



**CITY OF
SWIFT CURRENT**
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**SECTION 03001
AGGREGATES GENERAL**

MARCH 2019



CONSTRUCTION SPECIFICATIONS

SECTION: 03001

AGGREGATES GENERAL

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1 GENERAL

1.1 DESCRIPTION

- 1.1.1 This section specifies general requirements for supplying and processing of aggregates to be stockpiled or incorporated into work. Specific requirements for physical properties of aggregates not provided in this section are given in related work sections

1.2 RELATED SECTIONS

- 02010 Site Preparation and Grading
- 02015 Sub – Grade Preparation
- 03005 Granular Base Course
- 03010 Granular Sub – Base
- 03060 Geotextile and Rolled Erosion Control Devices
- 03070 Rip – Rap
- 04000 Asphalt Pavement Crack Routing and Sealing
- 04001 Asphalt Pavement Crack Sealing
- 04015 Asphalt Concrete
- 04025 Prime, Tack and Fog Coats
- 04070 Asphalt Concrete Pavement Milling
- 06010 Concrete Side walk, Curb and Gutter Construction
- 07000 Pavement Markings
- 10000 Flexible Guide Posts and Delineators
- 12000 Regulatory Roadway Signs

1.3 SOURCE APPROVAL

- 1.3.1 Source of materials to be incorporated into work or stockpiled requires approval.
- 1.3.2 Inform the City of proposed source of aggregates and provide access for sampling at least two weeks prior to commencing production.
- 1.3.3 If, in opinion of the City, materials from proposed source do not meet, or cannot reasonably be processed to meet specified requirements, produce an alternative source or demonstrate that material from source in question can be processed to meet specified requirements.
- 1.3.4 Should a change of material source be proposed during work, advise the City two (2) weeks in advance of proposed change to allow sampling and testing.

- 1.3.5 Acceptance of a material at source does not preclude future rejection if it is subsequently found to lack uniformity, or if it fails to conform to requirements specified, or if its field performance is found to be unsatisfactory.

1.4 INSPECTION AND TESTING

- 1.4.1 Aggregate will be subject to continual sampling during production.
- 1.4.2 The Contractor shall:
- Provide the City with ready access to source and processed material for purpose of sampling and testing.
 - Bear the cost of sampling and testing of aggregates in order to meet design gradations and specifications.

2 PRODUCTS

2.1 GENERAL

- 2.1.1 All imported backfill, granular material, gravel and screened rock shall be suitable for the uses intended.
- 2.1.2 Aggregate shall be sound, hard, durable material free from soft, thin, elongated, or laminated particles, organic material, or other deleterious substances.
- 2.1.3 Flat elongated particles are those whose greatest dimension exceeds five times their least dimension.
- 2.1.4 Fine aggregates satisfying requirements of applicable section shall be one, or a blend of following:
- Natural sand
 - Manufactured sand and/or fines
 - Screenings produced in crushing of quarried rock, boulders, gravel or slag.
- 2.1.5 Course aggregates satisfying requirements of applicable section shall be one of following:
- Crushed rock or slag.
 - Gravel composed of naturally formed particles of stone.

2.2 MATERIALS

- 2.2.1 Gradation is to be within the limit and for the types of materials specified below, when tested to ASTM C117 and ASTM C136, and having a smooth curve without sharp breaks when plotted on a semi-log grading chart to ASTM E11
- 2.2.2 Manufactured fines are defined as that portion of the material passing the 5,000 sieve size which is produced by the crushing process.
- 2.2.3 In the event the manufactured fines in the total combined aggregate do not meet the requirement for the specified Asphaltic Concrete Mix, extra manufactured fines shall be produced by screening the pitrun material so that the screened material contains no more

than 5% material passing a 5,000 sieve. This screened material shall then be crushed so that 100% passes the 10,000 sieve and a minimum of 95% passes the 5,000 sieve. All material produced by this crushing process shall be placed in a separate stockpile and designated as manufactured fines.

2.2.4 Moisture content is to be determined by Proctor testing and as specified in specific sections.

2.2.5 Bedding sand shall be free from organic material and meet the following gradation, or an alternate as approved by the City:

Sieve Size (mm)	% Passing by Mass
12.5	100
5.0	90 - 100
1.25	55 - 85
0.315	10 - 35
0.08	0 - 5

The liquid limit shall not exceed 25 and the Plastic Index shall not exceed 6.

2.2.6 Imported sand shall be free from rubbish, rubble, organic material, vegetation, clay lumps and meet the gradation of bedding sand.

2.2.7 Imported gravel shall be a well graded mixture of sand and gravel meeting the following gradation:

Sieve Size (mm)	% Passing by Mass
80	100
50	80 - 100
25	50 - 75
5	25 - 55
0.08	2 - 10

2.2.8 Screened rock shall be composed of sound, hard uncoated particles free from clay lumps, flaky particles, soft shale, friable materials, roots, vegetable matter and frozen lumps meeting the following gradation:

Sieve Size (mm)	% Passing by Mass
50	100
40	95 - 100
20	5 - 10
10	0 - 5
5	0 - 5

3 EXECUTION

3.1 PROCESSING

3.1.1 Process aggregate uniformly using methods that prevent contamination, segregation, and degradation.

- 3.1.2 Split and combine aggregates if required to obtain gradation requirements specified. Use approved methods and equipment. Do not blend in stockpiles.
- 3.1.3 Blending to increase percentage of crushed particles or decrease percentage of flat and elongated particles is permitted.
- 3.1.4 Wash aggregates, if required to meet specifications. Use only equipment approved by the City.

3.2 HANDLING

- 3.2.1 Handle and transport aggregates to avoid segregation, contamination and degradation.

3.3 STOCKPILING

- 3.3.1 Stockpile aggregates on site in location indicated or designated. Do not stockpile on completed pavement surfaces where damage to pavement may result.
- 3.3.2 Stockpile aggregates in sufficient quantities to meet project schedules.
- 3.3.3 Stockpiling sites shall be level, well drained, and of adequate bearing capacity and stability to support stockpiled materials.
- 3.3.4 Except where stockpiled on acceptably stabilized areas, provide a compacted sand base not less than 300mm in depth to prevent contamination of the aggregate or, if permitted, stockpile aggregates on ground but do not incorporate bottom 300mm of pile into work.
- 3.3.5 Separate aggregates by substantial dividers or stockpile far enough apart to prevent intermixing.
- 3.3.6 Reject intermixed or contaminated materials. Remove and dispose of rejected materials as directed within 48 hours of rejection.
- 3.3.7 Stockpile materials in uniform layers of thickness as follows:
 - Max 1 m for course aggregate and base course materials
 - Max 2 m for fine aggregate and sub base materials.
 - Max 1.5 m for other materials
- 3.3.8 Complete each layer over entire stockpile area before beginning next layer.
- 3.3.9 Uniformly spot-dump aggregates delivered to stockpile in trucks and build up stockpile as specified.
- 3.3.10 Coning of piles or spilling of material over edges of pile will not be permitted. Stacking conveyors will not be permitted for stockpiling road base and graded seal coat aggregates.
- 3.3.11 During winter operations, prevent ice and snow from becoming mixed into stockpile or in material being removed from stockpile.

3.4 STOCKPILE CLEANUP

- 3.4.1 Leave stockpile site in a tidy, well drained condition, free of standing surface water.
- 3.4.2 Remove any unused aggregates as directed.

4 MEASUREMENT AND PAYMENT

- 4.1 No payment will be made under this section. Include costs in items of work that require aggregates.

END OF SECTION