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**FOSTER • GEOTECHNICAL**

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**GENERAL NOTES**

**DESIGN CRITERIA**

1. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE REINFORCED EARTH VOLUME, METHODS OF CONSTRUCTION AND QUALITY OF PREFABRICATED MATERIALS SHALL CONFORM TO THE CONTRACTING AGENCY'S TECHNICAL SPECIFICATIONS FOR RETAINED EARTH WALLS.

**2. FACTORS OF SAFETY**

- OVERTURNING 2.0
- INTERNAL PULLOUT 1.5 (ALLOW DEFORMATION 3/4")
- OVERALL STABILITY 1.5
- SLOPING 1.5
- BEARING 2.5

SOIL REINFORCEMENT MESH 0.47 Ft AT END OF DESIGN LIFE

**3. SOIL CHARACTERISTICS ASSUMED FOR DESIGN**

**SOIL PARAMETERS**

SEE WALL CONTROL DRAWINGS FOR SOIL CHARACTERISTICS OF FOUNDATION MATERIAL TO BE USED IN THE DESIGN OF THE WALL SYSTEM. THE CONTRACTOR SHALL PROVIDE SOIL DESIGN PARAMETERS FOR BACKFILL MATERIAL BASED ON THE ACTUAL SOIL CHARACTERISTICS UTILIZED AT THE SITE. THE VALUES OF  $\phi$ ,  $C$  AND  $S_u$  SHALL BE PROVIDED IN THE SHOP DRAWINGS.

4. THE MAXIMUM APPLIED BEARING PRESSURE AT THE FOUNDATION LEVEL IS AS SHOWN ON THE WALL ELEVATIONS FOR EACH DESIGN CASE. IT IS THE RESPONSIBILITY OF OTHERS TO DETERMINE THAT THIS APPLIED BEARING PRESSURE IS ALLOWABLE FOR THAT LOCATION.

5. ANY UNSUITABLE FOUNDATION MATERIAL BELOW THE REINFORCED EARTH VOLUME, AS DETERMINED BY THE ENGINEER, SHALL BE EXCAVATED AND REPLACED WITH SUITABLE MATERIAL OR OTHERWISE STABILIZED AS DIRECTED BY THE ENGINEER.

**WIRE FACING PANELS & REINFORCING ELEMENTS**

6. REINFORCING MESH ELEMENTS SHALL BE SHOP FABRICATED FROM COLD DRAWN STEEL ROD CONFORMING TO THE MINIMUM REQUIREMENTS OF ASTM A-82 AND SHALL BE WELDED AT THE JOINTS BETWEEN LONGITUDINAL AND TRANSVERSE WIRES IN ACCORDANCE WITH ASTM A-85. GALVANIZATION SHALL BE APPLIED AFTER MESH FABRICATION AND SHALL CONFORM TO THE MINIMUM REQUIREMENTS OF ASTM A-123.

LOOP ENDS SHALL BE FABRICATED FROM COLD DRAWN STEEL ROD CONFORMING TO ASTM A-50 OR ASTM A-82. LOOP ENDS SHALL BE WELDED IN ACCORDANCE WITH ASTM A-85. LOOP ENDS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM B-833.

**DESIGN**

7. THE DESIGN CONTAINED ON THESE DRAWINGS IS BASED ON INFORMATION PROVIDED BY OTHERS. ON THE BASIS OF THIS INFORMATION, THE WALL COMPANY IS RESPONSIBLE FOR INTERNAL STABILITY OF THE STRUCTURE ONLY. EXTERNAL STABILITY DESIGN INCLUDING FOUNDATION AND SLOPE STABILITY IS THE RESPONSIBILITY OF OTHERS.

**WALL CONSTRUCTION**

- 8. RETAINED EARTH WALLS IN CURVES WILL FORM A SERIES OF SHORT CHORDS OF 10.0 EACH TO MATCH DESIRED WALL ALIGNMENT.
- 9. FOR LOCATION AND ALIGNMENT OF RETAINED EARTH WALLS, SEE RETAINING WALL CONTROL PLANS.
- 10. IF MANHOLES AND DROP INLETS ARE PRESENT, THEY SHALL BE LOCATED AS SHOWN ON WALL ELEVATIONS.
- 11. IF PILES ARE LOCATED WITHIN REINFORCED SOIL VOLUME, THEY SHALL BE DRIVEN PRIOR TO CONSTRUCTION OF THE REINFORCED EARTH WALL UNLESS A METHOD TO PROTECT THE STRUCTURE WHICH IS ACCEPTABLE TO THE ENGINEER AND FOSTER GEOTECHNICAL COMPANY AND IS PROPOSED AND APPROVED IN WRITING.
- 12. BACKFILL MATERIAL SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 548 TO A LEVEL OF  $2^{1/2}(-)$  ABOVE THE TIE MESH EMBEDDED IN THE PANELS. INSTALLATION OF REINFORCING MESH SHALL BE PERMITTED ONLY AFTER PLACEMENT AND COMPACTON OF THE BACKFILL MATERIAL HAS REACHED THE REQUIRED LEVEL.
- 13. WALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH SECTION 548.
- 14. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE LOCATION OF GUARDRAIL POSTS BEHIND RETAINED EARTH PANELS. PRIOR TO PLACEMENT OF THE TOP LAYER OF REINFORCING MESH, INDIVIDUAL REINFORCING MESH MAY BE SKIPPED TO AVOID THE POST LOCATIONS IF AUTHORIZED BY THE ENGINEER. NO CUTTING OF SOIL REINFORCEMENT RODS ALLOWED UNLESS SHOWN ON SHOP DRAWINGS AND APPROVED BY THE ENGINEER. ANY DAMAGE DONE TO THE REINFORCING MESH DUE TO THE INSTALLATION OF THE GUARDRAIL SHALL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- 15. IF EXISTING OR FUTURE STRUCTURES, PIPES, FOUNDATIONS OR GUARDRAIL POSTS WHICH ARE WITHIN REINFORCED SOIL VOLUME INTERFERE WITH THE NORMAL PLACEMENT OF REINFORCING MESH AND SPECIFIC DIRECTION HAS NOT BEEN PROVIDED ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO DETERMINE WHAT COURSE OF ACTION SHOULD BE TAKEN.
- 16. FOR OTHER INFORMATION PERTAINING TO WALL CONSTRUCTION PLEASE REFER TO FOSTER GEOTECHNICAL CONSTRUCTION MANUAL.
- 17. THE CONTRACTOR IS RESPONSIBLE FOR GRADUALLY DEFLECTING UPPER REINFORCING MESH DOWNWARD TO AVOID CONFLICTS WITH PAVING AND SUBGRADE PREPARATION. THE CONTRACTOR'S ATTENTION IS DIRECTED ESPECIALLY TO SITUATIONS WHERE DOWNWARD SUPER ELEVATION AND/OR SOIL MIXING ARE ANTICIPATED.

**MATERIALS NOTES**

**8. NOMINAL MESH LENGTHS**

THE REINFORCING MESH LENGTH SHOWN ON THE PLANS, MEASURED FROM BACK FACE OF PANEL ARE THE NOMINAL LENGTHS REQUIRED BY CALCULATION. THE ACTUAL FABRICATED MESH LENGTHS ARE OFTEN LOWER (UP TO 6") DUE TO MANUFACTURING TOLERANCES. THE REQUIRED HORIZONTAL LIMIT OF GRANULAR BACKFILL IS EQUAL TO THE NOMINAL MESH LENGTH. ADDITIONAL GRANULAR BACKFILL BEYOND THE NOMINAL MESH LENGTH IS NOT REQUIRED BY CALCULATION.

**9. SELECT BACKFILL QUANTITY**

THE SELECT BACKFILL QUANTITY INDICATED BY FOSTER GEOTECHNICAL IS CALCULATED BY MULTIPLYING THE NOMINAL MESH LENGTHS SHOWN ON THE PLANS BY THEIR TRIBUTARY WALL SURFACE AREA AND CONVERTING THE RESULT TO A NEATER CUBIC YARD QUANTITY. THIS INFORMATION IS FURNISHED FOR THE CONTRACTOR'S INFORMATION ONLY AND IS NOT INTENDED TO PRESENT THE ACTUAL QUANTITIES REQUIRED TO COMPLETE THE WORK. THE CONTRACTOR MUST CALCULATE HIS OWN EXCAVATOR AND BACKFILL QUANTITIES BASED UPON THE SPECIFIC CONDITIONS OF THE PROJECT.

**20. NOTE TO CONTRACTORS**

ONLY THE FOLLOWING MATERIALS ARE SUPPLIED BY FOSTER GEOTECHNICAL

- PREFABRICATED FACING PANELS
- REINFORCING MESH
- NON-WOVEN FILTER CLOTH (FOR BEHIND FACING PANELS ONLY)
- REBTECH-TERRATEX 10M OR EQUIVAL

ANY OTHER MATERIALS CALLED FOR IN THE CONTRACT PLANS OR SPECIFICATIONS ARE TO BE SUPPLIED BY THE CONTRACTOR. ANY JOINT MATERIALS SHOWN AT THE INTERFACE OF PRECAST PANELS AND CAST-IN-PLACE CONCRETE STRUCTURES ARE TO BE SUPPLIED BY THE ERECTOR CONTRACTOR. ALL SANDBLASTING, PAINTING, METHODS OR OTHER SPECIAL APPLIED COATINGS ARE ALSO SUPPLIED & INSTALLED BY THE CONTRACTOR IN THE FIELD FOLLOWING PANEL ERECTOR.

21. FOSTER GEOTECHNICAL SUPPLIES PREFABRICATED WIRE FACING PANELS AND ACCESSORIES TO BE USED IN CONJUNCTION WITH OTHER MATERIALS IN THE CONSTRUCTION OF RETAINED EARTH WALLS DETAILED HEREIN. THE CONSTRUCTION AND QUALITY CONTROL PROCEDURES MANUAL FURNISHED BY FOSTER GEOTECHNICAL IS INTENDED TO PROVIDE A GENERAL EXPLANATION OF THE SYSTEM. IT IS THE CONTRACTOR'S OBLIGATION TO DEVISE AND EXECUTE A PROJECT SPECIFIC ERECTION SEQUENCE, PANEL UNLOADING, HANDLING AND BRACING SYSTEM, AND FALL PROTECTION SYSTEM. THE BRACING SYSTEM SHOWN IN THE CONSTRUCTION AND QUALITY CONTROL PROCEDURES MANUAL IS GENERAL IN NATURE AND DOES NOT ACCOUNT FOR PROJECT SPECIFIC CRITERIA COMPLIANCE WITH THE SUBSEQUENT IN THIS MANUAL DOES NOT RELIEVE THE CONTRACTOR OF ITS RESPONSIBILITY TO ADHERE TO THE PROJECT PLANS, SPECIFICATIONS AND CONTRACT DOCUMENTS OR COMPLIANCE WITH ALL FALL PROTECTION, SAFETY, LAWS, STANDARDS AND PROCEDURES AT THE JOBSITE. CONTRACTORS SHOULD TAKE SPECIAL PRECAUTIONS TO PREVENT THE PANELS FROM SHIFTING OR FALLING DURING THE ERECTOR PROCESS.

THIS SYSTEM MAY BE USED IN MODERATELY OR SLIGHTLY AGGRESSIVE ENVIRONMENTS ONLY.

WIRE FACED PANELS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION  
ROAD DESIGN

RETAINING WALL SYSTEM  
FOSTER GEOTECHNICAL WIRE  
FACE WALL

Designed By	TDM	W/98	Checked By	W/98	Approved By	<i>[Signature]</i>
Drawn By	CAD	W/98	Scale	1 of 3	Sheet No.	5105
Checked By	GEI	W/98	Date	00	Project No.	



