

GEOTECHNICAL ENGINEER

ENGINEER

SEAL 032171

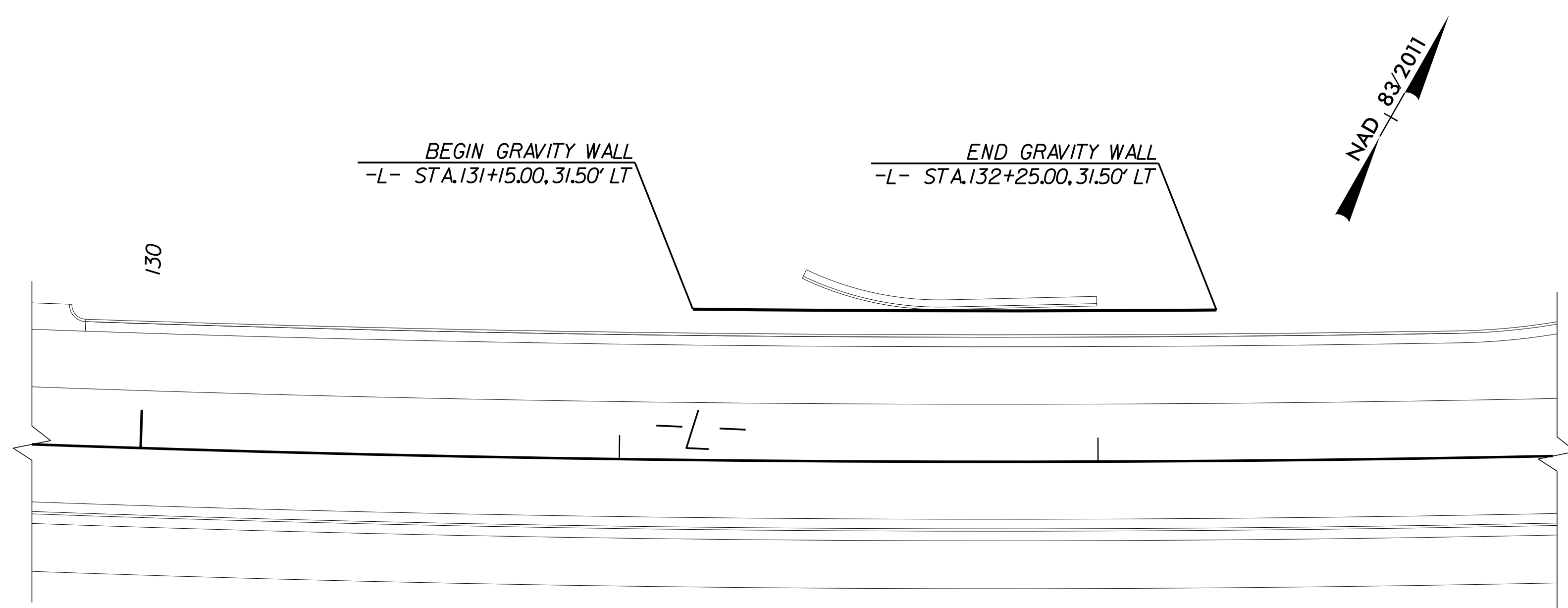
DATE: 05/01/2023

SIGNATURE

DATE

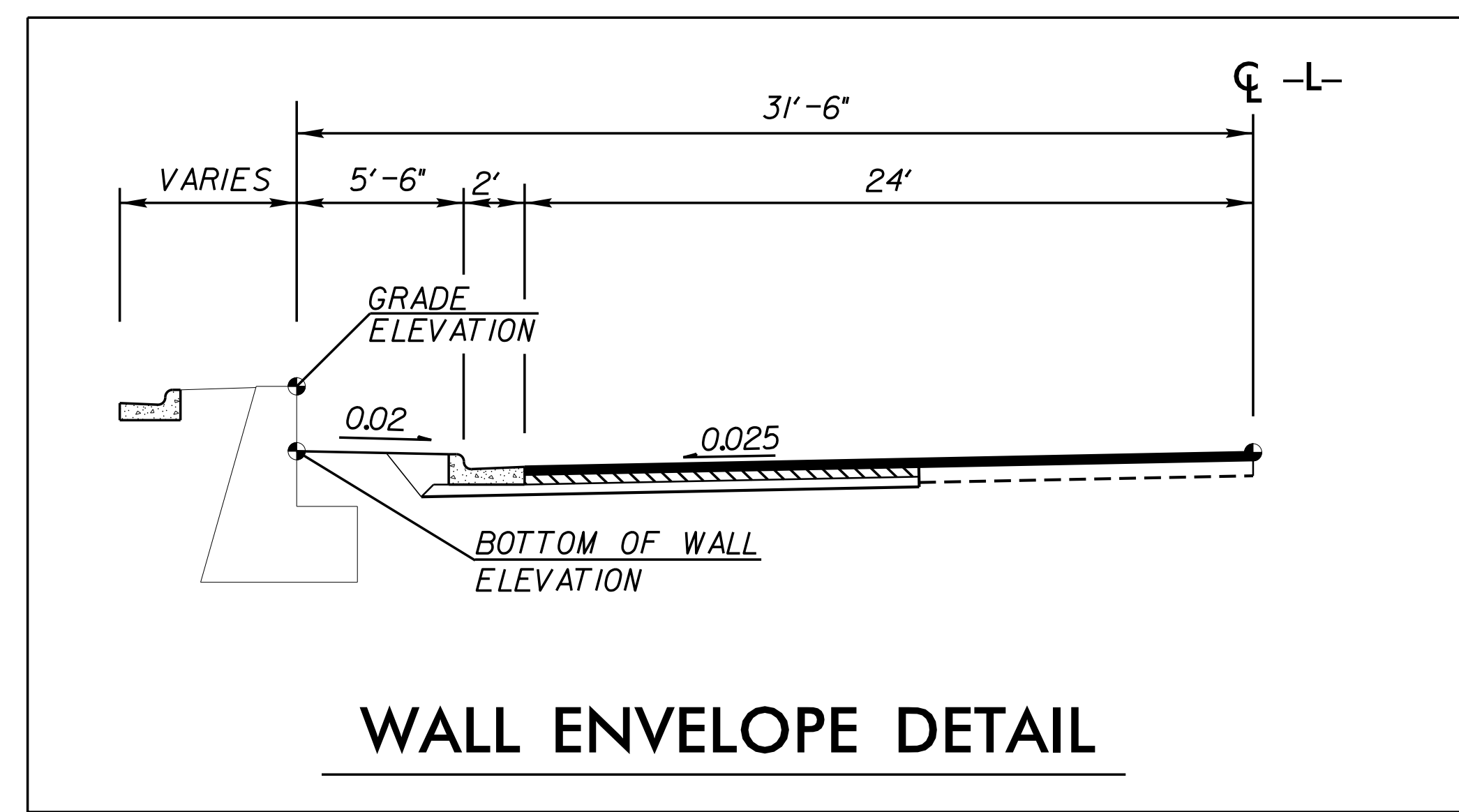
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

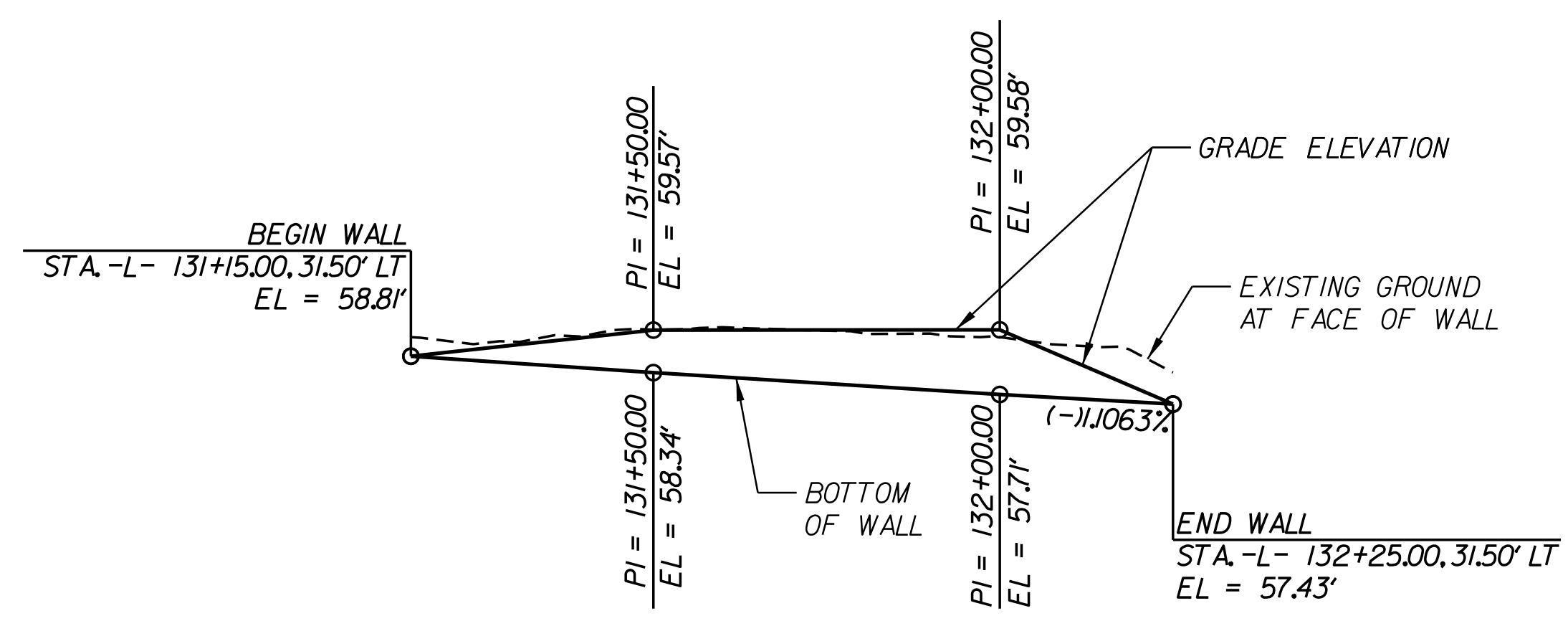


-L- CURVE DATA
 PI Sta 126+29.84
 $\Delta = 15^\circ 58' 30''$ (LT)
 $D = 1^\circ 01' 20.0''$
 $L = 1,562.77'$
 $T = 786.49'$
 $R = 5,605.00'$
 $e = 2.5\%$
 RunOff = 75'
 $D_s = 50$ MPH

PLAN VIEW FOR RETAINING WALL NO. 1
 NOT TO SCALE



ESTIMATED CIP GRVITY RETAINING WALL QUANTITY	
CIP GRAVITY RETAINING WALL NO. 1	250 SF



WALL ENVELOPE FOR RETAINING WALL NO. 1
 THE WALL ENVELOPE DOES NOT ACCURATELY DEPICT THE FACE OF WALL

PROJECT NO.: 39062.1.2 (U-4424)
 EDGEcombe COUNTY
 STATION: -L- 131+15
 SHEET 1 OF 2

NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

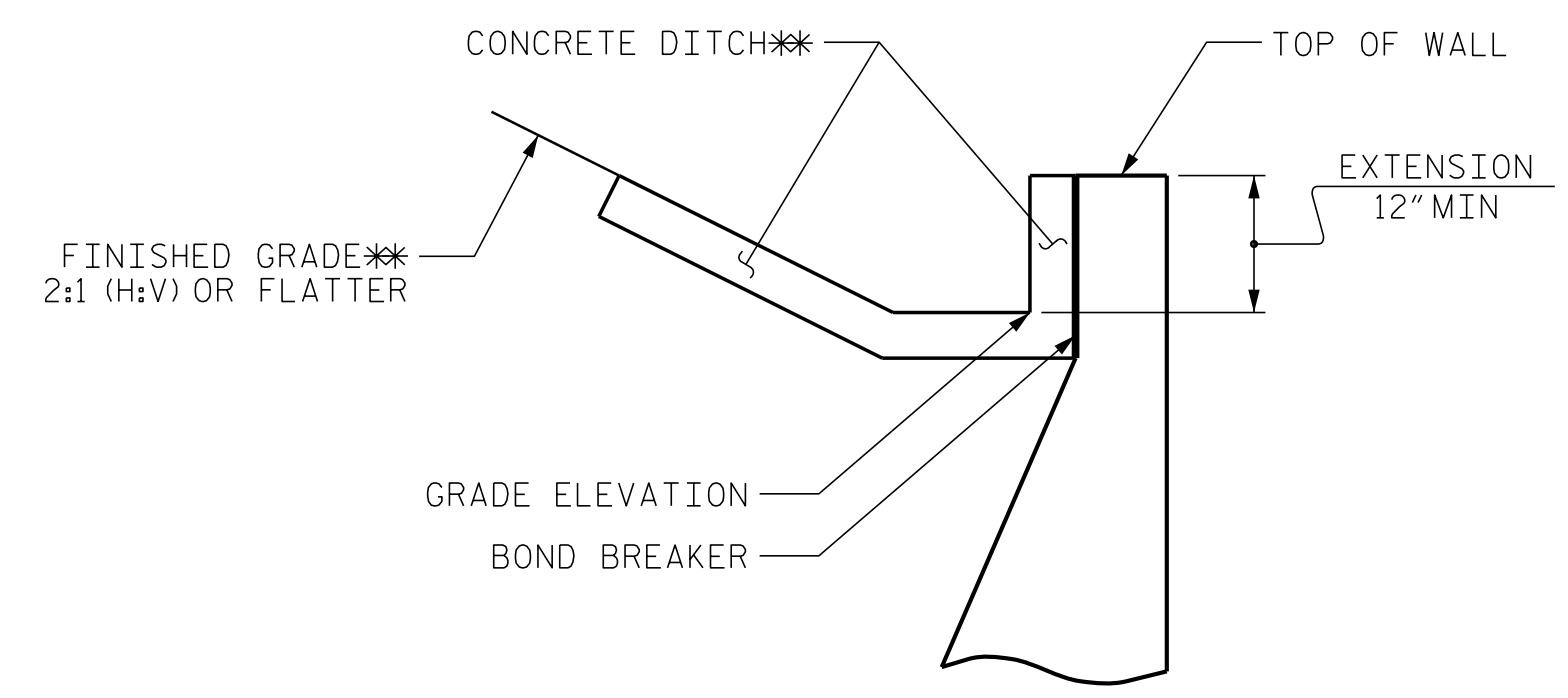
GEOTECHNICAL
 ENGINEERING UNIT

CIP GRAVITY RETAINING WALL
 PLAN VIEW AND WALL ENVELOPE

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

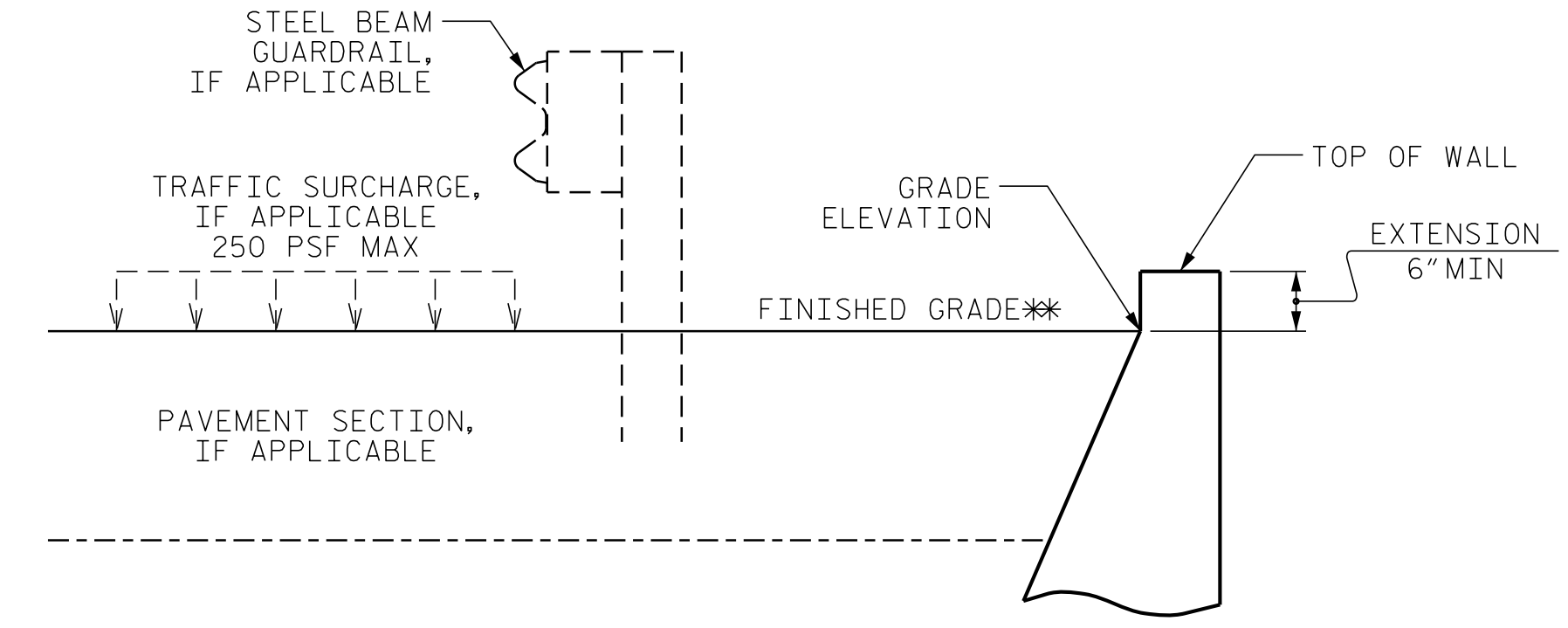
SHEET NO. W-1

PREPARED BY: JINYOUNG PARK	DATE: 2023/03
REVIEWED BY:	DATE:



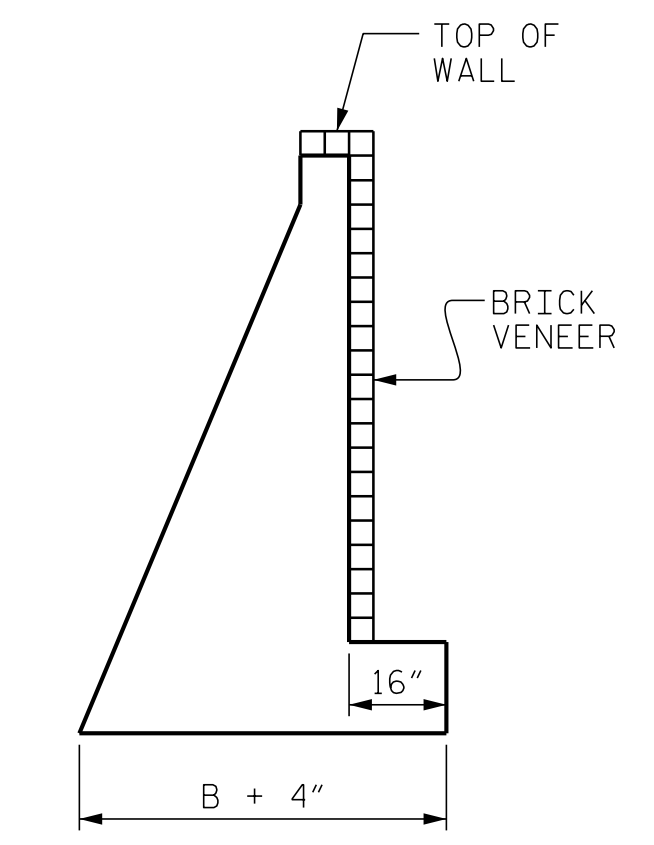
SLOPE CASE

**SEE ROADWAY PLANS FOR CONCRETE DITCH AND FINISHED GRADE DETAILS.



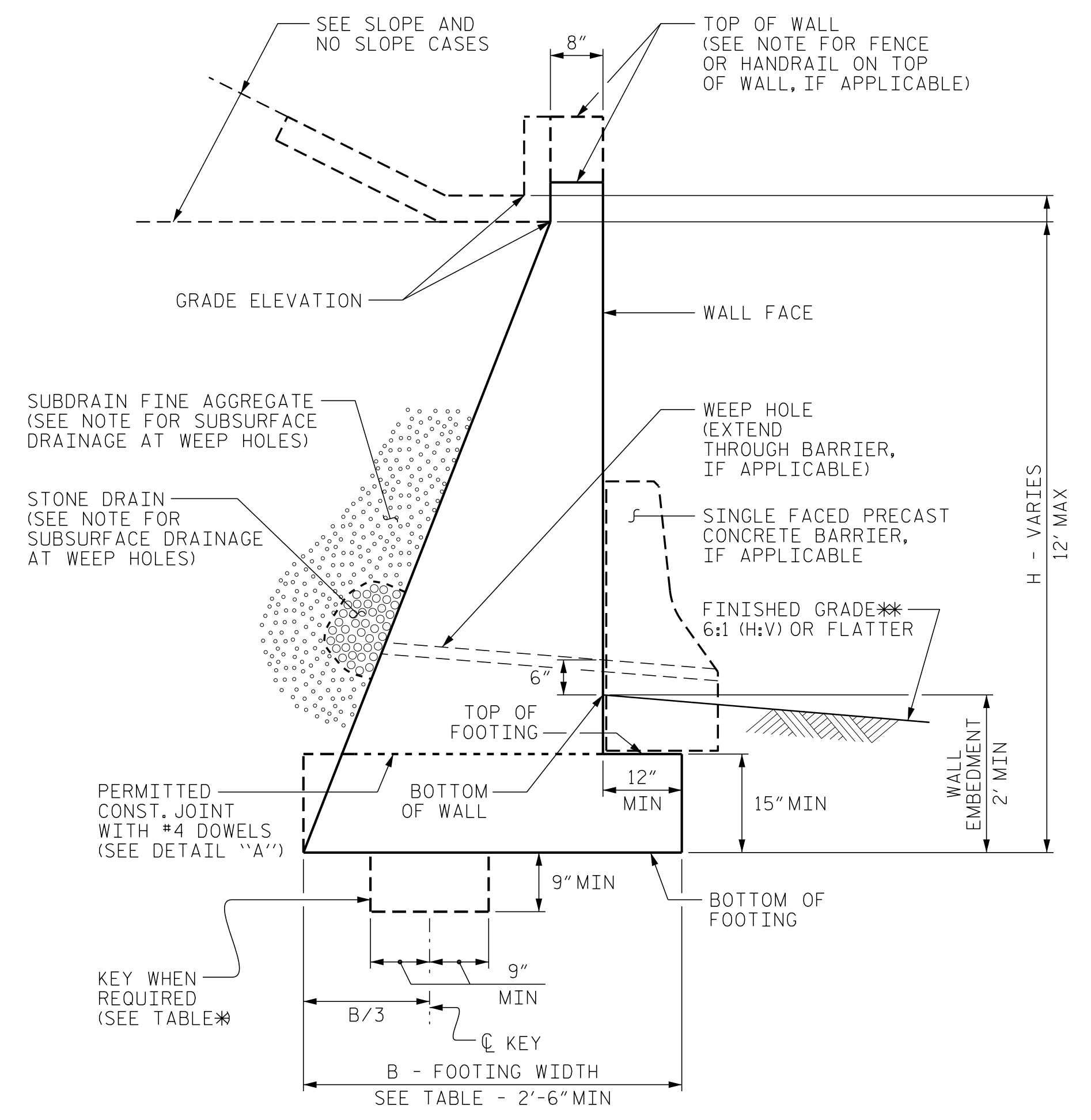
NO SLOPE CASE

**SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.



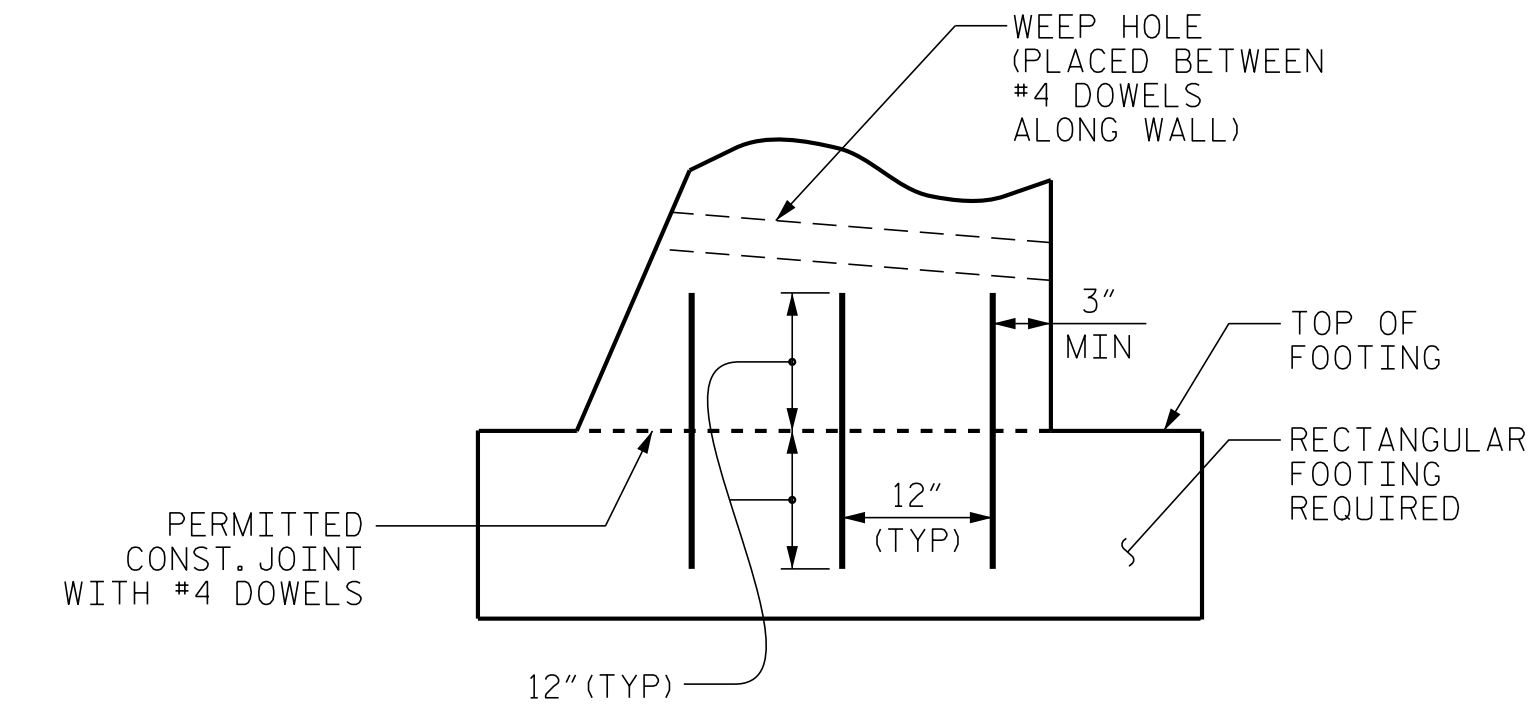
BRICK VENEER DETAIL

(WHEN APPLICABLE)



STANDARD CIP GRAVITY WALL

**SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.



DETAIL "A"

H (FT)	3 - < 6	6 - 9	> 9 - 12
SLOPE CASE	.66	.70*	.75*
NO SLOPE CASE WITH TRAFFIC SURCHARGE	.80	.75*	.70*
NO SLOPE CASE WITHOUT TRAFFIC SURCHARGE	.60	.60	.60

B/H RATIO (B = 2'-6" MIN)

*KEY IS REQUIRED FOR "SLOPE CASE" OR "NO SLOPE CASE WITH TRAFFIC SURCHARGE" WHEN H IS 6' OR GREATER.

NOTES:

- FOR STANDARD CIP GRAVITY RETAINING WALLS, SEE SECTION 453 OF THE STANDARD SPECIFICATIONS.
- FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.
- FOR SINGLE FACED PRECAST CONCRETE BARRIER, SEE ROADWAY PLANS AND SECTION 857 OF THE STANDARD SPECIFICATIONS.
- FOR FENCES OR HANDRAILS ON TOP OF WALLS, SEE ROADWAY PLANS FOR FENCE OR HANDRAIL ATTACHMENT DETAILS.
- FOR SUBSURFACE DRAINAGE AT WEEP HOLES, SEE ARTICLE 414-8 OF THE STANDARD SPECIFICATIONS.
- STANDARD CIP GRAVITY WALLS ARE BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:
 UNIT WEIGHT, $\gamma = 120$ PCF
 FRICTION ANGLE, $\phi = 35$ DEGREES (GROUNDWATER WITHIN 7' OF BOTTOM OF FOOTING)
 FRICTION ANGLE, $\phi = 30$ DEGREES (GROUNDWATER MORE THAN 7' BELOW BOTTOM OF FOOTING)
 COHESION, $c = 0$ PSF
- DO NOT USE STANDARD CIP GRAVITY WALLS IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE OR GROUNDWATER IS ABOVE BOTTOM OF FOOTING.
- DO NOT USE STANDARD CIP GRAVITY WALLS WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS BELOW WALLS.
- BEFORE BEGINNING STANDARD CIP GRAVITY WALL CONSTRUCTION, SURVEY WALL LOCATIONS AND SUBMIT WALL PROFILE VIEWS (WALL ENVELOPES) FOR REVIEW. FOR WALL ENVELOPES, INCLUDE BOTTOM OF WALL, EXISTING GROUND AND GRADE ELEVATIONS AND OTHER ELEVATIONS AS NEEDED AT INTERVALS OF 25' OR LESS ALONG WALLS. DO NOT START WALL CONSTRUCTION UNTIL WALL ENVELOPES ARE ACCEPTED.
- FOR BRICK VENEERS, SUBMIT BRICK SAMPLES FOR APPROVAL BEFORE BEGINNING STANDARD CIP GRAVITY WALL CONSTRUCTION.
- DO NOT PLACE CONCRETE FOR FOOTINGS UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.
- WHEN CONSTRUCTING STANDARD CIP GRAVITY WALLS WITH A CONSTRUCTION JOINT AS SHOWN IN DETAIL "A", PROVIDE A MINIMUM OF 3 EQUALLY SPACED #4 DOWELS AT INTERVALS OF 1'-6" ALONG WALLS.

PROJECT NO.: 39062.1.2 (U-4424)
 EDGEcombe COUNTY
 STATION: -L- 131+15
 SHEET 2 OF 2

**NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS**

**GEOTECHNICAL
 ENGINEERING UNIT**

STANDARD DETAIL NO. 453.01

**STANDARD
 CIP GRAVITY
 RETAINING WALL**

SHEET NO.
 W-2

DATE: 10-19-21