

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
  - 1. Crushed Limestone Top Course
  - 2. Crushed Surfacing Base Course
  - 3. Permeable Ballast
  - 4. Select Borrow
  - 5. Geotextile
  
- B. Related Sections
  - 1. 02100 Site Preparation
  - 2. 02300 Earthmoving
  
- C. Related Sections
  - 1. The Standard Specifications for Road, Bridge and Municipal Construction apply to the Work described in this section except as modified herein.

1.02 REFERENCES

- A. Reference Standards: Current edition at date of Bid. Washington Department of Transportation (WSDOT)
- B. Standard Specifications for Road, Bridge, and Municipal Construction.
- C. Standard Plans for Road, Bridge, and Municipal Construction
- D. American Association of State Highway and Transportation Officials (AASHTO) "Standard Specifications for Highway Materials and Methods of Sampling and Testing"

1.03 SUBMITTALS

- A. Submit all materials for review and approval by Engineer prior to placement.
- B. Fabrics: Submit manufacturer's product specifications and recommended installation procedures to the Engineer for approval prior to delivery to the project site.
- C. All aggregates:
  - a. Sieve Analysis Test Report and Moisture-Density (Proctor) Test Report Crushed limestone top course
  - b. Within 10 calendar days of notice to proceed: Documentation that the material, as specified, has been ordered
  - c. Provide a recent (within 1 year of award date) sieve analysis with source information.
  - d. At the owner's option, the owner may perform a sieve analysis of the material stock piled on the site at any time to ensure that it is in compliance
  - e. Provide a one-gallon sample of each material type.
- D. Crushed surfacing base course
  - a. Provide a recent (within 1 year of award date) sieve analysis with source information.
  - b. Provide a one-gallon sample.
- E. Permeable ballast
  - a. Provide a recent (within 1 year of award date) sieve analysis with source information.
  - b. Provide a one-gallon sample.

1.04 QUALITY ASSURANCE

- A. The Contractor shall be experienced in work of the highest professional quality and shall have facilities and personnel adequate for the work specified.
- B. Contractor shall acquaint him/herself with all other work related to site improvements and other work.
- C. Testing:
  - a. Sampling shall be done under the supervision of the testing agency and in accordance with the General and Special Provisions of the Contract.
  - b. Tests shall be performed by a certified testing agency or licensed laboratory.
  - c. The Owner' Representative may any and all tests included in the Standard Specifications at a frequency determined by the Owner. .
- D. All traffic aggregate paving methods and materials shall conform to the City of Bellingham Public Works Development Guidelines and Improvement Standards.
- E. The Contractor will be required to submit a sieve analysis from the manufacturer that is dated no more than one year prior to the contract award date for all material.
- F. At the owner's option, the owner may order a sieve analysis of the material stock piled on the site at any time to ensure that it is in compliance with specifications.
- G. At the Contractors option, a meeting offsite with the owner may be scheduled to view an example of an existing trail built to the standards acceptable by the owner before any crushed limestone is installed in the Project.
- H. At the owner's option, the Contractor may be required to build a test trail to show the level of quality of acceptable trail work before proceeding with the actual trail. The size and location of the test trail shall be determined at the pre-construction meeting. The Contractor shall not proceed with work until the owner has approved the test trail.
  - a. The Owner expects that the Work shall be executed in a way to match the existing trail example or test panel.
- I. Clean base course, or other specified base of debris, organic or deleterious material before placement of limestone
- J. The Contractor shall place the crushed limestone surfacing immediately at optimum moisture content.
- K. Compact placed material to specified density immediately after placement.
- L. The Contractor shall take special care to not disaggregate the Crushed Limestone Surfacing mixture.
- M. Contractor shall obtain Owner's approval to stock pile Crushed Limestone Surfacing before it is brought to the site.
  - a. Stockpiled material shall not be contaminated at the site so as to change the moisture content or gradation.
  - b. Stock piled material shall not be allowed to dry out.
  - c. The Contractor shall cover all stock piled material to maintain the material's moisture content.
  - d. Material shall not be stock piled at the project site for an extended period of time, as determined by the Owner.

1.05 PREPARATION OF SUBGRADE

- A. The Contractor shall be responsible for grading and compacting sub-grade to ninety-five (95) percent compaction immediately before placement of all items specified in this Section.

## PART 2 PRODUCTS

MATERIALS: Shall meet the requirements of the following Sections of the Standard Specifications or as otherwise specified

### 2.01 CRUSHED LIMESTONE PATH

- A. Crushed limestone for pedestrian path construction shall be a clean mixture free from organic matter and conforming to the following gradation when tested in accordance with ASTM D422: U.S. Standard Sieve Size Percent Passing, by Weight

Sieve	Percent Passing
5/8"	100
1/2"	70-100
#4	31-60
#8	22-45
#30	10-25
#200	10-20 Max.

- B. Crushed limestone surfacing shall be "dense grade" limestone. The material shall be uniform in quality and free from extraneous material.

### 2.02 CRUSHED SURFACING BASE COURSE (CSBC)

- A. Shall comply with WSDOT Standard Specifications 9-03.9(3)

### 2.03 PERMEABLE BALLAST

- A. Shall comply with WSDOT Standard Specifications 9-03.9(2)

### 2.04 NON-WOVEN GEOTEXTILE

- A. Shall comply with WSDOT Standard Specifications 9-033.2(1) Table 3, Soil Stabilization, minimum grab tensile strength (ASTM D 4632) of 200-pounds.

## PART 3 EXECUTION

### 3.01 LIMESTONE

- A. All areas shall be graded to within 0.1 foot, plus or minus of the proposed elevations.  
a. In addition, Contractor shall meet all specified cross slopes, running slopes, and positive drainage requirements as shown in the plans
- B. Limestone surfacing shall be compacted after final grading with a minimum 3 passes of a 5-ton vibratory roller, or as directed by a Parks Representative.
- C. Limestone shall be compacted by mechanical methods to 95% density. Trail shoulders shall be compacted to 95% density.
- D. Limestone shall be placed with a method that provides a finished surface of evenly mixed material free from large pockets of separated rock.  
a. Large pockets are defined as areas with loose rock lacking fines in areas larger than 2 square feet measured at the trail surface.

- b. The frequency of such pockets of loose aggregates shall not exceed 10% of any given 100 foot segment of new trail selected by the owner.
- E. The remedy for loose top course shall be as follows:
  - a. Loose top course shall either be removed in its entirety and replaced by the contractor at no additional cost to the owner; or
  - b. At the owner's option, loose material shall be raked off and the area may be re-topped by a using a pre-approved 3/8" crushed limestone top course in a thickness and moisture content pre-approved by the owner and re-compacted to the finished grades and cross slope specified in this contract.
  - c. This work shall be completed by the contractor at no additional cost to the owner.
- F. Optimal moisture content shall range between 5% and 7% before limestone is placed.
- G. The remedy for dry limestone placed at a moisture content less than specified shall be as follows:
  - a. Loosen compacted limestone
  - b. Apply water until limestone is saturated
  - c. Back-blade surface smooth
  - d. Ensure limestone layer is consistently moist, full depth. Add water to dry sections as directed.
  - e. Compact to 95%
  - f. Loose rock shall be remedied as specified in this specification.
  - g. These tasks shall be incidental to the bid price. No additional compensation shall be permitted.

### 3.02 DRAINAGE

- A. Trail design shall provide positive drainage off of the trail in a manner that does not allow concentrated flows across the trail. Cross slopes shall be as specified in the plans.

### 3.03 PERMEABLE BALLAST (where specified under special conditions)

- A. This item consists of supplying and placing Permeable Ballast for drainage prisms as shown on the drawings or as directed by the Owner.
- B. Permeable Ballast shall conform to Section 4-04 and 9-03.9(2) of the Standard Specifications.
- C. Due to problems with stockpiled material breaking down (crushing) causing fines in stockpiled material, the Project Engineer must evaluate and certify the permeable ballast mix as sampled from the on-site stockpile before placement.
- D. Permeable ballast placed adjacent to trail sections is designed to function as part of a drainage system. It is imperative that the drainage layer be in continuous contact with the materials placed for the trail section and that hydraulic connectivity between the various strata of construction be maintained to assure free movement of water through the materials.

[NOTE TO USER: ADD MEASUREMENT AND PAYMENT SECTION]

END OF SECTION