04-06

ROGERS WATER UTILITIES
ROGERS, ARKANSAS

SPECIFICATIONS FOR
FLOWABLE FILL MATERIAL
JUNE 2006

1. **SCOPE**

This specification governs the material used, measuring, proportioning, mixing or combining such materials in producing flowable fill for backfilling pipe trenches/encasement and pumpable flowable fill for abandoning an auger/directional bore hole.

2. **GENERAL REQUIREMENTS**

a. The cement shall be Portland cement conforming to the requirements of ASTM C150-04, Type I.

b. Water used in mixing shall be clean and free from injurious amounts of oil, salts or other deleterious substances and shall not contain more than 1000 parts per million of chlorides.

c. The fine aggregates shall consist of clean, durable particles of natural sand and shall conform to the requirements of ASTM C33-03.

d. Fly ash or natural pozzolans shall comply with the requirements of ASTM C618-05, Class C.

e. Chemical admixtures may be used if approved by the Engineer and RWU personnel and must conform to the requirements of ASTM C494-05.

f. The flowable fill shall be plant batched and transit mix.

3. **MIX DESIGN**

The mix design shall be proportioned to produce a flowable mixture without segregation. Material for one cubic yard, absolute volume, shall be as follows:

Trench Backfill Flowable Fill	
Cement	40-60 lbs.
Fly Ash	90-170 lbs.
Sand	Variable to equal one cubic yard
Water	± 46 gal.

Pumpable Flowable Fill	
Cement	90-100 lbs.
Fly Ash	280-360 lbs.
Sand	Variable to equal one cubic yard
Water	± 65 gal.

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The minimum flow for the flowable fill shall be 8 inch in accordance with the AHTD Test Method. The unit weight shall be a minimum of 110 lbs./cubic foot.

4. **QUALITY ASSURANCE**

The Contractor shall submit the mix design from his selected batch plant to the Engineer and RWU personnel for review of compliance with this specification. The submitted mix design shall consist of the weights of all components of the proposed mix (water and admixtures may be measured by volume) and the certified test results for flow and unit weight.