

WATER AND SEWER BOARD

Tuesday, June 28, 2016
Operations & Maintenance Facility
1725 South Church Street
3:30 PM

A G E N D A

1. Consent Agenda:
 - A. Consider single source purchase and installation of GAC Effluent Valve Actuators..... 2
 - B. Consider John Bouchard and Sons Task Order 16-04 for Raw Water #1 and Task Order 16-05 for Raw Water #6 pump repairs 5
 - C. Consider contingency allocations for Sinking Creek WWTP Phase 4D 15
2. Consider minutes from the May 24, 2016 meeting 20
3. Consider John Bouchard and Sons Task Order 15-06 for Installation Services of Three Biosolids Press Replacements and a Professional Services Agreement with MR Systems, Inc..... 25
4. Consider Rooms To Go sewer connection fee..... 41
5. Water Resource Utility of the Future Joint Recognition Program Application 45
6. Dashboard
7. Financials
8. Other business
9. Adjourn



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Consent Agenda

DATE: June 16, 2016
TO: Water and Sewer Board
FROM: Alan Cranford
SUBJECT: GAC Effluent Valve Actuator Replacement and Installation

Background

The Stones River Water Treatment Plant has four (4) Granular Activated Carbon (GAC) contactors. Each contactor has one (1) GAC effluent valve. During the week of June 6, 2016, three (3) of the effluent valve actuators failed and must be operated manually. These valves are critical to the operation of the facility and are located in an area that is difficult of operators to access to operate them manually. Staff has not maintained a spare actuator for the control valves. One of the four (4) actuators ordered is to be a spare in the event of a future emergency.

Staff received a quote from Eco-Tech, Inc., the sole source vendor for Rotork Controls, Inc. manufactured actuators. The quote included the purchase and installation of the actuators.

Recommendations

Staff recommends that the Water and Sewer Board recommending the City Council to approve the purchase and installation of actuators in accordance with the quote provided by Eco-Tech, Inc.

Fiscal Impact

The cost of the four (4) actuators is \$26,436 and the installation of the actuators is \$4,500. Total cost of the project is \$30,936 recommended to be funded from working capital reserves.

Attachments

Eco-Tech, Inc. Quote



June 20, 2016

TO: Murfreesboro Water and Sewer Department
ATTN: Alan Cranford
QUOTE #: F1016-TE
PROJECT: GAC Effluent Valve Actuators
LOCATION: Murfreesboro, TN
ENGINEER: N/A
BID DUE: N/A
QUOTATION BY: Doug Miller
PAGE: 1 of 2

*We are pleased to offer the following quotation for this project. Valve boxes, extension stems, stem guides and tee wrenches are not included unless otherwise noted. MJ accessories and flange joint material are not included. Permanent name plates are by others. **THIS PROJECT IS NOT IDENTIFIED AS NEEDING ANY DOMESTIC CONTENT CERTIFICATIONS.** If needed call for additional pricing.*

<u>Tag</u>	<u>Quantity</u>	<u>Description</u>
ACT-1	4	Rotork IQTM2000 460/3 Folo/CPT Actuator Price each: <u>\$6,609.00</u>
INST	3	Installation, adaptation and startup Price each: <u>\$1,500.00</u>



TERMS AND CONDITIONS OF THE QUOTE

DELIVERY: APPROXIMATELY WEEKS AFTER APPROVAL OR RELEASE. DELIVERY TIMES ARE AN ESTIMATE ONLY AND SUBJECT TO CHANGE.

FREIGHT: ORDERS OVER \$7,500.00 ARE ENTITLED TO ONE NO FREIGHT CHARGE SHIPMENT WITHIN ECO-TECH'S SALES TERRITORY. **OTHERWISE, FREIGHT IS PREPAID AND ADD.**

NOTES: UNLESS SPECIFICALLY NOTED ABOVE, FLANGE JOINT ACCESSORY SETS, MJ ACCESSORY SETS, RESTRAINED JOINT ACCESSORY SETS, EXTENSION STEMS, VALVE BOXES, GROUND LEVEL POSITION INDICATORS, STAINLESS STEEL BOLTING ON VALVES, ENCLOSED NECK EXTENSIONS (EXTENDED BONNETS), STEM GUIDES, FLOOR BOXES, FLOOR STANDS, POSITION INDICATING SWITCHES, SOLENOID VALVES, SPEED CONTROL VALVES, DASHPOTS, AIR/OIL CUSHIONS, BY-PASS PIPING, CONTROL RODS, INSTALLATION, START-UP SERVICES, ARRA CERTIFICATION, TEST REPORTS, AND OTHER ACCESSORIES, ITEMS, SERVICES, CERTIFICATION OR DOCUMENTATION IS **NOT** INCLUDED.

THIS QUOTATION REFLECTS THE MANUFACTURER'S POLICY OF SOURCING RAW MATERIALS IN THE MOST COST EFFECTIVE MANNER. **ANY REQUIREMENTS FOR SPECIFIC U.S. CONTENT SHALL REQUIRE A REVISED QUOTATION.** UNLESS SPECIFICALLY INDICATED IN THE QUOTE.

ITEM(S) ARE QUOTED PER PROJECT SPECIFICATIONS AND/OR DETAILS. PRICES AND DELIVERIES ARE SUBJECT TO CHANGE IF DIFFERENT FEATURES ARE REQUIRED.

ALL RETURNS REQUIRE PRIOR AUTHORIZATION AND AUTHORIZATION NUMBER. NO RETURNS AFTER 90 DAYS FROM SHIPMENT. MINIMUM RESTOCKING CHARGE IS 40 PERCENT. CREDIT FOR RETURNED ITEMS WILL BE DETERMINED AFTER ITEMS ARE RETURNED FOR INSPECTION.

STANDARD PAPER COPIES OF SUBMITTAL PACKAGES AND STANDARD PAPER COPIES OF INSTALLATION, OPERATION AND MAINTENANCE MANUALS ARE INCLUDED WITH THE QUOTATION. NON-STANDARD COVERS, BINDERS, CASES, SHEET PROTECTORS, SHEET REINFORCEMENTS, DRAWINGS, DETAILS, SCHEMATIC DRAWINGS, WIRING DIAGRAMS, COMPACT DISC, DVDS, AND OTHER PROJECT SPECIFIC INFORMATION IS **NOT** INCLUDED IN THE QUOTED PRICE.

ECO-TECH, INC. DOES NOT WARRANT THE ABOVE DESCRIPTIONS AND / OR TAKE-OFFS. WE HAVE SUBMITTED THIS QUOTATION TO THE BEST OF OUR KNOWLEDGE AND ABILITY, BUT WE WILL NOT BE RESPONSIBLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM AN INCORRECT VALVE TAKE-OFF OR ITEM DESCRIPTION.

THIS QUOTATION IS VALID FOR PRODUCTS USED ON MUNICIPAL WATER AND WASTEWATER SYSTEMS INSIDE ECO-TECH'S SALES TERRITORY. OTHERWISE THIS QUOTE IS INVALID AND WILL BE RETRACTED.

ALL ORDERS SHALL BE SUBJECT TO ECO-TECH'S AND THE MANUFACTURER'S STANDARD TERMS AND CONDITIONS.

***** END OF QUOTE *****



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Consent Agenda

DATE: June 15, 2016
TO: Water and Sewer Board
FROM: Alan Cranford
SUBJECT: Raw Water #1 (Task Order 16-04) and #6 (Task Order 16-05) Pump Repairs
Water/Wastewater Systems Mechanical/Electrical Services Contract

Background

On December 18, 2014, the MWSD accepted and opened bids for the MWSD Water/Wastewater System Mechanical/Electrical Services contract. John Bouchard & Sons Co (JBS) was awarded the bid after approval by the Water and Sewer Board and City Council. The contract is effective through January 28, 2017.

The River Raw Water Pumps (RWP) #1 and #6 experienced major pumping capacity in May 2016. Based upon staff's inspection of the two pumps it was decided to request a representative from JBS to look at the pumps. Staff and JBS discussed the potential issues and it was determined that the best way to determine the resolution was to pull both pumps.

RWP #1. JBS has previously rebuilt the #1 Raw Water Pump in 2015 under our existing service contract. Staff recently informed JBS that the pump was spraying water from the oil column. JBS agreed to remove and inspect the pump to determine whether the issue was warranty related, as the issue was noted within a year of the rebuild. JBS removed the pump and found that a foreign material had clogged the water discharge nozzles. The material was white in color, and had been observed during the previous JBS rebuild. During the first rebuild, it was thought that some the material was caulk that a previous contractor may have used, but it appears that the material is something being sucked into the pump from the raw water pit. As a result, JBS has proposed to modify the pump to reduce the potential for this issue to re-occur. They propose to modify and add lip seals, and extend the bottom bowl assembly to fit in the oil column with the new seals. The intent is to prevent water from entering the oil column; however, this will not prevent any foreign material from clogging the water discharge nozzles. Staff is trying to have the material analyzed to determine if there is a solution. Upon completion of repairs the pump will be reinstalled and placed back into service.

RWP #6. JBS had removed and assessed RW#6 under our existing service contract. JBS's assessment revealed that the pump had several worn parts that would likely result in the diminished flow capacity observed when the pump was in operation. Staff visited the JBS shop

[Water and Sewer Department](#)

300 NW Broad Street * P.O. Box 1477 * Murfreesboro, TN 37133-1477 * Office: 615 890 0862 * Fax: 615 896 4259
TTY 615 848 3214 * www.murfreesborotn.gov

and was shown the various worn components of the pump. JBS has prepared an estimate for the repair/rebuild of the pump for your consideration. Pricing includes re-sleeving the impeller, shafts, sleeves, mechanical seal, coupling, spider bushings, brass bearings, pump shaft, bolts, sandblasting, paint, re-installation, and start-up assistance. In addition, JBS prepared an estimate for the replacement of this pump for comparison (\$113,400.00).

Recommendations

Staff recommends that the Water and Sewer Board recommending the City Council to approve Task Order 16-04 and Task Order 16-05 by John Bouchard & Sons Co.

Fiscal Impact

Repair for RWP #1 is \$12,266.00 and RWP #6 is \$29,440.00. The total amount to repair both raw water pumps is \$41,706.00 coming from rate funded capital reserves.

Attachments

Task Order 16-04
Task Order 16-05



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TASK ORDER NO. 16-04

May 26, 2016

BETWEEN

**JOHN BOUCHARD & SONS COMPANY AND CITY OF MURFREESBORO
acting by and through the Murfreesboro Water and Sewer Department**

UNDER

Water/Wastewater System Mechanical/Electrical Services Contract

DATED

January 28, 2016 thru January 28, 2017

FOR

RW#1 Pump Removal, Inspection, Modification, and Re-Installation

Task Order No. 16-04
RW#1 Pump Work
Murfreesboro Water Plant

BACKGROUND

JBS had previously rebuilt the Simflo RW#1 pump last year under our existing service contract. MWSD recently informed JBS that the pump was spraying water from the oil column. JBS agreed to remove and inspect the pump to determine whether the issue was warranty related, as the issue was noted within a year of the rebuild. JBS removed the pump and found that a foreign material had clogged the water discharge nozzles. The material was white in color, and had been observed during the previous JBS rebuild. During the first rebuild, it was thought that someone the material was caulk that a previous contractor may have used, but it appears that the material is something being sucked into the pump from the RW pit. As a result, JBS has proposed to modify the pump to reduce the potential for this issue to re-occur. We propose to modify and add lip seals, extend the bottom bowl assembly to fit in the oil column with the new seals. The intent is to prevent water from entering the oil column; however, this will not prevent any foreign material from clogging the water discharge nozzles.

SCOPE OF WORK

Labor and materials by JBS to remove, inspect, modify, and re-install RW#1 pump as described above.

FISCAL IMPACT

Description	Qty (hrs)	Rate	Extended
Project Mgr (RT)		\$75.00	\$0.00
Project Mgr (OT)		\$110.00	\$0.00
Superintendent (RT)		\$65.00	\$0.00
Superintendent (OT)		\$100.00	\$0.00
Pipefitter/Welder (RT)		\$50.00	\$0.00
Pipefitter/Welder (OT)		\$75.00	\$0.00
Sprinkler Fitter (RT)		\$42.00	\$0.00
Sprinkler Fitter (OT)		\$63.00	\$0.00
Electrician (RT)		\$50.00	\$0.00
Electrician (OT)		\$75.00	\$0.00
Apprentice/Helper (RT)		\$36.00	\$0.00
Apprentice/Helper (OT)		\$54.00	\$0.00
Expediter/Delivery (RT)		\$28.00	\$0.00
Expediter/Delivery (OT)		\$42.00	\$0.00
Machine Shop Millwright (RT)	86	\$56.00	\$4,816.00
Machine Shop Millwright (OT)		\$88.00	\$0.00
HVAC/Plb Service Tech (RT)		\$64.00	\$0.00
HVAC/Plb Service Tech (OT)		\$96.00	\$0.00
Air Compressor Tech (RT)		\$64.00	\$0.00

Air Compressor Tech (OT)		\$96.00	\$0.00
Laborer - Skilled (RT)	42	\$30.00	\$1,260.00
Laborer - Skilled (OT)		\$45.00	\$0.00
Laborer - Unskilled (RT)		\$21.00	\$0.00
Laborer - Unskilled (OT)		\$32.00	\$0.00

Equipment	Qty (hrs)	Rate/Hr	Extended
Welder		\$15.00	\$0.00
Power Threader		\$15.00	\$0.00
Mini/Midi Hammer		\$12.00	\$0.00
Variable Reach Forklift		\$26.00	\$0.00
Pickup Truck	86	\$15.00	\$1,290.00
Scissor Lift		\$18.00	\$0.00
Skid Steer		\$25.00	\$0.00
Boom Man Lift		\$29.00	\$0.00
Cat 420D Backhoe		\$33.00	\$0.00
Street Plate		\$7.00	\$0.00
185 CFM Compressor		\$15.00	\$0.00
ECM 350*			\$0.00
Air Track Drill*			\$0.00
Pipe Laser		\$21.00	\$0.00
Total Station EDM		\$115.00	\$0.00
15 ton Boom Truck*		\$150.00	\$0.00
30-50 Ton RT Crane*	18	\$225.00	\$4,050.00
80 Ton Crawler Crane*			\$0.00
3" Submersible Pump		\$10.00	\$0.00
6" Hydraulic Pump		\$16.00	\$0.00

Materials & Subcontractors		
hoist		\$350.00
material		\$500.00

TOTAL \$12,266.00

SCHEDULE

Description	Date
Notice To Proceed	
Substantial Completion	
Final Payment	

Contractor:
John Bouchard and Sons Company

City:
City of Murfreesboro Water and Sewer Dept.

By: _____
Name: _____
Title: _____
Date: _____

By: _____
Name: _____
Title: _____
Date: _____

Approved as to Form: _____
Craig Tindall, City Attorney

CONTRACTOR NOTICE CONTACT INFORMATION

CITY NOTICE CONTACT INFORMATION

John Bouchard and Sons Company
Mailing address 1024 Harrison St.
Nashville, TN 37203
Phone number 615-256-0112
Fax number 615-256-2427
Company Contact David Proctor
E-mail David.Proctor@jbouchard.com

Murfreesboro Water and Sewer Dept.
Mailing address 300 NW Broad St.
Murfreesboro, TN 37130
Phone number 615-890-0862
Fax number 615-896-4259
Company Contact Darren Gore
E-mail dgore@murfreesborotn.gov



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TASK ORDER NO. 16-05

June 10, 2016

BETWEEN

**JOHN BOUCHARD & SONS COMPANY AND CITY OF MURFREESBORO
acting by and through the Murfreesboro Water and Sewer Department**

UNDER

Water/Wastewater System Mechanical/Electrical Services Contract

DATED

January 28, 2016 thru January 28, 2017

FOR

RW#6 Pump Repair and Re-Installation

Task Order No. 16-05
RW#6 Pump Work
Murfreesboro Water Plant

BACKGROUND

Under Task Order #16-05, JBS had removed and assessed RW#6 under our existing service contract. Our assessment revealed that the pump had several worn parts that would likely result in the diminished flow capacity observed when the pump was in operation. A representative from MWSD visited the JBS shop and was shown the various worn components of the pump. We have prepared an estimate for the repair/rebuild of the pump for your consideration. In addition, we will also prepare an estimate for the replacement of this pump for comparison. Pricing includes re-sleeving the impeller, shafts, sleeves, mechanical seal, coupling, spider bushings, brass bearings, pump shaft, bolts, sandblasting, paint, re-installation, and start-up assistance.

SCOPE OF WORK

Labor and materials by JBS to repair and re-install RW#6 pump as described above.

FISCAL IMPACT

Description	Qty (hrs)	Rate	Extended
Project Mgr (RT)	16	\$75.00	\$1,200.00
Project Mgr (OT)		\$110.00	\$0.00
Superintendent (RT)		\$65.00	\$0.00
Superintendent (OT)		\$100.00	\$0.00
Pipefitter/Welder (RT)		\$50.00	\$0.00
Pipefitter/Welder (OT)		\$75.00	\$0.00
Sprinkler Fitter (RT)		\$42.00	\$0.00
Sprinkler Fitter (OT)		\$63.00	\$0.00
Electrician (RT)		\$50.00	\$0.00
Electrician (OT)		\$75.00	\$0.00
Apprentice/Helper (RT)		\$36.00	\$0.00
Apprentice/Helper (OT)		\$54.00	\$0.00
Expediter/Delivery (RT)		\$28.00	\$0.00
Expediter/Delivery (OT)		\$42.00	\$0.00
Machine Shop Millwright (RT)	240	\$56.00	\$13,440.00
Machine Shop Millwright (OT)		\$88.00	\$0.00
HVAC/Plb Service Tech (RT)		\$64.00	\$0.00
HVAC/Plb Service Tech (OT)		\$96.00	\$0.00
Air Compressor Tech (RT)		\$64.00	\$0.00
Air Compressor Tech (OT)		\$96.00	\$0.00

Laborer - Skilled (RT)	80	\$30.00	\$2,400.00
Laborer - Skilled (OT)		\$45.00	\$0.00
Laborer - Unskilled (RT)		\$21.00	\$0.00
Laborer - Unskilled (OT)		\$32.00	\$0.00

Equipment	Qty (hrs)	Rate/Hr	Extended
Welder		\$15.00	\$0.00
Power Threader		\$15.00	\$0.00
Mini/Midi Hammer		\$12.00	\$0.00
Variable Reach Forklift		\$26.00	\$0.00
Pickup Truck	80	\$15.00	\$1,200.00
Scissor Lift		\$18.00	\$0.00
Skid Steer		\$25.00	\$0.00
Boom Man Lift		\$29.00	\$0.00
Cat 420D Backhoe		\$33.00	\$0.00
Street Plate		\$7.00	\$0.00
185 CFM Compressor		\$15.00	\$0.00
ECM 350*			\$0.00
Air Track Drill*			\$0.00
Pipe Laser		\$21.00	\$0.00
Total Station EDM		\$115.00	\$0.00
15 ton Boom Truck*		\$150.00	\$0.00
30-50 Ton RT Crane*		\$225.00	\$0.00
80 Ton Crawler Crane*			\$0.00
3" Submersible Pump		\$10.00	\$0.00
6" Hydraulic Pump		\$16.00	\$0.00

Materials & Subcontractors		
hoist		\$1,200.00
parts and materials		\$8,000.00
misc		\$2,000.00

TOTAL \$29,440.00

SCHEDULE

Description	Date
Notice To Proceed	
Substantial Completion	
Final Payment	

Contractor:
John Bouchard and Sons Company

City:
City of Murfreesboro Water and Sewer Dept.

By: _____
Name: _____
Title: _____
Date: _____

By: _____
Name: _____
Title: _____
Date: _____

Approved as to Form: _____

Susan Emery McGannon, City Attorney

CONTRACTOR NOTICE CONTACT INFORMATION

CITY NOTICE CONTACT INFORMATION

John Bouchard and Sons Company
Mailing address 1024 Harrison St.
Nashville, TN 37203

Murfreesboro Water and Sewer Dept.
Mailing address 300 NW Broad St.
Murfreesboro, TN 37130

Phone number 615-256-0112

Phone number 615-890-0862

Fax number 615-256-2427

Fax number 615-896-4259

Company Contact David Proctor

Company Contact Darren Gore

E-mail David.Proctor@jbouchard.com

E-mail dgore@murfreesborotn.gov



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MEMORANDUM

DATE: June 13, 2016
TO: Water and Sewer Board
FROM: Valerie Smith
SUBJECT: Contingency Allowance Allocations for Sinking Creek WWTP Phase 4D

Background

The Department received bids for the Sinking Creek Plant Expansion – Phase 4D on January 8, 2015. At that meeting the Board approved to award the project to 3D Enterprises the contract in the amount of \$30,472,000. As part of the referenced project, Item #4 within Schedule C of the Construction Contract is a contingency allowance of \$500,000.

The attached change control log which identifies the recent allowance allocation issued through field work change directives. Note that these work change directives do not change the contract price, only adjust the remaining balance of the contingency allowance. The final contract price will be adjusted accordingly in a future change order or a final balancing change order at the end of the project.

The following table is provided to update the Board on the current field work change directives and the remaining contingency allowances.

Project	Contingency Allowance	Prior Contingency Allocations	Current Contingency Allocations	Remaining Contingency Allowance
Phase 4D Expansion	\$500,000	\$200,389.00**	\$ 12,998 *	\$286,613.00

*CCF # – 20, 21 & 26 (Current)

**CCF #'s (1 Rev. 2, 2, 5-9, 11-13, 17-19 & 22-25 previously approved)(cumulative)

Recommendation

Staff recommends the referenced contingency allocation for the Phase 4D Expansion be authorized. A final contract amount accounting for all contingency items will be brought to the Board and City Council for approval in a final balancing change order.

Fiscal Impact

There is no fiscal impact at this time to the Department’s State Revolving Fund (SRF) loan, as the contingency allowance has been approved within the contract and the contract amount remains unaffected.

Attachments

SSR Recommendation Letters & CCF Log



June 9, 2016

Mrs. Valerie Smith
Assistant Director, Murfreesboro Water and Sewer Department
P.O. Box 1477
Murfreesboro, TN 37133-1477

RE: **Sinking Creek WWTP Phase 4D**
Murfreesboro, TN
Proposed CCF No. 20 (COP-15), CCF No. 21, and CCF No. 26 (COP-18).
CG2 2014-338; SRF 2014-339

Dear Mrs. Smith:

Attached are four (4) copies each of proposed Change Item Nos. 15 and 18, and CCF number 21 including a Summary Log of all proposed changes to date. The following summarizes the change items and provides recommendation for their approval.

CCF No. 20 was requested by the Engineer to provide area lighting and electrical receptacles on the bridges of the new final clarifiers. CCF 20 also proposes to provide photocell lighting control, and an upgraded breaker for the eyewash heater circuit. The cost increase for the change is \$30,240.00.

CCF No. 21 was requested by the Engineer to replace the precast concrete fascia panels on the new brick buildings with brick veneer. This results in a credit to the contingency allowance of \$20,000.00.

CCF No. 26 was requested by the Engineer to provide a new bucket in the available space within MCC-N5A with two (2) each 15 amp tandem breakers to feed motor operated valves to be installed within the Existing Tertiary Filter Structure. The cost increase for the change is \$2,758.00

If approved, CCFs 15, 18, and 26 result in reduction to the Construction Contingency Allowance from a total of \$299,611.00 to a total of \$286,613. There will be no increase in the contract time as a result of these change items.

SSR has reviewed these proposed changes and recommend they be approved and the contingency allowance be adjusted accordingly. Note that the total contract price will not be adjusted, only the contingency amount. Please review the enclosures and if acceptable to you, execute and forward one (1) signed copy to me.

If you have any questions, please contact me.

Sincerely,

SMITH SECKMAN REID, INC.



Marshall Fall, P.E.

cc: Darren Gore (w/encl) – MWSD

BDF (wo/encl) – SSR
File (12) (w/encl) – 12-41-019.0

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CHANGE CONTROL LOG

Owner: Murfreesboro Water & Sewer Department
Project Name: Sinking Creek WWTP Phase 4D Expansion
Contract No.: N/A
Engineer: Smith Seckman Reid, Inc.
Contractor: 3D Enterprises Contracting Corporation

Original Contract Amount: \$ **30,472,000.00**

Contingency Allowance Amount: \$ **500,000.00**

Adjusted Contingency Allowance Amount: \$ **286,613.00**

	Rejected/Withdrawn
	Under Review
	Approved
	Pending

SSR No.	CCF No.	3D No.	COP No.	Change Order No.	Change Type	Brief Description of Change Item	Status (Pending/Under Review/Approved/Rejected)	Date From/To Contractor	Date Submitted to Owner	Date Approved/Rejected by Owner	Add/Deduct (+/-) Amount	Cumulative Add/Deduct Amount	Adjusted Contingency Amount	Adjusted Contract Amount
1				N/A	RFP	Add Headworks paving, irrigation-piping and landscaping to Phase 4D-scope	Withdrawn	4/15/2015	Withdrawn	Withdrawn	\$ _____	\$ _____	\$ 500,000.00	\$ 30,472,000.00
1-REV				N/A	RFP	Add Headworks paving partial-landscaping to Phase 4D-scope	Withdrawn	6/11/2015	Withdrawn	Withdrawn	\$ _____	\$ _____	\$ 500,000.00	\$ 30,472,000.00
1-REV2				TBD	RFP	Delete landscaping and irrigation	Approved	8/5/2015	10/17/2015	Approved	\$ (25,800.00)	\$ (25,800.00)	\$ 525,800.00	\$ 30,472,000.00
2				2	RFP	Delete diffusers from Post Aeration equipment	Approved	9/1/2015	9/2/2015	9/15/2015	\$ (11,200.00)	\$ (37,000.00)	\$ 537,000.00	\$ 30,472,000.00
3				N/A	FP	Change stairs platform from galv to alum.	Approved	4/23/2015	N/A	N/A	\$ -	\$ (37,000.00)	\$ 537,000.00	\$ 30,472,000.00
4				N/A	RFP	Add signal wiring for Main PS pump-discharge valves	Withdrawn	5/28/2015	7/28/2015	8/5/2015	\$ _____	\$ (37,000.00)	\$ 537,000.00	\$ 30,472,000.00
5				TBD	RFP	Revise electrical service per MED	Withdrawn	6/18/2015	Withdrawn	Withdrawn	\$ _____	\$ (37,000.00)	\$ 537,000.00	\$ 30,472,000.00
5-REV				TBD	RFP	Revise electrical service per MED	Approved	8/10/2015	1/14/2016	2/5/2016	\$ 82,856.00	\$ 45,856.00	\$ 454,144.00	\$ 30,472,000.00
6				TBD	RFP	Algae Cleaning System attachment arm	Approved	7/20/2015	7/28/2015	9/3/2015	\$ 7,600.00	\$ 53,456.00	\$ 446,544.00	\$ 30,472,000.00
7				TBD	RFP	Tertiary Filter embed conduit	Approved	7/24/2015	7/28/2015	9/3/2015	\$ 2,500.00	\$ 55,956.00	\$ 444,044.00	\$ 30,472,000.00
8				TBD	RFP	HVAC upgrade in Post Aeration Control Room	Approved	9/9/2015	1/8/2016	2/5/2016	\$ 52,740.00	\$ 108,696.00	\$ 391,304.00	\$ 30,472,000.00
9				TBD	RFP	Revise Final Clarifier EDI type	Approved	9/24/2015	10/6/2015	11/5/2015	\$ 3,300.00	\$ 111,996.00	\$ 388,004.00	\$ 30,472,000.00
10				TBD	RFP	Provide sleeves under roadway for future irrigation piping.	Pending	9/1/1939	Pending	Pending	\$ -	\$ 111,996.00	\$ 388,004.00	\$ 30,472,000.00
11				TBD	FO	Electrical changes to MCC and-control room layouts	Withdrawn	10/7/2015	Pending	Pending	\$ _____	\$ 111,996.00	\$ 388,004.00	\$ 30,472,000.00
11-REV1				TBD	RFP	Various electrical changes	Approved	10/20/2015	2/10/2015	4/7/2016	\$ 7,900.00	\$ 119,896.00	\$ 380,104.00	\$ 30,472,000.00
12				TBD	RFP	Headworks Facility electrical revisions/clarifications	Approved	10/20/2015	2/10/2015	4/7/2016	\$ 2,600.00	\$ 122,496.00	\$ 377,504.00	\$ 30,472,000.00
13				TBD	WCD	Replacement of existing Filter backwash flow meter	Approved	11/9/2015	3/15/2016	4/7/2016	\$ 20,533.00	\$ 143,029.00	\$ 356,971.00	\$ 30,472,000.00
14				TBD	RFP	Knockout wall at gate opening for future Ox-Ditch	Withdrawn	12/16/2015			\$ _____	\$ 143,029.00	\$ 356,971.00	\$ 30,472,000.00
15				TBD	FO	UV power feed relocation	Approved	1/18/2016	N/A	N/A	\$ -	\$ 143,029.00	\$ 356,971.00	\$ 30,472,000.00
16				TBD	RFP	Additional generator/ATS signals	Pending	1/26/2016			\$ -	\$ 143,029.00	\$ 356,971.00	\$ 30,472,000.00
17				TBD	RFP	Add ultrasonic flow meter at Main PS	Approved	2/4/2016	3/15/2016	4/7/2016	\$ 11,120.00	\$ 154,149.00	\$ 345,851.00	\$ 30,472,000.00

18	14	TBD	RFP	Installation of the Allen-Bradley Power Monitors into the Eaton switchgear	Under Review	5/4/2016	5/17/2016	?????	\$ 17,080.00	\$ 171,229.00	\$ 328,771.00	\$ 30,472,000.00
19	13	TBD	CCR	60" TRE Junction Box in lieu of tapping sleeve	Approved	2/22/2016	3/24/2016	5/11/2016	\$ (10,000.00)	\$ 161,229.00	\$ 338,771.00	\$ 30,472,000.00
20	15	TBD	RFP	Addition of area lights and receptacles at clarifiers. Photocell and lighting control.	Under Review	5/18/2016	6/8/2016		\$ 30,240.00	\$ 191,469.00	\$ 308,531.00	\$ 30,472,000.00
21	12	TBD	RFP	Replace building architectural precast fascia panels with brick	Pending	3/18/2016			\$ (20,000.00)	\$ 171,469.00	\$ 328,531.00	\$ 30,472,000.00
22	16	TBD	RFP	Item 2 on RFI 33 Counter-flashing @ UV basin for building/canopy joint	Under Review	4/19/2016	5/12/2016		\$ 912.00	\$ 172,381.00	\$ 327,619.00	\$ 30,472,000.00
23	16	TBD	RFP	Provide steel beams & additional reinforcing steel for pipe supports per revised drawings S 1.3-05 & S5.4-05	Under Review	5/3/2016	5/12/2016		\$ 28,392.00	\$ 200,773.00	\$ 299,227.00	\$ 30,472,000.00
24	16	TBD	RFP	Provide FRP door, frame and hardware at FCPR south entrance. Modify door 8-3 from hollow metal to FRP with 90 mn fire rating	Under Review	5/3/2016	5/12/2016		\$ 6,696.00	\$ 207,469.00	\$ 292,531.00	\$ 30,472,000.00
25	17	TBD	RFP	Provide factory applied epoxy coating on coils	Under Review	5/9/2016	6/8/2016		\$ 3,160.00	\$ 210,629.00	\$ 289,371.00	\$ 30,472,000.00
26		TBD	RFP	Provide new bucket in available space within MCC-N5A with 2 15 A tandem breakers	Under Review	5/27/2016	6/2/2016		\$ 2,758.00	\$ 213,387.00	\$ 286,613.00	\$ 30,472,000.00
Totals									\$ 213,387.00		\$ 286,613.00	\$ 30,472,000.00

- Notes:
1. CCR - Contractor change request.
 2. CL - Claim.
 3. FO - Field Order.
 4. RFP - Request for proposal.
 5. WCD - Work change directive.

MINUTES
MURFREESBORO WATER AND SEWER BOARD
May 24, 2016

The Murfreesboro Water and Sewer Board met on Tuesday, May 26, 2016 in the conference room 4at the Operations and Maintenance Building, 1725 S. Church Street. Present at the meeting were Board members: Mr. John Sant Amour, Mr. Ron Crabtree, Mr. Ron Washington, and Dr. Al Carter. Also present were Darren Gore, Michele Pinkston, Craig Tindall, Jennifer Moody, Doug Swann, Steve Tate, John Strickland, Terry Taylor, Jimmy Stacey, Robert Haley, Brian Pollock, Randy McCullough, Melissa Rowland, Kenny Diehl, Mike Bernard, along with other members of the public.

The Consent Agenda was presented for the following considerations:

- A. *Consider US Department of Interior Joint Funding Agreement for West Fork Stones River Gaging Station –*

The Joint Funding Agreement between the Department of Interior and the Murfreesboro Water and Sewer Department is for a program of water resources data collection on the West Fork of the Stones River. This program includes the operation of a stream flow gauge and a water quality monitoring station at the discharge of the Sinking Creek Wastewater Treatment Plant.

This is a standard agreement under which we have participated since 1986 to collect data on the discharge from the wastewater treatment plant.

Staff recommended the Board recommend to the City Council approval of the agreement as presented.

The cost to the Department is \$22,950 per year with USGS matching \$12,050 for a total of \$35,000. This program is included in the proposed 2016-2017 fiscal year budget.

- B. *Consider renewal of Memorandum of Understanding with MTSU –*

Public education and participation is a core requirement of the State-issued stormwater discharge permit under which the City of Murfreesboro operates. Each year our annual stormwater report to TDEC includes a record of what outreach and education we have done.

In 2011, the City and MTSU entered into a Memorandum of Understanding (MOU) for MTSU to do education projects for us related to stormwater and surface water quality. We have continued with that MOU (revised in 2012) by annual renewals since then. The Agreement has a base amount of \$45,000 and allows up to \$60,000. The past three year average cost has been \$46,500.

Each year MTSU and staff agree on a list of events and projects. These include education and outreach targeted to certain businesses, areas, and/or activities (TV spots, stream clean-up events, tree-planting, audits of facilities and follow-up education, etc.); indoor and outdoor classroom teaching; setting

up and staffing outreach events (Earth Day, school field days, etc.). Projects vary from year to year based on program needs and goals.

Staff would like to renew the MOU without changes and recommended that the Board recommend to City Council renewal of the MOU.

Fifty thousand (\$50,000) dollars has been included in the 2016-17 fiscal year budget for education services and would be paid out of stormwater funds.

C. Consider Final Change Order for Sinking Creek Headworks Construction Phase 4C –

Staff received bids for the Sinking Creek Wastewater Treatment Plant (SCWWTP) Headworks facility on August 13, 2013 and the project was awarded to Judy Construction in the amount of \$7,800,000. The final balancing change order establishes the finished contract price as \$7,667,122, which is a deduct of \$132,878. However, the contract time was increased by 146 days.

SSR and staff recommended the Board recommend to City Council approval of the Final Change Order bringing the final project cost to \$7,667,122.

There was \$37M through SRF loans secured in 2013 to fund the Southwest Force Main, Southwest Pumping Station and Sinking Creek Headworks facility. The final Change Order will be sent to SRF for approval once approved by City Council.

D. Consider Final Change Order for Southwest Regional Pumping Station –

Staff received bids for the Southwest Regional pumping station on Thursday, March 19, 2013 and the project was awarded to Garney Companies, Inc. in the amount of \$7,293,130. The final balancing change order establishes the finished contract price as \$7,256,545.65, which is a deduct of \$36,584.35. However, the contract time was increased by 261 days.

SSR and staff recommended the Board recommend to City Council approval of the Final Change Order bringing the final project cost to \$7,256,545.65.

There was \$37M through SRF loans secured in 2013 to fund the Southwest Force Main, Southwest Pumping Station and Sinking Creek Headworks facility. The final Change Order will be sent to SRF for approval once approved by City Council.

E. Consider contingency allocations for Sinking Creek WWTP Phase 4D –

The Department received bids for the Sinking Creek Plant Expansion Phase 4D on January 8, 2015 and the Board approved to award the project to 3D Enterprises the contract in the amount of \$30,472,000. As part of the referenced project, Item #4 within Schedule C of the Construction Contract is a contingency allowance of \$500,000.

The change control log identifies the recent allowance allocation issued through field work change directives. These work change directives do not change the contract price, only adjust the remaining

balance of the contingency allowance. The final contract price will be adjusted accordingly in a future change order or a final balancing change order at the end of the project.

The following table is provided to update the Board on the current field work change directives and the remaining contingency allowances.

Project	Contingency Allowance	Prior Contingency Allocations	Current Contingency Allocations	Remaining Contingency Allowance
Phase 4D Expansion	\$500,000	\$144,149.00**	\$ 56,780 *	\$299,071.00

*CCF # – 18 and 22-25 (Current)

**CCF #'s (1 Rev. 2, 2, 5, 6, 7, 8, 9, 11-13, 17, & 19 previously approved)(cumulative)

Staff recommended the referenced contingency allocation for the Phase 4D Expansion be authorized. A final contract amount accounting for all contingency items will be brought to the Board and City Council for approval in a final balancing change order.

There is no fiscal impact at this time to the Department’s State Revolving Fund (SRF) loan, as the contingency allowance has been approved within the contract and the contract amount remains unaffected.

A motion was made by Ron Crabtree to accept the Consent Agenda as presented and it was seconded by Ron Washington. The Board voted unanimously to approve.

The April 26, 2016 Board Minutes were unanimously accepted as presented.

The Board considered a proposal for engineering services from Wisser Consultants for Wilkinson Pike Reconstruction.

The City is moving forward with the design to reconstruct and widen a portion of Wilkinson Pike. Typically, the Department’s policy is to replace and upgrade the existing water and sewer mains with new roadway reconstruction projects to avoid having old lines within a new road. However, the water service provider for this area is Consolidated Utility District and the sewer infrastructure in this area is very young, so replacement is not necessary. What is necessary is to extend a combination of gravity sewer and sewer force main to those properties that do not have public sewer available as well as repurified water.

The City is under contract with Wisser Consultants, LLC to design the roadway improvements and as matter of standard practice, staff has requested a proposal from Wisser Consultants to design the sewer improvements.

Wisser Consultants, LLC has provided their proposal in the lump sum not to exceed amount of \$24,850. They have also estimated the construction costs for the repurified water and sewer improvements at a total of \$655,059 which includes a 10% contingency amount.

Staff recommended the Board recommend to City Council approval of the proposal for engineering design services in the amount not to exceed \$24,850.

This project was a planned project listed in the 5-year capital improvement plan for years FY16 and FY17 with the construction costs to be funded from working capital reserves in the amount of \$200,000.

However, this amount did not include costs associated with extending repurified water. The 5-yr working capital reserve CIP has been updated to reflect the new estimate; adequate funds exist for the increased costs associated with running a repurified main along the length of the improvements.

Ron Washington made a motion to approve. Dr. Carter seconded. The motion unanimously passed.

The Board considered National Water Supply Alliance Memorandum of Understanding.

Since December of 2015, Mr. Darren Gore has been involved with a group of water supply providers that withdraw from Corps reservoirs. The group has been meeting to discuss common principles, goals and objectives that they could coalesce around to abate some of the inconsistencies in Corps' administered policy and advocate for water supply at a stronger level with Congress, primarily through affecting legislation, specifically the Water Resource Development Act (WRDA) that is scheduled to be put forward every other year.

The group met for a 3rd time on May 4, 2016 in Kansas City and is developing a Memorandum of Understanding (MOU) to form an unincorporated coalition that intends to articulate those common principles and tactics. The term being used to label the group in the MOU is the National Water Supply Alliance (NWSA). The immediate expectation is for the group to use that MOU to demonstrate to their Congressional delegation that the inconsistent or bad policy and lack of water supply as a preeminent use in Corps reservoirs is causing a National hardship, not just a local difficulty.

Mr. Gore has been placed on the steering committee and charged with determining whether this organization should become a newly formed incorporated nonprofit or affiliate the group's members under a pre-existing organization that can accomplish the goal of making water supply a priority with the Corps and Congress.

A draft mission statement for the group would be something along the lines of:

To advocate for the preservation and enhancement of the nation's water supply, protection of traditional State authorities, and to ensure that water supply interests share equitably in the benefits provided by U.S. Army Corps of Engineers' water projects.

In the long-term, the group is expecting to formulate a dues structure that would be capable of funding some type of management structure that has the ability to lobby Congress on common-ground issues; becoming either a newly formed organization or come in under the umbrella of a pre-existing organization that can fulfill the mission and goals outlined. Mr. Gore believes the water supply use in Corps' projects is "growing up" with the understanding that in order to have a voice in Corps policy and National legislation there has to be a strong advocacy group created.

Staff recommended the Board approve the Director entering the Murfreesboro Water and Sewer Department into the final draft NWSA Memorandum of Understanding.

Ron Crabtree made a motion to approve. Dr. Carter seconded. The motion unanimously passed.

Staff notified the Board of the Lytle Street Phase II Reconstruction bids.

At the September 2015 Board meeting an engineering proposal was approved for Wisser Company to design the replacement and relocation of the existing water and sewer mains within the project area. This phase of the reconstruction will extend from Barker Street to Church Street to include portions of Front, Walnut and Maple Streets.

The last Engineers estimate for construction of the replacement/relocation of the existing water and sewer mains was in the amount of \$1.17M. Bids were received for the project on April 14, 2016; however, the City decided to re-bid the project. The bid opening is today, May 24th at 2:00 p.m. and will likely be taken to City Council for approval prior to the June Water and Sewer Board meeting. Results of the bids will be sent to the Board via email for their information.

This project was a planned project listed in the 5-year capital improvement plan for years FY16 and FY17 with the construction costs to be funded from working capital reserves in the amount of \$1.17M. Adequate reserve funds exist to fund this project. Staff previously requested the engineering and construction costs of the project to be funded from working capital reserves.

Staff presented and discussed the Water and Sewer Dashboard Performance for April 2016.

Staff presented and discussed the Financial Reports for the year ending April 30, 2016.

There being no further business, the meeting was adjourned.

John Sant Amour, Chairman



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MEMORANDUM

DATE: June 20, 2016
TO: Water and Sewer Board
FROM: Darren Gore
SUBJECT: Sinking Creek Treatment Plant – Installation Services for Three (3) Biosolids Press Replacements and Three (3) Sludge Transfer Pump Replacements

Staff requests approval for task order number 15-06 with the City of Murfreesboro's standing contract with John Bouchard and Sons in conjunction with a professional services agreement with MR Systems, Inc. services to replace three (3) Fournier biosolids rotary presses at the Sinking Creek Wastewater Treatment Plant, purchased with State Revolving Fund (SRF) loans.

Background

Since the beginning of 2014, it has been the intent of staff to replace four (4) older Fournier biosolids presses at the Sinking Creek Wastewater Treatment plant. The plan was to replace one (1) press every other year funding the replacement from the Department's working capital reserves. At the August 2015 meeting, the Board approved for Smith Seckman and Reid (SSR) to provide engineering consulting services to replace two (2) Fournier biosolids rotary presses at the Sinking Creek Wastewater Treatment Plant and purchase the rotary presses using State Revolving Fund (SRF) loans. Afterward, SRF stated that there were remaining funds in the subsidized loan available to MWSD and recommended a purchase of a third press. Based on the business case developed in August and the need to replace older presses, staff recommended at the October 2015 meeting and the Board approved purchasing a third Fournier press using SRF Loan CW0 2012-303 which allows for 24.7% principal forgiveness. The SRF principal forgiveness on the loan affords the Department \$330,743 savings. The debt incurred is therefore \$1,008,297.

The new Fournier presses are the major components of this dewatering system project. However, installation requires significant coordination with various manufacturers. Penn Valley double disc pumps that transfer the sludge from the holding facility to the Fournier presses were approved for purchase in April 2016. The existing pumps are near the end of their useful lives. The costs associated with procuring the pumps were quoted as \$91,550; funding coming from SRF loan CW0 2012-303, affording the same 24.7% principal forgiveness as the presses, or \$22,613.

As was qualified since the beginning, the labor associated with the installation of the new presses would need to be funded through the Department's standing contract with John Bouchard & Sons (JB&S) and a professional services agreement with MR Systems, Inc. (MRS), both funded through the Department's working capital reserves.

The JB&S and MRS scope of work and associated costs are attached.

Recommendation

1. Staff recommends that the Board recommend to City Council approving John Bouchard and Sons task order number 15-06 for mechanical and electrical work associated with the three (3) biosolids press replacements.
2. Staff recommends that the Board recommend to City Council approving MR Systems, Inc professional services agreement for controls and integration work associated with the three (3) biosolids press replacements.

Fiscal Impact

1. The costs associated with JB&S mechanical and electrical services are \$223,254 and \$68,455, respectively. Funding for these engineering services is recommended to come from the Department's working capital reserves.
2. The cost associated with MRS controls and integration services is \$27,592.50. Funding for these engineering services is recommended to come from the Department's working capital reserves.

The total project costs are tabulated as follows:

Item	Funding Source	Cost	Principal Forgiveness
Three (3) Fournier Biosolids Presses	CW0 2012-303*	\$1,339,040	\$(330,743)
Three (3) double-disc Penn Valley Sludge Transfer Pumps	CW0 2012-303*	\$91,550	\$(22,613)
Mechanical / Electrical Installation Services	Working Capital Reserves	\$291,709	\$0
Controls & Integrations Services	Working Capital Reserves	\$27,592.50	\$0
Engineering Design Services	Working Capital Reserves	\$130,255	\$0
	Sub-Total	\$1,880,146.5	\$(353,356)
	Total Outlay	\$1,526,790.50	

* 20-yr fixed SRF loan at 1.01%

Attachments

- JB&S Scope of Work and Cost associated with Task Order 15-06
- MRS Scope of Work and Cost associated with replacement of three (3) Fournier biosolids presses

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FOUNDRY DIVISION

IRON CONSTRUCTION CASTINGS

June 6, 2016

Smith Seckman and Reid
Brent Fowler, PE

Press & Pump Installation Estimate – Mechanical & Electrical
Revised to Include the Fourth Pump MCC Bucket/VFD Installation
City of Murfreesboro
Murfreesboro Water and Sewer Department
Phase 4E Expansion
Electrical

Dear Mr. Fowler,

JBS is working under an existing service contract for Murfreesboro Water & Sewer Department. As part of this contract, JBS was asked to prepare an estimate for the replacement of presses and pumps at the Sinking Creek WWTP. We are pleased to offer our estimate for the following scope of work; this estimate is based on drawings, specifications and our site visits. Please note that this is an estimate and that final costs will be based upon actual labor and materials incurred. As noted in the meeting and conference call, JBS notes that our estimate does not account for full compliance with the project specifications; however, the owner and/or engineer is free to direct JBS to comply with any/all of these specifications under our contract terms.

1024 HARRISON STREET NASHVILLE, TN 37203
(615) 256-0112 FAX (615) 256-2427

6331 BAUM DRIVE KNOXVILLE, TN 37919
(865) 523-9300 FAX (865) 544-1400

www.ibouchard.com email: info@ibouchard.com

Sludge Pump Replacement Scope:

Mechanical Scope of Work

- Isolate the three existing sludge pumps from the rest of the system.
- Remove the pumps and associated piping from the area, using a boom truck to raise the pumps from the pit and either store on-site for salvage or dispose of the pumps and piping.
- Furnish and install new pipe, valves, fittings, and pipe supports to accommodate the new pumps.
- Pressure test new piping as required.
- Paint piping as required. Includes pipe labels.
- Reconfigure the existing concrete pads to accommodate the new pumps.
- Accept delivery and unload pumps on-site and store as needed.
- Install the three owner-furnished Penn Valley Pumps and miscellaneous devices.
- Assist with startup of the new pumps.

Electrical Scope of Work

- Disconnect existing electrical to (3) existing pumps.
- Rework conduit and wiring as needed to accommodate new pump locations.
- Rework conduit and wiring as needed to accommodate existing control wiring at pump locations.
- Provide and install stainless steel strut for disconnect supports as needed for pumps.
- Remove (4) existing VFD MCC buckets and install new VFD MCC buckets that are to be provided by Fournier.
- Connect existing control wiring to new VFD's.
- Terminate Fiber connections in existing PLC #6 panel.
- Startup assistance labor.

Mechanical Exclusions

- Overtime labor rates
- Seismic Engineering/Bracing
- Providing pumps

Electrical Exclusions of Work

- Overtime labor rates
- Fiber optic cable or installation.
- Fiber switch.
- VFD's
- Replacing or adding to any wiring from the VFD's to existing pump disconnects or controllers
- Disconnect switches.

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Press Replacement Scope

Mechanical Scope of Work

- Demolish three existing Fournier presses and flocculators in a manner that best suits the owner with regard to maintaining operations.
- Store or dispose of demolished items as per the owner/engineer's direction.
- Isolate associated piping serving the presses to allow for installation of new presses.
- Pour new concrete pads for the three new presses.
- Take delivery and unload the presses on site. Includes crane/forklift rental.
- Install three owner furnished Fournier presses. Includes rigging and forklift rental.
- Furnish and install new pipe, valves, fittings, and pipe supports for the new presses.
- Includes installation of various owner furnished devices in the piping and re-use of the existing flocculators.
- Includes tie-ins to the existing piping as shown on the contract drawings.
- Pressure test and paint the new piping.
- Includes pipe labels.
- Assist with startup of the new presses.

Electrical Scope of Work

- Check and document all control wiring to be reused or replaced.
- Disconnect existing electrical to (3) existing filter pumps, install wiring in existing conduit from existing disconnects to new panel CP-8100A.
- Remove (4) existing filter press VFD's and replace with new control panel CP-8100A supplied by Fournier.
- Supply and install NEMA 12 lay in wireway from existing (4) VFD conduits to new control panel CP-8100A.
- Supply and install terminal blocks in wireway to extend wiring for filter press #4 to new CP-8100A.
- Remove existing panel CP-8100 and replace with new control panel supplied by Fournier.
- Provide and install conduit, wiring and (1) 150 amp 3 pole breaker for new CP-8100A control panel.
- Provide and install necessary conduit and wiring from CP-8101, CP8102, CP-8103 terminal box to filter presses.

- Install conduit and fiber optic cable from CP-8400 to CP-8100 and terminate to patch panel that is to be supplied by others.
- Startup assists labor.

Mechanical Exclusions

- Overtime labor rates
- Seismic Engineering/Bracing
- Providing presses and accessories

Electrical Exclusions of Work

- Overtime labor rates
- Replacing or repair of any existing conduit that is labeled on drawing to be reused.
- Fiber switch.
- Fork lift rental, (per our conference call, to save on this expense Murfreesboro WWTP will provide a fork lift and operator as needed to assist in removing and installing control panels.
- Disconnect switches.

TOTAL ESTIMATE FOR PUMP & PRESS INSTALLATION & WIRING \$ 291,709.00

Breakout Estimates:

Mechanical – Pumps & Presses:	\$ 223,254.00
Electrical-Pumps:	\$ 19,364.00
Electrical-Presses:	\$ 49,091.00

See rate sheets for individual breakdowns

Any payment received by credit card will result in extra charges per transaction equal to the sum of transaction charged to us.

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IRON CONSTRUCTION CASTINGS

We appreciate the opportunity to provide this estimate, and feel free to contact us with any questions or comments.

State of Tennessee Contractors License

ID Number: 00000319

Lic Status: Active

Expiration Date: 01/31/2017

CMC; CE; MU-A,B; HC-C; BC-17; Unlimited

Sincerely,

David Proctor
Mechanical Project Manager

David.proctor@jbouchard.com

Office: 615-256-0112

Direct: 615-690-0174

Cell: 615-500-5273

Jesse Sutphin
Electrical Project Manager

Jesse.Sutphin@jbouchard.com

Office: 615-256-0112

Direct: 615-690-0176

Cell: 615-405-4413

Wiring for Sludge Pumps			
Description	Qty (hrs)	Rate	Extended
Project Mgr (RT)	20	\$75.00	\$1,500.00
Project Mgr (OT)		\$110.00	\$0.00
Superintendent (RT)	12	\$65.00	\$780.00
Superintendent (OT)		\$100.00	\$0.00
Pipefitter/Welder (RT)		\$50.00	\$0.00
Pipefitter/Welder (OT)		\$75.00	\$0.00
Sprinkler Fitter (RT)		\$42.00	\$0.00
Sprinkler Fitter (OT)		\$63.00	\$0.00
Electrician (RT)	137	\$50.00	\$6,850.00
Electrician (OT)		\$75.00	\$0.00
Apprentice/Helper (RT)	137	\$36.00	\$4,932.00
Apprentice/Helper (OT)		\$54.00	\$0.00
Expediter/Delivery (RT)		\$28.00	\$0.00
Expediter/Delivery (OT)		\$42.00	\$0.00
Machine Shop Millwright (RT)		\$56.00	\$0.00
Machine Shop Millwright (OT)		\$88.00	\$0.00
HVAC/Plb Service Tech (RT)		\$64.00	\$0.00
HVAC/Plb Service Tech (OT)		\$96.00	\$0.00
Air Compressor Tech (RT)		\$64.00	\$0.00
Air Compressor Tech (OT)		\$96.00	\$0.00
Laborer - Skilled (RT)		\$30.00	\$0.00
Laborer - Skilled (OT)		\$45.00	\$0.00
Laborer - Unskilled (RT)		\$21.00	\$0.00
Laborer - Unskilled (OT)		\$32.00	\$0.00

Wiring for Biosolids			
Description	Qty (hrs)	Rate	Extended
Project Mgr (RT)	97	\$75.00	\$7,275.00
Project Mgr (OT)		\$110.00	\$0.00
Superintendent (RT)	28	\$65.00	\$1,820.00
Superintendent (OT)		\$100.00	\$0.00
Pipefitter/Welder (RT)		\$50.00	\$0.00
Pipefitter/Welder (OT)		\$75.00	\$0.00
Sprinkler Fitter (RT)		\$42.00	\$0.00
Sprinkler Fitter (OT)		\$63.00	\$0.00
Electrician (RT)	296	\$50.00	\$14,800.00
Electrician (OT)		\$75.00	\$0.00
Apprentice/Helper (RT)	296	\$36.00	\$10,656.00
Apprentice/Helper (OT)		\$54.00	\$0.00
Expediter/Delivery (RT)		\$28.00	\$0.00
Expediter/Delivery (OT)		\$42.00	\$0.00
Machine Shop Millwright (RT)		\$56.00	\$0.00
Machine Shop Millwright (OT)		\$88.00	\$0.00
HVAC/Plb Service Tech (RT)		\$64.00	\$0.00
HVAC/Plb Service Tech (OT)		\$96.00	\$0.00
Air Compressor Tech (RT)		\$64.00	\$0.00
Air Compressor Tech (OT)		\$96.00	\$0.00
Laborer - Skilled (RT)		\$30.00	\$0.00
Laborer - Skilled (OT)		\$45.00	\$0.00
Laborer - Unskilled (RT)		\$21.00	\$0.00
Laborer - Unskilled (OT)		\$32.00	\$0.00

Description	Qty (hrs)	Rate	Extended
Project Mgr (RT)	40	\$75.00	\$3,000.00
Project Mgr (OT)		\$110.00	\$0.00
Superintendent (RT)		\$65.00	\$0.00
Superintendent (OT)		\$100.00	\$0.00
Pipefitter/Welder (RT)	934	\$50.00	\$46,700.00
Pipefitter/Welder (OT)		\$75.00	\$0.00
Sprinkler Fitter (RT)		\$42.00	\$0.00
Sprinkler Fitter (OT)		\$63.00	\$0.00
Electrician (RT)		\$50.00	\$0.00
Electrician (OT)		\$75.00	\$0.00
Apprentice/Helper (RT)	934	\$36.00	\$33,624.00
Apprentice/Helper (OT)		\$54.00	\$0.00
Expediter/Delivery (RT)		\$28.00	\$0.00
Expediter/Delivery (OT)		\$42.00	\$0.00
Machine Shop Millwright (RT)		\$56.00	\$0.00
Machine Shop Millwright (OT)		\$88.00	\$0.00
HVAC/Plb Service Tech (RT)		\$64.00	\$0.00
HVAC/Plb Service Tech (OT)		\$96.00	\$0.00
Air Compressor Tech (RT)		\$64.00	\$0.00
Air Compressor Tech (OT)		\$96.00	\$0.00
Laborer - Skilled (RT)		\$30.00	\$0.00
Laborer - Skilled (OT)		\$45.00	\$0.00
Laborer - Unskilled (RT)		\$21.00	\$0.00
Laborer - Unskilled (OT)		\$32.00	\$0.00

Equipment	Qty (hrs)	Rate/Hr	Extended
Welder	80	\$15.00	\$1,200.00
Power Threader	80	\$15.00	\$1,200.00
Mini/Midi Hammer		\$12.00	\$0.00
Variable Reach Forklift	120	\$26.00	\$3,120.00
Pickup Truck	934	\$15.00	\$14,010.00
Scissor Lift		\$18.00	\$0.00
Skid Steer		\$25.00	\$0.00
Boom Man Lift		\$29.00	\$0.00
Cat 420D Backhoe		\$33.00	\$0.00
Street Plate		\$7.00	\$0.00
185 CFM Compressor		\$15.00	\$0.00
ECM 350*		N/A	
Air Track Drill*		N/A	
Pipe Laser		\$21.00	\$0.00
Total Station EDM		\$115.00	\$0.00
15 ton Boom Truck*	16	\$150.00	\$2,400.00
30-50 Ton RT Crane*		\$225.00	\$0.00
80 Ton Crawler Crane*		N/A	
3" Submersible Pump		\$10.00	\$0.00
6" Hydraulic Pump		\$16.00	\$0.00

Materials		
Pipe, Valves, Fittings, Hangers, Labels, Painting		\$90,000.00
Concrete Work		\$15,500.00
Forklift & Rigging		\$4,500.00
Miscellaneous		\$8,000.00

Total Estimated Cost	\$223,254.00
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Reimbursable Expenses Schedule

Reproducible Copies (Paper)	\$0.05	/page
Travel Mileage	\$0.57	/mile
Meals and Lodging	at Cost	

Standard Hourly Rates Schedule

<u>Labor Classification</u>	<u>Weekdays (M-F)</u>	<u>Weekends/ Holidays</u>	
Project Manager	\$148.00	\$195.00	/hour
Client Manager	\$148.00	\$195.00	/hour
IT Engineer	\$140.00	\$195.00	/hour
PLC Applications Engineer	\$140.00	\$195.00	/hour
HMI Applications Engineer	\$140.00	\$195.00	/hour
Design Engineer	\$135.00	\$190.00	/hour
Field Service Engineer	\$125.00	\$180.00	/hour
Electrician	\$130.00	\$190.00	/hour
Admin & Clerical	\$95.00	\$120.00	/hour

Murfreesboro WWTP - Contract 4E Estimate for Services (Not to Exceed)

A. Conference Call Meetings and In-House SCADA Integration Development

Project Manager			
	Hours	Rate	Total
Project Time	4	\$148.00	\$592.00
		Subtotal	\$592.00

HMI Applications Engineer			
	Hours	Rate	Total
Project Time	40	\$140.00	\$5,600.00
	Miles	\$/Mile	
Mileage (Round Trip)	0	\$0.54	\$0.00
	Days	Hotel/Day	
Hotel	0	\$110.00	\$0.00
	Days	Meals/Day	
Meals	0	\$45.00	\$0.00
		Subtotal	\$5,600.00

Item A Total "Not to Exceed" \$6,192.00

Murfreesboro WWTP - Contract 4E Estimate for Services (Not to Exceed)

B) On-Site Support of Press Installation, Start-up & Testing (3 Presses Total)

Project Manager			
	Hours	Rate	Total
Project Time	3	\$148.00	\$444.00
		Subtotal	\$444.00

HMI Applications Engineer			
	Hours	Rate	Total
Project Time (3 Days per Press)	72	\$140.00	\$10,080.00
	Miles	\$/Mile	
Mileage (Round Trip) (1 Trip per Press)	1350	\$0.54	\$729.00
	Days	Hotel/Day	
Hotel (2 Nights per Press)	6	\$110.00	\$660.00
	Days	Meals/Day	
Meals (3 Days per Press)	9	\$45.00	\$405.00
		Subtotal	\$11,874.00

Item B Total "Not to Exceed" \$12,318.00

Murfreesboro WWTP - Contract 4E Estimate for Services (Not to Exceed)

C. HMI & Reporting Enhancements for the Presses

Project Manager			
	Hours	Rate	Total
Project Time	2	\$148.00	\$296.00
		Subtotal	\$296.00

HMI Applications Engineer			
	Hours	Rate	Total
Project Time	32	\$140.00	\$4,480.00
	Miles	\$/Mile	
Mileage (Round Trip)	455	\$0.54	\$245.70
	Days	Hotel/Day	
Hotel	3	\$110.00	\$330.00
	Days	Meals/Day	
Meals	4	\$45.00	\$180.00
		Subtotal	\$5,235.70

PLC Applications Engineer			
	Hours	Rate	Total
Project Time	24	\$140.00	\$3,360.00
	Miles	\$/Mile	
Mileage (Round Trip)	270	\$0.54	\$145.80
	Days	Hotel/Day	
Hotel	0	\$110.00	\$0.00
	Days	Meals/Day	
Meals	3	\$15.00	\$45.00
		Subtotal	\$3,550.80

Item C Total "Not to Exceed" \$9,082.50

Total All Items "Not to Exceed" \$27,592.50



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MEMORANDUM

DATE: June 14, 2016
TO: Water and Sewer Board
FROM: Valerie Smith
SUBJECT: Rooms To Go
2846 Medical Center Pkwy.
Sewer Connection Fee Approval

Background

Per City Code, Chapter 33, Sections 50(A) (2) and (3) below, the Board is to recommend to City Council the sewer connection fees associated with Commercial Buildings exceeding 35,000 sq. ft.

Section 50

- (2) When the applicant for sewer services does not fit into one of the foregoing categories, the connection fee shall be based on \$2,550.00 for each two hundred sixty gallons per average daily demand (gpd).
- (3) The sewer connection fee for sewer service to any industrial use, or commercial space exceeding thirty-five thousand square feet, shall be fixed and established by the City Council upon recommendation of the Board after considering and taking into account the location, size, extent, nature and requirements of such customer, and the estimated cost of furnishing such sewer service to the customer, and further considering the estimated usage, occupancy and plumbing fixtures to be installed.

The fees for the Rooms To Go have been calculated based on an average of twelve (12) months of water usage from three (3) different Cities as shown attached. The sewer information wasn't used because of the "set rate" for sewer provided by Brentwood.

The average water usage was determined to be 10,034 gallons/month which is 334.5 gallons per day (10,034 gallons per month /30 days per month). The current and standard sewer connection fee is \$2,550 per single family unit (sfu) respectively. A sfu is defined as consuming 260 gallons per day of potable water. Taking 334.5 gallons per day usage equates to 1.3 sfu's (i.e., 334.50 gpd divided by 260 gpd). Therefore, 1.3 sfu's times \$2,550 equals \$3,315 in sanitary sewer connection fees.

In addition to the standard connection fees this address is within two (2) Sanitary Sewer Assessment Districts (SSAD). It is within the Medical Center Parkway SSAD, which is a charge of \$10,900 per acre at 3.36 acres, and the Overall Creek SSAD, which is \$1,000 per sfu or equivalent. Since the Rooms To Go is equivalent to 1.3 sfu's as shown above, the Overall Creek SSAD fee is \$1,300 (1.3 x \$1000).

Water and Sewer Department

300 NW Broad Street * P.O. Box 1477 * Murfreesboro, TN 37133-1477 * Office: 615 890 0862 * Fax: 615 896 4259
TTY 615 848 3214 * www.murfreesborotn.gov

Recommendation

Staff recommends the Board recommend to City Council, approval of the Standard Sewer Connection Fee of \$3,315 and the Overall Creek SSAD Fee of \$1,300 for the Rooms To Go development.

Fiscal Impact

There is no fiscal impact other than these connection and assessment district fees are deposited into Department's Working Capital Reserves Account.

Attachments

Water Usage Table
Sewer Connection Fee Spreadsheet



Comparatives
26-May-16

Kennesaw, GA			Brentwood TN			Knoxville, TN			Average	
Date	Water/gal	Sewer/gal	Date	Water/gal	Sewer/gal	Date	Water/gal	Sewer/gal	Water/gal	Sewer/gal
05/29/15	9000	9000	6/2/15	8000	8400	6/22/15	6732	6732	7910.67	8044.00
06/30/15	8000	8000	7/20/15	19000	8400	7/22/15	8228	8228	11742.67	8209.33
07/30/15	10000	10000	8/20/15	31000	8400	8/20/16	6732	6732	15910.67	8377.33
08/28/15	7000	7000	9/20/15	8500	8400	9/21/15	8228	8228	7909.33	7876.00
09/29/15	9000	9000	10/20/15	8000	8400	10/20/15	7480	7480	8160.00	8293.33
09/29/15	8000	8000	11/20/15	12500	8400	11/18/15	8228	8228	9576.00	8209.33
10/29/15	8000	8000	12/20/15	24500	8400	12/18/15	10472	10472	14324.00	8957.33
11/30/15	9000	9000	1/20/16	8000	8400	1/21/16	9724	9724	8908.00	9041.33
12/31/15	14000	14000	2/10/16	7500	8400	2/19/16	8228	8228	9909.33	10209.33
02/02/16	9000	9000	3/20/16	8000	8400	3/21/16	9724	9724	8908.00	9041.33
03/02/16	10000	10000	4/20/16	8000	8400	4/19/16	9724	9724	9241.33	9374.67
04/01/16	7000	7000	5/20/16	8500	7900	5/19/16	8228	8228	7909.33	7709.33
Average Monthly Total									10034.11	8611.889

SEWER TAPS WORKSHEET

TAP # _____ DATE 5/27/2016 M.O. NUMBER _____
 NAME Rooms 2 Go
 LOCA.#1 _____
 LOCA.#2 2846 Medical Center Parkway
 REMARKS Water Service is provided by Consolidated Utility District

Transaction Code

		UNITS	CHG	AMT
SEWER (H)				
SEWER CONNECTION FEE (H)				
	G/L Account			
TPS2	SF RES Sewer Connection (2 of 2)			271.210 (\$300)
TPS1	SF RES Sewer (1 of 2)			271.280 (\$2250)
TPS4	Retail Shop/Service Sewer Connection (2 of 2)	0	2550	0
TPS3	Retail Shop/Service Est Sewer (1 of 2)	1.3	2550	3315
MULTI-FAMILY (H)				
	G/L Account			
TPS6	Apartment/Condo Sewer Connection (2 of 2)	0	2550	0
TPS5	Apartment/Condo Sewer (1 of 2)			271.280 (\$2250)
TPSA	Restaurant Sewer (15 sf per seat)	0	55	0
TPSC	Hotel/Motel Sewer Connection (per room)	0	400	0
TPSD	Hospital/Nursing Home Sewer Connection (per bed)	0	400	0
TPSE	School Sewer Connection (30 sf per student)	0	12	0
TPSF	Office Space Sewer Connection > 5K sq ft (per 1K)	0	270	0
TPSG	Commercial Space Sewer Connection > 35K sq ft	0	2550	0
TPSH	Industrial Manufacturing Sewer Connection	0	0	0
HOUSE SERVICE CHARGE (H)				
	G/L Account			
TPSI	Sewer House Sewer Charge (< 49')	0	1000	0
TPSJ	Sewer House Sewer Charge (50' to 59')	0	1200	0
TPSK	Sewer House Sewer Charge (60' to 79')	0	1600	0
TPSL	Sewer House Sewer Charge (>80')	0	2200	0
TPOT	Outside City Sewer	0	450	0
Other				
TPCR	Compton Road Sanitary Sewer	0	300	0
TPSM	Sewer Connection Fee Only			271.280
TPSN	Additional Sewer Tap Fees			271.210
TPC				
TPOC	Overall Creek Sewer District	1.3	1000 /ea	1300
	Basin "D"	0	925	0
TPSB	Salem / Barfield Sewer District	0	750 /ea	0
TPSQ	US 41/Florence Rd Sewer District (per foot)	0	100 /ft	0
TPSR	Laundry Sewer Connection Fee (only)	0	120	0
TPSS	Car Wash Sewer Connection Fee (only)	0	5600	0
TPCO	Sewer Clean Out	0	100	0
TPOL	Osborne Lane Sewer District			271.380
TPBE	Buchanan / Elam Road Sewer District	0	1000 /ea	0
TPST	Rockvale Sewer District			271.400
TPSU	Medical Center Pkwy Sewer District	3.36	10900 /ac	36624
TPOI	Outside City Plumbing Inspection	0	50	0
TPPL	Pitts Lane Sewer District	0	2350 /ea	0
TOTAL SEWER				\$41,239.00

TOTAL WATER & SEWER CHARGES

note: quotes are only guaranteed for 30 days from date, or until July 1, which ever comes first,
after which additional fees may apply!



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MEMORANDUM

DATE: June 20, 2016
TO: Water and Sewer Board
FROM: Darren Gore
SUBJECT: Water Resources Utility of the Future Joint Recognition Program Application

Background

The Murfreesboro Water and Sewer Department submitted an application for the Water Resources Utility of the Future (UOTF) Joint Recognition Program and wanted to share the application with the Board. The Utility of the Future Today Recognition Program seeks to reach deeply into the water sector to form and motivate a community of like-minded, self-identified water utilities engaged in advancing resource efficiency and recovery, developing proactive relationships with stakeholders, and establishing resilient, sustainable, and livable communities.

Eligible Applicants – 1) Public and private wastewater utilities of all sizes. 2) Applicants must have no major permit violations in the past year prior to the submission date of their application.

Basis for Recognition – successful applicants will demonstrate that they are engaged in their selected Activity Areas in a meaningful and robust manner, consistent with the principles of the Utility of the Future. Reviewers will take into consideration an applicant’s current engagement and performance, as well as projected future results.

There are eight (8) activity areas that can be applied for; they are:

- Activity Area 1: Organizational Culture
- Activity Area 2: Beneficial Biosolids Reuse
- Activity Area 3: Community Partnering & Engagement
- Activity Area 4: Energy Efficiency
- Activity Area 5: Energy Generation & Recovery
- Activity Area 6: Nutrient & Materials Recovery
- Activity Area 7: Water Reuse
- Activity Area 8: Watershed Stewardship

A utility must choose to apply for at least two (Organizational Culture being a requirement) or all eight. MWSD submitted on the required Activity Area 1: Organizational Culture as well as Activity Area 7: Water Reuse and Activity Area 8: Watershed Stewardship. We look forward to being recognized as a Utility of the Future. Applicants will be informed whether or not they were selected for recognition by or before July 29, 2016.

Recommendation

For Information Only

Fiscal Impact

Not Applicable

Attachments

- MWSD's Water Resources UOTF Joint Recognition Program Application

Murfreesboro Water and Sewer Department



City of Murfreesboro, TN



The Utility of the Future Today
Joint Recognition Program Application

Application Part 1: Background Information

Utility Description (combine all plants if a multi-site system)		
Type Sinking Creek Wastewater Treatment Plant		
Service Area (square miles): 237.27 SQ MI	Average annual daily flow (MGD): 16 MGD	
Population Served: 125,000		
Location		
Street Address: 2032 Blanton Dr.		
City: Murfreesboro State: Tennessee	Zip Code: 37129	
Contact Information		
Name: John Strickland	Phone: 615-848-3225	Email: jstrickland@murfreesborotn.gov

Application Part 2: Utility of the Future Today Narrative

Organizational Culture

The City of Murfreesboro is one of the fastest growing and most progressive cities in the State of Tennessee. City leaders are meeting the challenges that growth brings and have endeavored to proactively manage this growth while incorporating the latest technology where appropriate into the various departments that serve the public. Adopting the motto, "Creating a Better Quality of Life", the Mayor and City Council have embraced it as the mission of the city government. In concert, the City Manager espoused a "Good to Great" initiative based on the Jim Collins book by the same name.

Within the Water and Sewer Department (MWSD), this is evidenced by the early and effective adoption of the Effective Utility Management (EUM) model as a guiding set of principles (5 Keys to Success) and goals (10 Attributes). As a supplier of products and services that are vital to life and foundational to our quality of life, MWSD recognizes and embraces the responsibility and role we play in sustaining our community and its environment; and take seriously the public trust we must gain and maintain. Every initiative, every action, every decision, and every dollar expended is evaluated through the EUM lens.

Does the decision or action address, enhance, or achieve at least one of the following: Product Quality, Customer Satisfaction, Employee and Leadership Development, Operational Optimization, Community Sustainability, Financial Viability, Enterprise Resiliency, Infrastructure Strategy and Performance, Water Resource Sustainability, or Stakeholder Understanding and Support.

To date, the EUM mindset has been instrumental in MWSD becoming:

- **a learning organization** where staff is encouraged and budget is allocated (300% increase) to develop the skills to stay on the cutting edge of technology. Staff attendance in professional development classes and conferences, visits to other plants, pursuing certifications, and research and study are growing. Zero cost internal training is on the rise with senior staff mentorships of new and less experienced staff along with Supervisor Training provided by our own City Human Resources, Legal, and Risk Management experts.

- **more intentional in promoting from within and in external hiring practices.** Hiring well is paramount and MWSD understands that every hire is potentially a million dollar decision which will impact decades to come.
- **an organization that understands and embraces taking calculated risk.** The willingness to make significant plant operational changes that have a reasonable probability of improving product quality, reducing cost, or enhancing enterprise resiliency etc. are possible because honest failure is not punished. It is understood that challenging projects will not always succeed, thus, if honest, good faith efforts are given all around; no time is wasted seeking to assign blame.
- **a team,** understanding that there is no need to claim ownership of ideas. Teams evaluate all ideas, select the best one, and commit to it. This process leads to the greatest likelihood of success, team victories to enjoy, and no one suffering failure alone.
- **facilitators of partnerships** with far reaching impact. Relationships have been established and enhanced with stakeholders from across the state including an extensive network of state regulators, industry experts, and university faculty. An example is our partnership with Middle Tennessee State University where a new degree offering in Water Resource Management was developed. MWSD participated in curriculum development and will provide internship opportunities for students pursuing this degree
- **proactive.** Reactive maintenance has been replaced by systematic data analysis which guides preventive maintenance. The infrastructure strategy of maximizing asset longevity is made possible by this approach. Data never collected before is now systematically collected. Records that were rarely analyzed are now regularly reviewed. Research is conducted on replacement parts, alternative operations, and creative ways to extend life cycles. Again, it's all about the EUM mindset.

Water Reuse

In the early 2000's Murfreesboro stood in a place very similar to where we stand today. Existing and anticipated growth in Rutherford County and Murfreesboro was and continues to be a recognized economic engine for the State of Tennessee. Substantial economic and population growth continues at a rapid pace, thus demanding that planful, strategic, and sometimes politically sensitive and expensive decisions be made. Our challenge was finding environmentally and politically acceptable avenues for disposing of the treated effluent from our Sinking Creek Wastewater Treatment Plant (SCWWTP).

The City's effluent receiving stream is the West Fork Stones River (WFSR). The WFSR has for many years been a 303d listed stream; impaired for sediment, nutrients and low dissolved oxygen. With a central wastewater treatment plant having its sole outfall on the WFSR, Murfreesboro would ultimately be limited by the stream's assimilative capacity. Therefore, in order to ensure the long-term socioeconomic viability of area, a more progressive and innovative strategy was and continues to be a vital objective in achieving true sustainability.

Our approach began with the purchase of two farms (201 and 408 acres) in 2002 and 2003. The purpose of the farms was for dedicated land disposal via irrigation of highly treated effluent. MWSD then began construction of a repurified water distribution system which now consists of two (2) elevated tanks (0.5 and 1.5 MG), 25 miles of repurified water line, 250 valves and 144 meters. The system provides irrigation water to the farms, our local golf course and soccer complex, multiple City-owned landscapes and more than 100 private customers. One customer, a new apartment complex, installed plumbing for repurified water into their apartments to accommodate toilet flushing.

From 2011-2016, the annual average daily flow of repurified water for irrigation and other purposes ranged from 3.3-4.5 MGD, representing 22.4-28.7% of our treatment plant effluent flow.

By partnering with key stakeholders, the City charted a way forward to not only achieve sustainability in wastewater effluent management, but do it in a way that integrates the full array of water resources available within the watershed. Additionally, as sustainability strategies were derived, the City continually focused on maintaining affordability as a co-priority for its customers.

The ongoing challenge is working within the existing regulatory framework to meet the immediate expansion needs of the SCWWTP, and developing a reliable “bridge” between pragmatic, proven approaches and the regulatory community’s permitting “box”. Fulfilling the mission of enduring sustainability (i.e., 50+ years) to meet the watershed’s long-term water needs requires a fully integrated watershed approach.

Watershed Stewardship

Authentic **Watershed Stewardship** consists of intentional actions to maintain and hopefully improve water quality in the watershed. In the early 2000’s, WFSR Segment 3000 was 303d listed as impaired due to sediment, nutrients, and low dissolved oxygen. Since then, MWSD has implemented the following projects and actions specifically directed at improving water quality in the Stones River Watershed.

- Expansion of capacity and capability of the SCWWTP to include oxidation ditch activated sludge, tertiary filters, ultraviolet light disinfection, post aeration, and solids dewatering.
- Operational modifications to aeration of the oxidation ditch to optimize nitrification, denitrification, and phosphorus removal by luxury uptake.
- Regulatory overview through passage of three City ordinances (2005-2008) addressing site control runoff, stream buffers, and post construction stormwater treatment, and imposed a stormwater user fee in 2007 to fund stormwater management projects
- Construction site permitting and inspections including issuance of 457 Land Disturbance Permits (LDPs) from 2008-2015, of which 228 LDPs (est.) encompassing 1341 acres were on the _3000 segment
- Corrective actions in the field including location and mitigation of 13 illicit discharges in the WFSR _3000 watershed (2008-2015). Sources included food vendors on Square; truck washing at truck repair business; gas station/markets
- Post-construction stormwater control measures (SCMs) including installation of sediment removal and flow control facilities at 64 sites totaling 735 acres in the WFSR _3000 watershed
- Street sweeping, initiated in 2009, has collected 6554 tons of material including 3211 tons from the WFSR _3000 watershed. An additional 820 tons of material has been vacuumed from storm sewers
- Education and public participation events in the 2008-2015 period including
 - *Tree Days* encourage planting of trees alongside streams
 - Lytle Creek (2010, 2014); 235 riparian property owners rec’d information; 1800 trees distributed
 - Upper WFSR (2013); 134 property owners received mailer; 600 trees distributed

- Educational brochures on stormwater runoff management practices mailed to restaurant operators (375), landscaping companies (15), and pressure washing businesses (9)

These actions have produced dramatic improvement in SCWWTP effluent quality and WFSR water quality. Semi- annual hydrologic and biological assessments of the WFSR initiated in 2013 have shown significant improvements in stream health as measured by the Total Macroinvertebrate Index (TMI). Results reported to the State in 2015 are expected to result in a delisting of perhaps 2 stream segments of the WFSR from the 303d list.

The City is continuing its proactive approach to growth management, initiating the development of a 20 Year Comprehensive Plan (Murfreesboro 2035) in 2015. In concert, MWSD has commissioned the development of a Water Resource Integration Plan (WRIP) as a companion study. The WRIP will:

- Look holistically at the management of water (drinking water, wastewater, repurified water, and stormwater) within the potential service areas of the MWSD;
- Coordinate with the City's Comprehensive Plan, so that the goal of facilitating growth will encompass affordable and sustainable water management.

Application Part 3: Utility of the Future Today Activity Areas

ACTIVITY AREA 1: ORGANIZATIONAL CULTURE

Activity Description	Activities completed or underway?	
	Yes	No
Proactive leadership that engages in both internal organizational and broader external community priorities	X	
Establishes a participatory, collaborative organization dedicated to continual learning, improvement, and innovation	X	
Workforce and leadership development program in place to assure recruitment, retention, and competency of utility staff relative to a Utility of the Future business model. Development program includes a leadership and management skills training program that provides both formal and informal leadership opportunities for employees	X	
Employee “in-reach” program established to share work experiences and ensure greater understanding of the utility’s key strategy relative to the Utility of the Future business model	X	
Innovation initiatives adopted that encourage risk-taking, and that are adequately funded and staffed	X	
Additional Activity Descriptions (OPTIONAL)		
The city manager’s Good to Great initiative is a clear commitment to organizational excellence.		
Implementation of the Effective Utility Management system.		
Succession planning that ensures Enterprise Resiliency and staff’s preparedness to take on new responsibilities as positions come open. All positions are to be “3 Deep” i.e. three individuals have demonstrated competency for all positions and responsibilities.		
Adoption of the city’s Customer Service Excellence program. The operations staff and several others have won the program’s highest honor: the STARS Awards for outstanding service.		
Intentional practice of the EUM key to success Knowledge Management. Organizational barriers are removed to allow the free flow of information. Mentors are utilized and intuitional knowledge is compiled.		

Performance Measure(s)	Results
<i>Funding for Training</i>	Increased 300% from \$7,000 to \$28,000
<i>Total Annual Staff Training Hours</i>	Increased over 100% from 310 to 640
% of Promotions from Within	Increased from 67% to 86%
% of Operators with Extra Certification	Increased from 0% to 64%
% of Operators with the highest level of Treatment Plant certification	Increased form 45% to 82%

ACTIVITY AREA 7: WATER REUSE

Activity Description	Activities completed or underway?	
	Yes	No
Board/executive management reuse strategy established	X	
Communications and outreach plan developed and implemented	X	
Ongoing market assessment of reused water to public/private and public/public entities	X	
Investments in reuse infrastructure	X	
Building code changes to enable reuse (e.g., reuse water code)	X	

Additional Activity Descriptions
Water Resource Integration Plan underway which will provide a 20 yr roadmap to overall water management within the urban growth boundary including stormwater, wastewater, drinking water, and reuse water
Ongoing search for industrial/agricultural partnerships for reuse water
Ongoing public education regarding the value and quality of repurified water e.g. annual Earth Day booth, plant tours for numerous civic and school groups, etc
Case by case evaluations of reuse infrastructure extensions to service new and existing residential/commercial developments
Ongoing and expanding water quality analyses of reuse water with samples a collected at multiple locations

Performance Measure(s)	Results
Ratio of reuse quantity vs. wastewater volume processed	23-29% over the past 6 years
Area irrigated solely by recycle water	>1000 acres
Reduced dependence on purchased water and energy used to treat purchased water	Drinking water supply, treatment, and distribution requirements reduced >20% , saving users >\$3M annually
Reduced Waste Load to WFSR from BOD, Total Nitrogen, and Phosphorus	Annual reductions in waste load to river of BOD(18 tons), Total Nitrogen (12 tons), and Phosphorus (12 tons)
Aesthetic Improvements	City landscapes, golf course, and soccer complex are beautiful

ACTIVITY AREA 8: WATERSHED STEWARDSHIP

Activity Description	Activities completed or underway?	
	Yes	No
Unified vision statement established that integrates water supply, water conservation, water recycling, runoff management, wastewater facilities planning, and infrastructure planning using a regional watershed approach	X	
Green infrastructure deployment to enhance infiltration, evapotranspiration, treatment, or capture and reuse of stormwater	X	
Watershed permitting strategy for multiple facilities (e.g., active nutrient water quality trading under a watershed-based permit)		X
Ecosystem enhancements for improved hydraulics or water quality, including: <ul style="list-style-type: none"> • Riparian reforestation to enhance pollution mitigation functions • Stream channel restoration for increased hydrologic stability • Critical land acquisitions (e.g., conservation easements, buffer-zone purchases) 	X	
Climate impact resilience principles incorporated into planning for new, repair, and replacement of infrastructure		X

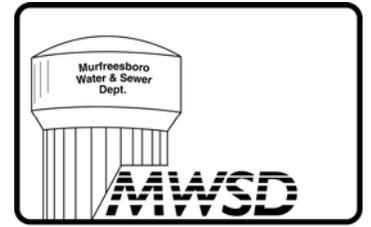
Your Performance Measure	Results (quantitative or qualitative)
Water Quality Impacts	As described in the narrative, the collective impact of the substantial projects, investment, and operational practices and activities undertaken over the past two decades have dramatically improved water quality in the Stones River Watershed. Segments of our receiving stream which have been classified as "impaired" for decades are soon to be delisted.

Application Part 4: Certification Statement

I, Darren Gore, an approved representative of my organization, Murfreesboro TN Water and Sewer Department, certify that all data and information provided in this application package is accurate to the best of my organization's knowledge and has not been falsified. I certify that my organization is in good standing and has had no major permit violations in the 12 months prior to the date of submission of this application package.

Darren W. Gore [SIGNATURE]

6/15/16 [DATE]



WATER AND SEWER ***DASHBOARD PERFORMANCE***

May 2016



PRELIMINARY MWSD FY2016-2020 CIP

NO.	PROJECT	2015-2016 2015 Issue	2016-2017 2016 Issue	2017-2018 2017 Issue	2018-2019 2018 Issue	2019-2020 2019 Issue	TOTAL
	Wastewater Treatment Plant Expansion						
	Engineering (4C, 4D, SW FM & PS)	\$200,000	\$200,000	\$50,000			\$450,000
	Construction- Northeast Regional force main						\$0
	Construction- Northeast Regional pumping station						\$0
	Process expansion to 24 mgd, Phase 4D	\$14,500,000	\$13,000,000	\$2,000,000			\$29,500,000
	TOTAL Capital Improvements funded from Debt Service	\$14,700,000	\$13,200,000	\$2,050,000	\$0	\$0	\$29,950,000

NO.	PROJECT	2015-2016 2016 FY	2016-2017 2017 FY	2017-2018 2018 FY	2018-2019 2019 FY	2019-2020 2020 FY	TOTAL
	Sewer rehab- Account 335	\$1,250,000	\$1,250,000	\$1,250,000	\$1,250,000	\$1,250,000	\$6,250,000
	Meters, Water/Sewer Taps, Hydrants - 280, 290, 300, 310	\$435,000	\$435,000	\$435,000	\$435,000	\$435,000	\$2,175,000
	Water lines- Account 320	\$350,000	\$350,000	\$350,000	\$350,000	\$350,000	\$1,750,000
	Sewer Lines - Account 330	\$350,000	\$350,000	\$350,000	\$350,000	\$350,000	\$1,750,000
	Water Plant Membrane Replacement Sinking Fund	\$400,000	\$400,000	\$400,000	\$400,000	\$0	\$1,600,000
	Biolsolids Storage Sinking Fund	\$300,000	\$300,000	\$300,000	\$300,000	\$0	\$1,200,000
	Lift Station Replacement Sinking Fund	\$125,000	\$286,000	\$125,000	\$125,000	\$125,000	\$786,000
	NE Regional PS & FM Sinking Fund	\$0	\$500,000	\$500,000	\$500,000	\$500,000	\$2,000,000
	GAC Replacement	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$550,000
	Vehicle and Equipment Replacement	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$7,500,000
	TOTAL Capital Improvements funded from Rates	\$4,820,000	\$5,481,000	\$5,320,000	\$5,320,000	\$4,620,000	\$25,561,000

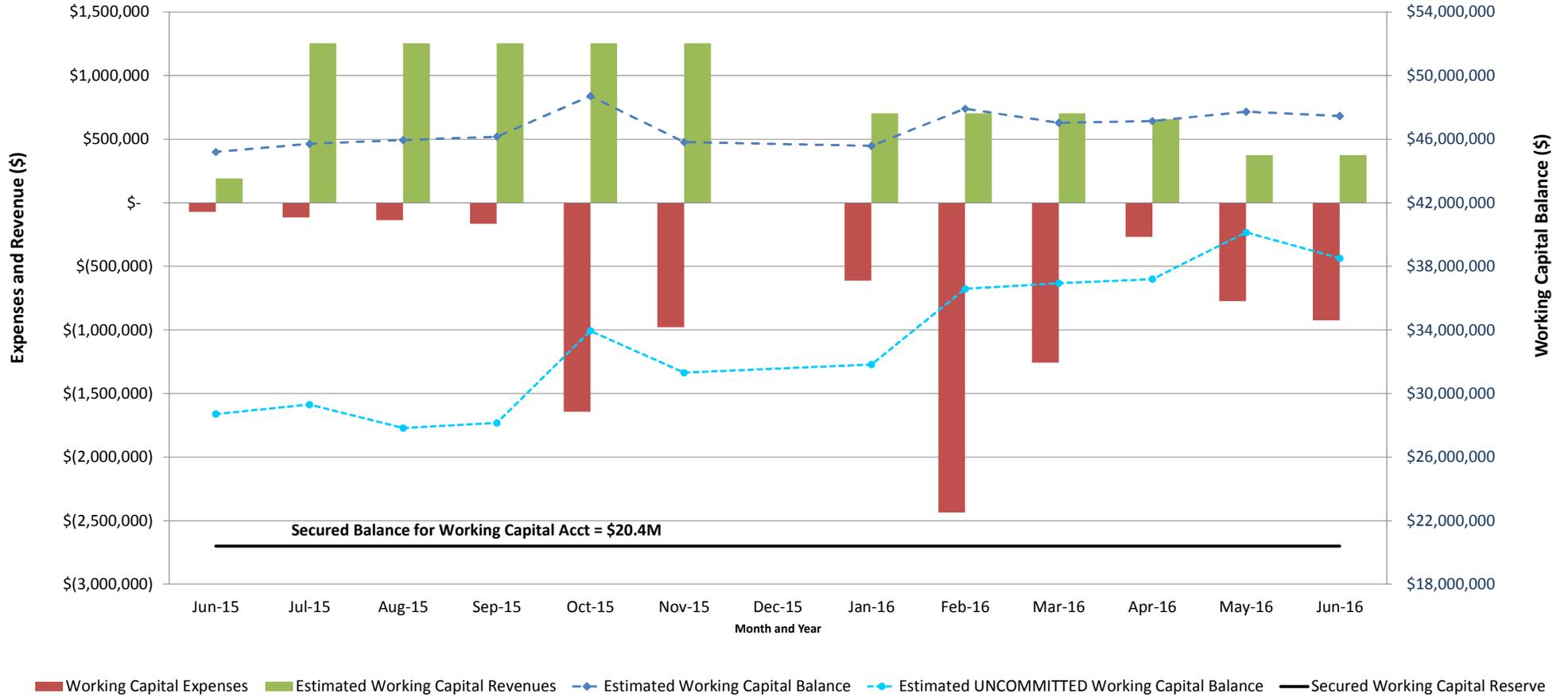
NO.	PROJECT	2015-2016 2016 FY	2016-2017 2017 FY	2017-2018 2018 FY	2018-2019 2019 FY	2019-2020 2020 FY	TOTAL
	W&S CAPITAL IMPROVEMENT PROJECTS						
	Misc FY15 Working Reserve Commitments	\$2,100,000					\$2,100,000
	Customer Service Area Security Renovations	\$450,000					\$450,000
	Contingency Items (Generators, Gear Box, HVAC)	\$775,000					\$775,000
	NE Regional Engineering Design	\$500,000	\$500,000	\$500,000	\$200,000	\$200,000	\$1,900,000
	NE Regional P.S.				\$2,500,000	\$5,000,000	\$7,500,000
	NE Regional Force Main				\$2,500,000	\$5,000,000	\$7,500,000
	SCWWTP Phase 4D Engineering & Inspection	\$300,000	\$250,000				\$550,000
	Lift Station Rehab/Replacement (#2, #13, #19 & #20)	\$1,500,000	\$500,000	\$500,000	\$500,000		\$3,000,000
	S. Church St. Sewer @ Joe B. Jackson Pkwy	\$250,000					\$250,000
	Water Resource Integration Plan (WRIP)	\$400,000					\$400,000
	WTP Membrane Replacement				\$2,000,000		\$2,000,000
	Biolsolids Storage Addition			\$1,500,000			\$1,500,000
	Water Quality Studies		\$50,000	\$50,000	\$50,000	\$50,000	\$200,000
	Subtotal CAPITAL PROJECTS	\$6,275,000	\$1,300,000	\$2,550,000	\$7,750,000	\$10,250,000	\$28,125,000
	TRANSPORTATION (Water/Sewer Imp.)						
	Bradyville Pike		\$500,000	\$500,000			\$1,000,000
	MT Blvd Widening- Greenland to Main	\$750,000	\$750,000	\$140,000			\$1,640,000
	Lytle St. Relocation (Ph1 & Ph2)	\$390,000	\$1,170,000				\$1,560,000
	SR 99 Widening- Old Fort to Cason Lane		\$500,000	\$500,000			\$1,000,000
	Cherry Lane Repurified Main Extension (14,600 LF)		\$825,000	\$1,000,000			\$1,825,000
	Maney Avenue Reconstruction - Phase 2		\$250,000	\$250,000			\$500,000
	Wilkinson Pike Reconstruction (MCP to TL)		\$650,000				\$650,000
	Subtotal TRANSPORTATION PROJECTS	\$1,140,000	\$4,645,000	\$2,390,000	\$0	\$0	\$8,175,000
	REHABILITATION						
	Sewer Rehabilitation - Maintenance Contract	\$1,500,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$5,500,000
	INFORMATION TECHNOLOGY PROJECTS						
	CIS, IVR, MWM	\$50,000					\$50,000
	Advanced Metering Infrastructure (AMI)	\$4,150,000	\$2,850,000				\$7,000,000
	IT/Computer Systems Hardware Upgrades	\$200,000	\$50,000	\$50,000	\$50,000	\$50,000	\$400,000
	Financial Information Systems (FIS), HRIS						\$0
	Electronic Content Management (Scanning/Imaging)		\$150,000	\$150,000	\$150,000		\$450,000
	IT Design Services & Consulting	\$100,000	\$100,000	\$100,000	\$100,000		\$400,000
	Computerized Maintenance Management System (CMMS)			\$200,000	\$200,000		\$400,000
	Subtotal INFORMATION TECHNOLOGY PROJECTS	\$4,500,000	\$3,150,000	\$500,000	\$500,000	\$50,000	\$8,700,000
	TOTAL Projects from Working Capital Reserves	\$13,415,000	\$10,095,000	\$6,440,000	\$9,250,000	\$11,300,000	\$50,500,000

PROJECTED RESERVE FUND BALANCE REVENUE (TAPS)	\$8,500,000	\$6,000,000	\$4,500,000	\$4,500,000	\$4,500,000
PROJECTED ENHANCED REVENUE FOR RESERVES	\$200,000	\$500,000	\$750,000	\$2,000,000	\$2,000,000
SINKING FUND DEPOSITS TO RESERVES FROM RATES	\$825,000	\$1,486,000	\$1,325,000	\$1,325,000	\$625,000
SECURED MIN. BALANCE FOR WORKING CAPITAL RESERVES	\$20,404,791	\$20,812,887	\$21,229,145	\$21,653,727	\$22,086,802
PROJECTED WORKING CAPITAL RESERVE BALANCE	\$41,024,556	\$38,915,556	\$39,050,556	\$37,625,556	\$33,450,556
FUNDS ABOVE SECURED MINIMUM BALANCE	\$20,619,765	\$18,102,669	\$17,821,411	\$15,971,829	\$11,363,754

**Preliminary Draft 5-YR CAPITAL IMPROVEMENTS PLAN (CIP)
STORMWATER UTILITY FUND, FY16-20**

NO.	PROJECT	Originator	2015-2016 2016 FY	2016-2017 2017 FY	2017-2018 2018 FY	2018-2019 2019 FY	2019-2020 2020 FY	TOTAL
			<i>Projected</i>	<i>Budget</i>	<i>Pro Forma</i>	<i>Pro Forma</i>	<i>Pro Forma</i>	
	Neighborhood Projects (NP)							
NP-1	Memorial Blvd / Haynes Dr. Drainage Improvements	City Eng	\$50,000	\$150,000	\$125,000			\$325,000
NP-2	Mitchell-Nielson Drainage Project	City Eng	\$50,000	\$50,000				\$100,000
NP-3	Huntwood/Leaf Ave Neighborhood Drainage Imp.	City Eng		\$100,000	\$100,000			\$200,000
NP-4	Southern Meadows / Kimbro Woods Drainage Imp.	City Eng	\$300,000	\$200,000				\$500,000
NP-5	Liberty Dr. / Thatcher Trace Spring Box	City Eng			\$25,000	\$50,000	\$50,000	\$125,000
NP-6	Pennington Drive Drainage Repair/Upgrade (Added)	City Eng						\$0
NP-7	Gateway Pond Repair (Added)	Eng/MWSD						\$0
NP-8	Hardwood Drive Drainage Upgrade (Added)	City Eng	\$100,000	\$250,000				\$350,000
NP-9	Pacific Place/Riverrock Blvd Drainage Imp.	City Eng		\$150,000	\$200,000			\$350,000
	Subtotal		\$500,000	\$900,000	\$450,000	\$50,000	\$50,000	\$1,950,000
	Water Quality Improvement (Compliance) Projects (WQ)							
WQ-1	Town Creek Bioretention BMP's @ Cannonsburgh	MWSD		\$75,000				\$75,000
WQ-2	Molloy Lane Water Quality Pond	MWSD		\$100,000	\$100,000			\$200,000
WQ-3	Rosebank Springs Constructed Wetlands	City Eng	\$500,000	\$300,000				\$800,000
WQ-4	Lee's Branch Stream Restoration	City Eng		\$50,000	\$50,000	\$50,000	\$50,000	\$200,000
WQ-5	West Fork Stones River at Cason Trail; bank repair	MWSD	\$100,000					\$100,000
WQ-6	Bear Branch Water Quality Mitigation	City Eng		\$50,000	\$50,000	\$50,000	\$50,000	\$200,000
WQ-7	Sinking Creek Headwater protection BMP	City Eng		\$100,000	\$100,000	\$150,000	\$150,000	\$500,000
WQ-8	Todd's Lake Regional Wetlands Improvements	City Eng						\$0
WQ-9	Hooper's Bottom Regional Water Quality Project	City Eng	\$75,000	\$150,000	\$150,000	\$150,000		\$525,000
WQ-10	Lytle Creek/Ridgley Road Bacteriological Reduction (Added)	MWSD				\$50,000		\$50,000
WQ-11	Memorial Blvd/VA Pond Trash Rack (Added)	MWSD				\$50,000		\$50,000
WQ-12	Spence Creek Restoration	Eng/MWSD	\$100,000	\$25,000	\$25,000	\$25,000	\$25,000	\$200,000
	Subtotal		\$775,000	\$850,000	\$475,000	\$525,000	\$275,000	\$2,900,000
	Public Drainage/Streets Participation Projects (PD)							
PD-1	Maney Avenue Phase 2	City Eng						\$0
PD-2	Town Creek Conveyance (Murfree Springs to Cannonsburgh)	City Eng	\$250,000	\$175,000	\$175,000	\$175,000		\$775,000
PD-3	Maple St. Alley Permeable Paver Project	City Eng	\$100,000					\$100,000
	Subtotal		\$350,000	\$175,000	\$175,000	\$175,000	\$0	\$875,000
	Parks & Rec and School Participation Projects (PP)							
PP-1	Hobgood School Porous Pavers	City Eng						\$0
PP-2	McFadden LID Project	MWSD						\$0
PP-3	Parks and Rec Office/Ag Center Pervious Parking Lot	MWSD						\$0
PP-4	West Elementary School Porous Pavers/Outdoor Classroom	City Eng						\$0
PP-5	Hobgood School Pervious Pavers Phase 2	City Eng						\$0
PP-6	Black Fox School Pervious Pavers	City Eng						\$0
PP-7	Police HQ Sinking Creek Water Quality Project	City Eng						\$0
	Subtotal		\$0	\$0	\$0	\$0	\$0	\$0
	Watershed Planning Projects / Development Participation (DP)							
DP-1	Warrior Dr. Regional Stormwater BMP	MWSD						\$0
DP-2	Mercury Plaza Shopping Center Pervious Parking Conversion	City Eng						\$0
	Subtotal		\$0	\$0	\$0	\$0	\$0	\$0
	Totals		\$ 1,625,000	\$ 1,925,000	\$ 1,100,000	\$ 750,000	\$ 325,000	\$ 5,725,000

MWSD Working Capital Reserves Dashboard



EFFECTIVE UTILITY MANAGEMENT
Financial Viability
MWSD WORKING CAPITAL ACCOUNT SUMMARY

ESTIMATED Working Capital at 5/31/16

Board Designated (System Dev, Assessments, etc) as of 6/30/15	\$ 28,659,579	
Undesignated Excess Funds as of 6/30/15	18,310,430	
Estimated Reserve Revenue thru 5/31/16	9,791,644	
Estimated Reserve Expenditures thru 5/31/16	(9,303,264)	
		47,458,389

COMMITTED Reserves at 5/24/16

South Church St. Sewer Extension	287,888	
Wilkinson Pike Utilities Design	24,850	
Lancaster Christian Participation	21,871	
Reuse Pump Motor	24,375	
JBS 15-09 Pump Vibration Analysis	7,854	
Eng Design for Raw Water Aux Pumps Generator	32,056	
Sewer Rehab Projects (Littlejohn)	1,487,278	
Lytle St Ph2 Utility Design Services	16,896	
Lytle St Ph1 Construction Inspection Services	26,615	
Engineering Services - Fournier Biosolids Press Repl	52,040	
Middle TN Blvd Utility Construction	1,356,148	
Lytle St. Utility Construction	87,734	
Westin Task Order #11 - AMI Implementation Support	78,440	
Pump Stations #3, #19, & #20 Replacement	151,795	
Water Resource Integration Plan (WRIP)	362,157	
Johnson Bailey Architect Fee (O&M, C/S)	22,172	
AMI Implementation	2,702,166	
E. & W. Fork Stones River Water Quality Sampling	105,441	
Pump Station #13 Replacement Design	19,220	
Additional Services Ph4D - SSR Amendment	37,373	
Engineering Services - SCWWTP Ph 4D	53,046	
		6,957,415

APPROVAL Requests at 6/28/16

John Bouchard - Fournier Press Install 15-06	291,709	
MR Systems - Fournier Press Install	27,593	
GAC Effluent Filter Actuator Replacement	30,936	
John Bouchard River Pump #1 - 16-04	12,226	
John Bouchard River Pump #6 - 16-05	29,440	
		391,904

BALANCE of Working Capital at 6/28/16 after COMMITMENTS **\$ 40,109,070**

DESIGNATED Projects Pending

Aux Raw Water Pump Generator	600,000	
Pump Station #13 Replacement	1,000,000	
		1,600,000

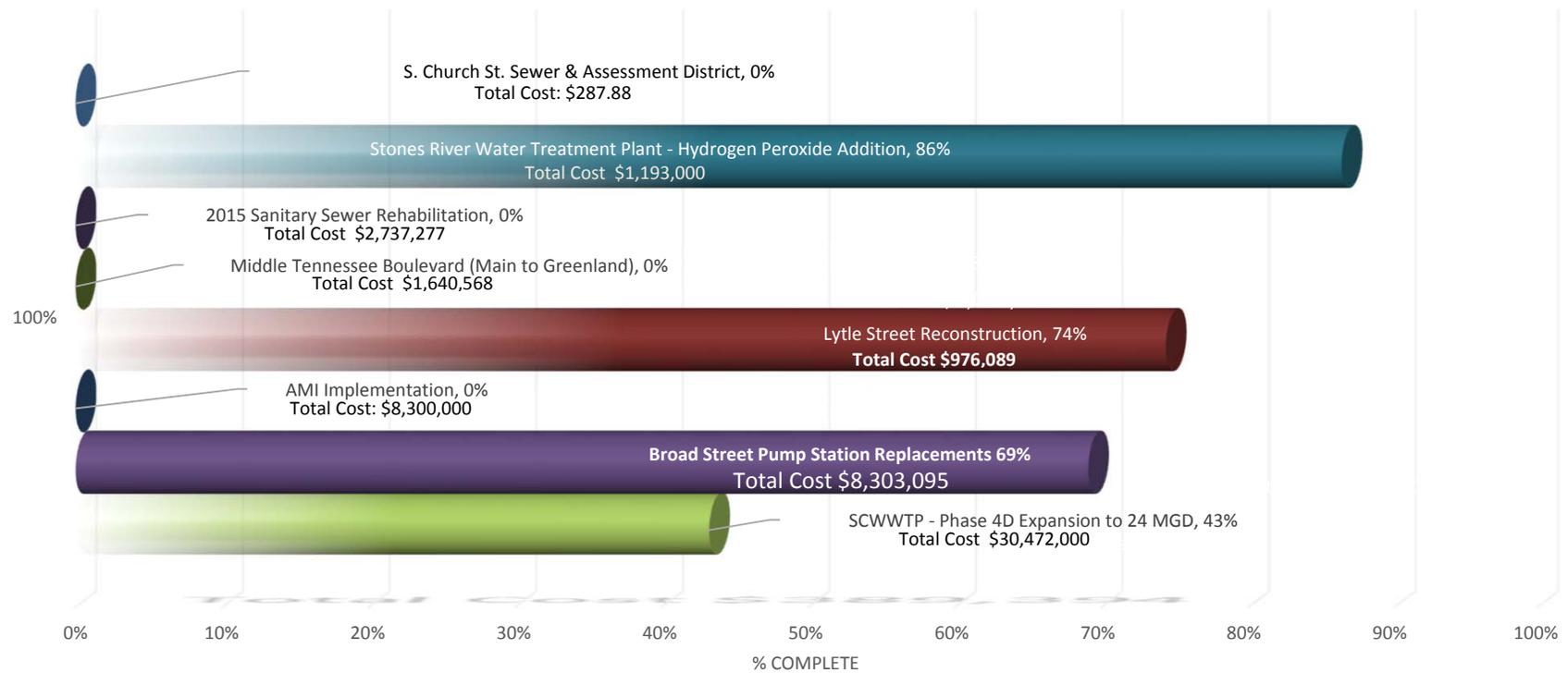
ESTIMATED UNCOMMITTED Working Capital Reserves as of June 28, 2016 **\$ 38,509,070**

SECURED FY15-16 Operating and Maintenance Expenses **\$ 20,404,791**

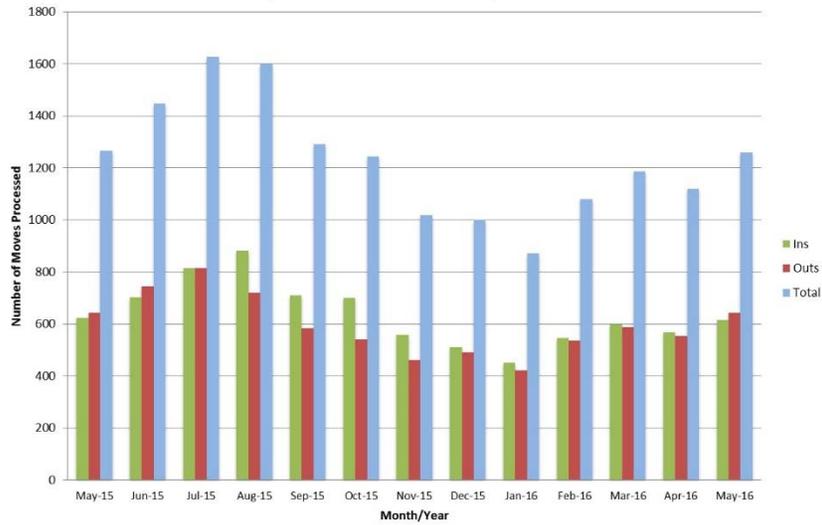
UNASSIGNED Working Capital Funds (Est. Uncommitted - Secured) **\$ 18,104,279**

DASHBOARD PERFORMANCE - APRIL 2016

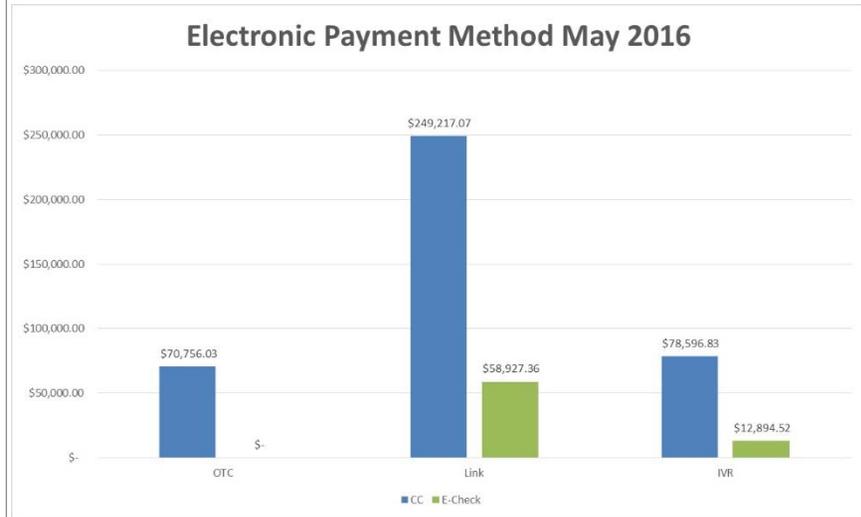
CAPITAL PROJECTS



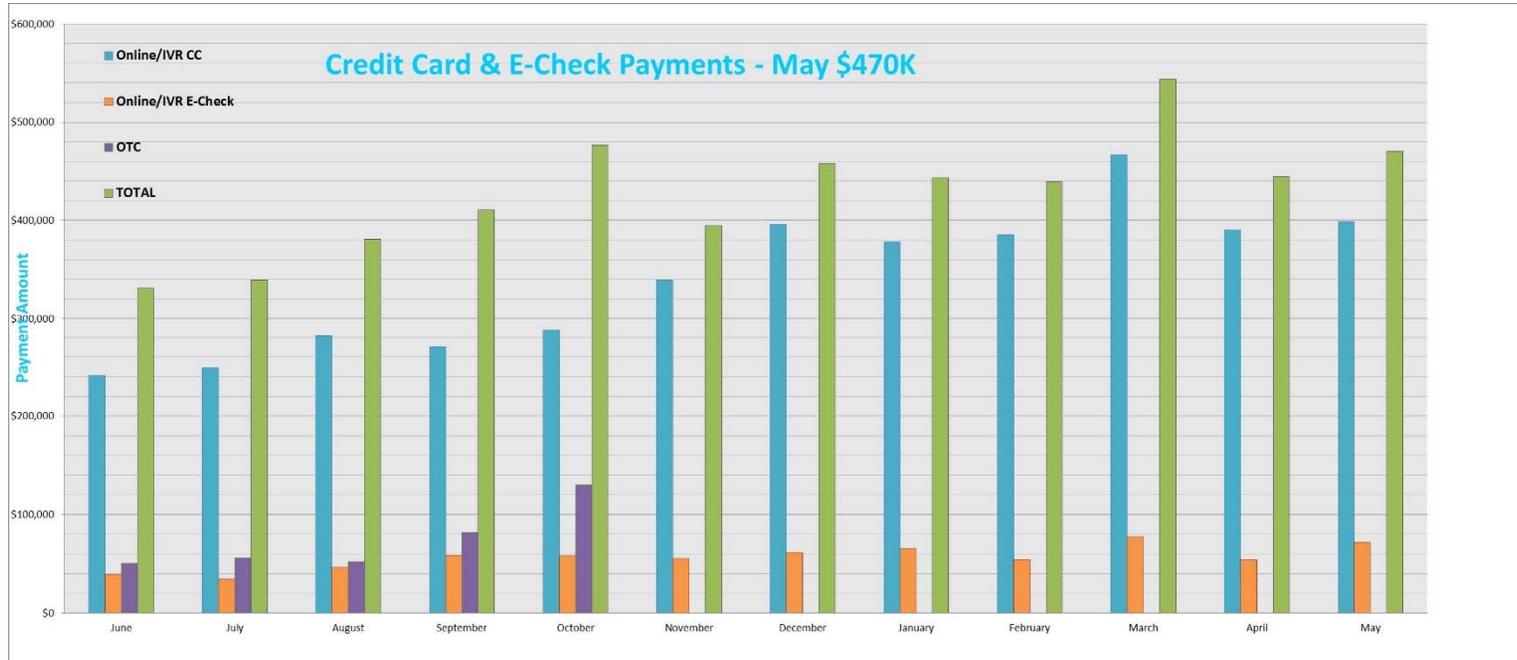
May Moves Processed = 1,259

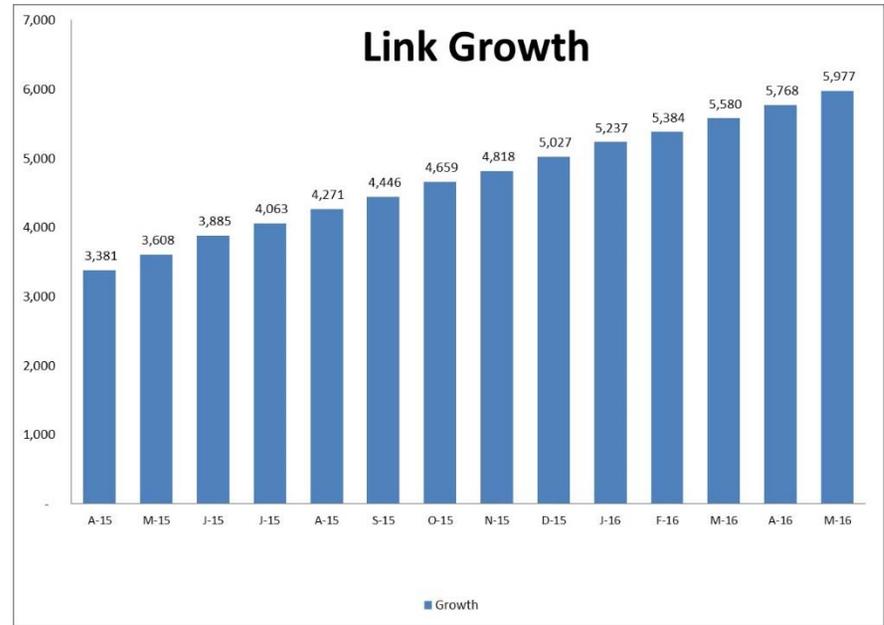
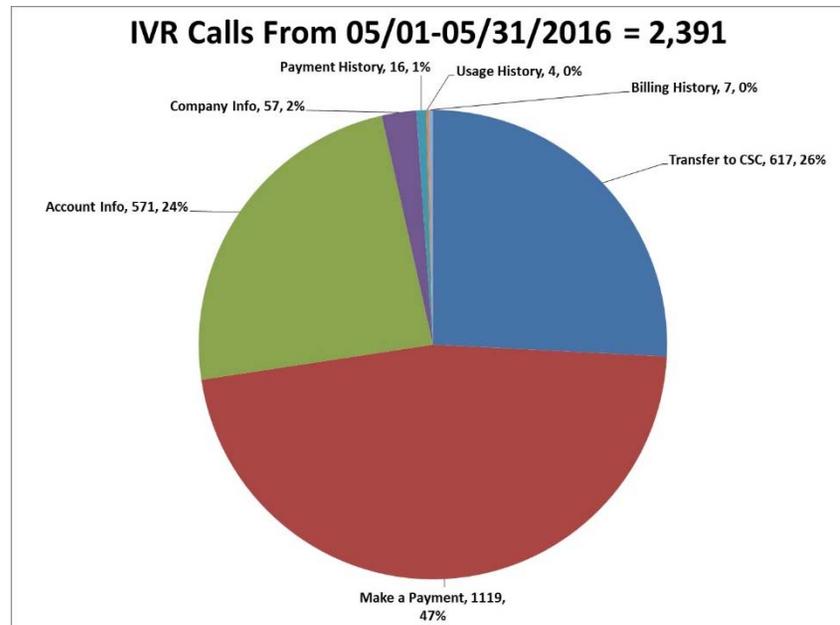
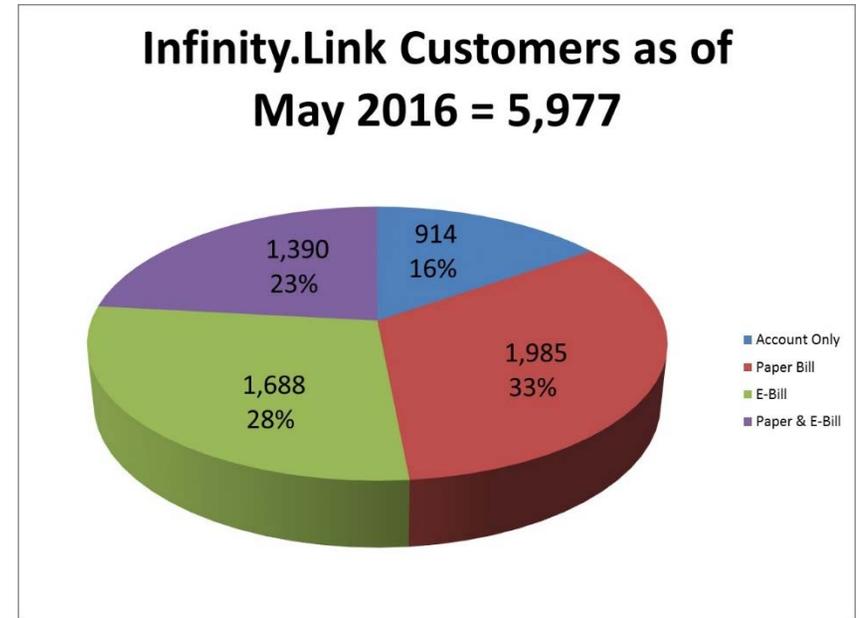
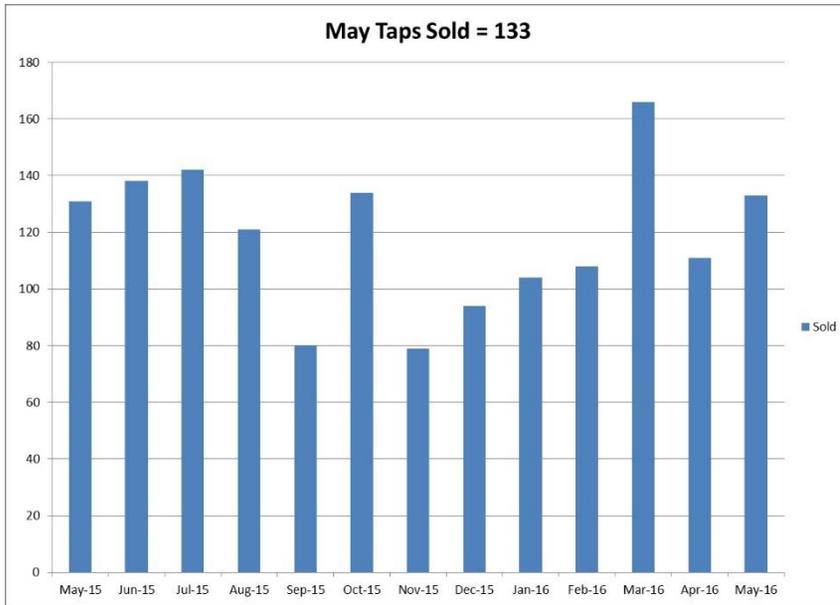


Electronic Payment Method May 2016



Credit Card & E-Check Payments - May \$470K





State Report Coversheet

Month/Year Reported

May 2016

Name of Water Utility Murfreesboro Water & Sewer Department
 Name of WTP Stones River Water Treatment Plant
 County Rutherford
 PWSID 0000491
 Laboratory ID 00450

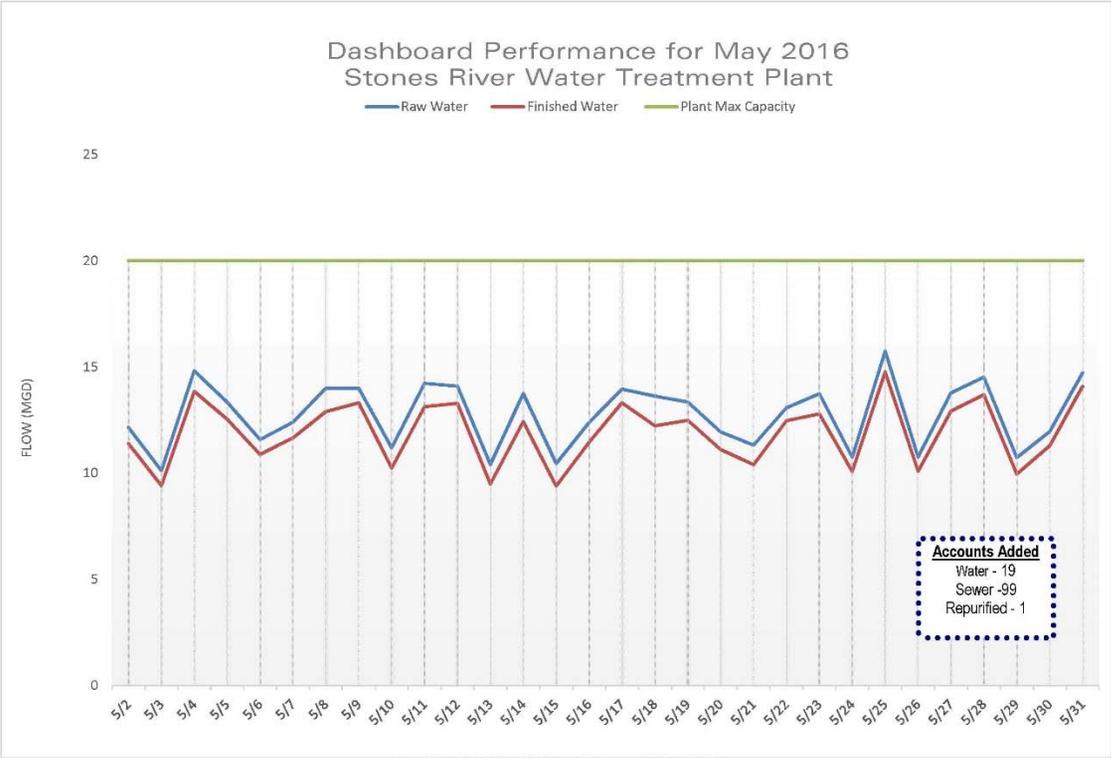
Bacteria	Total Number of Bacteria Samples for Month	100
Disinfection	Number of Samples	100
	Number of days plant operated	31
	Lowest Residual in Distribution System	1.30
	Lowest Residual Entering Distribution System	3.09
	Average Plant Effluent	3.4
Turbidity	Total Hours Plant Operated	742
	Number of Samples	186
	Maximum Turbidity	0.84
Flow	Average Raw Water Flow	12728
	Maximum Raw Water Flow	15746
Pumpage Data	Total Water Pumped (Lake)	213,564.999
	Average Water Pumped (Lake)	6,889.194
	Maximum Day (Lake)	14,301.000
	Minimum Day (Lake)	6.008
	Total Water Pumped (River)	182,078.859
	Average Water Pumped (River)	5,873.512
	Maximum Day (River)	14,023.612
	Minimum Day (River)	0.070
Water Statistics	Water Treated (Raw)	394,558.410
	Water Pumped (Finished)	367,760.138
	Water Transfer - to Murfreesboro (Smyrna, CUD)	0.000
	Water Metered (Sales, OM/Hydrant)	247,756.152
	Water Metered (Vacant Accounts, Fire Protection)	13.830
	Accounted For Water - (Flushing O&M/Eng, Fire, Street)	1,788.966
	Accounted For Water - (Flushing WTP)	410.139
	Process Water (Distribution, Tank, Water Plant)	9,797.079
	Water Transfer - to CUD	0.000
	Water Transfer - to Smyrna	0.000
	Total Accounted For Water	259,766.166
	Non Revenue Water	107,993.972
	Water Loss - Percentage	29.4%
	Water Cost Per 1,000 gallons	

Subtotals

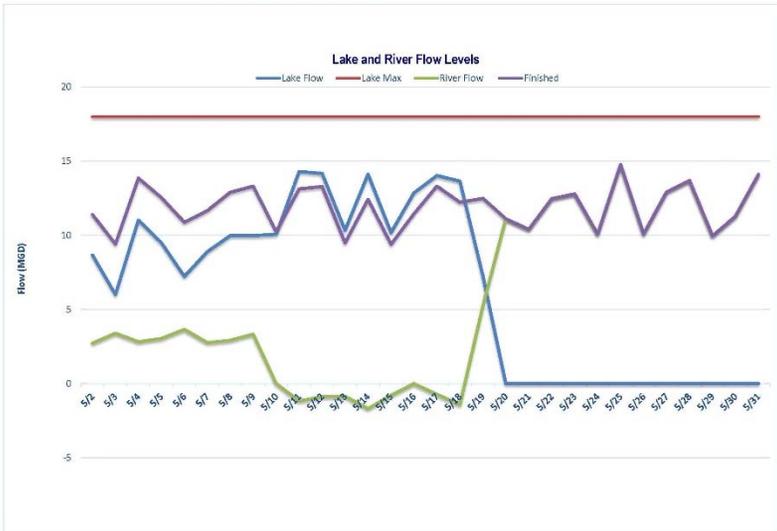
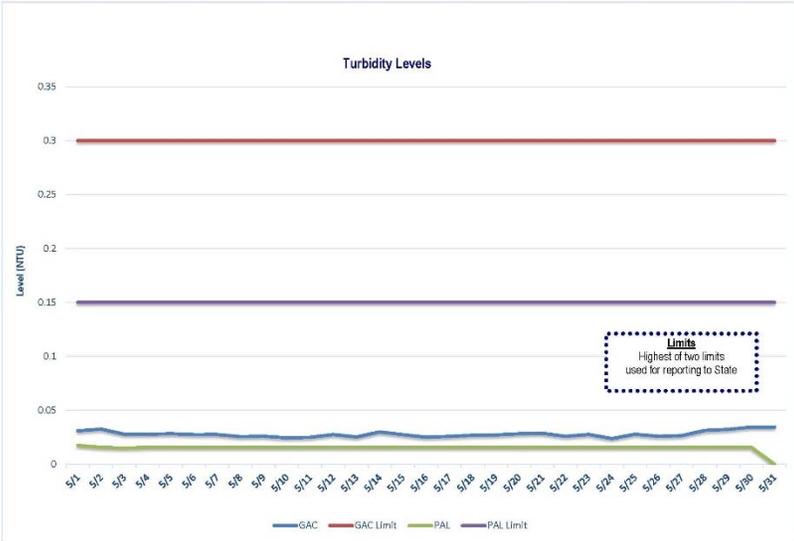
0	0	
247,716.454	39.698	
0.000	13.830	
522.185	1249.381	17.4
410.139		
587.76	0	9209.319

Reports Needed:

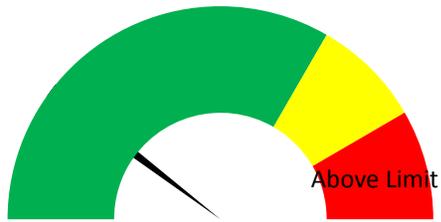
- MOR - Page 1 & 2 **DECEMBER Check YEAR!**
- Distribution
- Monthly Disinfectants Monitoring Report - Page 1 & 2
- Filter Performance Report
- Filter Turbidity Exceedance Report (Only if the filter turbidity exceeds standards)
- Monthly Microbiological Monitoring Report/Disinfectant Monitoring
- TOC & Enhanced Coagulation Report (Quarterly ADDED Data in March, June, September, December)
- Pumpage Data Report
- Bacteria Detail Report (**Check for POSITIVE Bacteria**)
- Flow to/from Smyrna to Smyrna, Dashboard Data to Pamela, Raw Flow to Debbie, PALL Turb to SS Indirect IT Folder, Dist Sheet to Randy
- Copy of Chemicals sheet to Debbie Crocker, Data to WaterLossMonthlyTotals (\\172.19.195.31\Share\Admin\Water Loss and Unaccounted for Water)
- Close out and lock Operator Log, convert to PDF, Add to SS Operator Log Folder
- High Service Dist. Monitor Logs to SS Folder
- PALL Data Logs to S3 and HS1 archives to S3
- BE-BH Correction on RAW Sheet/ **AUTOMATIC FLUSHING to KIM**



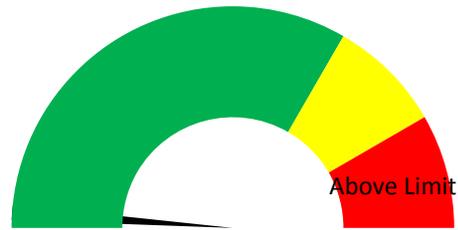
Totalized Finished Water Volume: 367.8 MG
 Totalized Billed Water Volume: 259.8 MG
 % Unaccounted for Water: 29.4%



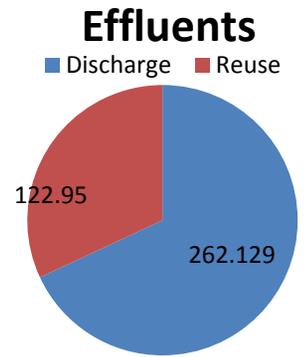
Dashboard Report May 2016
Sinking Creek Wastewater Treatment Plant



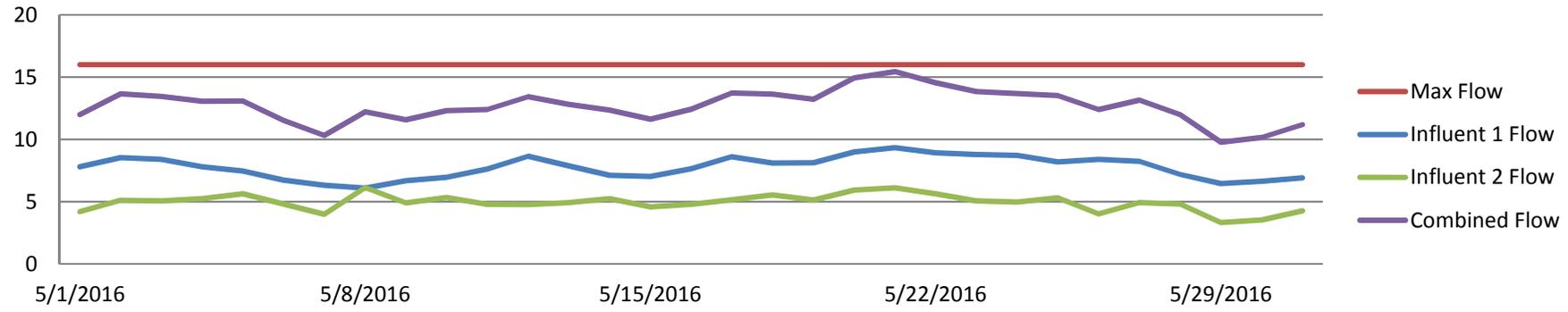
99.17%
Removal
BOD



99.84%
Removal
NH3

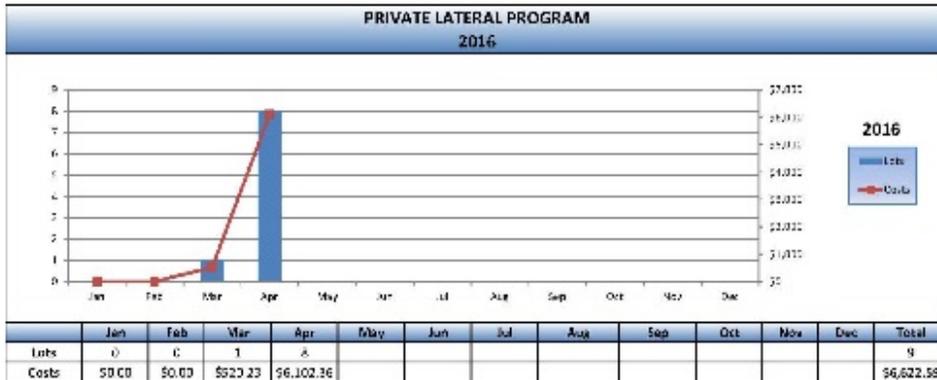
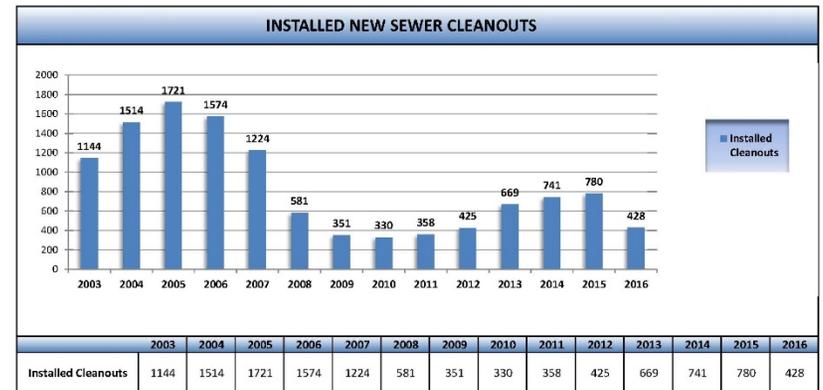
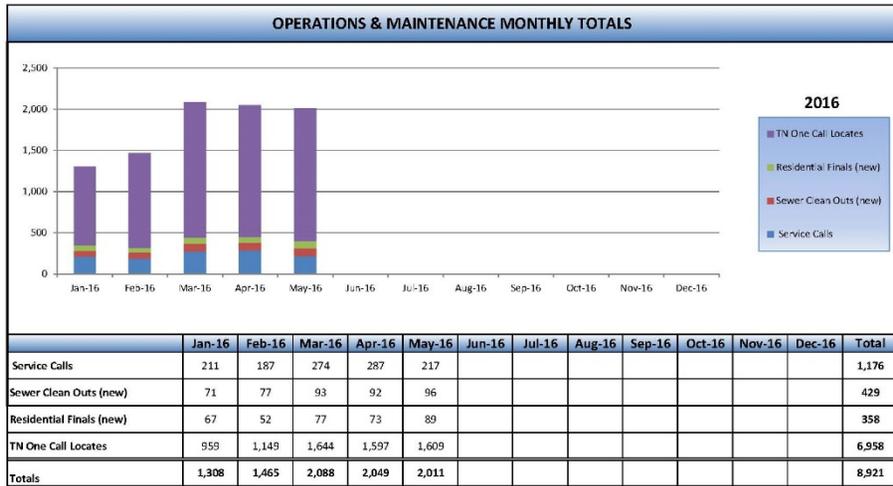


Average Influent Flow



Operations and Maintenance Dashboard

May 2016



ASPHALT PURCHASES

2016

DATE	PRODUCT	VENDOR	ESTIMATED QTY (TONS)	UNIT COST	QUOTE TOTAL	ACCEPT BID	WINNING BID	APPROVAL	NOTES
4/14/2016	Cold Mix	Lojac	40.22	\$73.00	\$2,936		Lojac	TT	Single Source
4/27/2016	Fine BM	Hawkins	43.89	\$52.04	\$2,284		Hawkins	TT	Single Source
5/3/2016	Fine BM	Hawkins	125.00	\$50.93	\$6,366	Y	Hawkins	TT	Product not available
		Hoover	125.00	\$52.25	\$6,531	N			
5/4/2016	BM	Lojac	86.12	\$52.25	\$4,500	Y	Lojac	TT	Hawkins Closed
		Hawkins				N/A			
5/11/2016	Binder	Lojac	75.00	\$46.25	\$3,469	Y	Lojac	TT	Quote good for 1 month
		Hoover	75.00	\$50.62	\$3,797	N			Not running state mix
5/11/2016	Topping	Lojac	25.00	\$53.00	\$1,325	Y	Lojac	TT	Not running state mix
		Hawkins	25.00	\$54.18	\$1,355	N			
		Hoover				N/A			
5/13/2016	BM Binder	Hoover	20.00	\$50.79	\$1,016	Y	Hoover	TT	Single Source
		Lojac				N/A			Product Not Available
		Hawkins				N/A			Product Not Available
5/18/2016	Binder	Lojac	150.00	\$46.25	\$6,938	Y	Lojac	TT	Low Bid for May
6/6/2016	BM Binder	Hawkins	195.00	\$50.50	\$9,848		Hawkins	TT	Low Bid for June
		Hoover			\$51.00				
		Lojac			\$55.78				



MWSD Operations & Maintenance Dashboard Report July 2015 - June 2016

	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Total</i>
Water Pipe (ft) - New Construction													
6" C-900	0	0	0	480	0	0	0	0	0	0	0		480
8" C-900	581	0	838	0	0	0	0	827	1,880	180	0		4,306
6" Ductile Iron	9	0	33	8	0	0	0	17	23	0	0		90
8" Ductile Iron	0	0	0	0	0	0	0	0	11	15	11		37
1" Copper	567	0	19	0	290	0	43	0	0	450	1,053		2,422
2" Copper	0	0	0	0	0	0	0	0	0	0	0		0
Total	1,157	0	890	488	290	0	43	844	1,914	645	1,064		7,335

Sewer Pipe (ft) - New Construction													
6" SDR-35	0	522	0	0	22	0	0	0	0	0	0		544
8" SDR-35	0	726	0	0	0	0	20	0	0	0	0		746
6" Ductile Iron	0	0	0	0	0	0	0	0	0	0	0		0
8" Ductile Iron	0	0	0	0	0	0	0	0	0	0	0		0
Total	0	1,248	0	0	22	0	20	0	0	0	0		1,290

Paving (tons)													
Asphalt	400.00	262.66	70.55	292.69	53.77	141.70	50.15	0.00	0.00	84.11	357.53		1,713.16
Stone	1,065.58	2,714.41	1,496.48	923.12	799.86	695.50	1,279.30	1,169.48	2,298.18	683.30	826.83		13,952.04

New Stubs Water Pipe (ft)													
1" Copper	488	780	657	700	0	600	0	0	0	0	0		3,225
2" Copper	0	0	0	0	0	0	0	0	0	0	0		0

Stormwater Televised Lines & Line Cleaning (ft)													
Line Cleaning	3,000	5,078	4,914	13,000	0	0	5,000	2,000	3,000	0	6,190		42,182
Televised Lines	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00

Sewer Televised Lines & Line Cleaning (ft)													
Line Cleaning	71,618	47,702	33,982	109,094	43,160	48,671	53,022	84,492	20,181	65,060	49,985		626,967
Televised Lines	29,991.30	20,586.00	34,949.00	40,363.40	2,382.00	15,090.90	14,251.00	19,773.00	20,564.40	34,548.50	11,398.00		243,897.50
Televised Laterals	1,254.00	2,395.00	538.00	191.00	1,816.00	855.00	2,000.00	1,508.00	5,243.00	997.00	700.00		17,497.00
Televised Lines (Warranty)	0.00	0.00	486.00	1,186.00	15,908.90	16,186.60	5,841.50	3,784.00	10,856.00	0.00	0.00		54,249.00



MWSD Operations & Maintenance Dashboard Report July 2015 - June 2016

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
--	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-------

Sewer Rehab													
Maintenance Projects	16	12	3	10	14	28	8	12	9	29	21		162
Lateral Replacement Pipe (ft)	67	20	35	40	49	104	29	107	84	194	200		929
Restoration	22	30	36	61	19	1	2	14	31	17	29		262

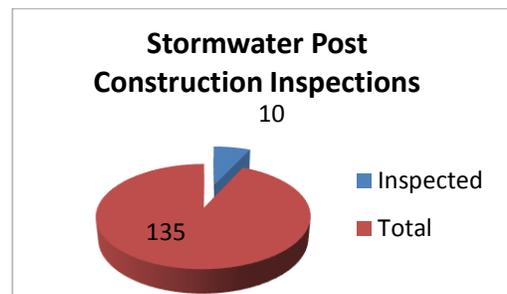
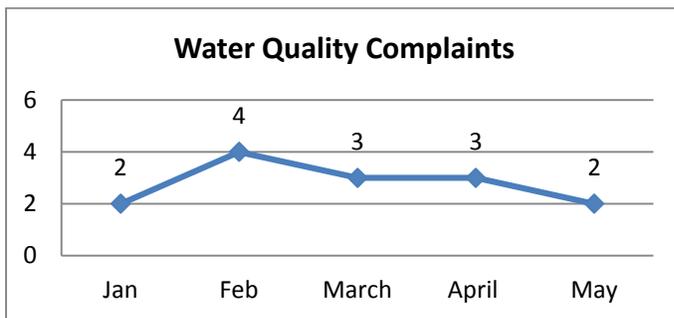
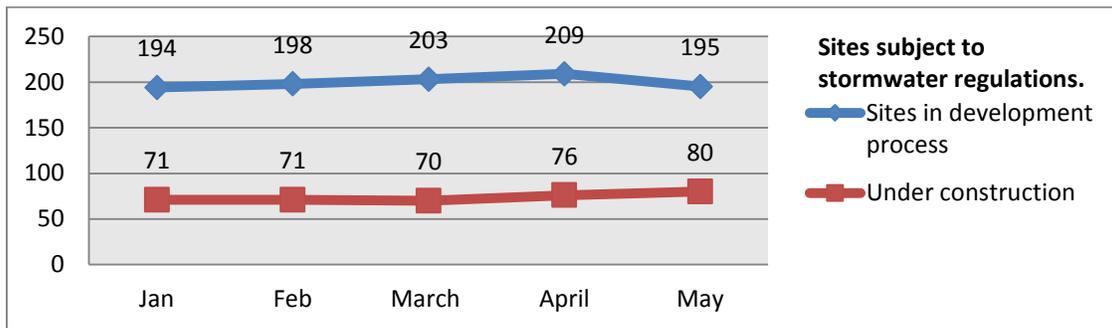
Private Lateral													
Services	4	2	3	3	0	0	0	0	1	8	2		23
4" C-900 (ft)	460	110	70	93	0	0	0	0	46	535	92		1,406
6" C-900 (ft)	46	54	27	25	0	0	0	0	5	30	26		213

Collection Maintenance													
New Sewer Cleanouts	54	77	81	91	45	59	71	77	93	92	96		836
GIS Located cleanouts	9	8	13	6	10	2	6	8	1	9	8		80

Distribution Maintenance													
Fire Hydrants - New	4	4	0	2	3	1	0	7	5	2	0		28
Fire Hydrants - Blow off	0	0	0	1	0	0	0	0	0	0	0		1
Main Water Line Damage	1	0	0	0	0	1	1	0	0	0	0		3
Main Water Line Leak	6	3	9	5	8	6	14	1	7	3	7		69
New Taps	27	1	5	0	4	2	0	0	4	4	6		53
New Stubs	21	15	21	17	0	15	0	0	0	0	0		89
Tap Replacements	3	0	16	1	0	1	16	9	2	1	0		49
Tap Replacements (New Const)										25	44		69
Meter Connections	18	11	3	3	19	8	6	5	11	13	3		100

Distribution & Collection													
Service Calls	239	271	271	214	217	219	211	187	274	278	217		2,598
TN One Call Locates	1,235	1,258	1,252	1,189	1,073	1,037	959	1,149	1,644	1,597	1,609		14,002
Water & Sewer Inspections	110	80	84	103	49	71	76	88	92	93	112		958
Water & Sewer Final Insp	71	57	77	69	80	68	67	52	77	73	89		780
Total	1,655	1,666	1,684	1,575	1,419	1,395	1,313	1,476	2,087	2,041	2,027		18,338

Stormwater May 2016



Monitoring and Sampling

Stream Miles Assessed (VSA June 2016)

April - 0 miles
 May - 0 miles
 Year to Date - 0 miles

Samples Taken

April - 1
 May - 8 (biological)
 Year to Date - 19

Outfall Screenings

April - 1
 May - 0
 Year to Date - 2

Stormwater Infrastructure

Gravity Mains (ft)

May - 3,188
 Year to Date - 21,765

Junction Boxes

May - 23
 Year to Date - 187

Weirs/Headwalls/Basins

May - 1/8/2
 Year to Date - 10/55/9

Pavers/ P. Concrete

Total to date: 27.8 acres

Outfalls

April - 3
 May - 1
 Year to Date - 6

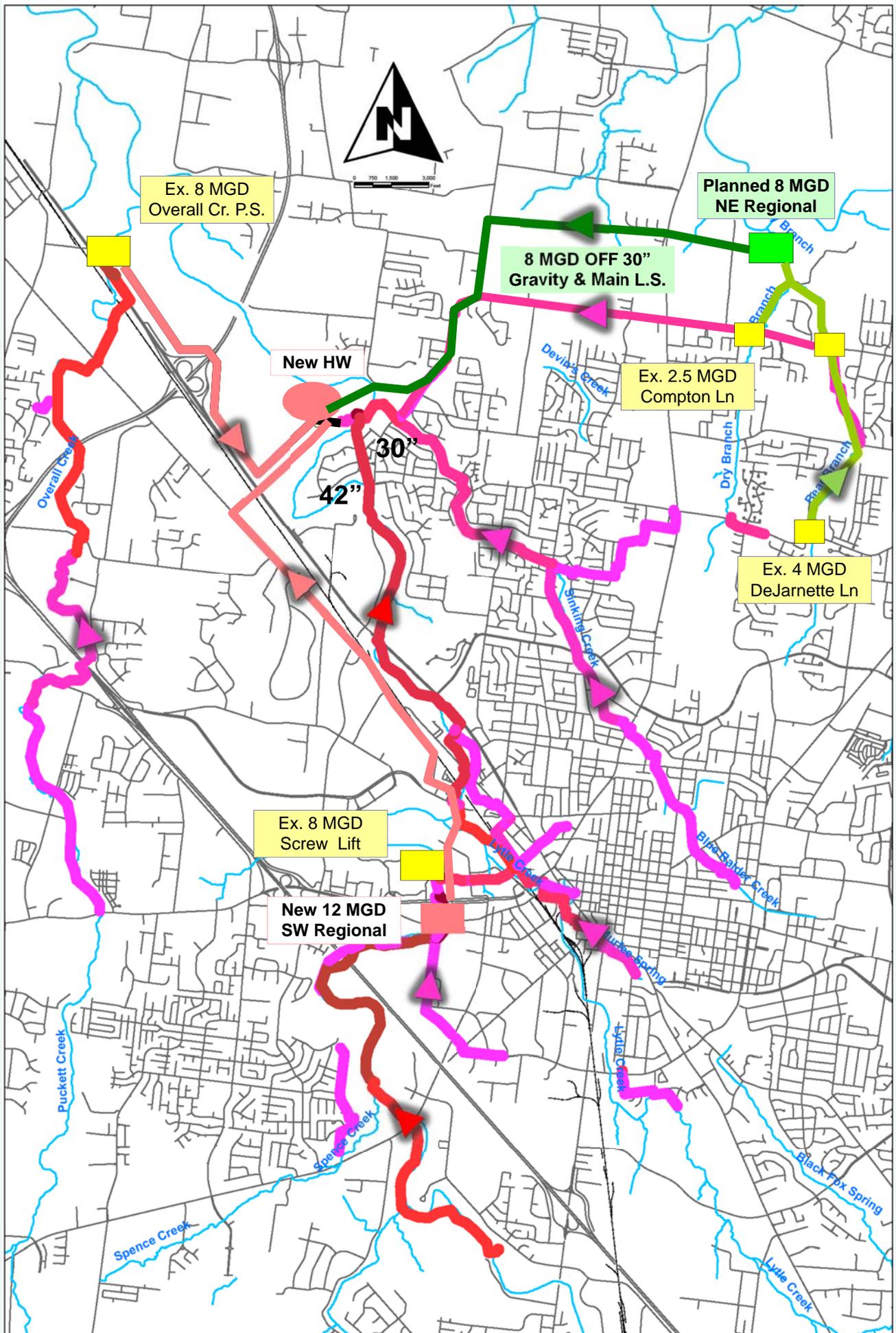
Stormwater Activities

Outreach Events

April - 2
 May - 1
 Year to Date - 4

Ongoing Projects

- West Fork Stones River bank stabilization
- Invasive aquatic plant treatment at Murfree Spring Wetlands
- Biological sampling to gage effectiveness of programs



Ex. 8 MGD
Overall Cr. P.S.

Planned 8 MGD
NE Regional

8 MGD OFF 30"
Gravity & Main L.S.

New HW

Ex. 2.5 MGD
Compton Ln

30"

42"

Ex. 4 MGD
DeJarnette Ln

Ex. 8 MGD
Screw Lift

New 12 MGD
SW Regional

Puckett Creek

Spence Creek

Spence Creek

Devins Creek

Sinkins Creek

Lyles Creek

Lucke Spring

Lytle Creek

Blaze-Rahner Creek

Black Fox Spring

Lytle Creek



**MURFREESBORO WATER & SEWER DEPT.
OPERATING REVENUES AND EXPENDITURES
ELEVEN MONTHS ENDED MAY 31, 2016**

ACCOUNT DESCRIPTION	YTD ACTUAL	ANNUAL BUDGET	% TO BUDGET
Operating Revenues			
Water Revenue	\$ 13,976,016	\$ 14,429,000	97%
Repurified Revenue	\$ 25,020	\$ 25,000	100%
Sewer Revenues	\$ 24,064,449	\$ 23,671,300	102%
Other Income	\$ 248,613	\$ 204,000	122%
Total Operating Revenue	\$ 38,314,098	\$ 38,329,300	100%
Water Operating Expenses	\$ 8,304,319	\$ 8,679,844	96%
Sewer Operating Expenses	\$ 9,366,112	\$ 11,724,947	80%
Total Operating Expenses	\$ 17,670,431	\$ 20,404,791	87%
Net Earnings from Operations	\$ 20,643,667	\$ 17,924,509	115%
Water Operating Expenses			
31701118 Water Source Operations	\$ 181,448	119,000	152%
31701137 Water Treatment Personnel	\$ 1,457,057	1,197,058	122%
31701138 Water Treatment Operations	\$ 1,872,237	1,930,800	97%
31701147 Water Treatment Maint Personnel	\$ 120,588	298,361	40%
31701148 Water Treatment Maint Ops	\$ 10,185	14,500	70%
31701157 Water Storage Personnel	\$ 17,092	62,657	27%
31701158 Water Storage Operations	\$ 28,464	42,000	68%
31701177 Water Distribution Personnel	\$ 611,009	398,466	153%
31701178 Water Distribution Operations	\$ 320,162	368,016	87%
31701187 Water T&D Maint Personnel	\$ 123,892	90,037	138%
31701188 Water T&D Maint Operations	\$ 271	143,266	0%
31701197 Cross Connection Personnel	\$ 161,502	156,678	103%
31701198 Cross Connection Operations	\$ 19,236	34,700	55%
31701237 Water Admin Personnel	\$ 320,294	0	
31701238 Water Admin Operations	\$ 235,338	212,200	111%
31701707 Water Meter Field Svc Personnel	\$ 352,780	0	
31701708 Water Meter Field Svc Ops	\$ 45,557	0	
O&M Admin Allocation (40%)	\$ 381,841	\$ 118,930	321%
Customer Service Allocation (50%)	\$ 589,446	\$ 767,687	77%
Engineering Allocation (40%)	\$ 240,914	\$ 355,093	68%
Field Inspection Allocation (25%)	\$ 76,019	\$ -	
Admin Allocation (40%)	\$ 1,138,987	\$ 2,370,394	48%
Total Water Operating Expenses	\$ 8,304,319	\$ 8,679,844	96%

MURFREESBORO WATER & SEWER DEPT.
 OPERATING REVENUES AND EXPENDITURES
 ELEVEN MONTHS ENDED MAY 31, 2016

ACCOUNT DESCRIPTION	YTD ACTUAL	ANNUAL BUDGET	% TO BUDGET
Sewer Operating Expenses			
31702317 Sewer Collections Personnel	\$ 230,484	171,271	135%
31702318 Sewer Collections Operations	\$ 123,420	180,216	68%
31702327 Swr Collex Maint Personnel	\$ 6,843	10,922	63%
31702328 Swr Collex Maint Operations	\$ 17,958	205,463	9%
31702337 Sewer Rehabilitation Personnel	\$ 508,558	524,030	97%
31702338 Sewer Rehab Operations	\$ 168,255	327,463	51%
31702357 Sewer Pump Stations Personnel	\$ 81,207	14,259	570%
31702358 Sewer Pump Station Operations	\$ 356,258	493,000	72%
31702367 Swr Pump Station Maint Personnel	\$ 38,869	14,259	273%
31702368 Swr Pump Station Maint Operatons	\$ 5,409	10,000	54%
31702377 Swr Industrial Surveilance Personnel	\$ 155,351	150,729	103%
31702378 Sewer Ind Surv Operations	\$ 32,123	35,802	90%
31702397 Swr Private Laterals Personnel	\$ 49,950	0	
31702398 Swr Private Laterals Operations	\$ 15,199	37,955	40%
31702407 Pvt Lat Maint Personnel	\$ 3,284	109,919	3%
31702417 House Services Personnel	\$ 141,029	160,192	88%
31702418 House Service Operations	\$ 11,987	20,563	58%
31702427 House Services Maint Personnel	\$ -	21,882	0%
31702428 House Svc Maint Operations	\$ -	10,563	0%
31702457 Sewer Treatment Personnel	\$ 827,331	927,639	89%
31702458 Sewer Treatment Operations	\$ 1,535,104	1,777,527	86%
31702467 Sewer Treatment Maint Personnel	\$ 306,464	262,633	117%
31702468 Sewer Treatment Maint Operations	\$ 61,941	0	
31702477 Sewer Disposal Personnel	\$ 105,719	144,875	73%
31702478 Sewer Disposal Operations	\$ 271,803	282,500	96%
31702517 Sewer Admin Personnel	\$ 269,032	0	
31702518 Sewer Administration Operations	\$ 404,774	548,448	74%
31703617 Repurified Personnel	\$ -	55,918	0%
31703618 Repurified Operations	\$ 53,110	192,606	28%
31703638 Repurified Distribution Operations	\$ 3,035	0	
31703657 Repurified Disposal Personnel	\$ 36,589	0	
31703658 Repurified Disposal Operations	\$ 84,911	0	
O&M Admin Allocation (60%)	\$ 572,761	\$ 178,395	321%
Customer Service Alloction (50%)	\$ 589,446	\$ 767,687	77%
Engineering Allocation (60%)	\$ 361,371	\$ 532,640	68%
Field Inspection Allocation (75%)	\$ 228,057	\$ -	
Admin Allocation (60%)	\$ 1,708,481	\$ 3,555,592	48%
Total Sewer Operating Expenses	\$ 9,366,112	\$ 11,724,947	80%

**TAP SALES AND DEBT SERVICE
ELEVEN MONTHS ENDING MAY 31, 2016**

	11 months ended 5/31/16
SUMMARY OF TAP FEES	
Water Taps/Reserves	\$ 611,512
Sewer Taps/Reserves	\$ 6,878,912
Special Assessment Districts	\$ 2,037,534
	\$ 9,527,958

DEBT SERVICE	YTD ACTUAL	ANNUAL BUDGET	%
Principal	\$ 8,598,648	\$ 9,583,444	89.7%
Interest	\$ 1,912,375	\$ 2,062,023	92.7%
	\$ 10,511,023	\$ 11,645,467	90.3%

Debt Coverage Ratio	YTD	Annual
Operating Net Earnings	\$ 20,643,667	\$ 17,924,509
Debt Service	\$ 10,511,023	\$ 11,645,467
	1.96	1.54