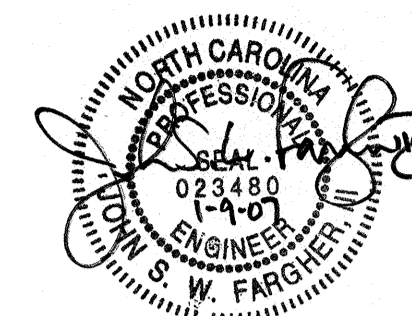


GEOTECHNICAL ENGINEER



SIGNATURE DATE

PI#	-L- STA.	-L- OFFSET	ELEVATION
1	34+90	49.79'	1,896.33'
2	35+00	57.77'	1,896.86'
3	35+20	81.86'	1,898.50'
4	35+40	90.47'	1,899.47'
5	35+60	90.47'	1,899.78'
6	35+80	83.91'	1,899.72'
7	36+00	77.13'	1,899.31'
8	36+20	70.77'	1,898.85'
9	36+40	64.85'	1,898.34'
10	36+60	59.35'	1,898.09'
11	36+80	54.26'	1,897.49'
12	36+90	51.87'	1,897.34'

GABIONS	LENGTH	WIDTH	HEIGHT
TYPE "A"	6' X	3' X	3'
TYPE "C"	12' X	3' X	3'
TYPE "D"	6' X	3' X	1.5'
TYPE "F"	12' X	3' X	1.5'

RENO MATTRESS	LENGTH	WIDTH	HEIGHT
TYPE "T"	9' X	6' X	9"
TYPE "U"	12' X	6' X	9"

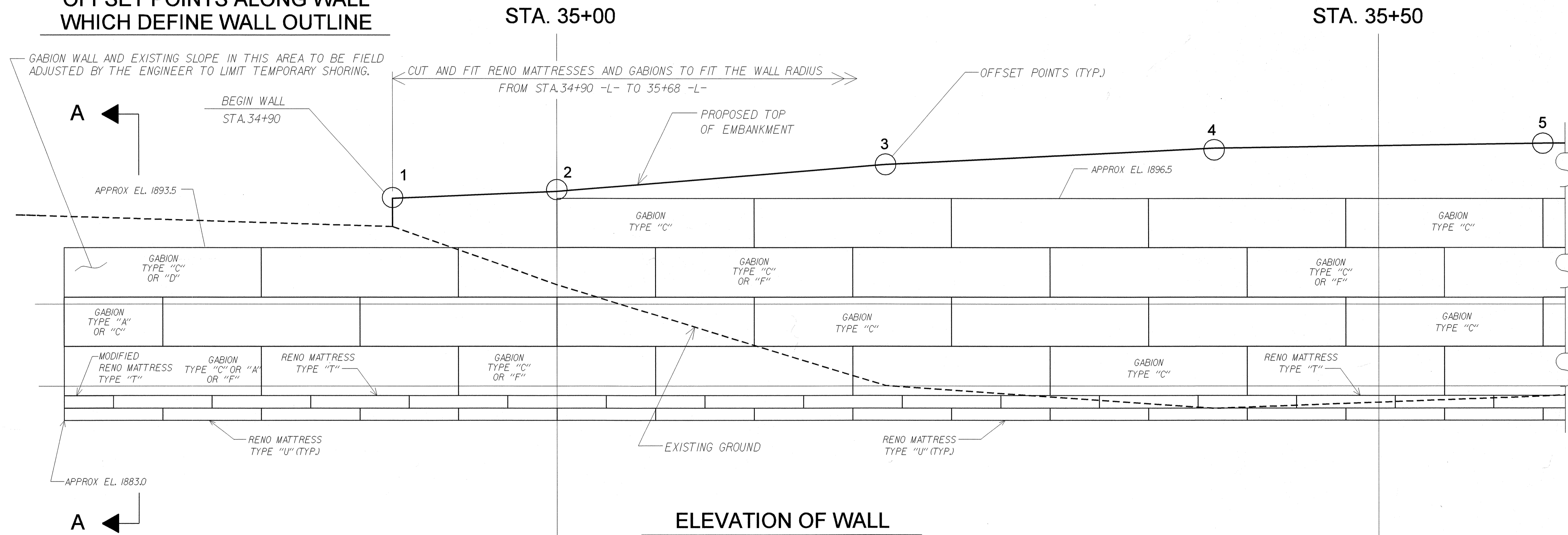
NOTE: ONE TYPE "T" RENO MATTRESS HAS TO BE MODIFIED INTO TWO SMALLER RENO MATTRESS WITH THE FOLLOWING DIMENSIONS: LENGTH 9 ft.x WIDTH 3 ft.x HEIGHT 9 in. TO BE PLACED ON LEVEL 2 AT THE ENDS.

GABIONS	APPROX. VOLUME OF STONE (CU. YDS.)	NUMBER RENO MATTRESS GABIONS
TYPE "A"	2.0	4
TYPE "C"	4.0	117
TYPE "D"	1.0	2
TYPE "F"	2.0	39

RENO MATTRESS		
TYPE "T"	1.5	40
TYPE "U"	2.0	40

TOTAL VOLUME OF STONE = 696 CU. YDS.

OFFSET POINTS ALONG WALL WHICH DEFINE WALL OUTLINE



NOTES TO CONTRACTOR:

THE OFFSET POINTS WHICH DEFINE THE CURVE OF THE WALL OUTLINE INDICATE THE THE WALL IS APPROX. 233 FT. LONG. THE GABION WALL SYSTEM WHICH IS BEING USED CONSISTS OF 20 - 12 FT. LONG GABIONS LAID END TO END FOR A WALL LENGTH OF 240 FT. THEREFORE, THE GABIONS SHOULD BE LAID OUT APPROX. 3.5 FT. PAST THE BEGINNING AND END OF WALL ALONG THE CURVE OF THE WALL.

THE CONTRACTORS ATTENTION IS CALLED TO THE FACT THAT THE TOE OF THE BOTTOM RENO MATTRESS IS APPROX. 10 FT. PAST THE CURVE OF THE WALL OUTLINE. SEE SECTION THRU WALL FOR DETAILS.

PREPARED BY: E.J. SALVO	DATE: 08/06
REVIEWED BY: S.C.C.	DATE: 09/06

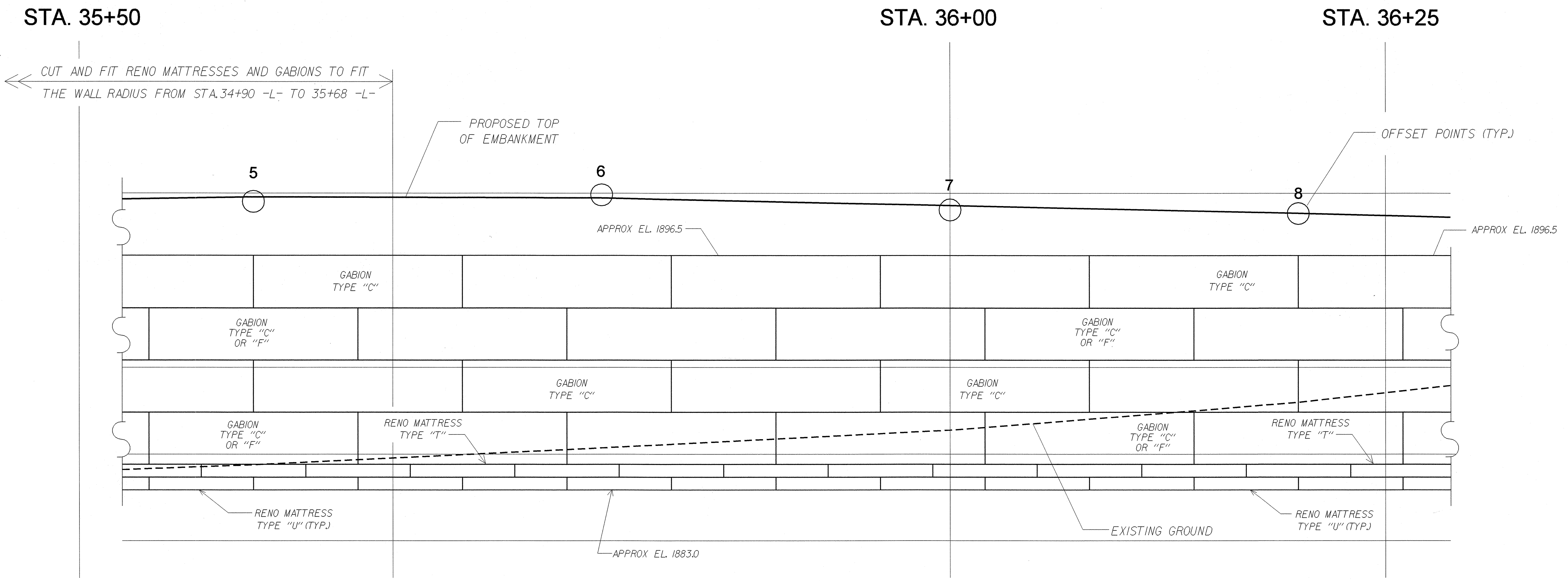
GEOTECHNICAL ENGINEERING UNIT

EASTERN REGIONAL OFFICE
 WESTERN REGIONAL OFFICE

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**GABION WALL
 JACKSON COUNTY
 STA.34+90-L- to 36+90-L-**

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		



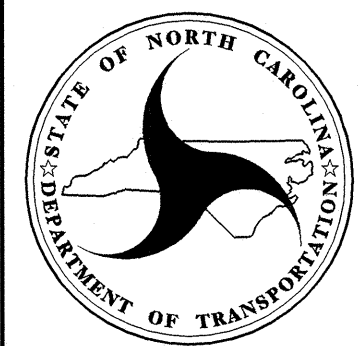
ELEVATION OF WALL

FOR NOTES ON LAYOUT OF WALL, SEE SHEET 1.
FOR TABLE OF OFFSET POINTS ALONG WALL, SEE SHEET 1.

PREPARED BY: E.J. SALVO	DATE: 08/06
REVIEWED BY: S.C.C.	DATE: 09/06

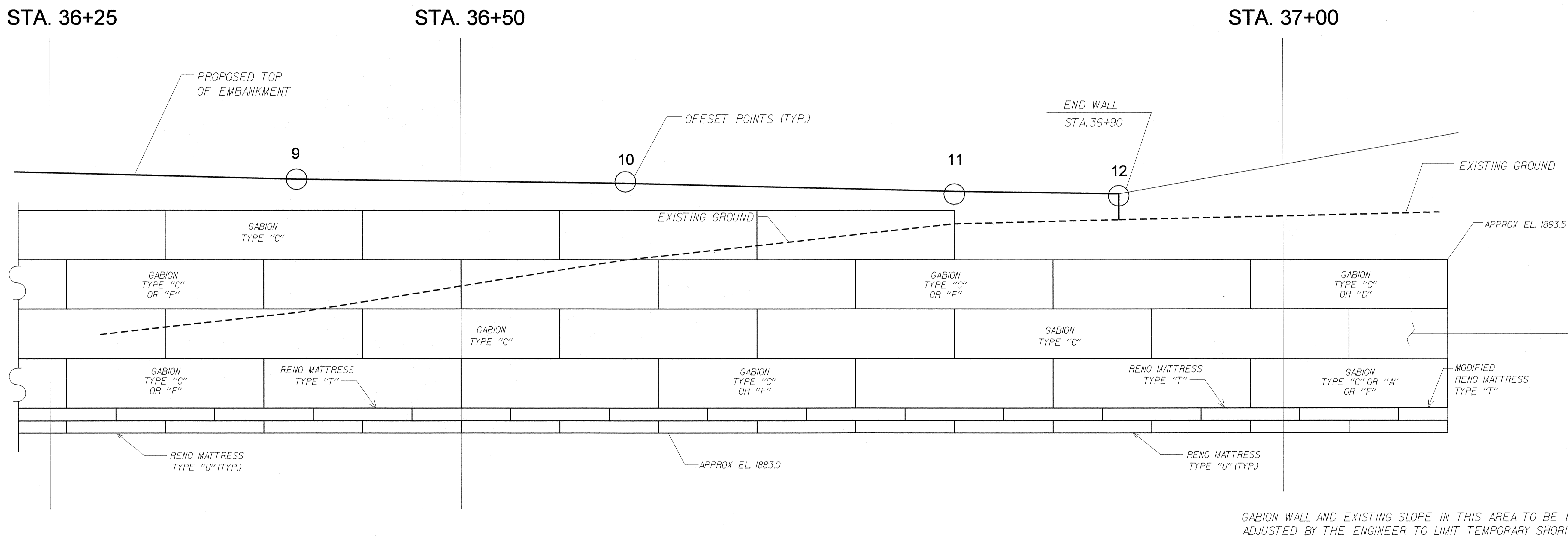
GEOTECHNICAL ENGINEERING UNIT

EASTERN REGIONAL OFFICE
 WESTERN REGIONAL OFFICE


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GABION WALL
JACKSON COUNTY
STA. 34+90-L- to 36+90-L-

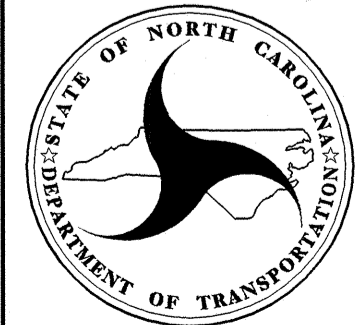
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		



ELEVATION OF WALL

FOR NOTES ON LAYOUT OF WALL, SEE SHEET 1.
FOR TABLE OF OFFSET POINTS ALONG WALL, SEE SHEET 1.

PREPARED BY: E.J. SALVO	DATE: 08/06
REVIEWED BY: S.C.C.	DATE: 09/06

	GEOTECHNICAL ENGINEERING UNIT		GABION WALL		
	<input type="checkbox"/> EASTERN REGIONAL OFFICE <input checked="" type="checkbox"/> WESTERN REGIONAL OFFICE		JACKSON COUNTY		
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH		STA. 34+90-L- to 36+90-L-			
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

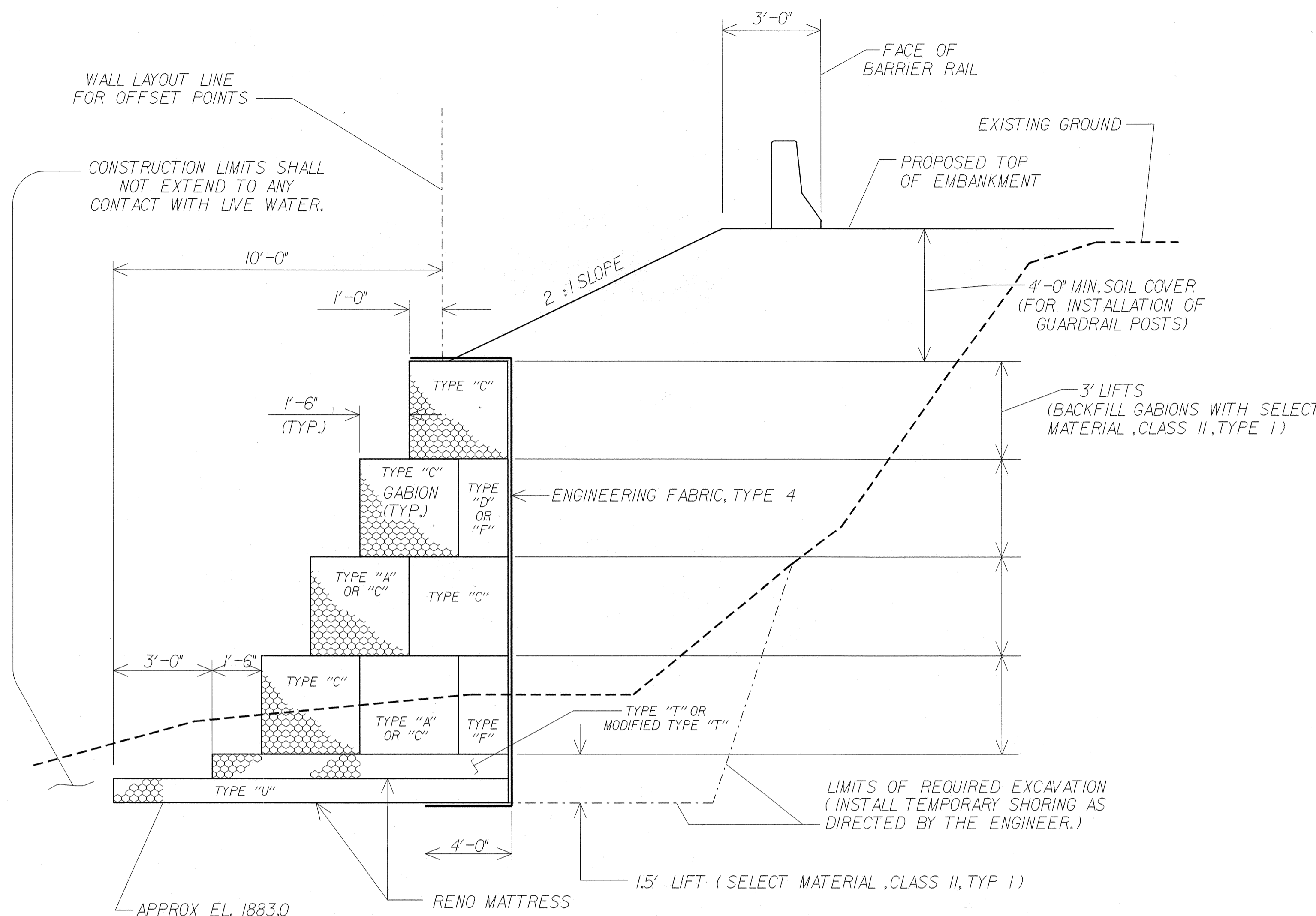
GEOTECHNICAL ENGINEER



SIGNATURE DATE

NOTES:

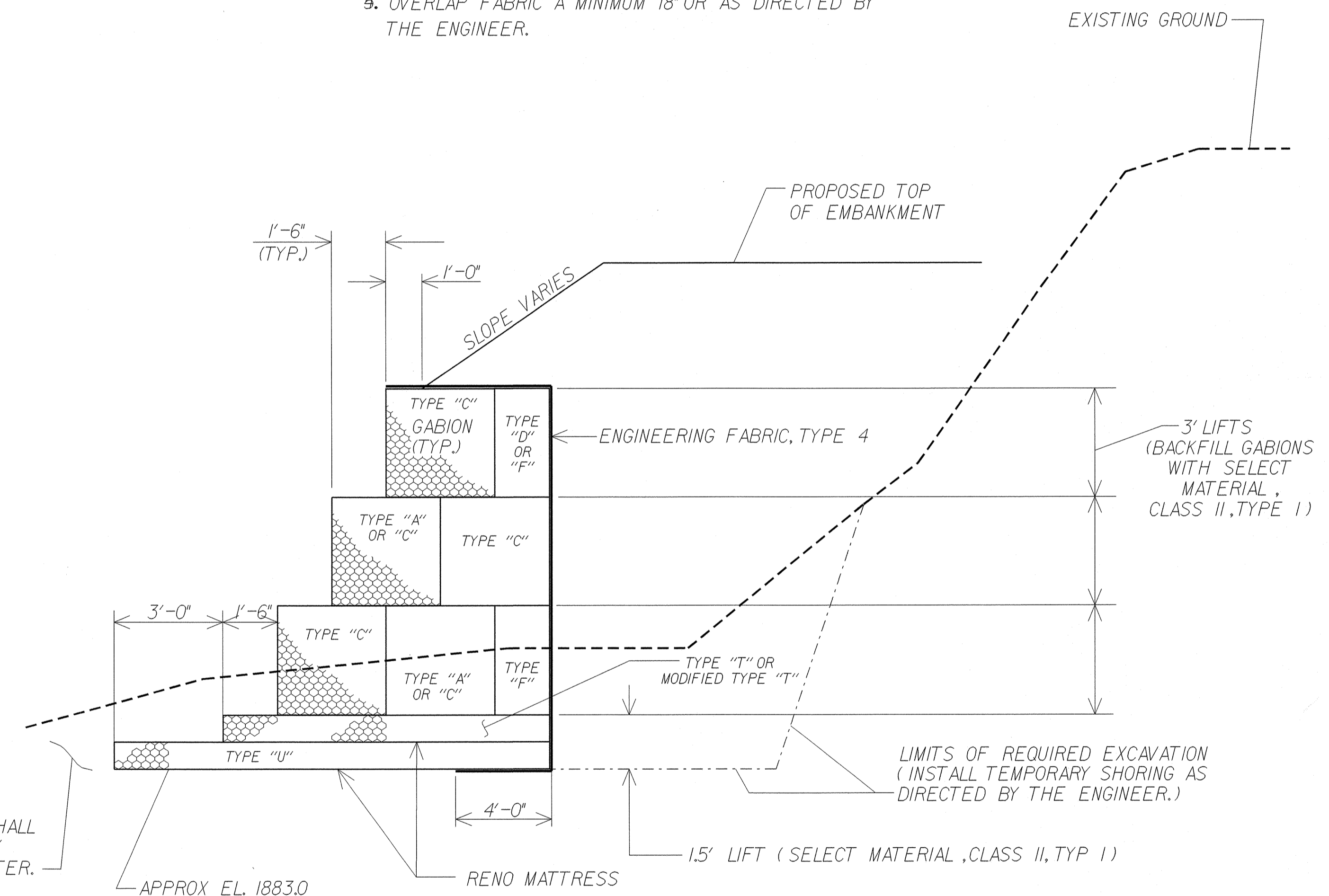
1. RENO MATTRESSES ARE TO FILLED WITH THE SIZE AND TYPE OF STONE AS OUTLINED IN THE PROJECT SPECIAL PROVISIONS.
2. RENO MATTRESSES ARE TO BE CUT AND FITTED ALONG THE RADIUS OF THE WALL FROM STA.34+90 -L- TO STA.35+68 -L- ,IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.
3. GABIONS ARE TO FILLED WITH THE SIZE AND TYPE OF STONE AS OUTLINED IN THE PROJECT SPECIAL PROVISIONS.
4. GABIONS ARE TO BE CUT AND FITTED ALONG THE RADIUS OF THE WALL FROM STA.34+90 -L- TO STA.35+68 -L- ,IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.
5. OVERLAP FABRIC A MINIMUM 18" OR AS DIRECTED BY THE ENGINEER.



TYPICAL SECTION THRU WALL

CONSTRUCTION SEQUENCE:

1. LAYOUT WALL LOCATION BY SURVEY.
2. EXCAVATE DOWN TO ELEVATION 1883.0 FT. AND INSTALL SHORING AS DIRECTED BY THE ENGINEER.
3. CLEAR AREA OF DEBRIS. LEVEL LOCATION OF GABION WALL.
4. INSTALL FABRIC (ENGINEERING FABRIC,TYPE 4)UNDER THE RENO MATTRESSES.
5. INSTALL RENO MATTRESSES AND FILL WITH STONE IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS.
6. CUT AND FIT RENO MATTRESSES IN THE RADIUS SECTION OF THE GABION WALL IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.
7. REPEAT STEPS 4 THROUGH 6,AS NECESSARY,TO THE TOP LIFT OF THE RENO MATTRESSES.
8. PLACE FABRIC (ENGINEERING FABRIC,TYPE 4)ON THE BACKSIDE OF THE RENO MATTRESSES AND BACKFILL WITH SELECT MATERIAL ,CLASS II,TYPE I.
9. INSTALL GABIONS AND FILL WITH STONE IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS.
10. CUT AND FIT GABIONS IN THE RADIUS SECTION OF THE GABION WALL IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.
11. INSTALL FABRIC (ENGINEERING FABRIC,TYPE 4)ON THE BACKSIDE OF EACH GABION LIFT AND BACKFILL WITH SELECT MATERIAL ,CLASS II,TYPE I.
12. REPEAT STEPS 9 THROUGH 11, AS NECESSARY,TO THE TOP OF THE GABION WALL.
13. PLACE ADDITIONAL FILL TO THE PROPOSED TOP OF EMBANKMENT.



SECTION A-A THRU WALL

PREPARED BY: E.J. SALVO	DATE: 08/06
REVIEWED BY: S.C.C.	DATE: 09/06

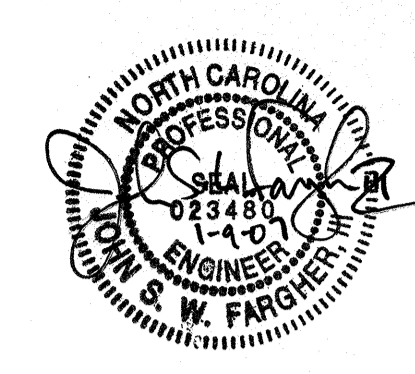
GEOTECHNICAL ENGINEERING UNIT
 EASTERN REGIONAL OFFICE
 WESTERN REGIONAL OFFICE

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

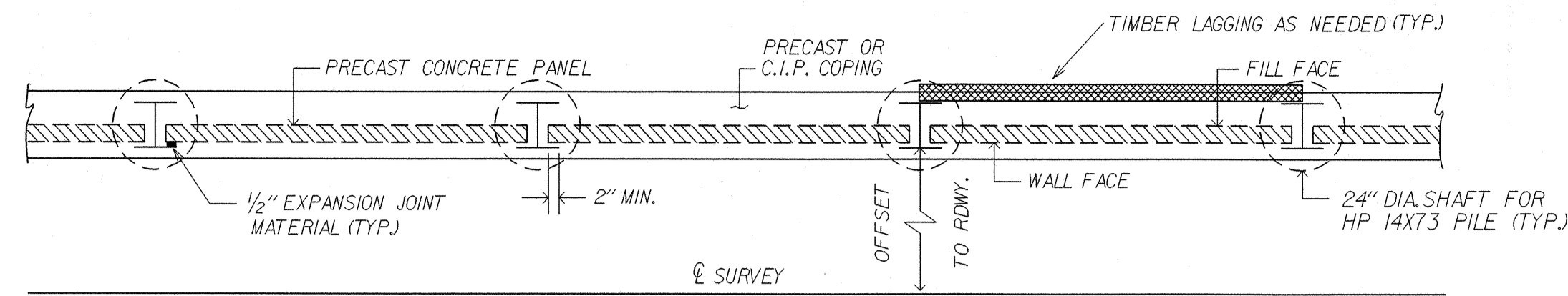
**GABION WALL
 JACKSON COUNTY
 STA.34+90-L- to 36+90-L-**

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

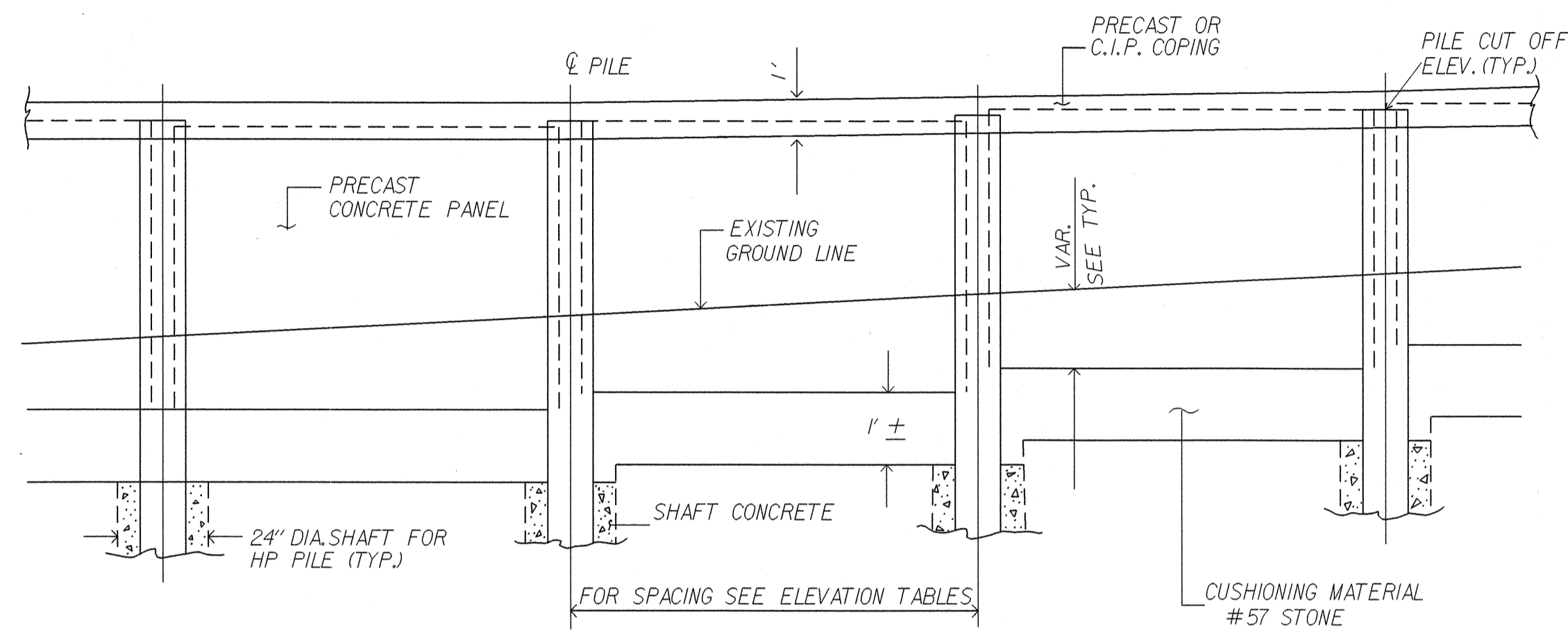
GEOTECHNICAL ENGINEER



SIGNATURE DATE

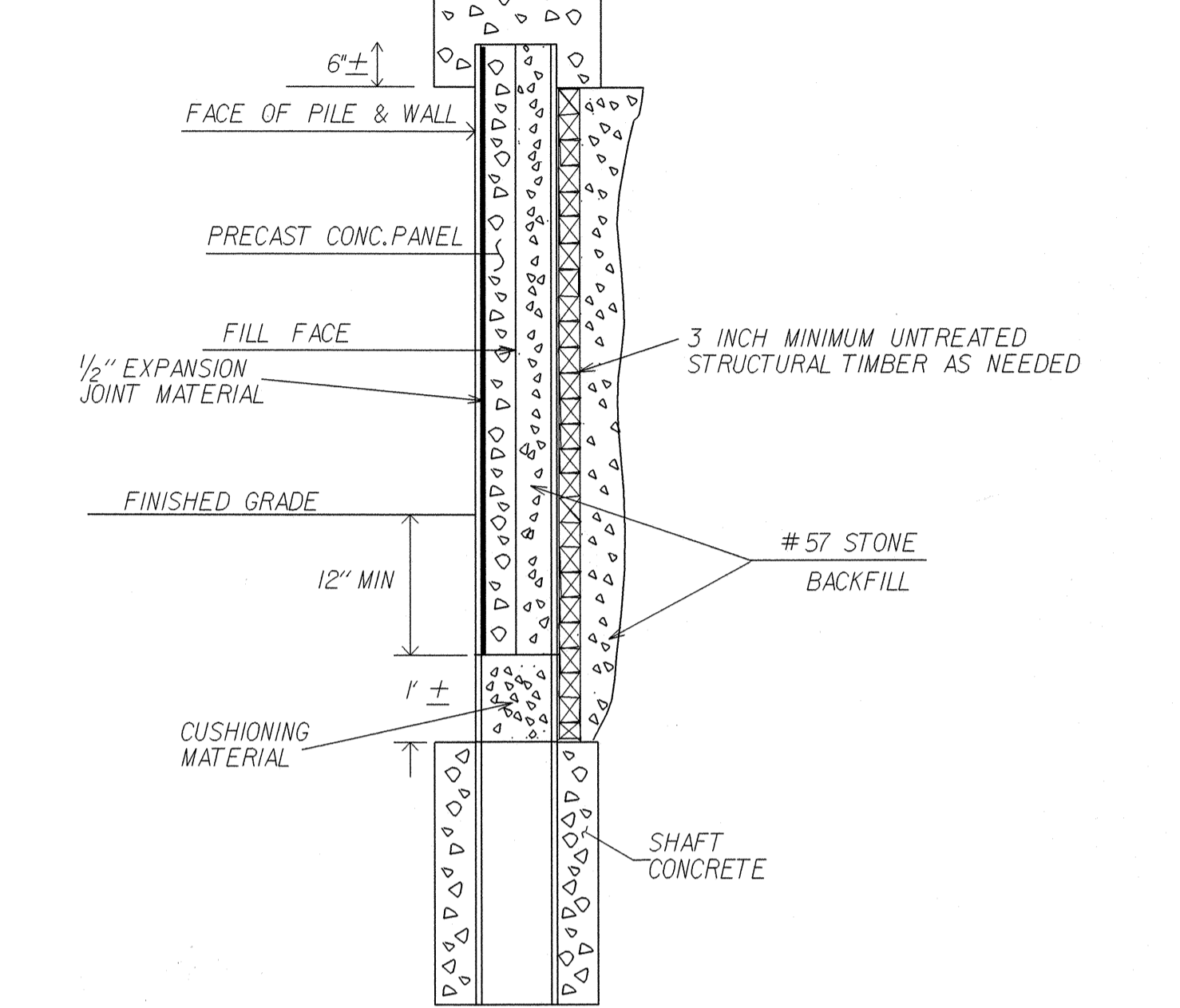


PLAN VIEW
N.T.S.

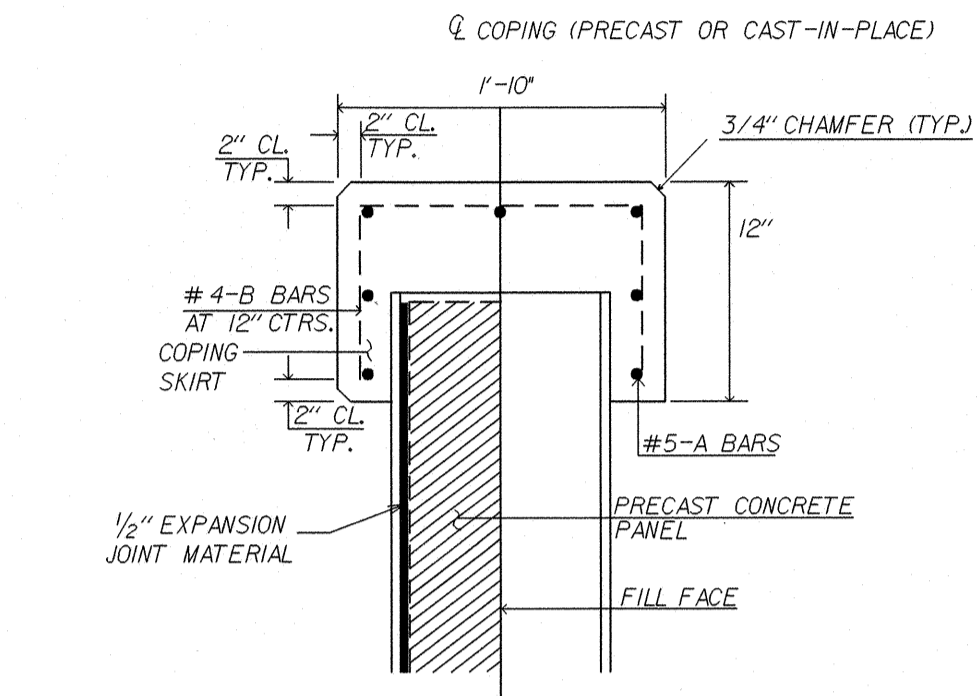


ELEVATION VIEW
N.T.S.

PRECAST OR CAST-IN-PLACE COPING SEE COPING DETAILS



TYPICAL SECTION
N.T.S.



FULL COPING DETAIL
N.T.S.

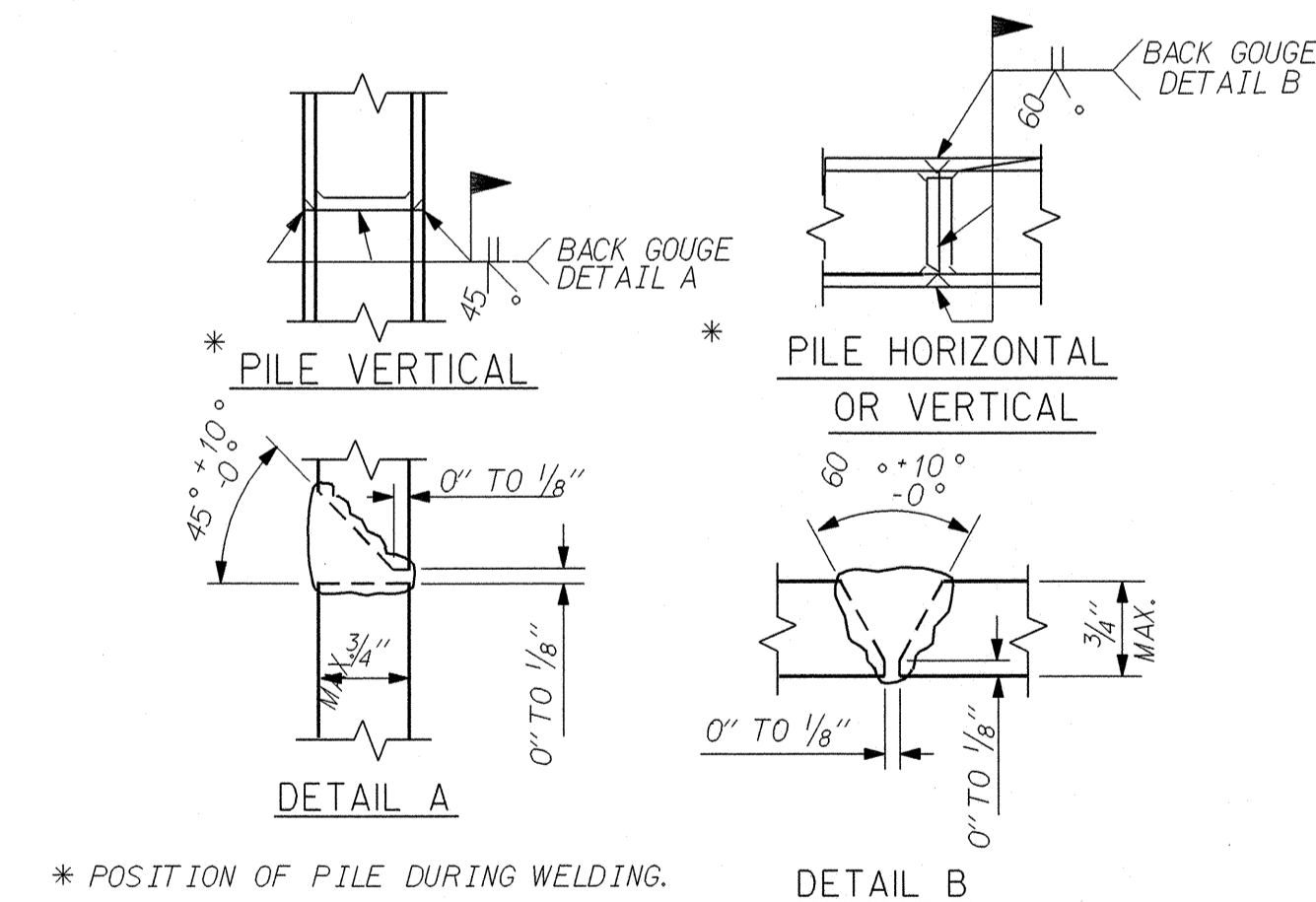
COPING BAR TYPES				
ALL DIMENSIONS OUT TO OUT				
BAR	COPING TYPE	PILE SIZE	DIMENSION a	DIMENSION b
B	FULL COPING	ALL PILES	8'	1'-6"
C	FULL COPING	ALL PILES	1'-9"	1'-4"

NOTES:

- PILES SHALL BE INSTALLED TO THE CUT OFF ELEVATIONS AND LENGTHS SHOWN ON THE PLANS BY PRE-AUGERING OR DRILLING. THE EXCAVATED HOLE SHALL BE 24 INCH MINIMUM DIAMETER AND BACKFILLED WITH CONCRETE TO THE BOTTOM OF THE CUSHIONING MATERIAL.
- PILES SHALL BE ASTM A50 GRADE WITH THE ADDITION OF 0.2% MINIMUM COPPER.
- PILES SHALL BE PAINTED BLACK FROM THE TOP OF THE PILE TO 15 FT BELOW FINISHED GRADE.
- SPlicing OF PILES IS ONLY ALLOWED IN THE PORTION OF THE PILE PERMANENTLY BELOW GROUND.
- THE TOP OF THE INSTALLED PILES SHALL BE WITHIN 2 INCHES OF THEIR PLAN LOCATION IN ANY DIRECTION.
- CONCRETE PANELS SHALL HAVE A MINIMUM BEARING DISTANCE OF 2 INCHES ON THE PILE FLANGE. 1/2" THICK EXPANSION JOINT MATERIAL SHALL BE PLACED BETWEEN THE CONCRETE PANELS AND PILE FLANGES FOR THE WIDTH OF THE BEARING SURFACE.
- THE CONCRETE PANELS SHALL HAVE A DARK GRAY EXPOSED AGGREGATE FACE. SEE SPECIAL PROVISIONS FOR COLOR, TEXTURE AND AGGREGATE REQUIREMENTS.
- EXCAVATION TO INSTALL PANELS AND TIMBER LAGGING SHALL BE LIMITED TO 6 INCHES BEHIND THE PILES. ANY OVEREXCAVATION SHALL BE BACKFILLED WITH NO. 57 STONE.
- CONCRETE PANELS SHALL BE HELD SECURELY AGAINST PILES UNTIL BACKFILL IS PLACED.
- BOTH CUSHIONING MATERIAL AND BACKFILL MATERIAL BEHIND THE PANELS SHALL BE NO. 57 STONE AND COMPACTED AS REQUIRED BY THE ENGINEER. THE STONE SHALL BE RODDED AND SPREAD IN ORDER TO FILL ALL VOIDS AND INSURE MAXIMUM DENSITY. FLUSHING THE STONE WITH WATER TO AID COMPACTION WILL NOT BE ALLOWED.
- BACKFILLING SHALL BE COMPLETED PRIOR TO FORMING OR PLACING PRECAST COPING.
- THE TOP OF COPING IS TO BE ADJUSTED BY THE ENGINEER TO GIVE A UNIFORM APPEARANCE.
- CONSTRUCTION JOINTS IN COPING ARE PERMITTED AT LOCATIONS WHERE COPING CHANGES SLOPE AND AT 90 FOOT CENTERS. EXPANSION JOINTS ARE NOT PERMITTED.
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF DRAINAGE STRUCTURES AND UTILITIES PRIOR TO INSTALLING PILES.
- THE CONTRACTORS ATTENTION IS CALLED TO THE FACT THAT THE COPING MAY BE EITHER CAST-IN-PLACE OR PRECAST CONCRETE. THE JOINTS IN THE CAST-IN-PLACE OR PRECAST COPING SHALL BE AT 7'-6" CENTERS TO MAINTAIN THE CURVE ALONG THE WALL.

16. EXCAVATION SEQUENCE:

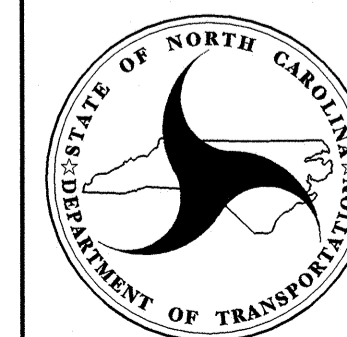
- DRILL MINIMUM 24 INCH DIA. SHAFTS FOR 12 INCH PILES FROM NATURAL GROUND. INSTALL PILES AND BACKFILL WITH CONCRETE TO THE TOP OF SHAFT ELEVATIONS BEFORE EXCAVATING TO INSTALL PANELS OR TIMBER LAGGING.
- EXCAVATION TO INSTALL THE PANELS OR LAGGING SHALL BE VERTICAL. HAVE A MAXIMUM LIFT HEIGHT OF 4 FEET AND BE LIMITED IN EXTENT TO ONLY WHAT IS NECESSARY.
- TIMBER LAGGING IS NEEDED ONLY TO MEET OSHA REQUIREMENTS FOR SAFE EXCAVATION HEIGHTS. IF CUT IS LESS THAN 4 FEET HIGH AND THE SOILS ARE STABLE, LAGGING IS NOT REQUIRED.
- THE LAGGING SHALL HAVE A MINIMUM BEARING DISTANCE OF 3 INCHES ON THE PILE FLANGE.
- UNTREATED STRUCTURAL TIMBERS SHALL BE A MINIMUM OF 3 INCHES THICK AND SHALL CONFORM TO THE APPLICABLE PARTS OF SECTIONS 445 AND 1082 OF THE STANDARD SPECIFICATIONS.
- PLACE BACKFILL BEHIND THE LAGGING IMMEDIATELY AFTER INSTALLATION.
- WHERE PRACTICAL, THE TOP FEW PIECES OF LAGGING SHALL BE REMOVED PRIOR TO BACKFILLING BEHIND PANELS. ALL OTHER LAGGING SHALL BE LEFT IN PLACE.
- THE CONTRACTOR MAY ELECT TO USE AN ALTERNATE METHOD OF PROVIDING A SAFE EXCAVATION; HOWEVER, THE ALTERNATE METHOD MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.



PILE SPLICE DETAILS
N.T.S.

GEOTECHNICAL ENGINEERING UNIT

- EASTERN REGIONAL OFFICE
- WESTERN REGIONAL OFFICE



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PILE PANEL WALL
JACKSON COUNTY
STA. 148+00-L- to 149+20-L-

REVISIONS

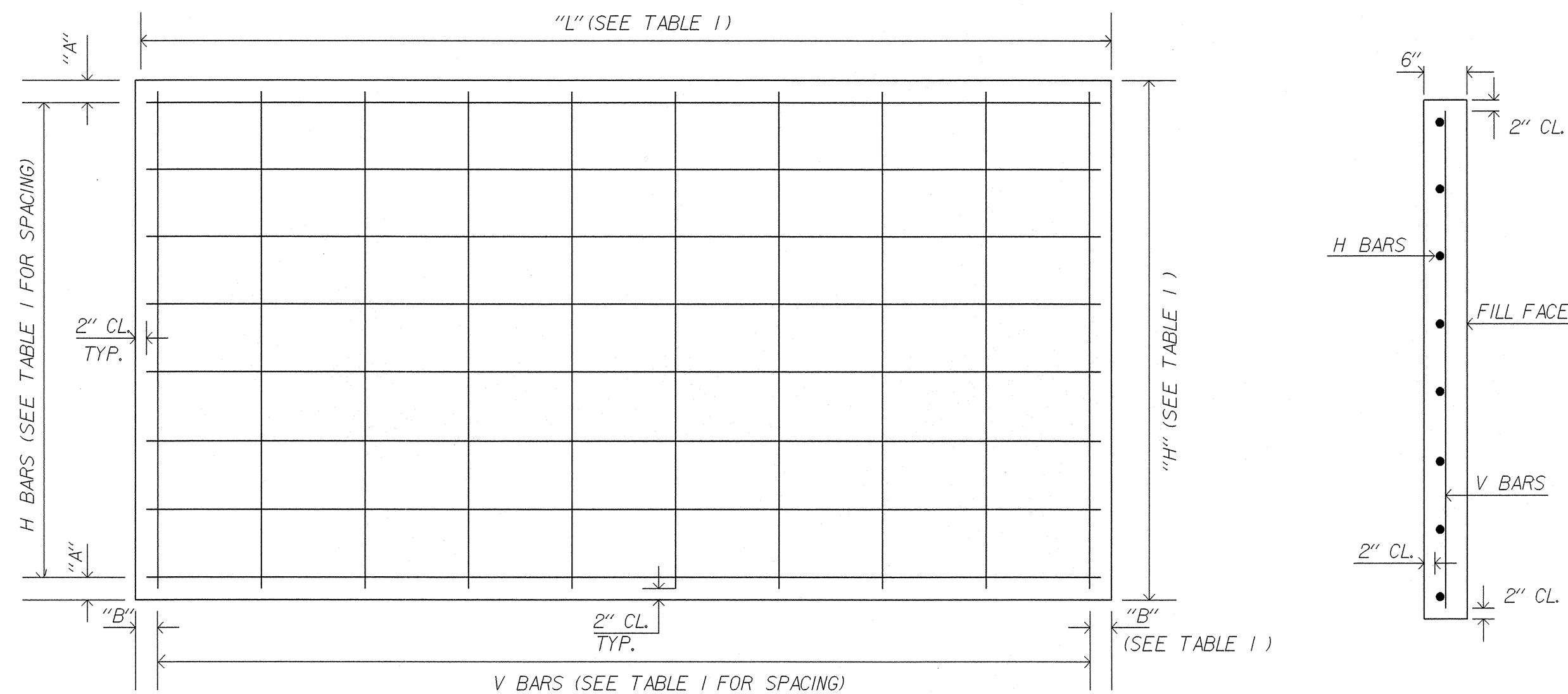
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

PREPARED BY: E. J. SALVO	DATE: 08/06
REVIEWED BY: S.C.C.	DATE: 09/06

GEOTECHNICAL ENGINEER

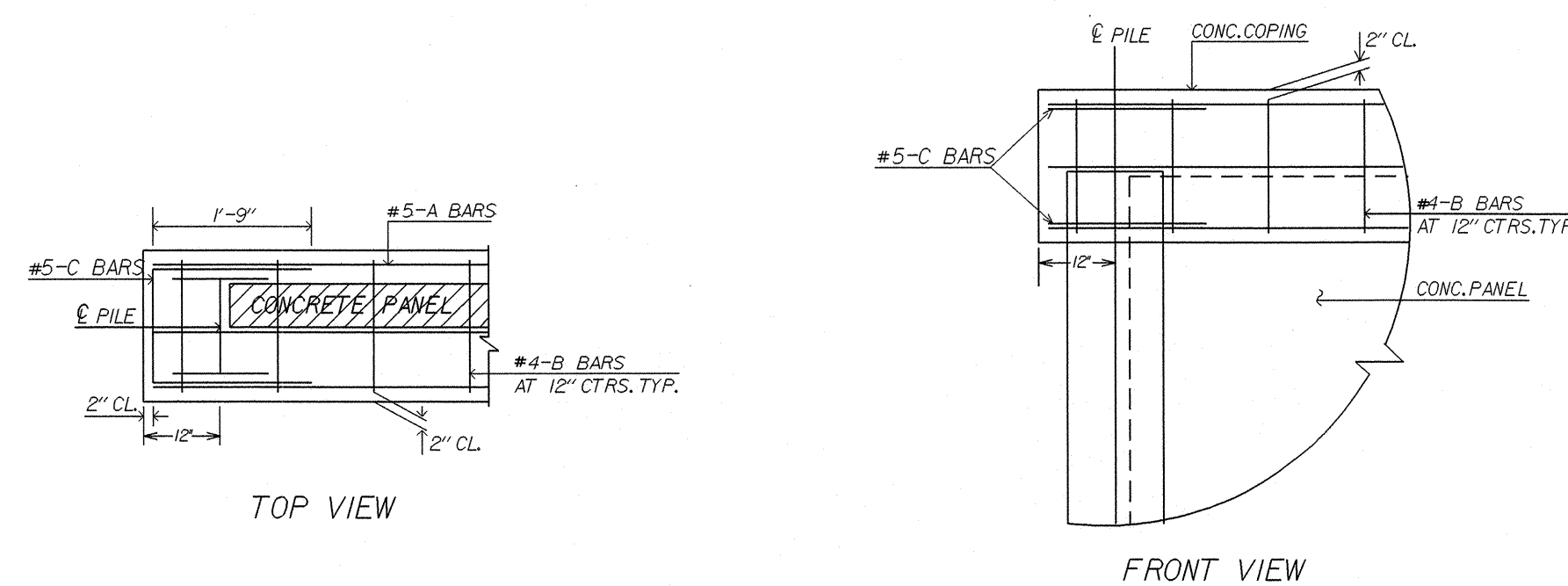


SIGNATURE DATE



PRECAST PANEL DETAIL
N.T.S.

TABLE 1 PRECAST PANELS										
PANEL TYPE	NO. REQ'D	"H"	"L"	BAR TYPES				"A"	"B"	CONC. C.Y. PER PANEL
				HORIZONTAL		VERTICAL				
				NO. PER PANEL	C-C SPACING	NO. PER PANEL	C-C SPACING			
A2	1	3'	7'-0"	6-H2	6"	14-V1	6"	3.00"	3.00"	0.39
B2	1	4'	7'-0"	8-H2	6"	14-V2	6"	3.00"	3.00"	0.52
C2	1	5'	7'-0"	10-H2	6"	14-V3	6"	3.00"	3.00"	0.65
D2	2	6'	7'-0"	12-H2	6"	14-V4	6"	3.00"	3.00"	0.78
E2	1	7'	7'-0"	14-H2	6"	14-V5	6"	3.00"	3.00"	0.91
F2	1	8'	7'-0"	16-H2	6"	14-V6	6"	3.00"	3.00"	1.03
G2	2	9'	7'-0"	18-H2	6"	14-V7	6"	3.00"	3.00"	1.17
H2	2	10'	7'-0"	20-H2	6"	14-V8	6"	3.00"	3.00"	1.30
J2	5	11'	7'-0"	22-H2	6"	14-V9	6"	3.00"	3.00"	1.43



CAST-IN-PLACE END OF COPING DETAILS
N.T.S.

BILL OF MATERIALS FOR
RETAINING WALL

PRECAST CONCRETE PANELS

BAR NO.	NO.	SIZE	TYPE	LENGTH	WEIGHT (LBS)
H1	264	#4	STR	6'-8"	1176
V1	14	#4	STR	2'-8"	25
V2	14	#4	STR	3'-8"	34
V3	14	#4	STR	4'-8"	44
V4	28	#4	STR	5'-8"	106
V5	14	#4	STR	6'-8"	62
V6	14	#4	STR	7'-8"	72
V7	28	#4	STR	8'-8"	162
V8	28	#4	STR	9'-8"	181
V9	70	#4	STR	10'-8"	499

REINFORCING STEEL (PANELS) LBS 2394
CLASS 'A' CONCRETE (PANELS) CU YDS 17.2

CAST-IN-PLACE (C.I.P.) COPING

NO.	SIZE	TYPE	LENGTH	WEIGHT (LBS)
A	30	#5	STR 26'-9"	837
B	120	#4	1 2'-10"	227
C	4	#5	2 4'-10"	20

REINFORCING STEEL (COPING) LBS 1084
CLASS 'A' CONCRETE (COPING) CU YDS 8.2

ESTIMATED QUANTITIES

PRECAST CONCRETE PANEL TYPE 'A2'	NO.	1
PRECAST CONCRETE PANEL TYPE 'B2'	NO.	1
PRECAST CONCRETE PANEL TYPE 'C2'	NO.	1
PRECAST CONCRETE PANEL TYPE 'D2'	NO.	2
PRECAST CONCRETE PANEL TYPE 'E2'	NO.	1
PRECAST CONCRETE PANEL TYPE 'F2'	NO.	1
PRECAST CONCRETE PANEL TYPE 'G2'	NO.	2
PRECAST CONCRETE PANEL TYPE 'H2'	NO.	2
PRECAST CONCRETE PANEL TYPE 'J2'	NO.	5

HPI4X73 STEEL PILES	NO. = 17	LF = 483
C.I.P. COPING	LF	120
NO.57 STONE	CU YDS	150
SHAFT EXCAVATION	LF	323
SHAFT CONCRETE, CLASS 'A'	CU YDS	38

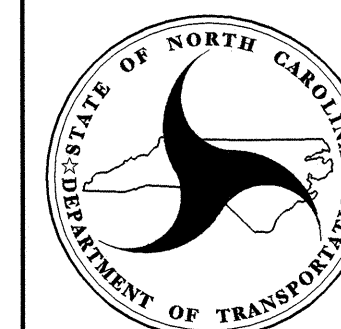
PILE ELEVATIONS AND PANEL TYPES
FOR RETAINING WALL

PILE STATION BEGIN WALL	PILE SIZE	PILE SPACE (FT.)	PILE LENGTH (FT.)	TOP SHAFT CONC. ELEV. (FT.)	CUTOFF ELEV. (FT.)
148+00.00	PILE #1	HP 14X73	7.5	20	201 3.9
	PILE #2	HP 14X73	7.5	33	201 0.9
	PILE #3	HP 14X73	7.5	33	200 8.4
	PILE #4	HP 14X73	7.5	33	200 7.7
	PILE #5	HP 14X73	7.5	33	200 7.8
	PILE #6	HP 14X73	7.5	33	200 7.8
	PILE #7	HP 14X73	7.5	33	200 7.8
	PILE #8	HP 14X73	7.5	33	200 7.4
	PILE #9	HP 14X73	7.5	33	200 8.3
	PILE #10	HP 14X73	7.5	33	200 8.3
	PILE #11	HP 14X73	7.5	33	200 9.1
	PILE #12	HP 14X73	7.5	33	200 9.9
	PILE #13	HP 14X73	7.5	20	201 0.7
	PILE #14	HP 14X73	7.5	20	201 1.5
	PILE #15	HP 14X73	7.5	20	201 2.2
	PILE #16	HP 14X73	7.5	20	201 3.3
	PILE #17	HP 14X73	7.5	20	201 4.3

HP 14X73 STEEL PILES ARE ASTM GRADE 50 STEEL

GEOTECHNICAL ENGINEERING UNIT

- EASTERN REGIONAL OFFICE
- WESTERN REGIONAL OFFICE



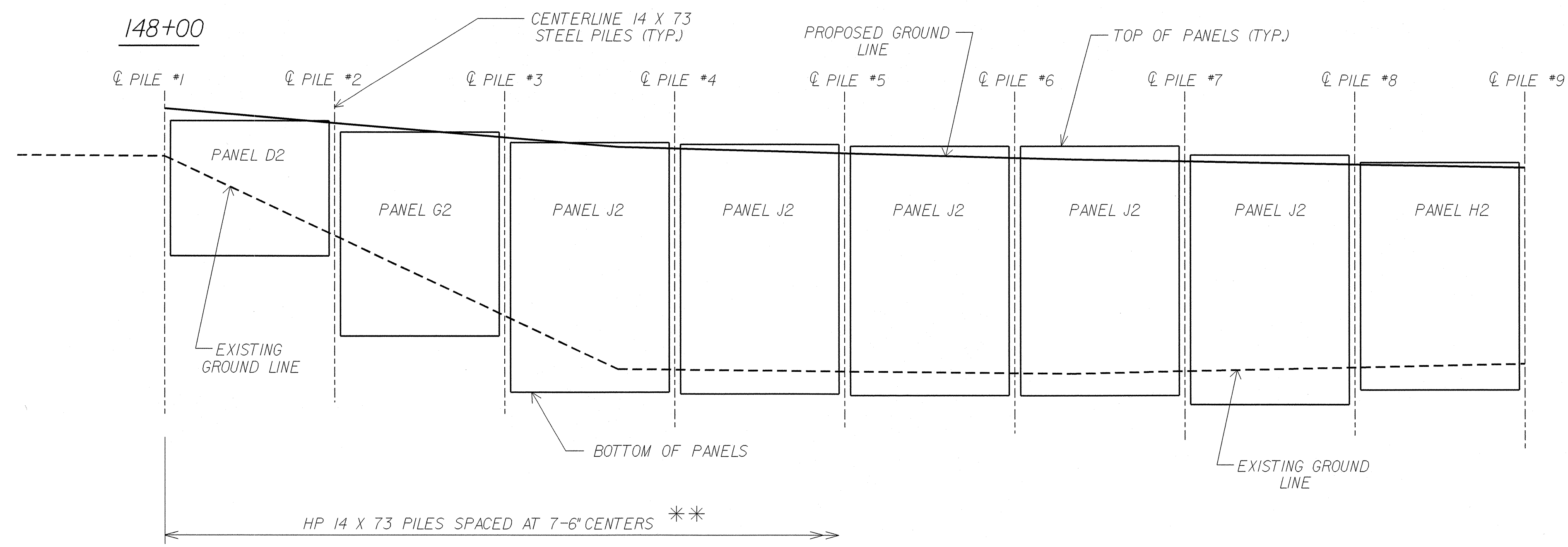
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PILE PANEL WALL
JACKSON COUNTY
STA. 148+00-L- to 149+20-L-

REVISIONS

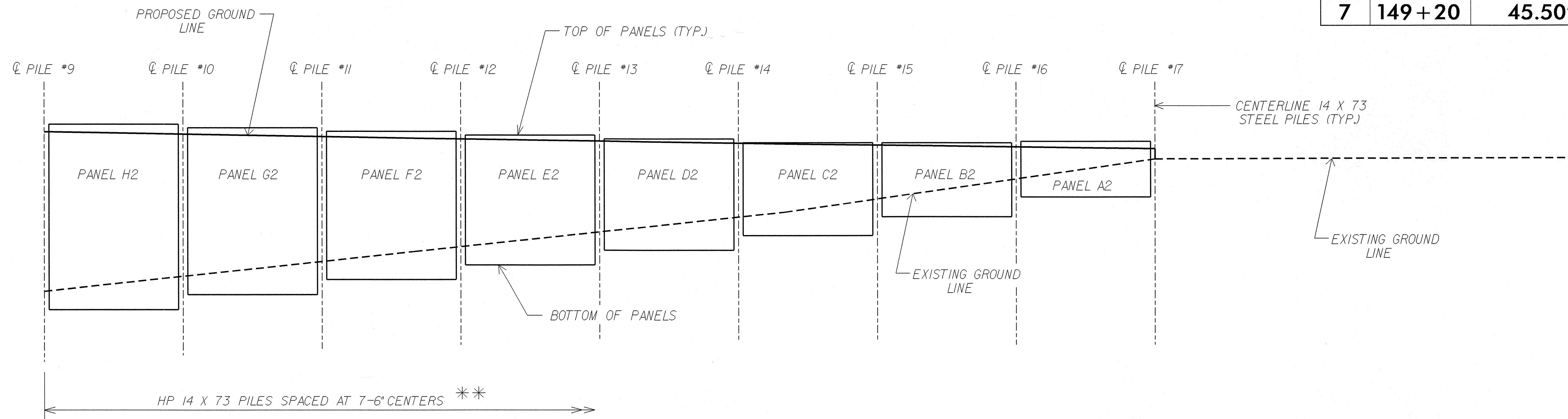
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

PREPARED BY: E. J. SALVO	DATE: 01/05
REVIEWED BY: S.C.C.	DATE: 09/06



ELEVATION OF WALL

PI#	-L- STA.	-L- OFFSET	ELEVATION
1	148+00	49.77'	2021.45'
2	148+20	60.97'	2019.72'
3	148+40	61.36'	2019.15'
4	148+60	58.04'	2018.80'
5	148+80	54.29'	2018.45'
6	149+00	50.11'	2018.14'
7	149+20	45.50'	2017.87'



ELEVATION OF WALL

NOTES: FOR TOP OF SHAFT CONCRETE ELEVATION, SEE SHEET 2.
FOR TOP OF PILE CUTOFF ELEVATIONS, SEE SHEET 2.

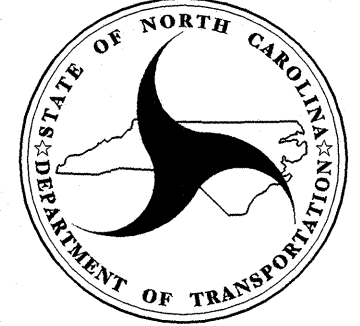
** RETAINING WALL TO BE LAID OUT AS FOLLOWS:

PILE #1 TO BE LOCATED AT A POINT OFFSET FROM STATION 148+00.00 -L- ON PERPENDICULAR LINE.
PILES #2 - #17 ARE THEN LOCATED ON THE ARC AT 7'-6" CENTERS.
THE OFFSETS WHICH DESCRIBE THE ARC ARE CALLED OUT IN TABLE 1.

PREPARED BY: E.J. SALVO	DATE: 08/06
REVIEWED BY: S.C.C.	DATE: 09/06

GEOTECHNICAL ENGINEERING UNIT

EASTERN REGIONAL OFFICE
 WESTERN REGIONAL OFFICE


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PILE PANEL WALL					
JACKSON COUNTY					
STA. 148+00-L- to 149+20-L-					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		