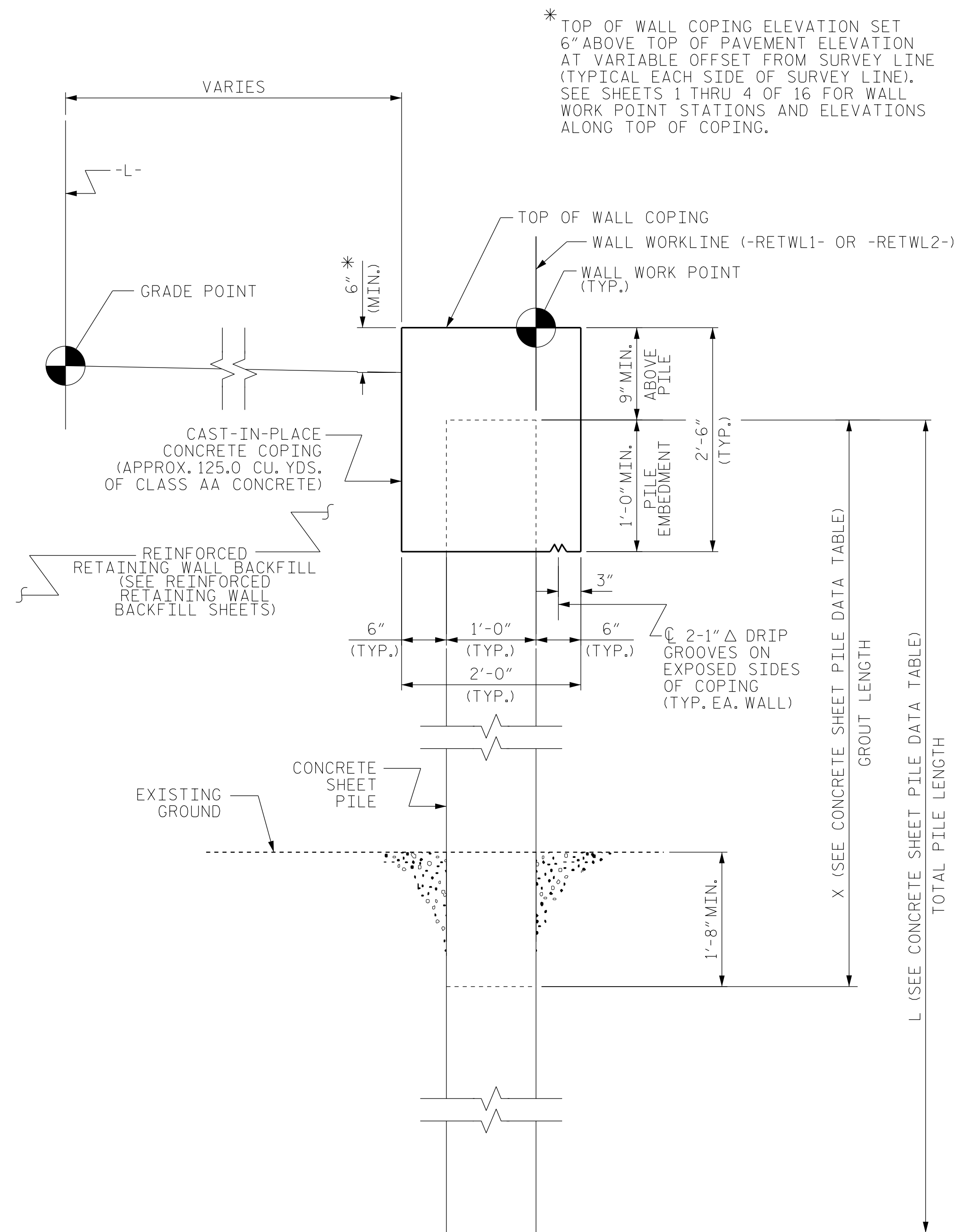
INSTALL CONCRETE SHEET PILES TO TIP ELEVATIONS NO HIGHER THAN AS SHOWN ON THE PLANS.

IF USING IMPACT HAMMERS FOR CONCRETE SHEET PILE INSTALLATION, SUBMIT DRIVING EQUIPMENT AS OUTLINED IN SECTION 450-3 OF THE STANDARD SPECIFICATIONS.

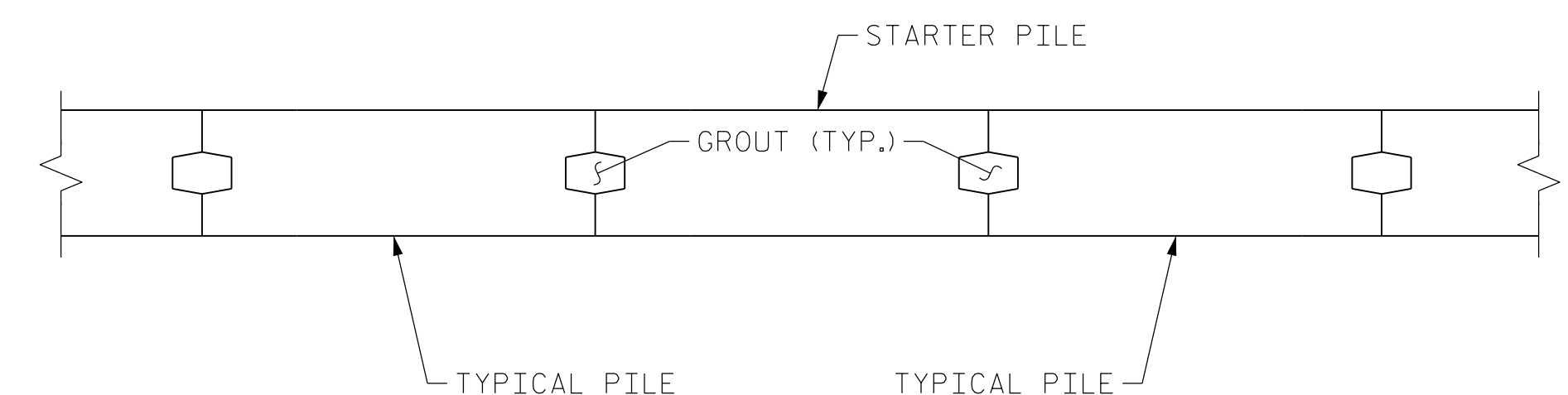
FOR CONCRETE SHEET PILE RETAINING WALLS AND BRIDGE END BENT CONSTRUCTION SEQUENCE, SEE BRIDGE FOUNDATION NOTES ON PLANS.

THE SCOUR CRITICAL ELEVATION FOR WALL NO.1 FROM STATION 10+00 TO 10+75 IS -5.0 FT, FROM STATION 10+75 TO 11+25 IS -8.0 FT, FROM STATION 11+25 TO 12+75 IS -9.0 FT, FROM STATION 12+75 TO 13+75 IS -6.0 FT, FROM STATION 13+75 TO 14+96 IS -3.0 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

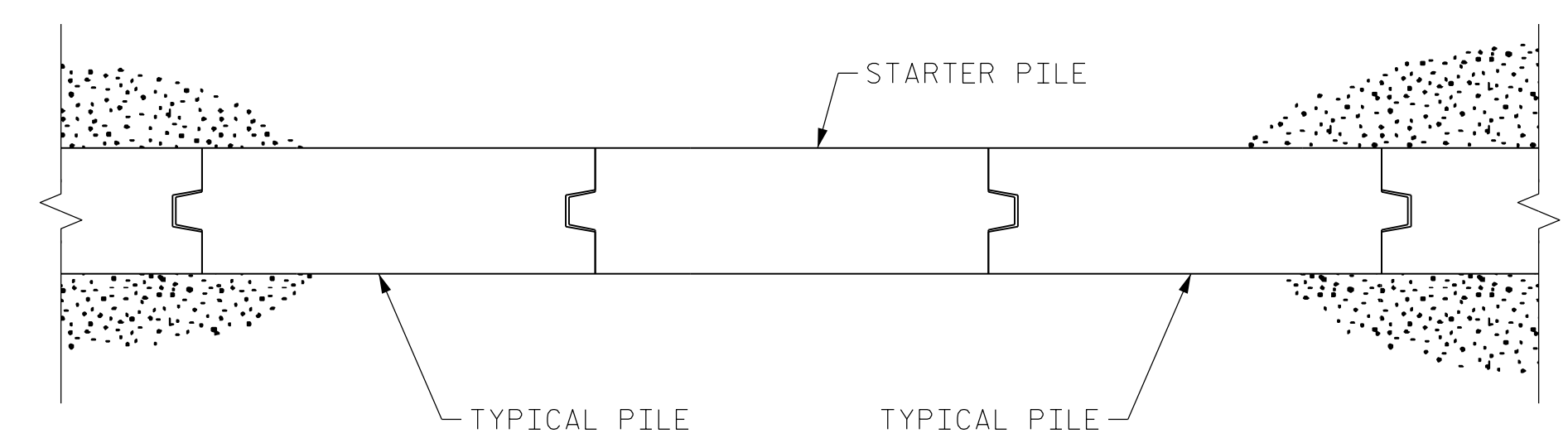
THE SCOUR CRITICAL ELEVATION FOR WALL NO.2 IS -7.0 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.



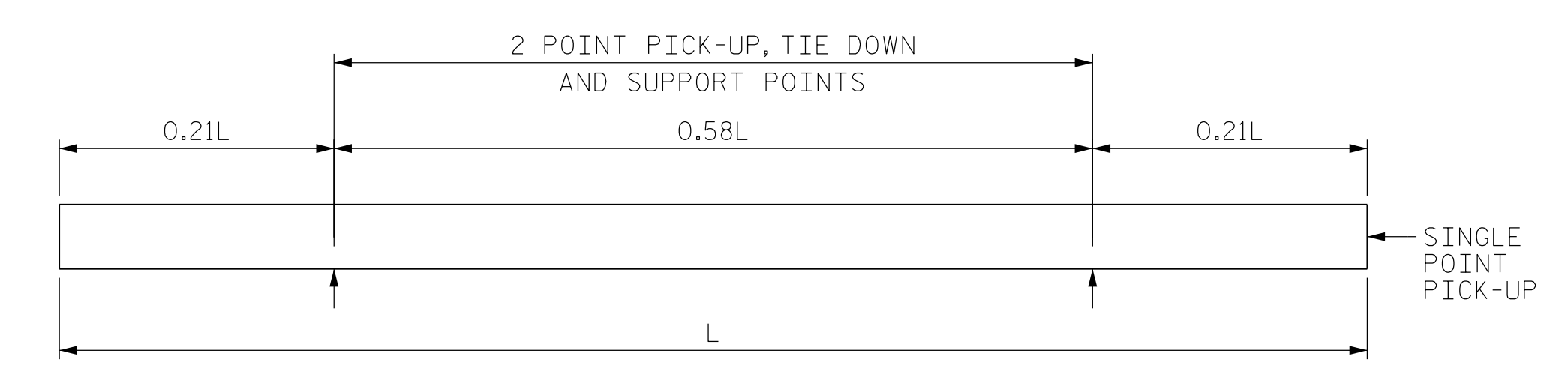
\* TOP OF WALL COPING ELEVATION SET 6" ABOVE TOP OF PAVEMENT ELEVATION AT VARIABLE OFFSET FROM SURVEY LINE (TYPICAL EACH SIDE OF SURVEY LINE). SEE SHEETS 1 THRU 4 OF 16 FOR WALL WORK POINT STATIONS AND ELEVATIONS ALONG TOP OF COPING.



SECTION TAKEN ABOVE DIMENSION "X"  
FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

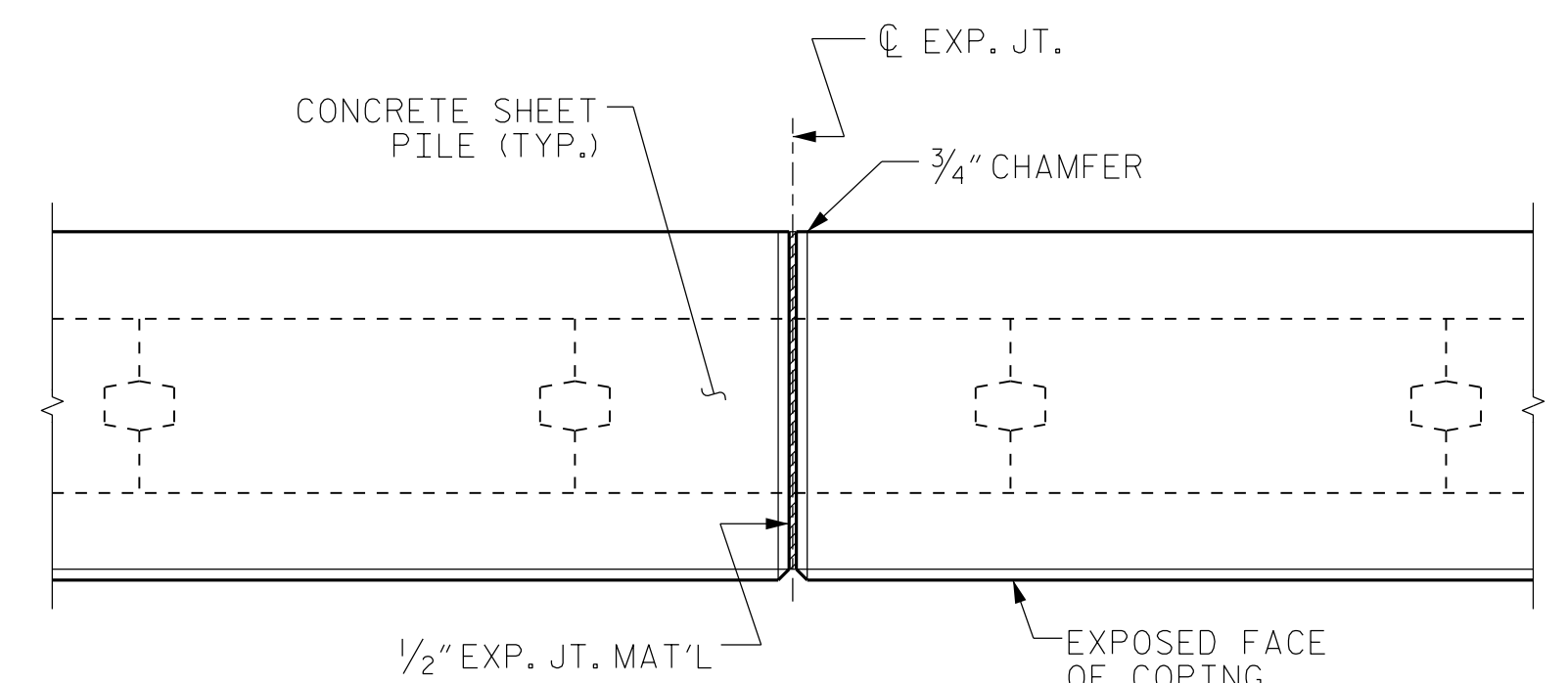


SECTION TAKEN BELOW DIMENSION "X"



PILE STORAGE AND TRANSPORTATION  
SUPPORT DETAILS

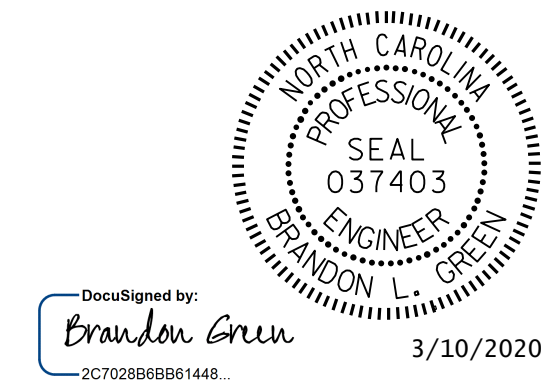
**TYPICAL SECTION**



PLAN OF EXPANSION  
JOINTS IN COPING

NOTE:  
JOINT LOCATION IN COPING MAY BE SHIFTED TO AVOID PLACING COPING JOINT IN THE SAME LOCATION AS A JOINT BETWEEN ADJACENT CONCRETE SHEET PILES.

DRAWN BY : B. L. GREEN, P.E. DATE : 3/19  
CHECKED BY : D. A. CANTRELL, P.E. DATE : 6/19  
DESIGN ENGINEER OF RECORD : B. L. GREEN, P.E. DATE : 7/19



DocuSigned by:  
Brandon Green  
3/10/2020

DOCUMENT NOT CONSIDERED  
FINAL UNLESS ALL  
SIGNATURES COMPLETED

PROJECT NO. B-4863  
CARTERET COUNTY  
STATION: 34+75.00 -L-

SHEET 5 OF 16

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

CONCRETE SHEET PILE  
RETAINING WALL  
DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	W-05
1			3			TOTAL SHEETS
2			4			24