
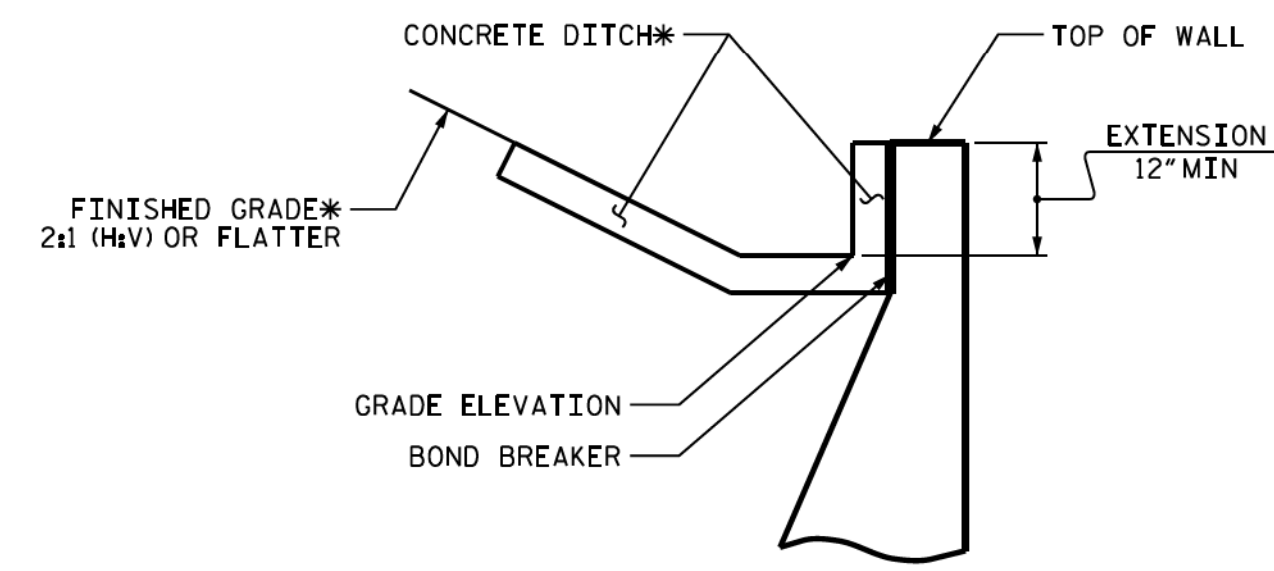


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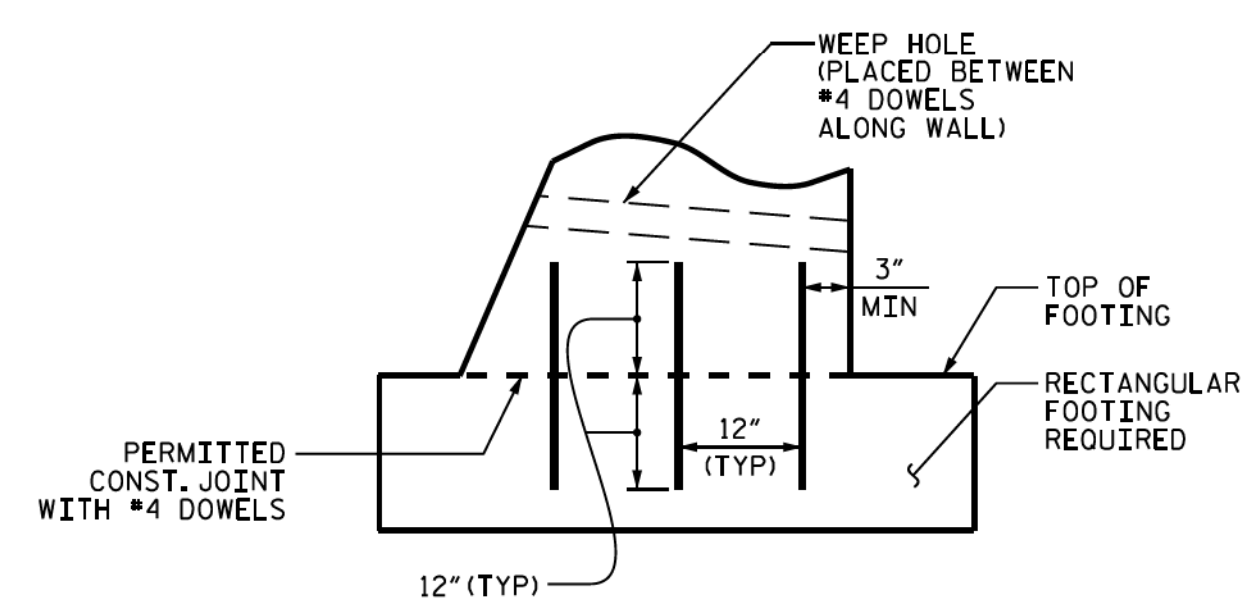
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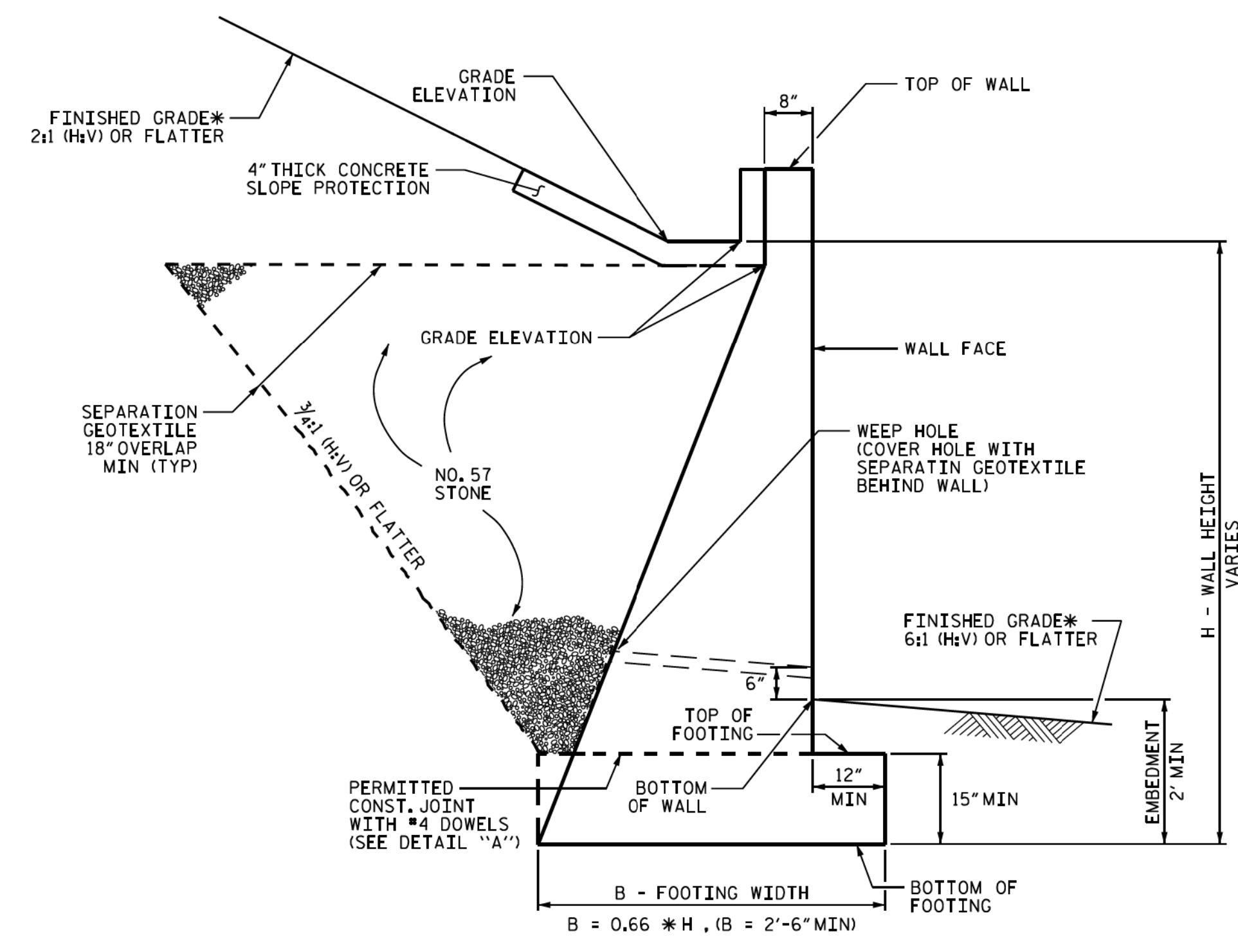
 GEOTECHNICAL ENGINEER MAJID KHAZAEI 12/12/2018 SIGNATURE DATE <b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	ENGINEER SIGNATURE DATE
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**SLOPE CASE**  
 (NOT TO SCALE)  
 \*SEE ROADWAY PLANS FOR CONCRETE DITCH AND FINISHED GRADE DETAILS.



**DETAIL "A"**  
 (NOT TO SCALE)



**STANDARD CIP GRAVITY WALL**  
 (NOT TO SCALE)  
 \*SEE ROADWAY PLANS FOR CONCRETE DITCH AND FINISHED GRADE DETAILS.

**NOTES:**

- SEE ROADWAY PLANS FOR PRELIMINARY CIP GRAVITY RETAINING WALL PLAN VIEW AND WALL ENVELOPE.
- FOR STANDARD CIP GRAVITY RETAINING WALLS, SEE SECTION 453 OF THE STANDARD SPECIFICATIONS.
- BACKFILL BEHIND WALL WITH SELF-DRAINING NO. 57 STONE, ENCAPSULATED IN SEPARATION GEOTEXTILE TO DRAIN SEEPAGE FROM CUT-SLOPE ALONG WALL FOOTING DOWNSLOPE AND DISCHARGE TO A LOWER POINT CATCH BASIN OR A DAYLIGHT OUTLET AROUND WHERE WALL BEGINS AT STA. 32+41.00 -L-. WEEP HOLES HELP INCREASE DRAINAGE DISCHARGE CAPACITY WHEN NEEDED.
- 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
- 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.
- EXCAVATIONS FOR CONSTRUCTING CIP GRAVITY WALL WILL EXTEND INTO MATERIAL THAT DETERIORATES WHEN EXPOSED TO THE ELEMENTS. CHECK FIELD CONDITIONS FOR THE REQUIRED FOOTINGS EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL AND PLACE CONCRETE IMMEDIATELY AFTER THE EXCAVATION IS COMPLETED.
- AT THE CONTRACTOR'S OPTION, USE A TEMPORARY SLOPE INSTEAD OF TEMPORARY SUPPORT OF EXCAVATIONS FOR CONSTRUCTION OF CIP GRAVITY WALL.
- 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.


<b>ESTIMATED CIP GRAVITY WALL QUANTITY*</b>
520 SF

\*WALL QUANTITIES INCLUDE AREAS FOR WALL EXTENSION AND EMBEDMENT. (AREA FOR H = FROM TOP OF WALL EXTENSION TO BOTTOM OF FOOTING)

PROJECT NO.: U-5827  
 WAKE COUNTY  
 STATION: STA. 32+41 TO 33+50.00 -L-  
 SHEET 1 OF 1

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

**GEOTECHNICAL ENGINEERING UNIT**



CAST-IN-PLACE (CIP) GRAVITY RETAINING WALL DETAILS AND NOTES					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

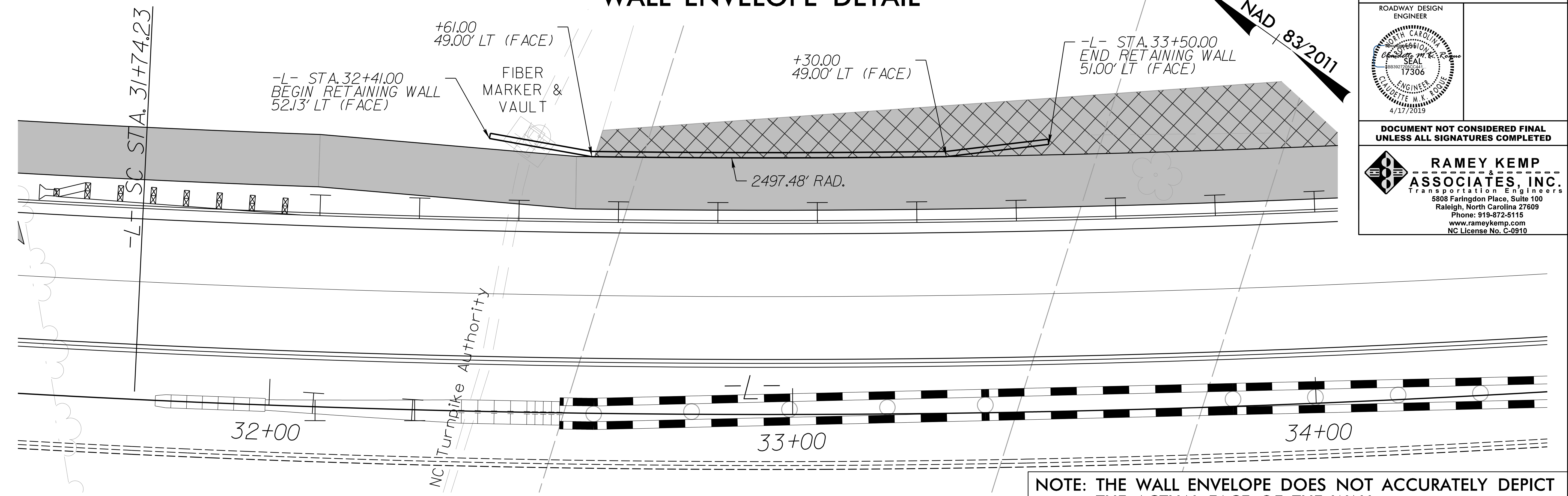
SHEET NO. W-1

PREPARED BY: M.KHAZAEI	DATE: 12/2018
REVIEWED BY: TGS	DATE: 12/2018

3/22/2019  
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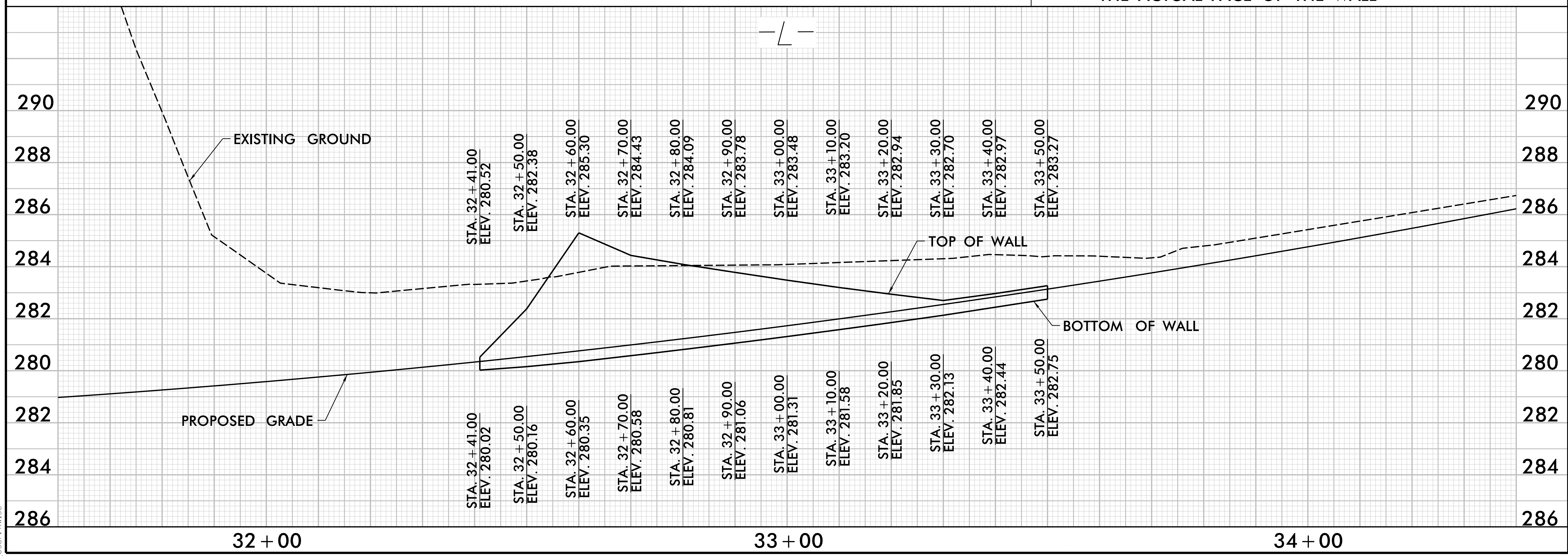
8/17/99

# WALL ENVELOPE DETAIL



PROJECT REFERENCE NO. U-5827	SHEET NO. W-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
<b>RAMEY KEMP &amp; ASSOCIATES, INC.</b> Transportation Engineers 5808 Faringdon Place, Suite 100 Raleigh, North Carolina 27609 Phone: 919-872-5115 www.rameykemp.com NC License No. C-0910	

NOTE: THE WALL ENVELOPE DOES NOT ACCURATELY DEPICT THE ACTUAL FACE OF THE WALL



3/22/2019  
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