

SECTION 200

CONTROLLED LOW STRENGTH MATERIAL

200.1 DESCRIPTION

A. General: This work consists of furnishing, handling, and placing Controlled Low Strength Material (CLSM).

B. Related Work:

Section 8A	Water
Section 8B	Corrosion Protection – Plastic Pipe Systems
Section 9	Sanitary Sewer
Section 11	Utility Excavation and Backfill
Section 55	Cast in Place Concrete Structures
Section 56	Class M6 Concrete for Curb & Gutter and Flatwork
Section 100	Portland cement
Section 101	Air-Entraining Admixtures
Section 102	Chemical Admixtures for Concrete
Section 103	Fly Ash
Section 104	Water for Use in Portland Cement Concrete
Section 203	Submittals

200.2 MATERIALS

Materials shall conform to the following sections.

A. Cement: Section 100. Cement shall be Type I, Type II, Type III, or Type V cement may be used, unless otherwise specified.

B. Fine Aggregate: Fine aggregate shall be a natural sand conforming to the following gradation:

Sieve Size	Percent Passing
3/8 inch	100
#200	0-10.0

C. Water: Section 104.

D. Admixtures: Controlled low strength material (CLSM) performance additive (foaming admixture) as listed on the South Dakota Department of Transportation approved products list.

E. Fly Ash: Section 103.

200.3 CONSTRUCTION REQUIREMENTS

- A. General:** Controlled density fill shall be a mortar material with a free flowing consistency.
- B. Mix Design:** The controlled density fill mix design shall be in accordance with Section 56, except as modified below:

Unless specified otherwise, the controlled density mix may conform to either of the two alternate mix designs.

1. Standard Mix Design:

Material	Rate per Cubic Yard
Cement	100 pounds
Fine Aggregate	2,600 pounds
Water	60 Gallons
Fly Ash	300 pounds

2. Alternate Mix Design:

Material	Rate per Cubic Yard
Cement	200 pounds
Fine Aggregate	2,600 pounds
Water	35 Gallons
CLSM Performance Additive	As recommended by the CLSM performance additive manufacturer to produce a target air content* ¹ of 20% ±5

*¹ evaluated for specification at mix design only

Both alternate mix designs shown above are designed to produce a minimum compressive strength of 100 psi.

- C. Placement:** The Contractor may adjust the proportion of water during placement to provide the necessary consistency of the mix, as approved by the Engineer.

Controlled density fill shall be contained within the required limits with sandbags or other methods approved by the Engineer. The Contractor shall prevent floatation, uplift, and movement due to the buoyant force of the controlled density fill until the controlled density fill hardens. Overlying surfacing materials shall not be placed sooner than 4 hours after placement of the controlled density fill.

200.4 METHOD OF MEASUREMENT

Controlled low strength material shall be measured to the nearest 0.25 cubic yard of material placed, unless other measurement provisions are specified. Measurement

provisions shall be consistent with the Bid Proposal. In lieu of actual field measurement for volume of material placed, truck delivery tickets will be used.

200.5 BASIS OF PAYMENT

Controlled low strength material will be paid at the unit price established in the Bid Proposal.

END OF SECTION