



**City of Broken Arrow**  
**Minutes**  
**Broken Arrow Municipal Authority**

City Hall  
220 S 1st Street  
Broken Arrow OK  
74012

*Chairperson Craig Thurmond  
Vice Chair Richard Carter  
Trustee Mike Lester  
Trustee Johnnie Parks  
Trustee Scott Eudey*

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**Tuesday, May 3, 2016**

**Council Chambers**

**1. Call to Order**

Chairman Craig Thurmond called the meeting to order at approximately 8:05 p.m.

**2. Roll Call**

**Present: 5 -** Scott Eudey, Johnnie Parks, Mike Lester, Richard Carter, Craig Thurmond

**3. Consideration of Consent Agenda**

Chairman Thurmond asked if there were any items to remove from the Consent Agenda. There being none, he asked for a motion.

**MOTION:** A motion was made by Mike Lester, seconded by Scott Eudey.

**Move to approve the Consent Agenda as presented**

The motion carried by the following vote:

**Aye: 5 -** Scott Eudey, Johnnie Parks, Mike Lester, Richard Carter and Craig Thurmond

- A. 16-478** **Approval of Broken Arrow Municipal Authority Meeting Minutes of April 19, 2016**
- B. 16-467** **Approval and authorization to execute an Agreement for Professional Consultant Services with Professional Engineering Consultants, P.A., for Design of County Line Trunk Sewer Improvements from Jasper Street to Washington Street (Project No. S.1609)**
- C. 16-466** **Approval and authorization to execute a Agreement for Professional Consultant Services with RJN Group, Inc., for Design of Hailey Creek Interceptor Phase 1 Improvements (Project No. S.1605)**
- D. 16-462** **Approval and authorization to purchase an excavator from GW VanKepple pursuant to the Oklahoma Statewide Construction Equipment Contract for the Stormwater Division of the Streets and Stormwater Department**
- E. 16-500** **Approval of the Broken Arrow Municipal Authority Claims List for May 03, 2016**

**4. Consideration of Items Removed from Consent Agenda**

There were no items removed from the Consent Agenda. No action was required or taken.

**5. Public Hearings, Appeals, Presentations, Recognitions, Awards**

- A. 16-505** **Progress update of construction for the emergency installation of sanitary sewer line required to repair a break in the County Line Trunk Sewer (Project No. S.1609)**

Tim Robins, Construction Division Manager for the City of Broken Arrow, gave an update on the construction at the County Line Road and 101<sup>st</sup> Street to correct sewer damage that occurred on April 21<sup>st</sup>. The project location was on west side of the intersection at 101<sup>st</sup> and County Line Road. Mr. Robins showed a photo of a collapsed manhole at the northwest corner of the intersection. Mr. Robins recalled that it was determined that there was a significant impasse at the 36-inch line, on the trunk sewer. Following the emergency meeting of the City Council, Resolution 918 was enacted and an emergency clause put in place. A contract was immediately executed with McGuire Brothers Construction to repair the line. Broken Arrow Construction staff were able to put in place a plan on how to proceed on the fly at the site. Within the scope of the construction process, they had the construction company install and maintain a bypass procedure and perform excavation to remove the sanitary sewer line from underneath the 101<sup>st</sup> Street section of the intersection going south, on the west side. Chairman Thurmond asked if the line had collapsed. Mr. Robins replied that the line was roughly 25 feet deep. When excavation began, they were unable to determine if the line was completely intact. By the time they reached the pipe it was, in fact, collapsing. There was significant structural decay in the line, as anticipated, but he could not speak for the integrity of the line. The evidence of the soil in the intersection led them to believe that the manhole itself had been compromised. The contractor was removing both the north and south immediate manholes at the intersection, and replacing the line underneath the road with a wider, 48-inch HOBAS fiberglass pipe. The contractor would be bringing the fill all the way up to the bottom sub grade of pavement, and City crews would then place an asphalt patch over the section of roadway. With regard to bypass pumps, they had three lines going into the collapsed manhole, where all of the manholes converged. They had to fall back on the previous manholes and pump to a manhole north of the collapsed manhole, and then install a bypass pump to a southern manhole beyond the intersection. The Friday and Saturday after the special City Council meeting, they were able to implement the bypass pumping and just barely start it. On Monday and Tuesday of the following week they were able to start construction. Installation of the southern manhole on Thursday and proceeded with the installation of the upstream line on Friday and Saturday. They were able to install 60 feet of the 48-inch HOBAS line upstream between Friday and Saturday and they backfilled to where they didn't have hazardous conditions in the intersection through the weekend. On Monday, May 2<sup>nd</sup>, they continued laying the line and excavated further towards the north, excavating the damaged northern manhole, and placing their manhole sections. Mr. Robins showed photos on the screen of the doghouse-type manhole they used which allowed them to connect into the existing lines. The contractor was able to patch in the lines and provide a good flow path for them. The 10-inch line from the west was to be installed by the end of the day. Completion of the installation of the remaining section 48-inch line into the manhole was expected to take place the following day, and by Wednesday evening the flow would be reestablished into the line. They hoped they could end the bypass pumping and demobilize the pumps the following day. On Thursday through Saturday, the contractor would finish installing the backfill aggregate up to sub grade and they would also be finishing the remaining portions of the manhole. They had to bring up deep 8 foot sections in the base. They would be bringing up 4-foot sections to the surface. Monday and Tuesday, they anticipated, would be a clean-up day as the contractor demobilized. Then the City crew was expected to work Tuesday through Friday, patching the asphalt for the roadway section, installing the curb and gutter around the southern and northern sections that had to be torn out, finishing the grading, and doing striping. They expected about 2 1/2 days of lead time, and weather permitting, they would be able to open the roadway for traffic by Friday, May 13<sup>th</sup>.

Trustee Parks asked whether both manholes that had to be replaced were collapsed. Mr. Robins replied that the southern manhole didn't appear to have any structural damage, the northern section of the line was intact but they noticed debris and soil in the manhole. The collapse in the line was estimated to be mid-span of the roadway to the north. The northern

section did exhibit some collapse and they were unable to retrieve any full sections of the manhole.

Trustee Lester asked if the depth of the line was what they had expected. Mr. Robins answered that it was consistent with the plan sets developed in 1988, which he was able to pull from the archives, and with the topography of the area.

## **B. 16-506**

### **Presentation and discussion on the status of the City of Broken Arrow and Broken Arrow Municipal Authority's Water and Wastewater Utility Infrastructure**

Kenneth Schwab, Assistant City Manager of Operations, reported that the previous Tuesday the Chairman and he had sat in on a Senate budget hearing relating to the U.S. Senate Environment and Public Works (EPW) Committee. *He learned that cities and local governments across the country were facing issues in connection with aging infrastructure, environmental impacts, deferred maintenance, escalating costs, increasing utility rates and more stringent regulations in conjunction with emerging technologies. The question was how they, as an Authority, could address these and, with aging infrastructure, how could they balance these.*

*Mr. Schwab wished to turn their attention to what was in the ground: the water system, the sanitary sewer system. Population had a direct correlation with those collection and distribution systems and Broken Arrow had seen astronomical population growth in the last 50 years. Significantly, in the 1950s, Highway 51 bypassed downtown Broken Arrow. Typically, when a highway bypassed a town, the town would cease to grow but that was not the case with Broken Arrow. In May 1965, Broken Arrow Expressway bypassed the Kenosha corridor, picking up from 71<sup>st</sup> going into downtown. Broken Arrow continued to grow and utilities along with it. In 1967, the Broken Arrow's first water treatment was built, with a capacity of 4 million gallons. Nine years later, that was expanded to 10 million gallons, which was a very large increase. In 2014 a new microfiltration system with a capacity of 20 million gallons. From 1963 to 1983, Broken Arrow saw a lot of investment on the part of the City Council members of the time, including Trustee Parks in the 1970s. Water and sewer issues were common back in the 1970s, and today those old systems were all the more vulnerable. The trunk sewer line that had collapsed in April dated back to the 1980s. With regard to wastewater treatment, the original plant was located at Detroit Street, just west of Elm Street. The Westside Plant was built in the late '50s, which served the community from 1960 to 1970. Then the City ran the Lynn Lane trunk sewer from the plant downtown to a new plant in the '70s. In 1970, a one-million-gallon-a-day wastewater treatment plant was built, that was still operational, with many upgrades having been done. In 1971, the Regional Metropolitan Utility Authority was formed for the purpose of dealing with wastewater treatment and aging creeks. By 1976 another pump station and wastewater treatment facility had sprung up. Thus, in six years, two facilities were built: one by Broken Arrow alone, one in partnership with Tulsa. Mr. Schwab stated that his point was that in those years, up to the early '80s, Broken Arrow invested a lot of money in its wastewater infrastructure, just it had done with water infrastructure.*

*With reference to utilities, Mr. Schwab said that Broken Arrow had one water treatment facility, a 20-million-gallon-a-day microfiltration plant, with finished water storage of 6 million gallons. Four high service pumps operated from the plant with an output of 20 million gallons per day. There was 10 million gallons of storage in the City's low pressure plain: four on Tiger Hill, a fifth at Battle Creek, and an elevated one on New Orleans South. There was one million gallons of storage at the First Baptist Church, for the high pressure plain. Broken Arrow had four booster pumps, three of which were dedicated to residential areas, and one direct feed which fed the high pressure plain storage. There were two supplemental water connections in place, and a proposal for a third one was on the agenda for that night. Mr. Schwab stated that collectively, 4 to 4 1/2 gallons were provided by the two connections with Tulsa. He reported that Broken Arrow had a*

*remarkable 30 lift in-system stations and they were trying to take some of them offline. In addition, there were two or three pending lift stations. In conclusion, Mr. Schwab stated that they were maintaining and making some improvements to the tanks.*

*Mr. Schwab stated that Broken Arrow wanted to be a leader in how it addressed its aging infrastructure. They wanted to be a leader, not only locally, but across the United States. They had been working on a program and were meeting with the City Manager's staff, and also with the Finance Department, with reference to a five-year Capital Improvement plan. They had worked out what Broken Arrow's needs would be over the next five years. They had to figure out what it would cost the City on an annual basis and how they were going to address the financing. They were in the process of fine-tuning the answers they had come up with, and would be presenting their recommendations to the Council in due time. It would cover water system improvements over the coming two years, 2017 and 2018. At the previous meeting, a contract with HDR Engineering was approved to study the City's different options. They were trying to get a third connection with the Tulsa Metropolitan Utility Authority (TMUA). TMUA had been helpful, understanding that Broken Arrow was trying to be proactive to ensure that their own community had safeguards in place. They were addressing another distribution issue by moving forward with the design for rehabilitation of the Kenwood Hills Booster Pump Station. With regard to transmission lines, they planned a south loop 24-inch water line running basically through the old Kirk water line district, beginning at 96<sup>th</sup> Street, continuing down to 111<sup>th</sup> Street/Florence Street, and then heading west to Elm Street, to tie into the system there. They had put in a 16-inch, two-mile water line, extending from Elm Street to Olive Street, with a couple more segments of 16-inch line planned. The projects mentioned were aimed, generally, at improving distribution on the south side of town. Finally, they were also adding to storage capacities. A 2-million-gallon water storage tower was in the works. They had located a couple of potential sites for it and were moving forward to acquire property, while continuing work on the design.*

*Mr. Schwab summarized that the projects he had mentioned were part of the program for next two years. Wastewater was a little bigger to consider because of their involvement with the Regional Metropolitan Utility Authority (RMUA), City of Tulsa. He pointed out on the screen the Hailey Creek RMUA. They had approved another proposal for improvements to the collection system on the Hailey Creek site that very night. Another proposal that had been approved that night was the design contract for County Line Trunk Sewer. It would entail several miles of HOBAS pipe, basically, from 131<sup>st</sup> Street/Aster Avenue up to Washington Street/91<sup>st</sup> Avenue. To expedite the process, they were actually designing from the plant to Jasper Street in house, with the aim of getting some of the repairs in place starting the coming winter. They did not want to wait for aging infrastructure to reach critical mass, and so they were moving forward with plans to improve it though funding would be a challenge.*

Chairman Thurmond stated that Larry Wilkinson had requested to speak on the item. Mr. Wilkinson, of 6501 South 241<sup>st</sup> East Avenue, said that he appreciated what Mr. Schwab had to say and the concerns that he and the City Council shared in addressing the issues that faced them. He stated that as their next door neighbor on Oneta Road, he was very concerned about the pump station there. He had spoken with Anthony Daniel, Director of Utilities, who informed him of plans to help with the situation and he was delighted to learn that. He stated that as a citizen of Broken Arrow for over four decades, he was very pleased with Broken Arrow and what the governing body, City Council and City staff did. He thanked them for the time and effort they put in. He was in favor of development and like Mr. Schwab, he was concerned about infrastructure. With regard to infrastructure, he knew that the question of putting infrastructure in first and then letting development come in, or allowing development first before putting in place infrastructure, was one which the Council and staff took seriously.

**Presentation by HDR Engineering regarding Lynn Lane Wastewater Treatment Plant Headworks Replacement (Project No. 165421)**

Mr. Schwab stated that Joel Cantwell, Project Manager of HDR, was there to speak and give a presentation. He recalled that back in August 2015, City staff selected HDR to examine the headworks. HDR's knowledge of the wastewater treatment facility and their proposal to address some additional, unforeseen issues put them ahead of all other candidates for the job.

Mr. Cantwell said he wished to focus on the headworks at the Lynn Lane Wastewater Treatment Plant. He would show what the existing facilities were, what the issues were with those facilities, and what alternatives HDR had looked at to improve the facility in their recommendation.

Mr. Cantwell went over the liquids treatment process at the plant. At the bottom of the screen he pointed to the way solids were handled. Headworks was defined as the preliminary steps of treatment, i.e. the physical treatment of floatables and the grit for removal. It was important to rid the water of that in order to avoid hazards downstream to the rest of the plant. The issues that arose were caused by aging and the infrastructure at the Lynn Lane Plant was over 30 years old. Moreover, it was a very corrosive environment for the equipment. The old apparatus was a really big source of odors at the plant. He pointed out one of the two screens, in the screening building, which was out of service, being at the end of its life. In addition, the screens had become very unreliable, breaking down frequently. The process to remove the grit had not worked in several years and was not ideally sized to be able to remove grit for that facility. The equipment was at the end of its life and corrosion of the electrical systems had taken place, so that they needed to be replaced. The last step in the headworks went on to the second screw pump station. It was added in the last expansion of the plant in 2008.

The big issue with the plant could be seen in the distance of a little over 400 feet from the north fence of the plant to the nearest residence. There had been numerous odor complaints from the surrounding neighborhood. In 2002, a study showed that 98% of the odors generated at the plant were coming from the headworks facilities.

Mr. Cantwell turned to the two improvement alternatives they came up with. The first, was to rehabilitate the existing systems and second was to replace those with a new, combined headworks facility. With the first option, two new screens would be inserted into the channels, a conveyer could be taken over to the right hand side where a new part of the building would be constructed to add compactors there, which would squeeze the water out and drying those out before they were sent to the dumpster. The entire building would be enclosed and an HVAC system would be put in place to ventilate it and render it less corrosive inside so that the equipment would last longer. The electrical gear would be replaced, as well. The construction cost for that would be about \$2.7 million. They proposed to install two head cells, which was a new technology for grit removal. It was much more effective in removing the finer grit that wreaked havoc with the machinery downstream. Also recommended would be two grit washers, a step above what they had currently at the plant, which washed away the odor-causing organics and grease from the grit particles before the grit reached the dumpster. They would replace electrical, HVAC, and grit pumps. The last requirement concerned the Oklahoma Department of Environmental Quality's regulation regarding creation of a buffer for wastewater plants, which stated that you could not have any process within 100 feet of the boundary. The Lynn Lane boundary was much closer than that and so to upgrade the facility, they would have to purchase some additional property on the north side. Mr. Lester asked whether it would not put the plant closer to residential property and Mr. Cantwell replied that it would, and that was why he would recommend that option. The construction cost to improve the grit facility was \$4.3 million. Nevertheless, there were still some issues with the existing

layout of the present facility, namely the proximity of residential property to the odor generating facilities of the plant. You were also pumping the sewage before screening it and today it was screened first.

The second alternative, to construct a new, combined headworks facility just to the south of where the bar screens were at present. It would combine influent pumping, screening, and grit removal into one area. The present facility would be demolished and the site cleaned up. With the new facility there would be a direct flow path into the rest of the plant and it would all be contained and kept further to the south, away from homes. The estimated construction cost of the new facility was \$9.2 million.

Mr. Cantwell confirmed to Trustee Eudey that purchase of the land with the first option would entail an additional cost. He confirmed to Trustee Lester that both options would reduce odor considerably. He added that it was his understanding that the project did not include the cost of adding a scrubber.

Aside from financial considerations, there were several advantages to building a new facility. It did move the process farther away and eliminated the screw pump stations, saving a lot of maintenance costs and greatly reducing odors. Centralizing the odor control as a self-cleaning wet well would reduce maintenance in that screening would precede pumping. Avoidance of accumulation of material in the pumps, basins, and digesters downstream was another benefit a new facility would afford. Chairman Thurmond asked if the estimate included cost for the future capacity, and Mr. Cantwell replied that yes, it did. The new facility could also be constructed while the old one stayed in operation, which was another advantage. It was HDR's recommendation that a new, combined facility be constructed.

A question was asked regarding the timeline for both options. Mr. Spurgeon stated that they would have to go to the Oklahoma Water Resources Board (OWRB) and borrow the money to come up with funding to do the project. A contract would have to be presented at the next meeting, but it would be a few years before the project were realized. Mr. Schwab stated that staff was in agreement with HDR's recommendation.

## **6. General Authority Business**

### **A. 16-498**

#### **Consideration, discussion, possible approval and authorization to execute Amendment No. 1 to the Agreement for Professional Consultant Services with HDR Engineering, Inc., for Design of Lynn Lane Wastewater Treatment Plant Headworks Replacement (Project No. 165421)**

Mr. Schwab said that the item was the proposed contract with HDR to go through the design process of a new wastewater facility. Mr. Schwab stated the contract would be for 9 months, bidding would start roughly March of next year & then start construction shortly thereafter. Trustee Eudey asked where the funds were coming from, Mr. Schwab stated that they moved funding around & contacted OWRB to ensure the design money would come from a loan by way of the OWRB. The construction funding would be a separate matter.

MOTION: A motion was made by Mike Lester, seconded by Richard Carter.

**Move to approve Amendment No. 1 to the Agreement for Professional Consultant Services with HDR Engineering, Inc., for Design of Lynn Lane Wastewater Treatment Plant Headworks Replacement, and authorize its execution**

The motion carried by the following vote:

**Aye: 5 - Scott Eudey, Johnnie Parks, Mike Lester, Richard Carter and Craig Thurmond**

**B. 16-480****Consideration, discussion, possible approval of and authorization to execute a Letter of Intent to Amend the Water Supply Agreement between the Tulsa Metropolitan Utility Authority (TMUA) and the Broken Arrow Municipal Authority**

Mr. Schwab said that the best location to enhance their system today and in the future was at Albany Street and Olive Street, or 61<sup>st</sup> Street and 129<sup>th</sup> Street on the southwest corner. This particular location is within 200 feet of a 48 inch TMUA line & we have a 24-inch line, once that was realized a meeting was set up with TMUA. Mr. Schwab explained how adding this new location would allow us to meet our peak demand. The item for consideration of approval before the Council was a letter of intent to the TMUA stating that they wanted a third location and that that was the location. Trustee Lester clarified the location before the motion.

**MOTION:** A motion was made by Johnnie Parks, seconded by Richard Carter.

**Move to approve the Letter of Intent to amend the Water Supply Agreement with TMUA**

The motion carried by the following vote:

**Aye: 5 -**

Scott Eudey, Johnnie Parks, Mike Lester, Richard Carter and Craig Thurmond

**C. 16-457****Consideration, discussion and possible approval of the refuse and recycling survey instrument questions developed by Gershman, Brickner & Bratton, Inc. and Shepard Research and authorization to begin the survey**

Lee Zirk, General Service Director, stated that the item was in connection with a refuse survey that the Authority approved in January. In March Gershman, Brickner & Bratton and Shepard Research came to Broken Arrow and met with staff members, as well as members of Keep Broken Arrow Beautiful, Broken Arrow Seniors, the Metropolitan Environmental Trust (M.e.t.), and the Broken Arrow Chamber of Commerce, to devise the survey questions. The Council had received a copy of the questions. Staff was recommending approval of the refuse survey questions and authorization to begin the survey.

Mr. Spurgeon wished the public to know, prior to taking the survey, that it had been commissioned by the City Council, and that the City appreciated that they took the time to give the City their feedback. He was very pleased with the way the survey was set up.

**MOTION:** A motion was made by Richard Carter, seconded by Mike Lester.

**Move to approve the refuse and recycling survey instrument questions developed by Gershman, Brickner & Bratton, Inc. and Shepard Research and authorize the survey to begin**

The motion carried by the following vote:

**Aye: 5 -**

Scott Eudey, Johnnie Parks, Mike Lester, Richard Carter and Craig Thurmond

**D. 16-461****Consideration, discussion and possible awarding of the lowest responsible bid, to HD Supply Waterworks Ltd., and approval and authorization to execute an agreement for the supply of meter boxes, replacement meter box covers and meter connection accessories for the Automated Meter Reading Project**

Anthony Daniel, Director of Utilities, stated that the project was first laid out in late 2015. On January 6, 2016, they opened bids and after reviewing the bids, staff found some errors in the bid specification for the meter boxes. They presented a fact sheet to the Authority on January 19<sup>th</sup>, with the recommendation to reject the bids. The project was rebid and on March 8<sup>th</sup>, and they held a preview meeting in which seven vendors were invited. On March 23<sup>rd</sup> three bids were received. The lowest responsible bidder was Utility Supply Company, however, the following day the company contacted the City's processing agent and advised them that they wanted to redraw the bids because they had made a mistake in

pricing two items. In reviewing the bids, staff concluded that HD Supply Waterworks Ltd. was the most responsible bidder. It was recommended that the bid be awarded to HD Supply Waterworks for the amount \$192,780.15.

**MOTION:** A motion was made by Johnnie Parks, seconded by Scott Eudey.

**Move to award the lowest responsible bid to HD Supply Waterworks Ltd., to execute an agreement for the supply of meter boxes, replacement meter box covers and meter connection accessories and execute the supply agreement**

The motion carried by the following vote:

**Aye: 5 -**

Scott Eudey, Johnnie Parks, Mike Lester, Richard Carter and Craig Thurmond

#### **E. 16-477**

#### **Consideration, discussion, and authorization for the Metropolitan Environmental Trust (The M.e.t.) to conduct an Electronic Waste and Tire Collection Event**

Lee Zirk, General Service Director, recalled that in 2016 there would be no household pollutant collection event due to the opening of Tulsa's new Regional Household Pollutant Collection Center. As a result, the M.e.t. worked with the Sanitation Department to plan an electronic e-waste and tire event. The details of the event were delineated in the fact sheet that he had distributed to the Council.

Graham Brannin, Executive Director of the M.e.t., stated that they had worked with City staff to plan a really positive event for the community, in which their electronic waste would be taken and processed properly and effectively. Tires would be taken, as well. He did not think that the M.e.t. had had a tire collection in Broken Arrow before, or at least not for a very long time. One thing to target with tire events was education of the public to get tires away from where they could collect rain and breed mosquitoes. They anticipated a great turn-out in a great location in Central Park.

Vice Chairman Carter asked if fluorescent lights would be collected. Mr. Brannin said they would not, however, within a week or two, they would begin collecting them at the existing depot and processing them themselves. E-waste was anything that had a cord that could be plugged into a wall, or was battery-driven.

**MOTION:** A motion was made by Scott Eudey, seconded by Mike Lester.

**Move to authorize the Metropolitan Environmental Trust (The M.e.t.) to conduct an Electronic Waste and Tire Collection Event at Central Park Community Center on Saturday, June 18, 2016, from 9 a.m. to 2 p.m.**

The motion carried by the following vote:

**Aye: 5 -**

Scott Eudey, Johnnie Parks, Mike Lester, Richard Carter and Craig Thurmond

#### **7. Executive Session**

There was no Executive Session. No action was required or taken.

#### **8. Adjournment**

The meeting adjourned at approximately 9:21 p.m.

**MOTION:** A motion was made by Johnnie Parks, seconded by Mike Lester.

**Move to adjourn**

The motion carried by the following vote:

**Aye: 5 -**

Scott Eudey, Johnnie Parks, Mike Lester, Richard Carter, Craig Thurmond

Attest:

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Chairman

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Secretary