

**City of Benton City
Special Council Workshop Meeting Minutes
November 7th, 2017**

A. CALL TO ORDER Mayor Lehman called the November 7th, 2017 Special Council Workshop Meeting at the Community Center to order at 6:00 p.m.

B. ROLL CALL

Councilmembers Present **Dave Sandretto** (Late arrival-6:04PM)
Lisa Stade (Late arrival-6:21PM)
Vanessa Coates
Jake Mokler
Mary Lettau

City Staff Present **Stephanie Haug, City Clerk/Treasurer**

Kyle Kurth, Maintenance Department Foreman
Wade Oscarson, Waste Water Treatment Plant

Other Professionals Present **Eric Ferguson, City Attorney, Kerr Law Group**
Alan Rainey, City Engineer, Spink Engineering, LLC

C. UPDATE TO THE BENTON CITY WATER PLAN

Mr. Alan Rainey: The Benton City Water Plan is required by the Department of Health to be updated and evaluated every six years. The scope of the Water Plan is to evaluate the current population and the predicted population at six and 20 years to determine deficiencies and plan for needed improvements. The basic water system is comprised of five wells. The wells located East of Legion Park, serve the Southern part of town (Blue Zone). The system serves Archie Borden Park, schools, and areas south of that. Reservoir #1 provides pressure needed for water delivery to the area across the river. The Red Zone, shown on the map is comprised of Wells 4, 5 and Reservoir #2 on the North end. A Pressure Reducing Valve (PRV) is located between the Red and Blue Zones. The valve provides a fail-safe measure, if pressure in the Blue Zone drops below 20 psi. When the pressure drops the valve opens to allow water flow to the Red Zone. Normally, Wells 1 and 3 fill Reservoir 1, and if that does not occur, the PRV will open to allow water flow and notification occurs if pumps do not start. Implementation of the SCADA System proposal is recommended to prevent pumps from turning off. In addition, implementation of Radio Telemetry is another recommended proposal. The system is reviewed for sufficient capacity, water rights and consistent zoning. Prior to connecting to the system, a two-week review and approval process is required and connection fees must be paid before connection can be scheduled.

The current estimated population as of April by Office of Financial Management was 3,360 individuals. Currently, the City has 1,057 existing active connections that fluctuate with shut-offs and new activations. Water connection usage in 2016 was 117 million gallons. Review of equivalent residential usage (ERU) is calculated for residents, schools and parks. For example, if a resident's water usage is 500 gallons per month and a park's water usage is 1,000 gallons that equates to 2 ERU's. The State reviews ERU's to evaluate whether systems can handle the established capacity. Projected growth as noted in the report is 2.1%. Distribution System Leakage according to meter readings on the wells. For example, if 117 million gallons of water was paid for, and the meters showed that 120 million gallons were pumped, difference is the loss that occurred in the system. Bulk water sales and fire hydrants tests are estimated usage that is added into water consumption. Over a three-year period, the average loss was 3.1%. The State requires implementation of a Leak Detection or Water Loss Program for losses over 10%, but the City's loss is not near that amount. The Maintenance staff continues to monitor for leaks and inspects water line breaks which are immediately repaired.

System Analysis is performed to ensure that the system meets the 1000 GPM fire flow for four hours and that the minimum pressure is 20 psi positive pressure over the entire system. The Hydraulic Analysis indicated that the system is exceptionally good, but there are two areas with low fire flows. One of those areas that come through Archie Borden Park down to Hope Lane has a 4" PVC line and the fire flow is approximately 400-500 GPM. That area has ample pressure, but low flow due to the

elevation differential and small, lower permeability strata that allows less water flow. A project under discussion is to run a line from 7th Street to the Library, or run a line by the park to the 14th line and bypass the line through the park by the bike/walking path lane. Otherwise, if a break in the line occurs in the hillside, it will require an enormous amount of repair work.

Councilmember Discussion: Councilmember Sandretto inquired whether it would be feasible to run a line to connect the two systems through the property where the transponder will be located.

Mr. Rainey: If funds were available, replacing lines all the way down Hope Lane would be a good idea. Currently, the water line cuts through property (shown on the map). It is difficult to say that there is not a big need for improvement for areas with low fire flow.

Councilmember Discussion: Councilmember Sandretto indicated that land adjacent to Hope Lane has sizeable urban growth. Service to that location should be considered at some point, but currently, homeowners have their own wells, but eventually, homeowners may want connections to City water.

Mr. Rainey: System Analysis reviewed flows, system storage capacity and pumping accommodation for the system. In addition, worse case scenarios were considered in the event a well goes out, how well the system can maintain operational storage, backup storage and fire flow. The State recommends 200 gallons per resident use for two days, but with well redundancy and the two power sources from REA and PUD, Spink proposed 183 gallons per resident use for one day. If PUD lost power, the City would lose Wells 1, 3 and 5 but Well 4 would continue to produce water. If that occurred, a back-up power system would be required. One recommendation is to purchase a generator and set panels up with plug-ins for all of the wells so that generators could be moved to operate any of the wells, which would provide more flexibility. Otherwise, locating a generator at each well could cost approximately \$60-\$80,000 per generator, or \$240-\$300,000 in total for generators, which is a sizeable amount. The current proposal is to purchase one portable generator and set it up to accommodate any of the wells. Other smaller cities, such as Kahlotus, purchased a portable generator and set it up to accommodate their two wells. The City of Richland, with 14 wells and 10 reservoirs, has no generators for back-up to wells but wells are interconnected with PRV stations so their City can get by. Richland also has its own electric company, so power can be routed as needed.

Councilmember Discussion: Councilmember Sandretto stated that through DNR surplus, we should inquire whether a couple of generators might be available. At least two wells should be on generators and ready for use at all times when dependency on portable generators is necessary. He questioned what could occur in the event of contamination between the two systems.

Mr. Rainey: If contamination occurs, the City has a contingency plan to shut wells down and drain the tanks. Reservoir 2 with installation of overflow that goes into the sewer line was part of the recommended improvements. In Chapter 6-7 under Emergency Management, Chemical Contamination is described. The City is safe from chemical contamination because water comes from lower aquifers; therefore, the different layers protect contamination from the surface. At the point where contamination is detected, that well is shut off to assess what could potentially be in the system. The process would begin by calling the Department of Health (DOH) and the DOH would send researchers to assist. A step in the process includes public notification. For example, a test for Coliform (E-coli) in the water system for bacteria occurs twice a month. If E-coli occur twice, the protocol is to notify residents. Chapter 6-19 states that Emergency Contact Numbers are required. The intent is to have an approved Water Plan and create a notebook for the Maintenance Staff with guides for normal operation. Maintenance can utilize the notebook as a working document for guidance when and who should be contacted in the event of an emergency.

Councilmember Discussion: Councilmember Sandretto questioned whether side wells are pulled from the same or separate aquifers. Mr. Rainey stated that Well 4 and 5 are in the same aquifers and

Wells 1 and 3 are in the same aquifer. Water Rights are permitted to pull from certain zones. The City can apply for Water Rights to draw from a different aquifer in the future. There are cities that have had Water Right Permit applications in the process for years. Councilmember Sandretto stated that an earthquake can cause a shift in aquifers, and if that occurs, he asked what is the contingency plan would be. Mr. Rainey implied that would need to be evaluated at the time. Councilmember Sandretto asked whether water could be rerouted or shuttled. Mayor Lehman stated that small earthquakes do occur here constantly but there is little danger to the aquifers. It is more common to see surface damage. Councilmember Sandretto reminded Council because the City is located on one of the thickest basalt layers in the world, according to geologists, a rupture of the local basalt layer would be of significant magnitude because of the thickness.

Mr. Rainey: If all four wells were inoperable, the City would anticipate trucking water in. The City is required to maintain 2,400 gallons of water for fire flow storage and 200,000 gallons for operational storage, but the City could lower operational storage to allow storage for other needs.

Councilmember Discussion: The City's risk concerns at this time are mainly located in one area, with the bridge being a weak link. In future planning, it would be feasible to assess those needs. Mr. Rainey reminded Council that his father-in-law suggested installing a water tower on that side of town in the shape of a wine barrel. A long-term approach would be to install a reservoir and possibly a well on that side of town.

Mr. Kurth: Table 6-4 states that the City is vulnerable to one power outage per year, and that the system does not have a back-up generator, but has a connection so that a generator can be borrowed and plugged into the system. The majority of the time, water storage can supply the system until power is restored. Mr. Kurth questioned whether the City actually has that capability. Table 6-4 states, should an outage experience last longer than five hours, a rental company can be obtained. Mr. Kurth maintained that the City's storage capacity is capable of lasting longer than five hours. Table 6-10 on Page 6-12 states under "Summary of Operation and Maintenance" that there is no back-up generator for wells, and that each electrical panel should be modified with the addition of a receptacle and transfer switch to allow for connection to a mobile back-up generator. Mr. Kurth stated that Table 6-4 and Table 6-10 contain conflicting statements. The Emergency Contact Table 6-19 contains City Hall's telephone number and Wade's cell phone number, but not Mr. Kurth's cell phone number. According to Ms. Haug, the City Hall number directs a caller who to contact after hours and that it is pertinent to have a non-emergency number listed rather than cell phone numbers. Mr. Kurth recommended that an after-hours telephone number be listed so that individuals who call will not be required to call City Hall to listen to a voice mail that refers the caller to another number.

Mr. Rainey: Each year a Water Use Efficiency Report is required to be submitted to the State. For the past three years, the average for the City has been 3.1%. Another name for the Water Use Efficiency Program is Water Conservation Program. Goals for Water Use Efficiency for the City's Water System are required every five years. Installation of Benton Irrigation District (BID) has reduced usage by 20%. At the Public Hearing, the conservation goal of 0.05% a year, with the total of 2.5% over five years will be set. Going forward, the plan is to educate the public on how to conserve water. The Department of Health (DOH) has brochures that will be sent out, and one idea is to include brochures in monthly water bills. The Water Rights Assessment states that 1,232 acre feet per year can be pumped. An "acre foot" is equal to a foot of water over an entire acre. The pumping rate is set at 2,350 GPM. Currently, with five pumps online, the City pumps 1,880 GPM; therefore, 470 GPM are still available. As the population grows, the City can increase pumping in the wells. The annual volume allotment is 1,232 ac. ft. and the City currently uses 359 acre feet per year, or approximately 0.25% of the allotment. Projections through the year 2037 indicate that the City will use approximately 0.50% of the allotment. Water Rights will support 6,010 ERU's, or 6,000 residential homes. The City is currently at 1,700 ERU's. The school counts as approximately 20 ERU's, so the City has the capacity to more than triple in size.

The Cross-Contamination Program is discussed in Chapter 6, Page 3. The staff should be commended for implementation of a program that was recently purchased called Backflow Management that helps perform tracking. The program contains templates that have the capability to send out letters or reminders that will help protect the Water System.


The list of accomplishments includes five water lines that were constructed in the irrigation district. The recommended improvements that are listed were submitted about a month ago.

Mr. Rainey highlighted an area of the City that is in need of improvements where water lines go through the back of yards (indicated on the map). The recommended approach would be to move water lines into streets, which would require changes to water connections. Changes on Jane Ave., Irene Ave. to 11th Street and Kitty Ave. (as indicated on the map), will strengthen fire flows and improve the water system. As more development occurs, the recommendation is have that water line moved around and another line (indicated on the map) taken out of the back of residential lots. Further recommendations and suggestions can be emailed to Mr. Rainey. The plan is to utilize the discussion from tonight, address other issues, and then submit the draft Water Plan to the Department of Health (DOH). Mr. Rainey will present the DOH's review and comments to Council prior to submitting a final response to the DOH.

D. ADJOURNMENT Mayor Lehman
Motion was made and seconded to adjourn the meeting.

Mayor Lehman adjourned the November 7th, 2017 Special Council Workshop at 7:00 p.m.


Stephanie Haug MMC
City Clerk-Treasurer


Linda Lehman
Mayor, City of Benton City

Date: 11-21-17