



DESIGN STANDARDS FOR: PATHS

The term "Standard Specifications" refers to the Standard Specifications for Road, Bridge and Municipal Construction as published by the Washington State Department of Transportation, latest edition. The Standard Specifications apply to the Work described in this section except as modified herein.

Clearing, Grubbing and Trailside Cleanup

1. This item consists of clearing, grubbing and trailside cleanup of the right-of-way for construction. Included in this item is the removal and disposal of all trees, brush, stumps and debris within the clearing and grubbing limits.
2. Trailside cleanup shall give the trailside an attractive finished appearance. The trailside should be ready for reseeding and replanting.
3. Open Burning is not permitted.
4. Debris may be disposed of off-site or in areas approved by the Owner's Representative.

Subgrade

1. This item consists of preparing a suitable subgrade for the base course.
2. The subgrade shall consist of mineral soil, bedrock, or other material approved by the Parks and Recreation Department.
3. Subgrade shall be compacted by mechanical methods to 95% density (ASTM: D1557).
4. A Parks Representative may require a proof-roll on sub-grade. Failing subgrade shall be removed and replaced with material approved by the Parks and Recreation Department.
5. A Parks Representative shall approve the sub-grade prior to placement of base course.
6. Trails through wetland areas require sub-grade stabilization and additional drainage flow considerations. Sub-grade review by a Geotechnical Engineer may be required after the subgrade inspection by the city representative.

Base Course

1. This item consists of supplying and placing crushed rock ballast over a prepared subgrade as shown on the drawings or approved by the Parks and Recreation Department.

2. Gravel base course shall conform to section 4-04 and 9-03.10 of the Standard Specifications.
3. Gravel base course shall consist of 1-1/4" minus crushed rock to 6" depth, or alternative approved by the Parks and Recreation Department.
4. Optimal moisture content shall range between 6% and 10% before it is placed.
5. Base course shall be compacted by mechanical methods to 95% density (ASTM D1557).

Crushed Limestone Surfacing, Top Course

1. This item consists of supplying and placing crushed limestone surfacing over a prepared base course as shown on the drawings or as directed by a Parks Representative and conforming to Section 4-02, 4-04 of the Standard Specifications.
2. Crushed limestone surfacing shall consist of 1/2" minus crushed limestone to a compacted depth of 3" and meeting the following grading requirements:

Sieve	Percent passing (by weight)
5/8"	100
1/2"	70-100
No. 4	31-60
No. 8	22-45
No. 30	10-25
No. 200	10-20 Max.

3. Crushed limestone surfacing shall be "dense grade" limestone. The material shall be uniform in quality and substantially free from extraneous material.
4. All areas shall be graded to within 0.1 foot, plus or minus of the proposed elevations. In addition, Contractor shall meet all specified cross slopes, running slopes, and positive drainage requirements as shown in the plans
5. Limestone shall be placed with a method that provides a finished surface of evenly mixed material free from large pockets of separated rock. Large pockets are defined as areas with loose rock lacking fines (any surface thickness) in areas larger than 2 square feet measured at the trail surface. The frequency of such pockets of loose aggregates shall not exceed 10% of any given 100 foot segment of new trail section selected by the owner.
 - a. The remedy for loose top course shall be as follows:
 - i. Loose top course shall either be removed in its entirety and replaced by the contractor at no additional cost to the owner; or
 - ii. 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.
 - iii. This work shall be completed by the contractor at no additional cost to the owner.

6. Optimal moisture content shall range between 5% and 7% before limestone is placed.
 - a. The remedy for dry limestone placed at a moisture content less than specified shall be as follows:
 - i. Loosen compacted limestone
 - ii. Apply water until limestone is saturated
 - iii. Back-blade surface smooth
 - iv. Ensure limestone layer is consistently moist, full depth. Add water to dry sections as directed.
 - v. Compact to 95%
 - vi. Loose rock shall be remedied as specified in this section
 - vii. These tasks shall be incidental to the bid price. No additional compensation shall be permitted. Any task completed to achieve optimum moisture content is at the sole responsibility of the contractor and shall be provided at no additional cost to the owner.
7. 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.
8. Limestone shall be compacted by mechanical methods to 95% density.
 - a. Trail shoulders shall be compacted to 95% density.

Drainage

1. 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.

Permeable Ballast (where specified under special conditions)

1. This item consists of supplying and placing Permeable Ballast for drainage prisms as shown on the drawings or as directed by the Owner.
2. Permeable Ballast shall conform to Section 4-04 and 9-03.9(2) of the Standard Specifications.
3. 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.
4. 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.

Quality Control

1. 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.
2. 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.
3. 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.
4. 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.
5. The Owner expects that the Work shall be executed in a way to match the existing trail example or test panel.
6. Clean base course, or other specified base of debris, organic or deleterious material before placement of limestone
7. The Contractor shall place the crushed limestone surfacing immediately at optimum moisture content.
8. Compact placed material to specified density immediately after placement.
9. The Contractor shall take special care to not disaggregate the Crushed Limestone Surfacing mixture.
10. Contractor shall obtain Owner's approval to stock pile Crushed Limestone Surfacing before it is brought to the site. Stockpiled material shall not be contaminated at the site so as to change the moisture content or gradation. Stock piled material shall not be allowed to dry out. The Contractor shall cover all stock piled material to maintain the material's moisture content. Material shall not be stock piled at the project site for an extended period of time, as determined by the Owner.

END OF SECTION