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WAUFORD

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Company News

We are pleased to announce that we have added the **City of Somerset, Kentucky** to our valuable client list. Welcome to the Wauford family!

Hopkinsville Water Environment Authority of Hopkinsville, Kentucky has recently received the Kentucky Water and Wastewater Operators Association (KWWOA) 2018 Outstanding Drinking Water Plant Award for the State of Kentucky for their McKenzie T. Moss Water Plant. HWEA has received this award twice in the past four years. In addition, J. Leslie Rogers, WTP operator for HWEA for 27 years, has been named the Kentucky Water & Wastewater Operators Association's (KWWOA) 2018 Water Treatment Plant Operator of the Year. Congratulations on these outstanding achievements!

Conferences

The annual meeting of the Tennessee Municipal League (TML) was held June 23-25 at the Memphis Cook Convention Center in Memphis, Tennessee. We enjoyed the opportunity to visit with our Clients and friends.

The annual Water Professional's Conference (the joint meeting of the KY-TN AWWA and WEA) will be held at the Louisville Convention Center in Louisville, Kentucky, August 18-21. Our Ice Cream Social is expected to have many participants and we hope to see you at this year's event!

**For more
information, please
visit our website
www.jrwauford.com**

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Project Updates

Bristol, Tennessee

An evaluation of the condition of two 1.5 MG Concrete Storage Reservoirs is ongoing with the survey to begin soon.

Bids were opened on June 18 for renovation of the Lakeview Drive SPS. Frizzell Construction, Inc. of Bristol, Tennessee was the low bidder at \$1,036,700.

An evaluation for the existing capacity of the SPS at the Pinnacle Development area and the Holiday Inn Booster Station is underway.

Design is 90 percent complete for Water Treatment Plant improvements which includes replacement of existing link seals and butterfly valves within the pipe gallery.

Chapel Hill, Tennessee

Construction on the Morningside Drive 8-inch Force Main project is underway and is 43 percent complete. This project has a completion date of November 2019. John T. Hall Construction, Inc., of Sparta is the Contractor with a budget of \$830,334, which is being funded by a CDBG and SRF loan.

Plans and specifications for the 4,200 L. F. Crutcher Lane Low Pressure Sewer and Force Main extension have been submitted to TDEC.

Preliminary design concepts and cost estimates have been completed and submitted to the Owner regarding new developments and WWTP renovation.

Cleveland Utilities Cleveland, Tennessee

A revised Disinfection Study update has been submitted to the Owner and data is being collected regarding the Biosolids Evaluation Study. In addition, an analysis of potential aeration savings is underway concerning the WWTP blowers.

Columbia, Tennessee

All reports required for the EPA Administrative Order of Consent have been submitted. The first project required by the Order consists of the renovation of the Santa Fe SPS and GE SPS. Bids were received on June 11 for the Santa Fe & GE SPS project with W&O Construction of Livingston being the low bidder at \$3,769,700. Construction will begin soon.

The survey is complete for the Sewer System Rehabilitation project and design is underway.

Crossville, Tennessee

Plans and specifications for the Meadow Park Lake water and sewer line project have been submitted to TDEC for review. The water portion has been approved with the sewer portion pending. This project consists of 6,000 L.F. of 10-inch water line, 16,000 L.F. of 4-inch force main, and a waste solids pumping station. This project reinforces the water transmission system as well as providing sewer service to the Meadow Park Lake area.

Preliminary work in relation to the supply of future raw water is underway to determine required treatment and system improvements for two alternatives, both of which include raising Meadow Park Lake Dam. A meeting with the Army Corps of Engineers and TDEC was conducted on July 3 to discuss 404 permit and 401 water quality certification applications to raise Meadow Park Lake Dam.

Dayton, Tennessee

Design of the new 4.0 MGD SBR WWTP is ongoing with the electrical, mechanical, and structural designs underway. A \$2.7M EDA grant has been obtained for the WWTP portion of the work.

Bids were received for the \$525,000 CDBG for sewer rehabilitation with Angel Construction, LLC of Pikeville, Tennessee being the apparent low bidder at \$1,109,550. This project consists of the replacement of two small diameter sewer crossings under Highway 27 with a new 24-inch sewer.

Design is underway for water supply to the Summer City System consisting of 54,000 L.F. of 12-inch water line, a 500,000 gallon elevated storage tank, and two 1,400 GPM booster stations.

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Dayton, Tennessee (Cont'd) **Dayton, Tennessee**

Design is complete and plans and specs have been approved by TDEC for a new 500,000 gallon water tank and 16-inch water line to increase flow to the Nokian Tire site. This project is funded by an ARC grant. Bids will be accepted August 27.

Fentress County Utility District **Fentress County, Tennessee**

Design work is underway for the Highway 127/62 utility relocation project through TDOT, which has a letting date of June 2020.

Construction on the 12-inch Water Transmission Line from FCUD's Clarkrange Tank to the Industrial Park is complete with John T. Hall Construction, Inc., of Sparta, TN the Contractor at \$376,717.05. The project was funded through a TN ECD Site Development Grant for the Fentress County Industrial Development Board.

Bids for the painting of the Pinehaven Tank were received and Huffman Tank & Tower was the low bidder at \$318,000.

Survey is complete for the North Booster Station project. Design is underway with telemetry discussions ongoing.

Halls, Tennessee

The semi-annual report has been submitted for the pre-treatment program.

Henderson Water Utility **Henderson, Kentucky**

Preparation of a preliminary engineering report for improvements to the International Paper sewage pumping station is underway and 75 percent project specs have been submitted to the Owner and comments are being implemented for renovation of the 4-Star water storage tank.

Survey work is complete for the South Raw Water Intake Renovation project and drafting is underway.

Henderson Water Utility **Henderson, Kentucky (Cont'd)**

Improvements to the South WWTP Aeration Basins are complete and the project is closed out.

Construction of the Myrene Drive Sewage Pumping Station project will begin soon with M. Bowling, Inc., of Henderson, KY, being the Contractor with a budget of \$637,025. This contract is the first of four and includes replacement of an existing submersible sewage pump station.

A preliminary engineering report for the South WTP Temporary Backwash Pumps has been submitted for the Owner's use in preparing grant applications. Design will be completed once a funding source has been determined.

Design of the Center and Julia Street Stormwater Improvements project, which includes the installation of three 54-inch reinforced concrete pipes under CSX railroad, is nearly complete with Owner comments being implemented.

Hohenwald, Tennessee

A \$525,000 CDBG project for an electrical upgrade to the Swan Avenue Well and continued water system leakage rehab bid on July 23.

The semi-annual report has been submitted for the pre-treatment program.

Hopkinsville Water Environment Authority **(HWEA), Hopkinsville, Kentucky**

Plans and specifications for the \$50 million Hammond Wood WWTP Renovation project have been submitted to the Kentucky Division of Water. This \$50 million project includes a new influent pumping station with coarse screening, headworks with fine screening and grit removal, anaerobic zone with submersible mixers for enhanced biological phosphorus removal, renovation of the existing oxidation ditches, fine bubble aeration and submersible mixers, a new 110 foot diameter final clarifier, renovation of the existing return activated sludge pumping station, renovation of the existing chemical feed facilities, and permanent chemical feed facilities for peracetic acid disinfection. Biosolids are proposed to be stored in two 750,000 gallon aerated prestressed concrete sludge holding tanks before being dewatered by screw presses and solar dryers resulting in a class

Project Updates

Hopkinsville Water Environment Authority (HWEA), Hopkinsville, Kentucky (Cont'd)

“A” product. A new operations and laboratory building is part of the project which includes facilities for operator training.

Humboldt, Tennessee

Construction for the new 5.0 MGD Wastewater Treatment Plant which includes grants from Economic Development Administration (EDA), FastTrack Infrastructure Development Program (FIDP), Delta Regional Authority (DRA), and State Revolving Funds Loan Program (SRF), has begun with Smith Contractors, Inc. being the low bidder at \$25,530,000. The Contractor is currently performing excavation at the Chlorine Contact Chamber and site work.

Bids for the new Municipal Raw Water Supply Well were received on April 16 with Layne being the low bidder at \$402,640.

Bids for the Gibson County Industrial Park Elevated Water Storage Tank were received on June 18 with Landmark Structures of Fort Worth, Texas being the low bidder at \$3,365,000.

Bids for the Water Distribution Improvements project were received on June 18 with Marbury Construction Company, LLC of Denmark, Tennessee being the low bidder at \$1,461,738.

Bids for the Water Treatment Plant Renovation project were received with Miller Contractors being the low bidder at \$589,318.

A Preliminary Engineering Report for the 2019 CDBG Application was submitted and awards are expected to be made in the Fall.

Construction for the Gibson County Industrial Park Sewer Improvements, which includes a Site Development Grant (SDG), is underway with all of the pipe installed and tested. Marbury Construction Co. was the low bidder at \$1,573,139.

Humboldt, Tennessee (Cont'd)



Gibson County Industrial Park Sewer Improvement Project
Humboldt, Tennessee

Huntingdon, Tennessee

Bids for the 2018 CDBG Sewer Improvements were received on July 11 with Miller Contractors, Inc. being the low bidder at \$291,117.

The Buena Vista SPS is under construction with the force main installed.

Construction of the Highway 22 Lagoon Disinfection System Improvements is underway with Miller Contractors, Inc. being the Contractor at \$260,000.

Approval was received from TDEC for the Lake Area Sewer Service Extension project.

A Preliminary Engineering Report was prepared for a FIDP grant to renovate the Behlen SPS.

Jackson Energy Authority (JEA) Jackson, Tennessee

Progress continues on the \$13.3M Disaster Community Development Block Grant focusing on five separate projects. The first project, 54-inch Riverside Interceptor Rehabilitation, is complete and closed out. TDEC approval for the Gravity Sewer Boring project was received.

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Project Updates

Jackson Energy Authority (JEA) Jackson, Tennessee (Cont'd)

Construction for the Johnson Creek and SFFD River SPS renovation project, which was awarded to Ronald Franks in the amount of \$1,150,000, is nearing completion. The South Fork Forked Deer station is complete and work at the Johnson Creek station is progressing.



**16-inch DIP end of 650 foot Horizontal Directional Drill
Water Line under South Fork Forked Deer River
Jackson, Tennessee**

A pre-construction meeting was held May 7 for the Miller Avenue Wastewater Treatment Plant Improvements project with W. Rogers Co. the low bidder at \$6,064,000. A commence date is to be set later this month.

Construction for the HDD Water Line River Crossings is 85 percent complete. The low bidder was Memphis Road Boring Co., Inc. of Byhalia, MS at \$988,070. The Contractor will begin clean-up soon.

Design and drafting are underway for the Bells Highway SPS Renovation.

Lewisburg, Tennessee

Construction of water and sewer relocations for State Route 50/431 is nearing completion with water work complete, tested, and in service. 355 feet of sewer lines and two manholes remain to be installed.

Construction for the replacement of an existing 18-inch interceptor sewer with a new 24-inch sewer is complete. John T. Hall Construction, being the Contractor, will complete clean up soon. This project was funded by a \$525,000 CDBG.

A Raw Water Capacity Increase Evaluation is underway with applications for TDEC 401 ARAP and TVA Section 26A permits submitted. A raw water charge analysis and draft memorandum of understanding was prepared, and cost estimates related to intake renovation were provided to the Owner.

Construction of the WWTP Chemical Feed Building is underway with Contracting Services, Inc. of Culleoka, TN at \$1,091,743. The coagulant building is secure to weather, the Methanol tank has been set and metal roof has been installed.



**WWTP Chemical Feed Building Project
Lewisburg, Tennessee**

Construction for the Snell Branch Sewage Pumping Station Renovation project with Richland, LLC of Pulaski, TN at \$1,059,850, is underway. The equipment has been installed and the Contractor is working on painting and electrical components before starting up individual equipment.

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and PROPERLY TREATED wastewater
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Project Updates

Livingston, Tennessee

The WWTP renovation project, funded by a \$525,000 CDBG, is ongoing with additional work pending.

Bids for the renovation of five SPS's were opened July 11 with W & O Construction being the low bidder at \$970,834.

Bids for the Hilham Area Water System Improvements project were opened July 11 with W & O Construction of Livingston, Tennessee being the low bidder at \$1,328,637.

Maryville, Tennessee

Design of a new Sludge Thickener Building and two new belt presses is 50 percent complete.

An Alternative Disinfection Study is underway to investigate the use of alternate disinfectants and technologies at the WWTP.

Ohio County Water District Ohio County, Kentucky

The Hoover Hill Interconnect Water Line project, with Ernie Davis & Sons Mechanical, Inc. of Owensboro, KY being the Contractor, is complete and closed out. The total project cost was \$276,303.

Paducah McCracken Joint Sewer Agency (JSA) Paducah, Kentucky

Construction on the 15 MG Prestressed Concrete Combined Sewage Storage Tank, with Crom being the Contractor at \$6,700,000, is underway. The inner wall is complete and the first layer of wire wrapping on exterior for shot concrete is underway. This tank is proposed to store wet weather combined sewer flows and utilizes a deep pile foundation consisting of 400 auger cast piles 95 deep. The project has a completion date of September 4, 2019.

Paducah McCracken Joint Sewer Agency (JSA) Paducah, Kentucky (Cont'd)



15 MG Storage Tank
Paducah, Kentucky



15 MG Storage Tank
Paducah, Kentucky

Pulaski, Tennessee

The Industrial Wastewater Survey (IWS) and calculation of the Plant Protection Criteria and Industrial Wastewater Discharge Limits (local limits) have been submitted to TDEC for approval.

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Pulaski, Tennessee (Cont'd)

Construction for the \$394,279 rehabilitation of approximately 5,000 L.F. of gravity sewer using pipe bursting methods is complete. Clean up is ongoing.

The CAP/ER has been submitted concerning the Main Interceptor Investigation and Enforcement Action.

A proposal from MR Systems for system integrators in relation to the WTP Controls and Tank Telemetry was recommended to the Owner with a cost of \$553,471 and they are currently preparing shop drawings.

Construction of the Murtco/Integrity Mold Sewer Extension is underway with the water line in place and sewer work to begin soon. This project was awarded to Pipeworks Plus, Inc. of Tullahoma in the amount of \$121,840 and has a completion date of August 23.

Savannah, Tennessee

Final plans have been submitted to TDOT for the SR128 project from Pyburns Road to Airport Road.

Bids were received for the 2018 CDBG Sewer Rehabilitation and East Main Sewer Pumping Station Renovation on July 10 with Ronald Franks Construction, LLC, of Savannah being the low bidder at \$352,386.54 .

The semi-annual report has been submitted and assistance was provided for the pretreatment compliance inspection.

A final NPDES Permit has been received.

Shelbyville Power, Water & Sewerage System (PW&SS), Shelbyville, Tennessee

The IWS and local limits have been submitted to the State for preliminary approval before adoption.

Construction for the 2017 CDBG Phase III Sewer Rehab project continues with John T. Hall Construction, Inc. of Sparta, TN being the Contractor with a total construction cost of \$770,470. The Contractor has two to three weeks of work remaining.

Construction at the Shoffner-Bomar and U.S. Pencil SPS sites is complete and closed out.

The Duck River Dam Evaluation Report is complete and submitted to the Owner.

A preliminary engineering report for water system improvements was submitted for inclusion in the 2019 CDBG application.

Smithville, Tennessee

Technical assistance continues to be provided for pretreatment.

A preliminary engineering report for sewer system improvements was submitted for inclusion in the 2019 CDBG application.

Highway 56 water and sewer relocations work is to begin soon for TDOT road widening.

Somerset, Kentucky

Final plans and specifications have been submitted to the owner for the 16-inch interconnect water line project. Once approval is received, submission to KDOW will be completed.

Trenton Light and Water Trenton, Tennessee

Construction of the new 1.6 MGD Sequencing Batch Reactor (SBR) Wastewater Treatment Plant is approaching completion with Smith Contractors being the contractor at a project cost of \$8,888,000. The SBR is in service and the contractor is constructing a new sludge lagoon. (*See Page 8 for a detailed overview of the project)

Bids were received for the 2018 CDBG Sewer Rehabilitation project. Bobby Luttrell & Sons of Dundee, Kentucky was the low bidder at \$331,054. A change order was produced for additional work increasing the project cost to \$413,024. A commence work date is scheduled for August 12.

Union City, Tennessee

TDOT opened bids on March 29 for the last phase of I-69 in Union City which includes utility relocations as part of the project.

Water Authority of Dickson County Dickson, Tennessee

A draft report for the Jones Creek WWTP Sludge Study which consists of the installation of new screw press and use of existing digesters to produce Class "B" sludge has been provided to the Owner.

A draft report has been submitted to the Owner related to the Jones Creek Drip Irrigation Site. This project proposes the purchase of land for drip irrigation near the plant.

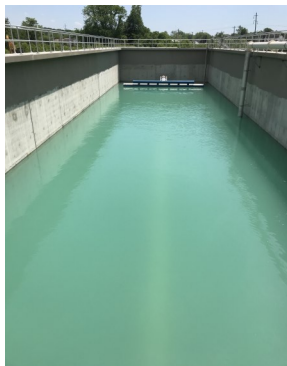
1.6 MGD Sequencing Batch Reactor (SBR) Wastewater Treatment Plant for Trenton Light and Water Trenton, Tennessee—2019



The new Sequencing Batch Reactor (SBR) Wastewater Treatment Plant for Trenton Light and Water in Trenton, Tennessee was constructed to replace the existing Lagoon Treatment Plant which was unable to meet the requirements of the National Pollutant Discharge Elimination System (NPDES) permit. These violations led to an Agreed Order from Tennessee Department of Environment and Conservation (TDEC) for NPDES permit violations. The existing Wastewater Treatment Lagoons were constructed in the flood way of the North Fork Forked Deer River leaving a small site with constraints on all sides. The existing site constraints along with having to keep the lagoons in service during construction led the design to focus on the SBR technology for a smaller footprint.



New SBR Basin during startup testing the Aeration System



New Headworks

The new SBR Wastewater Treatment Plant is rated for a biological capacity of 1.6 million gallons per day (MGD) and a hydraulic capacity of 6.8 MGD. The influent is pumped up to a new headworks that was constructed and includes a ¼" multi-rake mechanically cleaned bar screen, vortex grit removal system, and parshall flume for influent flow measurement. The wastewater then flows by gravity to one of the two new SBR basins where it goes through the fill, aerated fill, react, and settle phases prior to being decanted to the chlorine contact chamber.



SBR Basin in Settle Phase

During the fill phase, raw influent is mixed with the existing biomass in the basin with submersible mixers. Then, in the aerated fill, the mixers are turned off and air is injected into the basin through the full floor fine bubble diffuser system. This provides mixing as well as the needed oxygen for the biological process. During the react phase, the influent valve is closed and the aeration continues. At the end of the reaction phase, the aeration is stopped and the biomass settles leaving clear liquid at the top.



New Effluent Pumping Station

Then, the top few feet or "batch" is decanted off to the chlorine contact chamber by gravity. At the chlorine contact chamber, hypochlorite is added for disinfection and then calcium thiosulfate is added for dechlorination. The final effluent is then pumped to the North Fork Forked Deer River by the new vertical turbine effluent pumps. The new SBR Wastewater Treatment Plant also included a new chemical feed building, blower/electrical building, a sludge dewatering facility and an addition on the existing administration building. The project was constructed by Smith Contractors, Inc. of Lawrenceburg, Kentucky at a cost of \$8,888,000.