

SECTION 541- PRECAST CONCRETE MANHOLES AND HANDHOLES

SECTION 541- PRECAST CONCRETE MANHOLES AND HANDHOLES, is hereby made a new section of the specifications, superceding all previous editions and their modifications.

541.01. DESCRIPTION. This work shall consist of manufacturing, transporting, and placing precast concrete utility manholes and handholes as specified in the contract. The type, size, details and locations of the vaults shall be as shown on the plan or established by the Engineer.

541.02. MATERIALS. Materials shall meet the requirements of the following subsections of Division 700- Materials:

Portland Cement	701.02
Air-Entraining Portland Cement	701.03
High Early Strength Portland Cement	701.04
Fine Aggregate for Concrete	704.01
Coarse Aggregate for Concrete	704.02
Mortar, Type IV	707.03
Bar Reinforcement	713.01
Air-Entraining Admixtures	725.02(b)
Retarding Admixtures	725.02(c)
Water Reducing Admixtures	725.02(f)
Water Reducing and Retarding Admixtures	725.02(g)
Water	745.01

Unless otherwise specified in the contract all bar reinforcements shall conform to the requirements of AASHTO M31-94 Grade 60, and all mesh shall conform to AASHTO M55M/M55-94.

Concrete shall meet the requirements of Concrete Class A, Section 501.

Concrete for precast utility vaults shall have a compressive strength at 28 days, as determined in accordance with AASHTO T22, of not less than 5000 psi. Where a 28 day test results as defined herein or in the contract is below specified strength, all concrete represented by that test shall be unacceptable for the requirements of this specification, and the Engineer reserves the right to reject all members containing that substrength concrete. The cement factor in mix design shall be not less than 611 lb. per cubic yard of concrete. The percent of air entrainment shall be 6.0 with a tolerance of plus or minus one percent and the slump shall be between one and three inches.

The proposed concrete mix design, including performance history and all requests for variance from the material requirements of these specifications, shall be submitted for approval in accordance with these specifications. Six weeks may be required for testing and approval of the mix design.

To check the Fabricator's mix design, test specimens of concrete may be required to be made from the aggregate, cement and admixtures which he/she proposes to use. The Fabricator shall furnish, at their own expense, whatever quantities of these materials may be required for the tests.

Any admixture containing calcium chloride shall not be used. Type II or Type III Portland Cement may be used. Only one type of cement and only one source of that type shall be used for anyone structure.

VERTICAL MANHOLES. Utility Manholes shall be precast units meeting the requirements for H-20 wheel loads, 30% impact and soil pressure of 130 lbs/ft³. The vaults shall be fabricated to the sizes detailed on the plans.

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