

PART 1 - GENERAL

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| <u>1.1 Related Work</u> | .1 | Aggregates: General - Section 31 05 17 |
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| <u>1.2 References</u> | .1 | ASTM C117-90, Test Method for Material Finer Than 0.075 mm Sieve in Mineral Aggregates by Washing. |
| | .2 | ASTM C131-89, Test Method for Resistance to Degradation of Small Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine. |
| | .3 | ASTM C136-92, Method for Sieve Analysis of Fine and Coarse Aggregates. |
| | .4 | ASTM D698-91, Test Methods for Moisture Density Relations of Soils and Soil Aggregate Mixtures Using 2.49 kg Rammer and 304.8 mm Drop. |
| | .5 | ASTM D4318-84, Test Method for Liquid Limit, Plastic Limit and Plasticity Index of Soils. |
| | .6 | CAN/CGSB-8.2-M88 (R10/3), Sieves Testing, Woven Wire, Metric. |
| | .7 | ASTM D1557-91, Test Methods for Moisture Density Relations of Soils and Soil Aggregate Mixtures Using 4.54 kg Rammer and 457 mm Drop. |
| | .8 | ASTM D1883-87, Test Method for CBR (California Bearing Ratio) of Laboratory Compacted Soils. |
| | .9 | ASTM D2922-91, Standard Test Method for Density of Soil and Soil Aggregate in Place by Nuclear Methods. |

PART 2 - PRODUCTS

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| <u>2.1 Materials</u> | .1 | Granular base: material in accordance with Section 31 05 17 - Aggregate Materials and following requirements: <ul style="list-style-type: none">.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.<ul style="list-style-type: none">.1 Gradation to: |
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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 Inspection of Underlying Sub-Base

- .1 Place granular base after surface is inspected and approved by Departmental Representative.
- .2 Underlying material to be compacted to 100% of Standard Proctor Density to ASTM D698

3.2 Placing

- .1 Granular base (Granular "A") will be used in conjunction with full depth patching at culvert installation locations and other areas indicated on plans or as directed by Departmental Representative.
- .2 Ensure no frozen material is used in placing.
- .3 Place material only on clean unfrozen surface, properly shaped and compacted and free from snow and ice.
- .4 Place aggregate where required and in uniform layers not exceeding 150 mm compacted thickness or as directed by the Departmental Representative.
- .5 Shape each layer to smooth contour and compact to specified density before succeeding layer is placed.
- .6 Remove and replace that portion of layer in which material becomes segregated during spreading.
- .7 Place and compact shouldering to 3% cross slope in reconstruction areas. In overlay sections, feather new shoulder material from top of new asphalt to existing

hinge point of shoulder slope.

- .8 Compacted shouldering to be flushed with asphalt concrete surface.
- .9 Hand work will be required to form base for asphalt concrete gutters/offtakes.
- .10 Place, hand rake and compact new shoulder material under and behind guiderail.

3.3 Compaction Equipment

- .1 Vibratory compaction equipment must be used and capable of obtaining required densities on aggregates on project.

3.4 Compacting

- .1 Compact to density not less than 100% corrected maximum dry density.
- .2 Shape and roll alternately to obtain smooth, even and uniformly compacted base.
- .3 Apply water as necessary during compacting to obtain specified density. If aggregate is excessively moist, aerate by scarifying with suitable equipment until moisture content is corrected.
- .4 In areas not accessible to rolling equipment, compact to specified density with vibratory mechanical tampers approved by Departmental Representative.
- .5 Density will be determined according to ASTM D2922.

3.5 Finish

- .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 Shouldering to have 3% cross slope.

3.6 Maintenance

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