

May 23, 2024

Subject: Memorandum on Water System and Existing Conditions

Dear, Mayor and Council,

**Overview:**

The City of Willcox has two wells in operation, well 1 and 2. Well 1 recently began pumping large amounts of air and has been taken offline. The city is being supplied with water from Well 2 which is supplying enough water to meet the city's needs but will not be able to meet the needs of historical peak demands. City staff are working with engineers and contractors to get well 1 back online.

Smythe Industries, W/W Services and Longmeire were hired by the city to begin preliminary work and provide additional analysis for the city to make informed decisions on the project. Longmeire has already video-inspected the casing, found multiple breaks, and is fixing those breaks. W/W Services has been retained and is helping staff troubleshoot well 1, 2, and 3 as well as assisting in developing a scope of work. Once the casing is repaired, W/W services will brush and clean the well casing after which Longmeire will once again camera the well to ensure there are no other breaks. Due to breaks and warping of the casing, W/W Services will lower a dummy pipe into the well to ensure the well pump will fit appropriately. If the pipe fits, W/W Services will proceed with a pump test to provide staff with the information necessary to bid on the rest of the project.

Currently, phase 1 of the scope of work has been completed or is in the process of being completed. Phase 2 will be bid out once Phase 1 is completed. Staff estimates the total costs to be approximately \$250,000

- Phase 1
  - o Pump pulled and evaluated
  - o Video inspection and repair of breaks ≈ \$20,000
  - o Brush and Clean ≈ \$10,000
  - o Test Tanks ≈ \$1,700
  - o Pump Test ≈ \$15,000
    - A pump test is a field experiment that measures how a wells water level responds to a controlled pumping rate. The test is used to gather information about well yield, drawdown, pump efficiency, capacity, aquifer properties, well performance and aquifer boundaries.

- Phase 2
  - o Well Pump, Tube & Shaft, Variable Frequency Drive Motor, Labor ≈ \$150,000
  - o Hydropneumatic Tank and Installation ≈ \$75,000- \$100,000

Funding:

The water system operates as an enterprise fund meaning that operations and capital expenses are paid through user rates. Staff is working with WIFA to obtain grant and low-interest loan funds to pay for the improvements,

Staff Recommendation:

Staff recommends moving forward with approving the cost, estimated to be at \$250,000 - \$300,000 to bring well 1 back into operation. Staff will also explore the cost of building a new well or purchasing property with existing wells.