

## PEARL PLACE 2

### SECTION 323200 - SEGMENTAL RETAINING WALLS

#### PART 1 – GENERAL

##### 1.1 SUMMARY

- A. This Section includes furnishing and installing concrete segmental retaining wall units to the lines and grades designated on the construction drawings and as specified herein.

##### 1.2 SUBMITTALS

- A. Submit the following:
  - 1. Product Data: Manufacturer's product data and manufacturer's recommended installation instructions and details.
  - 2. Shop Drawings: Complete shop drawings with installation details to include, but not limited to, excavation limits, wall layout and elevations, leveling pad and backfill material.
  - 3. Calculations: Structural analysis data and design signed and sealed by a State of Maine licensed professional engineer.
  - 4. Color: Manufacturer's standard color and texture samples.

##### 1.3 REFERENCES

- A. Specification Sections:
  - 1. Earth Moving: Section 31 20 00.

##### 1.4 DELIVERY, HANDLING, AND STORAGE

- A. Contractor shall check the materials upon delivery to assure proper material has been received.
- B. Contractor shall prevent excessive mud, wet cement and like materials from coming in contact with the retaining wall units.
- C. Contractor shall protect the materials from damage. Damage material shall not be incorporated in then project.

##### 1.5 QUALITY ASSURANCE

- A. All segmental retaining wall units and accessories shall be provided by a single manufacturer.

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PART 2 – PRODUCTS

2.1 APPROVED MANUFACTURER

- A. Provide segmental retaining wall units from one of the following manufacturers:
  - 1. Redi-Scapes, 05481 South US-31, Charlevoix, MI 49720, 1866-222-8400,
  - 2. Approved Equal.

2.2 WALL UNITS

- A. Segmental wall units shall be equal to Redi-Scape 115 Retaining Series Wall System.
- B. Wall units shall be made with ready-mixed concrete in accordance with ASTM C 94, and per the following:
  - 1. Air Content: 4.5 to 7.5%
  - 2. 28 Day Compressive Strength: 4,000 psi
  - 3. Slump: 5" ± 1.5"
- C. Provide cap, corner and end units as required to complete the approved wall layout.
- D. Exterior block dimensions shall be uniform and consistent. Maximum dimensional deviations shall be 1/8" excluding the architectural textured surface.
- E. Exposed face shall have a finish equal to McKinley Texture. Other surfaces shall be smooth form type.
- F. Color to be selected by Owner.

2.3 LEVELING PAD AND FREE DRAINAGE BACKFILL

- A. Leveling Pad shall be crushed stone as specified in Section 31 20 00 Earth Moving.
- B. Free Draining Backfill material shall be crushed stone as specified in Section 31 20 00 Earth Moving.
- C. Backfill material shall be structural fill material as specified in Section 31 20 00 Earth Moving.
- D. Non-woven geotextile fabric type and placement shall be as specified by wall unit manufacturer.

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- E. Geogrid soil reinforcement type and placement shall be as specified by wall unit manufacturer.

### 2.4 DRAINAGE

- A. Internal and external drainage shall be evaluated by the principal Engineer responsible for the final wall design.

## PART 3 – EXECUTION

### 3.1 EXCAVATION

- A. Contractor shall excavate to the lines and grades shown on the construction drawings and approved shop drawings and as specified in Section 31 20 00 Earth Moving.

### 3.2 FOUNDATION SOIL PREPARATION

- A. Native foundation soil shall be compacted to 95% of standard proctor prior to placement of the Leveling Pad material.

### 3.3 LEVELING PAD PLACEMENT

- A. Leveling Pad shall be placed as shown on the approved shop drawings.
- B. Leveling Pad shall be placed on undisturbed native soils or suitable replacement fills.
- C. Leveling Pad shall be compacted to 95% of standard proctor to ensure a level, hard surface on which to place the first course blocks. Pad shall be constructed to proper elevation to ensure the final elevation shown on the plans.
- D. Leveling Pad shall have a 6 inch minimum depth for walls under 8 feet in height and a 12 inch minimum depth for walls 8 feet and taller. Pad dimensions shall extend beyond the blocks in all directions to a distance at least equal to the depth of the pad or as designed by principal Engineer responsible for the final wall design.

### 3.4 WALL UNIT INSTALLATION

- A. The first course of wall units shall be placed on the prepared Leveling Pad with the aesthetic surface facing out and the front edges tight together. All units shall be checked for level and alignment as they are placed.
- B. Ensure that units are in full contact with Leveling Pad. Proper care shall be taken to develop straight lines and smooth curves on base course as per approved wall layout.

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- C. The backfill in front and back of entire base row shall be placed and compacted to firmly lock them in place. Check all units again for level and alignment. All excess material shall be swept from top of units.
- D. Fill block cores with crushed stone consolidated by hand tamping.
- E. Install next course of wall units on top of base row.
  - 1. Position blocks to be offset from seams of blocks below.
  - 2. Blocks shall be placed fully forward so knob and groove are engaged.
  - 3. Check each block for proper alignment and level.
  - 4. Backfill a 12 inch width behind block with Free Draining Backfill.
  - 5. Spread backfill in uniform lifts not exceeding 9 inches.
  - 6. Employ methods using lightweight compaction equipment that will not disrupt the stability or batter of the wall. Hand-operated plate compaction equipment shall be used around the block and within 3 feet of the wall to achieve consolidation.
  - 7. Compact backfill to 95% of standard proctor (ASTM D 698, AASHTO T-99) density within 2% of its optimum moisture content.
  - 8. Fill block cores with crushed stone consolidated by hand tamping
- F. Install each subsequent course in like manner. Repeat procedure to the extent of wall height.
- G. Free Draining Backfill shall extend from Leveling Pad to 4-inches below top of wall.
- H. Allowable construction tolerance at the wall face is 2 degrees vertically and 1 inch and 10 feet horizontally.
- I. All walls shall be installed in accordance with local building codes and requirements.

### 3.5 GEORGRID INSTALLATION

- A. If geogrid is required by the principle Engineer for soil reinforcement, install in accordance with the approved manufacturer's shop drawings.

END OF SECTION 323200