SECTION 31 05 16 - AGGREGATES FOR EARTHWORK

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:
1. Coarse aggregate materials.
2. Fine aggregate materials.

B. Related Sections:
1. Section 31 05 13 - Soils for Earthwork: Fill
2. Section 31 22 13 - Rough Grading.
3. Section 31 23 23 - Fill.
4. Section 32 13 13 - Concrete Paving.
5. Section 32 91 19 - Landscape Grading.
6. Section 33 41 00 - Storm Utility Drainage Piping.

1.02 REFERENCES

A. Pennsylvania Department of Transportation (PennDOT)
1. Publication 408 - Specifications, latest edition, as amended.

B. American Association of State Highway and Transportation Officials:
1. AASHTO M147 - Standard Specification for Materials for Aggregate and Soil Aggregate Subbase, Base and Surface Courses.
2. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

C. ASTM International:
1. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
2. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).
3. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3)).
4. ASTM D2487 - Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).
5. ASTM D4318 - Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

1.03 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Materials Source: Submit name of imported materials suppliers.
C. Certificates: Furnish certification from aggregate producer attesting that materials conform to requirements of PennDOT Specifications.

1.04 QUALITY ASSURANCE

A. Furnish each aggregate material from single source throughout the Work

B. Aggregate Material Test
1. Conduct aggregate quality tests in accordance with requirements of appropriate Referenced Standard for such material.
2. All aggregate material must be certified from supplier that the aggregate originates from a source approved by PA DOT and that the aggregate complies with specified PA DOT requirements.

PART 2 – PRODUCTS

2.01 COARSE AGGREGATE MATERIALS

A. Coarse Aggregate Type PennDOT 2A: consisting of naturally or artificially graded mixture of natural or crushed gravel, crushed stone, or crushed slag meeting the requirements of PennDOT Publication 408 for No. 2A

B. Coarse Aggregate Type No. 57: Open-graded, free-draining coarse aggregate meeting the requirements of PennDOT Publication 408 for AASHTO No. 57.

C. Coarse Aggregate Type No. 8: Open-graded, free-draining coarse aggregate meeting the requirements of PennDOT Publication 408 for AASHTO No. 8.

2.02 FINE AGGREGATE MATERIALS

A. Fine Aggregates: Conforming to PennDOT's standards as follows:

	Cement Concrete Sand	**Bituminous Concrete Sand Type B**			**Mortar Sand**
Sieve Size	**Type A**	**#1**	**#3**	**Filler**	**Type C**
3/8 inch	100	100	100	--	--
No. 4	95-100	95-100	80-100	--	100
No. 8	70-100	70-100	65-100	--	95-100
No. 16	45-85	40-80	40-80	--	--
No. 30	25-65	20-65	20-65	100	--
No. 50	10-30	7-40	7-40	95-100	--
No. 100	0-10	2-20	2-20	90-100	0-25
No. 200	--	0-10	0-10	70-100	0-10

PART 3 – EXECUTION

3.01 STOCKPILING

A. Stockpile materials on site at locations indicated or designated by Engineer.

B. Stockpile in sufficient quantities to meet Project schedule and requirements.

C. Separate different aggregate materials with dividers or stockpile individually to prevent mixing.

D. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.

E. Stockpile unsuitable materials on impervious material and cover to prevent erosion and leaching, until disposed of.

F. At conclusion of project, remove stockpile, leave area in clean and neat condition. Grade site surface to prevent free standing surface water.

END OF SECTION