

PART 1 - GENERAL

- 1.1 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 136-96a, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
 - .3 ASTM D 698-00a, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400ft-lbf/ft³) (600kN-m/m³).
 - .4 ASTM D 1557-00, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000ft-lbf/ft³) (2,700kN-m/m³).
 - .5 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.

PART 2 - PRODUCTS

- 2.1 MATERIALS
- .1 Granular sub-base material: in accordance with Section 31 05 16 - Aggregate Materials and following requirements:
 - .1 Crushed, pit run or screened stone, gravel or sand.
 - .2 Gradations to be within limits specified when tested to ASTM C 136. Sieve sizes to CAN/CGSB-8.1.
 - .3 Table

Sieve Designation	% Passing Type I	% Passing Type II
75 mm	-	-
50 mm	-	100
37.5 mm	-	-
25 mm	-	60-100
19 mm	100	-
12.5 mm	70-100	38-70
9.5 mm	-	-
4.75 mm	40-70	25-55
2.00 mm	23-50	13-42
0.425 mm	7-25	5-28
0.180 mm	-	-
0.075 mm	3-8	2-10

2.1 MATERIALS
(Cont'd)

- .1 (Cont'd)
- .4 Other Properties as follows:
 - .1 Liquid Limit: to ASTM D 4318, Maximum 25.
 - .2 Plasticity Index: to ASTM D 4318, Maximum 6.
 - .3 Particles smaller than 0.02 mm: to ASTM D 422, Maximum 3%.
 - .4 Soaked CBR: to ASTM D 1883, Min40 when compacted to 100% of ASTM D 1557.

PART 3 - EXECUTION

3.1 PLACING

- .1 Place granular sub-base after subgrade is inspected and approved by Departmental Representative.
- .2 Construct granular sub-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 or ice.
- .5 Place granular sub-base materials using methods which do not lead to segregation or degradation.
- .6 Place material to full width in uniform layers not exceeding 150 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 portion of layer in which material has become segregated during spreading.

3.2 COMPACTION

- .1 Compaction equipment to be capable of obtaining required material densities.
- .2 Compact to density of not less than 98% corrected maximum dry density.
- .3 Shape and roll alternately to obtain smooth, even and uniformly compacted sub-base.
- .4 Apply water as necessary during compaction to obtain specified density.

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| <u>3.2 COMPACTION</u>
(Cont'd) | .5 | In areas not accessible to rolling equipment, compact to specified density with mechanical tampers approved by Departmental Representative. |
| | .6 | Correct surface irregularities by loosening and adding or removing material until surface is within specified tolerance. |
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| <u>3.3 SITE TOLERANCES</u> | .1 | Finished sub-base surface to be within 10 mm of elevation as indicated but not uniformly high or low. |
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| <u>3.4 PROTECTION</u> | .1 | Maintain finished sub-base in condition conforming to this section until succeeding base is constructed, or until granular sub-base is accepted by Departmental Representative. |