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SECTION 02250 - EARTHWORK, SELECT BORROW

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PART 1 - GENERAL

1.1 DESCRIPTION

Work Included

Work under this SECTION covers requirements for materials, tools, equipment and services necessary to complete the placement of select-borrow cover material for this project. The work shall include, but is not necessarily limited to, completion of the following work:

- A. Field engineering.
- B. Excavating select borrow.
- C. Conveying select borrow.
- D. Placing select borrow.
- E. Implementation of Storm Water Pollution Prevention Plan (SWPPP).
- F. Seeding.

1.2 REFERENCE SPECIFICATIONS

- A. The following specifications or applicable standards are incorporated by reference into this SECTION:
 - 1. SECTION 02200 – EARTHWORK ROUGH GRADING.
 - 2. SECTION 02300 – DRAINAGE SYSTEMS, GENERAL.
 - 3. SECTION 02400 – SUBGRADE PREPARATION.
 - 4. SECTION 02700 – PERMANENT SEEDING.
- B. Above-mentioned references, which do not appear printed with the Contract Documents, can be provided to Contractor upon request.

1.3 QUALITY ASSURANCE

- A. Contractor shall use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this SECTION.
- B. Contractor shall use equipment adequate in size, capacity and numbers to accomplish the work in a timely manner.
- C. In addition to complying with requirements of governmental agencies having jurisdiction, Contractor shall comply with the directives of Engineer and Division.
- D. Engineer shall approve all material for use as Select Borrow prior to its placement on the site.

PART 2 - PRODUCTS

2.1 SELECT BORROW

- A. Select Borrow consists of material that will support vegetation with minor amount of treatment and is obtained from spoil piles and natural in place soils. The material is to be cohesive in nature and free of debris, frozen material, coal refuse, acidic material and stones having any dimension greater than four (4) inches.
- B. Select Borrow shall be excavated from designated location(s) as shown on the Plans provided the material is suitable. If suitable materials are found at locations within the project limits, this material can also be used provided it meets the approval of Engineer and Division.
- C. If Select Borrow is designated to come from an off-site source, the details are found in the Supplemental Specifications.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

- A. Contractor shall examine the areas and conditions under which work of this SECTION will be performed. The graded elevation shall be verified with Engineer or Construction Observer prior to subgrade treatment to insure that the thickness of borrow placement has been accounted for with final grades. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.
- B. Select borrow **SHALL NOT** be placed over untreated spoil material. Agricultural lime shall be incorporated as specified in SECTION 02400 – SUBGRADE PREPARATION prior to placement of select borrow material. Any select borrow material placed over spoil material prior to its treatment, shall be removed to allow for subgrade treatment and then replaced at no cost to Division.

3.2 ELEVATIONS AND LINES

- A. The limits of select borrow excavation will be as shown on the Plans, or as approved by Engineer or Division. Contractor and Engineer shall identify the limits of the select borrow area(s) prior to excavation. Minor refinements to grading limits shown on the Plans will be done by mutual agreement, in interest of Project and based on field conditions.
- B. Contractor shall finish grade the select borrow area after excavation is complete to ensure positive drainage in all areas.

3.3 PROTECTION

- A. The depth of cover over buried pipe, tile and other items is less than design until all the borrow material is in place. Pipe and tile depths may not be adequate for support of heavy construction equipment used to transport and deliver borrow material, agricultural lime, riprap, or other items to be brought to the site.
- B. Contractor shall establish and maintain a route across or around buried drainage conduit or other items to be protected. Contractor shall make certain adequate cover and protection is provided for all access routes used to distribute and deliver materials to designated areas. This additional support will be removed as needed prior to placement of cover material.

- C. Contractor is responsible for damage to all buried facilities that are damaged from traffic used to place borrow material.

3.4 MAINTENANCE

- A. Contractor shall protect newly graded areas as defined below.
 - 1. Newly graded areas shall be protected from traffic and erosion and kept free from trash and weeds.
 - 2. Final grades shall be repaired and reestablished in settled, eroded and rutted areas to specified tolerances.
- B. Contractor shall place additional select borrow material, as needed, where completed select borrow placement areas are disturbed by subsequent construction operations or adverse weather at no cost to Division.
- C. Contractor shall maintain new and existing drainage ways free from detrimental quantities of sediment, leaves, sticks, trash and other debris during execution of the work.
- D. Contractor shall always maintain access to adjacent areas.
- E. Contractor shall implement the SWPPP for this Project. Conduct all excavation and select borrow placement activities to minimize losses due to erosion and sedimentation of adjacent areas. Prevent siltation of existing and newly constructed drainage ways, either on or off-site.

3.5 EXCAVATION AND PLACEMENT

- A. Rough grading (SECTION 02200) and Subgrade Preparation (SECTION 02400) must be completed prior to performing the work in this SECTION. Terracing (SECTION 02300) shall also be completed prior to performing the work in this SECTION unless the terraces are to be completely constructed from Select Borrow Material.
- B. The select borrow areas are identified on the Plans. Materials from select borrow areas, if suitable as determined by Engineer or Construction Observer must be used for cover over reclaimed areas.
- C. Select borrow material may be stockpiled for later use if necessary or directly incorporated as cover over final rough graded areas.
- D. Select borrow shall be spread evenly as indicated in the Plans over designated reclaimed and properly treated areas as shown on the Plans. Cover shall be tapered to match existing grades of unreclaimed or areas not designated to receive cover.
- E. No compaction of the select borrow is required. Care shall be taken to minimize compaction of the select borrow during placement.
- F. Contractor shall scarify, plow, strip or break up surfaces steeper than one (1) vertical to four (4) horizontal so that cover material will bond with existing surfaces.
- G. After select borrow has been placed, soil testing for liming and fertilizer rates shall be taken in accordance with SECTION 02700- SEEDING.

PART 4 - MEASUREMENT AND PAYMENT

4.1 UNIT PRICES

A. Construction cost of all work included in this SECTION of the Construction Specifications shall be included in Contractor's unit prices set forth in the Proposal and Schedule of Prices (*Document C*) for the work items described below. Unit price for each of these items shall include its pro rata share of overhead so that the sum of the products obtained by multiplying the unit prices so set forth by the amount of the work constructed and measured as described herein, shall constitute full payment to Contractor for performance of the work included in this SECTION.

B. Measurement and payment for each work item in this SECTION shall be in accordance with the following:

Select Borrow: The unit price for "Select Borrow" shall constitute full payment for excavation of borrow, placement of cover, final shaping of borrow area, and all incidental work. Contractor shall be paid at the unit price for each cubic yard as computed below. Engineer will determine in cubic yards the quantity of material to be paid for under this item as follows:

1. The reclaimed areas over which cover is placed shall be horizontally measured in plan view on the Plans. Areas with slopes approaching ten (10) percent will have a slope correction factor of 1.005 applied to the measured plan area.
2. The volume in cubic yards shall be computed using the depth of cover multiplied by the plan area described above.

4.2 SUMMARY – UNITS OF MEASUREMENT:

Units of measurement for bid items applicable to work covered by this SECTION are as follows:

<u>Description</u>	<u>Unit</u>
Select Borrow	Cu. Yd.

END OF SECTION 02250