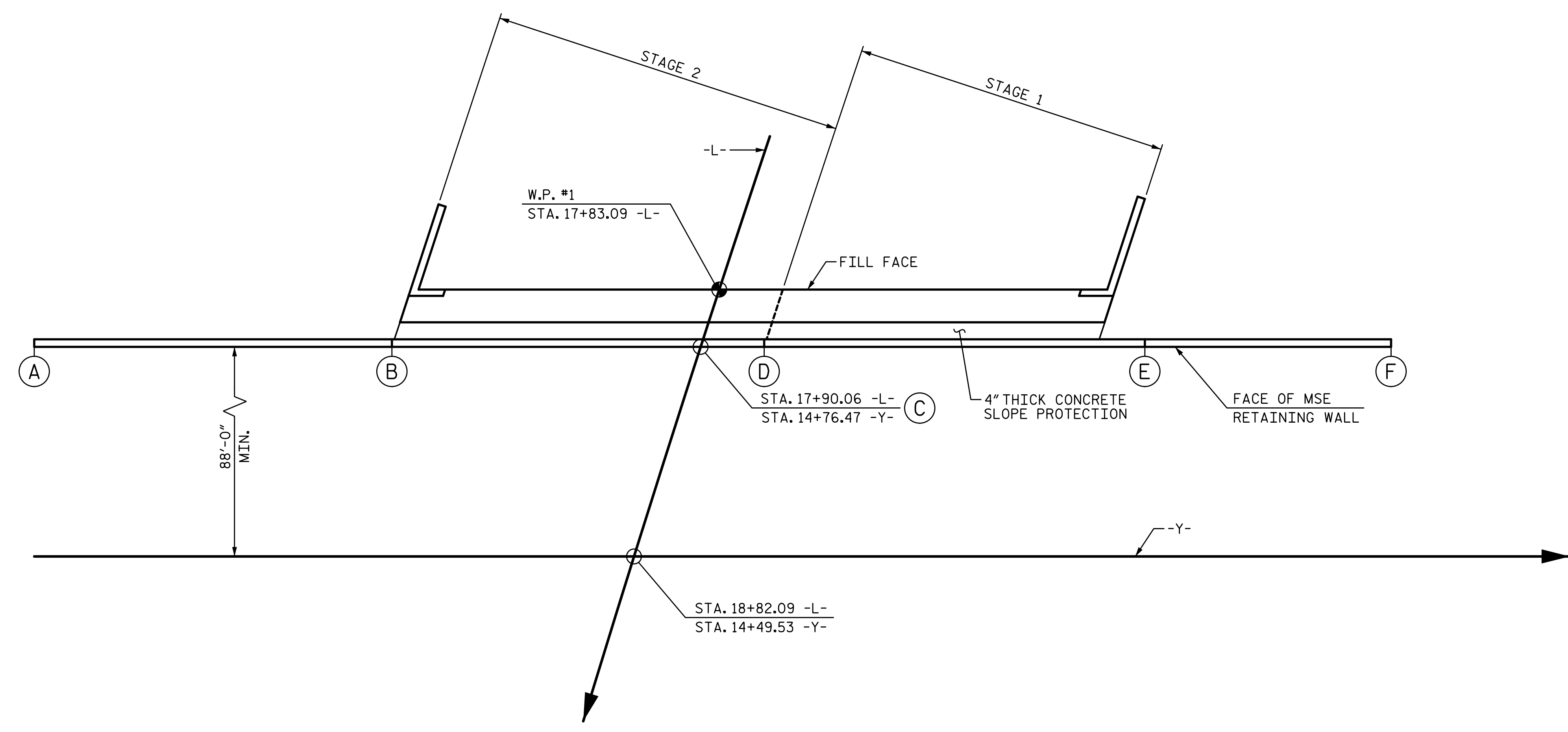
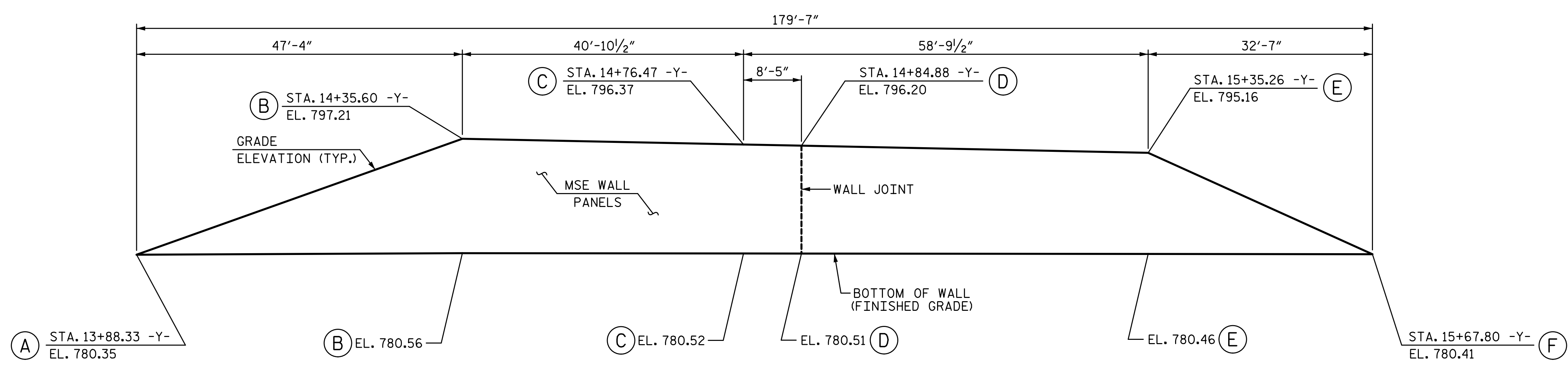


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NOTE:
FOR SECTIONS AND NOTES, SEE SHEETS 3 THRU 5.



PLAN - END BENT 1



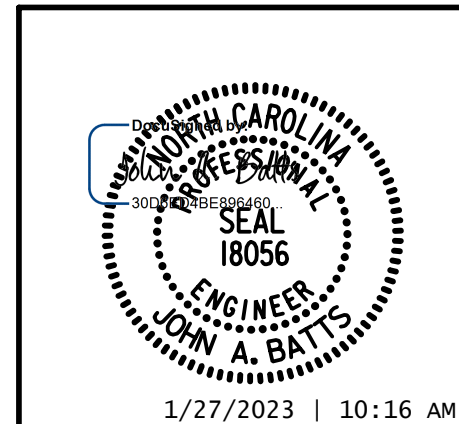
ELEVATION - END BENT 1
LOOKING AT EXPOSED FRONT FACE OF MSE RETAINING WALL
(2195 SF)

PROJECT NO. BP7.R006.3
GUILFORD COUNTY
STATION: 18+82.09 -L-

SHEET 1 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**MSE RETAINING WALLS
PLAN AND WALL ENVELOPE
AT END BENT 1
(WALL W1)**

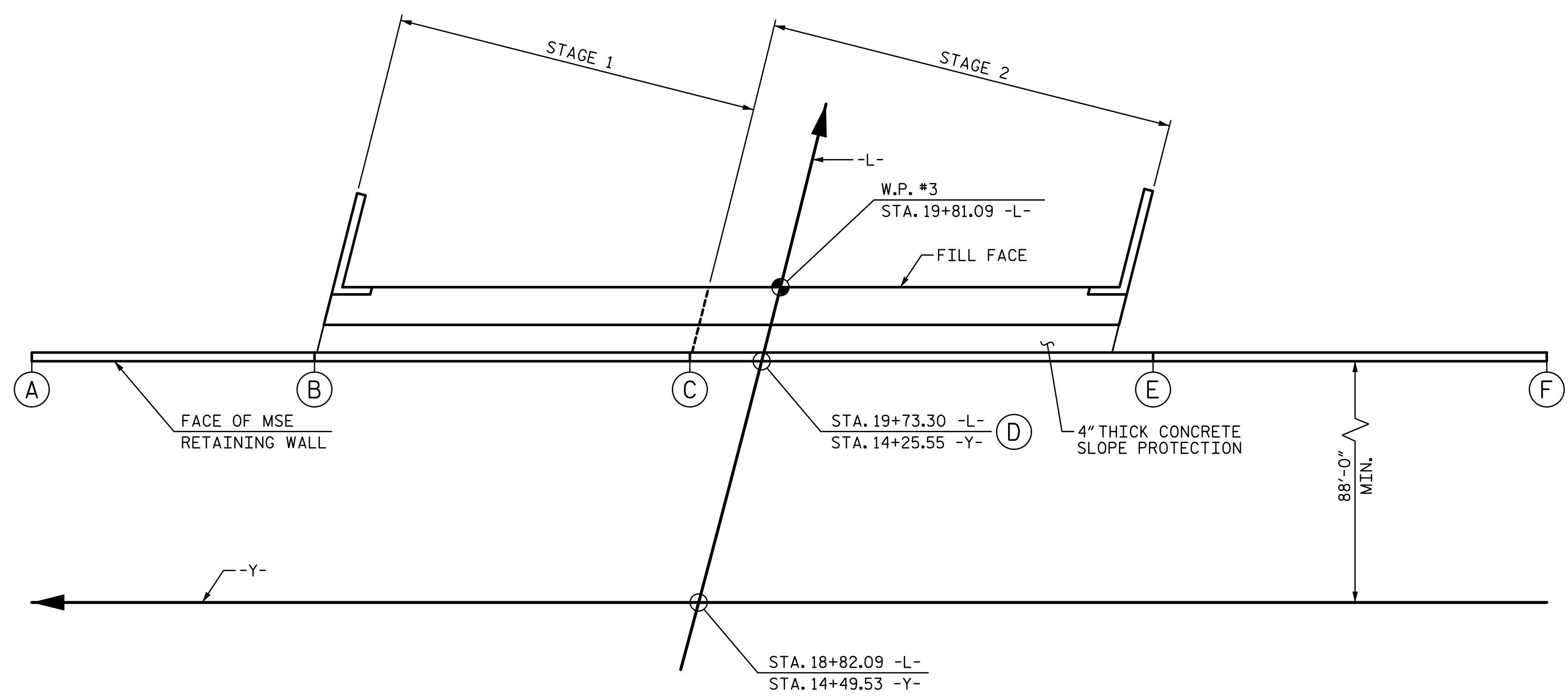


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CHECKED BY: J.A. BATTIS	DATE: 10-21
DESIGN ENGINEER OF RECORD: J.A. BATTIS	DATE: 10-21

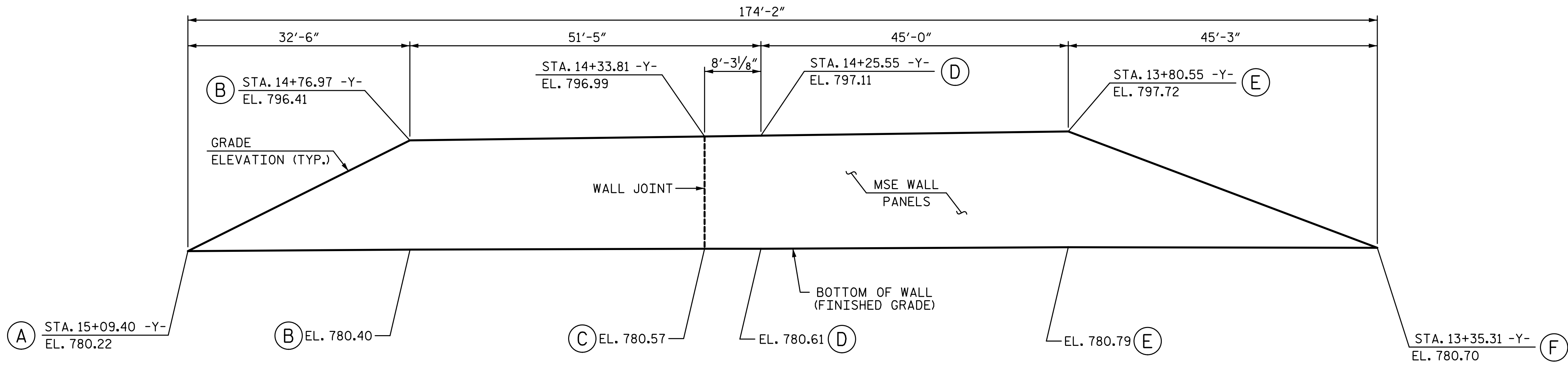
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PLAN - END BENT 2



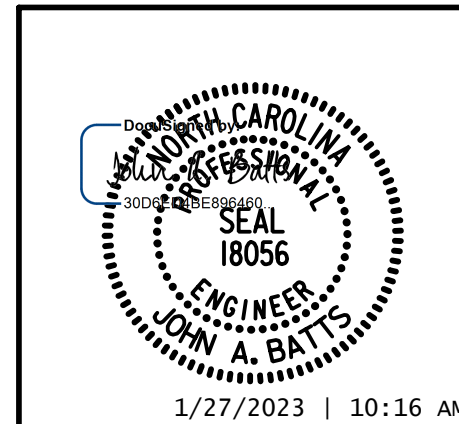
ELEVATION - END BENT 2
LOOKING AT EXPOSED FRONT FACE OF MSE RETAINING WALL
(2231 SF)

PROJECT NO. BP7.R006.3
GUILFORD COUNTY
STATION: 18+82.09 -L-

SHEET 2 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

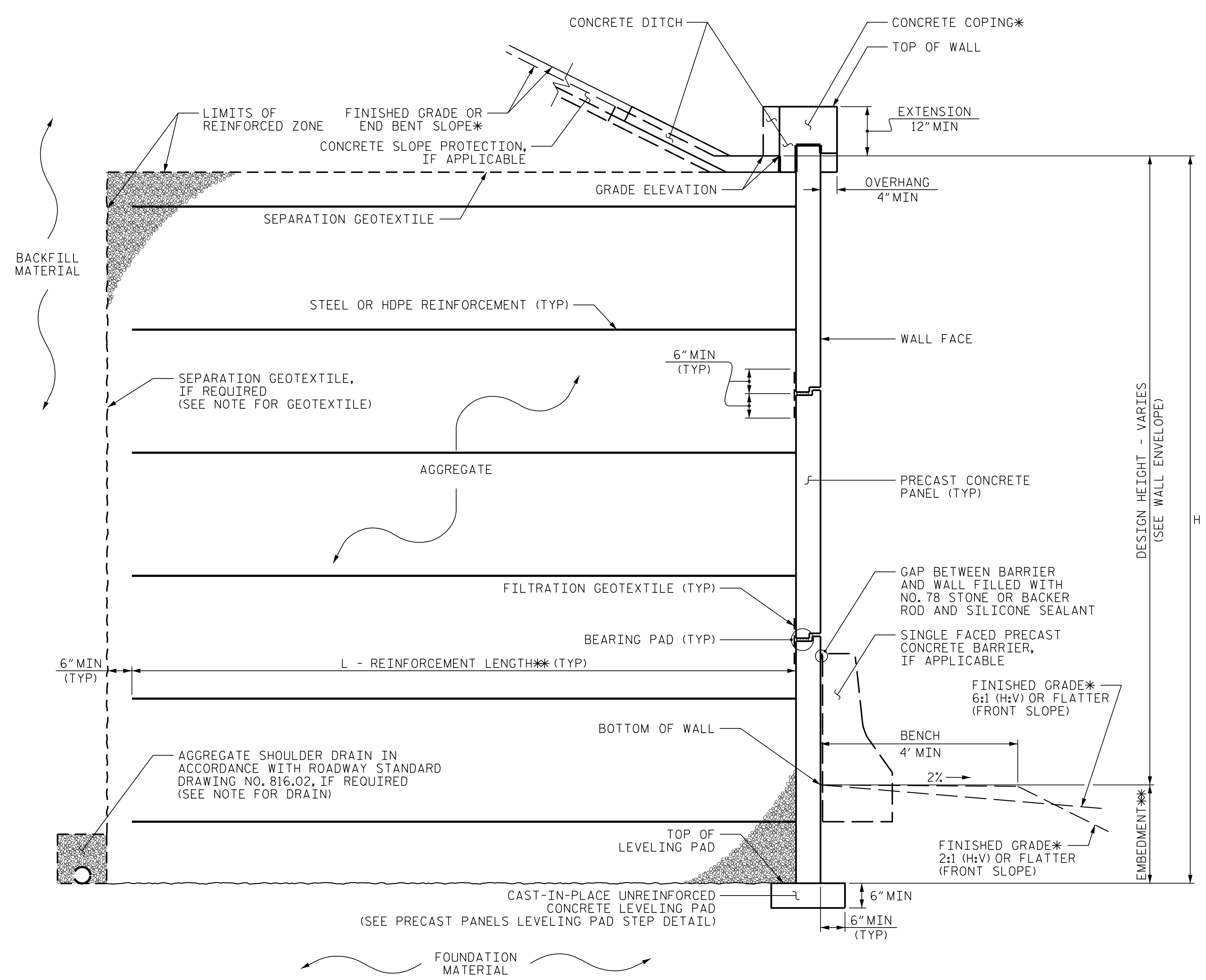
MSE RETAINING WALLS
PLAN AND WALL ENVELOPE
AT END BENT 2
(WALL W2)



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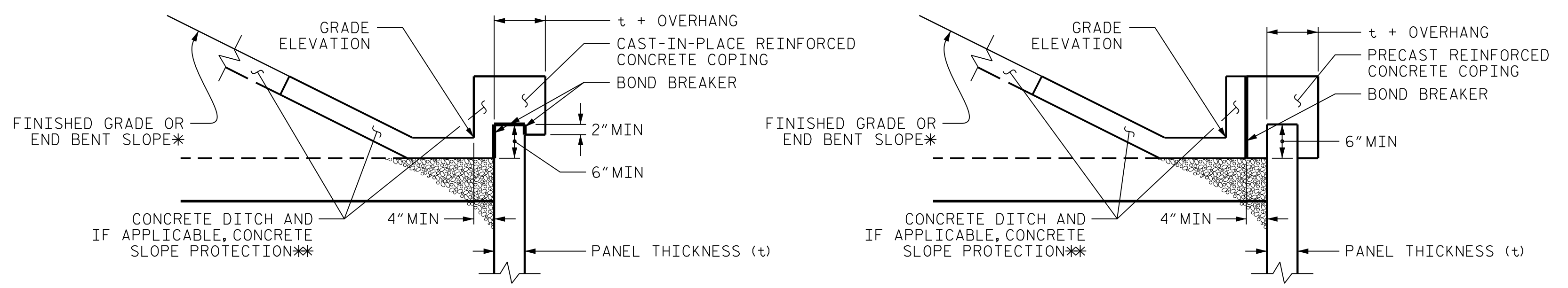
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DESIGN ENGINEER OF RECORD: J.A. BATTS	DATE: 10-21

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2			4									5



MSE WALL WITH PRECAST PANELS - TYPICAL SECTION

*SEE COPING DETAILS AND PLANS FOR FINISHED GRADE OR END BENT SLOPE DETAILS.
 **SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.

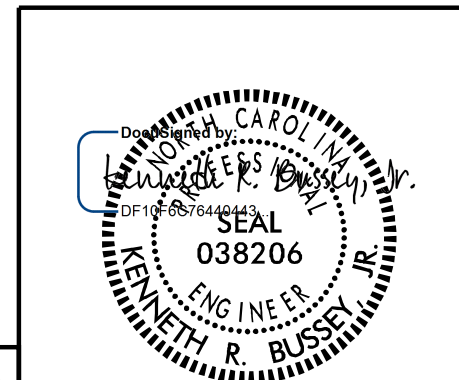


COPING DETAILS

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

PROJECT NO. BP7.R006.3
GUILFORD COUNTY
 STATION: 18+82.09 -L-
 SHEET 3 OF 5

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 MSE RETAINING WALLS
 MSE WALL WITH
 PANELS AND BACK
 SLOPE - TYPICAL &
 COPING DETAILS



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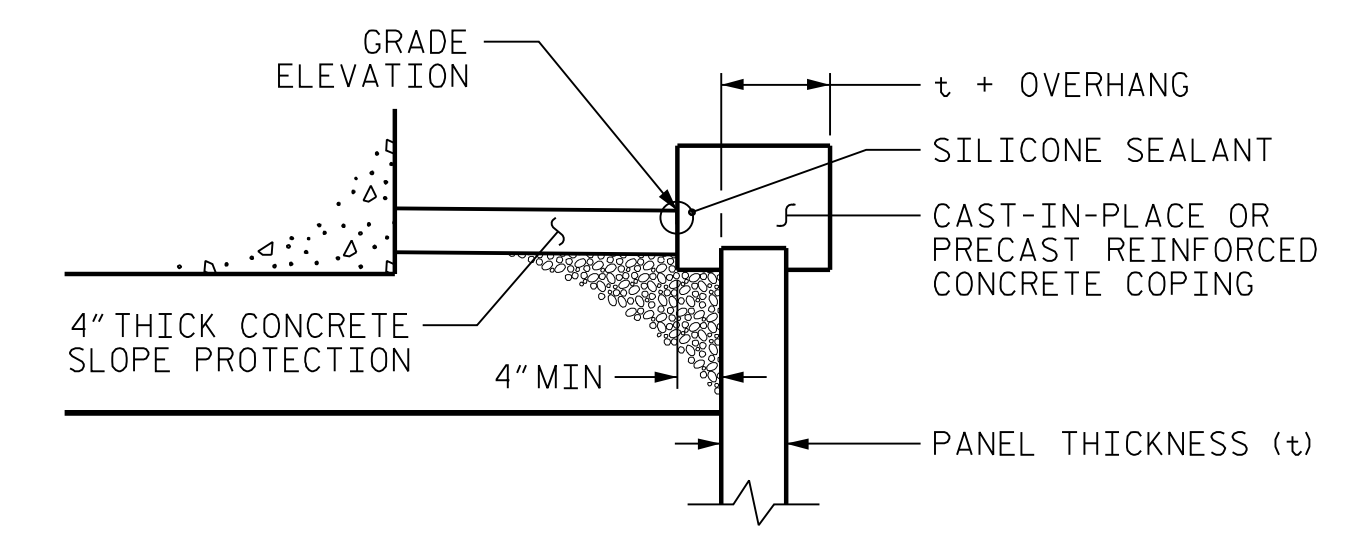
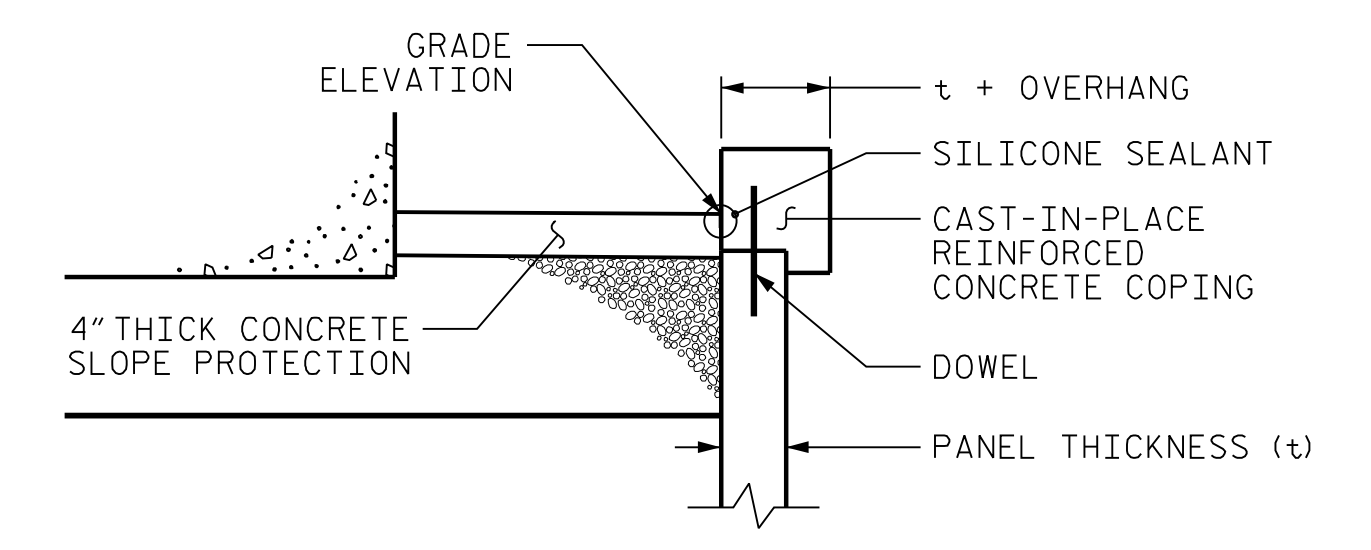
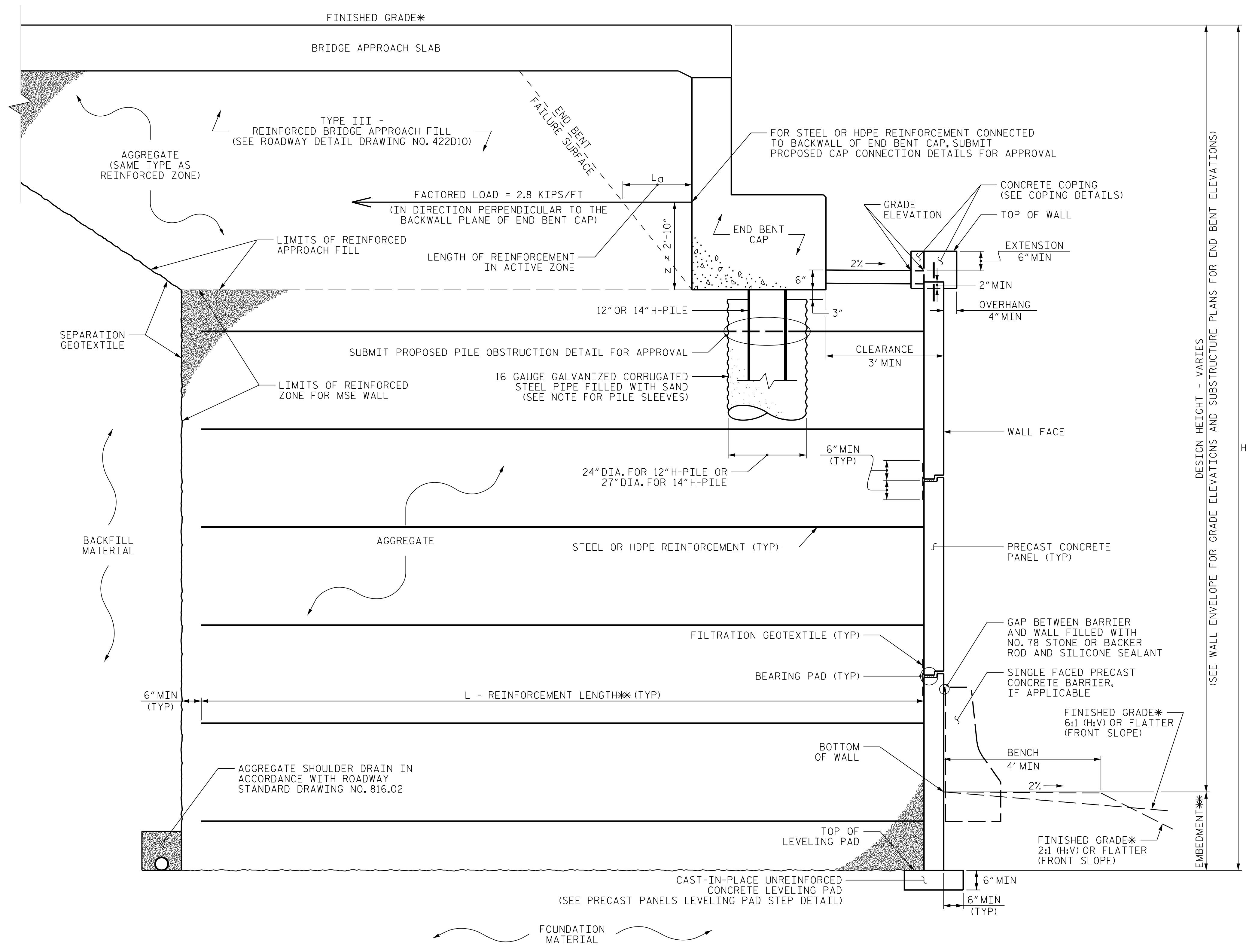
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COPING DETAILS

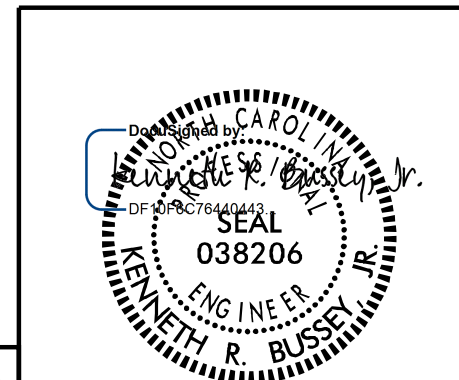
AT THE CONTRACTOR'S OPTION, CONNECT COPING TO PANELS WITH DOWELS OR EXTEND COPING DOWN BACK OF PANELS.

MSE ABUTMENT 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.

PROJECT NO. BP7.R006.3
GUILFORD COUNTY
 STATION: 18+82.09 -L-
 SHEET 4 OF 5

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 MSE RETAINING WALLS
 MSE ABUTMENT WALL
 WITH PANELS, H-PILES AND
 PILE SLEEVES - TYPICAL
 & COPING DETAILS



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NOTES:

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

FOR TYPE III REINFORCED BRIDGE APPROACH FILL, SEE BRIDGE APPROACH FILLS PROVISION AND ROADWAY DETAIL DRAWING NO. 422D10.

FOR SINGLE FACED PRECAST CONCRETE BARRIER, SEE ROADWAY PLANS AND SECTION 857 OF THE STANDARD SPECIFICATIONS.

A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALLS AT END BENT NO.1 AND END BENT NO.2

A DRAIN IS REQUIRED FOR RETAINING WALLS AT END BENT NO.1 AND END BENT NO.2.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALLS AT END BENT NO.1 AND END BENT 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 AT END BENT NO.1 FOR THE FOLLOWING:

- 1) H = DESIGN HEIGHT + EMBEDMENT
- 2) DESIGN LIFE = 75 YEARS
- 3) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 6,000 PSF
- 4) MINIMUM REINFORCEMENT LENGTH (L) = 0.7H OR 6 FT, WHICHEVER IS LONGER
- 5) REINFORCED ZONE AGGREGATE PARAMETERS:

AGGREGATE TYPE*	UNIT WEIGHT (γ) PCF	FRICTION ANGLE (ϕ) DEGREES	COHESION (c) PSF
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) PCF	FRICTION ANGLE (ϕ) DEGREES	COHESION (c) PSF
BACKFILL	120	30	0
FOUNDATION	120	32	0

DESIGN RETAINING WALL AT END BENT NO.2 FOR THE FOLLOWING:

- 1) H = DESIGN HEIGHT + EMBEDMENT
- 2) DESIGN LIFE = 75 YEARS
- 3) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 6,000 PSF
- 4) MINIMUM REINFORCEMENT LENGTH (L) = 0.7H OR 6 FT, WHICHEVER IS LONGER
- 5) REINFORCED ZONE AGGREGATE PARAMETERS:

AGGREGATE TYPE*	UNIT WEIGHT (γ) PCF	FRICTION ANGLE (ϕ) DEGREES	COHESION (c) PSF
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) PCF	FRICTION ANGLE (ϕ) DEGREES	COHESION (c) PSF
BACKFILL	120	30	0
FOUNDATION	120	32	0

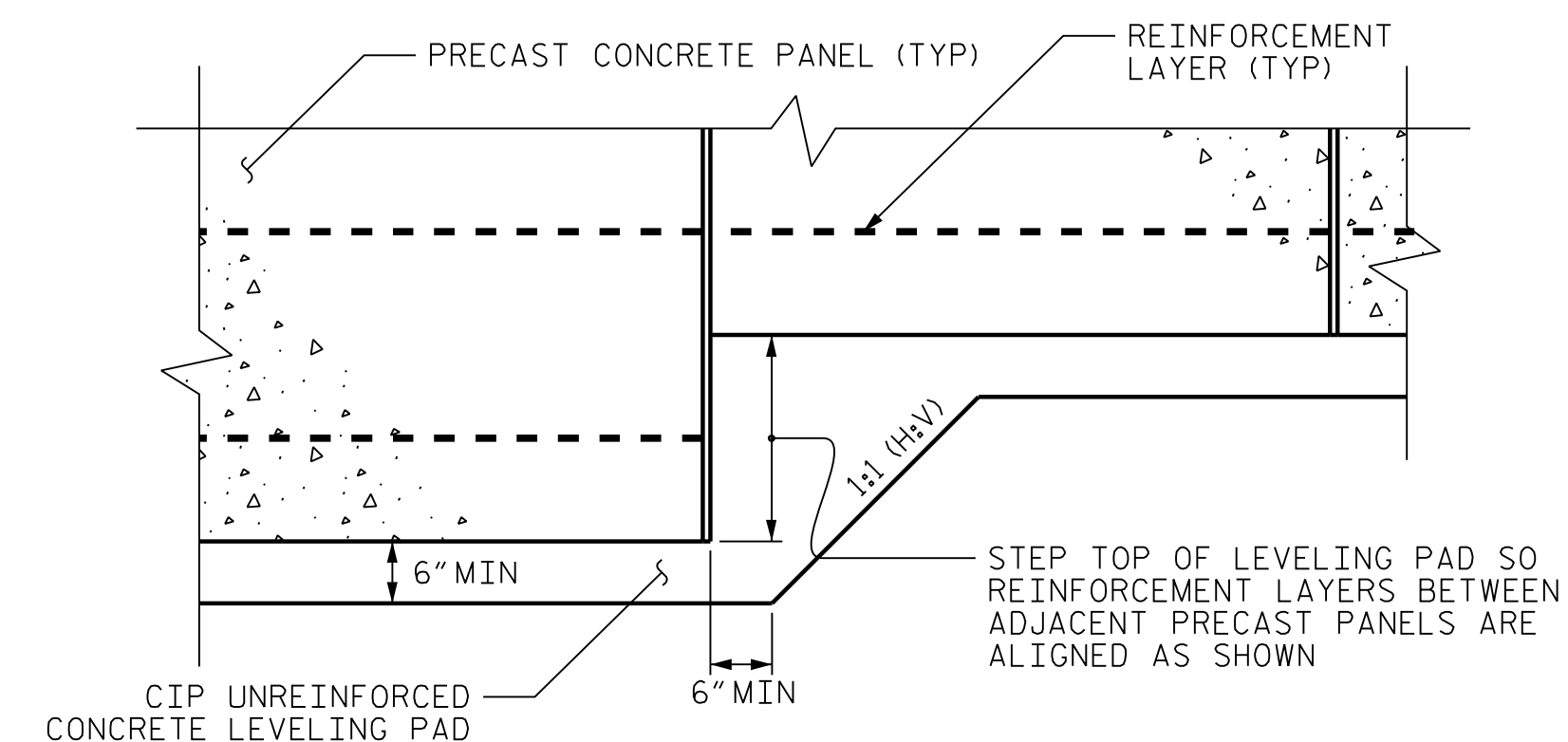
DESIGN RETAINING WALLS AT END BENT NO.1 AND END BENT NO.2 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES WILL INTERFERE WITH REINFORCEMENT FOR RETAINING WALLS AT END BENT NO.1 AND END BENT NO.2.

FOUNDATIONS FOR END BENT NO.1 AND END BENT NO.2 WILL INTERFERE WITH REINFORCEMENT FOR RETAINING WALLS AT END BENT NO.1 AND END BENT NO.2. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.

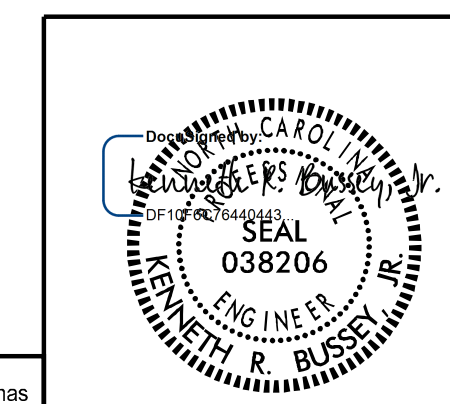
MSE WALL CONSTRUCTION SEQUENCE WILL REQUIRE A COORDINATION WITH PILE INSTALLATION AT END BENT NO.1 AND END BENT NO.2. AFTER EXCAVATING WALL AREA TO BOTTOM OF WALL SUBGRADED ELEVATION, PILES SHALL BE DRIVEN TO THE REQUIRED DRIVING RESISTANCE.

DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALLS AT END BENT 1 AND END BENT NO.2 UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.



**PRECAST PANELS
LEVELING PAD STEP DETAIL**

PROJECT NO. BP7.R006.3
GUILFORD COUNTY
 STATION: 18+82.09 -L-
 SHEET 5 OF 5



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 MSE RETAINING WALLS
 MSE WALL - NOTES
 & PRECAST PANELS
 LEVELING PAD
 STEP DETAIL

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DESIGN ENGINEER OF RECORD: <u>K. BUSSEY</u>	DATE: <u>2-22</u>