

MINUTES
MURFREESBORO WATER RESOURCES BOARD
July 27, 2021

The Murfreesboro Water Resources Board met on Tuesday, July 27, 2021 in the conference room at the Operations and Maintenance Building, 1725 S. Church Street. Present at the meeting were Board members: Dr. Al Carter, Mr. Ron Crabtree, Mr. Brian Kidd, Mr. Kirt Wade, Ms. Sandra Trail, and Ms. Madelyn Scales-Harris. Also present were Darren Gore, Michele Pinkston, Valerie Smith, Marshall Fall, Doug Swann, Roman Hankins, Steve Tate, Jeff Broach, Matt Powers, Alan Cranford, Joe Russell, John Strickland, Alex Barrett, Travis Wilson, Jay Bradley, Brent Fowler, and Ronnie Martin along with other members of the public.

The Consent Agenda was presented for the following considerations:

A. Consider SRWTP vehicle purchase –

There is one vehicle approved in the MWRD’s FY22 capital budget for the Stones River Water Treatment Plant. This vehicle is needed to replace the 4x4 crew cab truck reassigned to the Maintenance Supervisor working at the Jordan and Coleman farms.

Staff has reviewed the available standing contracts and selected the most appropriate vehicles for its intended use. The vehicle is on the State of Tennessee Statewide Contract 209, Contract Number 64470 with Ford of Murfreesboro.

Item ID/Description	Vehicle Cost	Qty	Total Budgeted
Ford F-350 1-ton 4x4 crew cab	\$37,699	1	\$40,000

The cost for the vehicle is in the amount of \$37,699. In addition, the vehicle will be equipped with emergency lights and a two-way radio. The additional equipment is estimated at \$2,000. Therefore, the total amount estimated for the vehicle is \$39,699.

Staff recommended that the Board recommend City Council approve the purchase of this vehicle in accordance with the existing statewide contract as identified.

B. Consider SRWTP skid steer & equipment purchase –

Staff needs a skid steer for use at the water treatment plant, raw intakes, and storage tanks. The skid steer will have a pallet fork, broom, construction bucket and bushhog. The skid steer and equipment will allow staff to maintain the locations better and reduce equipment rental.

Staff has reviewed the available standing contracts and found a John Deere 325G Compact Track Loader (skid steer) that meets all of staff’s specifications on the John Deere Sourcewell contract. The

pricing of this contract expires May 13, 2023. The John Deere Sourcewell contract is through John Deere local distributor, TriGreen Equipment LLC.

Qty	Item ID/Description	Cost
1	John Deer 325G Compact Track Loader and equipment	\$68,028.12

The cost for the equipment is in the amount of \$68,028.12. This equipment is in the FY22 capital budget in the amount of \$70,000.

Staff recommended the Board recommend City Council approve the purchase in accordance with the John Deere Sourcewell contract from TriGreen Equipment LLC.

C. Consider SRWTP Specific Energy software annual service –

Since the commissioning of Specific Energy, operators have continuously used the Dynamic Pump Optimization (DPO) software to select pumps for the specified flow, at the lowest specific energy and operating on the pump curve. The program is a benefit to efficiently operate the pumps and help extend their life.

In addition to the benefits seen from an operator perspective, Specific Energy's "What if" program has been used by SSR to determine optimal selection of the new high service pump being installed in the upcoming project. Currently, there are three high service pumps. After using Specific Energy's DPO, it was noticed that the pump selections did not cover all the flow requirements needed by the operators. Also, with issues recently faced by staff, it was determined that a fourth high service pump was needed to guarantee that redundancy was available to ensure that water could be provided as needed to customers. Typically, two high service pumps are needed each day to meet system needs. In the event of equipment failure, it is necessary to have at least three pumps. Several times over the last year equipment failures have put staff in a bind to meet the system needs. This is one of the main reasons for adding the fourth high service pump.

The total cost for the annual service fee, including all locations, is \$31,736. Funding is in the FY22 operating budget.

Staff recommended that the Board recommend to the City Council approving the annual service fee cost for Specific Energy in accordance with their quote.

D. Consider SRWTP Commercial Structures & Facilities Painting Contract Change Order 3 –

In December 2018, staff brought the bids for repainting of the Stones River Water Treatment Plant and Auxiliary Intake Building over the next four years. The approved bidder was Commercial Painting, Inc (CPI). The total project cost for the original contract cost was \$1,126,240. Two changes orders have been approved by the Board and Council. Change Order No. 1 increased the cost by \$27,123 and Change Order No. 2 increased the cost by \$10,700 bringing the total cost of the contract to \$1,164,063.

Staff recently identified that Basins #1, #2, and #5 softening basins drives were not included in the contract for painting. Staff requested that CPI provide a quote for painting these drives and include as Change Order No. 3. CPI has provided the change order request to paint the drives in the amount of \$3,000. Staff and SSR believe that this is a reasonable quote for the stated work. This will bring the total cost of the contract to \$1,167,063.

The current cost of the FY22 project is \$240,400. There is \$245,000 in the FY22 capital budget for painting. The \$3,000 increase in the coating and preparation would bring the FY22 project to \$243,400.

Staff recommended that the Board recommend to the City Council accepting Change Order No. 3 from Commercial Painting, Inc.

E. Consider SRWTP Commercial Structures & Facilities Painting Contract Amendment 3 –

In December 2018, staff brought the bids for repainting of the Stones River Water Treatment Plant and Auxiliary Intake Building over the next four years. The approved bidder was Commercial Painting, Inc. They started their painting in FY19 and this is the 3rd amendment and extension for the painting during FY22 budgeted at \$245,000. This work will start after July 1, 2021.

The current cost of the FY22 project is \$240,400 for painting and \$4,600 for contingency.

Staff recommended that the Board recommend to the City Council accepting Commercial Painting, Inc. third amendment for the painting contract.

F. Consider O&M mulcher attachment purchase –

The hydraulic mulcher reduces shrubs and trees into mulched material, making it ideal for clearing easement lines in need of cleaning and televising. We have roughly 74,000 ft of wooded easements that potentially need to be cleared for access. This mulcher is designed for high performance cutting and eliminates the need for multiple pieces of equipment.

Staff researched various compact loaders and located the desired compact track loader on the Statewide Contract through Thompson Machinery.

Funding for the purchase of the compact loader was approved within MWRD's FY 2022 Rate Funded Capital Budget for \$32,000. O&M received a quote of \$28,909 which is under budget by \$3,091.

Staff recommended the Board recommend the City Council to approve the purchase of this equipment.

G. Consider ADS proposal for flow monitor & rain gauge upgrades to 4G –

Currently the Department is contracted with ADS, LLC to operate and maintain the Department's 19 permanent sewer flow monitors, seven rain gauges, and one ECHO which measures depth of flow within a manhole.

ADS has notified staff that 3G cellular service will no longer be available at the end of 2021 and therefore our flow monitors, rain gauges and the ECHO must be upgraded to accept 4G service.

Staff recommended the Board accept the proposal of the upgrades for continued and uninterrupted service.

These upgrades were budgeted and approved within the 2021/2022 Operating Budget in the amount of \$25,000.

H. Consider GE iFix Software annual support –

Our GE GlobalCare software support will expire on August 7, 2021. This software support renewal is for the GE iFix application that the Water and Wastewater Plants use to view and control the operations of the plant and remote sites. It is critical that this part of the control system continue to function as needed to enable the operators to monitor and control the processes. The GE GlobalCare Support renewal includes technical support for any issues with the iFix application and software updates.

The pricing is available single sourced from our appointed distributor, Automatech.

Staff recommended the Board recommend to City Council approving the purchase of the GE GlobalCare Support for one year in the amount of \$30,153.60.

Funding for the support would come from FY22 software maintenance accounts for water and wastewater.

I. Consider GE iFix Software and Firmware upgrades –

As Murfreesboro Water Resources continues to strengthen our SCADA systems, we need to have Automatech (GE iFix distributor) upgrade all software and firmware on our SCADA networks at the Water and Wastewater treatment plants.

Although Automatech performs some fixes each year, they are performing a comprehensive list of updates, patches, and fixes this year.

Automatech has provided a quote of \$16,025, consisting of 83 hours onsite for a system engineer. The pricing is available single sourced from our appointed distributor, Automatech.

Staff recommended the Board approve performance of the work by Automatech in the amount of \$16,025.

Funding for the work would come from hardware/software maintenance budget and be split between the water and wastewater plants.

J. Consider Advanced Metering Infrastructure (AMI) Itron software annual support –

Between December 2015 and June 2017 Murfreesboro Water Resources Department implemented Advanced Metering Infrastructure (AMI). The installation consisted of over 26,000 meters and Electronic Read Transmitters (ERTs), 50+ data repeaters, six data collectors and all corresponding software.

MWRD houses the main application software and consumption data on our VxRail servers. Itron hosts analytics data (for staff and customers) and the leak detection system. Staff uses analytics to review customers' usage when there is a question about consumption. Customers can set up their own portal account to receive usage alerts, set usage budgets, or monitor usage.

As part of their contract, United Software Systems (USS) covered all maintenance for the first five years after installation. WRD is responsible for maintenance beyond that period.

Staff recommended the Board recommend to City Council approval of the annual software support in the amount of \$43,714.10.

Funding for the support comes from software maintenance budget in FY22 Water Resources budget.

A motion was made by Sandra Trail to accept the Consent Agenda as presented and it was seconded by Kirt Wade. The Board voted unanimously to approve.

The June 22, 2021 Board Minutes were unanimously approved as presented.

The Board considered Salem/Barfield Sewer Improvements Phase 3 bid.

At the Nov/Dec 2020 meeting the Board approved of a proposal for design services from ELI, through the City's Master Services Agreement (MSA), for the upsizing of a 15" sewer main to 24" north of Salem Highway. This improvement was designated as a necessary improvement within the Department's 201 Wastewater Facilities Plan (201 Plan). Currently there is a 21" sewer main and a 10" sewer main converging at the eastern end of Eastview Drive and flowing into the existing 15" interceptor downstream where it extends further to the east and crosses the West Fork of the Stones River.

At the April 2021 meeting the Board approved of adding to ELI's scope of services to design the replacement of a portion of the 36" Southwest Interceptor underneath Salem Hwy, just south of this current replacement and upsizing project. Staff determined this section of the SW Interceptor needed replacing in the Fall of 2019 while the Department was contracted with Vortex to perform Lidar/Sonar and Closed-Circuit Televising (CCTV). The results from this CCTV determined that there was a problem with this Interceptor within the tunnel underneath Salem Hwy.

One bid was received from Cleary Construction in the amount of \$4,239,950 which is approximately \$2.55M over the engineers estimate of \$1.68M. Staff received a recommendation from ELI to reject the bid at this time and to re-bid at a later date.

Staff recommended the Board recommend to City Council to reject the bid and re-bid.

Sandra Trail made a motion to approve. Kirt Wade seconded. The motion unanimously passed.

The Board considered 2021-22 Sanitary Sewer Rehabilitation award of contract.

At the February 2021 Board meeting the Board approved the Engineering Design, Construction Administration & Resident Inspection necessary for this next sanitary sewer rehabilitation project with LJA.

LJA completed the project design and bids were received July 15th. Only one bid was received although five prime contractors picked up plans and specifications. The Base Bid of the project includes 4,000 linear feet of open cut sewer main replacements, 10,500 linear feet of cured in place pipe (CIPP), lining and/or repairing 110 manholes which is approximately 800 vertical feet of manhole lining, 135 sewer lateral repairs and the cleaning of five sewer pump station wet wells.

LJA recommends awarding the Base Bid in the amount of \$4,677,182 to SBW Constructors, LLC (SBW). They have been our contractor on four previous rehabilitation projects and have been very good to work with.

It has been the Department's practice to budget \$1.25M from the Rate Funded Budget and \$1.25M from Working Capital Reserves yearly +/- for sewer rehabilitation. Staff brought a re-budgeting memo at the June 2021 Board meeting that provided an updated new contract target amount \$4.2M for the Department's rehab project for FY21-22. The bid came in \$477,000 over the revised target amount; however, the current FY20-21 sewer rehab project is anticipated coming in approximately \$620,000 under the contract amount, thereby making up for the additional costs of the current rehab bid.

Staff recommended the Board recommend to City Council approval to award the contract to SBW in the amount of \$4,677,182.

Funding for the Engineering, Construction Administration, Inspection and Construction is from a combination of remaining 2020/2021 Working Capital Reserves (\$620,000), 2021/2022 Budget and Working Capital Reserves (\$2.5M) and an additional \$1,996,682 from 2021/2022 Working Capital Reserves.

Brian Kidd made a motion to approve. Sandra Trail seconded. The motion unanimously passed.

The Board considered Overall Creek Pump Station & Forcemain Expansion easement offers.

At the December 2019 meeting the Board approved a proposal for the design of the Overall Creek Pump Station and Forcemain expansion from SSR. The design is nearing completion and it is necessary to purchase temporary construction and permanent sanitary sewer forcemain easements for the project. There are seven tracts in which the Department needs temporary easements, with only one of these needing permanent easement.

Staff didn't request appraisals for the properties to determine easement offers as the appraisals would have cost possibly more than the easement offers. It was suggested by City Legal to offer, as a starting point, \$1.06 per square foot which was a recent settlement offer to the Hords to close out a previous project and easement. Should condemnation be necessary, then a proposal for appraisals will follow at another meeting.

Easement offer amounts have been prepared for each tract based on the easement size and type. It is typical for the City to offer 50% of the appraised land value for permanent easement and 10% per year for temporary construction easement.

Staff recommended the Board recommend to City Council approval in the amount \$26,750 to purchase easements initially and if easements are not obtained within a reasonable amount of time, then also approval to offer 10% additional. If neither of these allow staff to obtain easements, then approval to move forward with condemnation.

Kirt Wade made a motion to approve. Brian Kidd seconded. The motion unanimously passed.

The Board reviewed Information Technology/Cybersecurity report.

With the current cybersecurity environment around the world, staff thought it would be good to give the Board a report on IT security at the City and Water Resources, steps taken over the past several months, and upcoming plans.

The City has firewalls that prevent access from outside the City's network. Access is only granted with permission through a Virtual Private Network (VPN). This access must be pre-approved and only allows access to the specific computer/device required.

The City uses multiple tools (inside and outside the network) to protect against viruses and malware.

Later this year the City will be implementing Two Factor Authorization (2FA), requiring employees outside the network to receive and enter a verification code sent to a device in their possession.

WRD has two private networks that provide protection for Operational Technology (OT) at both water and wastewater plants. The SCADA firewalls are separate from the City/Department business network and also each other. They provide protection against external and internal unauthorized access.

WRD also uses a third-party device that encrypts data in the OT environment, further protecting plant operations. This system is currently in place at the wastewater plant, with plans to expand service to the water plant. Staff is continuing to update and upgrade the OT systems at both plants.

In early 2020, WRD employed a consulting firm to conduct Remote and Internal Penetration Testing (RPT/IPT). The consultant found areas of concern that necessitated installation and configuration of new firewalls on our OT systems at our plants.

The Department plans to failover test the VxRail system, which was recently updated with all patches and firmware. The test will involve shutting down the Production server to ensure that the backup servers kick in. Data is backed up across all business systems. Data is stored both on and off-site. After completion of our VxRail system failover test, staff will plan and execute various tests of our data restoration in the event of data loss.

The City sends fake phishing emails to employees periodically to verify that employees are practicing good habits on legitimate-looking emails. The plan is to implement mandatory IT training for all employees who have computer access. The City currently has mandated safety training each year, and IT training would be added to the mix.

Humans present the greatest threat to OT and IT systems, mostly through unintentional actions (e.g., clicking on a malicious link in an email). But the City and WRD are being very proactive in maintaining the safest possible IT/OT environments.

The Board recognized the Water Resource Recovery Facility 2020 NACWA Gold Award.

For 50 years, the National Association of Clean Water Agencies (NACWA) has been our nation's leader in legislative, regulatory, and legal advocacy on the full spectrum of clean water issues, as well as a top technical resource for water resources management, sustainability, and ecosystem protection interests.

NACWA offers national recognition of facilities that demonstrate excellence in permit compliance through its Peak Performance Awards. The Gold Award holds facilities to the ultimate standard of 100% compliance for all 365 days of the year.

For 2020, the Murfreesboro WRRF has been nationally recognized by NACWA with the Gold Award. This is the WRRF's Seventh Gold Award and its fourth consecutively. With five consecutive years of peak performance, the WRRF would earn the Platinum Award. This achievement is very rare, and everyone is committed to accomplishing this significant milestone.

Under Other Business, the Board considered MWRD Development Agreement revisions.

The original development agreement included language that surety, when provided by the Developer, must be provided from a Bank within Rutherford County or surrounding Counties for letters of credit, or must be provided by an Insurance Company licensed to do business in Tennessee for bonds.

This language was omitted when the developer agreement was revised, and staff requests this language be added.

Staff recommended the Board recommended to City Council including the revised language as drafted by Legal.

Kirt Wade made a motion to approve. Madelyn Scales-Harris seconded. The motion unanimously passed.

Staff presented and discussed the Water Resources Dashboard Performance for July 2021.

There being no further business, the meeting was adjourned.

Alphonse Carter, Jr., Vice Chairman