Prestressed Concrete Digester Modifications
Elkhart, Indiana

DN Tanks constructed a 1.85 MG digester tank for the City of Elkhart, Indiana with the original design consisting of a precast, prestressed concrete wall with exterior brick veneer architectural treatment and a mechanical floating steel cover. Years later, with the tank in successful operation, the City looked to improve their treatment process and capture the excess methane gas from the digester. In order to accomplish this, the City replaced the existing steel cover with a gas-tight inflatable fabric dome.

The original steel roof contained entry points into the tank that provided access for equipment during inspections and routine cleaning operations. By replacing the roof with a fabric dome, these access points were lost and the tank no longer had adequate openings for entry.

DN Tanks was selected to provide a turnkey structural design and installation of new sidewall openings penetrating through the brick veneer and tank wall.

The new openings in the wall required specific sizing for both personnel and equipment. The City selected a 30” diameter stainless steel manway and a 30” x 36” stainless steel rectangular opening.

In order to accomplish these modifications, the brick veneer was removed and new openings were cut in the wall.

The prestress wires were re-tensioned, new access points were installed and the wall strengthened in this area with shotcrete. In addition, a 3” pipe was installed through the tank wall to function as a pressure line. Upon completion, the new sidewall access points blend in to the tank as if they were part of the original design.

The City sought to enhance their treatment process and DN Tanks worked closely with the City to complete the desired modification.