

# **City of McCook Water Department**

**Wellhead Protection Network**

**November 2, 2017**

**Jesse Dutcher, Utility Director 2004**

# Wells 9 & 10

- Both wells were drilled in 2005 as part of the Water Treatment Plant Project.
- Well 9: .58 mg/l Nitrate + Nitrate Well 10 is 1.43 mg/l
- Arsenic Well 9: 10.5 ug/l and Well 10: 9.29 ug/l
- Uranium Well 9: 24.6 ug/l Well 10, 32.0 ug/l
- Both wells will pump around 1,000 gpm
- Well VFD are controlled from the plant with the SCADA, operator can select flow by slowing or speeding the well motor.
- Both Wells have a total depth of 71 feet
- City owns 73 acres around the wells

**Well 10**

**Well 9**



# Wells 3 & 4

- **Well 3:**
  - Constructed 1936 relined 1995
  - Nitrate + Nitrite 5.14 mg/l
  - Arsenic 9.74 ug/l
  - Uranium 38.0 ug/l
  - Total depth 80 feet
  - VFD Controlled by SCADA total capacity 400 gpm
- **Well 4:**
  - Constructed 1948
  - Nitrate + Nitrite 6.31
  - Arsenic 10.1 ug/l
  - Uranium 42.9 ug/l
  - Total Depth 83 feet
  - VFD Controlled by SCADA, capacity 450 gpm



# Well 6

- Constructed 1958
- Nitrate/Nitrite: 14.8 mg/l
- Arsenic: 11.6 ug/l
- Uranium: 27.4 ug/l
- Production 400 gpm
- Total depth: 92 feet
- VFD controlled by SCADA







**drinking water well pump water from the alluvial aquifer of the Republican River**



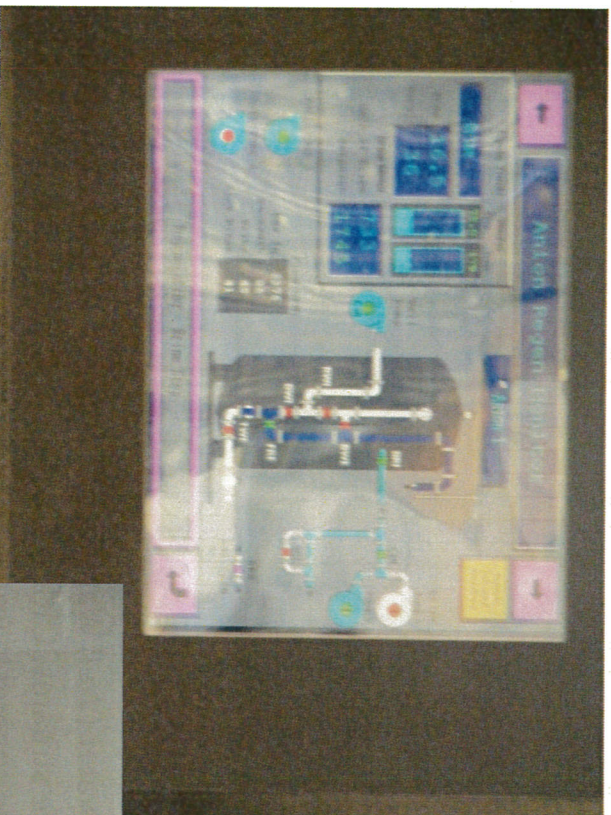
In 2016 McCook pumped 712,861,000 gallons of water, with a daily average of 1,953,044. The peak day for the year was on July 26 with 4,913,000 gallons pumped in 24 hours. Daily averages for winter 800,000 gallons and summer days averaging over 3 million gallons. The City has a permit from NE Dept of Natural Resources to withdraw 1,222,750,000 gallons per year.

Historic highs 2000 total pumping 1,113,596,000 pre WTP  
Post WTP, annual 844,857,000 2012 gallons (2012)

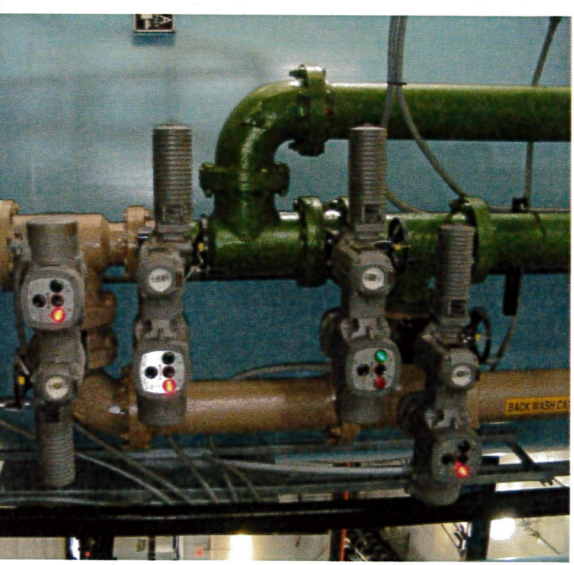
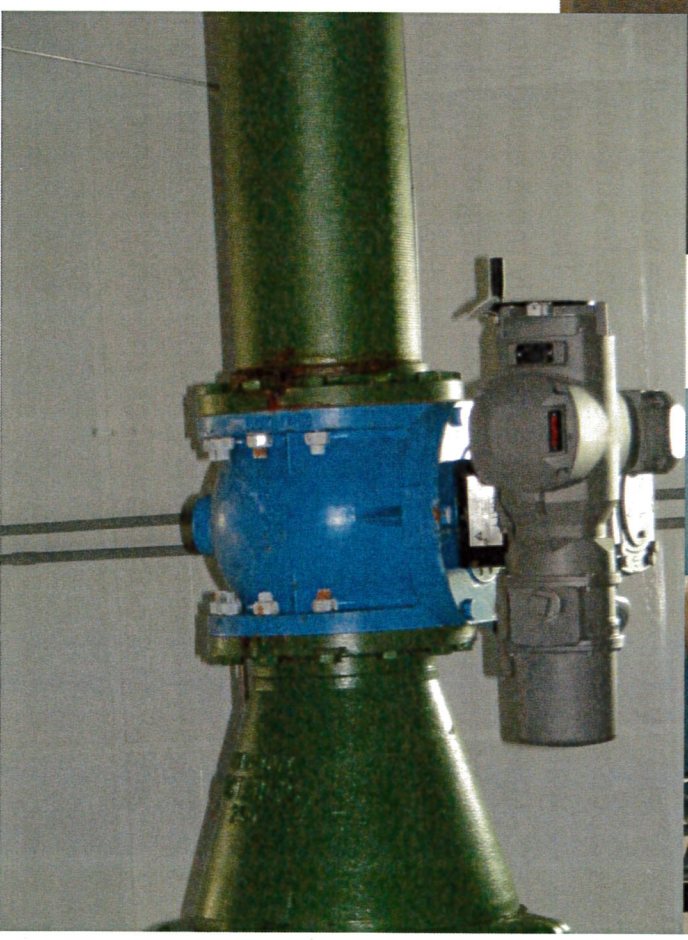
daily 5,879,000 mgd June 28, 2012



# McCook WTP



- Plant SCADA controls the vessel regeneration.
- Well stop and start.
- Plant flow control.
- Disinfection, production of Sodium Hypochlorite
- High Service Booster Pumps







## Service Line Repair and Replacement

The Water Department along with being responsible for the water mains is responsible for the ***Supply Pipe*** which is the pipe that runs from the water main to the curb stop located at the edge of the street. The ***Service Pipe*** is line that extends from the curb stop to the house and that is the responsibility of the owner.

- 3,600 service lines and meters
- 52 miles of water main ranging in size from 3 inch to 24 inch



## Water Main Repair



Main leaks sometimes become a group effort with waste water and public works staff lending a hand. Utilities repay the help by do snow removal.



## **Billing and Meters**

- 3,600 connections
- 60% radio read meters (1,800)
- Web based payments averaging \$6,000 per month
- Over the counter credit/debit card use averages \$11,500 per month.
- Average 80 Phone notifications per month.

