

CITY OF CLOVIS
TOWN HALL MEETINGS – MASTER WATER ASSURANCE PLAN

September 11, 2017

Town Hall Meeting – Living Stones Community Church of the Nazarene

Q: Who supplies the cheese plant with water?

A: *EPCOR provides the water.*

Q: Has the cheese plant provided anyone with their daily usage?

A: *Yes. 310,000 GPD*

Q: Is the paleochannel part of the Ogallala?

A: *Yes.*

Q: Will the farmers still produce crops?

A: *Those farmers in the paleochannel opting to only pump their wells at 20% capacity will not be producing crops. Their wells will be placed in water banking. They will still be able to take care of their domestic water needs and water their livestock.*

Q: Are the dairies going to use the reuse water?

A: *Phase I of the effluent reuse pipeline that has already been completed and the final two phases of construction recommended in Action Plan #1 of the Master Water Assurance Plan will not directly benefit the dairies because the pipeline will not be connected to individual dairy owners. However, some dairies are already reusing their own water. One dairy farmer installed equipment to reuse his water to flush the dairy parlors and is currently piloting an anaerobic digester project to further enhance water reuse efforts. If this technology shows promise, it can be replicated at other dairy farms.*

Q: What radius does the cheese plant service?

A: *500 miles*

Q: Can reuse water be used for human consumption?

A: *Yes, it can. The Clovis Waste Water Treatment Plant is currently reporting their effluent reuse water as 97% pure. More treatment of the water would be required to make it fit for human consumption. Cloudcroft is still working to make their reuse water drinkable, and Rio Rancho has New Mexico's first water purification and aquifer storage project, which began in 2001 and was completed summer 2017. San Diego, California, will complete their indirect potable reuse project by 2035. There are direct and indirect potable reuse projects across the nation. We discussed these in our meetings with EPCOR at the table, and they voiced an interest into looking at possibilities for indirect injection. EPCOR has been funding all research efforts. EPCOR, some city commissioners, and the mayor also toured the Rio Rancho water treatment facilities during this strategic planning study.*

Our team felt that in order to extend the life of present groundwater resources the reuse system needed to be completed thereby reducing groundwater demand by 1/3, saving the highest quality water for household and drinking water and using reuse water for landscapes and industrial purposes. Consideration for direct and indirect injection into the Ogallala Aquifer of the reclaimed 4.2 million gallons of wastewater would disallow the use of the current available reuse water for watering parks, ball fields, and golf courses; using reuse water for current and future subdivisions; and meeting the needs of future business and economic development opportunities. Direct or indirect injection without securing adequate groundwater resources would limit future growth and disallow the watering of landscapes thereby reducing quality of life measures presently provided to citizens. The cost of reclaiming reuse water from SWC for potable reuse is estimated to cost \$2.00 - \$3.00 per thousand gallons.

Q: How does the county get water if they're sharing an aquifer?

A: *County residents in rural areas drill domestic wells to meet their water needs. EPCOR does not have an agreement with the county, only with the city.*

Q: Where does the money come from to lease wells?

A: *The Water Planning Team has considered various possibilities for funding sources; however, the intent of the team was to conduct important research to identify and secure funding the first year of shutting the 70 wells off. Year one of leasing the wells will cost a projected \$2.5M of which could be applied as an earnest payment towards the long-term perpetual lease or water right purchase. The reuse pipeline system will generate a revenue stream that can be used to pay for water and infrastructure. To accomplish the first year of funding, we considered seeking support from the city and the county by asking them to look at existing, non-earmarked funds that might be available.*

The estimated cost for leasing the wells and building the pipeline needed to tie into the paleochannel is between \$38M and \$58M. This includes all of the testing of the wells to find out how much water they are capable of pumping and all of the piping to tie the paleo well field into the Ute pipeline that is to be built from just north of CAFB to Clovis and Portales. The question about the funding will be answered when the City, EPCOR, or ENMWUA decides who is going to negotiate the final contracts for the water rights. An important factor to consider is that whoever decides to acquire those rights will be able to start selling that water to consumers to offset the cost. There is a funding component also from the sale of the reuse water provided for in the Water Assurance Plan. It should be noted that the cost of securing the water and building the pipeline within the paleochannel is 5% of the 2038 total projected cost of the Ute pipeline.

Q: What is being considered to step away from agriculture?

A: *Clovis and Curry County are not considering stepping away from agriculture. Agriculture has been the bedrock of our community and the regional economy for more*

than a century and is an integral part of the customs and culture of Curry County. Farmers and their related businesses, as major food producers, make up 70% of our economic base. In addition, they have contributed greatly to Clovis and Curry County to enhance our economic progress and our quality of life. We believe farmers have an important voice in conservation efforts, and we plan to seek their help and their ideas as we move forward. Several farmers have already converted to dry land farming, and many are making significant efforts to conserve water. Some farmers have either converted to cattle or considered converting from irrigated farming to raising cattle. Ag producers are vital to our area, and we must be respectful of their private property rights. We must work with agricultural institutions, companies, and researchers to provide information to landowners regarding available programs and proven conservation practices where data is already available. We intend to work with local, state, and federal agencies to assist landowners interested in changing their land management practices to conserve more water. We believe the Conservation Districts, NMSU Ag Science Center, and Natural Resources Conservation Service (NRCS) will be great resources for this, and we hope to include them in any of our future discussions.

September 12, 2017

Town Hall Meeting – Youth Recreation Building (YRB)

Q: Where is the paleochannel?

A: *The paleochannel runs 15 miles northwest of Cannon Air Force Base, and from the boundaries of the J.L. Wall property, the same channel runs 45 miles to House, NM.*

Q: Is 60 years the best-case scenario?

A: *We believe our plan may take us beyond 60 years; however, we believe at this point 60 years is viable projection. Keep in mind that new technologies and ideas will be emerging as we roll out this initial plan for securing a sustainable water supply for the next 60 years. The strategic plan being proposed is a living document that can be modified and expanded as we gain greater knowledge and access to new technologies. The implementation team will continue to identify and capitalize upon proven ideas for sustaining a water supply for Clovis/Curry County.*

Q: What are the different funding options?

A: *We have considered lobbying state and federal agencies for partial funding, seeking discretionary funding, and looking to reallocate, where feasible, local dollars. We also realize that the reuse water creates a revenue stream for paying the service debt. We have also considered funding through a loan from the New Mexico Financial Authority. We also realize that GRT and property tax may need to be considered. Our intent is to exhaust all possible funding sources with the goal of placing the least amount of burden possible on local taxpayers.*

Q: When will this be presented to the city commission?

A: *The plan will be presented to the City Commission once the Water Policy Advisory Committee (WPAC) has reviewed and considered all feedback. The plan may be sent*

back to the Water Planning Task Force with recommendations that revisions be made to the plan if the majority of the WPAC members determine changes are warranted.

Q: Are there discussions with the landowners and, if so, have they been receptive?

A: *There were some initial conversations with the landowners in the paleochannel to see if they would even be receptive to the proposed concept outlined in Action Plan #2. Nine out of 10 landowners were receptive. However, these were just preliminary conversations and no commitments were made on either side of the conversation.*

Q: What other entities have their eyes on the paleochannel?

A: *None that we are aware of at this time.*

September 20, 2017

Town Hall Meeting – Friendship Center

Q: How many states does the Ogallala Aquifer cover?

A: *There are eight. They are Colorado, Kansas, nearly all of Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming. 30% of all water used to irrigate U.S. agriculture is pumped here. The Ogallala Aquifer is the largest aquifer in the United States. From 2011 to 2013, the aquifer's overall water level dropped by 36.0 million acre-feet, according to the U.S. Geological Survey.*

Q: What are those states doing to address their water needs?

A: *Texas and Kansas are doing similar projects that we are proposing. Across western Kansas, water levels in the aquifer have declined in some places by 60 percent. In an effort to narrow the gap between water withdrawal and recharge, 70 farmers around the small town of Hoxie required irrigation be cut back to conserve water. In 2013, the farmers set up a 99-square-mile conservation zone, known as a LEMA (Local Enhanced Management Area) where they agreed to a 20 percent reduction in irrigation for five years, “but members attained a 35 percent reduction in four years. The rate of decline in the aquifer within that LEMA fell from two feet annually to five inches per year, state officials said.”*

Skepticism grows about Brownback, Colyer optimism on aquifer’s future. Available from: <http://cjonline.com/news/state-government/local/2017-09-03/skepticism-grows-about-brownback-colyer-optimism-aquifer-s> [Accessed: Sep 10 2017]

“As well levels decline around Lubbock, the shift to dryland farming is becoming more prominent. The High Plains water district, which now includes Hale and 15 other counties, once counted 88,000 irrigation wells; it has 73,000 wells operating today. There are 16 groundwater management areas in Texas.”

A *Vanishing Aquifer: What happens when the water runs out?* Available from: <http://www.nationalgeographic.com/magazine/2016/08/vanishing-aquifer-interactive-map/> [Accessed: Feb 16 2017]

The goals of the Texas Groundwater Conservations Districts which must have an approved groundwater management plan are as follows: provide the most efficient use of groundwater; control and prevent waste of groundwater; control and prevent subsidence; address conjunctive surface water management issues; address natural resource issues that impact the use and availability of groundwater, and which are impacted by the use of groundwater; address drought conditions; address conservation, recharge enhancement, rainwater harvesting, precipitation enhancement, and brush control; address the desired future conditions established pursuant to the Texas Water Code.”

Groundwater Conservation District and Groundwater Management Plan FAQs.

Available from: <http://www.twdb.texas.gov/groundwater/faq/index.asp> [Accessed Mar 10 2017]

The Oklahoma Ogallala Aquifer Initiative (OAI) seeks to positively affect water conservation and conservation systems. These systems include converting from irrigated to dryland farming and conservation practices that improve irrigation water management; crop residue and tillage management; nutrient and pesticide management, and grazing systems; and playa wetland restorations. The targeted area includes places where great amounts of water are consumed.

Ogallala Aquifer Initiative. Available from:

https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ok/programs/financial/equip/?cid=nrcs142p2_000437 [Accessed Sep 10 2017]

Q: Are you aware that President Trump is cutting water project funding by 30%?

A: *Yes, we are aware that President Trump is cutting Environment Protection Agency (EPA) funding by 31%. However, the Bureau of Reclamation (BOR) funding was not cut, and this entity is the major source of funding for water projects across the nation.*

Q: There are people from south of town who are moving to town for water, which increases water demand. More people are also hauling water from the city, loading at least 500-gallon tanks twice a week. How many homes are there without water?

A: *Based on the initial research that Adrian Chavez and Josefita Griego conducted and shared with the Water Policy Advisory Committee, approximately 40 homes were without water south of Clovis. Our understanding is that number is increasing. In August 2016, National Geographic Magazine did an article that featured Clovis, NM, bringing attention to one family well that had run dry along with the “wells of some 30 other families on the outskirts of Clovis, New Mexico. . . .” Likewise, Elida farmers whose wells had also dried up were highlighted.*

What Happens to the U.S. Midwest When the Water's Gone? Available from: <http://www.nationalgeographic.com/magazine/2016/08/vanishing-midwest-ogallala-aquifer-drought/> [Accessed Sep 16 2016]

Q: What is happening about homes that are actually dry?

A: *Curry County is in negotiations to run a water line from CR K and Kimberly south two miles and then back a mile into the new Curry County road department at CR 6. The water line will not run in front of everyone's home, but it will get water closer and people will be able to tie into it and install a meter. The water line provides potable water from EPCOR by running the line from CR 6 almost to Prince Street. The reason for this construction is because Curry County is building a new road barn to house some electronic equipment built in the last 2-3 years, and there is not room at the Curry County barn to store it.*

Q: How long will it take to construct the line?

A: *Curry County has acquired the land and is in negotiations with EPCOR. We cannot predict at this time how long it will take to construct the line.*

Q: Will EPCOR pay for the infrastructure to bringing water to the Alpaca farm?

A: *No. There are grants available through USDA to assist with the infrastructure. The Curry County Commission met with the USDA. At that time, we learned that Curry County Water Co-op does not have the management history to sign off and so it will have to be done a different way. In order to qualify and apply for the grants, the co-op will need someone to sign for them.*

Q: Will Curry County keep citizens informed, as they would like to know what is happening because they have lost hope south of town?

A: *Yes. Curry County will keep citizens informed of the progress being made as this construction begins.*

Q: Are the farmers going to convert to dry land farming?

A: *Clovis and Curry County are not considering stepping away from agriculture. Agriculture has been the bedrock of our community and the regional economy for more than a century and is an integral part of the customs and culture of Curry County. Farmers and their related businesses, as major food producers, make up 70% of our economic base. In addition, they have contributed greatly to Clovis and Curry County to enhance our economic progress and our quality of life. We believe farmers have an important voice in conservation efforts, and we plan to seek their help and their ideas as we move forward. Several farmers have already converted to dry land farming, and many are making significant efforts to conserve water. Some farmers have*

either converted to cattle or considered converting from irrigated farming to raising cattle. Ag producers are vital to our area, and we must be respectful of their private property rights. We must work with agricultural institutions, companies, and researchers to provide information to landowners regarding available programs and proven conservation practices where data is already available. We intend to work with local, state, and federal agencies to assist landowners interested in changing their land management practices to conserve more water. We believe the Conservation Districts, NMSU Ag Science Center, and Natural Resources Conservation Service (NRCS) will be great resources for this, and we hope to include them in any of our future discussions

Q: What assurances are coming from EPCOR in regards to water, what are they doing right now, and is there support from them to make sure we do not run out of water in five years?

A: EPCOR has ample water at this time to meet the needs of the Clovis community. Clovis is not in danger of running out of domestic water in five years, ten years, or even 20 years. EPCOR has undertaken several successful conservation efforts, which they have communicated via monthly billing and the Internet. They have distributed free water conservation kits that include retrofit and audit kits. The retrofit kit includes low-flow bathroom and kitchen aerators, low-flow showerhead and outdoor hose nozzle, plumber's tape, a landscape-watering card, and instructions on how to install each item. The audit kits include toilet dye tablets, a drip gauge, a meter flow bag, a conservation tip wheel, a landscape-watering card, and instructions. EPCOR also provides five conservation guides for consumers to download from their website: kitchen; bathroom; laundry room; pools, spas, and water features; and gardens. They have encouraged their customers to turn off the water while they brush their teeth or shave, shorten the length of showers, install low flow toilets, transition gardens and yards to xeriscaping, and water yards in the early morning or late afternoon instead of the middle of the day. According to EPCOR's data, this type of voluntary conservation has already reduced the peak daily demand from 11MGD to 8MGD. They have secured more wells and are not using all their available water at the moment.

Q: What assurances are coming from the Ag industry regarding water?

A: As shared in other responses, the Ag industry is already engaging in water conservation practices, including moving from irrigated to dryland farming, converting to more drought tolerant plants, and employing enhanced irrigation technologies that significantly decrease water use. Dairies are also demonstrating a commitment to water conservation. Some examples are the use of air injection washing of the milking system vs. flood washing, reuse water, and a booster pump to wash walls and floors.

Q: If the agriculture industry fails in Curry County because of a lack of water, and the City of Clovis does not do anything to address that, will City residents still have enough water?

A: *No one is entertaining the idea that the agriculture industry is going to fail. On the contrary, our intention is that the agriculture industry continues to thrive. Our goal is to ensure that agriculture remains viable and strong in our community, as it constitutes 70% of our economic base and has provided food to our families for generations. That is why Rawling and Rinehart (2017) are recommending that we need to rethink what we are doing in current agricultural practices that are contributing to the decline of the aquifer. We must also determine what we can do together to extend the life of the Ogallala aquifer. If landowners in the paleochannel stop the pumping and lower it to 20%, it would make a significant difference. These farmers are receptive to this concept because they see the need to rethink current land management practices, so they are reconsidering crops that demand heavy water and planning to make changes. However, the paleochannel action plan is just one proposal. The Master Water Assurance Plan is a complex plan that has many facets. What we are proposing is just the beginning, and embedded in the heart of the plan resides the understanding that land and water practices have to change in eastern New Mexico. The first step to that change is sitting in the paleochannel. Recommendations in the five action plans were designed to work in tandem to ensure that agriculture continues to flourish, and city residents will still have enough water 60 years from now and perhaps beyond.*

Lifetime projections for the High Plains Aquifer in east-central New Mexico. Available from: <http://www.cityofclovis.org/wp-content/uploads/2017/08/FINAL-OFR-591-High-Plains-Aquifer-lifetime-projection-LR.pdf> [Accessed Jul 31 2017]

Q: What will happen if those outside the paleochannel choose not to change their practices? What are they doing to become more efficient to address agriculture in the new world?

A: *Kenneth Davis responded that he has 30 wells, and 25 are currently not being used. His wells are located 3 miles outside of the paleochannel. He asserted that when they shut off the paleochannel, the irrigation will be displaced to his place and water will move to his place and someone will use it. It is like stepping on a balloon; you will never get it done. He was not sure where the information comes from concerning what is being pumped each year. He confirmed that there has been a drastic reduction of water in his wells.*

He shared that all the equipment is still out there in place and still works, and they pump a little every few months – but it is all in grass now. As far as programs go, the government has some irrigation programs, and his family has participated in a number of these, but the duration is only for 3 years, and after that the farmer can pump everything they were pumping before. He was on the state engineer's 40-year-water

planning committee and wondered if some of the information the team had regarding irrigation comes from there because he believes the information from that planning committee is totally wrong. He asked Amy Ewing why it is this way, and the next meeting she was told it just has to be that way. Davis asserted that the focus and intent of the 40-year planning committee was not for planning. He also shared that he did not know many farmers that could get much water out of the ground anymore.

Davis proposed a plan that farmers would volunteer to pump their wells at 20% capacity and would receive a grant for efficient use of water. Davis has a vineyard that is all drip irrigation, and he stated that one could save a lot of water that way while making a good living on this. Davis also shared that farmers in Clovis and Curry County were dryland farming before they moved to irrigation and drilling their wells in the 50's. He believed farmers could return to dryland farming.

Blake Prather stated that he thought the process was for conservation to work with a land trust to establish values so farmers could get a tax credit to be sold on the open market to incentivize landowners from using their water. The various USDA programs they had in the past and future were also considered. Prather also discussed the proposal in Kansas and Nebraska. A safe program was done in January this year where they put 50,000 acres in a CRP type program to preserve the areas. They filled up first time with a reverse bid. They are going to pay \$138 million over the life of the 15-year contracts. Prather spoke with the person who wrote the pilot program and wondered if it would fit our area too. He also noted that Mayor Lansford went to Washington and talked with the Natural Resources Conservation Service (NRCS) representatives. Prather recommended we consider modifying the proposal to pay farmers to not pump their water.

Q: Have they gaged the interest of the farmers to participate in this program? What other things are they going to do to ensure the efficiency is there? Are they doing anything to change the mindset of the county?

A: Farmers are quite resilient, and they realize how changes in the aquifer and other natural water sources require a shift in land management practices. They are trying to find ways to make the transition to ensure their farms, which, in many cases, have been in their families for generations, continue to exist for many years to come.

Q: Is the cheese plant involved in water conservation?

A: Southwest Cheese (SWC) is using less water now than they were before their current expansion. They are doing everything they can to make the water go as far as possible. They also have a plant in Idaho, and they are very efficient in Clovis by comparison. Southwest Cheese produces four times more water than they use. They

are working to extend the use of that water. SWC had 9 irrigated circles when they broke ground 10 years ago; however, they chose to take the land out of irrigation. SWC now maintains 6 of the original 9 circles with reuse water only.

Q: Has the City placed a moratorium on high water industry? What is the plan for bringing other non-heavy water use industries in, and how will we tie into the educational institutions to insure qualified individuals to perform the work?

A: The city has not currently placed a moratorium on industries that are heavily reliant on groundwater. The Water Planning Team is recommending this moratorium be instituted. The Clovis Industrial Development Corporation (CIDC) will continue to seek to bring promising industries to Clovis, and they always partner with Clovis Community College when they are looking for certain industries that require a specially trained workforce.

Q: What is the cutoff level (financial) they are not willing to go beyond?

A: To shut off the 70 identified wells, it will cost 2.5 million in year one. Two goals could be achieved the first year. First, a one-year cessation period would buy the city time to identify funding sources needed to annually keep the wells from pumping. Water is a limited and expendable asset that many people actually own in Clovis and Curry County. Some landowners with water rights are receptive to leasing or selling their water. During this same year, the city would test the 70 pumps to determine how much water is available so they will not invest in low producing wells. That is the second goal for the first year. Get the wells shut off and allow someone to step in – EPCOR or ENMWUA or the city – whoever decides they want to acquire the water rights – to buy time to get negotiations completed. We would need to complete the pump testing and then negotiate the contracts based on the results of those tests. No financial commitments or agreements have currently been made. Only conversations regarding the viability of this plan have occurred.

September 19th, 2017

Town Hall Meeting – Kingswood United Methodist Church

The question and answer period for this town hall began with Chet Spear speaking to his personal experience when water wells are shut down. He stated that when he moved out by the base 35 years ago, he and his family had about 40 to 45 feet of water in their well. That level declined to about 12 feet of water approximately 3-4 years ago. However, since the J.L. Wall wells were shut down, their well has risen to about 20-25 feet. Another neighbor who lives adjacent to Target Sports came before the county commissioners around August 2013 and told them that her well had gone dry. Commissioner Spear recently spoke with this neighbor, and she shared that she now has water in her well but could not say how much. Another woman who lives just north

of the woman who presented to the county commissioners also had a well go dry at about the same time. Commissioner Spear spoke with her recently, and she now has water in her well. He believed shutting down the J.L. Wall wells increased the level of water where they have their co-op.

Mayor Lansford stated that approximately 10 years of water remain for viable irrigation farming at the current rate of pumping when you consider that 30 feet of saturated thickness is the breaking point for an irrigation well. Saturated thickness is the measured distance from the top of the aquifer to its base. The mayor shared that the planning team had been identifying willing sellers who were open to leasing or selling their water, and the city is not interested in a condemnation act to get water. The owner of the water right still has the opportunity to sell the water so there is a future revenue source embedded in the stacking strategy for conservation easements.

Lansford shared that in this scenario farmers would retain water for their house, livestock, etc. but not for irrigation. He stated that water ownership constitutes an asset being surrendered. Tax credits are applied at the federal level, and the state provides a tax deduction. In addition, when one elects to do a conservation easement, true property valuations must be determined, and that is expensive. Land and water owners have to ensure the taxpayer that they are not getting tax reductions for unreal assets. This approach provides protections for taxpayers so that they are not paying someone 3-4 times the value of their land or water asset.

Q: Did you or will you be speaking with NM State Agriculture about approaching the farmers to go to dryland farming? If so, would there be any incentives to the farmers for dryland crops?

A: Farmers have an important voice in conservation efforts, and we are seeking their help and their ideas as we move forward. Several farmers have already converted to dry land farming, and many are making efforts to conserve water. Some farmers have either converted to cattle or considered converting from irrigated farming to raising cattle. Agriculture producers are vital to our area. We must work with landowners to develop transitional plans for moving from irrigated farm practices to alternative land management practices and work with applicable state and federal government agencies, including the New Mexico Department of Agriculture (NMDA), to assist landowners in the transition process. We also intend to draw from the expertise of conservation districts on how we can conserve water by working together.

Representative Crowder stated that he is struggling with the water assurance plan. He shared that he had done some research and had a lot of questions. He heard that the team read several documents and knows they have read HB 15. However, he wanted to know if the following had been considered.

Q: Has the team read documents that regulate federal dollars and what you can and cannot spend those dollars on? Have you considered the dollars received by the water utility authority from the state?

A: We have read the documents that regulate federal dollars and what they can be spent on, and we are still researching the possibility of redirecting some funding for securing a water supply at the state level. We do know that the Water Trust Board allocates funding for capital. Federal dollars are also allocated for capital, not for buying water rights, etc. For that reason, if we are going to purchase or lease water rights, we may need to come up with extra funding locally.

Q: Has the team reviewed the ¼% for the tax for the ENMWUA? Has the water planning team reviewed the election resolution for this tax stating what it could be used for and the question on the ballot?

A: Yes on both counts. However, the Water Planning Team did not consider using the funds in this dedicated account for purchasing water. To ensure the public is aware of the ¼% tax they are being assessed for the ENMWUA Ute Reservoir Pipeline Project, the language in the election resolution and the question on the ballot is as follows:

Election resolution: Shall Ordinance No. 1953-2011, an Ordinance Adopting a Municipal Gross Receipts Tax equal to one-fourth of one percent (1/4%) of the gross receipts reported or required to be reported in the City of Clovis, for the only purpose of financing the City of Clovis obligation to the Eastern New Mexico Water Utility Authority for the development, planning, financing, construction, operation, and payment of bonds for the Ute Reservoir Pipeline Project, and having delayed repeal of ten (10) years, be approved in the City of Clovis?

Question on the Ballot: Shall the City of Clovis impose a one-quarter of one percent municipal gross receipts tax on any person engaging in business in the municipality in accordance with City Ordinance 1953-2011 for ten years to be dedicated only for the purpose of financing the City of Clovis obligation to the Eastern New Mexico Water Utility Authority for the development, planning, financing, construction, operation, and payment of bonds for the Ute Reservoir Pipeline Project?

Q: Have you looked at the water service franchise between the city and EPCOR Water?

A: Yes. Mr. Richards also shared the New Mexico statute outlining EPCOR's responsibility to provide water pursuant to the terms of the Public Utility Act, as administered by the Public Regulation Commission.

Q: Regarding Playa Lakes Joint Venture (PLJV), has your team looked at the literature on recharge rates for the high plains aquifer and what the Bureau of Reclamation (BOR) says about it?

A: Yes, and we have looked at the science behind that literature as well as other recent research that supports the United States Geological Survey 2009 study done by Gurdak and Roe. We have included the following data in another response to specific questions on recharge rates.

“Playa experts agree that playas recharge the aquifer at the rates described in the 2009 USGS Circular: Recharge Rates and Chemistry Beneath Playas Literature Review (USGS recharge report; <http://pubs.usgs.gov/circ/1333/>), which gathered and reviewed all the scientific literature about recharge to the High Plains Aquifer. As described in the report, recharge rates beneath playas vary considerably — from almost nothing to 10 inches per year. According to the scientists at the Playa Recharge Summit, an average of three inches per year can be used to estimate recharge through playas across the region. That’s three inches of water the size of the playa moving toward the aquifer each year. While this may not seem like much, the recharge rate through playas is 10 to 100 times more than in upland areas. And when you do the math, it adds up to quite a lot. For instance, a four-acre playa, which is a very small one, sends an acre-foot of water toward the aquifer each year. That’s 325,851 gallons of water, more than enough to supply a couple of families for a year.”

Recharge Rates and Chemistry Beneath the High Plains Aquifer—A Literature Review and Synthesis. Available from:

https://drive.google.com/file/d/0B_ue3oueePPDbTdqUW5wNnpUSDA/view [Accessed Mar 10 2017]

Q: Has your team reviewed Curry County’s one ordinance and two resolutions using environmental tax component? Passed in 2014 and 2016 supporting environmental conservation issues.

A: No.

Q: Did Don D’Amour meet with or provide written testimony to the Strategic Planning Task Force?

A: *Commissioner Clayton met with Don D’Amour and held conversations with him via telephone. Mr. D’Amour did not want to present to the Task Force or provide written testimony.*

Q: Why are you tying the City of Clovis subcommittee to HB15, a document relating to the creation of the ENMWUA?

A: *You cannot disconnect the City of Clovis from the ENMWUA, as Clovis is the lead community and key financial contributor to this group while also occupying 3 out of 7 seats on the ENMWUA Board. What affects the ENMWUA affects Clovis and its remaining six members. It is inherent upon the City of Clovis and the other six members of the ENMWUA to understand how HB 15 impacts them personally as communities since several communities are relying on the Ute Water Pipeline to provide their sustainable water supply in the near future. In addition, infrastructure is what the ENMWUA has focused on since its inception with the majority of funds received being invested in engineering plans. We realized as a Water Strategic Planning team that the pipeline is the long-term solution for a sustainable water supply, but it cannot stand alone as the sole solution. We also need to secure adequate groundwater supplies to meet future needs until the pipeline is completed and to meet future water needs in times of drought when the reservoir is too low to pump. ENMWUA must secure the*

water needed to move through the infrastructure they construct. HB 15 states they are authorized to do this by whatever means necessary, and this includes securing water through leasing or purchase. This is really a timing issue because the Ute Water Pipeline will not be completed soon enough to address water supply demands.

Rep. Crowder also shared his concern that the proposed plan appears to be comingling with the ENMWUA. He referenced page 6 of the plan as the only entities able to make changes to the plan being ENMWUA members, and the Curry County body has no say so.

A: Given the feedback we have received from some people regarding their concerns that the ENMWUA was included in the plan, as well as the Ute Reservoir Pipeline Project, we will be considering the removal of all references to this entity and the pipeline during our first public meeting to make needed revisions to the water assurance plan as it is highly probable that the completion of the Ute Pipeline will fall well beyond the 40-year threshold of the plan.

Q: Why not just require EPCOR to provide a 40-year water plan? There is a contract made and benefits on both sides. The franchise agreement with EPCOR says EPCOR shall furnish inhabitants water to meet requirements. City receives 2%, and EPCOR has to do what they agreed to do. Let the free market do the paleochannel, and let EPCOR lease water. EPCOR has more water than they need right now. It may be 10 years before they need water. Why not let EPCOR do this and provide a guarantee in a 40-year water plan? Why tax Clovis' citizens more?

A: Our franchise agreement with EPCOR does say that EPCOR shall provide water to the City of Clovis and have a 40-year water plan. However, if a private sector solution works, why should we support the Ute water project at all? How do you reconcile support for the Ute project if a private sector solution is the answer?

EPCOR did not voice an interest in purchasing more water since, as you shared, they have more water than they need right now. EPCOR is in need of more infrastructure so they are investing their dollars in that direction at this time. They can pass the cost of infrastructure on to the consumer. As indicated, EPCOR may not need water for 10 more years, and according to the Public Regulation Commission, they can only pass on the cost of investing in water when they are delivering it to their customers. EPCOR does not have the capacity to pass on the cost of banking water for the future; they are unable to recover their financial investment until they actually begin delivering water from the paleochannel. You should understand that whoever purchases or leases the water in the paleochannel will recover those costs once water is pumped and delivered to the end user. So, do we risk losing the paleochannel water by leaving it untouched for 10 years while the landowners continue to pump the wells at the current rate for irrigation purposes?

Q: Why did the Task Force not do it through the ENMWUA then?

A: We did not do it through the ENMWUA because they were only interested in infrastructure.

Q: It seems unfair that we are taxing the citizens of Clovis and passing the benefit of taxing this group of citizens to help everyone else. Will the City of Clovis just give it to everyone else? Will they offer ownerships to every member of the authority?

A: When we first started learning about easements we wanted to know if they were transferable to the ENMWUA. HB 15 allows for water rights to be transferred from a member to the ENMWUA. We would suppose that whoever secures the water in the paleo will want to recover their investment and be able to use those revenues to acquire additional water resources or build water infrastructure; any profits will be available to reinvest for the benefit of the citizens and taxpayers.

The City of Clovis also represents Cannon AFB, that is, what is in the best interest of CAFB. The City controls their reservation rights, so it has an obligation to represent Cannon AFB too. We determined to take pressure off of them as demonstrated by the Wall property.

Statement: If the city does this, they will artificially stimulate the cost of water. EPCOR should be paying for wet water. NM American lost big time on Oppliger because you cannot quantify water rights. The only fair method for the taxpayers is if they pay x amount of money for x amount of water. They ought to allow EPCOR to deal with the farmers on the water so they can look elsewhere. Let free enterprise do it and not government. If they withhold water, then the price will go up.

A: When New Mexico American purchased the water from Oppliger they did not require the seller to stop pumping the wells. Oppliger continued to farm and irrigate the property for several years until the water company needed the water. It is reported that the wells in that area were dropping at a rate of 5 feet per year when the water was purchased. Also, that area was being heavily developed for dairies and the competition for the water between the ag producers and the water company further increased the withdrawal rate. The bottom line is New Mexico American did not stop the pumping when they acquired the water, they did not exercise due diligence, and they made a poor decision in purchasing this water. The Clovis Water Assurance Plan seeks to stop the pumping of water immediately and complete the due diligence in the next year before a contract is entered into with the landowners. EPCOR has only been willing to lease water from landowners as the water is pumped at \$0.95 per thousand gallons. Most of the wells they are leasing are dormant and now being put back into production further increasing the drawdown on the Ogallala aquifer. EPCOR has not been dealing with the farmers and does not appear to be interested in doing so in the future. They have had a broker approaching property owners on wells as they are leasing water.

Statement: Rep. Crowder stated that he was not seeing a lot in the document on aquifer storage and recovery. He also noted that he did not see a real drive to run water through the effluent pipeline and reinject it. He shared that Dallas reclaims and

reuses all their water. Phoenix is doing it and San Diego will be producing 83 million gallons a day by 2035. The effluent system will shut itself off and only takes one parameter. Store the water through the winter. He hoped we would focus on that.

A: Our committee determined early on that the aquifer storage and recovery was not feasible given the amount of wastewater available from the wastewater treatment plant. That source of water was basically 1 to 1 with the amount of water required for the water reuse system being proposed in the water assurance plan. Why would we want to pump water into the ground that can be used to water landscapes, parks, ballfields, and golf courses? The reclaimed wastewater can also be used as a source to offer businesses and industry to provide economic benefits to the area, generating a revenue stream that can help pay for groundwater and water infrastructure. We need to leave the reclaimed wastewater on top of the ground for landscapes and industry, save the pristine groundwater for human consumption, and avoid the risk of contaminating the pristine groundwater by injecting reclaimed wastewater into the drinking water basin we are presently using.

Wastewater: A New Frontier for Water Recycling. Available from: <https://www.newsdeeply.com/water/articles/2016/09/20/wastewater-a-new-frontier-for-water-recycling> [Accessed Oct 12 2016]

Q: The city needs to retain total ownership of its playas.

A: We agree that the city should retain total ownership of its playas. The proposal to inject reclaimed surface water from playas into our drinking water source is once again dependent on climate and rainfall and will vary from year to year. Reclaimed water will be limited and vary considerably. The cost and the maintenance of equipment to deliver the water from the playas make this option cost prohibitive, as most pumps are made for continuous constant flows not shut down and start up variations. As mentioned before, the risk of contamination to our drinking water source could involve liability and create risks that are beyond acceptable, will be expensive, and will draw significant protests from water users. This proposal will not meet our water needs and once again requires an engineering solution. Presently over 50% of the \$50 million spent on the Ute pipeline was paid to engineering firms. Our committee believes it is time to use practical solutions to cure our water woes rather than spend all of our resources on engineers as we have done in the past.

Statement: Rep. Crowder stated that he did not have a lot of confidence in Playa Lakes Joint Venture.

A: Playa Lakes Joint Venture is the leading non-profit in the United States on playa lakes. They have worked with numerous federal government agencies in drafting policy and delivering the message as related to the recharge and multiple benefits of playas. They are well recognized in the conservation circles as a leader in playa policy and creating policy and partnerships with government and private industry with the intent of restoring and reclaiming playas. Rep. Crowder's questions and analysis of Playa recharge appear to indicate that he was selective in the data he quoted, as his data was

taken in 2001, and he failed to add up all the recharge over a period of time reflected in that data. Additional data is available that shows recharge from playas to range from 0 to 10 inches. The US Geological Society Circular: Recharge Rates and Chemistry Beneath Playas Literature Review arrives at a consensus among geologists and scientists that average recharge from playa lakes is 3 inches annually, considerably higher than what was stated by Rep. Crowder.

Statement: Rep. Crowder shared that what has caused him to be hard-nosed about playa recharge are reports from Parker & Others, 2001. He said the report showed that there are 10.78 inches in minute one and .05 inches by minute sixty so there is not a lot of water going in. Recharge estimates from BOR for southern high plains regionally – not just playas – is 0.9 inches of recharge. In a playa, you get 1 inch – 1/10th of 1 inch between the region and the playa. In a 1974 study, called Lansford regional study, they were getting 0.39 inches a year of recharge. Wooden Ostercamp in 1987 reported regional recharge of 1.97 and 1.57 on the Animas (rangeland). So, we need to concentrate the city's dollars and efforts on reclamation.

A: Commissioner Thornton noted that restoring playas in the paleochannel wouldn't cost anything, so no city dollars are going to restoration. We will have in-kind matching dollars available to complete this project. He also stated that the city can utilize the infrastructure ENMWUA is building with the first phase of an interim pipeline in the next 6-8 months as in-kind matching contributions as well.

Given that it comes at no cost to the city, why would we want to lose even one drop of water toward aquifer recharge? The Parker et al. 2001 paper that Rep. Crowder cites (see link below), describes the dynamics of the clay soils as others have described them. When they are dry, there are large macropores, and when the soils are saturated the macropores seal. Also, when the macropores are open there is a large amount of water infiltrating and less water infiltrates when the pores are sealed. Rep. Crowder is concerned that after 60 minutes the infiltration rate declined to 0.09 - 0.12 cm/hr (from Table 4) and that seems like a miniscule amount of water infiltrating the soil and potentially entering the aquifer. However, this is a rate. And, if you assume that the playa is wet for 24 hours and the rate is steady at 0.09 - 0.12 cm/hr that is 2.16 - 2.88 cm/day (21.6 - 28.8 mm/day) of water infiltrating the soil and making its way to the aquifer. If we assume that playas are wet for 30 days per year, that yields 64.8 - 86.4 cm/year (648 - 864 mm/year; ~25 - 34 inches/year). The Gurdak and Roe (2009) literature review provides a range of <1 mm - >500 mm per year (500 mm = ~ 20 inches). So, the studies seem to be on the same scale of recharge (not knowing how many days other studies have assumed playas to be wet). Often when considering the literature that is out there, many numbers get cited so we need to make sure that we are comparing numbers on the same scale (e.g., apples to apples). - Anne Bartuszevige, PLJV

Recharge Rates and Chemistry Beneath the High Plains Aquifer—A Literature Review and Synthesis. Available from:

https://drive.google.com/file/d/0B_ue3oueePPDbTdqUW5wNnpUSDA/view [Accessed Mar 10 2017]

Q: Dennis Chavez does not infiltrate; they pump it out because it will not go down. Water infiltrates a little but seals off. When they used a basin infiltrameter to measure it, recharge was 0.37 by the end of the day. Lots of studies say good infiltration should occur immediately – phases 1, 2 and 3. Wouldn't we be better off to put this water through a sewer line and treat it for reuse water? We shouldn't let it drift to Texas.

A: *We do not know how the Dennis Chavez playa was potentially manipulated to hold water continuously. Dennis Chavez is being used for stormwater management. This playa lays in a heavy residential area that has a significant watershed as the natural watershed has been expanded due to residential growth, and the water diverted to the playa is several times that of a natural watershed. You cannot compare this playa to a properly functioning playa. This playa has intentionally been changed to meet the needs of a stormwater basin, not a properly restored playa.*

In regards to the "drift off to Texas" concern, water in the aquifer moves at very slow rates, about 1 mile per ten years. So, water recharging through playas is going to be in the Clovis area for many years and available for use by the city.

Statement: The needs of Ducks Unlimited are different than the City of Clovis for its playas. The City of Clovis has a greater need and a different goal.

A: *It remains to be seen if the City of Clovis will partner with Ducks Unlimited on its city playas. At this time, we have been considering stormwater management for the city playas. We know we would need an engineering methodology to divert stormwater into those.*

With that being said, we believe two goals could be accomplished with one playa restoration. Restoring playas to hold water for the city's recharge goals will provide roosting habitat for migrating and wintering waterfowl. The city needs playas closer to town to capture stormwater, but, these playas will still provide some habitat for waterfowl (the ideal, best habitat? Probably not, but they will provide some refuge and food resources). Accomplishing one goal for the city's water plan will not impede PLJV or Ducks Unlimited goals for providing waterfowl habitat. In fact, having working playas close to town for people to visit and see waterfowl might ultimately help us through educating and exposing more people to all the benefits of wetlands. It's a win-win.

In addition, the following research seems to support that playa lakes do recharge the aquifer, albeit slowly.

Gurdak and Roe (2009) stated that "playa experts agree that playas recharge the aquifer at the rates described in the 2009 USGS Circular: Recharge Rates and Chemistry Beneath Playas Literature Review (USGS recharge report; <http://pubs.usgs.gov/circ/1333/>), which gathered and reviewed all the scientific literature about recharge to the High Plains Aquifer. As described in the report, recharge rates beneath playas vary considerably — from almost nothing to 10 inches per year. According to the scientists at the Playa Recharge Summit, an average of three inches per year can be used to estimate recharge through playas across the region. That's

three inches of water the size of the playa moving toward the aquifer each year. While this may not seem like much, the recharge rate through playas is 10 to 100 times more than in upland areas. And when you do the math, it adds up to quite a lot. For instance, a four-acre playa, which is a very small one, sends an acre-foot of water toward the aquifer each year. That's 325,851 gallons of water, more than enough to supply a couple of families for a year."

Recharge Rates and Chemistry Beneath the High Plains Aquifer—A Literature Review and Synthesis. Available from:

https://drive.google.com/file/d/0B_ue3oueePPDbTdqUW5wNnpUSDA/view [Accessed Mar 10 2017]

In general, water recharging today through playas will be available for our children and/or grandchildren. The time it takes for recharge to reach the aquifer and be available for extraction varies depending on depth to the aquifer formation and underlying soil type. If it is shallow, water will recharge in months to years. If the depth is approximately 100 feet, it will take years to decades. If the depth is approximately 200 feet, water will recharge in decades. At the deepest locations, recharge could take a century to reach the aquifer.

Texas Parks and Wildlife also considered current research emerging on aquifer recharge. "Once the subject of much debate, mounting evidence points to playa lakes as a critical recharge source for the Ogallala aquifer. Playas filter and recharge as much as 95 percent of the water collected in the southern portion of the aquifer. Recharge occurs both through playa basins and along the perimeter (or annual rings) of playas. Recharge occurring through playa basins flows downward through large cracks in the clay lining. These cracks eventually swell shut and become impermeable as the clay absorbs water following a rain. Recharge occurring along playa perimeters takes place after rainfall events leave flood-water standing outside the clay-lined basins. Because of their role in recharging the Ogallala, the conservation of playas is as important to humans as it is to wildlife."

Texas Parks & Wildlife: Panhandle Playa Lakes. Available from:

https://tpwd.texas.gov/landwater/land/habitats/high_plains/wetlands/playa.phtml [accessed Mar 20 2017]

Statement: Rep Crowder shared that EPCOR is looking at doing a recharge system. He also stated that he was saddened and disappointed that the team locked in on the paleochannel as a water supply source when the city owns 3,000 acre feet of water at Ned Houk Park at Running Water Draw according to D'Amour (on the north border).

A: Contact was made directly with Don D'Amour following this assertion. D'Amour denied ever stating that the city owns 3,000 acre feet of water at Ned Houk Park. Furthermore, owning a permit for 3,000 acre feet of water does not constitute 3,000 acre feet of wet water. Paper rights need to be supported by actual water. D'Amour also stated that he met with EPCOR engineers approximately three years ago to determine if Ned Houk Park, among other possible sites, would be a good location for them to secure a water supply. The final decision was to forego the Ned Houk Park water.

Statement: We are going to run out of agricultural water and not domestic water.

A: No one denies this to be the case. We have stated throughout our town hall presentations that if the current picture remains unaltered it is agricultural water that we will run out of first and that some ag wells have already fallen below the 30-foot threshold so that some landowners are unable to irrigate. Other landowners using irrigation for their crops, according to the Rawling & Rinehart study (2017), have approximately up to 10 years of water remaining if the current picture remains unaltered. Rawling & Rinehart did not take into consideration that when ag wells hit the 30-foot threshold that property owners would size down their pumps to drill supplemental wells to meet their water supply needs, drilling 10-15 additional wells to acquire the same amount of water they acquired with one well in the 1940s to 1960s. The State Engineer has continued to issue permits to drill supplemental wells, and the 30-foot threshold is not stopping landowners from continuing to irrigate. If landowners continue to drill supplemental wells, sizing smaller pumps to fit available water in the wells, the aquifer will be completely depleted with no water remaining for domestic purposes. Some landowners have gone as far as using 10-15 supplemental irrigation wells to pressure up one irrigation sprinkler that was formerly pressured up by one irrigation well.

Q: Why not ask EPCOR for a 40-year plan?

A: EPCOR's 40-year plan already exists and it includes the Ute Water Pipeline project coming to fruition. EPCOR has also said they were not interested in purchasing or leasing more water at this time; they are interested in purchasing infrastructure.

Statement: EPCOR has a contractual obligation to provide what is supplied.

A: EPCOR has plenty of water right now. They do not have a contractual obligation to buy the paleochannel water or any other water beyond what they are showing meets their agreement with the City of Clovis and their 40-year plan. They do not see the same sense of urgency and making sure the water is still available down the line.

Statement: Have Dave Richards ask them to do a 40-year water plan in 100 days. All they need to do is ask them.

A: EPCOR already created a 40-year water plan.

An engineer from CAFB stated that there is forward thinking in what the City of Clovis is doing. She said, "Don't depend on one source. If we have the ability [to do this] or later ask EPCOR to join in they could do that as well. Why send the train down one track?"