

SECTION 02820 – RETAINING WALLS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The General Provision of the contract, including the General Provisions for Construction Projects (2016), Special Provisions, and General Requirements of the Specifications, apply to the work specified in this section.
- B. 2005 Hawaii Department of Transportation Highways Standard Specifications for Road and Bridge Construction (“HDOT”) are incorporated into the requirements of the Work as described herein.

1.2 SUMMARY

The Work under this Section consists of construction of a concrete retaining wall as shown on the Plans and as specified herein.

1.3 REFERENCES

- A. Section 02152, Excavation, Subgrade, and Embankment; FAA Specification Item P-152.
- B. 2005 Hawaii Department of Transportation Highways Standard Specifications for Road and Bridge Construction (“HDOT”)
- C. DOT/Federal Projects Special Provisions for 2005 Standard Specifications (“Special Provisions”)

1.4 SUBMITTALS

Prior to commencing Work in this Section, the Contractor shall submit the following information as according to Section 01300, Submittals.

- A. Retaining wall structural concrete mix design
- B. Shop drawings for steel reinforcements and embedments
- C. Product data for filter fabric and gravel material
- D. Product data for drain pipes
- E. Test results for impervious fill material
- F. Retaining wall surface finish sample.
- G. Retaining wall mock-up.

PART 2 PRODUCTS

2.1 STRUCTURAL CONCRETE

- A. Structural concrete shall conform to HDOT Standard Specifications and Special Provisions, Section 601 – Structural Concrete. The concrete shall achieve a minimum strength of 5,000 psi at 28-days.

2.2 STEEL REINFORCEMENT

- A. Steel reinforcement shall conform to HDOT Standard Specifications and Special Provisions, Section 602 – Reinforcing Steel.

2.3 DRAIN PIPE

- A. Drain pipe shall be 4-inch diameter Schedule 40 PVC perforated drain pipe.

2.4 FILTER GRAVEL AROUND DRAIN PIPE

- A. Filter Gravel shall be 3B Fine aggregate.

2.5 FILTER FABRIC

- A. Filter Fabric shall be Mirafi 140N or approved equal.

2.6 IMPREVIOUS BACKFILL

- A. Material for compacted impervious fill shall consist of GC SC ML CL MH CH clays, silty clays, or clayey silts classified in accordance with ASTM D2487.

2.7 GRANULAR CAPPING FILL

- A. Granular capping fill shall comply with HDOT Spec Section 703.20.

2.8 RETAINING WALL VISUAL REQUIREMENTS

The retaining wall shall visually blend with the surrounding terrain.

- A. Concrete shall be in accordance with ASTM C979 Standard Specification for Pigments for Integrally Colored Concrete. Color pigment shall be synthetic mineral-oxide pigments or colored water-reducing admixtures; color stable, free of carbon black, nonfading, and resistant to lime and other alkalis.
- B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. ChemMasters.

2. Davis Colors.
3. Dayton Superior Corporation.
4. Hoover Color Corporation.
5. Lambert Corporation.
6. QC Construction Products.
7. Rockwood Pigments NA, Inc.
8. Scofield, L. M. Company.
9. Solomon Colors, Inc.

C. Color: Moderate to dark earth-tone color.

D. A wall surface finish samples with manufacturer's full range of colors shall be submitted to the RPR and the County of Kauai, Planning Department for review and approval.

1. Submit a sample of the wall finish surface, which shall be 12 inches by 12 inches by 1-1/2 inches in thickness, to illustrate quality, color, and texture of the finish of wall surface(s).

E. After approval of the surface finish sample, the Contractor must provide one full size sample wall mock-up.

1. After samples are approved and prior to starting installation, provide a wall mock-up. The mock-up shall be reviewed and approved by the RPR and the County of Kauai, Planning Department. Once approved, use the mock-up samples as a standard of workmanship and visual appearance of the wall. Provide written notification to the RPR at least 48 hours prior to fabrication of the mock-up.
2. Provide mock-up to establish the proposed materials and construction techniques to provide the acceptable visual effect. Materials used for mock-up should be those proposed for actual construction. Include all appurtenances such as anchors, connections, and joint fillers. Apply any specified products to the wall.
3. Mock-up shall be a minimum 4 feet by 4 feet in size.
4. Incorporate any required details as shown on drawings.
5. Utilize the proposed color and finish texture of the wall.
6. Maintain Mock-up for comparison with finished work.

7. After approval by RPR, transport mock-up to job-site and erect where directed by RPR.

PART 3 EXECUTION

- 3.1 Construction methods shall be accordance with HDOT Standard Specifications and Special Provisions, Section 503 – Concrete Structures.

PART 4 MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT

- A. All work under this section will not be measured for payment.

4.2 BASIS OF PAYMENT

- A. Items covered by this section will be paid by lump sum. The contract price paid shall be for full compensation for furnishing and placing all materials and all labor, equipment, tools, and incidentals necessary for each of the construction phases. Payment will be made under:

<u>Item No.</u>	<u>Description</u>	<u>Unit</u>
02820.1A	Retaining Walls (Phases 0 through 3)	Lump Sum

END OF SECTION 02820