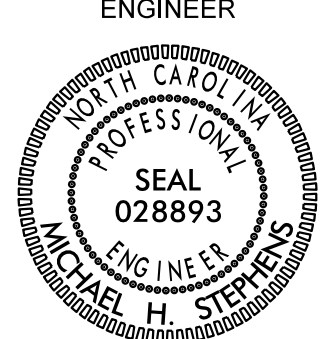


GEOTECHNICAL ENGINEER

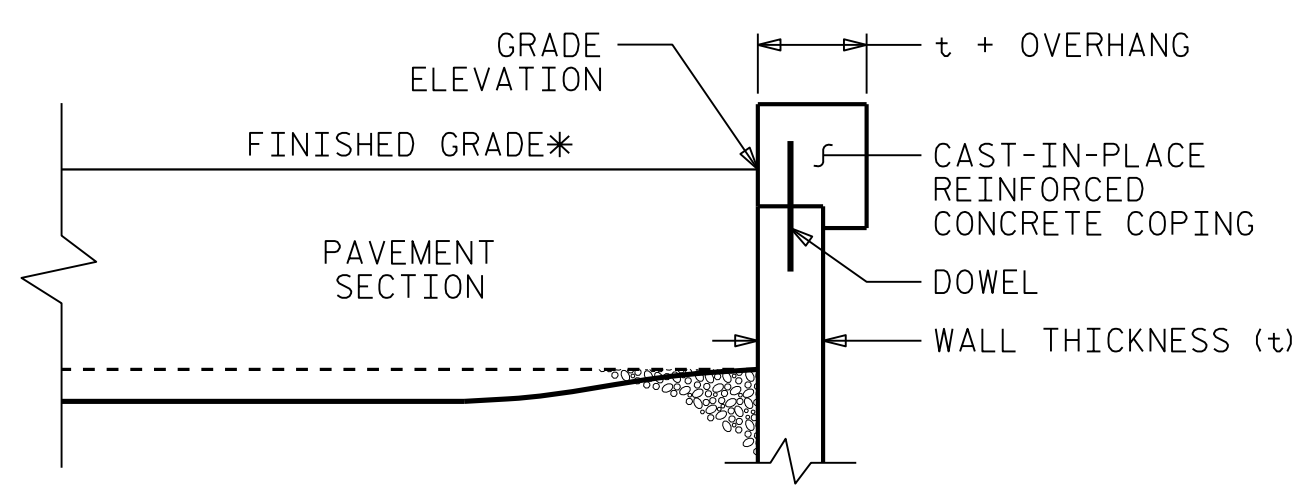


ENGINEER

DocuSigned by:
Michael H. Stephens 8/1/2016

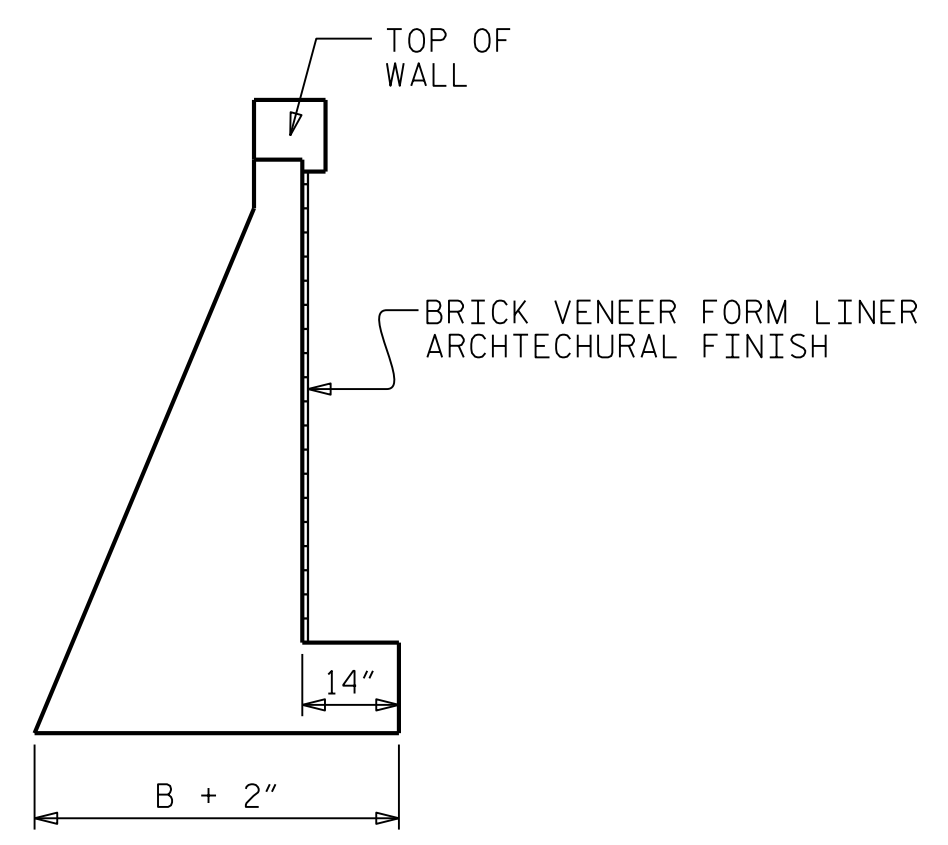
SIGNATURE DATE

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

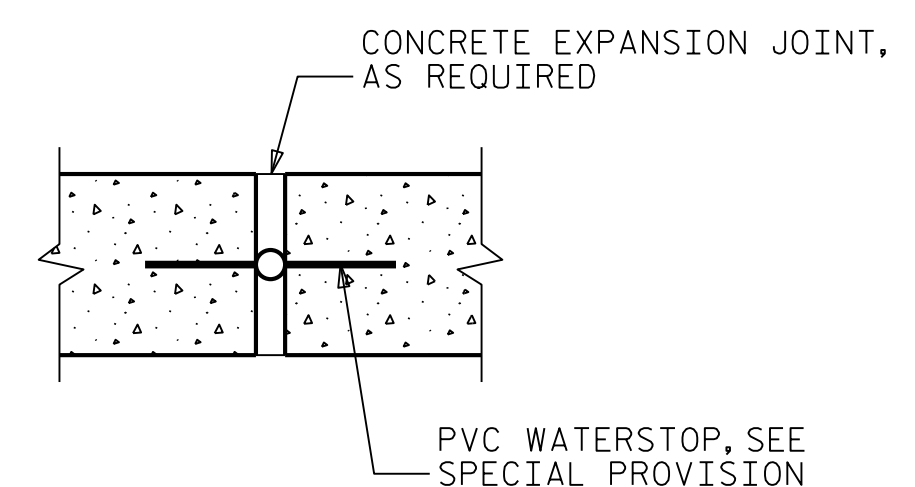
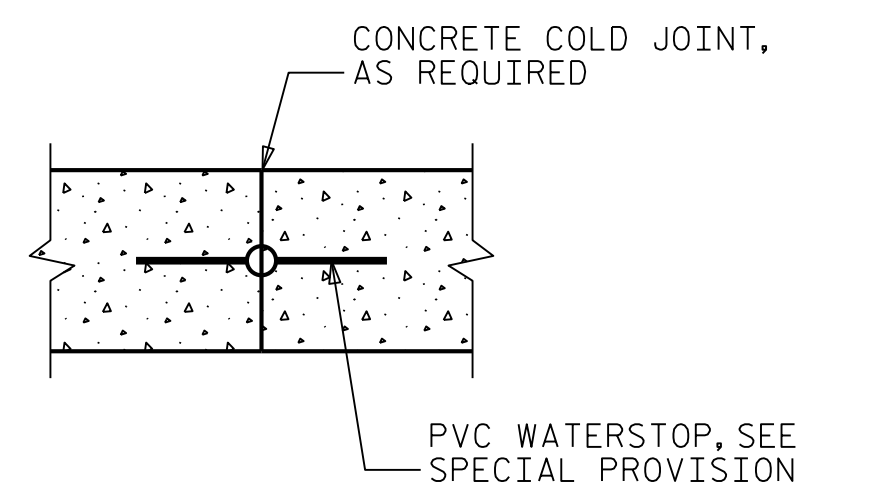


COPING DETAILS

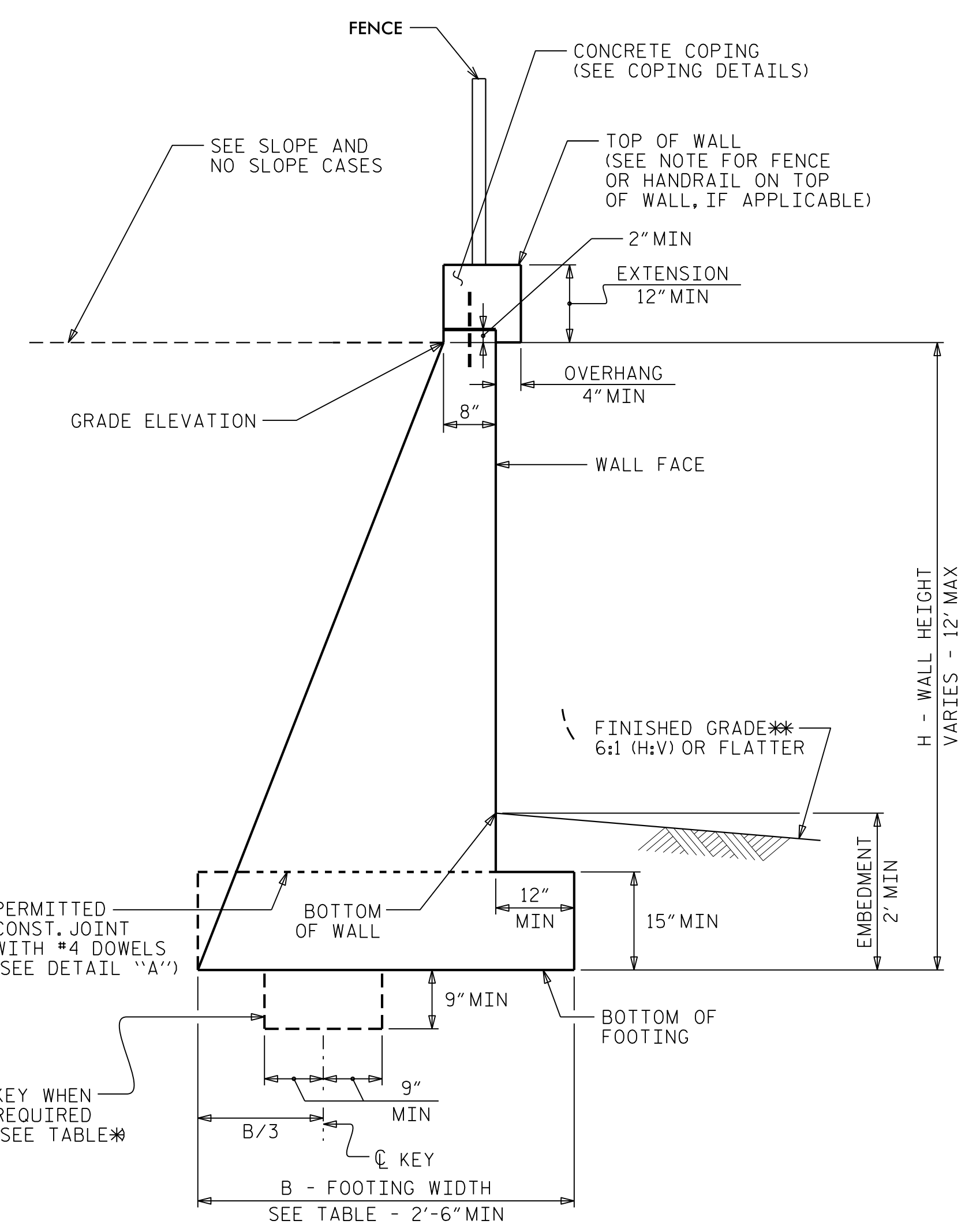
*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.



BRICK VENEER DETAIL

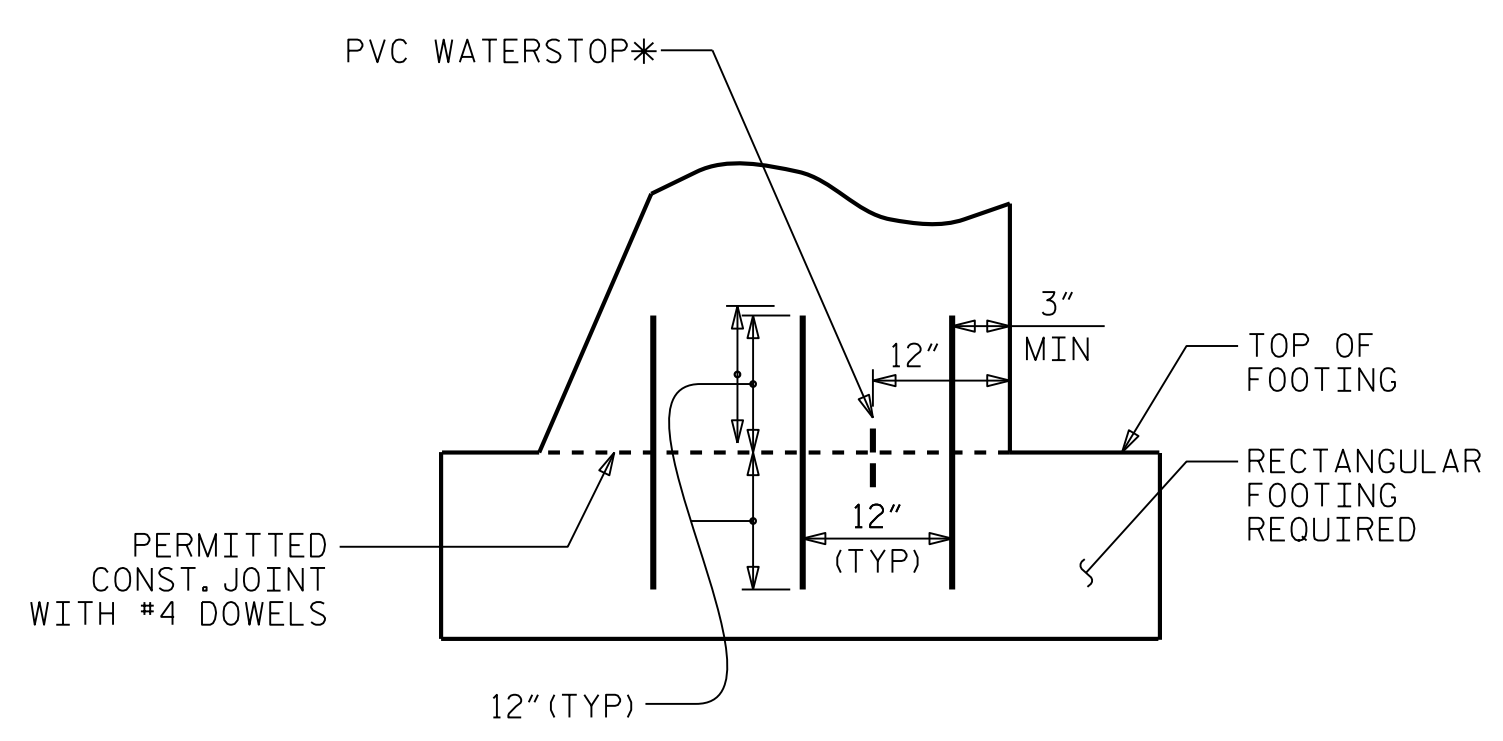


PVC WATERSTOP DETAIL



STANDARD CIP GRAVITY WALL

*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.



DETAIL "A"

*INSTALL PVC WATERSTOP AT ALL COLD JOINTS AND EXPANSION JOINT LOCATIONS, SEE PVC WATERSTOP SPECIAL PROVISION.

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 CAST-IN-PLACE (CIP) GRAVITY RETAINING WALLS, SEE CAST-IN-PLACE GRAVITY RETAINING WALLS PROVISION.

FOR FENCES OR HANDRAILS ON TOP OF WALLS, SEE ROADWAY PLANS FOR FENCE OR HANDRAIL ATTACHMENT DETAILS.

STANDARD CIP GRAVITY WALLS ARE BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:
 UNIT WEIGHT, $\gamma = 120$ LB/CF
 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, $c = 0$ LB/SF

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.

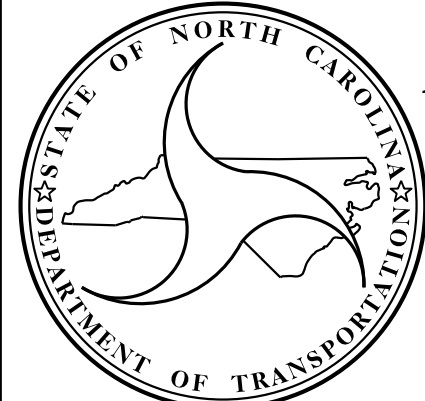
A SIMULATED BRICK FORM LINER FINISH IS REQUIRED FOR THE CAST-IN-PLACE REINFORCED CONCRETE FACE FOR RETAINING WALL NO. 3. SUBMIT BRICK FORM LINER SAMPLES FOR APPROVAL BEFORE BEGINNING CIP GRAVITY WALL CONSTRUCTION. SEE SIMULATED BRICK FORM LINER FINISH SPECIAL PROVISION.

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.

INSTALL PVC WATERSTOP AT ALL COLD JOINTS AND EXPANSION JOINT LOCATIONS, SEE PVC WATERSTOP SPECIAL PROVISION. SUBMIT INSTALL LOCATIONS AND PVC WATERSTOP TYPE FOR APPROVAL.

PROJECT NO.: 39010.1.R2 (U-3440)
 CABARRUS COUNTY
 STATION: 11+56.7 -Y18- TO 11+75 -DR2-
 SHEET 7 OF 9



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

**GEOTECHNICAL
ENGINEERING UNIT**

REVISIONS						SHEET NO. W7
NO.	BY	DATE	NO.	BY	DATE	
1			3			
2			4			

PREPARED BY: MHS	DATE: 7/25/2016
REVIEWED BY: SCC	DATE: 7/25/2016