PART 1 - GENERAL

1.1 RELATED WORK

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 REFERENCES

A. ASTM C 117-90, Test Method for Material Finer Than 0.075 mm Sieve in Mineral Aggregates by Washing.

B. ASTM C 131-89, Test method for Resistance to Degradation of Small-Size Coarse aggregate by Abrasion and Impact in the Los Angeles Machine.

C. ASTM C 136-92, Method for Sieve Analysis of Fine and Coarse Aggregates.

D. ASTM D 698-91, Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-1bf/ft3) (600 kN-mlm).

E. CAN/CGSB-8.1-88, Sieves Testing, Woven Wire, Inch Series.

F. CAN/CGSB-8.2-M88, Sieves Testing, Woven Wire, Metric.

1.3 DELIVERY, STORAGE AND HANDLING

A. Store cement in weather tight bins or silos that provide protection from dampness and easy access for inspection and identification of each.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Coarse aggregates satisfying requirements of applicable section shall be one, or a blend of following:
   1. Crushed rock from an approved bedrock source.
   2. gravel composed of naturally formed particles of stone from an approved source.

B. Grey Riverstones: 50 to 100 mm dia. Washed granite riverstones.

C. Clear Stone: 19mm washed stones, free or sand or filler material.

D. Granular base material: 19 mm crusher run limestone, or Granular ‘A’.

E. Granular sub-base material: 50 mm crusher run limestone, or Granular ‘B’.

F. Crushed pit-run or screened stone, gravel or sand consisting of hard, durable, angular particles, free from clay lumps, cementation, organic material, frozen material, and other deleterious materials.

G. Bioretention choking layer, washed 3 to 10 mm diameter clear stone.

H. Bioretention gravel storage layer washed 50 mm diameter clear stone.

PART 3 - EXECUTION

3.1 SEQUENCE OF OPERATION

A. Place granular base after finished sub-base surface or subgrade is inspected and approved by Consultant.

B. Placing
1. Construct granular base to depth and grade in areas indicated.
2. Ensure no frozen material is placed.
3. Place material only on clean unfrozen surface, free from snow and ice.
4. Place material on geotextile filter. Ensure geotextile filter overlaps minimum 500mm and lap in the direction of flow.
5. Place material using methods which do not lead to segregation or degradation of aggregate.
6. Place material to full width in uniform layers not exceeding 150 mm compacted thickness.
7. River stone shall be placed at 250mm depth. Refer to drawings for extent and location.
8. Shape each layer to smooth contour and compact to specified density before succeeding layer is placed.
9. Remove and replace that portion of layer in which material becomes segregated during spreading.

C. Compaction Equipment
1. Compaction equipment to be capable of obtaining required material densities.
2. Efficiency of equipment not specified to be proved at least as efficient as specified equipment at no extra cost and written approval must be received from Consultant before use.
3. Equipped with device that records hours of actual work, not motor running hours.

D. Compacting in accordance with ASTM D 698 and ASTM D 1557
1. Compaction of Road Pavement Base: Compact to density of not less than 100% SPMDD.
2. Compaction of Sidewalks Base: Compact to density of not less than 100% of SPMDD.
3. Shape and roll alternately to obtain smooth, even, and uniformly compacted base.
4. Apply water as necessary during compacting to obtain specified density.
5. In areas not accessible to rolling equipment, compact to specified density with mechanical tampers approved by Consultant.
6. Correct surface irregularities by loosening and adding or removing material until surface is within specified tolerance.

3.2 SITE TOLERANCES

A. Finished base surface to be within plus or minus 10 mm of established grade and cross section but not uniformly high or low.

3.3 PROOF ROLLING

A. For proof rolling use roller of 45400 kg gross mass with four pneumatic tires each carrying 11350 kg and inflated to 620 kPa. Four tires arranged abreast with center to center spacing of 915 mm maximum.

B. Consultant may authorize use of other acceptable proof rolling equipment.

C. Proof roll top of base upon completion of fine grading and compaction.

D. Make sufficient passes with proof roller to subject every point on surface to three separate passes of loaded tire.

E. Where proof rolling reveals defective areas:
   1. Remove base, sub-base and subgrade material to depth and extent directed by Consultant.
   2. Backfill excavated subgrade with sub-base material and compact in accordance with this section.
   3. Replace sub-base material and compact in accordance with this section.
   4. Replace base material and compact in accordance with this Section.

3.4 INSPECTION AND TESTING

A. Testing of materials and compaction will be carried out by testing laboratory designated by Owner. Frequency of tests will be determined by Consultant.

B. Owner will pay costs for inspection and testing.

3.5 PROTECTION

A. Maintain finished base in condition conforming to this section until succeeding material is applied or until acceptance by Consultant.

END OF SECTION