PART 1 - GENERAL

1.1 RELATED SECTIONS

.1 Section 31 05 17 – Aggregates: General.

.2 Section 31 23 33.01 - Excavating, Trenching and Backfilling.

1.2 REFERENCES

.1 American Society for Testing and Materials (ASTM)
- .1 ASTM C 117-04, Standard Test Method for Materials Finer Than 0.075 mm (No.200) Sieve in Mineral Aggregates by Washing.
- .2 ASTM D 6928-10, Standard Test Method for Resistance of coarse Aggregate to Degradation by Abrasion in the Micro-Deval Apparatus.
- .3 ASTM C 136-06, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
- .4 ASTM D 698-12, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400ft-lbf/ft^3) (600kN-m/m^3).
- .5 ASTM D 1883-07e1, Standard Test Method for CBR (California Bearing Ratio) of Laboratory Compacted Soils.
- .6 ASTM D 4318-10, Standard Test Methods for Liquid Limit, Plastic Limit and Plasticity Index of Soils.

.2 Canadian General Standards Board (CGSB)
- .1 CAN/CGSB-8.1-88, Sieves, Testing, Woven Wire, Inch Series.
- .2 CAN/CGSB-8.2-M88, Sieves, Testing, Woven Wire, Metric.

1.3 MEASUREMENT FOR PAYMENT

.1 The supply of labour, materials, plant and equipment for the placement and compaction of granular base, as indicated on the drawings, will be measured by the cubic metre (m3) calculated from actual field measurements. This includes materials for both the road structure and walking trail.

.2 Also include incidental to the unit price is the supply of labour, materials, plant and equipment for the placement and compaction of the crusher dust for the walking trail.

PART 2 - PRODUCTS

2.1 MATERIALS

.1 Granular base: material in accordance with Section 31 05 17 – Aggregates: General and following requirements:

.1 Crushed stone or gravel.

.2 Gradations to be within limits specified when tested to ASTM C 136 and ASTM C 117. Sieve sizes to CAN/CGSB-8.1 and CAN/CGSB-8.2.

.1 Gradation to:

Sieve Designation	% Passing
25 mm	100
12.5 mm	65-90
4.75 mm	35-60
2.00 mm	22-45
0.425 mm	10-25
0.075 mm	3-8

.2 Liquid limit: to ASTM D 4318, maximum 25.

.3 Plasticity index: to ASTM D 4318, maximum 0.

.4 Los Angeles degradation: to ASTM C 131. Maximum % loss by mass: 35.

.5 Crushed particles: at least 60% of particles by mass within each of following sieve designation ranges to have at least 1 freshly fractured face. Material to be divided into ranges using methods of ASTM C 136.

.6 Flat and elongated particles: maximum by mass: 15%.

PART 3 - EXECUTION

3.1 PLACING

.1 Place granular base after sub-base surface is inspected and approved by the Departmental Representative.

.2 Construct granular base to depth and grade in areas indicated.

.3 Ensure no frozen material is placed.

.4 Place material only on clean unfrozen surface, free from snow and ice.

.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 200 mm compacted thickness. Departmental Representative may authorize thicker lifts (layers) if specified compaction can be achieved.

.7 Shape each layer to smooth contour and compact to specified density before succeeding layer is placed.

.8 Remove and replace that portion of layer in which material becomes segregated during spreading.

3.2 COMPACTION

.1 Compaction equipment to be capable of obtaining required material densities.

.2 Compact to density not less than 100% of Maximum Dry Density in accordance with ASTM D 698.

.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 to the satisfaction of the Departmental Representative.

.6 Correct surface irregularities by loosening and adding or removing material until surface is within specified tolerance.

3.3 SITE TOLERANCES

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

.2 Correct surface irregularities by loosening and adding or removing material until surface is within specified tolerance.

3.4 PROTECTION

.1 Maintain finished base in condition conforming to this Section until succeeding material is applied or until acceptance by Departmental Representative.

END