The City of Winnipeg embarked on the construction of the aqueduct from Shoal Lake, ON to provide clean water to its citizens in 1915 with the creation of the Greater Winnipeg Water District (GWWD). Completed in 1919 at a cost of $17 million, the GWWD was a cost-sharing plan between the City of Winnipeg and St. Boniface, the Town of Transcona and the municipalities of St. Vital, and parts of Kildonan, Assiniboia and Fort Garry.

The construction of the aqueduct entailed a variety of related facilities and structures beyond the concrete aqueduct itself. These included a railway right-of-way, enclosed reservoirs, many kilometers of underground pipes and, in St. Boniface near the banks of the Red River, a surge tank completed in 1918.
This large water storage facility was used in case of rising water pressure in the system. The tank could be filled with and store thousands of litres of water until pressure dropped. If necessary, excess water was allowed to overflow the tank and run via pipe into the river. This tank continues to be an integral part of Winnipeg’s water system.

The surge tank itself is housed in a round, solid brick structure 12.2 metres in diameter. The base is clad in rough-cut limestone topped by a band of smooth concrete and leading to the dark brick of the tower. There is a variety of ornamental brickwork – header and stretcher courses, arches, and diamond shapes with concrete accents. The flat roof is finished with a stone and concrete cornice and a concrete capped brick parapet. The only opening in the exterior structure is a modest wood door facing east that gave access to the tank within.

Also on the site is the one-storey brick Booster Pumping Station, opened on May 31, 1951, to ensure pressure in the system during high demand periods. The structure was designed by the local architectural firm Green, Blankstein, Russell and Associates.

Elements of the building that would require approval if alterations were planned are:
Exterior-
- The round, utilitarian, dark brick structure located east of Avenue Taché near the banks of the Red River;
- The rough-cut limestone base topped by a concrete band encircling the tank except for the small, east-side door;
- The ornamental brickwork with header and stretcher courses, arches and diamond shapes with concrete accents; and
- The roof line embellished with raised brick, stone and concrete cornice and concrete capped brick parapet.

Interior-
- None.