LIGHT WEIGHT WATER TIGHT TANK
STANDARD SPECIFICATION

PART 1 GENERAL

1.1 DESCRIPTION

A. Work Included:

1. Furnish and deliver a complete factory built LightWeight Water Tight Tank and all appurtenances necessary to make a complete system as detailed in these specifications and drawings.
2. The WaterTight Tank shall be manufactured by Superior Concrete Co., a division of Oldcastle Precast or approved equal, and to be delivered to the jobsite. The Contractor shall provide the excavation, bedding and backfill for the tank and shall place the tank in the excavation.
3. The WaterTight Tank manufacturer shall provide factory trained personnel to advise in the assembly of the tank sections in the field, while the sections are being set in place by the Contractor.
4. Scope of work to include: Precast reinforced concrete sections including joint gasket material and imbedded items and pipe sleeves where possible.

1.2 GUARANTEE

A. The WaterTight Tank to be guaranteed for one year from the date of installation that the structure will be free from defects in materials, and workmanship.

1. Watertightness is defined as loss of liquid level of less than 1/10 of 1% in any 24-hour period after absorption due to concrete porosity and permeability. Fire protection systems should utilize low liquid alarms and automatic pump recharge to insure supply, (ACI 350R).

PART 2 - PRODUCTS

2.1 PRECAST CONCRETE TANK STRUCTURE - DESIGN

A. The WaterTight Tank shall be constructed to the dimensions as shown on the contract drawings. Each section shall be designed the adequately and safely support all live and dead loads to which the structure will be subjected, and to withstand all conditions which may be encountered. Structural drawings and calculations shall be included with the submittal by the tank manufacturer. The sides and bottom of the tank sections to have voided waffle areas to make sections light weight. These waffled areas shall not effect the structural integrity of the section.

B. Design calculations shall verify that the structures have been designed to withstand the burial, submergence and due to the dead and live loads anticipated for the tank. The tank sections shall have adequate wall, floor and roof thickness and steel reinforcement sufficient for the depth of burial shown on the drawings.

C. Design computations for uplift forces shall contain a minimum factor of safety of 1.15. When required for counter-flotation, as determined by the buoyancy calculations, the structures shall be designed to satisfactorily withstand uplift pressures exerted on the chambers. The manufacturer to have as an option a keyway with inserts for the Contractor to cast in place an antifloatation collar.

D. All wall penetrations shall be formed utilizing resilient rubber pipe connectors by Lockjoint or Press-Seal Gasket Corp.

2.2 PRECAST CONCRETE TANK JOINT – DESIGN

A. The joint design shall consist of a shiplap type joint. The tank section joints will be formed by a **machined** steel. **The joint to be designed to be flexible and watertight.**

B. All surfaces of the joint upon or against which the gasket may bear shall be smooth, free of spalls, cracks or fractures, and imperfections that would adversely effect the performance of the joint.

C. The joints of the tank shall be design such that they will withstand the forces caused by the compression of the gasket when joined, without cracking or fracturing.

D. Each precast section shall be provided with formed male and female joints in insure accurate joint surfaces and tolerance for a watertight seal. All joints between adjoining precast modules shall be primed at the factory and sealed by the tank manufacturer's personnel when modules are set in the field utilizing a continuous diameter Polyisoprene "O" ring gasket. **The gasket is one piece, no splices will be allowed.**