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GEOTECHNICAL ENGINEER	ENGINEER
 DocuSigned by: 1/17/2019 SIGNATURE DATE	SIGNATURE DATE

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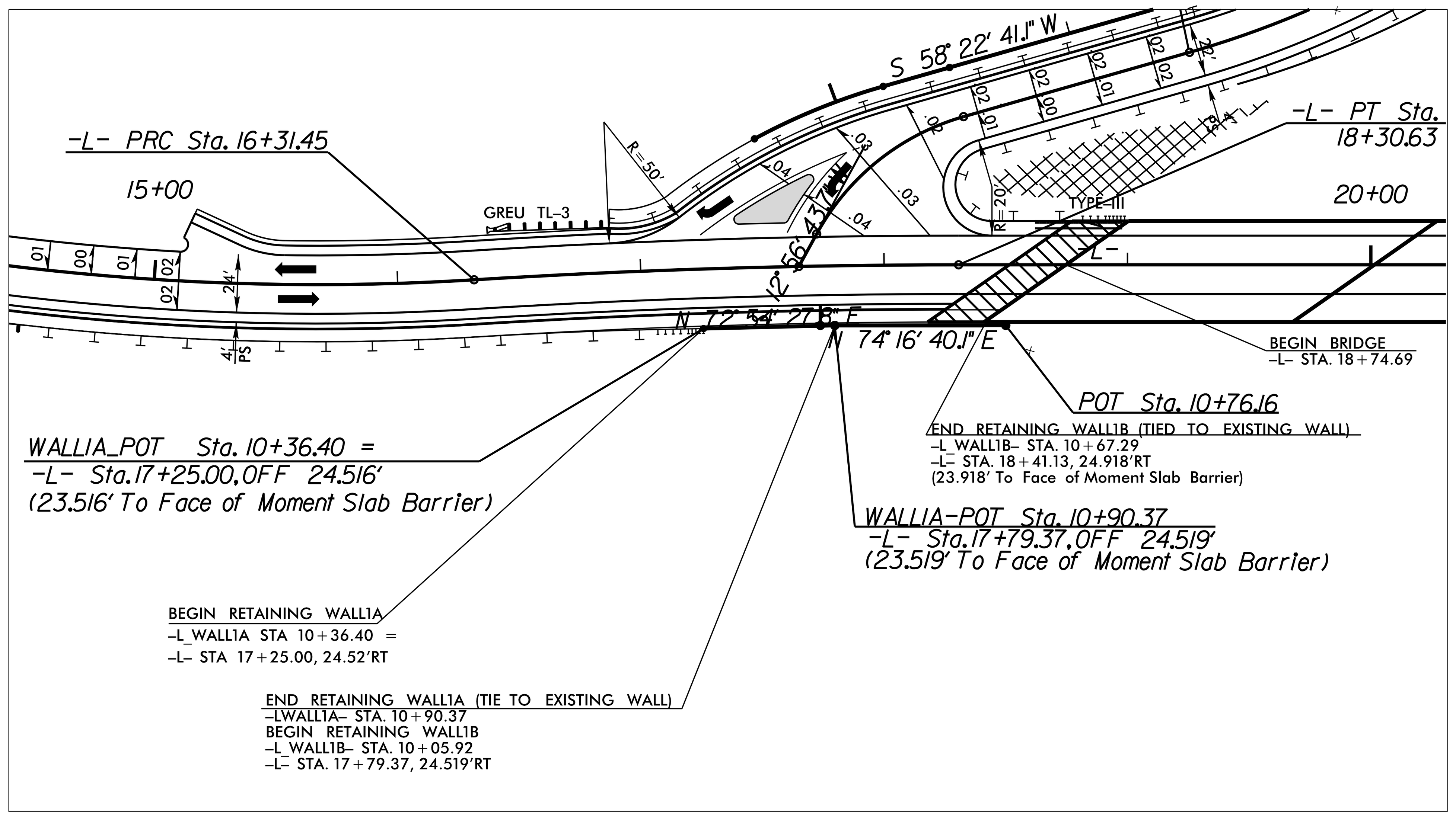


PLAN OF CIP MSE RETAINING WALL 1A

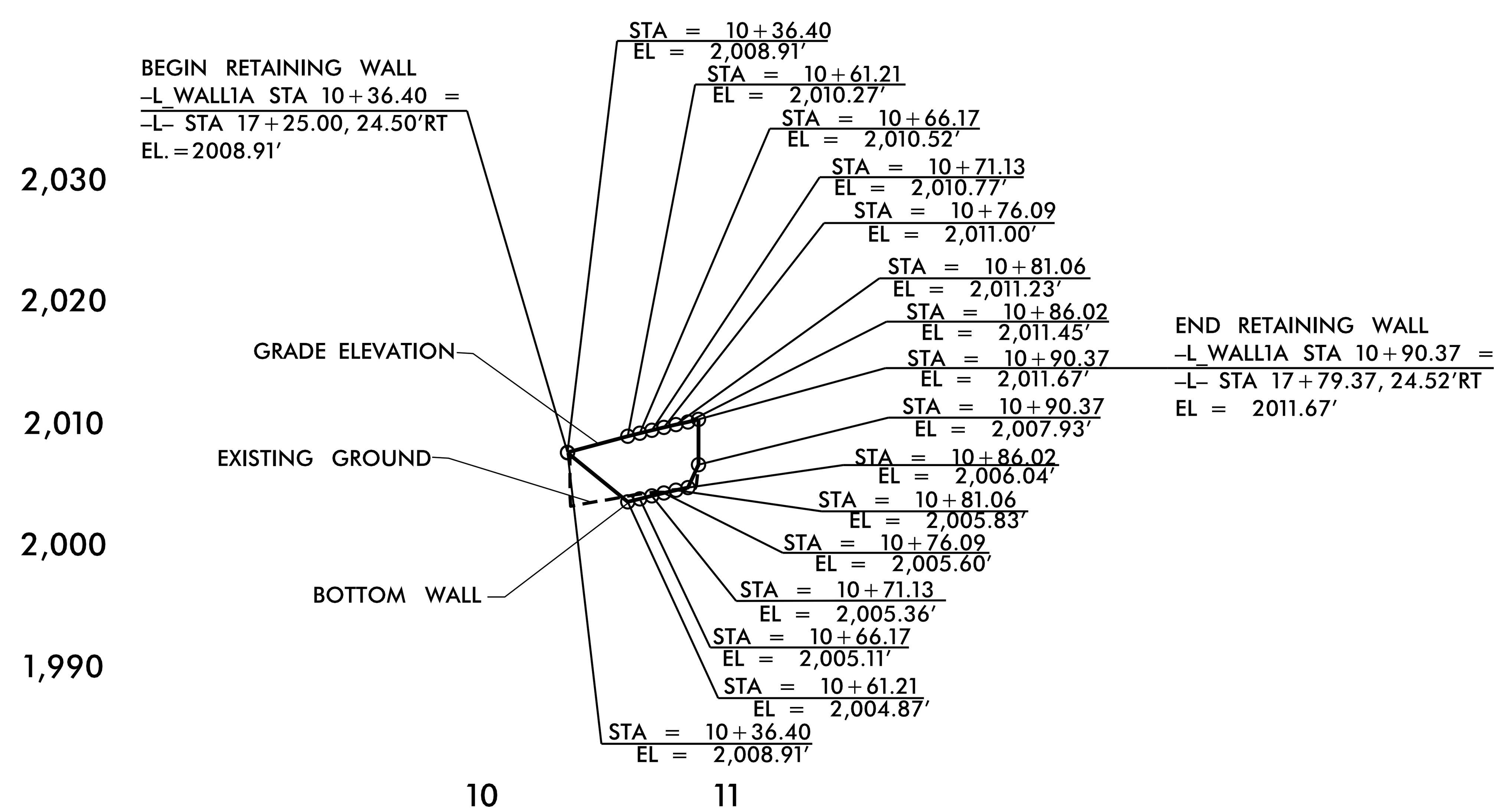
FRONT SLOPE WALL EMBEDMENT

SLOPE IN FRONT OF STRUCTURES		MINIMUM EMBEDMENT DEPTH
HORIZONTAL	FOR WALLS	H/20
	FOR ABUTMENTS	H/10
3.0H:1.0V	WALLS	H/10
2.5H:1.0V	WALLS	H/8.5
2.0H:1.0V	WALLS	H/7
1.5H:1.0V	WALLS	H/5
1.25H:1.0V	WALLS	H/4
1.0H:1.0V	WALLS	H/3

NOTE:
1) MAINTAIN A MINIMUM BENCH WIDTH OF 4.0 IN FRONT OF THE WALL FOR ITS ENTIRE LENGTH.
2) MINIMUM EMBEDMENT DEPTH OF 2 FT, UNLESS LARGER DEPTHS DICTATED BY THE ABOVE TABLE.
3) MAXIMUM SLOPE OF 1H:1V WILL BE MAINTAINED ON FRONT SLOPES FOR THE ENTIRE LENGTH OF THE WALL.
4) SUBMITT WITH THE WALL DESIGN INTERNAL, EXTERNAL, AND GLOBAL STABILITY ANALYSISES.

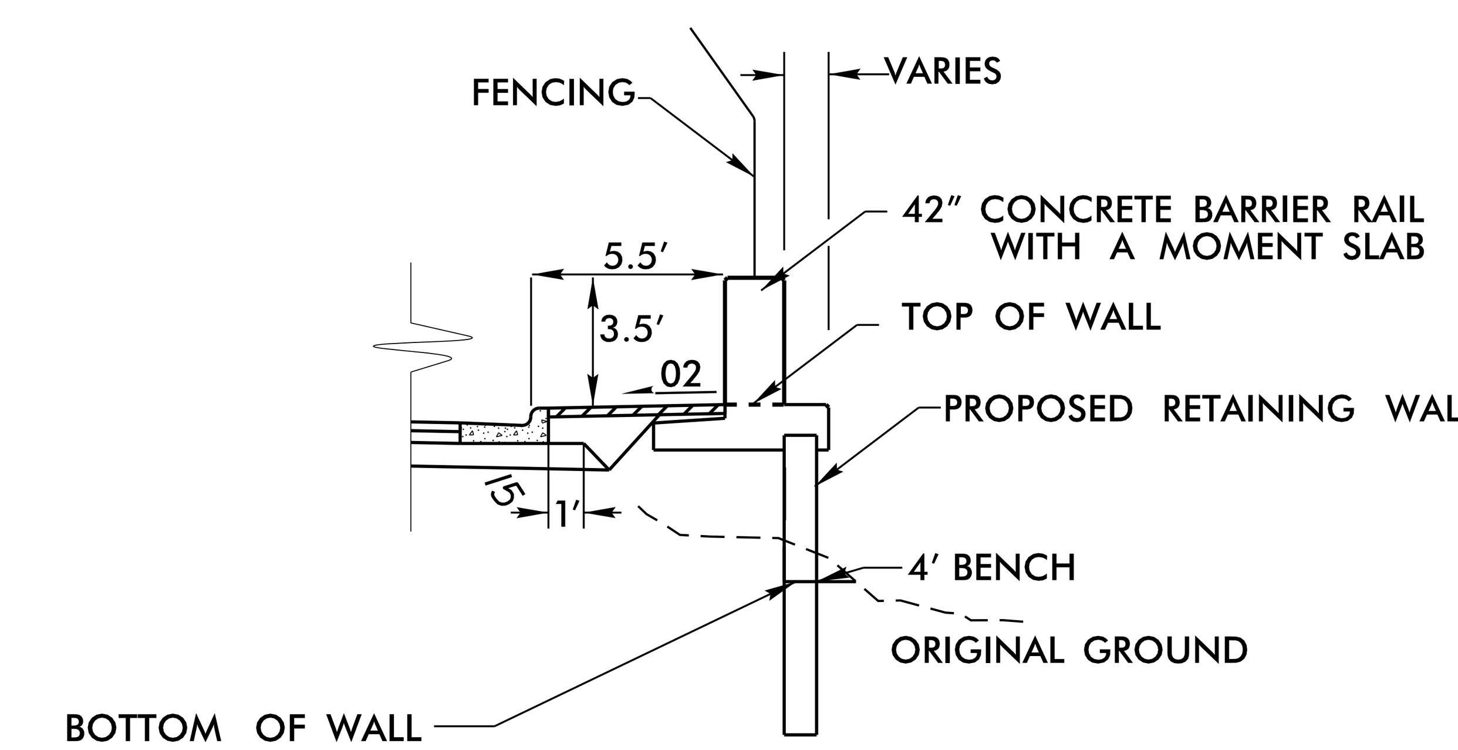
ESTIMATED MSE WALL QUANTITY
(SQUARE FEET)

CIP MSE RETAINING WALL NO. 1A	225 SF



CIP ELEVATION VIEW OF MSE RETAINING WALL 1A

ALL DIMENSIONS AND STATIONS ARE ALONG FRONT FACE OF WALL
LOOKING AT THE FRONT FACE OF WALL



CIP MSE RETAINING WALL 1A SECTION

(SEE ROADWAY OR STRUCTURE PLANS)

PROJECT NO.: 48037.1.1 (B-5905)
JACKSON COUNTY
STATION: -L- STA 17+20.00
SHEET 1 OF 10

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

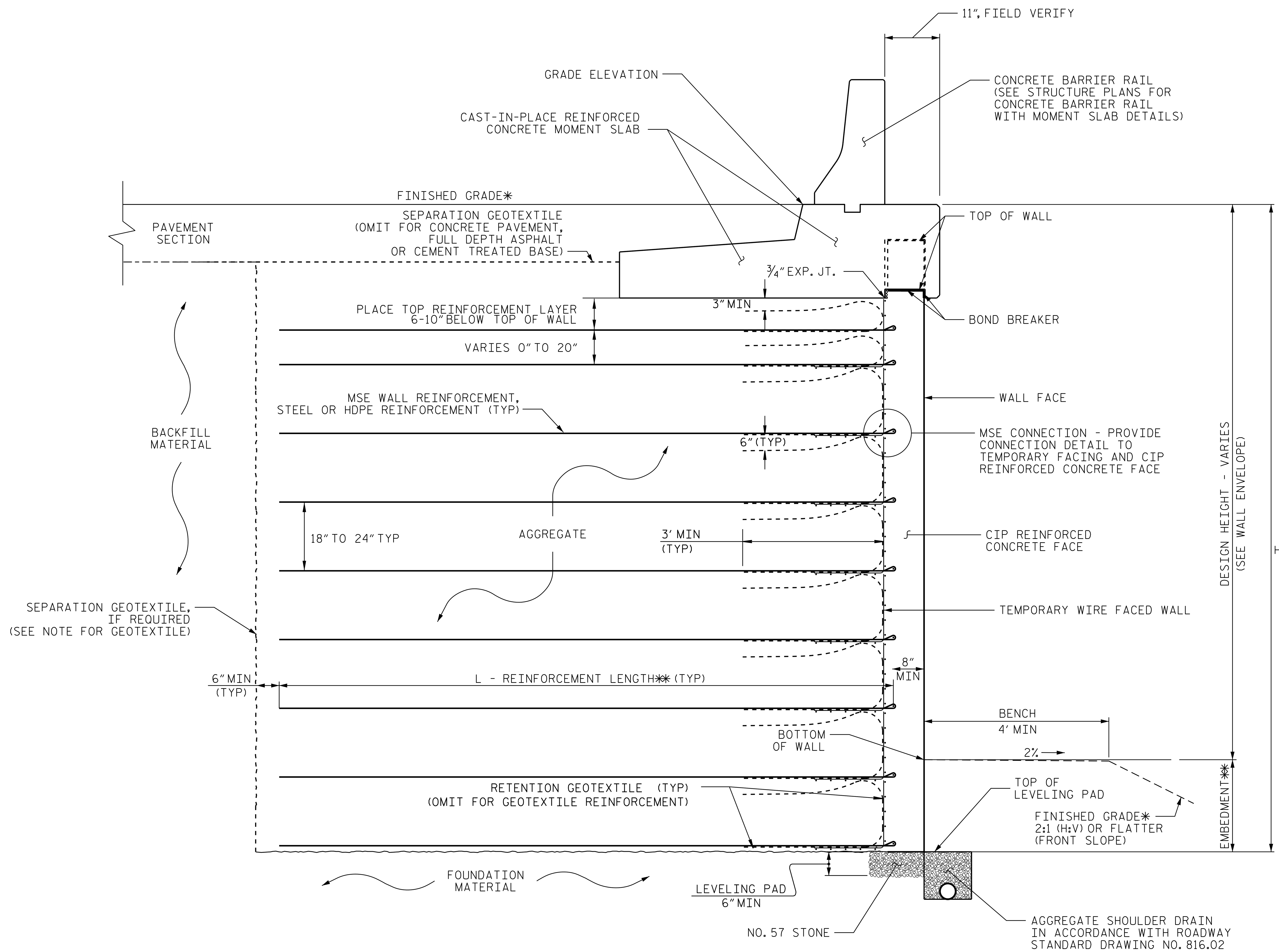
GEOTECHNICAL ENGINEERING UNIT

CAST-IN-PLACE (CIP) MSE RETAINING WALL 1A

REVISIONS

NO.	BY	DATE	NO.	BY	DATE	SHEET NO.
1	–	–	3			W-1
2			4			

PREPARED BY: MHS	DATE: 1/17/19
REVIEWED BY: SCC	DATE: 1/17/19



CIP MSE WALL - TYPICAL SECTION

*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.

**SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.

GEOTECHNICAL ENGINEER	ENGINEER
SEAL 028893 MICHAEL H. STEPHENS, NORTH CAROLINA PROFESSIONAL ENGINEER; DocuSigned by: [signature] 1/17/2019	

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PROJECT NO.: 48037.1.1 (B-5905)

JACKSON COUNTY

STATION: -L- STA 17+20.00

SHEET 2 OF 10

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

CAST-IN-PLACE (CIP) MSE RETAINING WALL 1A

REVISIONS

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

SHEET NO. W-2

PREPARED BY: MHS	DATE: 1/17/19
REVIEWED BY: SCC	DATE: 1/17/19

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 028893 ENGINEER MICHAEL H STEPHENS

DocuSigned by: 1/17/2019
8196315B3C7B4DA... SIGNATURE DATE

ENGINEER

SIGNATURE DATE

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NOTES:

FOR CAST-IN-PLACE (CIP) MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS, SEE CIP MECHANICALLY STABILIZED EARTH RETAINING WALLS PROVISION.

A CONCRETE BARRIER RAIL WITH MOMENT SLAB IS REQUIRED ABOVE RETAINING WALL NO. 1A. SEE PLANS FOR CONCRETE BARRIER RAIL WITH MOMENT SLAB DETAILS. ADDITIONAL WIDTH WILL BE REQUIRED AS THE WALL APPROACHES THE BRIDGE.

AT THE CONTRACTOR'S OPTION, USE FINE AGGREGATE IN THE REINFORCED ZONE OF RETAINING WALL NO. 1A.

A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NO. 1A.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALL NO. 1A, SURVEY WALL LOCATION AND SUBMIT A REVISED WALL PROFILE VIEW (WALL ENVELOPE) FOR REVIEW. DO NOT START WALL DESIGN OR CONSTRUCTION UNTIL THE REVISED WALL ENVELOPE IS ACCEPTED.

DESIGN RETAINING WALL NO. 1A FOR THE FOLLOWING:
1) H = DESIGN HEIGHT + EMBEDMENT
2) DESIGN LIFE = 100 YEARS
3) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 2,250 LB/SF
4) MINIMUM REINFORCEMENT LENGTH (L) = 0.8H OR 6 FT, WHICHEVER IS LONGER
5) MINIMUM EMBEDMENT ELEVATION = SEE EMBEDMENT TABLE
6) REINFORCED ZONE AGGREGATE PARAMETERS:

AGGREGATE TYPE*	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (ϕ) DEGREES	COHESION (c) LB/SF
COARSE	110	38	0
FINE	115	34	0
*SEE MSE RETAINING WALLS PROVISION FOR COARSE AND FINE AGGREGATE MATERIAL REQUIREMENTS.			

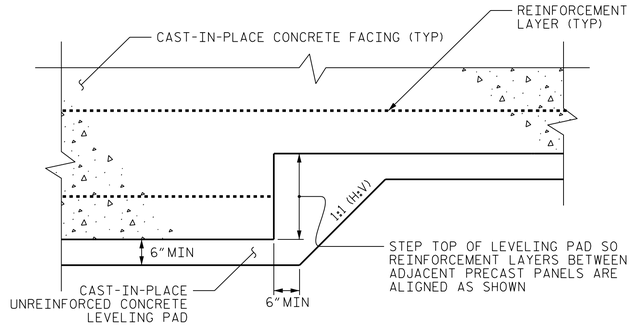
7) IN-SITU ASSUMED MATERIAL PARAMETERS:

MATERIAL TYPE	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (ϕ) DEGREES	COHESION (c) LB/SF
BACKFILL	120	30	0
FOUNDATION	120	30	0

DESIGN RETAINING WALL NO. 1A FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 1. DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL NO. 1A UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.

DO NOT PLACE WELDED WIRE FACING, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL NO. 1A UNTIL OBTAINING APPROVAL OF THE EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL.



CAST-IN-PLACE CONCRETE FACING LEVELING PAD STEP DETAIL

PROJECT NO.: 48037.1.1 (B-5905)

JACKSON COUNTY

STATION: -L- STA 17+20.00

SHEET 3 OF 10

PREPARED BY: MHS	DATE: 1/17/19
REVIEWED BY: SCC	DATE: 1/17/19

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

CAST-IN-PLACE (CIP) MSE RETAINING WALL 1A

REVISIONS

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

SHEET NO. W-3

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 028893 ENGINEER MICHAEL H STEPHENS

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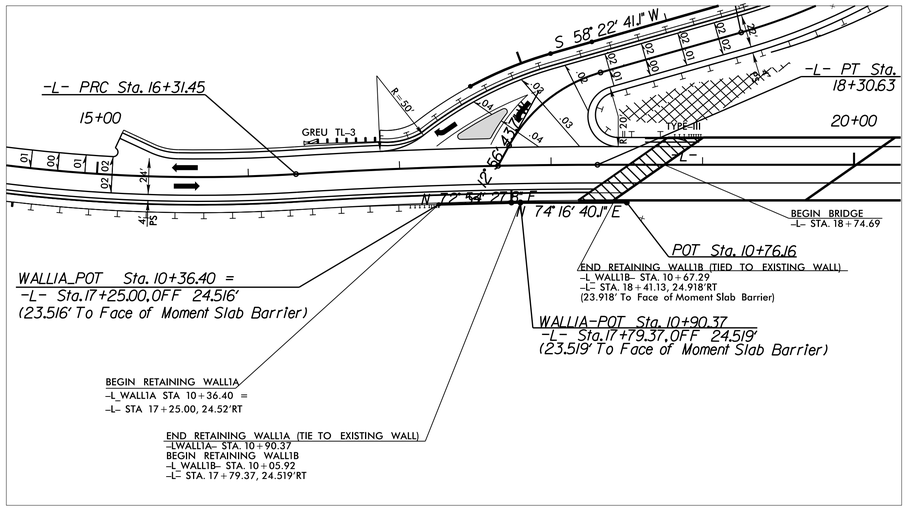
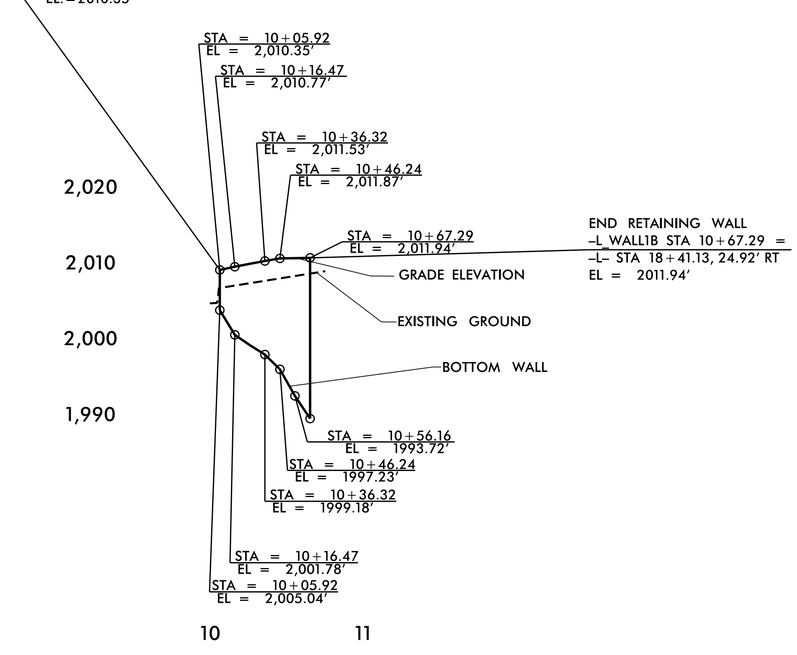


PLAN OF CIP SOIL NAIL RETAINING WALL 1B

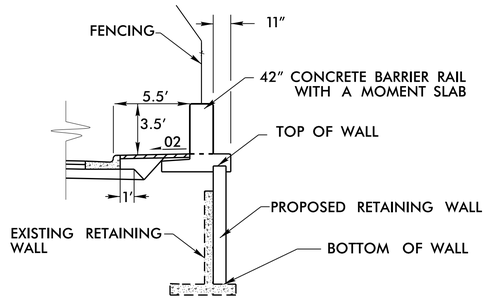
ESTIMATED SOIL NAIL WALL QUANTITIES			
RETAINING WALL NO.	SOIL NAIL RETAINING WALLS (SQUARE FEET)	SOIL NAIL VERIFICATION TESTS	SOIL NAIL PROOF TESTS
-Y- WALL	775	2	2



ELEVATION VIEW OF CIP SOIL NAIL RETAINING WALL 1B

ALL DIMENSIONS AND STATIONS ARE ALONG FRONT FACE OF WALL
LOOKING AT THE FRONT FACE OF WALL

-L_WALL1B-



CIP SOIL NAIL RETAINING WALL 1B SECTION

PROJECT NO.: 48037.1.1 (B-5905)

JACKSON COUNTY

STATION: -L- STA 17+79.37

SHEET 4 OF 10

PREPARED BY: MHS	DATE: 1/17/19
REVIEWED BY: SCC	DATE: 1/17/19

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

CIP SOIL NAIL WALL WITH MOMENT SLAB RETAINING WALL NO. 1B

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1	-	-	3			W-4
2			4			

GEOTECHNICAL ENGINEER	ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 028893 ENGINEER MICHAEL H. STEPHENS DocuSigned by: 1/17/2019 SIGNATURE DATE	SIGNATURE DATE

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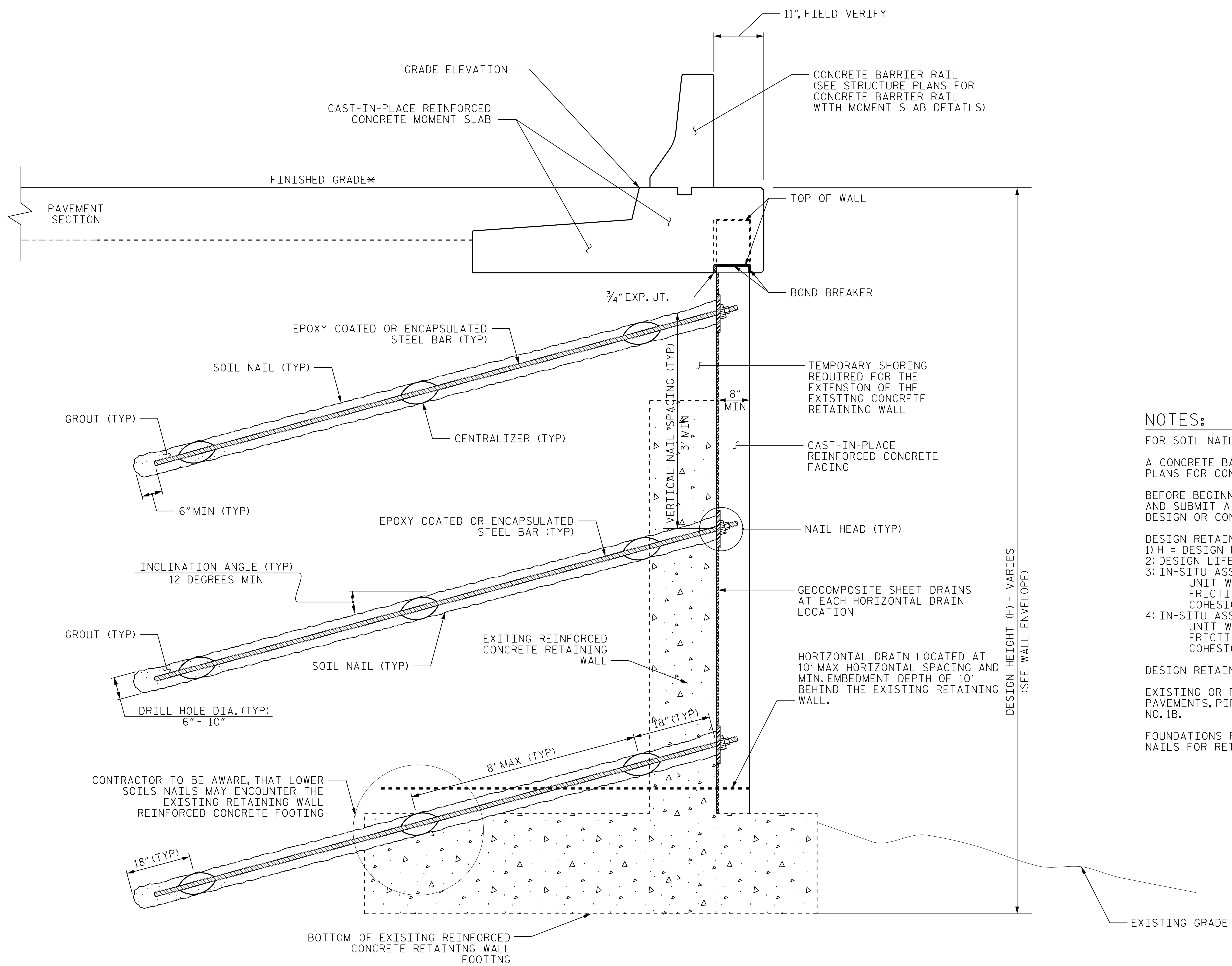

SOIL NAIL WALL WITH MOMENT SLAB - TYPICAL SECTION

*SEE CONCRETE DITCH BEHIND WALL DETAILS.
**SEE PLANS FOR FINISHED GRADE OR END BENT SLOPE DETAILS.

NOTES:

FOR SOIL NAIL RETAINING WALLS, SEE SOIL NAIL RETAINING WALLS PROVISION.

A CONCRETE BARRIER RAIL WITH MOMENT SLAB IS REQUIRED ABOVE RETAINING WALL NO. 1B. SEE PLANS FOR CONCRETE BARRIER RAIL WITH MOMENT SLAB DETAILS.

BEFORE BEGINNING SOIL NAIL WALL DESIGN FOR RETAINING WALL NO. 1B, SURVEY WALL LOCATION AND SUBMIT A REVISED WALL PROFILE VIEW (WALL ENVELOPE) FOR REVIEW. DO NOT START WALL DESIGN OR CONSTRUCTION UNTIL THE REVISED WALL ENVELOPE IS ACCEPTED.

DESIGN RETAINING WALL NO. 1B FOR THE FOLLOWING:
1) H = DESIGN HEIGHT + EMBEDMENT
2) DESIGN LIFE = 100 YEARS
3) IN-SITU ASSUMED MATERIAL PARAMETERS:
   UNIT WEIGHT, γ = 115 LB/CF
   FRICTION ANGLE, ϕ = 29 DEGREES
   COHESION, c = 0 LB/SF
4) IN-SITU ASSUMED MATERIAL PARAMETERS BELOW ELEVATION 1980 FT :
   UNIT WEIGHT, g = 120 LB/CF
   FRICTION ANGLE, f = 30 DEGREES
   COHESION, c = 0 LB/SF

DESIGN RETAINING WALL NO. 1B FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH SOIL NAILS FOR RETAINING WALL NO. 1B.

FOUNDATIONS FOR END BENT NO. 1 LOCATED AT STATION 18+74.69 -L- MAY INTERFERE WITH SOIL NAILS FOR RETAINING WALL NO. 1B. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.

PROJECT NO.: 48037.1.1 (B-5905)
JACKSON COUNTY
STATION: -L- STA 17+79.37
SHEET 5 OF 10

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

CIP SOIL NAIL WALL WITH MOMENT SLAB RETAINING WALL NO. 1B

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	W-5
1	–	–	3			
2			4			

PREPARED BY: MHS	DATE: 1/17/19
REVIEWED BY: SCC	DATE: 1/17/19

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NORTH CAROLINA PROFESSIONAL SEAL 028893 ENGINEER MICHAEL H. STEPHENS

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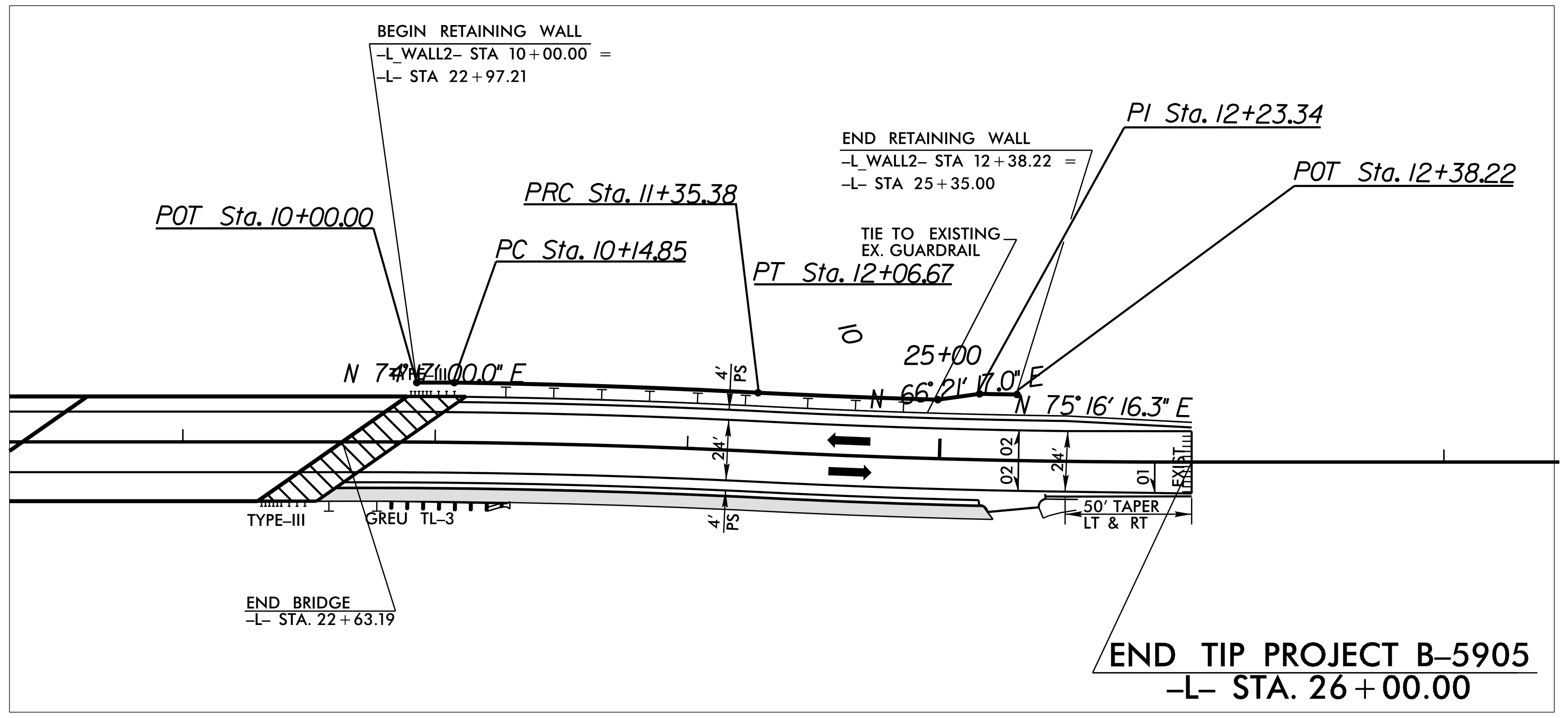


PLAN OF MSE RETAINING WALL #2 AT END BENT 2

BRIDGE SUPERSTRUCTURE AND MOMENT SLAB NOT SHOWN FOR CLARITY
FOR MOMENT SLAB DETAILS, SEE "MOMENT SLAB DETAILS" SHEETS.

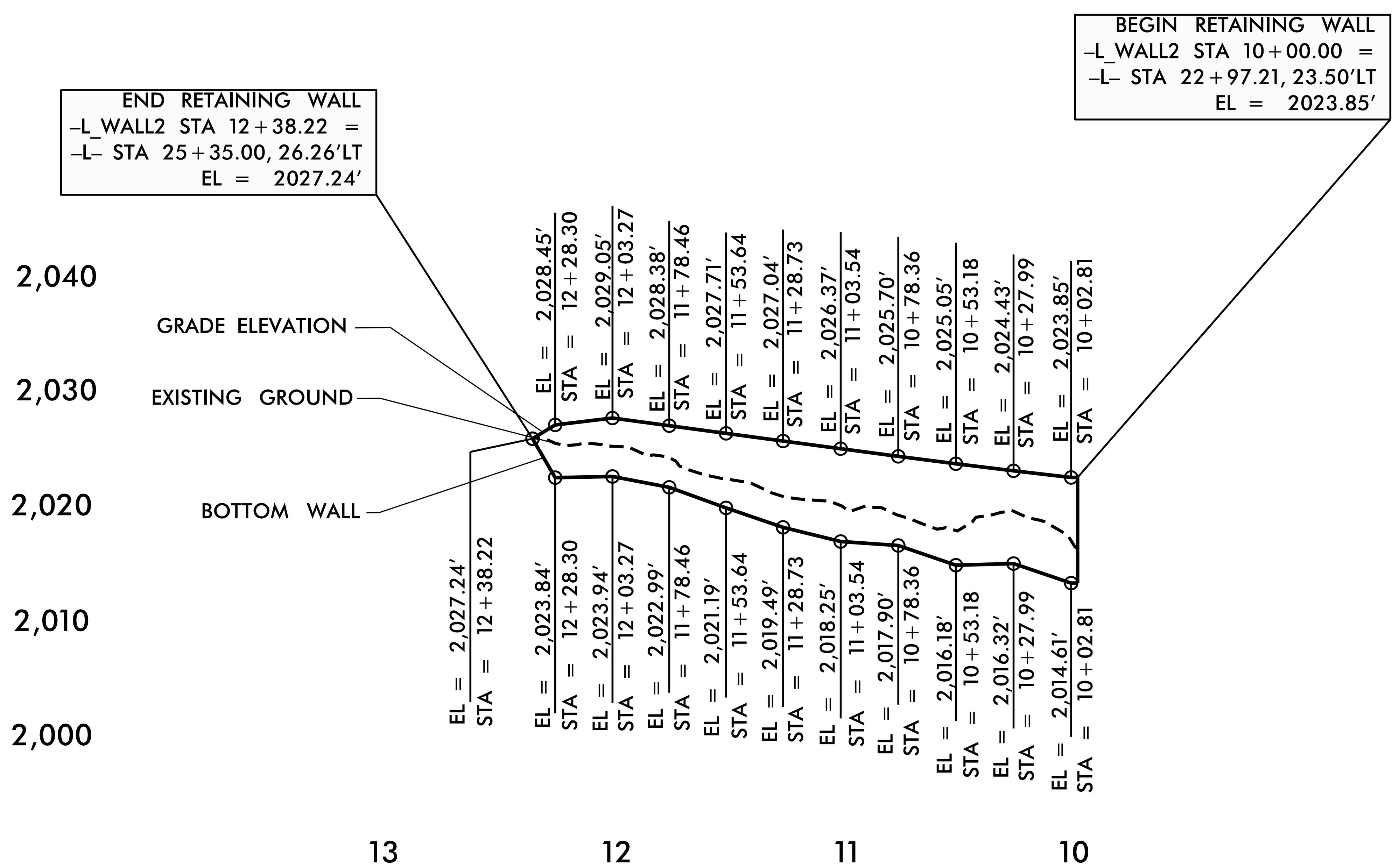
FRONT SLOPE WALL EMBEDMENT

SLOPE IN FRONT OF STRUCTURES		MINIMUM EMBEDMENT DEPTH
HORIZONTAL	FOR WALLS	H/20
	FOR ABUTMENTS	H/10
3.0H:1.0V	WALLS	H/10
2.5H:1.0V	WALLS	H/8.5
2.0H:1.0V	WALLS	H/7
1.5H:1.0V	WALLS	H/5
1.25H:1.0V	WALLS	H/4
1.0H:1.0V	WALLS	H/3

NOTE:
1) MAINTAIN A MINIMUM BENCH WIDTH OF 4.0 IN FRONT OF THE WALL FOR ITS ENTIRE LENGTH.
2) MINIMUM EMBEDMENT DEPTH OF 2 FT, UNLESS LARGER DEPTHS DICTATED BY THE ABOVE TABLE.
3) MAXIMUM SLOPE OF 1H:1V WILL BE MAINTAINED ON FRONT SLOPES FOR THE ENTIRE LENGTH OF THE WALL.
4) SUBMITT WITH THE WALL DESIGN INTERNAL, EXTERNAL, AND GLOBAL STABILITY ANALYSISES.

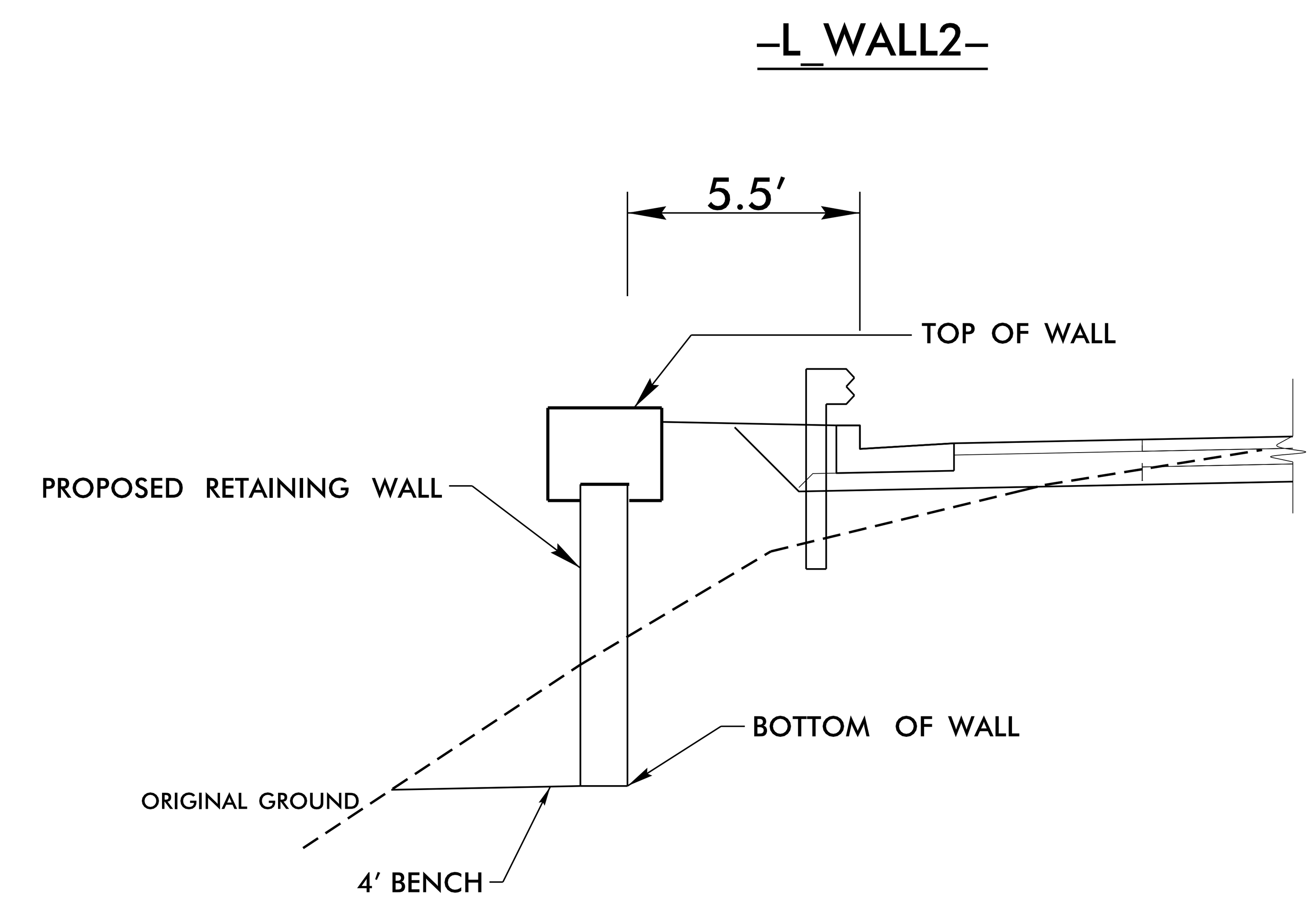
ESTIMATED MSE WALL QUANTITY
(SQUARE FEET)

MSE RETAINING WALL NO. 2	2,165 SF



ELEVATION VIEW OF MSE RETAINING WALL NO. 2

ALL DIMENSIONS AND STATIONS ARE ALONG FRONT FACE OF WALL
LOOKING AT THE FRONT FACE OF WALL



MSE RETAINING WALL NO. 2 - SECTION

PROJECT NO.: 48037.1.1 (B-5905)
JACKSON COUNTY
STATION: -L- STA 25+35.00
SHEET 6 OF 10

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

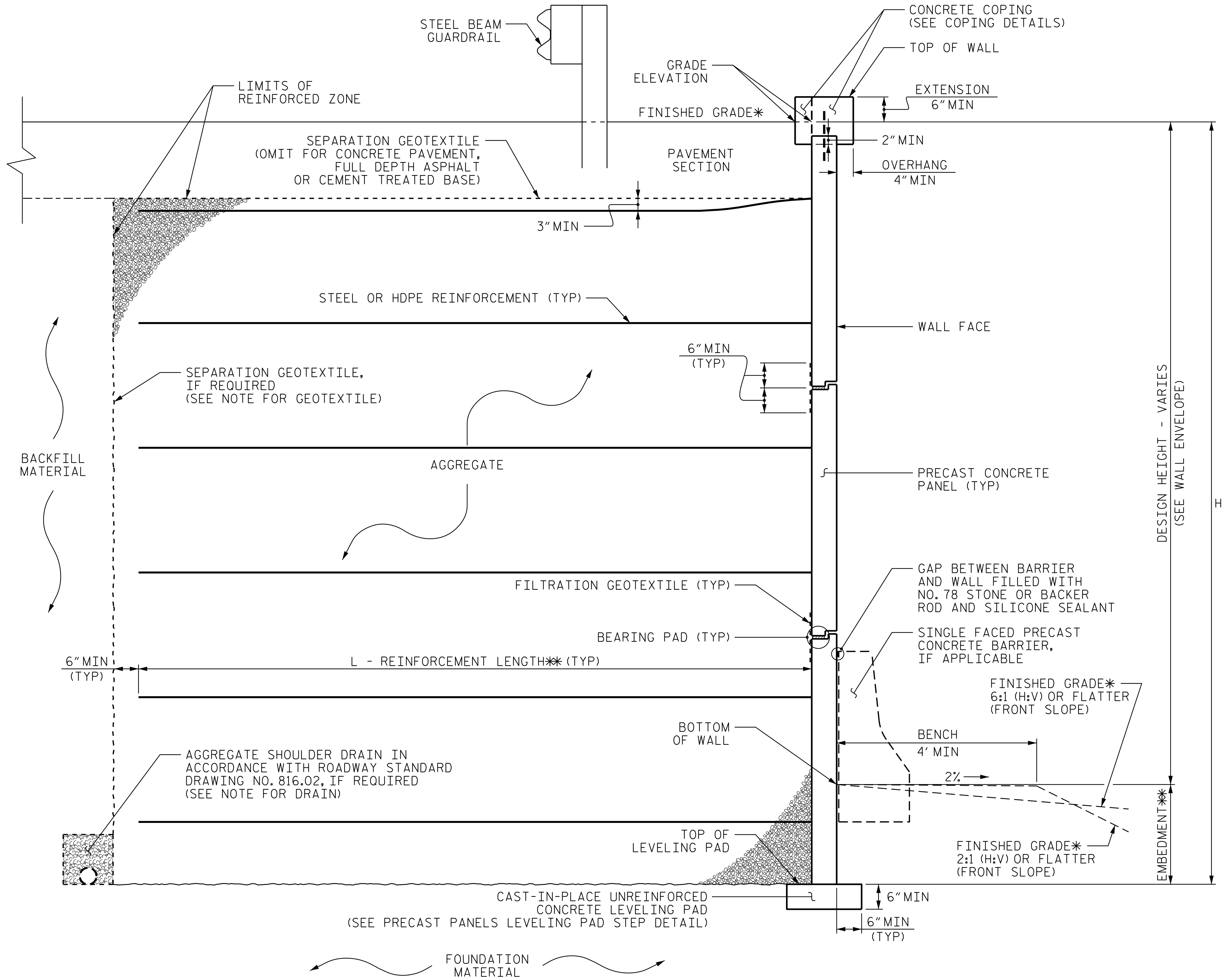
MECHANICALLY STABILIZED (MSE) RETAINING WALL NO. 2

REVISIONS

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

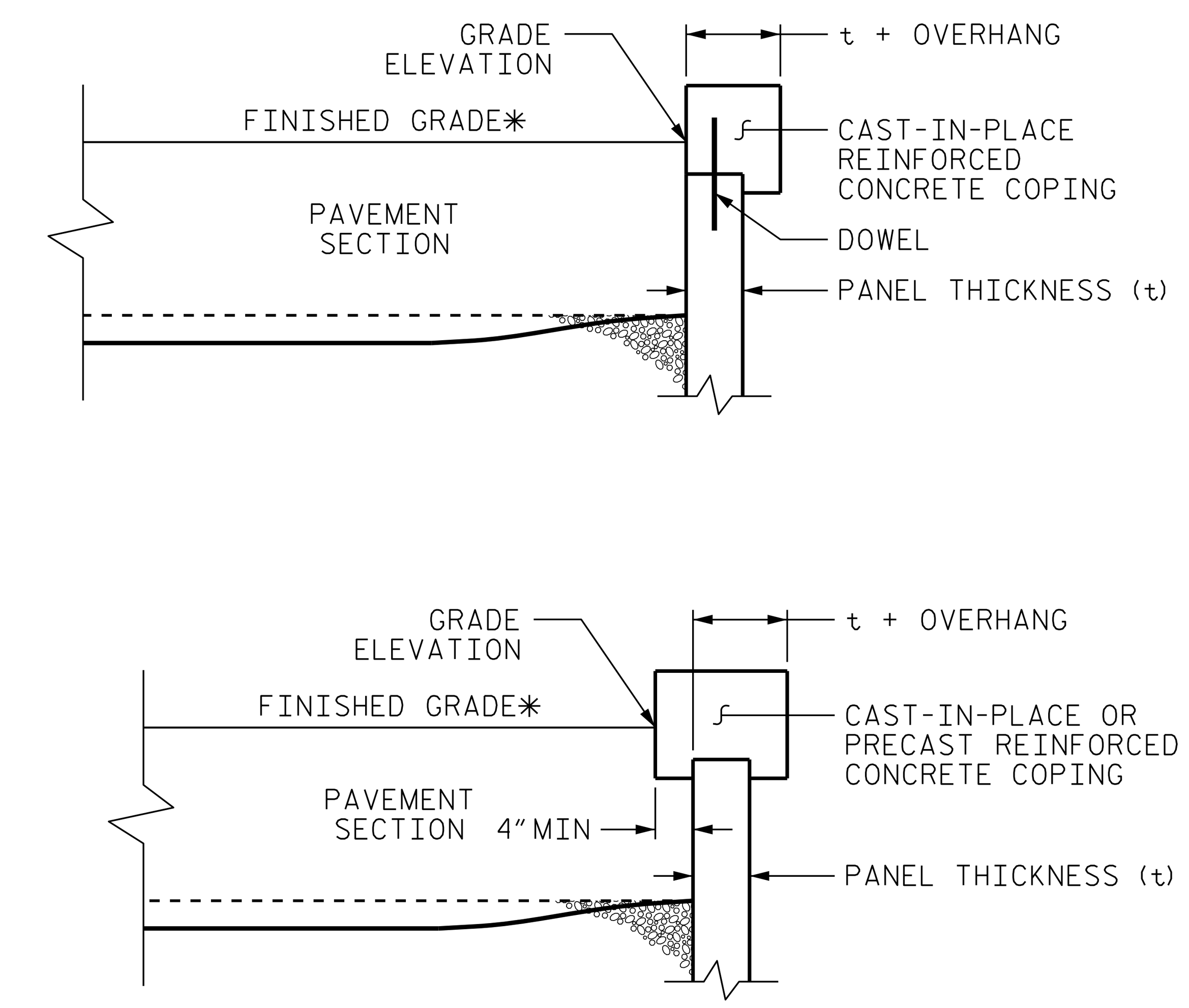
SHEET NO. W-6

PREPARED BY: MHS	DATE: 1/17/19
REVIEWED BY: SCC	DATE: 1/17/19



MSE WALL WITH PRECAST PANELS - TYPICAL SECTION

*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.
**SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.



COPING DETAILS

AT THE CONTRACTOR'S OPTION, CONNECT COPING TO PANELS WITH DOWELS OR EXTEND COPING DOWN BACK OF PANELS.
*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.

PROJECT NO.: 48037.1.1 (B-5905)

JACKSON COUNTY

STATION: -L- STA 25+35.00

SHEET 7 OF 10

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

MECHANICALLY STABILIZED (MSE) RETAINING WALL NO. 2

REVISIONS

NO.	BY	DATE	NO.	BY	DATE	SHEET NO.
1	–	–	3			W-7
2			4			

PREPARED BY: MHS	DATE: 1/17/19
REVIEWED BY: SCC	DATE: 1/17/19

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 028893 ENGINEER MICHAEL H. STEPHENS

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NOTES:

FOR MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS, SEE MECHANICALLY STABILIZED EARTH RETAINING WALLS PROVISION.

FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.

CAST-IN-PLACE REINFORCED CONCRETE COPING WITH A SMOOTH FINISH IS REQUIRED FOR RETAINING WALL NO. 2.

AT THE CONTRACTOR'S OPTION, USE FINE AGGREGATE IN THE REINFORCED ZONE OF RETAINING WALL NO. 2.

A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NO. 2, FOR COARSE AGGREGATE ONLY.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALL NO. 2, SURVEY WALL LOCATION AND SUBMIT A REVISED WALL PROFILE VIEW (WALL ENVELOPE) FOR REVIEW. DO NOT START WALL DESIGN OR CONSTRUCTION UNTIL THE REVISED WALL ENVELOPE IS ACCEPTED.

DESIGN RETAINING WALL NO. 2 FOR THE FOLLOWING:
1) H = DESIGN HEIGHT + EMBEDMENT
2) DESIGN LIFE = 100 YEARS
3) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 2,830 LB/SF
4) MINIMUM REINFORCEMENT LENGTH (L) = 1.5H OR 6 FT, WHICHEVER IS LONGER. MINIMUM LENGHT RATIO IS DICTATED BY GLOBAL STABILITY.
5) MINIMUM EMBEDMENT ELEVATION = SEE EMBEDMENT TABLE
6) REINFORCED ZONE AGGREGATE PARAMETERS:

AGGREGATE TYPE*	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (ϕ) DEGREES	COHESION (c) LB/SF
COARSE	110	38	0
FINE	115	34	0
*SEE MSE RETAINING WALLS PROVISION FOR COARSE AND FINE AGGREGATE MATERIAL REQUIREMENTS.			

7) IN-SITU ASSUMED MATERIAL PARAMETERS:

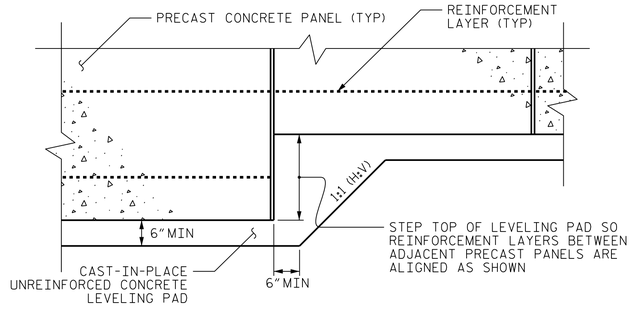
MATERIAL TYPE	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (ϕ) DEGREES	COHESION (c) LB/SF
BACKFILL	120	30	0
FOUNDATION	120	30	0

DESIGN RETAINING WALL NO. 2 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 2.

DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL NO. 2 UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.

"TEMPORARY SHORING" MAY BE REQUIRED FOR RETAINING WALL NO. 2 IN ACCORDANCE WITH THE TEMPORARY SHORING PROVISION. SEE TRAFFIC CONTROL PLANS.



PRECAST PANELS
LEVELING PAD STEP DETAIL

PROJECT NO.: 48037.1.1 (B-5905)

JACKSON COUNTY

STATION: -L- STA 25+35.00

SHEET 8 OF 10

PREPARED BY: MHS	DATE: 1/17/19
REVIEWED BY: SCC	DATE: 1/17/19

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

MECHANICALLY STABILIZED (MSE) RETAINING WALL NO. 2

REVISIONS

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

SHEET NO. W-8

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 028893 ENGINEER MICHAEL H. STEPHENS

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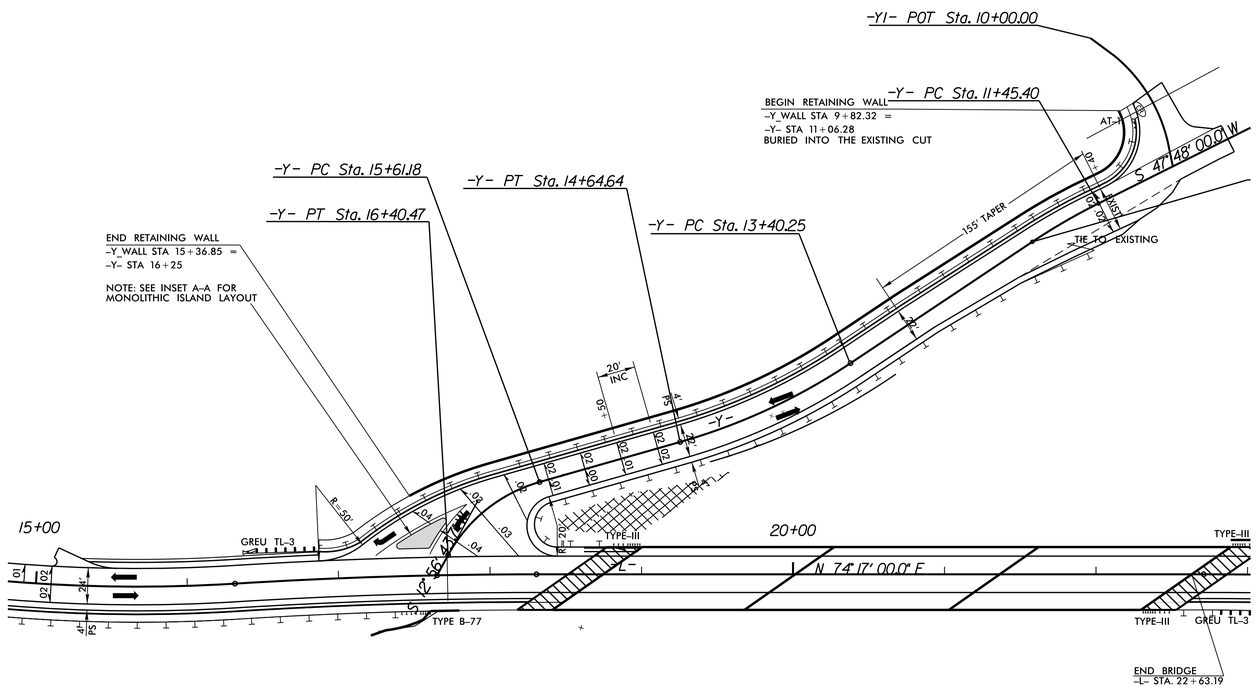
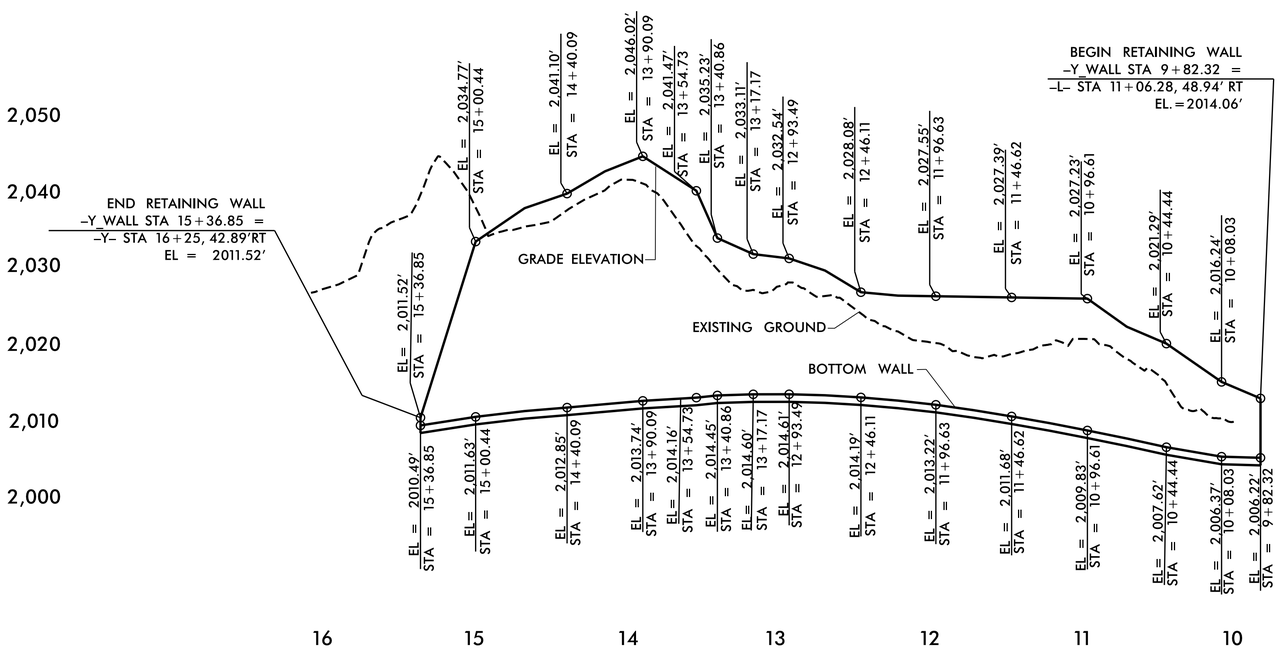


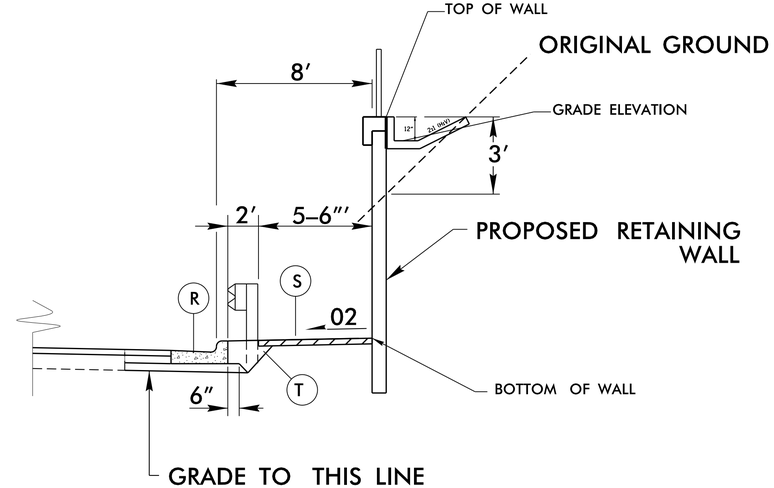
PLAN OF MSE RETAINING WALL NO. -Y-



ELEVATION VIEW OF SOIL NAIL RETAINING WALL NO. -Y-

ALL DIMENSIONS AND STATIONS ARE ALONG FRONT FACE OF WALL
LOOKING AT THE FRONT FACE OF WALL

ESTIMATED SOIL NAIL WALL QUANTITIES			
RETAINING WALL NO.	SOIL NAIL RETAINING WALLS (SQUARE FEET)	SOIL NAIL VERIFICATION TESTS	SOIL NAIL PROOF TESTS
-Y-	10,860	6	28



SOIL NAIL RETAINING WALL NO. -Y- SECTION

PROJECT NO.: 48037.1.1 (B-5905)

JACKSON COUNTY

STATION: -Y- STA 16+25

SHEET 9 OF 10

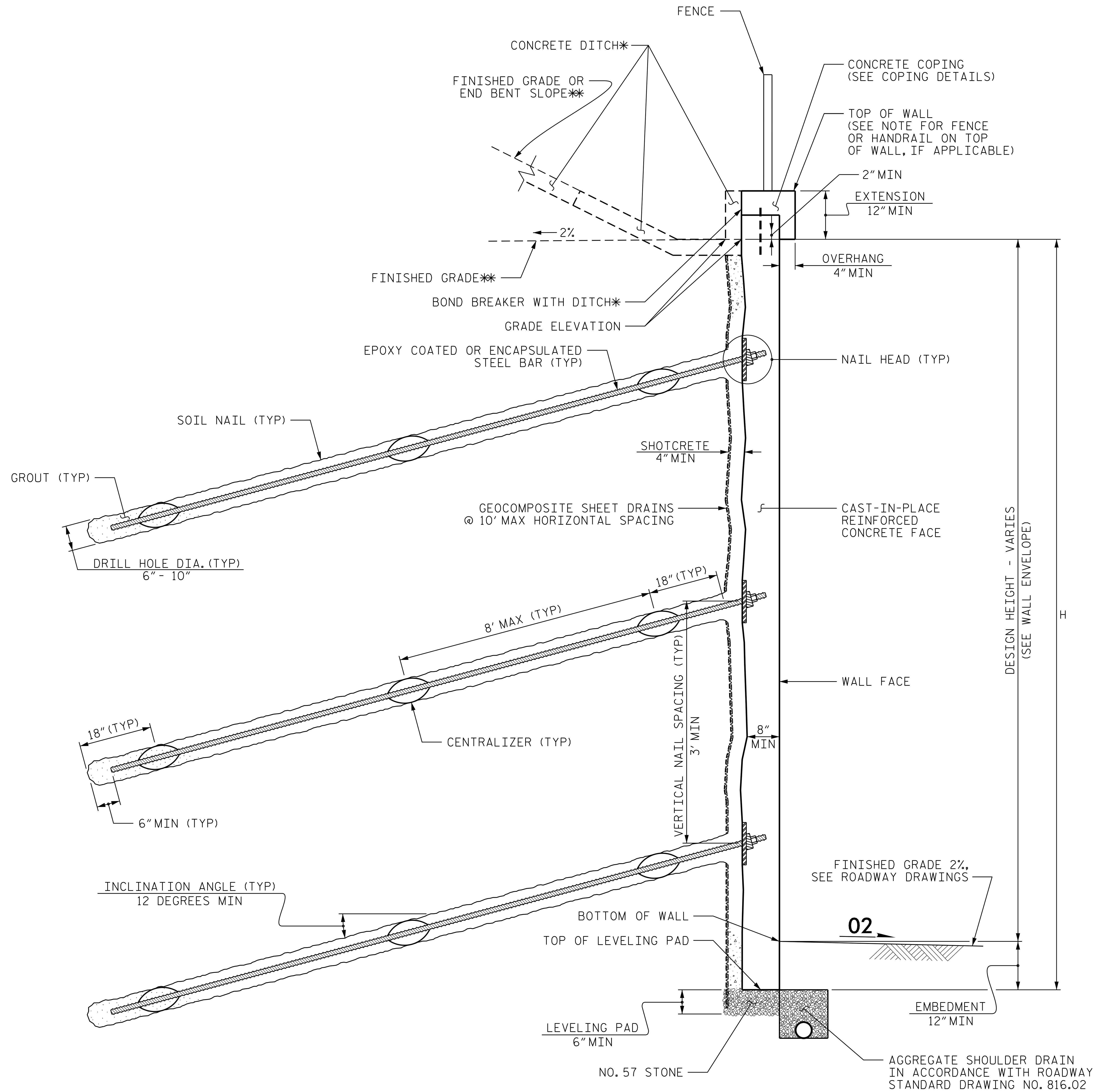
PREPARED BY: MHS	DATE: 1/17/19
REVIEWED BY: SCC	DATE: 1/17/19

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

SOIL NAIL RETAINING WALL NO. -Y-

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1	-	-	3			W-9
2			4			



SOIL NAIL WALL - TYPICAL SECTION

*SEE CONCRETE DITCH BEHIND WALL DETAILS.
**SEE PLANS FOR FINISHED GRADE OR END BENT SLOPE DETAILS.

NOTES:

FOR SOIL NAIL RETAINING WALLS, SEE SOIL NAIL RETAINING WALLS PROVISION.

FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.

A FENCE OR HANDRAIL IS REQUIRED ON TOP OF RETAINING WALL NO. -Y-. SEE ROADWAY PLANS FOR FENCE OR HANDRAIL ATTACHMENT DETAILS.

CAST-IN-PLACE REINFORCED CONCRETE COPING WITH A SMOOTH FINISH IS REQUIRED FOR RETAINING WALL NO -Y-.

A WEATHER CUT ASHLAR FORM LINER FINISH IS REQUIRED FOR THE CAST-IN-PLACE REINFORCED CONCRETE FACE FOR RETAINING WALL NO. -Y-. SEE SPECIAL PROVISION.

BEFORE BEGINNING SOIL NAIL WALL DESIGN FOR RETAINING WALL NO. -Y-, SURVEY WALL LOCATION AND SUBMIT A REVISED WALL PROFILE VIEW (WALL ENVELOPE) FOR REVIEW. DO NOT START WALL DESIGN OR CONSTRUCTION UNTIL THE REVISED WALL ENVELOPE IS ACCEPTED.

DESIGN RETAINING WALL NO. -Y- FOR THE FOLLOWING:
1) H = DESIGN HEIGHT + EMBEDMENT
2) DESIGN LIFE = 100 YEARS
3) MINIMUM EMBEDMENT ELEVATION = 1 FT
4) IN-SITU ASSUMED MATERIAL PARAMETERS FOR RESIDUAL SOIL:
UNIT WEIGHT, γ = 120 LB/CF
FRICTION ANGLE, ϕ = 30 DEGREES
COHESION, c = 0 LB/SF
4) IN-SITU ASSUMED MATERIAL PARAMETERS FOR ROCK SOIL:
UNIT WEIGHT, g = 155 LB/CF
FRICTION ANGLE, f = 40 DEGREES
COHESION, c = 5,000 LB/SF
SEE WALL INVENTORY FOR APPROXIMATE ROCK ELEVATIONS.

DESIGN RETAINING WALL NO. -Y- FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

GEOTECHNICAL ENGINEER | ENGINEER

SEAL 028893 — NORTH CAROLINA PROFESSIONAL ENGINEER — MICHAEL H. STEPHENS

DocuSigned by: 1/17/2019

SIGNATURE DATE | SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT NO.: 48037.1.1 (B-5905)
JACKSON COUNTY
STATION: -Y- STA 16+25
SHEET 10 OF 10

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

SOIL NAIL RETAINING WALL NO. -Y-

REVISIONS						
NO.	BY	DATE	NO.	BY	DATE	SHEET NO.
1	–	–	3			W-10
2			4			

PREPARED BY: MHS	DATE: 1/17/19
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