

MEMORANDUM

DATE: April 28, 2021

TO: Ted Corrigan, P.E., CEO and General Manager

FROM: Donald K. Staley, P.E., Project Manager

SUBJECT: Filter Backwash Tank Rehabilitation

The Filter Backwash tank is an integral part of the treatment process. It is an elevated storage tank that provides the high volume of pressurized water necessary to clean filters in the backwashing process. This tank is a plain steel cylinder, 35-foot tall by 26-foot wide. It was built into the original structure of the filter building in 1945.

The Filter Backwash tank has experienced corrosion for several years and this has resulted in minor leaks that were routinely repaired by welding the openings closed. In the 1990's the frequency of welding repairs began to accelerate to an unmanageable level. At that time, engineering staff arranged for the tank to receive a plastic liner which was very successful at stopping leaks and slowing down the corrosive action.

We have extended the useful life of the Filter Backwash tank several years with a liner, but the corrosive conditions persisted at a slow rate. Currently the tank is depleted to a level where we have concern its structural integrity may be entering a compromised state. It is vitally important to the treatment process and essential that we have a backwash tank that is in sound condition.

The proposed Filter Backwash Tank replacement project will involve removal of the existing corroded tank and replacing it with a new tank. This is planned to be done using a new galvanized steel tank that is comprised with segments bolted together. Using a segmented tank system will allow us to bring the tank into the building in pieces and then assembling it in place without demolition of the building. The tank will begin its service life with the same plastic liner system that proved so successful with the existing tank.