MICHIGAN

DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

FOR

**BACKFILL, LIGHTWEIGHT, SLAG AGGREGATE**

BRG:JVN 1 of 2 APPR:DMG:DBP:02-22-21

**a. Description.** This work consists of furnishing, placing, and compacting backfill consisting of lightweight iron blast furnace slag aggregate (IBFSA). Place the backfill to the limits shown on the plans and in accordance with the requirements contained herein.

**b. Materials.**

1. Iron Blast Furnace Slag Aggregate. Use IBFSA in accordance with subsection 902.02.A of the Standard Specifications for Construction. The IBFSA must not exceed 50 percent loss in accordance with *ASTM C131/C131M*. In addition, the material must meet the gradation shown in Table 902-1 of the Standard Specifications for Construction for 6AA coarse aggregate.

2. Stabilization Geotextile. Provide Class 1 non-woven stabilization geotextile in accordance with subsection 910.03.D of the Standard Specifications for Construction.

**c. Construction.** Prior to placing the IBFSA, place the stabilization geotextile on the prepared subgrade and excavated slopes to completely encapsulate the IBFSA on all sides from the subgrade, surrounding and overlying materials. Eliminate wrinkles or waves, which develop in the geotextile during placement. Shingle-lap (minimum of 2 feet unless otherwise shown on the plans) or seam all longitudinal and transverse joints in the geotextile. Field or factory seams, sewn or sealed, must meet specified grab tensile strength. Procedures for testing seams are detailed in *ASTM D4884/D4884M*. Install seams facing upward to facilitate inspection.

Place and compact the IBFSA in accordance with section 206 of the Standard Specifications for Construction, except as specified herein. Do not place and compact layers less than 6 inches in thickness and not more than 12 inches in thickness. Do not operate equipment directly on the geotextile. Place and spread the first layer of IBFSA on the stabilization geotextile without damaging the geotextile or breaking down the IBFSA utilizing a method approved by the Engineer to achieve a uniform layer of 12 inches. Compaction requirements are waived for the first layer. Compact each successive layer utilizing the appropriate equipment to achieve desired compaction, as approved by the Engineer, without breaking down the lightweight aggregate to achieve a uniform stable surface. Density acceptance testing is waived. Excessive compactive effort may result in the crushing of the IBFSA and an undesirable increase in unit weight. The expected in-place compacted rodded unit weight range of the IBFSA is 75 to 80 pounds per cubic foot (pcf). The in-place compacted unit weight of the IBFSA must not exceed 85 pcf.

To avoid crushing, over compaction and contamination of the material, do not drive vehicles or equipment on IBFSA. Remove damaged or contaminated IBFSA and place, trim and compact new IBFSA over previously placed clean undamaged IBFSA as directed by the Engineer. The cost of this removal and replacement will be at no cost to the contract.

Protect the exposed surface from contamination of the IBFSA at the end of each work day.

**d. Testing and Acceptance.** Acceptance of the IBFSA will be based on gradation and unit weight from samples obtained from the project site. Sampling of the aggregate will be in accordance with the *Materials Quality Assurance Procedures Manual*. Make adequate allowance for degradation of the IBFSA so that it will meet the requirements herein after it is compacted in place. The Engineer may sample and test the in place IBFSA at any time. If the IBFSA is found not conforming to this special provision, immediately correct procedures used to place and compact the IBFSA to ensure it meets the specified requirements.

Prior to delivery to the project site, provide written certification from the supplier that the IBFSA has been stockpiled for at least 30 calendar days and meets the acceptance criteria detailed in *MTM 129,* *Leachate Determination of Iron Blast Furnace Slag used for Lightweight Aggregate Fill*. The leachate determination will be verified by the Department prior to placement.

**e. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

**Pay Item** **Pay Unit**

Backfill, Lightweight, Iron Blast Furnace Slag Aggregate, LM Cubic Yard

**Backfill, Lightweight, Iron Blast Furnace Slag Aggregate, LM** will be measured based on hauling unit dimensions and load count, prior to placement and compaction. Payment for **Backfill, Lightweight, Iron Blast Furnace Slag Aggregate, LM** constitutes full compensation for completing the work as described herein and includes all costs for stockpiling, furnishing, hauling, placing, compacting (including water), and shaping the material at specified locations. Payment for **Backfill, Lightweight, Iron Blast Furnace Slag Aggregate, LM** includes all costs associated with furnishing and placing the stabilization geotextile. No payment will be made for any overlaps, splices or material cut off or wasted.