

**NOTES**

SUBMIT COMPLETE WORKING DRAWINGS, ERECTION PLANS AND DESIGN CALCULATIONS FOR REVIEW AND APPROVAL PRIOR TO BEGINNING THE "MSE" WALL. SEE MSE RETAINING WALLS SPECIAL PROVISION.

DESIGN THE MSE WALL TO MEET ALL THE CRITERIA OF THE LATEST VERSION OF AASHTO ALLOWABLE STRENGTH DESIGN STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES AND ITS INTERIMS.

THE SERVICE LIFE OF THE MSE WALL SHALL BE 100 YEARS.

ALL WALL BACKFILL MATERIAL WITHIN THE REINFORCED ZONE MUST BE #57 WASHED CRUSHED STONE. SEE SECTION 1005 OF THE STANDARD SPECIFICATIONS FOR #57 STONE.

USE THE FOLLOWING MATERIAL PARAMETERS IN THE WALL DESIGN:

- A. #57 STONE: UNIT WEIGHT=110 pcf,  $\phi=34^\circ$ , C=0
- B. RETAINED MATERIAL: UNIT WEIGHT=120 pcf,  $\phi=30^\circ$ , C=0
- C. ALL OTHER EARTH MATERIAL AROUND WALL: UNIT WEIGHT=120 pcf,  $\phi=30^\circ$ , C=0
- D. ALLOWABLE BEARING PRESSURE = 1.5 tsf

THE TOP OF WALL ELEVATION IS WHERE THE FINISHED GRADE BEHIND THE MSE WALL INTERSECTS THE BACK OF THE WALL. SHOW A DETAIL LABELING THE TOP OF WALL.

IN ELEVATION VIEW, SHOW THE TOP OF WALL (SOLID LINE), THE EXISTING GROUND LINE (LARGE DASHED LINE), THE PROPOSED GROUND LINE (SMALL DASHED LINE), AND THE BOTTOM OF WALL (SOLID LINE). SHOW ELEVATIONS FOR THE TOP OF WALL AT VERTICAL BREAK POINTS, AND AT NO GREATER THAN 50 FOOT INTERVALS. LABEL WHETHER THE ELEVATION VIEW IS FRONT FACE OR BACK FACE.

DESIGN THE CONCRETE BARRIER COPING WITH A MOMENT SLAB FOR TRAFFIC IMPACT IN ACCORDANCE WITH AASHTO. CONCRETE BARRIER COPING WILL BE CONSIDERED INCIDENTAL TO THE COST OF THE WALL.

SHOW A DETAIL FOR FABRIC AND SOIL ABOVE THE #57 STONE WHERE APPROPRIATE.

SHOW THE LIMITS OF SOIL REINFORCEMENT AND THE #57 STONE.

THE PANELS SHALL HAVE A PLAIN GRAY FINISH.

A MINIMUM 6 FOOT BENCH IS REQUIRED IN FRONT OF THE WALL. GRADE BENCH WITH A MINIMUM SLOPE OF 0.02% TO CARRY WATER AWAY FROM THE WALL.

SHOW ELEVATIONS OF TOP OF LEVELING PAD.

A MINIMUM PANEL EMBEDMENT OF 2 (TWO) FEET BELOW THE PROPOSED GROUND LINE IS REQUIRED.

SHOW THE REQUIRED BEARING PRESSURE OF THE WALL ON PLANS.

DRAINAGE MUST BE AWAY FROM THE WALL AT THE TOP AND BOTTOM.

SHOW DETAILS IN THE PLANS FOR SKEWING REINFORCING STRIPS OR MATS AROUND ANY OBSTRUCTIONS, SUCH AS GUARDRAILS, PAVED DITCHES, PAVEMENT STRUCTURES, AND DRAINAGE STRUCTURES. SOIL REINFORCING MUST NOT BE IN CONTACT WITH ANY OBSTRUCTIONS.

FINAL PLANS MUST BE ON REPRODUCIBLE SHEETS SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN NORTH CAROLINA.

THE LEVELING PAD SHALL BE CAST-IN-PLACE AND MADE CONTINUOUS AT STEPS.

CONSTRUCT JOINTS IN THE COPING IN ACCORDANCE WITH ARTICLE 825-10 OF THE STANDARD SPECIFICATIONS. LOCATE JOINTS IN ALL EXPOSED FACES OF THE COPING, AT 10 FEET MAXIMUM CENTERS, TO COINCIDE WITH PANEL JOINTS. EVERY THIRD JOINT SHALL BE AN EXPANSION JOINT. STOP REINFORCING STEEL 2" OF EITHER SIDE OF EXPANSION JOINTS. OTHER JOINTS SHALL BE GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH.

USE PANELS WITH A FLAT SURFACE ON THE FRONT FACE.

INCLUDE THE FOLLOWING ON PLANS SUBMITTED FOR REVIEW:

- PLAN VIEW, ELEVATION VIEWS, TYPICAL SECTIONS, LEVELING PAD STEP DETAIL, PANEL AND COPING DETAILS, AND OBSTRUCTION AVOIDANCE DETAILS.

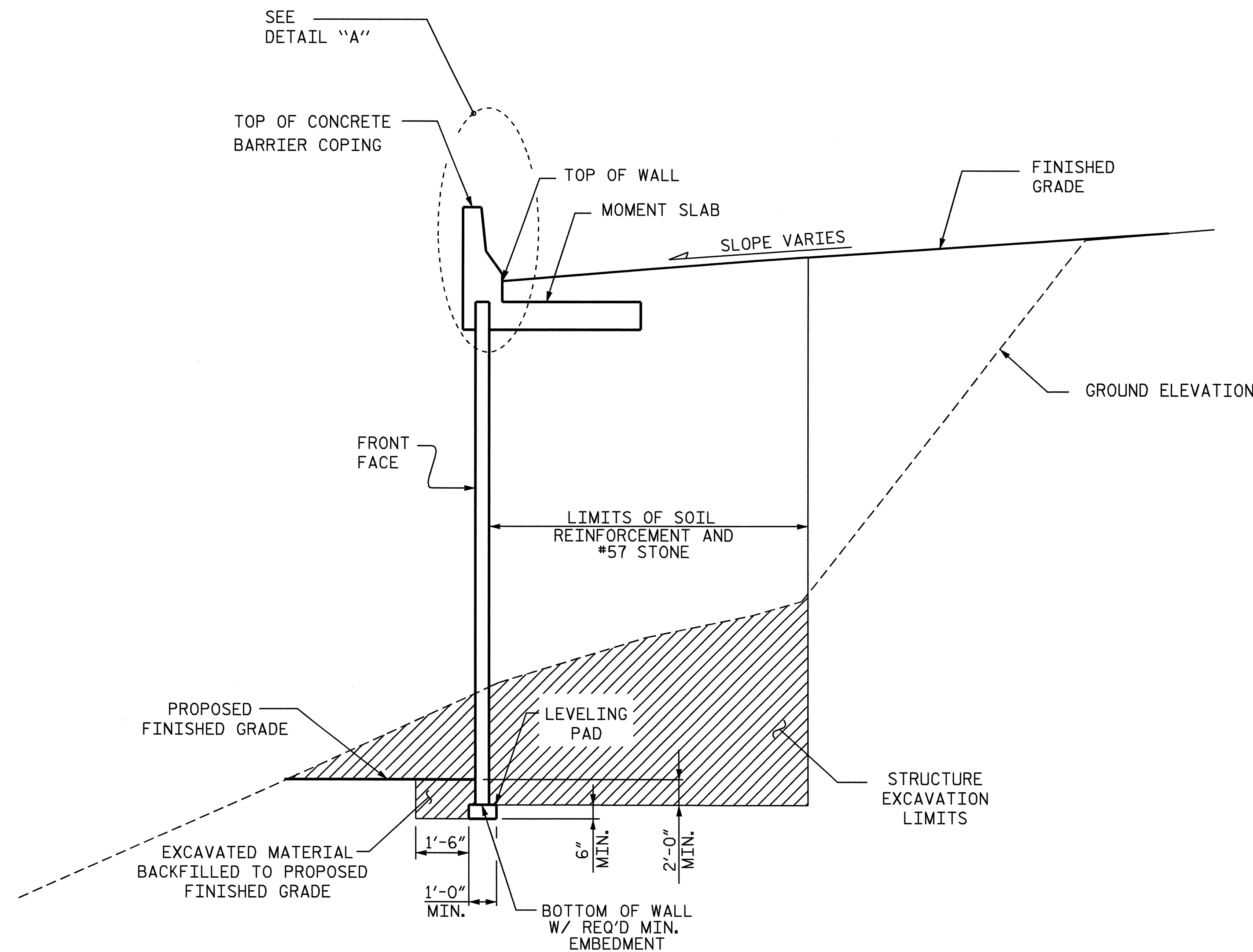
NOTE ON CONTRACTOR'S WORKING DRAWINGS: VERIFY BEARING CAPACITY OF THE WALL FOUNDATION SOILS IN THE FIELD.

RELOCATE ALL UTILITIES PRIOR TO CONSTRUCTION OF THE MSE WALL. SEE UTILITY PLANS.

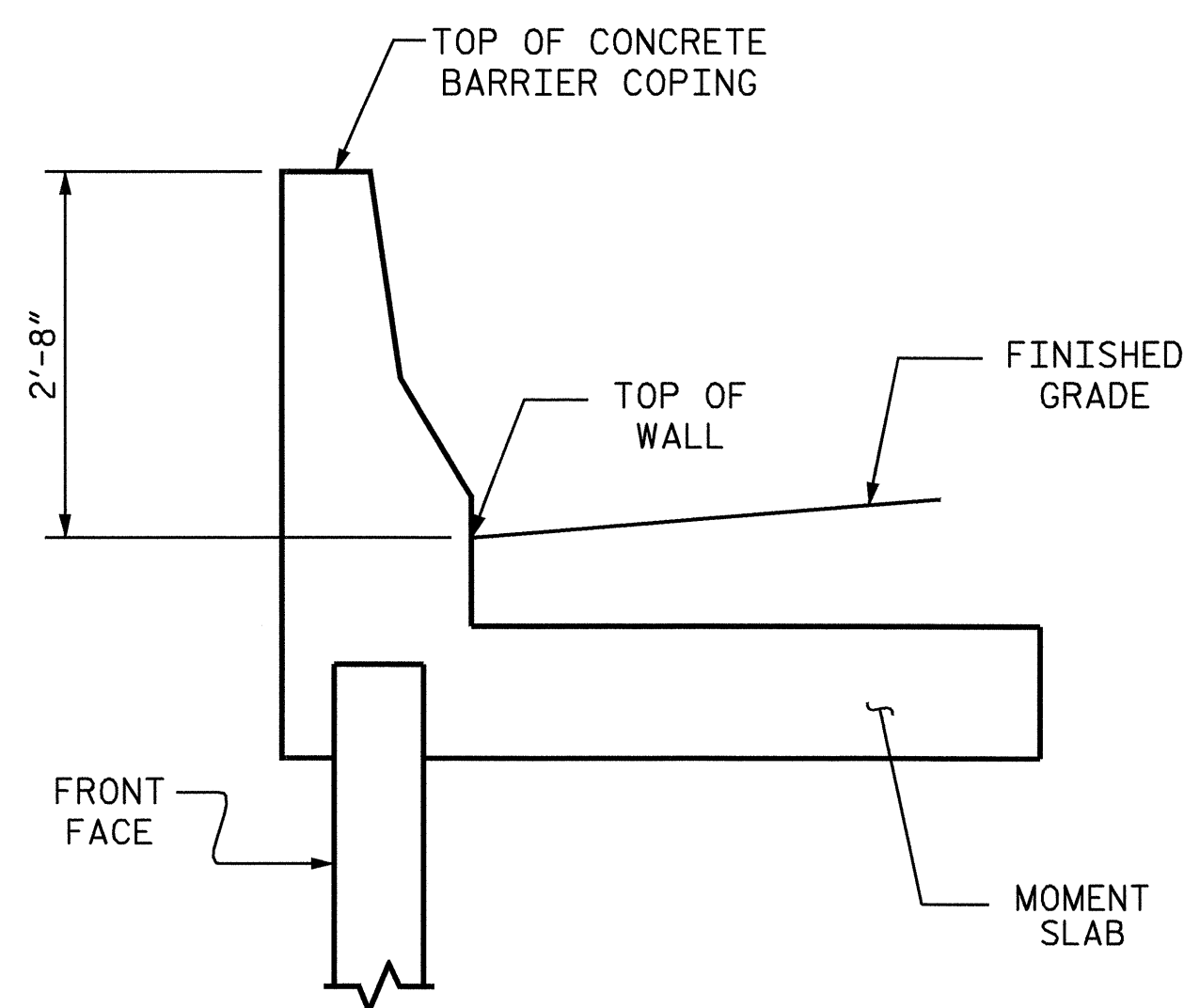
ALL EXCAVATION FOR THE CONSTRUCTION OF THE MSE WALL WILL BE CONSIDERED INCIDENTAL TO THE COST OF THE WALL.

THE RESIDENT ENGINEER WILL SCHEDULE A PRECONSTRUCTION CONFERENCE WITH REPRESENTATIVES FROM THE CONTRACTOR, THE RETAINING WALL SYSTEM SUPPLIER, AND THE GEOTECHNICAL ENGINEERING UNIT TO DISCUSS DETAILS AND INSPECTION OF THE RETAINING WALL PRIOR TO ANY WORK BEING PERFORMED AT THE SITE.

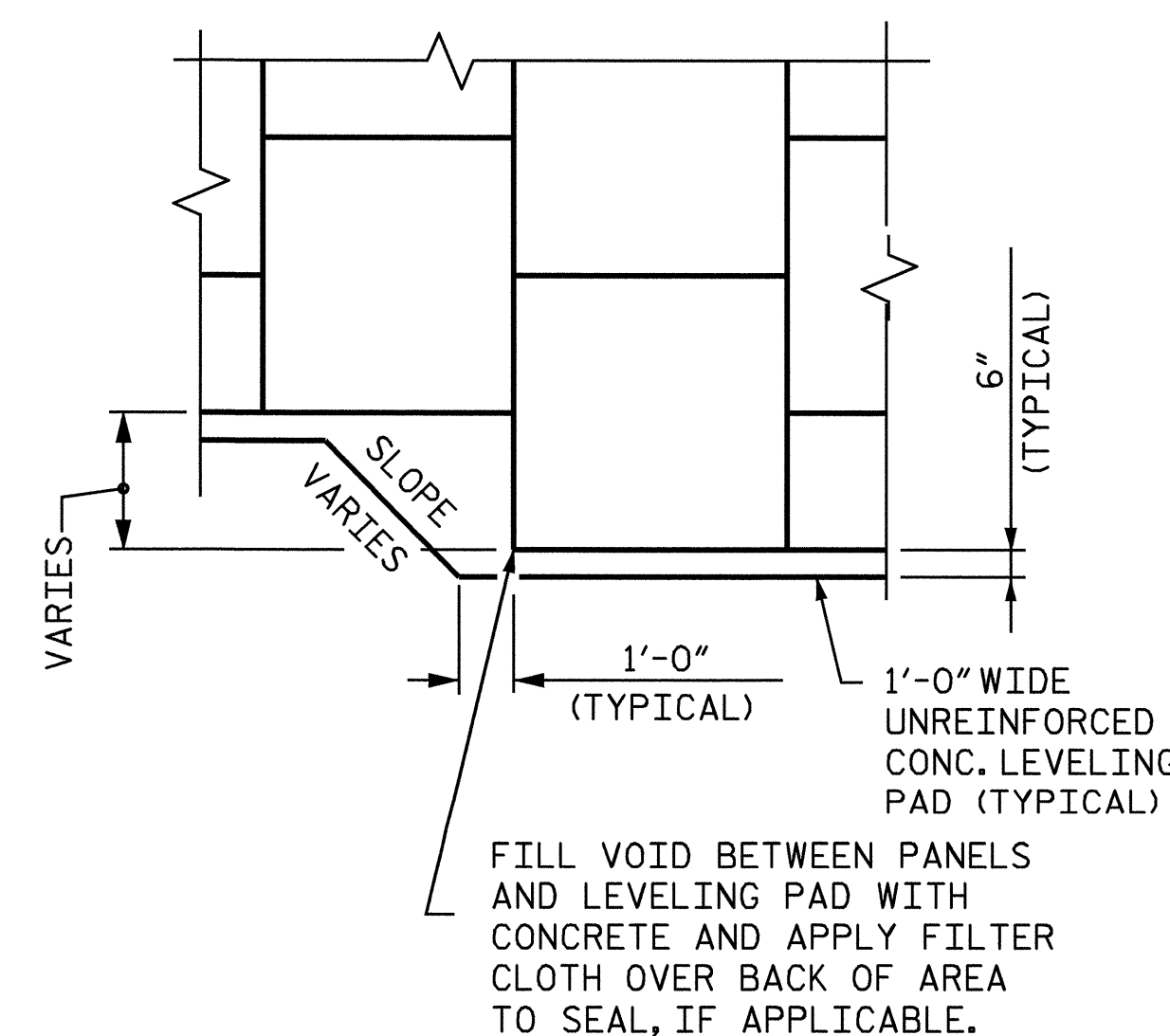
MSE WALL SHALL BE DESIGNED FOR OBSTRUCTIONS SUCH AS DRAINAGE STRUCTURES OR UTILITIES. SEE ROADWAY PLANS AND UTILITY PLANS.



**SECTION THROUGH WALL**



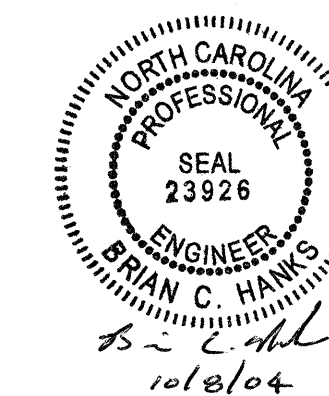
**DETAIL "A"**



**TYPICAL LEVELING PAD STEP DETAIL**

DRAWN BY : D. G. ELY DATE : 8/23/04  
 CHECKED BY : W. F. PARKER DATE : 9/15/04

07-OCT-2004 16:09  
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 wparker



PROJECT NO. R-2237B  
CALDWELL COUNTY  
 STATION: 100+20.95 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**MSE RETAINING WALL DETAILS**

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	W-6	
1			3			TOTAL SHEETS	
2			4			20	