EP Henry Terrace Wall™ Specification

1.0 GENERAL INFORMATION

1.1 SCOPE:

Work includes the manufacture, delivery and installation of concrete landscape retaining wall units as required by the drawings and specifications.

1.2 RELATED SECTIONS:

A. Section _____

B. Section _____

1.3 APPLICABLE DOCUMENTS:

ASTM STANDARDS:

C 1372 Specification for Segmental Retaining Wall units.

C 1262 Standard test method for evaluating freeze/thaw durability of manufactured CMUs.

C 33 Specifications for concrete aggregates.

C 140 Methods for sampling and testing concrete masonry units.

D 1557 Lab compaction characteristics of soil using modified effort.

OTHER STANDARDS:

NCMA Tek 2-4B, 15-5, 15-8

NCMA SRWU-1 Determination of Connection Strength between Geosynthetics and Segmental Concrete Units.

NCMA SRWU-2 Determination of Shear Strength between Segmental Concrete Units.

NCMA Design Manual for Segmental Retaining Walls.

AASHTO Task Force 27 Report “In Situ Soil Improvement Techniques”.

1.4 DELIVERY AND STORAGE:

A. The contractor shall check the material upon delivery to assure that the style, color etc. Comply with the specification and that the materials are not damaged or defective. Materials that do not meet the specifications or are defective or damaged shall not be used for construction.

B. The contractor shall protect the material from ice, snow, excessive mud or any agent that will bond to the unit.

2.0 MATERIALS

2.1 RETAINING WALL MATERIALS

A. Concrete Retaining Wall Units:

1. Units shall be Terrace Wall Retaining Wall units manufactured by EP Henry Corp. in a color selected by the architect.

2. Retaining wall units shall be manufactured in accordance with ASTM C 1372. Only aggregates complying with ASTM C 33 shall be used in retaining wall units in areas where there is exposure to frost. Minimum compressive strength = 3,000 psi. Maximum absorption = 13 pcf.

3. Exterior dimensions for Terrace Wall units shall be 12” x 6” x 16”.

4. Cap units shall be selected from manufacturer's choices.

5. Color used in pigmented units shall not exceed 10% of the weight of the Portland cement in the unit.

6. Units shall be interlocked with an integrally molded rear lip.

7. The interlock system shall provide a setback of 7/8" per layer of Terrace Wall for a wall batter of 8º.

B. Leveling Pad Material

1. Base Leveling Pad material for the granular wall footing shall be well graded sand or gravel with a Unified Soil Classification GW. A minimum of 6” thick and 24” wide of compacted base is required.

2. A concrete footing may be substituted for the granular base.

C. Unit Fill

1. Unit fill shall be clean crushed stone or well-graded gravel with a GW Unified Soil Classification. The fill shall have a maximum size of 3/4" and shall not have a fine content (passes #200 sieve) greater than 5% such as AASHTO No. 57 or 67.
2. Unit fill shall extend at least 12" behind the rear face shell of the concrete unit.

D. Wall Backfill

1. Existing soil on site may be used for backfill behind the unit fill unless either: a.) deemed unsuitable by the engineer, or b.) contains organic material or foreign debris; or c.) the backfill material contains excessive fines (greater than 35% by weight passing the No. 200 sieve.
2. Always compact the backfill behind the wall to 95% of maximum density after each course is laid (8”). Only hand operated mechanical plate compactor should be used for compacting within 3 ft. of the Terrace Wall units.

E. Drain Tile

1. Drain tile shall be plastic, concrete or equal with a minimum 4” diameter or as specified by the engineer or designer.

2.2 RETAINING WALL INSTALLATION:

A. Excavation

1. Contractor shall excavate the site as required by the construction drawings.

B. Foundation Soil Preparation

1. The foundation soil shall be excavated as required by the construction drawings.
2. The engineer shall examine the foundation soil for approval. Unsuitable soil will be removed and replaced with acceptable soil.

C. Base Leveling Pad

1. Install leveling pad (i.e. footing) as shown on the construction drawings. A 6”minimum thickness and 24” width is required.
2. Granular base material shall be compacted with to 95% of maximum density (see ASTM D1557).
3. Prepare the base footing so that the entire length and width of the Terrace Wall unit is in contact with the footing.

D. Terrace Wall Installation – Maximum unreinforced wall height is 36”

1. Lay a row of Terrace Wall units edge to edge on the prepared foundation following the lines shown on the construction drawing. Check for straightness. Level each unit from side to side. DO NOT pitch the unit towards the front of the wall.
2. Fill the units and 12” behind the units with granular aggregate. Compact all unit fill and backfill. Do not use mechanical equipment on the units and do not operate heavy equipment within 3 feet of the wall. Clean the top of the units so they are free of aggregate before installing the next course.
3. Slide two interlocking clips onto the back of each block in the clip grooves, one clip per groove, with the single leg of clip extending up from the core of the unit.
4. Stagger (half bond) the second course on top of the base course so that the clips extend into the cores of the unit being laid. Pull the unit to the front of the wall until the back face shell tightly engages the clip. Repeat steps 2 and 3 until the specified height is obtained.
5. At the end of each course turn the units at a radius into the bank or use the 90º corner unit.

E. Cap Unit Installation

1. Cap units are installed as the last course on the wall. Use a high strength and flexible concrete adhesive compound to bond the cap to the wall. Apply the adhesive as recommended by the manufacturer on the front and back face shells of the Terrace Wall unit. Install the cap with or without an overhang as required by the architect.

F. Drain Tile Installation

1. The installation of the drain tile shall be required directly behind the Terrace Wall unit at grade level. Cover the drain tile with the granular fill. Install drain tile bleeders wherever necessary or as required by the engineer, maximum 50 ft on centers.