

ITEM 0103301

UNSUITABLE EARTH EXCAVATION AND BACKFILL

DESCRIPTION

Work under this item shall consist of excavating existing unsuitable earth material(s) to the limits as specified on the plans or as ordered by the Engineer. Also included under this item is the procurement and placement of backfill material as specified, to the extent and limits as shown on the plans or as ordered by the Engineer.

REFERENCED ITEMS

Item 0111402

REQUIRED SUBMITTAL

Certified Test Report:

Submit 5 copies of certified test reports for bank run gravel in accordance with the contract general requirements.

MATERIALS

The material utilized for structural backfill shall be bank run gravel consisting of sound, tough, durable particles of uncrushed gravel, free from soft, thin, elongated or laminated pieces and vegetable matter or other deleterious substances.

Bank run gravel shall conform to the following gradation and plasticity requirements.

1. **GRADATION**

<u>Square Mesh Sieves</u>	<u>Percent Passing by Weight</u>
Pass 3 1/2"	100
Pass 1 1/2"	55 - 100
Pass 1/4"	25 - 60
Pass #10	15 - 45
Pass #40	5 - 25
Pass #100	0 - 10
Pass #200	0 - 5

The grading percentages specified above shall apply to the material after it has been delivered to the construction site as well as when tested at the pit or other source of supply.

When the fraction of the dry sample passing the No. 100 mesh sieve is greater than eight percent by weight, the sample will be washed as indicated. The amount obtained from washing shall be added to that obtained by dry sieving; and the total amount passing each sieve shall meet the above gradation.

2. PLASTICITY

- a. When the fraction of the dry sample passing the No. 100 mesh sieve is four percent or less by weight, no plastic limit test will be made.
- b. When the fraction of the dry sample passing the No. 100 mesh sieve is greater than four percent and not greater than eight percent by weight, that fraction shall not have sufficient plasticity to permit the performing of the plastic limit test using AASHTO Method T-90-00.
- c. When the fraction of the dry sample passing the No. 100 mesh sieve is greater than eight percent by weight, the sample will be washed; and the additional material passing the No. 100 mesh sieve shall be determined by AASHTO Method T-146-96, except that the No. 100 mesh sieve will be substituted for the No. 40 mesh sieve where the latter is specified in AASHTO Method T-146-96. The combined materials that passed the No. 100 mesh sieve shall not have sufficient plasticity to permit the performing of the plastic limit test using AASHTO Method T-90-00.

CONSTRUCTION METHODS

Existing unsuitable material shall be excavated and legally disposed of off site. Excavation shall be carried to the limits and depths as indicated on the plans or as ordered by the Engineer.

The prepared foundation for the backfill shall be carefully shaped to the required cross-section and compacted so that its dry density shall not be less than 95 percent of the dry density for that soil when tested in accordance with AASHTO T-180-01 Method D.

After all unsuitable material has been excavated and the foundation prepared for backfilling purposes as specified above, the Engineer may order the contractor to

place Portland cement concrete as initial backfill material. If so ordered, or specified on the plans, this work will conform to, and be paid for under Item 0111402.

Bank-run-gravel shall then be spread uniformly upon the prepared foundation, in courses not to exceed 6 in thickness and be carefully shaped to the required cross-section and compacted so that its dry density shall not be less than 95 percent of the dry density when tested in accordance with AASHTO T-180-01 Method D.

After each course has been placed as specified above, its entire area shall be compacted with equipment specifically manufactured for that purpose. The sole use of hauling and spreading equipment shall not be considered as a substitute for compacting equipment. Compaction shall be continued until the entire course is uniformly compacted to the required minimum density as specified above.

METHOD OF MEASUREMENT

Unsuitable earth excavation and backfill will be measured for payment by the actual volumetric number of cubic yards of unsuitable material excavated and replaced with backfill as computed by, and to the satisfaction of the Engineer.

BASIS OF PAYMENT

This work will be paid at the contract unit price per cubic yard for "UNSUITABLE EARTH EXCAVATION AND BACKFILL" which price shall include all materials, equipment, tools, and labor incidental thereto.

<u>PAY ITEM</u>	<u>DESCRIPTION</u>	<u>PAY UNIT</u>
0103301	Unsuitable Earth Excavation and Backfill	CY