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MEMO

Date: May 27, 2022
To: Trevor Walter
From: Mark Hallan
Cc: Aric Welch
Project Name: Water Treatment Plant
Project No.: 2021-10311
Subject: Interconnect Building Modifications

We have completed our review of the chlorine feed booster pump. The pump needs to develop around 255 feet of total dynamic head or 110 psi to allow a chlorine feed rate of 50 pounds per day at a flow rate of 2,200 gpm. The 110 psi figure is based on the suction line being 40 psi and the discharge line at 90 psi which is a 50 psi difference. The chlorine injection needs a 50 psi differential to work properly at the target flow and chlorine feed rate.

To achieve the required pressure differential, it is necessary to upsize the existing chlorine feed booster pump. Below are the quotes to provide/install a new pump and to make the necessary electrical modifications for the larger HP pump motor.

WW. Goetsch $3,032

- CR 3-9 1.5 HP 3 Phase Pump
- 1 ¼" Flange Set
- Freight
- Install

Holden Electric $4,950

- 208 volt VFD
- Conduit and wire

The total estimate cost for a new chlorine feed booster pump capable of meeting the target feed rate of 50 pounds per day at flow rate of 2,200 gpm is $7,982.

City staff had the chlorine feed booster pump suction and discharge lines replaced with larger PVC lines by Tim Thompson Plumbing and Heating. The total cost of the piping replacement project was $3,860. Additional engineering and coordination for the chlorine feed booster pump upgrades was $1,008. The total of all costs for the chloring feed booster pump system upgrade is estimated at $12,850.