

ADDITIONAL MATERIALS TESTING

Three Rivers Levee Improvement Authority

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Introduction

The purpose of this technical memorandum is to present and analyze testing results for two recent additions to the Three Rivers Levee Improvement Authority levee repairs project. This report covers the WPIC west levee where it intercepts Highway 70 as part of Phase 2 repairs and the semi-pervious seepage berm constructed as part of Phase 4 levee repairs. Construction on these portions of work was completed in February 2007.

Test Results

Phase 2 WPIC

Material placed for the WPIC west levee from approximate station 312+00 to 315+00 must meet the acceptance criteria for select fill set forth in Section 02331A, paragraph 2.1.1 and section 02331A, paragraphs 3.15.2 of the technical specifications for Phase 2. These criteria include;

1. Classification in accordance with ASTM D 2487 as silty sand (SM), clayey sand (SC), silt (ML) or clay (CL).
2. Individual samples shall have no less than 20% passing the #200 sieve, with an overall moving average of 30% passing, and maximum particle size equal to 2 inches (ASTM D 422).
3. Shall have a plasticity index between 8 and 25 and a liquid limit of 40 or less for Phase 2 (ASTM D 4318).
4. Compacted to 95% relative compaction (ASTM D 1557).

Upon review of the attached testing results, it has been determined that all fill material meets the acceptance criteria denoted above. Two samples were taken and both met all requirements. The percent fines were 53.8% and 52.2%, the liquid limits ranged from 34 to 35, and the plasticity indices were 12 and 11.

Four relative compaction tests were taken and passed the requirement of 95%. These test results ranged from 95% to 99%.

Phase 4 Seepage Berm

Material placed for the Phase 4 semi-pervious seepage berm must meet the acceptance criteria for sand fill set forth in Section 02331A, paragraph 2.1.5 and section 02331A, paragraphs 3.15.4 of the technical specifications for Phase 2. These criteria include;

1. Shall meet requirements of ASTM C 33 grading for fine aggregate.
2. Shall have no more than 5% passing the #200 sieve
3. Sand Fill shall be compacted to 70% relative density (ASTM D 4253 and ASTM D 4254).

Upon review of the attached testing results, it has been determined that all fill material meets the acceptance criteria denoted above. Two samples were taken and both met the gradation requirements. The percent fines were 3.9% and 0.6%.

Six relative density tests were taken and passed the requirement of 70%. These test results ranged from 75% to 92%.

Conclusion

Testing results presented herein show that work completed along the WPIC west levee meets requirements for select fill. Additional testing results presented herein show that work completed on the Phase 4 semi-pervious seepage berm meets the acceptance criteria for Sand Fill.