

This specification outlines the requirements for supplying and processing of aggregates to be stockpiled or incorporated into work. Specific requirements for physical properties of aggregate properties are given in the related work sections.

PART 1 REFERENCES

This specification refers to the following standards, specifications, or publications.

ASTM International

D4791

Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate

1.1 NOT APPLICABLE

PART 2 GENERAL

2.1 SOURCE APPROVAL

- .1 Source of materials to be incorporated into work or stockpiled ~~ds~~ requires approval of the Owner ten (10) business days prior to commencing work. Provide gradation analysis and other laboratory testing results as directed by the Owner.
- .2 Inform Owner of proposed source of aggregates and provide access for sampling at least ten (10) weeks prior to commencing production.
- .3 If, in opinion of the Owner, materials from the proposed source do not meet, or cannot reasonably be processed to meet specified requirements, procure an alternative source or demonstrate that material from source in question can be processed to meet specified requirements.
- .4 Should a change of material source be proposed during work, advise the Owner ten (10) business days sufficiently in advance of proposed ~~such~~ change to allow sampling and testing.
- .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.

2.2 PRODUCTION SAMPLING

- .1 Aggregate will be subject to continual sampling during production.

.2 Provide the Owner with ready access to source and processed material for purpose of sampling and testing.

.3 **Bear the cost of sampling and testing of aggregates which fail to meet specified requirements.**

2.3 DELIVERY, STORAGE AND HANDLING

.1 **Deliver, store and handle materials in accordance with Section 01600 – Material and Equipment and with manufacturer's written instructions.**

.2 **Transportation and Handling: handle and transport aggregates to avoid segregation, contamination and degradation.**

.4.3 **Storage: store washed materials or materials excavated from underwater 24 hours minimum to allow free water to drain and for materials to attain uniform water content.**

PART 3 PRODUCTS

3.1 MATERIALS

.1 Aggregate quality: sound, hard, durable material free from soft, thin, elongated or laminated particles, organic material or other deleterious substances.

.2 Flat and elongated particles **of coarse aggregate: to ASTM D4791.**

.1 ~~are those whose greatest dimension exceeds five times their least dimension.~~

.2.3 Particles having at least one freshly fractured face are considered as crushed material.

.3.4 Fine aggregates satisfying requirements of applicable section shall be one, or a blend of following:

.1 Natural sand.

.2 Manufactured sand.

.3 Screenings produced in crushing of quarried rock, boulders, gravel or slag.

.4.5 Coarse aggregates satisfying requirements of applicable section shall be one of following:

.1 Crushed rock or slag.

.2 Gravel composed of naturally formed particles of stone.

PART 4 EXECUTION

4.1 EXAMINATION

- .1 Verification of Conditions: verify that conditions are acceptable for topsoil stripping.**
- .2 Visually inspect substrate in presence of the Owner.**
- .3 Inform the Owner of unacceptable conditions immediately upon discovery.**
- .4 Proceed with topsoil stripping. only after unacceptable conditions have been remedied and after receipt of written approval to proceed from the Owner.**

4.14.2 DEVELOPMENT OF AGGREGATE SOURCE:

- .1 Prior to excavating materials for aggregate production, clear and grub area to be worked, and strip unsuitable surface materials. Dispose of cleared, grubbed and unsuitable materials as directed by the Owner.**
- .2 Where clearing is required, leave a screen of trees between area and roadways as directed.**
- .3 Clear, grub and strip an area ahead of quarrying or excavating operation sufficient to prevent contamination of aggregate by deleterious materials.**
- .4 When excavation is completed, dress sides of excavation to a nominal 1.5:1 slope, and provide drains or ditches as required to prevent surface standing water.**
- .5 Trim off and dress slopes of waste material piles and leave site in a neat condition.**
- .6 Provide silt fence or other means to prevent contamination of existing watercourse or natural wetland features.**

4.24.3 PROCESSING

- .1 Process aggregate uniformly using methods that prevent contamination, segregation and degradation.**
- .2 Blend aggregates, as if required, to obtain gradation requirements specified. Use methods and equipment approved by the Owner.**
- .3 Blending to increase percentage of crushed particles or decrease percentage of flat and elongated particles is permitted.**
- .4 When operating in stratified deposits use excavation equipment and methods that produce uniform, homogeneous aggregate gradation.**

.4.5 Wash aggregates, if required to meet specifications. Use only equipment approved by the Owner.

4.34.4 **HANDLING**

.1 Handle and transport aggregates to avoid segregation, contamination and degradation.

4.44.5 **STOCKPILING**

.1 Unless otherwise authorized in writing by the Owner, stockpile aggregate on site in locations shown on drawings or designated by the Owner. **Do not stockpile on completed pavement surfaces.**

.2 Stockpile aggregates in sufficient quantities to meet project schedules.

.3 Stockpiling sites shall be level, well drained, and of adequate bearing capacity and stability to support stockpiled materials and handling equipment.

.4 Except where stockpiled on acceptably stabilized areas, provide a compacted sand base not less than 300 mm in depth to prevent contamination of the aggregate or, if permitted, stockpile aggregate on ground but do not incorporate bottom 300 mm of pile into work.

.5 Separate aggregates by substantial dividers or stockpile far enough apart to prevent intermixing.

.6 Reject intermixed or contaminated materials. Remove and dispose of rejected materials as directed by the Owner within 48 hours of rejection.

.7 Stockpile materials in uniform layers of thickness as follows:

.1 Max 1 m for coarse aggregate and base course materials.

.2 Max 2 m for fine aggregate and sub-base materials.

.3 Max 1.5 m for other materials.

.8 Complete each layer over entire stockpile area before beginning next layer.

.9 Uniformly spot-dump aggregates delivered to stockpile in trucks and build up stockpile as specified.

.10 Coning of piles or spilling of material over edges of pile will not be permitted.

.10.11 **Do not use conveying stackers.**

.11.12 During winter operations, prevent ice and snow from becoming mixed into stockpile or in material being removed from stockpile.

4.54.6 STOCKPILE CLEANINGUP

- .1 Leave stockpile site in a tidy, well drained condition, free of standing surface water.
- .2 Leave any unused aggregates in neat compact stockpiles as directed by the Owner.
- .3 For temporary or permanent abandonment of aggregate source, restore source to condition meeting requirements of authority having jurisdiction.
- .4 Restrict public access to temporary or permanently abandoned stockpiles by means acceptable to the Owner.

PART 5 PAYMENT

5.1 MEASUREMENT FOR PAYMENT

- .1 Not Applicable

5.2 BASIS OF PAYMENT

- .1 No separate or direct payment will be made for work specified in this section. Costs of all work specified in this section are deemed to be included in lump sum or unit prices quoted in MERX Schedule of Quantities and Prices.

Not For Construction