1. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN, BEHIND AND BENEATH THE REINFORCED VOLUME MEETS THE QUALITY AND QUANTITY OF PREFABRICATED MATERIALS SHALL CONFORM TO THE TO SPECIFICATION SECTION 548.

2. SOIL PARAMETERS.


5. THE MAXIMUM ALLOWED BEARING PRESSURE AT THE FOUNDATION LEVEL IS AS SHOWN ON THE WALL ELEVATIONS FOR EACH DESIGN CASE. IT IS THE RESPONSIBILITY OF THE ENGINEER TO DETERMINE THAT THIS ALLOWED BEARING PRESSURE IS ALLOWABLE FOR A SPECIFIC SITE.

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

7. THE MINIMUM FACTORS OF SAFETY REQUIRED FOR DESIGN:

   OVERTURNING = 1.6
   SLIDING = 1.5
   INTERNAL PULLOUT = 1.5 (ALLOWABLE DEFORMATION = 0.75 INCH)
   Settlement = 1.5
   OVERALL STABILITY = 1.5
   STEEL SOIL REINFORCEMENT (AT END OF DESIGN LIFE) = 0.55
   MAXIMUM PULLOUT FACTOR
     * = 1.5
     ** = 2.0 (FOR LIVEWELL)

8. FOR LAYOUT OF THE WALLS, SEE RETAINING WALL CONTROL PLANS.

9. BACKFILL MATERIAL SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 548. INSTALLATION OF REINFORCING LADDERS AND/OR STRIPS SHALL BE PERMITTED ONLY AFTER PLACEMENT AND COMPACTION OF THE BACKFILL MATERIAL HAS REACHED THE REQUIRED LEVEL.

10. FOR STRUCTURES IN EXCESS OF 20' IN HEIGHT OCCUR, THE ENHANCED GRADE IN FRONT OF THE WALL SHALL BE PLACED AND COMPACTED BEFORE WALL CONSTRUCTION EXCEEDS A HEIGHT OF 20'. FINISHED GRADE SLAB SHALL BE COMPACTED TO 95% OF AASHTO T-185 UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

11. CONSTRUCTING STRUCTURES.

   a. IF MACHINES AND DROP SHEETS ARE PRESENT, THEY SHALL BE LOCATED AS SHOWN ON THE WALL ELEVATIONS.

   b. IF PILES ARE LOCATED WITHIN THE REINFORCED VOLUME, THEY SHALL BE DRIVEN PRIOR TO CONSTRUCTION OF THE WALL UNLESS A METHOD TO PROTECT THE STRUCTURE, WHICH IS ACCEPTABLE TO THE ENGINEER AND THE REINFORCED EARTH COMPANY, IS PROPOSED AND APPROVED IN WRITING.

   c. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE LOCATION OF ANY QUADRATI POSTS WITHIN THE REINFORCED VOLUME, ALONG TO PLACEMENT OF THE TOP LAYERS OF REINFORCEMENTS. INDIVIDUAL REINFORCING LADDERS AND/OR STRIPS MAY BE SYSTEMATICALLY SHIFTED TO AVOID THE POST LOCATIONS IF AUTHORIZED BY THE REINFORCED EARTH COMPANY. ANY DAMAGE DONE TO THE REINFORCING LADDERS AND/OR STRIPS DUE TO INSTALLATION OF QUADRATI POSTS SHALL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.

12. IF EXISTING OR FUTURE STRUCTURES, PIPES, FOUNDATIONS OR GUARDRAIL LADDERS AND/OR STRIPS MAY BE SYSTEMATICALLY SHIFTED TO AVOID THE POSTS WHICH ARE WITHIN THE REINFORCED VOLUME INTERFERE WITH THE POSTS, THE CONTRACTOR SHALL NOTIFY THE REINFORCED EARTH COMPANY TO DETERMINE WHAT COURSE OF ACTION SHOULD BE TAKEN, UNLESS SHOWN OTHERWISE.

13. THE CONTRACTOR IS RESPONSIBLE FOR SUCCESSFULLY DEPLOYING TO THE LIMITS OF THE SELECT BACKFILL MATERIAL, AND ARE THE LENGTHS USED IN THE LADDER AND STRIP REINFORCEMENT CALCULATIONS.

14. THE REINFORCED EARTH COMPANY SUPPLIES WIRE FACING AND ACCESSORIES TO BE USED IN CONSTRUCTION WITH OTHER MATERIALS IN THE CONSTRUCTION OF THE REINFORCED EARTH RETAINING WALLS DETAILED HEREIN. THE WALL CONSTRUCTION PROCEDURES PUBLISHED BY THE REINFORCED EARTH COMPANY IN ITS SPECIFICATIONS ARE INTENDED TO PROVIDE A GENERAL EXPLANATION OF THE SYSTEM. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE LOCATION OF ANY EXISTING GUARDRAILS AND/OR GUARDRAILS FOR COMPLIANCE WITH THE GUIDELINES IN THE SPECIFICATIONS DOES NOT RELIEVE THE CONTRACTOR OF ITS RESPONSIBILITY TO ADHERE TO THE PROJECT PLANS, SPECIFICATIONS AND CONTRACT DOCUMENTS OR COMPLIANCE WITH ALL FUND PROTECTION, SAFETY, LAWS, STANDARDS AND PROCEDURES AT THE JOB SITE. CONTRACTORS SHOULD TAKE SPECIAL PRECAUTIONS TO PREVENT THE FAILING FACING FROM SHIFTING OR FALLING DURING THE ERECTION PROCESS.

15. THE REINFORCED EARTH COMPANY IS RESPONSIBLE FOR INTERNAL STABILITY OF THE STRUCTURE ONLY. EXTERNAL STABILITY DESIGN INCLUDING FOUNDATION AND SLOPE STABILITY IS THE RESPONSIBILITY OF OTHERS.

16. MATERIALS

   a. ONLY THE FOLLOWING MATERIALS ARE SUPPLIED BY THE REINFORCED EARTH COMPANY:

      - PREFABRICATED WIRE FACING
      - REINFORCING LADDERS AND/OR STRIPS
      - HARDWARE CONNECTORS
      - BOLT SETS
      - CONNECTOR RODS
      - SOIL RETENTION FABRIC
      - ANY OTHER MATERIALS CALLED FOR IN THE CONTRACT PLANS OR SPECIFICATIONS ARE TO BE SUPPLIED BY THE CONTRACTOR.

17. LADDER AND/OR STRIP LENGTHS

   a. THE REINFORCING LADDER AND/OR STRIP LENGTHS SHOWN ON THE PLANS ARE MEASURED FROM THE BACK FADE. THE WIRE FACING PANELS ARE REACHED TO THE LIMIT OF THE SELECT BACKFILL MATERIAL, AND ARE THE LENGTHS USED IN THE LADDER AND STRIP REINFORCEMENT CALCULATIONS.

18. THE DRAWINGS CONTAIN INFORMATION PROPRIETARY TO THE REINFORCED EARTH WALL. THIS DRAWING CONTAINS INFORMATION PROPRIETARY TO THE REINFORCED EARTH COMPANY, AND IS BEING FURNISHED FOR THE USE OF THE FLORIDA DEPARTMENT OF TRANSPORTATION ONLY IN CONNECTION WITH FDOT PROJECTS. THE INFORMATION CONTAINED HEREIN IS NOT TO BE TRANSMITTED TO ANY OTHER ORGANIZATION UNLESS SPECIFICALLY AUTHORIZED IN WRITING BY THE REINFORCED EARTH COMPANY. THE REINFORCED EARTH COMPANY IS EXCLUSIVE LICENSEE IN THE UNITED STATES UNDER PATENTS ISSUED TO OTHER ORGANIZATIONS, AND IS BEING FURNISHED FOR THE USE OF THE FLORIDA DEPARTMENT OF TRANSPORTATION ONLY IN CONNECTION WITH FDOT PROJECTS. THE INFORMATION CONTAINED HEREIN IS NOT TO BE TRANSMITTED TO ANY OTHER ORGANIZATION UNLESS SPECIFICALLY AUTHORIZED IN WRITING BY THE REINFORCED EARTH COMPANY. THE REINFORCED EARTH COMPANY IS PROPOSED AND ENGINEERED TO PROVIDE A GENERAL EXPLANATION OF THE SYSTEM, IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE LOCATION OF ANY EXISTING GUARDRAILS AND/OR GUARDRAILS FOR COMPLIANCE WITH THE GUIDELINES IN THE SPECIFICATIONS DOES NOT RELIEVE THE CONTRACTOR OF ITS RESPONSIBILITY TO ADHERE TO THE PROJECT PLANS, SPECIFICATIONS AND CONTRACT DOCUMENTS OR COMPLIANCE WITH ALL FUND PROTECTION, SAFETY, LAWS, STANDARDS AND PROCEDURES AT THE JOB SITE. CONTRACTORS SHOULD TAKE SPECIAL PRECAUTIONS TO PREVENT THE FAILING FACING FROM SHIFTING OR FALLING DURING THE ERECTION PROCESS.
KEY

- DESIGNATION FOR LADDER OR STRIP PLACEMENT
  (SEE PLACEMENT DIAGRAMS BELOW)
- TYPE OF WIRE FACING SUPPLIED
  (NUMBER OF REINFORCING LADDERS OR STRIPS)

PLACEMENT DIAGRAMS OF CONNECTOR RODS AND REINFORCING LADDERS AND/OR STRIPS
**Section 1: Installation of Bases & 1st Facings**

- **Type L** bases are installed on the subgrade following the slope.
- 2" overlap is placed between each base and the type L base at the bottom of the wall.
- The complete 2" overlap is placed on the wall face.
- **Type B** or **Q** wire facing is then placed overlapping each base 2" horizontally.
- A horizontal wire facing is placed overlapping the type L base on the front face of the wall.
- **Type A** or **P** wire facing is placed overlapping each base 2" horizontally.

**Section 2: 1st Backfill Lift**

- The bottom of the wall is filled with granular backfill lifted 10" max. before the connection of ladders and/or strips.
- The backfill is sloped down as shown to prevent horizontal displacement of the facing.

**Section 3: Installation of 1st Reinforcing Ladders and/or Strips**

- Reinforcing ladders and/or strips are installed to proper design elevation per the example wall sheet.
- The ladder or strip is secured to the retaining wall.
- The horizontal facing wire is placed on the retaining wall forming the upper and lower reinforcement.
- The ladder or strip is then secured to the retaining wall.

**Section 4: 2nd Backfill Lift**

- The second full lift of granular backfill is then placed and compacted.
- A horizontal wire facing is placed overlapping the type L base on the front face of the wall.
- The ladder or strip is then secured to the retaining wall.

**Section 5: Installation of 2nd Facing Units**

- The second facing unit is installed as shown above.
- The complete 2" overlap is placed on the wall face.
- The facing is then secured to the retaining wall.

**Completed Terratrel Wall Section**

- The wall is topped out as shown above.
- The wall is then protected from further construction.

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**Notes:**

- Membrane type L base is used on subgrade to prevent movement and settling.
- The facing wire is placed overlapping each base 2" horizontally.
- The ladder or strip is secured to the retaining wall.
- The facing wire is placed overlapping the type L base on the front face of the wall.
- The ladder or strip is then secured to the retaining wall.

**Approval:**

- Approved by William N. Nickas, P.E.
- State Structures Design Engineer

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**State of Florida Department of Transportation**

**The Reinforced Earth Company**

**Terratrel Wire Wall**

**Date:** 01-01-05

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**Interim Standard**

- Interim Standard in English Units
- Interim Standard in English Units
- Interim Standard in English Units
- Interim Standard in English Units