

PART 1 - GENERAL

1.1 Related  
Sections

- .1 Section 01 74 19 - Construction/Demolition  
Waste Management And Disposal.
- .2 Section 31 05 16 - Aggregate Materials

1.2 Measurement for  
Payment

- .1 Class "A": Measure granular base Class "A"  
in cubic metres place measure (CMPM) of  
compacted material incorporated into the  
Work and to the thicknesses indicated on the  
drawings unless otherwise specified. Include  
all costs in the unit price including plant,  
material and labour.

1.3 References

- .1 American Society for Testing and Materials  
(ASTM)
    - .1 ASTM C 117-95, Standard Test Methods  
for Material Finer Than 0.075 mm Sieve in  
Mineral Aggregates by Washing.
    - .2 ASTM C 131-96, Standard Test Method for  
Resistance to Degradation of Small-Size  
Coarse Aggregate by Abrasion and Impact in  
the Los Angeles Machine.
    - .3 ASTM C 136-96a, Standard Test Method  
for Sieve Analysis of Fine and Coarse  
Aggregates.
    - .4 ASTM D 698-00a, Standard Test Methods  
for Laboratory Compaction Characteristics of  
Soil Using Standard Effort  
(12,400ft-lbf/ft<sup>3</sup>) (600kN-m/m<sup>3</sup>).
    - .5 ASTM D 1557-00, Test Method for  
Laboratory Compaction Characteristics of  
Soil Using Modified Effort  
(56,000ft-lbf/ft<sup>3</sup>) (2,700kN-m/m<sup>3</sup>).
    - .6 ASTM D 1883-99, Standard Test Method  
for CBR (California Bearing Ratio) of  
Laboratory Compacted Soils.
    - .7 ASTM D 4318-00, 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.
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- 1.4 Delivery, Storage, and Handling
- .1 Deliver and stockpile aggregates in accordance with Section 31 05 16 - Aggregate Materials. Stockpile minimum 50% of total aggregate required prior to beginning operation.
  - .2 Store cement in weathertight bins or silos that provide protection from dampness and easy access for inspection and identification of each shipment.
- 1.5 Waste Management and Disposal
- .1 Separate and recycle waste materials in accordance with Section 01 74 19 - Construction/Demolition Waste Management And Disposal.
  - .2 Divert unused granular material from landfill to local facility as approved by Departmental Representative.

PART 2 - PRODUCTS

- 2.1 Materials
- .1 Granular base: material in accordance with Section 31 05 17- Aggregate Materials 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 CAN/CGSB-8.2.
      - .1 Gradation to:

Sieve Designation	% Passing
19 mm	100
9.5 mm	55-80
4.75 mm	35-60
1.2 mm	15-35
0.300 mm	7-20
0.075 mm	3-6 (pit source)
0.075 mm	3-8 (rock source)
  - .2 Physical Requirements:
    - .1 Liquid limit: to ASTM D 4318, maximum 25.
    - .2 Plasticity index: to ASTM D 4318, maximum 6
    - .3 Los Angeles degradation: to ASTM C 131. Max. % loss by weight:35

- 2.1 Materials (Cont'd) .2 (Cont'd)
- .4 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.
- | Passing | to | Retained on |
|---------|----|-------------|
| 19.0 mm |    | 4.75 mm     |

PART 3 - EXECUTION

- 3.1 Sequence of Operation
- .1 Place granular base after sub-base is inspected by Departmental Representative.
- .2 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 Remove and replace that portion of layer in which material becomes segregated during spreading.
- .3 Compaction Equipment
- .1 Compaction equipment to be capable of obtaining required material densities.
- .4 Compacting
- .1 Compact to density not less than 100% maximum dry density in accordance with ASTM D 698.
- .2 Shape and roll alternately to obtain smooth, even and uniformly compacted base.
- .3 Apply water as necessary during compacting to obtain specified density.
- .4 In areas not accessible to rolling equipment, compact to specified density with mechanical tampers approved by Departmental Representative.
- .5 Correct surface irregularities by loosening and adding or removing material until surface is within specified tolerance.
- 3.2 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.

3.3 Protection

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