

WATER RESOURCES BOARD

Tuesday, May 26, 2020
Operations & Maintenance Facility
1725 South Church Street
3:30 PM

AGENDA

1. Consent Agenda:
 - A. Consider JB&S Task Order 20-03, Air Compressor Replacement at SRWTP..... 2
 - B. Consider custodial services contract renewal 7
 - C. Consider Barton Lawn Care Contract Change Order 1..... 9
 - D. Consider abandonment of water easement at A+ Storage..... 11
 - E. Consider 2018/2019 San. Sewer Rehab Project Change Order 3..... 14
 - F. Consider Water/Wastewater Electrical/Mechanical Services Contract Extension 19
2. Consider minutes from the April 28, 2020 meeting..... 23
3. Consider O&M sewer inspection and asset management software purchase..... 34
4. Consider Final Bulk Water Purchase & Sale Agreement with Marshall County, TN 37
5. Consider Department participation in upsizing water main in West Point Section 3..... 48
6. Overall Creek Pump Station Upgrades Update..... 53
7. Dashboard
8. Financials
9. Other business
10. Adjourn



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MEMORANDUM

DATE: May 6, 2020

TO: Water Resources Board

FROM: Alan Cranford

SUBJECT: Water/Wastewater Mechanical/Electrical Services Contract Task Order No. 20-03
Stones River Water Treatment Plant

Background

Staff submits Task Order No. 20-03 for the Water/Wastewater Mechanical/Electrical Services Contract to remove, pour a new pad, purchase and replace the two air compressors for the lime and soda ash system.

The Task Order pricing includes demolishing two existing air compressors, pour a new pad, furnish and install two new Gardner Denver air compressors, and test run. Includes labor, filters, and miscellaneous materials.

Fiscal Impact

The cost for the project is \$21,868.72. The project is budgeted in the capital budget at \$20,000. Staff requests to take the additional \$1,868.72 from another item in the capital budget that was underbudget.

Recommendations

Staff requests the Water Resources Board recommend to the City Council approving JBS Task Order 20-03 in accordance with the JBS estimate.

Attachments

SRWTP – JBS Task Order 20-03 – Air Compressors



...

TASK ORDER NO. 20-03

May 5, 2020

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

June 6, 2019 thru June 6, 2020

FOR

Air Compressor Replacement at WTP

Task Order No. 20-03

Air Compressor Replacement at WTP

BACKGROUND

JBS has been asked to demolish two (2) existing air compressors, pour a new pad, furnish and install two (2) new GD air compressors, and test run. Includes labor, filters, and miscellaneous materials.

SCOPE OF WORK

Labor and materials by JBS to replace two air compressors as described above.

DETAILS OF THE PROPOSED EQUIPMENT (Cutsheets attached with Email)

**GARDNER DENVER OIL FLOODED FIXED SPEED ROTARY SCREW AIR COMPRESSOR
MODEL L4 / 5 HP / 18.1 CFM @ 130 PSIG / 460 VOLT / AIR-COOLED / AIR STATION**

- LOAD/NO LOAD CONTROL AND TIMED SHUTDOWN
- MOUNTED AND WIRED WYE-DELTA STARTER
- HIGH EFFICIENCY TEFC DRIVE MOTOR
- 80-GALLON ASME RECEIVER TANK MOUNTED WITH AUTOMATIC CONDENSATE DRAIN
- MOUNTED NON-CYCLING REFRIGERATED DRYER WITH **INTEGRATED GRADE B** (3 MICRON, 5 PPM) AND **GRADE F COLD COALESCING** (0.01MICRON, 0.008 PPM) FILTERS
- **THREE-WAY BYPASS VALVE**
- 69 dBA QUIET ENCLOSURE
- FACTORY FILLED WITH AEON 4000 SYNTHETIC LUBRICANT
- GD PILOT™ MICROPROCESSOR CONTROLLER WITH **AUTO-RESTART**
- CSA LABELED AND APPROVED ELECTRICAL CONTROLS AND WIRING
- IP54 ELECTRICAL ENCLOSURE
- SECOND PRESSURE BAND CONTROL FOR **AUTOMATIC SEQUENCING & LEAD/LAG OPERATION**
- START-UP BY FACTORY-TRAINED SERVICE TECHNICIAN INCLUDED
- 10-YEAR AIREND WARRANTY (*DETAILS ATTACHED*)

FIL SERIES GRADE G (0.01 MICRON, 0.003 PPM) OIL VAPOR REMOVAL FILTER

- ½" NPT INLET / OUTLET CONNECTIONS

FISCAL IMPACT

Murfreesboro Water Plant RDP Compressors

Description	Qty (hrs)	Rate	Extended
Project Mgr (RT)	4	\$75.00	\$300.00
Project Mgr (OT)		\$110.00	\$0.00
Electrician (RT)	16	\$52.00	\$832.00
Electrician (OT)		\$78.00	\$0.00
Apprentice/Helper (RT)		\$37.00	\$0.00
Apprentice/Helper (OT)		\$55.50	\$0.00
Expediter/Delivery (RT)		\$29.00	\$0.00
Expediter/Delivery (OT)		\$43.50	\$0.00
Machine Shop Millwright (RT)	64	\$60.00	\$3,840.00
Machine Shop Millwright (OT)		\$90.00	\$0.00
HVAC/Plb Service Tech (RT)		\$66.00	\$0.00
HVAC/Plb Service Tech (OT)		\$99.00	\$0.00
Air Compressor Tech (RT)		\$66.00	\$0.00
Air Compressor Tech (OT)		\$99.00	\$0.00

Equipment	Qty (hrs)	Rate/Hr	Extended
Welder		\$15.00	\$0.00
Power Threader		\$10.00	\$0.00
Pickup Truck	40	\$15.00	\$600.00
Scissor Lift		\$19.00	\$0.00

Materials & Subcontractors		
Materials		
2 each Gardner Denver 5 HP compressors & Gauges		\$12,815.20
Misc. material: conduit, pipe fittings, tape, anchors, etc...		
pipe, concrete, etc...		\$1,500.00
Shipping		\$500.00
Markup on Material & Subcontractors	10.00%	\$1,481.52

TOTAL ESTIMATE \$21,868.72

Contractor:

John Bouchard and Sons Company

City:

City of Murfreesboro

By: David Proctor IV

By: _____

Name: David Proctor

Name: Shane McFarland

Title: Project Manager

Title: Mayor

Date: 5/05/20

Date: _____

Approved as to Form:

Adam F. Tucker, City Attorney

CONTRACTOR NOTICE CONTACT INFORMATION

CITY NOTICE CONTACT INFORMATION

John Bouchard and Sons Company

Murfreesboro Water and Sewer Dept.

Mailing address 1024 Harrison St.
Nashville, TN 37203

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: April 22, 2020
TO: Water Resources Board
FROM: Donald Hughes
SUBJECT: Contract Renewal – Custodial Services

BACKGROUND

Murfreesboro Water Resources Department received bids on June 5, 2017 to provide custodial services to Operations Maintenance (1725 S. Church St.), Administrative Offices (300 NW Broad St.), and Engineering (220 NW Broad St.) The contract was awarded to Culp's Cleaning Service effective July 1, 2017 and we are satisfied with their quality of work and timely service.

RECOMMENDATION

Staff recommends extending the contract term for the final two-year period as allowed by the contract.

FISCAL IMPACT

The department budgeted \$48,100 for the first year which included an initial deep cleaning fee. All terms and conditions of the contract remain the same and staff anticipates year four and five costs to be \$46,000.

ATTACHMENTS

Contract Amendment – Final Renewal

**FINAL AMENDMENT
TO THE
CONTRACT
BETWEEN THE CITY OF MURFREESBORO
AND
CULP'S CLEANING
CUSTODIAL SERVICES**

This Final Amendment ("Final Amendment") to the Contract, entered into July 1, 2017 ("Contract"), is effective as of this July 1, 2020, by and between the City of Murfreesboro ("City"), a municipal corporation of the State of Tennessee and Culp's Cleaning, LLC, a Limited-Liability Corporation of the State of Tennessee, ("Contractor").

RECITALS

WHEREAS, on July 1, 2017, the City entered into a contract with Culp's Cleaning LLC., for Custodial Services for MWRD Operations Maintenance, MWRD Administrative Offices, and MWRD Engineering.

WHEREAS, the term of the contract between the City and Contractor is currently from July 1, 2019 to June 30, 2020, and,

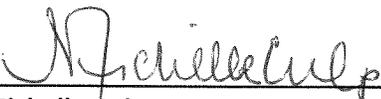
WHEREAS, the City and Contractor wish to extend the Contract term pursuant to provision 2 of the current Contract for an additional term:

NOW THEREFORE, the City and Contractor mutually agree to renew the current Contract for the final term to begin on July 1, 2020 and end on June 30, 2022.

CITY OF MURFREESBORO

By: _____
Shane McFarland, Mayor

CULP'S CLEANING:

By:  _____
Michelle Culp, Owner

Approved as to form:

Adam F Tucker, City Attorney



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MEMORANDUM

DATE: May 20, 2020
TO: Water Resources Board
FROM: Donald Hughes
SUBJECT: Barton Lawn Care – Change Order #1

BACKGROUND

Operations and Maintenance received bids for the Lawn Care Service for MWRD's Operations and Maintenance Division on February 27, 2017 and the contract was awarded to Barton Lawn Care. We are requesting approval to add a Change Order #1 to the existing contract to include grass cutting for the following new pump stations.

3699 Caroline Farms
1031 Black Oak Dr.
5353 Bridgemore Blvd.
5208 Pointer Place

RECOMMENDATIONS

Staff recommends the Water Resources Board approve the additional sites for lawn care services.

FISCAL IMPACT

Barton Lawn Care agreed to cut each pump station for \$30. We estimate cutting the pump stations 18 times per year. The yearly additional cost will be \$2,160.

ATTACHMENTS

Barton Lawn Care Quote

Melissa Rowland

Subject: FW: [EXTERNAL]- Re: New Areas for Lawncare

From: Gary Barton <blc8394@gmail.com>
Sent: Wednesday, May 13, 2020 6:45 AM
To: Melissa Rowland <melissarowland@murfreesborotn.gov>
Cc: Donald Hughes <dhughes@murfreesborotn.gov>
Subject: [EXTERNAL]- Re: New Areas for Lawncare

Melissa,

\$30 for each pump station.

Thanks

Gary

On Wed, Apr 29, 2020 at 10:46 AM Melissa Rowland <melissarowland@murfreesborotn.gov> wrote:

Gary,

We would like to add these areas to our contract. Can you please give us pricing for these pump stations?

3699 Caroline Farms

1031 Black Oak Dr.

5353 Bridgemore Blvd.

5208 Pointer Place



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MEMORANDUM

DATE: May 20, 2020
TO: Water Resources Board
FROM: Valerie H. Smith
SUBJECT: Water Easement Abandonment
A+ Storage

Background

This easement abandonment request is from SEC, Inc. on behalf of the Developer of A+ Storage. They are requesting the abandonment of an existing water easement as shown on the attached exhibit. This easement was recorded by plat and was intended for a proposed fire hydrant to serve the property. The Developer will dedicate a new water easement during the construction of the project at the proper location of the fire hydrant.

Recommendation

Staff recommends that the Board recommend to the Planning Commission and City Council approval of abandoning this existing water easement.

Fiscal Impact

Not applicable. The easement was dedicated through the recording of a plat by the developer.

Attachment

Easement Abandonment Request
Abandonment Exhibit
New Easement Exhibit

May 12, 2020

Mrs. Valerie Smith
Murfreesboro Water Resources Dept
N.W. Broad Street
Murfreesboro, Tennessee 37130

RE: APlus Storage Northfield Blvd
Waterline Easement Relocation Request
Murfreesboro, Tennessee

Dear Mrs. Smith:

Please accept this as our formal request for the City of Murfreesboro to relocate a portion of the waterline easement that is shown on Plat Book 43 Page 151. Furthermore, the attached exhibit highlights this area.

The easement was for a proposed fire hydrant that has now been relocated to a different location on-site due to adding a dumpster in the previously proposed location.

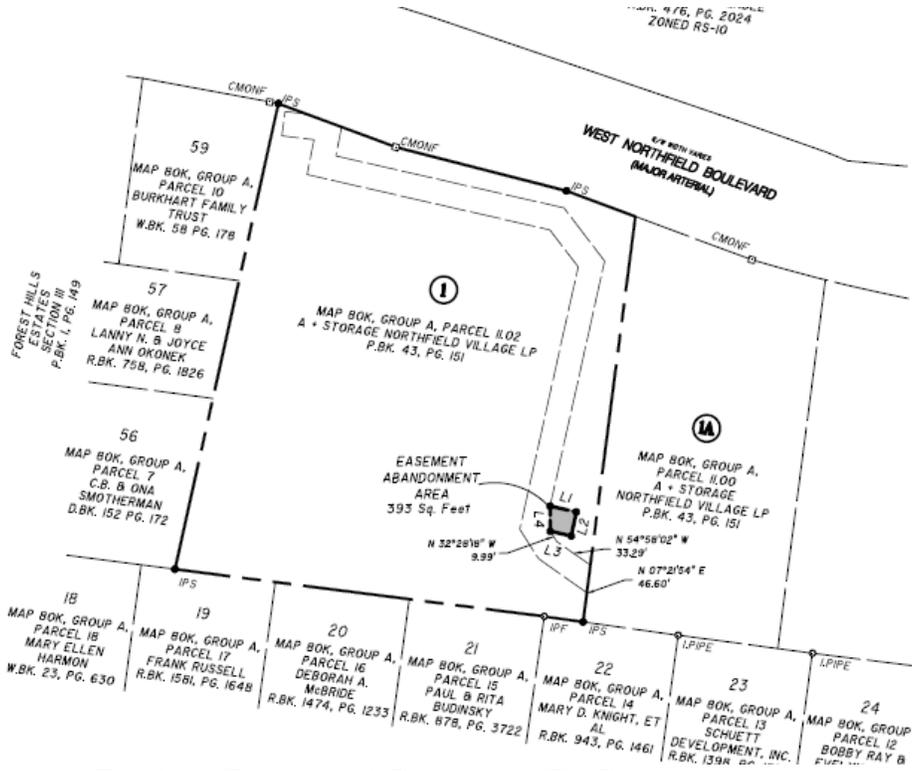
If the request is granted, SEC will complete a description and exhibit of the existing easement to be abandoned and a description and exhibit of the new proposed drainage easement

If you should have any questions concerning this letter, please feel free to call me at (615) 890-7901 or via email at mtaylor@sec-civil.com

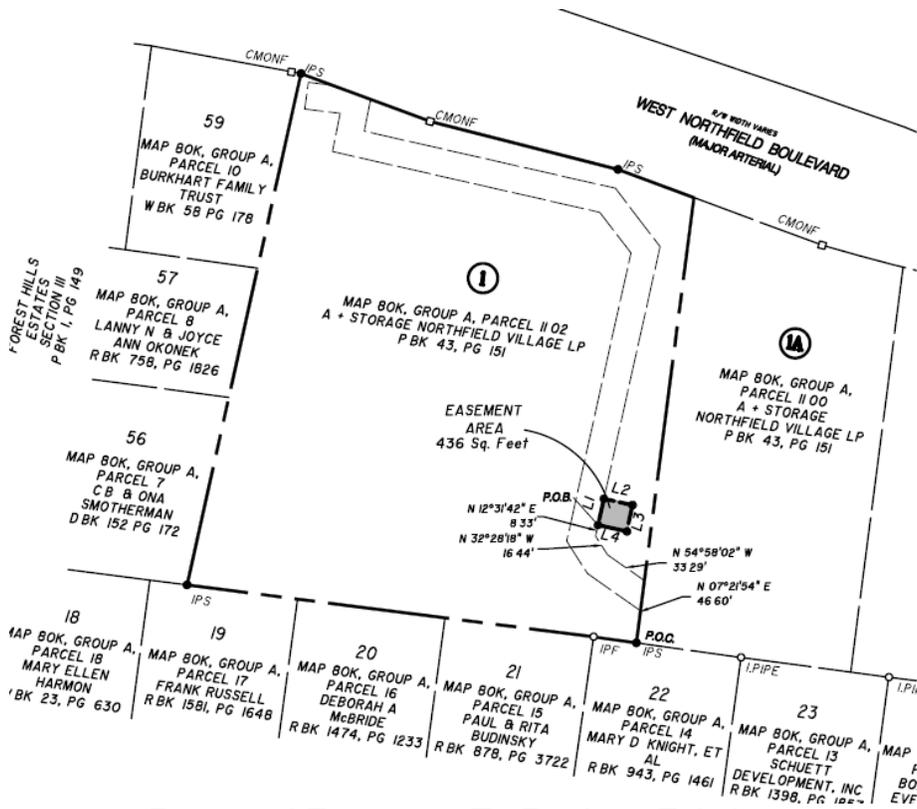
Sincerely,



Matt Taylor, P.E.
Vice-President
SEC, Inc



Existing Easement Proposed To Be Abandoned



Proposed Easement To Replace Existing



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MEMORANDUM

DATE: May 20, 2020
TO: Water Resources Board
FROM: Valerie H. Smith
SUBJECT: Sanitary Sewer Rehabilitation
Change Order #3
Project File #18043

SUMMARY

Recommend approval of Change Order #3 to the 2018/19 Sanitary Sewer Rehabilitation Contract.

BACKGROUND

At the December 6, 2018 Board meeting the Board approved the Engineering, Construction Administration & Resident Inspection necessary for this next sanitary sewer rehabilitation project with S&ME. Bids were received July 11, 2019 and the project was awarded to SBW Constructors in the amount of \$3,842,301. At the January 28, 2020 meeting, Change Order #1 was approved in the amount of \$150,812 to be added to the project along with an additional 73 days for the construction. At the March 2020 meeting, Change Order #2 was approved in the amount of \$79,645 along with an additional 44 days for the construction.

At this time, staff requested S&ME to prepare Change Order #3 to balance the contract for the quantities not used and the additional work necessary to complete the sewer relocation at Northfield Blvd which was approved with Change Order #2. There is no additional time added to the contract with this change order.

RECOMMENDATION

Staff recommends that the Board recommend to the City Council approval of Change Order #3 for a decrease in the amount of \$64.55 to the contract.

FISCAL IMPACT

Funding for the Engineering, Construction Administration, Inspection and Construction was approved from a combination of 2018/2019 and 2019/2020 Budget & Working Capital Reserves.

Funding Source	Budgeted Amount	Engineering Expenditures	Construction Expenditures	Remaining
Rate Funded Operating Budget 2018-19	\$1,000,000	\$(432,000)	\$0	\$568,000
Working Reserves 2018-19	\$1,500,000		\$0	\$1,500,000
Rate Funded Operating Budget 2019-20	\$1,000,000	\$0	\$(3,842,301)	\$1,000,000
Working Reserves 2019-20	\$1,000,000	\$0		\$(2,842,301)
Change Order #1			\$(150,812)	\$(150,812)
Change Order #2			\$(79,645)	\$(79,645)
Change Order #3			\$64.55	\$64.55
Total	\$4,500,000	\$(432,000)	\$(4,072,693)	\$(4,693)

The total contract amount with this change order will be \$4,072,693.

ATTACHMENTS

S&ME Recommendation
Change Order #3



May 19, 2020

Ms. Valerie Smith, PE
Assistant Director
Murfreesboro Water Resource Department
220 NW Broad Street
Murfreesboro, TN 37130

**RE: Murfreesboro 2019 Rehabilitation Project
Murfreesboro, Tennessee
Proposed Change Order No. 3**

Dear Ms. Smith:

Due to the unforeseen conditions seen for segment 002A003B_002A0030 along Northfield Blvd. with the additional bends, negative grades and stormwater structure conflicts, the following additional work was necessary to create access points at the bends, grade the sewer with available positive slope and eliminate the stormwater conflicts:

- Add 90 linear foot of open cut mainline sewer to connect to downstream MH 002A0030 from near the stormwater structure conflict.
- Add manhole reimbursement.
- Add 300 square feet of paving for the open cut mainline sewer work inside Northfield Blvd.

Additional pre-liners were installed for the following six segments to keep infiltration back allowing the resin to cure properly during CIPP mainline installation:

- 067A0060_067A0050.
- 041B0050_041B0040.
- 016A0060_016A0050_016A0040_016A0030_016A0020.

To offset the additional work added, deduction of quantities from existing line items for pre-CCTV laterals, dye testing laterals, leak stop in manholes and CIPP lateral transition adders were included. These quantities are expected to underrun at the end of the contract given the work already complete to date and the work that is outstanding.

No additional construction time associated with the added scope of work is included in the Change Order. The total net change of work is a decrease of \$64.55 (see attached change order for details).



S&ME staff recommends approval for Change Order No. 3. If you have any questions regarding this change order, please contact me to discuss at your convenience.

Sincerely,

S&ME, INC.

A handwritten signature in blue ink that reads "Gary Heusser, Jr." in a cursive script.

Gary Heusser, Jr., PE
Project Manager

Cc: Mr. Darren Gore, PE – Director, Murfreesboro Water Resource Department

Attachment – Proposed Change Order No. 3

CHANGE REQUEST FORM (CRF)

Owner Contract No. Project No. 18043
Project Name: Murfreesboro 2019 Rehabilitation Project
Engineer: S&ME, Inc.
Contractor: SBW Constructors, LLC

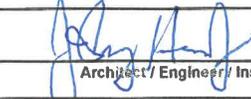
Requested By: Murfreesboro Water & Sewer Department
Drawing: N/A
Problem Desc: This CRF is to add additional quantities to install pre-liners on segments with heavy infiltration seen before CIPP installation. These include segments 067A0060_067A0050, 041B0050_041B0040 and 016A0060_016A0050_016A0040_016A0030_016A0020. Also, this includes line items to re-align the segment from MH 002A003B_002A0030 due to unforeseen bends on the existing sewer; stormwater infrastructure conflicts; and re-grading the sewer eliminating negative grades.

Revised Scope Description/Details

Item No.	Description	Qty	Unit	Unit Price	Item Total
ADD					
1j	21-inch Mainline Sewer - Preliner	1,412	LF	\$5.75	\$8,119.00
2m	18-inch Mainline Sewer - Preliner	213	LF	\$5.75	\$1,224.75
5p	10-inch Mainline Sewer - PVC SDR26 Mainline Sewer Sectional Open Cut Replacement - 6-foot to 12-foot Depth (up to 90 LF) - Paved with Traffic Control	1	EA	\$45,000.00	\$45,000.00
8c	Manhole Reimbursement - 4-foot Base with 3-ft Cone	1	EA	\$1,591.70	\$1,591.70
13e	Revised Asphalt Paving in TDOT Roads includes traffic control	300	SF	\$35.00	\$10,500.00
DEDUCT					
7a	PreCCTV of Service Laterals	-25	EA	\$350.00	(\$8,750.00)
7c	Dye Testing Lateral	-20	EA	\$200.00	(\$4,000.00)
15b	Leak Stop in Manhole	-45	GAL	\$350.00	(\$15,750.00)
15d	CIPP Lateral Transition Adder	-80	EA	\$475.00	(\$38,000.00)
CHANGE IN CONTRACT VALUE					(\$64.55)
ORIGINAL CONTRACT VALUE					\$3,842,301.00
REVISED CONTRACT VALUE AFTER CHANGE ORDER #1					\$3,993,113.00
REVISED CONTRACT VALUE AFTER CHANGE ORDER #2					\$4,072,758.00
REVISED CONTRACT VALUE AFTER CHANGE ORDER #3					\$4,072,693.45

Contractor Acknowledgement:

<input checked="" type="checkbox"/> No Change in Contract Amount is required.	<input type="checkbox"/> A Change in Contract Amount is required: <u>-\$64.55</u>
<input checked="" type="checkbox"/> No Change in Contract Time is required.	<input type="checkbox"/> A Change in Contract Time is required: <u>N/A</u>




 Architect / Engineer / Inspector / RPR Contractor

Change in Contract Amount is within the Contingency Amount authorized under Resolution No. NA

Yes No _____

 Engineer / Architect Project Manager

Proceed with Execution

Yes No _____

 Owner's Representative

Distribution: Engineer, Owner; Central Files



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MEMORANDUM

DATE: May 21, 2020
TO: Water Resources Board
FROM: Valerie Smith
SUBJECT: Agreement Extension No. 2
May 17, 2020 to May 17, 2021
Mechanical/Electrical Services Contract

Background

Staff accepted bids on February 21, 2018 for one base-bid task order (18-01) along with supplemental unit prices for outside labor and equipment services. The bid was awarded to John Bouchard and Sons Co (JB&S), and the agreement was executed on May 17, 2018. The agreement allowed for the provision of extending the supplemental unit prices an additional three, 12-month terms. Staff is requesting approval from the Board to extend the agreement with JB&S an additional twelve months to May 17, 2021.

The attached task order summary identifies the task orders entered into with J&B. Task order 18-01 was the basis for awarding the bid. Task Orders 18-02 through 20-03 are task orders using the supplemental unit pricing provided by JB&S over the last two years. Staff has been satisfied with JB&S. They have been able to complete work MWRD maintenance staff could not due to lack of resources.

Recommendation

Staff recommends the Board recommend to the City Council to extend the agreement with John Bouchard & Sons Co. the Water/Wastewater System Mechanical/Electrical Services Contract for an additional 12-month period from May 17, 2020 to May 17, 2021.

Fiscal Impact

A lot of the costs associated with John Bouchard's help can be classified as reactive maintenance due to unforeseen repairs and equipment breakdowns and will likely be requested as funded from working capital reserves. However, the Department's 5-yr capital improvements plan (attached in the dashboard), does account for \$1.5M in rate funded vehicle and equipment replacement that may fund a portion of the costs associated with JB&S services.

Attachments

- Draft Agreement Extension #2 between City of Murfreesboro and John Bouchard & Sons Co. for Water/Wastewater Systems Mechanical/Electrical Services Contract
- Task Order Summary

Water Resources 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

**MURFREESBORO WATER ~~AND SEWER RESOURCES~~ DEPARTMENT
MURFREESBORO, TENNESSEE**

EXTENSION OF AGREEMENT

This Agreement Extension is made as of this ____ day of _____ pursuant to the terms of the **Water/Wastewater System Mechanical/Electrical Services Contract** (the "Agreement") dated May 17, 2018, by and between John Bouchard and Sons Co ("Contractor") and the City of Murfreesboro, Tennessee (the "Owner").

Recitals

- A. ~~A.~~ Article ~~9-Contract Documents 3~~ of the Agreement incorporates by reference the ~~Special Conditions~~ Instructions to Bidders as set forth in the Contract Documents and Specifications for the Water/Wastewater System Mechanical/Electrical Services Contract ~~(2015) dated November 24, 2014~~ January 30, 2018.
- B. ~~Part 10.2 and 15.7 Section 2~~ of the ~~Information for Bidders Special Conditions~~ of the ~~Agreement Agreement~~ provides that Contractor and the City may agree to extend the Agreement for a period of twelve months no more than ~~three~~ times.
- C. ~~One No~~ previous extensions of the Agreement has ~~ve~~ been made and Owner and Contractor ~~now~~ desire to extend the Agreement for an additional twelve-month period.

Agreement

- 1. Contractor and the Owner mutually agree to extend this agreement an additional 12 months, from ~~May January 28~~ 17, 2020 to ~~May 17~~ January 28, 2021, in accordance with ~~Part 10.2 and 15.7 Section 2~~ of the ~~Instructions to Bidders Special Conditions~~ of the Agreement.
- 2. No provisions of the Agreement except as specifically stated herein are amended.

John Bouchard and Sons Co.

By: _____
Its: _____

CITY OF MURFREESBORO

Shane McFarland, Mayor

Approved as to Form:

| ~~David Ives~~Adam Tucker, City Attorney

Murfreesboro Water Resources Task Order List - 2018-2020						
Task Order #	Description	Status	Amount/Estimate	Final Amount	Payments	JBS Project#
18-01	Orig Bid - WTP RW Pump Replace & Membrane Feed Pumps #1 & 4 Refurbishments	Complete	\$576,800.00	\$576,511.50		18-C6355/6373/6356
18-02	Thompson Lane PS - Valve Replacement	Complete	\$8,532.55	\$6,312.64		18-C6375
18-03	Aerator 2A Gearbox Remove & Reinstall at WRRF (remove & re-install)	Complete	\$22,220.00	\$11,359.00		18-C6366
18-03	Aerator 2A Gearbox Replacement - 2A (install new gearbox)	Complete	\$43,220.00	\$41,000.00		19-C6492
18-04	Aerator 2A Gearbox Rebuild at WRRF (did not get rebuilt - owner ordered new gearbox)					18-C6367
18-05	Lake RW Intake VFD Replacement	Complete	\$215,710.50	204,568.80		19-C6439
18-06	Overall Creek PS Improvements-SSR Engineered	In progress	\$245,246.00		63,017.63	
18-07	Lake RW Pump #2 - Emergency Motor Rebuild	Complete - Machine Shop	\$23,702.67	\$23,702.67	\$23,702.67	18-48628
18-08	Pall Air Compressor Purchase & Install	Complete - Compressor	\$35,289.90	\$31,929.67		18-C6408
19-01	Press & Pump Installation in Biosolids - Mech & Elec	Complete	\$79,872.00	\$61,105.45		20-C6525-3
19-02	Biosolids Dryer at WRRF - SSR Engineered	Complete	\$100,645.00	\$86,621.81	81,787.86	C6444/C6445
19-03	Replace 36" Water Valve & Gearbox at WTP	budgeted 2/21/19 - MWRD found problem	\$70,509.00	N/A	N/A	
19-04	Aerator 2B Rebuild at WRRF	Complete	\$43,190.00	\$57,523.49		
19-05	Install 3 New Aerators at WRRF - scheduled for Feb 2020	In progress	\$23,349.00			
19-06	RW#5 Pump Rebuild	Complete	\$28,000.00	29,514.08		
19-07	Aux Pump Station Meter Vault Modifications	May need to update price for Mag Meter	\$61,720.00			
19-08	WRRF Old Oxidation Ditch VFD Replacement	In progress	\$58,153.00			
19-09	Angle Brackets for RW Trough(WTP)	budgeted 8/21/19	\$10,250.00			19-58074
19-10	New Drain Piping in GAC Room (WTP) - Replace Cast Iron with PVC	budgeted 8/21/19	\$15,264.34	13,543.89		
19-11	VFD #1 on High Service Pump Replacement (WTP)	In progress	\$287,497.40		108,874.34	
19-12	Pall Membrane Pump Motors #1 & #2 (WTP)		\$17,300.00	17,277.08		20-C6542
19-13	Infra-red Scanning on Switchgear & Maintenance (WTP)		\$16,203.50			
19-14	Generator Renovation (WRRF)	In progress	\$48,768.00			
20-01	Replace Silo Flex Connectors (WTP)		\$6,985.51			
20-02	Aerator 2A Impellor Replacement - WRRF	In progress	\$34,825.00			
20-03	Air Compressors (WTP)		\$21,868.72			
Not yet assigned:						
	HVAC Service on HP-11-2 at Sinking Ck WRRF	budgeted 4/27/18	\$1,542.75			
	Sand Filter Building HVAC Replacement	budgeted 5/23/18	\$8,272.60			
	PTAC HVAC unit replacement for office	budgeted 7/18/18	\$2,085.53			
	Pump Station Electrical Relocation (5 locations - price per location)	budgeted 3/09/18	\$38,839.00			
	Lake RW Intake - Mag Meter & New Lid	budgeted 10/17/18	\$58,940.69			
	High Service Pump Drives (Minus VFD #1 on High Service Pumps)	budgeted 2/4/19	\$572,784.30			
	Polymer Feed System-WRRF	budgeted 3/7/19	\$134,122.00			
	Add Drains & Piping for Lime Storage Room	budgeted 8/21/19	\$11,901.00			
	Aerator 3C MT7011 burned wiring & Aerator 3C Motor Rebuild - WRRF					

MINUTES
MURFREESBORO WATER RESOURCES BOARD
April 28, 2020

The Murfreesboro Water Resources Board met on Tuesday, April 28, 2020 via Zoom consistent with the Governor's Executive Order. Members of the Board are all participating by electronic means as has been determined necessary to protect public health, safety, and welfare in light of the COVID-19 pandemic. Present at the meeting were Board members: Mr. John Sant Amour, Mr. Ron Crabtree, Dr. Al Carter, Mr. Brian Kidd, Ms. Sandra Trail, Ms. Kathy Nobles, Mr. Kirt Wade, and Ms. Madelyn Scales-Harris. Also present were Darren Gore, Valerie Smith, Doug Swann, Michele Pinkston, Roman Hankins, Sharon Seibert, Donald Hughes, Jimmy Stacey, Matt Powers, Alan Cranford, Joe Russell, John Strickland, Randy McCullough, Brent Fowler, Jay Bradley, Linda Sullivan, Mike Bernard, Saya Qualls-Hickey, Tazio Qubeck, Ronnie Martin, and Travis Wilson along with other members of the public.

The Consent Agenda was presented for the following considerations:

A. Consider JB&S Task Order 19-12, SRWTP Pall Feed Pumps #1 & #2 Repairs –

Staff submitted Task Order No. 19-12 for the Water/Wastewater Mechanical/Electrical Services Contract to remove, repair and reinstall the motor for Pall Feed Pumps #1 and #2.

The Task Order pricing includes removal of the motors, installation of new bearings, wash/bake stators and check for re-winds, and on-site dynamic balancing.

The cost for the project is \$17,277.08. Funding requested to come from reserves.

B. Consider abandonment of sewer easement at Westlawn Pavilion –

The Developer of Westlawn Commercial is requesting the abandonment of an existing 20-foot sanitary sewer easement. This easement was recorded by plat and was intended for a proposed gravity sewer main to serve the property. The sanitary sewer was constructed differently than in the location of the recorded easement, so this easement is not correct. The Developer will dedicate a new sewer easement once the sewer for the development is constructed.

Staff recommended that the Board recommend to the Planning Commission and City Council approval of abandoning this existing sewer easement.

C. Consider WRRF Electrical & Instrumentation Building roof replacement bids –

At the Water Resource Recovery Facility (WRRF), the Electrical & Instrumentation building's roof is to be replaced by Don Kennedy Roofing Co. Inc.

Maintenance staff determined that the over 30-year-old roof of the WRRF's Electrical & Instrumentation building needed to be replaced. Advice was sought from several contractors and the replacement was budgeted in the Department's capital improvement plan.

The City’s Purchasing Department issued an Invitation to Bid with a bid opening on March 20, 2020. Don Kennedy Roofing Co. Inc. provided the only bid.

Staff recommended the Board recommend to City Council approving the roof replacement at a cost of \$28,420.

There was \$65,000 budgeted for the replacement of the roof and is requested to be funded from the Department’s Rate Funded Capital Budget.

D. Consider WRRF sodium hypochlorite bids –

The Water Resource Recovery Facility (WRRF) uses Sodium Hypochlorite as a secondary disinfectant of the reuse water.

Murfreesboro has Tennessee’s largest and most sophisticated reuse water system. The water is beneficially used for irrigation at many places throughout the City, e.g. the Department’s two farms, the Avenues, and Old Fort golf course. Environmental regulations require that the water be additionally disinfected with Sodium Hypochlorite; at an estimated annual cost of \$60,000.

The City’s Purchasing Department issued an Invitation to Bid with a bid opening on April 21, 2020. The results are tabulated below:

Supplier	Price/Gallon
Dycho Company, Inc.	\$0.8200
Brenntag Mid-South, Inc.	\$0.9118

Staff recommended the Board recommend to City Council approving the purchase of Sodium Hypochlorite (Bleach) from Dycho Company Inc. at a cost of 82¢/gallon.

The expenses for Sodium Hypochlorite are reflected in the Fiscal Year 2020-21 Operating Budget. The contract prices will be good through June 30, 2022 with three one-year extensions available.

E. Consider WRRF traveling irrigators purchase –

The Department owns the Jordan farm off Leanna Road and the much larger Coleman farm off Central Valley Road. They were purchased to play a significant role toward ensuring compliance with the City’s EPA discharge permit via land irrigation of treated water from the WRRF. Additionally, these irrigators will facilitate the utilization the pipeline extension recently laid at the Coleman Farm.

The City’s Purchasing Department issued an Invitation to Bid with a bid opening on April 15, 2020. Hughes Farm Services Inc. provided the only conforming bid.

Staff recommended the Board recommend to City Council approving the purchase of three traveling irrigators for the WRRF’s Department owned farms from Hughes Farm Services Inc. at a cost of \$97,500.

There was \$120,000 budgeted to purchase three traveling irrigators and is requested to be funded from the Department's Rate Funded Capital Budget.

F. Consider O&M meter vault bids –

MWRD Operations and Maintenance requested sealed bids to provide meter vaults to Murfreesboro Water Resources Department. Staff requested pricing for 8-meter vaults varying in size. The Department received the following bids.

Bid Results	
Company	Total
Fortiline	\$30,591
Consolidated Pipe	\$36,172
Core & Main	\$36,600
Southern Pipe	\$36,840

Staff recommended the Board recommend to City Council approval to purchase the meter vaults from the lowest bidder, Fortiline.

The upfront cost associated with this purchase will be \$30,591 with funding coming from the Department's rate funded capital budget. This cost will be recovered as tap fees are purchased.

The contract price will be valid for one year and is renewable every year for a maximum of five years at the option of the City.

G. Consider SRWTP lagoon sludge removal contract extension –

The Stones River Water Treatment Plant has two lagoons that are used to store sediment (water treatment residuals (WTR)) removed during the water treatment process. There is only one lagoon in operation at a time. Typically, a lagoon is in operation from January 2nd for a period of two years. At times, depending on the raw water quality, a lagoon may be in operation for only one year. Staff evaluates the lagoon that is in service each year around May to determine if there is enough space in the lagoon to remain in service for two years.

The current contract extension dated April 4, 2019, with Slurry Systems ends June 30, 2020. Staff is requesting to extend the contract for a second time due to delay in the contractor being able to start the project. This delay is due to excessive rain events this year causing Slurry Systems to be behind on current obligations to other facilities and will not be able to mobilize until late May. The work can take up to six weeks for completion, depending on weather conditions and equipment issues, and this puts Slurry Systems in a situation that may prevent them from completing the work prior to the June 30, 2020 deadline.

The cost of removing the lagoon water treatment residuals is in the FY20 Operating Budget in the amount of \$249,000.

Staff recommended the Board recommend to the City Council to approve the second extension of the June 2018 contract with Slurry Systems, Inc.

H. Consider SRWTP 2020 chemical bids –

Bids were opened on March 23, 2020 for water treatment chemicals to be used at the Stones River Water Treatment Plant. There are only two chemicals bid this year. They are Calcium Oxide (Lime) and Fluorosilicic Acid (Fluoride). The bid tabulation is below.

Company Name	Chemicals	
	Calcium Oxide Price / lb	Fluorosilicic Acid Price / lb
Brenntag Midsouth	No Bid	\$0.1970
Carmeuse	\$0.123665	No Bid
Coyne Chemical	No Bid	No Bid
Dycho	No Bid	No Bid
Greer	No Bid	No Bid
Lhoist	\$0.12985	No Bid
Pennoco, Inc.	No Bid	\$0.2385
Univar	No Bid	\$0.1490

Lowest Responsible and Responsive Bid

The price of the chemicals will be reflected in the FY21 Operating Budget with a contract price through June 30, 2021. The estimated annual expense for FY21 Operating Budget is identified in the table below.

Company Name	Chemical	Unit Price	Estimated Annual Expense
Carmeuse	Calcium Oxide	\$0.123665	\$225,000
Univar	Fluorosilicic Acid	\$0.1490	\$20,000

Staff has previously worked with all the above suppliers. All chemical suppliers have a good working relationship with the Department for the chemicals being supplied.

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

The March 3, 2020 Board Minutes were unanimously accepted as submitted.

The Board considered Shelton Square proposed Special Sanitary Sewer Assessment District.

Staff presented a proposal for a SSSAD to recoup the participation amount for the upsize of the sewer forcemain to serve the development identified as Shelton Square Subdivision in the amount of \$249,590. The SSSAD would only affect adjoining parcels.

At the Nov/Dec 2017 Board meeting, the Board approved of participating with Bob Parks, the developer of the Shelton Square Subdivision (770 lots), to upsize the sewer forcemain from 6" to 8" to allow for additional development in the area. The participation amount totaled \$249,590. Gravity sewer, a sewer pump station and forcemain was the only option for sewer service in the area, which is west of I-24 and north of I-840. The Shelton property pumps to the northeast, under I-24 and discharges into an 18-inch gravity sewer along Florence Road.

Staff recommended the creation of the SSSAD in the amount of \$500 per single family unit or equivalent.

Financing Assumptions & Sanitary Sewer Special Assessment Fee Calculation:

10-yr financing term @ 3.5% interest (w/ one pay period per year)
 Assessment based on Estimated Single-Family Unit Count = 638 sfu's
 Participation Costs = \$249,590
 Finance Costs = \$30,011
 Recommended Assessment at \$500 per sfu

The total cost for a sanitary sewer connection and capacity buy-in fee in this proposed SSSAD would therefore be:

Shelton Square Special Sewer Assessment = \$500 per sfu
 Overall Creek Special Sewer Assessment = \$1,000 per sfu
 Sanitary Sewer Capacity Buy-in Fee = \$2,550 per sfu
 Total SFU cost = \$4,050

Sandra Trail made a motion to approve. Dr. Carter seconded. The motion unanimously passed.

The Board considered SRWTP Specific Energy Pump Asset Management for High Service Pump Station.

In August, staff brought a request to the Board to purchase this product for the Auxiliary and River Raw Water Pump Stations. It was approved by the City Council in September and installed and operational on December 5, 2019. When Specific Energy was operational and staff had access to the program on December 9, 2019, it was noticed that River Pump No. 5 was operating off the pump curve.

The standard procedure previously for plant operators, operating raw and finished water pumps, was simply to turn on the pump that provides the flow needed for water demand. Operators did not have the tools to determine if a pump is operating on its pump curve or if the pump is operating efficiently. This fact was noticed on the day the operators gained access to the Specific Energy software. Since this time, all staff has received training on the use of the program and its importance. Operators have continuously used the Specific Energy to select pumps for the specified flow, at the lowest specific energy and operating on the pump curve. On January 31, 2020, the river pumps were placed on Dynamic Pump Optimization (DPO) for controlling the pumps. On February 6, 2020, the auxiliary pumps were placed in DPO. Since this time the Specific Energy programming controls which pumps are operating in order to achieve the desired flow. Additionally, all pumps have operated on the curve at the preferred operating range (POR).

If the pumps run within their preferred operating ranges (POR), it will minimize energy consumption without causing cavitation or other damaging effects.

The benefits seen thus far have more than justified the purchase of the software and equipment. Having seen the pumps operating off the curve is likely the reason for the repairs needed to the pumps. Repairs generally cost >\$25,000.

The Board and Council recently approved SSR to start designing upgrades for the High Service Pump Station. Based upon the quality data provided by Specific Energy, staff would like to go ahead and request to purchase Specific Energy for the High Service Pump Station. This will allow staff and SSR to review the data and determine the best solution for the upgrades.

The cost for purchasing the Pump Asset Management and Optimization Software for the High Service Pump Station is \$26,100. Funding will come from reserves. Cost for annual service fees for the High Service Pump Station is \$10,400. This amount will be budgeted in the Annual Operating Budget.

Staff recommended that the Board recommend to the City Council approving the purchase of Specific Energy for the high service pump station in accordance with their quote.

Kathy Nobles made a motion to approve. Kirt Wade seconded. The motion unanimously passed.

The Board considered a proposal from Hazen and Sawyer for regulatory assistance and water quality planning in obtaining 2021 NPDES Permit.

Hazen and Sawyer submitted a proposal to provide regulatory assistance for the Water Resources Department in obtaining our 2021 National Pollutant Discharge Elimination System (NPDES) permit. The task order involves six tasks as follows:

- Task 1 – Project Initiation/Data Gathering and Review
- Task 2 – Benchmarking
- Task 3 – Regulatory Coordination and Compliance Plan
- Task 4 – Stream Assessment Support
- Task 5 – 2021 Permit Reissuance Support
- Task 6 – On-Call Regulatory Support

The Murfreesboro Water Resource Recovery Facility (MWRRF) serves a population of approximately 160,000. The University of Tennessee's Boyd Center predicts a near 50% increase in the population of Rutherford County by 2040. Murfreesboro can expect a significant increase in demand for wastewater services resulting from this growth. Staff has determined preliminarily a remaining WRRF capacity of 10-12 years given the historical growth of Murfreesboro' Urban Growth Boundary. In order to continue the socio-economic benefit the City has been afforded in the past and continue to be the economic engine to the State of Tennessee, staff believes all efforts should be made to expand the NPDES permit and in turn allow the WRRF to be expanded. The key lies in proving the West Fork Stones River (WFSR) has remaining assimilative capacity to accept the WRRF's highly treated effluent.

The WFSR has been assessed by the TN Department of Environment and Conservation (TDEC) as being impaired for sediment, low dissolved oxygen and nutrients. More recently, the State of Tennessee Division of Water Resources (DWR) has assessed the river as being impaired for nitrate/nitrite, total phosphorus, dissolved oxygen and sedimentation/siltation as well as assessing the upper reaches of Percy Priest Reservoir as being threatened due to high phosphorus as evidenced by elevated chlorophyll a levels.

Hazen and Sawyer (Hazen) has the expertise to help MWRD in determining the remaining assimilative capacity in the WFSR. In addition, Hazen has the personnel to advance the findings of MWRD's data-driven approach and rationale to upper levels of TDEC personnel. Hazen proposes to provide Murfreesboro with regulatory and water quality planning and support.

Task	Start Date	End Date	Fee
TASK 1 - Project Initiation/ Data Gathering and Review	5/1/2020	6/31/2020	\$ 24,500
TASK 2 - Benchmarking	7/1/2020	9/31/2020	\$ 25,500
TASK 3 - Implementation Plan	10/1/2020	1/31/2021	\$ 41,100
TASK 4 - Stream Assessment Support	5/1/2020	4/30/2022	\$ 66,300
TASK 5 - 2021 Permit Reissuance Support	10/1/2020	11/30/2021	\$ 33,000
Subtotal Tasks 1-5			\$ 190,400
TASK 6 - On-Call Regulatory Services	5/1/2020	4/30/2022	\$ 13,300
Total w/ Task 6 Contingency			\$ 203,700

Staff recommended the Board recommend to City Council approval of the Hazen and Sawyer Regulatory Assistance proposal.

Brian Kidd made a motion to approve. Dr. Carter seconded. The motion unanimously passed.

The Board considered Water Resources and Stormwater Funds 2021 Draft Budgets.

The Water Resources FY21 draft budget is balanced and is not expected to deviate significantly from the overall revenue and expense total of \$55,541,000. This amount is \$111,000 over the FY20 budget and \$73,496 under FY20 projected revenues.

The FY21 total budget increase equates to a 0.20% increase. The reason for such a low increase in expenses across the board is due to salaries being frozen as a result of the COVID-19 pandemic. Staff has budgeted for nominal gains in rate revenue due to the state of emergency and lowered our anticipated tap revenue by 6%.

There are \$3,507,300 of sinking funds being earmarked to assign the excess revenue for future construction or repair and replacement. The sinking funds identified below have been assigned rate revenue since FY12. The total FY21 earmarked amounts and FY12-20 "banked" amounts are as tabulated below:

Table 1: Designated Sinking Funds FY12-20 and FY21 Budget

Sinking Fund	FY12-20 Balance	FY21 Budget	
		Designated	Balance
General	1,400,000		1,400,000
Lift Station Replacement	1,126,232	250,000	1,376,232
NE FM & PS	3,391,254	500,000	3,891,254
WRRF Sludge/Biosolids	2,800,000	500,000	3,200,000
Walter Hill Dam Repairs	375,000	125,000	500,000
Sewer Rehab	1,000,000	1,000,000	2,000,000
Future Debt	4,159,380		4,159,380
Future Capital Expense	6,628,132	1,132,300	7,760,432
TOTALS	21,879,998	3,507,300	24,287,298

The use of sinking funds reduces the need to incur debt thereby alleviating the need for future rate increases.

The Murfreesboro Water Resources Department was provided a cost of service study (COSS) from Jackson Thornton Utilities Consultants for FY2019. That study was presented at the March 3, 2020 Board meeting. Jackson Thornton has since that time provided staff a pro forma for FY2024. The FY2024 pro forma was run using two scenarios:

- 1) Scenario "A" that assumes no new debt was added between FY19 and FY24. This assumes using reserves on hand to pay for \$49,000,000 in capital projects.
- 2) Scenario "B" where \$49,000,000 in debt (20-yr @ 3%) is incurred to pay for the Northeast Regional Pumping Station and Force main, Overall Creek Pump Station upgrades, as well as the necessary capital equipment to perform full scale biosolids drying at the Water Resource Recovery Facility. Full payback of the total loan amount was assumed to start in FY2024.

The assumptions of the No Debt scenario demonstrate a 7.1% over-recovery in FY24. The most relevant number to note is \$3,049,614 "excess revenues" over and above anticipated expenses, or \$45,831,260 minus \$42,781,646.

The assumptions of the \$49M in debt scenario demonstrate a 2.2% over-recovery in FY24. The most relevant number to note is \$1,006,004 "excess revenues" over and above anticipated expenses, or \$45,831,260 minus \$44,825,216.

While both scenarios demonstrate an over-recovery of anticipated revenue to cost of service expenses, there is a small issue associated with water rates not fully supporting the cost of service associated with water related expenses in FY24. The over-recoveries entail a subsidization of sewer related revenue covering water related expenses. From a cost of service standpoint, this is not an ideal position and staff recommends avoiding it from occurring.

No new debt is associated with water expenses during the timeframe between FY19 and FY24, so debt service does not affect increased expenses; therefore, the increase of \$1,724,152 is associated with

operations and maintenance only. Also, MWRD's water system is encompassed by Consolidated Utility District of Rutherford County; therefore, no new revenue derived from growth has been integrated into the FY24 pro forma. Using these assumptions, the water revenues are expected to fall short in an amount of \$(956,210) as compared to expenses in FY24, under-recovering (6.1)%.

A proposed rate design for meter sizes 5/8" to 2" below by adjusting the minimum annually as tabulated below recovers approximately 20% of the under-recovery anticipated for FY24. Making these adjustments over a 5-yr period would make up the "gap" of the anticipated (\$956,210) shortfall.

Table 2: Proposed Minimum Monthly Charge Adjustments

Meter Size (INCH)	FY20 Total minimum	FY21 Proposed minimum	Difference	No. of Accounts	Added Revenue
5/8"	\$8.22	\$8.72	\$0.50	24,917	\$149,501.00
1"	\$19.18	\$20.71	\$1.53	688	\$12,668.01
1-1/2"	\$41.10	\$43.77	\$2.67	359	\$11,508.82
2"	\$65.76	\$69.05	\$3.29	464	\$18,307.58
3"	\$164.40	\$164.40	\$0.00	96	\$0.00
4"	\$328.80	\$328.80	\$0.00	34	\$0.00
6"	\$685.00	\$685.00	\$0.00	17	\$0.00
8"	\$685.00	\$685.00	\$0.00	1	\$0.00
			Total	26,576	\$191,985.41

While the water monthly minimums are nominal increases, based on the current economic conditions, MWRD staff is not recommending a water or sewer rate increases for FY21. These increases may be held off for one or two years, necessitating larger adjustments in FY23 and FY24.

The good news is that the pro forma for FY24 also meets the current 2019 HUD affordability indexes. However, the cost of service for FY19 and pro forma for FY24 do show the need to increase the minimum monthly fees rather substantially and flatten out the commodity charges.

The affordability limits represent 4% of a very low-income earner (50% of median income) in Murfreesboro. Median family income of 4 is established at \$80,000 per year, so 50% of median for a family of four is established as \$40,000 per year.

Staff is not recommending any changes to the system development charges (a.k.a., connection fees) for residential or nonresidential uses.

The FY21 total operating expenses, including benefits and payroll, increased \$32,524 or .13% over the FY20 budgeted amount. Total expenses including transfer to reserves increased 0.20%. The reason for such a low increase in expenses across the board is due to salaries being frozen as a result of the COVID-19 pandemic. With the uncertainty of the economic recovery, the Water Resources Department along with the City have not budgeted for employees raises for FY21. In the event the economy recovers better than expected, there are available funds to make salary adjustments during the middle of the budget year.

The FY21 budget does not include any additional staffing requests as a result of the COVID-19 pandemic; however, prior to the state of emergency, the following personnel promotions and additional staffing were to be recommended:

- **Summary** – Addition of 2½ full-time equivalents and five promotions involving reclassification of job requirements. The total net increase anticipated with the new personnel and promotion/reclassifications is \$183,500. In the event that these positions are not able to be incorporated in the FY21 budget at some point and time, the Water Resources Department will maintain its current total of 173 full time and 8 part time positions, which includes 9 full-time positions in the stormwater department.
- Operations and Maintenance – One promotion/reclassification of an Administrative Assistant II to a Business Systems Analyst.
- Administration/Finance – One promotion/reclassification and a new hire:
 - An Accounting Clerk promoted to an Accounting Specialist I.
 - A new hire for the position Administrative Aide I.
- Customer Service – One promotion/reclassification of an Administrative Support Specialist I promoted to an Administrative Support Specialist II.
- Advanced Metering Infrastructure (AMI) – One new hire of an AMI Technician.
- Water Resource Recovery Facility (WRRF) – One promotion/reclassification and a full-time hire to replace a part-time position at the Jordan and Coleman farms:
 - A current W/WW Worker is requested to be promoted to Equipment Operator.
 - A part-time Equipment Operator is requested to be replaced with a full-time Maintenance Technician.
- Engineering – One promotion/reclassification of an Administrative Aide II to an Executive Administrative Aide.

No raises are budgeted for Water Resources staff for F21. The total estimated costs associated with providing 4.0% increases to personnel within the non-exempt step program and 3% across the board for exempt and open range non-exempt personnel would be \$680,000. In the event that personnel raises are proposed after adoption of the FY21 budget, staff can use a portion of the future capital expenditures sinking fund and defer some capital expense purchases to fund the raises. This action would come back to the Board and City Council for approval.

The rate funded capital budget is \$6,667,500, which is a decrease of \$130,241 from the FY20 budget. MWRD's goal is a minimum of \$5 million per year in rate-funded capital purchases. Rate funded capital purchases are budgeted to decrease 1.9% and debt service expense to increase by \$108,580 (0.8%) as compared to the FY20 budget. This offset indicates the Department's strong financial position and ability to pay in cash what would otherwise need to be purchased through debt service.

The Stormwater Fund budget is independent of the Department budget. It is funded from revenue based on a user fee of \$3.25 per single family equivalent. The fund will be in its 12th year in FY21. No change is recommended to the fee. The net revenue generated by the stormwater fee is budgeted at \$3.15M with operation expenses budgeted at \$1,998,162 and rate funded capital expenditures at \$0. The anticipated excess funds above operating expenses and rate funded capital expenditures are \$901,838. The

stormwater fund has developed an extensive five-year Capital Improvements Plan, currently totaling \$5,445,000 from FY20 through FY24. A five-year pro forma has been developed to demonstrate the banking of excess revenues to pay for these proposed capital improvements without incurring any debt. Financial policies for the stormwater enterprise fund were adopted by the Water Resources Board and City Council on May 21, 2013 and July 11, 2013, respectively. An amendment to these policies was approved in FY18 to allow the minimum working reserve balance to be lowered to no less than three months of operating expenses, or \$499,540 for FY21.

The stormwater fund has grown by approximately \$65,000 each year. That is equal to approximately 1,667 single family unit equivalents annually. The average impervious square footage is equal to 3,470 square feet per single family unit, which equates to the City adding approximately 133 acres of imperviousness annually. These imperviousness areas have been required to meet the City's permanent stormwater runoff treatment standards since 2008.

Staff recommended the Board recommend approval of the FY21 Water Resources Draft Budget to City Council.

Kirt Wade made a motion to approve. Dr. Carter seconded. The motion unanimously passed.

Staff recommended the Board recommend approval of the FY21 Stormwater Draft Budget to City Council.

Brian Kidd made a motion to approve. Kathy Nobles seconded. The motion unanimously passed.

Staff presented and discussed the Water Resources Dashboard Performance for March 2020.

Staff presented the Financial Reports for the year ending March 31, 2020.

There being no further business, the meeting was adjourned.

John Sant Amour, Chairman



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MEMORANDUM

DATE: May 11, 2020
TO: Water Resources Board
FROM: Matt Powers
SUBJECT: Sewer Line Inspection & Asset Management Software

BACKGROUND

Operations and Maintenance purchased Cobra Technologies Asset DMS Software in 2003 to collect, report, and analyze sewer pipeline inspection data. The hardware and software met the department’s needs for many years; difficulties started to develop when Trio Vision purchased Cobra Technologies in 2016. The company suffered many changes including turnover of management, technical support, and sales staff personnel. The software is experiencing detrimental errors daily and resulting in loss productivity. Trio Vision is not providing adequate technical support to address these issues and O&M was compelled to search for another solution.

O&M evaluated two of the market leaders WinCan and ITPipes. Staff is recommending the purchase of WinCan. With WinCan’s 15-year track record and the market’s largest installed base, it supports emerging technologies like GIS and Cityworks integration, virtual 3D, side scanning and laser profiling, as well as popular defect catalogs like PACP and WRc. The initial cost of the WinCan software is more expensive; however, when considering the annual maintenance cost over three years it is the more cost-effective option.

Initial Hardware & Software Cost (including installation)	
WinCan	ITPipes
\$53,138	\$34,900

Annual Maintenance Costs	
<i>After 3rd annual fee, WinCan is less expensive than ITPipes</i>	
WinCan	ITPipes
\$6,028	\$14,500
\$6,028	\$14,500
\$6,028	\$14,500
\$18,084	\$43,500

FISCAL IMPACT

The cost of the referenced software from Sansom Equipment Company is in the amount of \$53,138. Funding is requested to come from reserves using the \$100,000 allowance in the Department's 5-yr Capital Improvements Plan for IT/Computer Systems Hardware Upgrades.

RECOMMENDATION

Staff recommends the Water Resources Board to recommend the City Council to approve the purchase of this software.

ATTACHMENTS

Sansom Equipment Company - WinCan Quote



QUOTE

QUOTE # SECQ1773

DATE Apr 21, 2020

CONTRACT CUSTOMER ID #

CONTRACT # HGAC SC01-18

To: Matt Powers
 Murfreesboro Water & Sewer
 1725 S Church St
 Murfreesboro, TN 37130
 United States

Sales Contact: Danny Paladino
 615-856-0534
 danny@secequip.com

(629) 335-1830
 mpowers@murfreesborotn.gov

QUOTE STATUS	SHIPPING TERMS	DELIVERY IN DAYS	PAYMENT TERMS
HGAC Contract	Customer Location		Net Delivery

QTY	DESCRIPTION	UNIT PRICE	TOTAL PRICE
3	WinCan VX Expert License includes: Section/Lateral/Manhole, Basic Reporting, Report Generator, Data Viewer, 3D, All languages & Standards, Map Expert/ArcGIS, Photo Assistant, Drawing function, Meta DB, Data Transfer Tool, SQL & Oracle database option, Multiple Inspection, Grading, Software Encoding, MPEG 1/2/4 Recording, NASSCO Validator, Text Generator, Inclination, Local deformation & Crack width with laser, Work Order Management, Statistics, and GIS Queries.	\$12,500.00	\$37,500.00
1	Two Day On-Site Installation and Training includes instructor's time and expenses	\$3,370.00	\$3,370.00
12	Wincan Data - 100 GB annual	\$69.00	\$828.00
3	Expert Enterprise Infinity Support Plan includes: Unlimited Phone, Email, and Remote Internet Technical Support, Unlimited Maintenance Upgrades and Version Upgrades to WinCan VX, 5 Hours per year of Web Ex Training, Same Day Support and Service	\$1,733.33	\$5,199.99
1	During Covid Virus - on site training is suspended for a few months. However, WINCAN will do online setup training for FREE. Internet in truck required, whether on WIFI.	\$0.00	\$0.00
1	This quote does NOT include a computer. Murfreesboro is responsible for computer and specifications on computer.	\$0.00	\$0.00
2	Rackmount Computer	\$2,700.00	\$5,400.00
2	Aver Video Card	\$420.00	\$840.00

This quote does not include any federal, state, or local taxes.
 * In stock equipment are subject to prior sale. *

Please contact me if I can be of further assistance.

SUBTOTAL \$53,137.99

TOTAL \$53,137.99



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MEMORANDUM

DATE: May 20, 2020
TO: Water Resources Board
FROM: Darren Gore
SUBJECT: Consider Final Bulk Water Purchase and Sale Agreement with Marshall County, TN

Summary

Final approval for a bulk water purchase and sale agreement with Marshall County for 216,000 gallons per day of drinking water from Murfreesboro Water Resources for a minimum period of 5-years while they construct a new drinking water plant.

Background

I met with Marshall County representatives at Consolidated Utility District's (CUD) office on Thursday October 10, 2019. Marshall County currently has a moratorium on building in their water system due to lack of capacity and inability to serve new development. Marshall County anticipates constructing a new drinking water plant but would like to purchase water for an interim period prior to completing this project. Marshall County is connected to CUD's water systems and had originally approached CUD about purchasing 200,000 gpd of drinking water from them. CUD's board is reluctant to sell water to them due to the outstanding, unexecuted Water Supply contract with the Corps of Engineers on J. Percy Priest reservoir.

I have spoken to Alan Cranford and discussed our ability to supply an additional 200,000 gpd into CUD's system and there are no challenges that he can foresee. 200,000 gpd represents 1% of the Stones River Water Treatment Plant's production capacity, or 20 MGD. MWRD's future requirement, under water restrictions during a drought in 2035, is a yield of 15.14 MGD; 200,000 gpd represents 1.3% of that total. MWRD is currently contracted with the Corps for 12.9 MGD during a drought period; 200,000 gpd represents 1.6% of that total.

The final terms in the attached contract are summarized be as follows:

- Contract is a three-party contract between Marshall County, Consolidated Utility District of Rutherford County and the City of Murfreesboro.
- Contract is limited to 7-yrs with six, one-year automatic renewal options subject to the following requirements:

[Water Resources 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

- Requirements for extending the agreement into the fifth year will require Marshall County approved drinking water treatment plant plans from the Tennessee Department of Environment and Conservation that affords the County the ability to provide sufficient quantities of water to offset the quantity supplied by City and transported by CUD.
- Requirements for extending the agreement into the sixth and seventh year will require Marshall County letting the bid and starting construction for an approved drinking water treatment plant that affords the County the ability to provide sufficient quantities of water to offset the quantity supplied by City and transported by CUD.
- Contract terms limit the flow to a maximum of 216,000 gallons per day.
- Terms restrict the flow to coincide with MWRD's nonessential use reductions goals when a drought or other emergency is declared by the Mayor.
- Contract terms define the sale of water to be based on MWRD's wholesale rate, or \$2.35 per 1,000 gallons, subject to change annually based MWRD's cost of service study, system audit, or other appropriate method.
- Contract terms afford CUD the ability to charge a transportation rate of \$1.17 per 1,000 gallons, subject to change annually based on CUD's cost of service study or other study.

Marshall County's Board of Public Utilities has agreed to the terms of the contract as has Consolidated Utility' Board of Commissioners.

Fiscal Impact

Selling 216,000 gallons per day to Marshall County at \$2.35 per 1,000 gallons equals \$185,235 per year in water sales revenue.

Recommendation

Staff recommends that the Board approve the final contract for bulk water purchase and sale to Marshall County.

Attachments

Bulk Water Purchase and Sale Agreement – Marshall County, TN

BULK WATER PURCHASE, SALE, AND TRANSPORTATION AGREEMENT

THIS AGREEMENT for the purchase and sale of water is entered into as of the Effective Date listed herein, by and between the CITY OF MURFREESBORO, a Tennessee Municipal Corporation, acting on its own behalf and on behalf of the Murfreesboro Water Resources Department (hereinafter, "City"); CONSOLIDATED UTILITY DISTRICT OF RUTHERFORD COUNTY, a Tennessee Utility District incorporated pursuant to the Utility District Law of 1937, Tenn. Code Ann. Title 7, Chapter 82 (hereinafter, "CUD"); and the MARSHALL COUNTY BOARD OF PUBLIC UTILITIES, a local public agency acting under the authority of Marshall County, Tennessee (hereinafter, "County").

WITNESSETH:

WHEREAS, due to capacity constraints in its system, County has faced significant challenges meeting current demand and has been unable to serve new development within its service area;

WHEREAS, County seeks a secondary source of potable drinking water on an interim basis while County constructs improvements to its drinking water supply system;

WHEREAS, City has capacity within its system to provide County with drinking water in such amounts as will allow County to meet current demands and provide for short-term growth;

WHEREAS, CUD currently has connection points with both the City and County water systems, and CUD is further willing and able to transport City water into the CUD system for the use and benefit of the County; and

WHEREAS, the parties desire to enter into this Agreement for the purposes herein stated and for the mutual benefit of the parties and the citizens thereof,

NOW, THEREFORE, in consideration of the foregoing, the mutual agreements hereinafter set forth, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby contract and agree as follows:

1. **Term of Agreement.** This Agreement shall be effective upon the date of delivery of water under the terms of this Agreement and shall continue for an initial period of one (1) year. City shall notify CUD and County in writing on the date that water becomes available at the master meter as defined herein, and said notice shall become a part of this Agreement for the purpose of determining the Effective Date. The term of this Agreement shall automatically renew for six (6) additional one (1) year periods, subject to the requirements of subsections 1a. and 1b. below, unless a party shall terminate by providing written notice to all other parties no later than ninety (90) days before the end of the then-current period. In no event shall the term of this Agreement be extended beyond a total of seven (7) years without the express written consent of all parties.
 - a. Requirements for extending the agreement into the fifth year will require County approved drinking water treatment plant plans from the Tennessee Department of Environment and Conservation that affords the County the ability to provide

sufficient quantities of water to offset the quantity supplied by City and transported by CUD.

- b. Requirements for extending the agreement into the sixth and seventh year will require County letting the bid and starting construction for an approved drinking water treatment plant that affords the County the ability to provide sufficient quantities of water to offset the quantity supplied by City and transported by CUD.

2. **Quantity of Water.**

- a. City shall furnish and supply, and CUD shall transport, water to County in sufficient amounts to meet County's requirements up to a maximum of two hundred sixteen thousand (216,000) gallons per day.
- b. CUD's requirement to transport water is specifically made contingent upon City's performance in delivering water into the CUD system. CUD shall not be obligated to supply any shortfall resulting from City's inability to sufficiently supply County's requirements up to the maximum amount. Further, CUD shall not be obligated to supply any amount of water to County if City, for any reason, cannot and/or does not supply water to the CUD system.
- c. In the event that at any time City is unable to supply all the water required by its customers, City may curtail the supply and/or restrict the flow of water to County to the extent needed to maintain City's system integrity. City may also curtail the supply and/or restrict the flow of County's water to meet City's nonessential use reduction goals in the event a drought is declared by the Mayor of the City of Murfreesboro. City shall provide immediate notice of any curtailment of supply or restriction of flow to CUD, who shall then enact the same curtailment and/or restriction with regarding to the supply and/or flow going to County.

3. **Quality of Water.** The water delivered to County at the point of delivery shall be potable treated water meeting the applicable purity standards of the Tennessee Department of Environment and Conservations, the United States Environmental Protection Agency, and all other applicable federal, state, and/or local regulatory agencies pursuant to applicable law. City specifically makes no representation or warranty concerning the quality of water past the point of delivery.

4. **Transportation.** CUD agrees to receive the water from City at the City Meter (defined below) and to transport and deliver an equivalent quantity and quality of water to County at the County Meter (defined below). CUD shall monitor the supply and flow of water at the County Meter and shall, at periodic intervals (as reasonably determined by CUD), notify City to resupply the CUD System with a corresponding amount of water. City and CUD shall each use good faith efforts to supply water to the County System and resupply water to the CUD System.

5. Point of Transfer and Delivery; Pressure.

- a. The point of transfer for the water shall be City's master meter at the point where City's water system connects with the system owned and operated by CUD (the "City Meter") located at the northeast corner of Compton Rd. and Sam Jared Rd., Murfreesboro, TN. The point of delivery shall be County's master meter at the point where County's water system connects with the CUD system (the "County Meter") located at Latitude/Longitude coordinates: 35.68976636 / -86.64982399. Water pressure at the points of transfer and delivery shall be sufficient to allow the water to enter the CUD and County systems, respectively. City makes no representation or warranty regarding the pressure or flow of water past the point of transfer. CUD makes no representation or warranty regarding the pressure or flow of water past the point of delivery.
- b. CUD represents that, in order to provide sufficient pressure to the point of delivery at the County Meter, CUD must make certain upgrades to CUD's Eagleville Pump Station, including (without limitation) the installation of a twenty (20) horsepower motor, variable frequency drive, and pump impeller. CUD shall provide the internal labor required to perform said upgrades at no cost to County or City. County shall reimburse CUD for all other costs and expenses associated with said upgrades, including (without limitation) the primary equipment; ancillary parts, equipment, materials, and supplies associated with the upgrade; and the costs and/or expenses of any independent contractors necessary for completion of the upgrades.

6. Metering.

- a. *Operation.* City shall operate and maintain at its own expense at the City Meter all necessary metering equipment, pumping station, radio control monitoring equipment and the required devices of standard type for properly measuring the quantity of water transferred to the CUD system. County shall operate and maintain at its own expense at the County Meter all necessary metering equipment, pumping station, radio control monitoring equipment and the required devices of standard type for properly measuring the quantity of water delivered from the CUD system.
- b. *Calibration.* At least once every twelve (12) months, after reasonable notice to the parties of the date and time, City shall test and calibrate the City Meter at City's expense, and County shall test and calibrate the County Meter at County's expense. A meter registering not more than two percent (2%) above or below the actual flow shall be deemed to be accurate. In the event that a party requests in writing that the City Meter or County Meter be further calibrated, City or County, as the case may be, shall do so in the presence of a representative of each party, and the parties shall jointly observe any adjustments which are made to the meters in case any adjustment shall be necessary. If a meter is found to be within an accuracy of two percent (2%), the requesting party shall bear the cost of the additional calibration

and testing. If the master meter is found to be more than two percent (2%) inaccurate, then City shall bear the cost of the additional calibration and testing, and the parties shall further attempt to adjust the bills rendered during the period of inaccuracy to their mutual satisfaction. If the parties cannot agree, then the billing will be adjusted based on the usage for the same time period in the previous year considering the number of customers on the County's system for each period.

- c. *Additional Meters.* If, during the term of this Agreement (to include any optional and/or mutually agreed extensions), any additional master meters are required or mutually desired by the parties, then the costs of procuring and installing said master meters shall be paid by County, and said master meters and appurtenant equipment shall become the sole property of the party upon whose system the new meter and equipment is installed. Once installed, the party having ownership and control of said additional master meter shall be responsible for all operational and maintenance costs of the additional master meters.
 - d. *Meter Reading.* The County Meter shall be read by CUD's representative (either in person or by capturing the appropriate data from the monitoring equipment) at intervals reasonably determined by CUD. CUD shall then transmit said meter reading to City, which reading shall also state the amount of water (in gallons) to be resupplied into the CUD system. A statement of charges, including both the water rate and transportation rate for water supplied, shall be provided on a monthly basis to County based on said readings; provided, that if readings are taken more frequently than monthly, said readings will be adjusted to reflect a monthly metered total in accordance with CUD's standard metering and billing practices.
7. **Water rate.** The rate to be paid by County for water delivered pursuant to this Agreement shall be determined on a "wholesale" basis. City shall develop the wholesale rate based on a system audit, cost of service study, or other appropriate method as determined by City, the methodology and findings of said audit, study, and/or method to be made available to County. The wholesale rate shall be adjusted annually according to City's updated findings. City represents, but does not warrant, that it will use reasonable efforts to notify County at least ninety (90) days prior to any rate adjustment. The initial rate is listed as the "Water Rate" on Schedule 1, attached hereto, and as may be amended from time in accordance with this section.
8. **Transportation rate.** In addition to the water rate, above, County shall pay to CUD a transportation fee; the initial rate is listed as the "Transportation Rate" on Schedule 1, attached hereto, and as may be amended from time to time in accordance with this section. CUD reserves the right to adjust this transportation rate no more than annually, based on findings from any cost of service or other study of the CUD system. CUD represents, but does not warrant, that it will use reasonable efforts to notify County at least ninety (90) days prior to any rate adjustment.
9. **Payment.** County shall pay to City and CUD the full net amount of each bill within 21 days

of the date of the bill or within 10 days of County's proven receipt of the bill, whichever is later. Payments received after said time period shall be assessed a ten percent (10%) late charge, which assessment shall be added to the amount of the bill and compounded for each month that the bill remains unpaid. Payments, including any partial payments, shall be first applied to past due bills before being applied to a current bill. Acceptance by City or CUD of any partial payments shall not constitute an accord and satisfaction, and all bills, late assessments, and other charges shall remain due and payable.

10. **Default.**

- a. Except as otherwise provided herein, if County fails to pay for the supply or transportation of water as set forth in this Agreement, or if County should breach the terms of this Agreement in any other manner, then, in addition to all of City's and/or CUD's other remedies at law or in equity, City and/or CUD may at its sole option shut off the City Meter or County Meter, as the case may be, and either terminate this Agreement or suspend delivery until County shall remedy all breaches/defaults and pay in full all bills, assessments, and other charges accrued, both under the terms of this Agreement and incurred as a result of said breach/default. In the event either meter is shut off, City and CUD shall each read the City Meter and County Meter, respectively, and City shall resupply to CUD the amount of water which until the time of shutoff had already been supplied to County.
- b. In the event City should shut off the City Meter or otherwise restrict the flow of water at the City Meter for any reason, then CUD shall have no responsibility to supplement or otherwise provide additional water to County (except to the extent of any restricted flow coming from the City), and CUD shall not be considered in default by reason of the City's shut-off or restriction.
- c. Except as otherwise provided herein, if City or CUD materially breaches the terms of this Agreement, then, in addition to all of County's other remedies at law or in equity, County may immediately terminate this Agreement.

11. **Financial Responsibility.**

- a. City shall be responsible for all of City's system and infrastructure up to and including the City Meter. City shall, at City's expense, provide for all operation and maintenance of City's system.
- b. CUD shall be responsible for all of CUD's system and infrastructure up to ***but not including*** the City Meter and County Meter. CUD shall, at CUD's expense, provide for all operation and maintenance of CUD's system.
- c. County shall be responsible for all of County's system and infrastructure up to and including the County Meter. County shall, at County's expense, provide for all

operation and maintenance of County's system.

- d. Except as provided herein, all property (real or personal) and other assets of the parties shall remain the separate property of and be held individually by the parties. Nothing in this Agreement shall be construed to convey joint ownership over any property or assets used in the performance of this Agreement, and nothing in this Agreement shall be construed as creating any partnership, joint venture, or joint exercise of power between the parties.

12. **County's Customers.** County shall be solely liable to County's customers for the delivery, quantity, and quality of water provided to said customers. Nothing in this Agreement shall be construed to create any express or implied agreement between City and/or CUD and County's customers, and County's customers shall have no express or third party beneficiary status relative to this Agreement.

13. **Statement of Purpose.** The parties incorporate all statements made in the preamble of this Agreement as if restated fully herein. Furthermore, the parties agree and acknowledge that this Agreement is entered into for the purpose of providing water to County to help meet County's current needs and providing needed capacity for future development on an interim basis. The parties further acknowledge this Agreement's purpose to be interim and finite in nature, until such time as County may construct improvements which expand the capacity of its drinking water system so that County may, on its own, fulfill County's customers' current and future needs. Nothing in this Agreement shall be construed as creating a perpetual agreement, venture, or partnership, nor shall this Agreement be construed as intending to provide for agreement of the parties or delivery of water beyond the term set out herein.

14. **Force Majeure.** Neither City nor CUD shall be responsible for quantity or quality of water in the event that City or CUD is/are unable to perform for any reason or reasons beyond its/their control. Emergency failures of pressure, supply, and/or transportation due to main supply line breaks, power failure, flood, fire, epidemic, pandemic, and the use of water to fight fires, earthquake, or other catastrophe or circumstances beyond the control of City and/or CUD or acts of God shall excuse City and CUD from delivery for such reasonable period of time as may be necessary to restore service, to include (without limitation) water purification and transportation.

15. **Termination.** This Agreement shall automatically terminate upon the expiration of the term, except as this Agreement may be extended pursuant to Section 1, above, or by mutual express written agreement of all parties. Furthermore, if County completes improvements to its system which increases County's drinking water production capacity prior to the end of the term, County may terminate this Agreement prior to the end of the term by providing City and CUD written notice at least ninety (90) days prior to County's desired termination date. In all other events and circumstances, this Agreement shall remain in full force and effect between the parties. Should County desire to suspend water delivery under any other circumstance, County shall be responsible for the costs of maintenance and upkeep of the City and County Meters

(including, without limitation, calibration and testing) and appurtenant equipment at the points of transfer and delivery during the period of suspension up to the end of the term.

16. **Contingencies.** This Agreement is made expressly contingent upon the approval of the following:

- a. The Murfreesboro Water Resources Board;
- b. The Murfreesboro City Council;
- c. The Marshall County Board of Public Utilities;
- d. The Marshall County Board of Commissioners; and
- e. The Consolidated Utility District of Rutherford County.

Upon approval by each body listed herein, a copy of the resolution, ordinance, meeting minutes, or other official documentation memorializing such approval shall be appended to this Agreement and shall become a part hereof.

17. **Governing Law and Venue.** The validity, construction, and effect of this Agreement and any and all extensions or modifications thereof are governed by the laws of the state of Tennessee. Any action between the parties arising from this Agreement may only be filed in the courts of Rutherford County, Tennessee.

18. **Severability.** Should any provision of this Agreement be declared to be invalid by any court of competent jurisdiction, such provision will be severed and not affect the validity of the remaining provisions of this Agreement.

19. **Waiver.** No waiver of any provision of this Agreement affects the right of any party thereafter to enforce such provision or to exercise any right or remedy available to it in the event of any other default.

20. **Modification.** This Agreement may be modified only by written amendment executed by all parties and their signatories hereto.

21. **Succession.** The provisions of this Agreement inure to the benefit of and are binding upon the respective successors and assignees of the parties hereto.

22. **Integration.** Except as otherwise provided herein, this Agreement sets forth the entire agreement between the parties with respect to the subject matter hereof and governs the respective duties and obligations of the parties.

23. **Effective Date.** This Agreement is not binding upon the parties until signed by each of the authorized representatives of City, CUD, and County and is thereafter effective as of the date set forth above.

24. **Counterparts; Electronic Signatures.** This Agreement may be executed in any number of counterparts, each of which shall be an original, and each such counterpart shall together

constitute one and the same agreement. A verified electronic signature (Verisign, DocuSign, etc.) shall constitute an original signature. A faxed, scanned, or emailed copy of this Agreement shall be deemed an original.

IN WITNESS WHEREOF, the parties hereto have set forth their hands and seals on the dates set forth below, to be effective immediately upon the last to occur of (a) execution of this Agreement by the last party to sign, or (b) final approval as described above.

CITY OF MURFREESBORO

**CONSOLIDATED UTILITY DISTRICT
OF RUTHERFORD COUNTY**

By _____
Shane McFarland, Mayor

By _____

Date _____

Name _____

ATTEST:

By _____
Melissa Wright, City Recorder

Its _____

Date _____

APPROVED AS TO FORM:

By: _____
Adam F. Tucker, City Attorney

**MARSHALL COUNTY BOARD OF
PUBLIC UTILITIES**

By _____

Name _____

Its _____

Date _____

Schedule 1

Water and Transportation Rates

*Rates per thousand gallons

Water Rate	\$2.35
Transportation Rate	<u>1.17</u>
Total	\$3.52

Effective Date: _____

Initials:

City: _____

CUD: _____

Received:

County: _____



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MEMORANDUM

DATE: May 20, 2020
TO: Water Resources Board
FROM: Valerie H. Smith
SUBJECT: Westpoint Section 3 Subdivision
Warrior Drive-West of Beasie Road
Water Main Upsizing - Participation

Background

There are two proposed industrial development projects within the area known as West Point Commercial Subdivision, which is west of Salem Hwy and south of I-24. Warrior Drive, within this commercial subdivision is proposed to be extended for economic development purposes under State Industrial Access Grant through TDOT. This TDOT funding does not include utilities within the roadway. The roadway extension and water line upgrade will assist with these two industrial projects currently moving through the process and also make an additional 40 acres available for additional economic development opportunities.

The City is the recipient of the TDOT grant and will enter a project development agreement with the developer to construct the public infrastructure and utilities required to be installed within the roadway. The roadway extension is speeding up the timing of when the public infrastructure and utilities would normally be installed.

When staff received the news about these development projects and the possibility of being large water users, we requested that Smith Seckman Reid (SSR) perform some water modeling for the area. SSR has an existing water model for the Department and staff provided the proposed water and fire flow demands of these large users. The water modeling determined that the existing 8" water mains along the existing portions of Warrior Dr. and Beasie Rd (green and blue highlight) can remain, but to provide the anticipated fire flows for the developments and area, a 12" water main would be required for the remaining portion of Warrior Drive (yellow highlight).

SEC, Inc., has submitted cost estimates for both 8" and 12" water main installations, 8" being the standard and typical water main size installed for a commercial development. The difference in the 8" and 12" water main is \$109,477, which would be the Department's participation amount and contribution to assist this industrial development.

Water Resources 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

Staff has estimated the water connection fees for the two proposed developments. The total estimated daily water usage is estimated at 144,000 gallons per day (gpd) or 553 single family units (sfu's) where 260 gpd equals 1 sfu. The standard water connection fee per sfu is \$1200, which would be a total of \$664,615 in water connection fees, therefore, the standard water connection fees for these two developments alone will more than fund the cost of the participation.

This participation recommendation is somewhat consistent with the Department's participation policy, within our approved Policies, Procedures & General Design Requirements adopted in 2009 by the Board & Council:

1. Prior to dedication and acceptance of the improvements by the City, the Developer requesting reimbursement must present to the City Council a detailed statement of the actual eligible costs and the City Council in its discretion may amend the agreement, and the reimbursement amount, to reflect the actual project costs.
2. Should a project be eligible for participation by the City due to upsizing of a water or sewer line, the Department reserves the right to publicly bid the project or the portion of the project eligible for participation.
3. Participation in the cost to upsize water and/or sewer lines shall be in accordance with established policies in effect. The Department or Developer can prepare a schedule of upsize participation, based on recent bid results or agreed upon unit pricing, which the Department and the Developer may accept in lieu of publicly bidding, subject to approval of the Water and Sewer Board and City Council.
4. The Department will only participate on that portion of sewer deeper than twelve (12) feet deep, if the sewer is upsized and if the material changes.
5. Sewer must extend to the limits of construction at strategic locations for future extension.

Recommendation

Staff recommends the Board recommend to City Council approval of the water participation for the larger water main.

Fiscal Impact

It is requested that participation in the amount of \$109,477 come from the Department's working capital reserves. There are adequate reserves to fund this amount.

Attachments

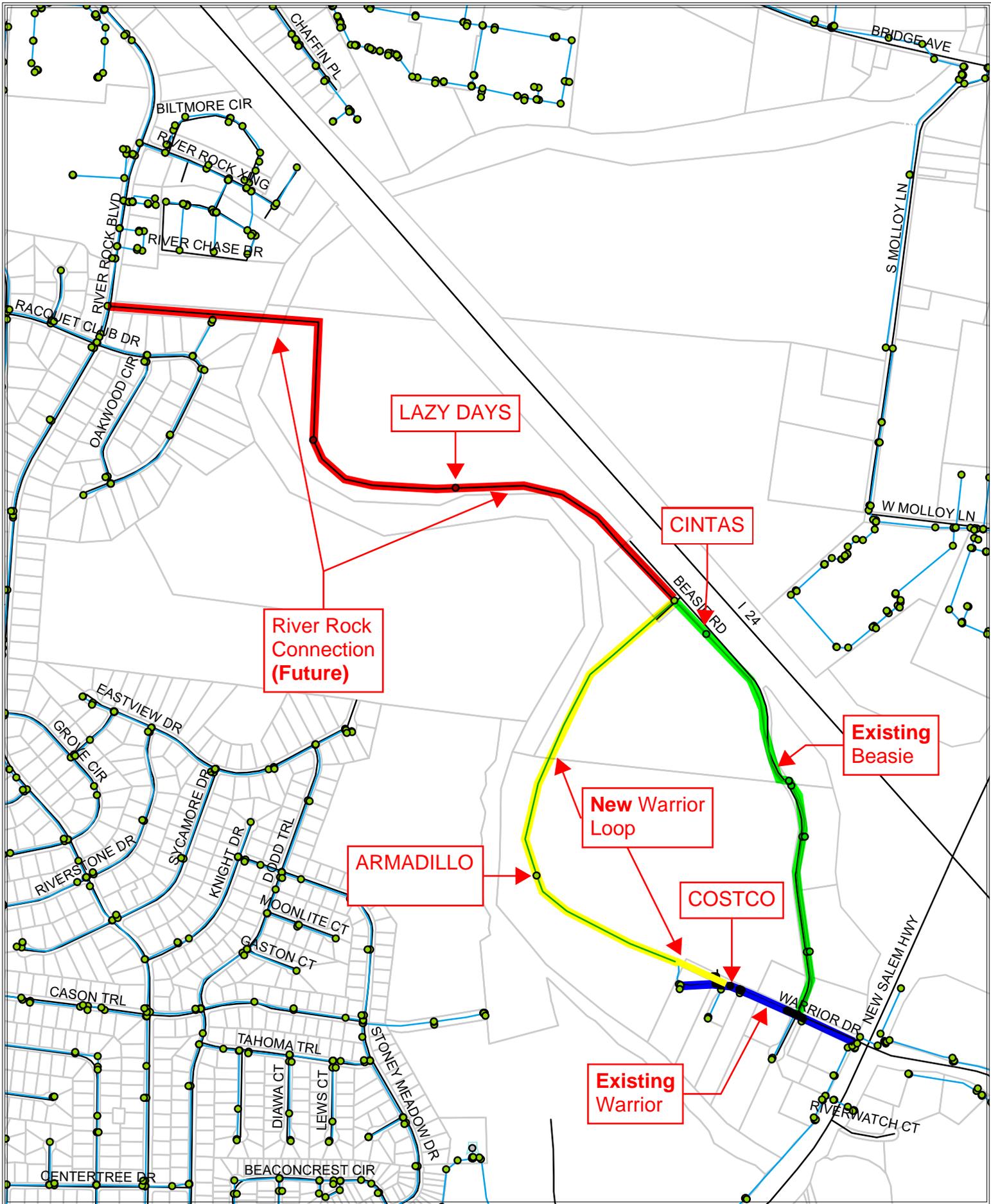
Engineers Estimate
Exhibit

Water System 8" Main					
ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	8" DIP	LF	3779	\$ 65.00	\$ 245,635.00
2	6" DIP	LF	91	\$ 50.00	\$ 4,550.00
3	Fire Hydrant Assemblies	EA	7	\$ 2,500.00	\$ 17,500.00
4	8" 22.5° Bend	EA	2	\$ 500.00	\$ 1,000.00
5	8" 11.25° Bend	EA	12	\$ 450.00	\$ 5,400.00
6	8" Gate Valve & Box	EA	19	\$ 1,500.00	\$ 28,500.00
7	6" Gate Valve & Box (1 per hydrant)	EA	7	\$ 1,250.00	\$ 8,750.00
8	8" Tee	EA	7	\$ 1,000.00	\$ 7,000.00
9	8" x 8" x 6" Tee	EA	7	\$ 750.00	\$ 5,250.00
10	8" Plug	EA	7	\$ 130.00	\$ 910.00
11	Concrete Thrust Block	EA	35	\$ 45.00	\$ 1,575.00
SubTotal:					\$ 326,070.00
10% Contingencies:					\$ 32,607.00
Water Total:					\$ 358,677.00

Note: SEC, Inc. has no control over the cost of labor, materials equipment or services furnished by others, or over the Contractor(s)' method of determining prices, or over competitive bidding or market conditions. SEC, Inc.'s opinions of Probable Cost are made on the basis of our experience and qualifications and represent our best judgments as an experienced and qualified professional engineering firm, familiar with the construction industry. SEC, Inc. cannot and does not guarantee that proposals, bids or actual cost will not vary from Opinions of Probable Cost prepared by SEC, Inc. If prior to the Bidding or Negotiating Phase the owner wishes greater assurance as to Project Costs, the owner shall employ an independent cost estimator.

Water System 12" Main					
ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	12" DIP	LF	3779	\$ 90.00	\$ 340,110.00
2	6" DIP	LF	91	\$ 50.00	\$ 4,550.00
3	Fire Hydrant Assemblies	EA	7	\$ 2,500.00	\$ 17,500.00
4	12" 22.5° Bend	EA	2	\$ 600.00	\$ 1,200.00
5	12" 11.25° Bend	EA	12	\$ 550.00	\$ 6,600.00
6	12" Gate Valve & Box	EA	5	\$ 1,950.00	\$ 9,750.00
7	8" Gate Valve & Box	EA	14	\$ 1,500.00	\$ 21,000.00
8	6" Gate Valve & Box (1 per hydrant)	EA	7	\$ 1,250.00	\$ 8,750.00
9	12" x 12" x 8" Tee	EA	7	\$ 1,200.00	\$ 8,400.00
10	8" x 8" x 6" Tee	EA	7	\$ 750.00	\$ 5,250.00
11	8" Plug	EA	7	\$ 130.00	\$ 910.00
12	Concrete Thrust Block	EA	35	\$ 45.00	\$ 1,575.00
SubTotal:					\$ 425,595.00
10% Contingencies:					\$ 42,559.50
Water Total:					\$ 468,154.50

Note: SEC, Inc. has no control over the cost of labor, materials equipment or services furnished by others, or over the Contractor(s)' method of determining prices, or over competitive bidding or market conditions. SEC, Inc.'s opinions of Probable Cost are made on the basis of our experience and qualifications and represent our best judgments as an experienced and qualified professional engineering firm, familiar with the construction industry. SEC, Inc. cannot and does not guarantee that proposals, bids or actual cost will not vary from Opinions of Probable Cost prepared by SEC, Inc. If prior to the Bidding or Negotiating Phase the owner wishes greater assurance as to Project Costs, the owner shall employ an independent cost estimator.



Warrior Drive/ Beasie Road
MWRD Hydraulic Model



... creating a better quality of life

MEMORANDUM

DATE: May 22, 2020
TO: Water Resources Board
FROM: Darren Gore
SUBJECT: Overall Creek Pump Station Upgrades – Re-budgeting Information

BACKGROUND

The Board previously approved various upgrades to the Overall Creek Pump Station due to equipment age. The approved upgrades included new variable frequency drives (VFDs) designed to utilize the existing soft starters as backup devices, improvements to the existing pump controls by upgrading the existing control panel with a new programmable logic controller (PLC), a new Human Machine Interface (HMI), new local network switch, and new 240 watt, 24 volt DC power supply; a new stand-alone bubbler level system; a new backup ultrasonic level system; and a new cellular remote terminal unit (RTU). JBS Task Order 18-06 and MRS agreement were approved at the December 11, 2018 Board meeting. SSR Task Order 1841009.0 was approved at the June 26, 2018 Board meeting.

During SSR design, Staff requested additional upgrades to the station to improve station functionality, operation, and maintenance. These additional upgrades include replacement of old and problematic check valves, a new permanent bypass pumping connection, and structural evaluation and design of a new wet well cleaning access way. These upgrades were requested and authorized on August 20, 2018.

Following the approval of the upgrades to the existing OCPS, the Board approved a needed expansion of the OCPS to essentially double the station's capacity. As part of this expansion, the existing pump control panel must again be upgraded or replaced to accommodate the new pumps. Doing the panel upgrade now, rather than waiting for the expansion project, is more cost efficient.

In addition, the station experienced a failure of one of the existing soft starters which is designed to serve as a backup to the new VFDs. Staff identified that the soft starters are now obsolete and replacement parts cannot be purchased. Doing this work now is necessary to avoid potential complete failure of the soft starters which could result in sanitary sewer overflows.

RECOMMENDATION

No formal recommendation is being submitted with this update. It is anticipated that SSR will perform the additional design services related to the upgrades due to their previous design services for the upgrades project. It is also anticipated that John Bouchard & Sons will perform the additional construction activities

using the Master Services Agreement and MR Systems will perform additional controls and integration services using the Master Services Agreement.

FISCAL IMPACT

The original approved total project cost is **\$310,000** consisting of \$125,000 for electrical upgrades, \$110,000 for instrumentation and controls upgrades, \$20,000 for possible HVAC upgrades, \$20,000 for possible bypass pumping, and \$35,000 for engineering services.

The original approved total "as bid" project cost is **\$385,692.06** consisting of \$135,966.50 for electrical upgrades, \$105,796.00 for instrumentation and controls upgrades, \$15,517.00 for possible HVAC upgrades, \$56,981.00 for bypass pumping, and \$34,650 for engineering services.

The estimated recommended additional upgrades cost is **\$173,680.90** consisting of \$102,248.90 for soft starters removal and replacement, \$56,987.00 for control panel upgrades, and \$14,445 for additional engineering services.

The total estimated project cost with additional services and **\$559,372.96**.

ATTACHMENTS

SSR Memo "Additional Upgrades for Overall Creek PS" dated May 21, 2020.

JBS Quotation dated March 31, 2020.

MR Systems Quotation dated April 22, 2020.



MEMORANDUM

To: Darren Gore
From: Brent Fowler
Date: May 21, 2020
Re: Additional Upgrades for OCPS
Project Name: Overall Creek Pump Station Upgrades
Project Number: 1841009.0

Darren,

Per WWRF Staff request, this memorandum provides information regarding the need to replace the existing soft starters, upgrade the existing pump control panel, and additional associated engineering services and to summarize the additional project costs.

Background

The Board previously approved various upgrades to the Overall Creek Pump Station due to equipment age and equipment reaching the end of useful life. The approved upgrades included new variable frequency drives (VFDs) designed to utilize the existing soft starters as backup devices, improvements to the existing pump controls by upgrading the existing control panel with a new programmable logic controller (PLC), a new Human Machine Interface (HMI), new local network switch, and new 240 watt, 24 volt DC power supply; a new stand-alone bubbler level system; a new backup ultrasonic level system; and a new cellular remote terminal unit (RTU).

During SSR design, Staff requested additional upgrades to the station to improve station functionality, operation, and maintenance. These additional upgrades include replacement of old and problematic check valves, a new permanent bypass pumping connection, and structural evaluation and design of a new wet well cleaning access way. These upgrades were requested and authorized by MWRD on August 20, 2018.

Following the approval of the upgrades to the existing OCPS, the Board approved a needed expansion of the OCPS to essentially double the station's capacity. As part of this expansion, the existing pump control panel must again be upgraded or replaced to accommodate the new pumps. During initial project planning discussions, MWRD staff recommended that the control panel be upgraded to include the expanded pump and facilities. Panels revisions performed now as part of the upgrade project, rather than waiting for the expansion project, is more cost efficient as MR System will perform programming, integration and mobilize to the site only one time.

In addition, and following Board approval of the Upgrades project, the station experienced a failure of one of the existing soft starters. Staff identified that the existing soft starters are now obsolete and replacement parts cannot be purchased. The soft starters need to be replaced to ensure equipment is functional, replacements parts are available, and mitigate the potential risk of starter failure and sanitary sewer overflows.

Recommendation

SSR recommends proceeding with the upgrades to the pump control panel and replacement of the existing soft starters as amendments to the previously executed JBS and MRS master services task orders and an amendment of SSR Task Order 1841009.0. The increased cost is significant relative to the original cost. However, the net affect will result in an overall reduction in cost to MWRD.

MEMORANDUM

Page 2

Project Costs

The original Board approved total project cost is \$310,000 consisting of \$125,000 for electrical upgrades, \$110,000 for instrumentation and controls upgrades, \$20,000 for possible HVAC upgrades, \$20,000 for possible bypass pumping, and \$35,000 for engineering services.

The MWRD staff approved "as bid" total project cost is \$385,692.06 consisting of \$135,966.50 for electrical upgrades, \$105,796.00 for instrumentation and controls upgrades, \$15,517.00 for possible HVAC upgrades, \$56,981.00 for bypass pumping, \$36,781.56 for JBS scope changes, and \$34,650 for engineering services.

The estimated recommended additional upgrades cost is \$173,680.90 consisting of \$102,248.90 for replacement of the existing soft starters with new soft starters, \$56,987.00 for control panel upgrades, and \$14,445 for additional engineering services.

The total estimated project cost with additional services and \$559,372.96.

If you need additional information, please contact us.

Attachments

1. SSR Recommendation to Award Letter
2. Project Costs Summary
3. SSR Additional Services Summary.
4. JBS Quotation dated March 31, 2020.
5. MR Systems Quotation dated April 22, 2020.



December 5, 2018

Mrs. Valerie Smith
Assistant Director - Engineering & Compliance
Murfreesboro Water Resources Department
P.O. Box 1477
Murfreesboro, TN 37133-1477

RE: **Overall Creek Pump Station Upgrades
Recommendation to Award**

Dear Valerie:

Final cost proposals were solicited from John Bouchard and Sons (JBS) and MR Systems (MR) to perform the Overall Creek Pump Station Upgrades project in accordance with the Drawings and Specifications provided to them. The original opinion of probable construction costs (OPCC) totaled \$275,000. MWRD staff increased the work scope to improve operation and maintenance by including the replacement of existing check valves and installation of permanent bypass connection. Note that the JBS proposal includes a \$10,000 allowance cost for an alternate VFD manufacturer as you and I previously discussed. If an alternate manufacturer is not chosen, the allowance cost will not be realized. These additions and the VFD allowance increased the OPCC to \$311,500.

Unfortunately, the final cost proposals are more than the OPCC. I have tabulated the overall cost summary below and attached a more detailed line item breakdown of the costs showing the OPCC and final cost proposal variances for each line item.

Construction Cost Summary	
Item	Total Cost
JBS Work Scope	\$245,246.06
MR Work Scope	\$105,796.00
Total	\$351,042.06

The vast majority of the cost variance is found in the temporary bypass pumping costs. Due to the depth of the influent sewer and unknown surcharge conditions, i.e., how much the collection system can be surcharged before an overflow would occur, specialty high head pumps are required which cost more than anticipated. However, the bypass pumping costs are conservative and the total amount may not be realized. JBS included partial overtime in their work scope to reduce the total bypass pumping time which should reduce the total overall cost. This is not reflected in the bypass pumping costs. Fuel costs are included at an amount of \$23,250 which is conservative. The fuel cost assumes both pumps will operate at 100-percent load the entire time, which is again conservative.

Although the costs are higher than original estimated, SSR finds the final not-to-exceed costs fair and reasonable. SSR recommends that MWRD also review the proposals to verify general conformance with terms and conditions of the existing master services agreements. Provided the terms and conditions are satisfied, SSR further recommends that task orders be executed with JBS and MR for the scopes of work identified in the enclosed proposals and that the Overall Creek Pump Station Upgrades project proceed.

If you require additional information, please contact me by phone at 615-460-0433 or e-mail me at bfowler@ssr-inc.com.

Sincerely,
SMITH SECKMAN REID, INC.



Brentley D. Fowler, PE

BDF/bdf
Enclosures

cc: Darren Gore, Steve Tate, Jimmy Stacey – MWRD (e-copy)
MLB – SSR (e-copy)
File (1) – 1841009.0 (w/attachments)

T:\Team41\2018\18410090\Correspondence\Letters\BDF181205_LTR_Recommend_Award.docx

12/5/2018

Opinion of Probable Construction Costs, Final Proposal Costs, and Variance Summary

Item	OPCC	Proposal Cost	Variance	Comments
John Bouchard & Sons				
Electrical Upgrades	\$ 125,000.00	\$ 135,966.50	\$ (10,966.50)	Cost includes overtime to reduce bypass pumping time
HVAC Upgrades	\$ 20,000.00	\$ 15,517.00	\$ 4,483.00	
Bypass Pumping	\$ 20,000.00	\$ 56,981.00	\$ (36,981.00)	Cost is worst-case and does not consider overtime above
Subtotal	\$ 165,000.00	\$ 208,464.50	\$ (43,464.50)	
MR Systems				
I&C and Integration	\$ 110,000.00	\$ 105,796.00	\$ 4,204.00	
Subtotal	\$ 110,000.00	\$ 105,796.00	\$ 4,204.00	
JBS and MR Total (Original Scope)	\$ 275,000.00	\$ 314,260.50	\$ (39,260.50)	
Scope Additions				
Check Valves Replacements	\$ 16,500.00	\$ 15,705.00	\$ 795.00	Scope addition approved by MWRD on 08/20/18
Permanent Bypass Connection	\$ 10,000.00	\$ 11,076.56	\$ (1,076.56)	Scope addition approved by MWRD on 08/20/18
Allowance for Alternate VFD Manufacturer	\$ 10,000.00	\$ 10,000.00	\$ -	Scope addition approved by MWRD on 11/08/18
Subtotal	\$ 36,500.00	\$ 36,781.56	\$ (281.56)	
Total (Final Scope)	\$ 311,500.00	\$ 351,042.06	\$ (39,542.06)	



December 5, 2018

Mr. Brent Fowler

RE: Overall Creek Budget Pricing – Updated 12/05/18

Dear Mr. Fowler:

As per your request, we are providing updated budget pricing for the various scopes of work associated with the Overall Creek Pump Station.

Electrical Scope:

- Remove existing control panel and install MR Systems provided new control panel. MR Systems to do all control terminations. Estimated time is 12 hours.
- Provide and install (4) new drives with bypass contactors to operate the existing soft starts as needed. Reconfigure feeder wiring and motor feeder wiring to work with bypass contactors. Install conduit and control wiring to MRS control panel. Estimated time per VFD is 59 hours. Note that our updated pricing includes a \$10,000 allowance for drives other than AB as per SSR's instructions.
- Pricing has been revised to include partial overtime (working six 12 hour days) in order to reduce the bypass pumping duration.
- Rotate existing transformer to accommodate new drive space.
- Visually inspect existing 200 amp breakers feeding drives.
- Remove existing start/stop and jog switches and install FS box and blank covers.
- Install customer provided Ultrasonic Level Transducer.
- Excludes: expediting materials

HVAC/Bubbler Scope:

- Furnish and install a new Mitsubishi ductless split heat pump HVAC unit.
- Furnish and install new linesets and suction line insulation to accommodate the new unit. Includes new hangers and core drilling.
- Provide and install conduit and wiring from MDP to the new HVAC unit
- Includes pulling a vacuum, adding refrigerant, and startup.
- Remove and replace existing bubbler piping – assumes work can be performed without draining the wetwell.
- Excludes: temporary cooling, overtime

Check Valve Installation:

- Demolish two existing 10" check valves.
- Furnish and install two new 10" Val-Matic 7800 AC swing check valves with new flange packs.
- Assumes all existing isolation valves are functional.
- Includes a preliminary site visit to inspect the existing system.
- Work to be performed during the bypass pumping operations associated with the electrical work.
- Excludes: overtime

Bypass Installation:

- Demolish existing 5' section of ductile piping between the Mag Meter and valve.
- Furnish and install a 12" ductile tee, with a new 12" Dezurick plug valve and blind flange on the bullhead. Includes new flange packs.
- Furnish and install a new 12" spool piece to accommodate the addition of the 12" tee.
- Assumes all existing isolation valves are functional.
- Includes a preliminary site visit to inspect the existing system.
- JBS may elect to install this outside the meter vault, depending upon the requirements of the bypass operation and the wishes of MWS.
- Excludes: bypass pumping, overtime

Bypass Pumping:

- Bypass pumping scope was determined by Wilder Pump meeting with MWS personnel in conjunction with input from SSR. Details of the bypass pumping are attached.
- JBS estimates a maximum bypass duration of 12 days based upon our estimated electrical durations. As such, we have included two weeks of bypass pumping and fuel assuming that both pumps run at full 100% load for the duration of the work. This is intended to be a worst case estimate.

Pricing (details of each scope are attached):

Electrical Scope	\$ 145,966.50
HVAC/Bubbler Scope	\$ 15,517.00
Check Valve Installation	\$ 15,705.00
Bypass Installation	\$ 11,076.56
Bypass Pumping	<u>\$ 56,981.00</u>
Total Estimate	\$ 245,246.06

ACCEPTED ON _____ 2018

BY: _____
SIGNATURE

Print Name _____

JOHN BOUCHARD & SONS CO.

BY: *David Proctor IV*
SIGNATURE

Print Name David Proctor

Murfreesboro Service Contract Rate Sheet - 2018

Overall Creek PS Upgrades Base Bid Revised 12-5-18

Description	Qty (hrs)	Rate	Extended
Project Mgr (RT)	14	\$75.00	\$1,050.00
Project Mgr (OT)		\$110.00	\$0.00
Superintendent (RT)	10	\$67.00	\$670.00
Superintendent (OT)		\$100.50	\$0.00
Pipefitter/Welder (RT)		\$52.00	\$0.00
Pipefitter/Welder (OT)		\$78.00	\$0.00
Sprinkler Fitter (RT)		\$44.00	\$0.00
Sprinkler Fitter (OT)		\$66.00	\$0.00
Electrician (RT)	240	\$52.00	\$12,480.00
Electrician (OT)	156	\$78.00	\$12,168.00
Apprentice/Helper (RT)	80	\$37.00	\$2,960.00
Apprentice/Helper (OT)	52	\$55.50	\$2,886.00
Expediter/Delivery (RT)		\$29.00	\$0.00
Expediter/Delivery (OT)		\$43.50	\$0.00

Equipment	Qty (hrs)	Rate/Hr	Extended
Welder		\$15.00	\$0.00
Power Threader	60	\$10.00	\$600.00
Mini/Midi Hammer		\$10.00	\$0.00
Variable Reach Forklift	45	\$27.00	\$1,215.00
Pickup Truck	252	\$15.00	\$3,780.00
Scissor Lift		\$19.00	\$0.00
Skid Steer		\$25.00	\$0.00
Boom Man Lift		\$29.00	\$0.00
Cat 420D Backhoe		\$34.00	\$0.00
Street Plate		\$7.00	\$0.00
185 CFM Compressor		\$15.00	\$0.00

Materials & Subcontractors		
Materials		\$13,665.00
Irby drives and startup		\$74,660.00
Add Alternate for Drives		\$10,000.00
Markup on Material & Subcontractors	10.00%	\$9,832.50

TOTAL ESTIMATE	\$145,966.50
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Murfreesboro Service Contract Rate Sheet - 2018

Overall Creek PS AC Unit & Bubbler Piping

Description	Qty (hrs)	Rate	Extended
Project Mgr (RT)	6	\$75.00	\$450.00
Project Mgr (OT)		\$110.00	\$0.00
Superintendent (RT)	2	\$67.00	\$134.00
Superintendent (OT)		\$100.50	\$0.00
Pipefitter/Welder (RT)	42	\$52.00	\$2,184.00
Pipefitter/Welder (OT)		\$78.00	\$0.00
Sprinkler Fitter (RT)		\$44.00	\$0.00
Sprinkler Fitter (OT)		\$66.00	\$0.00
Electrician (RT)	10	\$52.00	\$520.00
Electrician (OT)		\$78.00	\$0.00
Apprentice/Helper (RT)	50	\$37.00	\$1,850.00
Apprentice/Helper (OT)		\$55.50	\$0.00
Expediter/Delivery (RT)		\$29.00	\$0.00
Expediter/Delivery (OT)	4	\$43.50	\$174.00
Machine Shop Millwright (RT)		\$60.00	\$0.00
Machine Shop Millwright (OT)		\$90.00	\$0.00
HVAC/Plb Service Tech (RT)	10	\$66.00	\$660.00
HVAC/Plb Service Tech (OT)		\$99.00	\$0.00
Air Compressor Tech (RT)		\$66.00	\$0.00
Air Compressor Tech (OT)		\$99.00	\$0.00

Equipment	Qty (hrs)	Rate/Hr	Extended
Welder		\$15.00	\$0.00
Power Threader	4	\$10.00	\$40.00
Mini/Midi Hammer		\$10.00	\$0.00
Variable Reach Forklift		\$27.00	\$0.00
Pickup Truck	62	\$15.00	\$930.00
Scissor Lift		\$19.00	\$0.00
Skid Steer		\$25.00	\$0.00
Boom Man Lift		\$29.00	\$0.00

Materials & Subcontractors		
Electrical Materials		\$850.00
Mitsubishi/Trane Ductless HVAC Unit	Trane	\$5,120.00
Core Drilling & Sleeves		\$400.00
HVAC Materials (linesets, hangers, insulation, etc)	Ferguson	\$1,100.00
Bubbler Pipe Materials	Ferguson	\$75.00
Misc.		\$250.00
Markup on Material & Subcontractors	10.00%	\$779.50

TOTAL ESTIMATE \$15,516.50

Murfreesboro Service Contract Rate Sheet - 2018

Overall Creek PS Ck Valves

Description	Qty (hrs)	Rate	Extended
Project Mgr (RT)	4	\$75.00	\$300.00
Project Mgr (OT)		\$110.00	\$0.00
Superintendent (RT)		\$67.00	\$0.00
Superintendent (OT)		\$100.50	\$0.00
Pipefitter/Welder (RT)	40	\$52.00	\$2,080.00
Pipefitter/Welder (OT)		\$78.00	\$0.00
Sprinkler Fitter (RT)		\$44.00	\$0.00
Sprinkler Fitter (OT)		\$66.00	\$0.00
Electrician (RT)		\$52.00	\$0.00
Electrician (OT)		\$78.00	\$0.00
Apprentice/Helper (RT)	40	\$37.00	\$1,480.00
Apprentice/Helper (OT)		\$55.50	\$0.00
Expediter/Delivery (RT)	6	\$29.00	\$174.00
Expediter/Delivery (OT)		\$43.50	\$0.00
Machine Shop Millwright (RT)		\$60.00	\$0.00
Machine Shop Millwright (OT)		\$90.00	\$0.00

Equipment	Qty (hrs)	Rate/Hr	Extended
Welder		\$15.00	\$0.00
Power Threader		\$10.00	\$0.00
Mini/Midi Hammer		\$10.00	\$0.00
Variable Reach Forklift		\$27.00	\$0.00
Pickup Truck	40	\$15.00	\$600.00
Scissor Lift		\$19.00	\$0.00
Skid Steer		\$25.00	\$0.00
Boom Man Lift		\$29.00	\$0.00
Cat 420D Backhoe		\$34.00	\$0.00
Street Plate		\$7.00	\$0.00

Materials & Subcontractors		
Valmatic 7800AC ck valves (\$4,757/ea)	Guthrie	\$9,514.00
Freight	Estimated	\$300.00
Misc. (gaskets, bolts, etc)		\$250.00
Markup on Material & Subcontractors	10.00%	\$1,006.40

TOTAL ESTIMATE	\$15,704.40
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Murfreesboro Service Contract Rate Sheet - 2018

Overall Creek Bypass Connection

Description	Qty (hrs)	Rate	Extended
Project Mgr (RT)	4	\$75.00	\$300.00
Project Mgr (OT)		\$110.00	\$0.00
Superintendent (RT)		\$67.00	\$0.00
Superintendent (OT)		\$100.50	\$0.00
Pipefitter/Welder (RT)	44	\$52.00	\$2,288.00
Pipefitter/Welder (OT)		\$78.00	\$0.00
Sprinkler Fitter (RT)		\$44.00	\$0.00
Sprinkler Fitter (OT)		\$66.00	\$0.00
Electrician (RT)		\$52.00	\$0.00
Electrician (OT)		\$78.00	\$0.00
Apprentice/Helper (RT)	24	\$37.00	\$888.00
Apprentice/Helper (OT)		\$55.50	\$0.00
Expediter/Delivery (RT)		\$29.00	\$0.00
Expediter/Delivery (OT)		\$43.50	\$0.00

Equipment	Qty (hrs)	Rate/Hr	Extended
Welder	2	\$15.00	\$30.00
Power Threader		\$10.00	\$0.00
Mini/Midi Hammer		\$10.00	\$0.00
Variable Reach Forklift		\$27.00	\$0.00
Pickup Truck	44	\$15.00	\$660.00
Scissor Lift		\$19.00	\$0.00
Skid Steer		\$25.00	\$0.00
Boom Man Lift		\$29.00	\$0.00
Cat 420D Backhoe		\$34.00	\$0.00
Street Plate		\$7.00	\$0.00

Materials & Subcontractors		
12" Tee, Plug Valve, Blind Flange, Megaflange, Spool	Core & Main	\$3,960.85
Flange Packs - 6x at \$128.58/ea	Core & Main	\$771.48
Additional Fittings - Allowance	Core & Main	\$1,000.00
Rigging Materials - Anchors, Straps, Etc.		\$200.00
Misc. (gaskets, bolts, etc)		\$350.00
Markup on Material & Subcontractors	10.00%	\$628.23

TOTAL ESTIMATE	\$11,076.56
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Murfreesboro Service Contract Rate Sheet - 2018

Overall Creek Bypass Pumping

Description	Qty (hrs)	Rate	Extended
Project Mgr (RT)	12	\$75.00	\$900.00
Project Mgr (OT)		\$110.00	\$0.00
Superintendent (RT)		\$67.00	\$0.00
Superintendent (OT)		\$100.50	\$0.00
Pipefitter/Welder (RT)		\$52.00	\$0.00
Pipefitter/Welder (OT)		\$78.00	\$0.00
Sprinkler Fitter (RT)		\$44.00	\$0.00
Sprinkler Fitter (OT)		\$66.00	\$0.00
Electrician (RT)	36	\$52.00	\$1,872.00
Electrician (OT)	12	\$78.00	\$936.00
Apprentice/Helper (RT)		\$37.00	\$0.00
Apprentice/Helper (OT)		\$55.50	\$0.00
Expediter/Delivery (RT)		\$29.00	\$0.00
Expediter/Delivery (OT)		\$43.50	\$0.00

Equipment	Qty (hrs)	Rate/Hr	Extended
Welder		\$15.00	\$0.00
Power Threader		\$10.00	\$0.00
Mini/Midi Hammer		\$10.00	\$0.00
Variable Reach Forklift		\$27.00	\$0.00
Pickup Truck		\$15.00	\$0.00
Scissor Lift		\$19.00	\$0.00
Skid Steer		\$25.00	\$0.00
Boom Man Lift		\$29.00	\$0.00
Cat 420D Backhoe		\$34.00	\$0.00
Street Plate		\$7.00	\$0.00

Materials & Subcontractors		
Wilder Pump (rate sheet attached) - 2 weeks		\$25,180.00
Fuel - estimated 7,500 gallons @ \$3/gallon		\$22,500.00
Fuel Tank Rental		\$750.00
Markup on Material & Subcontractors	10.00%	\$4,843.00

TOTAL ESTIMATE \$56,981.00



November 12, 2018

Bill of Materials and Labor

Qty	Tag/Loop	Description
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MR Systems, Inc. is pleased to offer our services for the Overall Creek Pumps Station Upgrade Project for Murfreesboro, TN Water and Sewer Department.

Scope of Work:

- Controls
 - New Control Panel Subpanel
 - PLC & OIT Integration including:
 - VFDs
 - Soft Starts
 - Bubbler
 - Station Operation (per provided Control Narrative)
- Communication
 - Mission Unit - Cellular
- Instrumentation
- Meetings & Training

Control Panel Modifications

1	OCPS PLC	<p>Pump Station Building - Electrical Room PLC Enclosure: Existing (subpanel replacement only) Assumed Size: 48"H x 30"W x 12"D PLC Manufacturer & Model: AB CompactLogix A-B CompactLogix #1769-L30ER A-B CompactLogix #1769-PA4 A-B CompactLogix #1769-IA16 A-B CompactLogix #1769-OA16 A-B CompactLogix #1769-IF4I A-B CompactLogix #1769-SDN A-B CompactLogix #1769-ECR Communications: Mission Cellular RTU Mission Cellular RTU M803 - Mission RTU RF416C - Mission Antenna Cable Extension SP800-12 - Mission Service Package - 1 year</p> <p>Operator Interface Terminal PanelView Plus 7 Standard Terminal, Touch Screen, 10.4 inches, Ethernet, 24V DC, Windows CE, Standard</p> <p>Ethernet Switch Managed, 8 Fast Ethernet Copper Ports, 2 Fast Ethernet Combo Ports, Full Software Protection AC Power Protection: Included UPS System: Online UPS Included Digital I/O Surge Protection: As able to fit subpanel Analog I/O Surge Protection: As able to fit subpanel</p> <p>Misc. AC Utility Power Outlet: GFI Outlet as able to fit subpanel Panel Door Intrusion Switch: Included</p>
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Customer: Murfreesboro, TN
 Project: Overall Creek Pump Station Upgrades
 MR Quote #:Q18-5624, Rev. 1



November 12, 2018

Bill of Materials and Labor

Qty	Tag/Loop	Description
		Utility Light(s): LED Fixture Included
		Instrumentation
1	Bubbler	2.08 Bubbler Level System Gorman-Rupp Air Pumps Endress-Hauser PMC71 Pressure Transmitter Malema Flow Switch Misc tubing, check valves, etc. Per Drawing I1.0
1	LE/LIT	2.07 Backup Ultrasonic Level Transmitter Endress and Hauser - Prosonic S FMU90/FDU91
		Integretion
		Control Panel Instrumentation VFDs (Note: VFDs will be procured and installed by John Bouchard and Sons.) Soft Starts
1		Spare Parts
		A-B CompactLogix #1769-L30ER A-B CompactLogix #1784-SD1 A-B CompactLogix #1769-IA16 A-B CompactLogix #1769-OA16 A-B CompactLogix #1769-IF4I A-B CompactLogix #1769-SDN A-B CompactLogix #1769-PA4 A-B 1606-XLSDNET4 Power Supply Lot of Fuses Interposing Relays AC Power Surge Protector Phoenix Contact Analog Surge Protector E+H Prosonic S FMU90 E+H Cerabar S PMC71 Gorman-Rupp 26813-007 (2)

Customer: Murfreesboro, TN
 Project: Overall Creek Pump Station Upgrades
 MR Quote #:Q18-5624, Rev. 1



November 12, 2018

Bill of Materials and Labor

Qty	Tag/Loop	Description
		Project Labor
One Lot		Project Engineering, Electrical Design, Mechanical Design, Drafting & Administrative Labor (including Travel & Living expenses) as required to perform final system design and to prepare Submittals and Record Drawings as required by the Contract Documents.
One Lot		HMI Software Applications Development & Graphics Design Labor (including Travel & Living expenses) as required by the Contract Documents.
One Lot		PLC Control Strategy Design & Programming Labor (including Travel & Living expenses) to be performed as required by the Contract Documents.
One Lot		Field Service (including Travel & Living expenses) to provide installation supervision calibrations, startup, training, etc. as required by the Contract Documents. <i>This line intentionally left blank.</i>
1 Year		Onsite Comprehensive Warranty (including Travel & Living expenses)
One Lot		Freight
		Subtotal of Labor and Materials: \$105,796
		State Sales Tax - NOT INCLUDED: \$
		Total Project Cost: \$105,796

General Notes:

- A *** Sales Representation ***
 David Foster, P.E., of MR Systems, Inc. is the local Sales Contact. David may be reached at 678-325-2828 (Office) or 770-519-1293 (Cell).

- B *** Technical Questions ***
 For technical or scope of supply questions contact Dave Foster, P.E., of MR Systems, Inc. David may be reached at 678-325-2828 (Office) or 770-519-1293 (Cell).

- C *** Installation of Conduit and Wire ***
 This quotation **DOES NOT INCLUDE** the supply or physical installation of conduit or wire unless specifically noted above.

- D *** Equipment Installation ***
 This quotation **DOES NOT INCLUDE** physical installation of field instruments, pipe, tubing, fittings, isolation valves, instrument stands, instrument mounts, control panels, antennas, masts, wooden poles, or other devices or other equipment unless specifically noted above.

Customer: Murfreesboro, TN
 Project: Overall Creek Pump Station Upgrades
 MR Quote #:Q18-5624, Rev. 1



November 12, 2018

Bill of Materials and Labor

Qty	Tag/Loop	Description
E	* Wiring Terminations *	This quotation INCLUDES the termination of field wiring to field instruments, control panels, RTU panels, and/or other devices supplied under this scope of supply. Terminations of wiring to equipment supplied by Others are excluded unless specifically noted above.
F	* Fiber Optics Cable *	This quotation DOES NOT INCLUDE the supply or physical installation of Fiber Optic Cable.
G	* Fiber Optic Cable Termination *	This quotation DOES NOT INCLUDE termination or testing of fiber optics cable.
H	* Coaxial Cable Installation *	This quotation DOES NOT INCLUDE the physical installation of coaxial cable or other related components.
I	* Installation of Communications Towers or Poles *	This quotation DOES NOT INCLUDE the supply or physical installation of Communication Towers or Poles.
J	* Contractor License Information *	MR Systems' Tennessee Electrical Contractors License Number is 00057223 (Unlimited).
K	Intentionally left blank	
L	* Terms and Conditions *	MR Systems, Inc. General Terms & Conditions of Sale apply to any order resulting from this quotation. Please refer to the link provided below for a copy of our General Terms and Conditions of Sale. https://www.mrsystems.com/sellersterms/

Revision Notes:

- Rev. 0 Budgetary Pricing - 2018-05-09 - DBF
- Rev. 1 Revised per SSR plans & specs - 2018-11-09 - DBF

5/21/2020

Project Costs Summary

Item	OPPC	Approved "As Bid" Project Costs	Additional Costs	Revised Project Costs	Comments
John Bouchard & Sons					
Electrical Upgrades	\$ 125,000.00	\$ 135,966.50	\$ -	\$ 135,966.50	Cost includes overtime to reduce bypass pumping time
HVAC Upgrades	\$ 20,000.00	\$ 15,517.00	\$ -	\$ 15,517.00	
Bypass Pumping	\$ 20,000.00	\$ 56,981.00	\$ -	\$ 56,981.00	Cost is worst-case and does not consider overtime above to reduce bypass costs
Subtotal	\$ 165,000.00	\$ 208,464.50	\$ -	\$ 208,464.50	
MR Systems					
I&C and Integration	\$ 110,000.00	\$ 105,796.00	\$ -	\$ 105,796.00	
Additional Control Panel Upgrades	\$ -		\$ 56,987.00	\$ 56,987.00	MR Systems quote on 04/22/2020
Subtotal	\$ 110,000.00	\$ 105,796.00	\$ -	\$ 105,796.00	
JBS and MR Total (Original Scope)	\$ 275,000.00	\$ 314,260.50	\$ 56,987.00	\$ 371,247.50	
Scope Additions					
Check Valves Replacements	\$ -	\$ 15,705.00	\$ -	\$ 15,705.00	Scope addition approved by MWRD on 08/20/18
Permanent Bypass Connection	\$ -	\$ 11,076.56	\$ -	\$ 11,076.56	Scope addition approved by MWRD on 08/20/18
Allowance for Alternate VFD Manufacturer	\$ -	\$ 10,000.00	\$ -	\$ 10,000.00	Scope addition approved by MWRD on 11/08/18
Soft Starters Replacement	\$ -	\$ -	\$ 102,248.90	\$ 102,248.90	JBS quote on 03/31/2020
Subtotal	\$ 0.00	\$ 36,781.56	\$ 102,248.90	\$ 139,030.46	
SSR Engineering Services					
SSR Task Order Engineering Fees	\$ 35,000.00	\$ 34,650.00		\$ 34,650.00	
Add Services No. 1	\$ -	\$ -	\$ 4,545.00	\$ 4,545.00	Add services approved by MWRD on 08/20/18
Add Services No. 2	\$ -	\$ -	\$ 9,900.00	\$ 9,900.00	
Subtotal	\$ 35,000.00	\$ 34,650.00	\$ 14,445.00	\$ 49,095.00	
Total (Final Scope)	\$ 310,000.00	\$ 385,692.06	\$ 173,680.90	\$ 559,372.96	

Change No. 1 Register

Project Title:	Overall Creek Pump Station Upgrades
Client:	Murfreesboro Water Resources Department
Project Number:	1841009.0
Project Manager:	Brent Fowler

CHANGE REGISTER														
No.	Change Task Description	Change Task Estimated Maximum Hours and Rates								Maximum Cost of Change	Schedule Impact	Date(s) Task Requested	Date(s) Task Authorized	Date(s) Task Performed
		PM II	PM II	SENG II	SD II	SD II	ENG II	EI	ADM					
		MLB	BDF	BH	BRN	DWN	LGW	TH	DCH					
		\$ 190.00	\$ 175.00	\$ 155.00	\$ 130.00	\$ 130.00	\$ 125.00	\$ 85.00	\$ 70.00					
1.	Replace 2 Val-Matic Series 7800AC (air-cushioned) swing check valves (1 per pair of series operated pumps). Provide drawings and valve specs on drawing. Add to OPCC.		2		1					\$ 480.00	None	8/16/2018	8/20/2018	8/27/2018
2.	Add bypass pump connection in flow meter vault; drawings, specs on drawings, and add to OPCC.		2		4					\$ 870.00	None	8/16/2018	8/20/2018	8/27/2018
3.	Structural analysis and add 4-ft hatch in wetwell top slab; drawings, specs on drawings, add to OPCC.		1	16	4					\$ 3,175.00	None	8/16/2018	8/20/2018	8/27/2018
										\$ -				
	TOTAL	0.00	5.00	16.00	9.00	0.00	0.00	0.00	0.00	\$ 4,525.00				

Change No. 2 Register

Project Title:	Overall Creek Pump Station Upgrades
Client:	Murfreesboro Water Resources Department
Project Number:	1841009.0
Project Manager:	Brent Fowler

CHANGE REGISTER														
No.	Change Task Description	Change Task Estimated Maximum Hours and Rates							Maximum Cost of Change	Schedule Impact	Date(s) Task Requested	Date(s) Task Authorized	Date(s) Task Performed	
		PRINC MLB	SR PM BDF	ENG III BH	SD II BRN	ENG IV MV	ENG I KDM	ENG IV TH						ADM DCH
		\$ 205.00	\$ 180.00	\$ 160.00	\$ 140.00	\$ 180.00	\$ 120.00	\$ 180.00						\$ 75.00
1.	Revise control panel modifications to meet future expansion. Review revised MR Systems pricing and submittal information. Coordination of pricing with MRS and MWRD. Coordinate pump thermistor wiring with JBS and MRS.		10					12		\$ 3,960.00	None	2/13/2020		2/18/2020 - ongoing
2.	Revise level control instrumentation from bubbler sytem /ultrasonic backup to radar sensor. Provide specifications to MR for pricing and analyze. Provide installation details to JBS and analyze price change.		2					5		\$ 1,260.00	None	2/13/2020		2/18/2020
3.	Add new bypass soft starters. Existing starters failed and spare parts are obsolete. Investigate soft starter will fit in available space and coordinate size. Provide specifications and request and analyze Bourchard pricing. Review of submittal and coordination of necessary changes with Allen Bradley VFDs and JBS. Coordination of revised pricing with MWRD.		10			10		6		\$ 4,680.00	None	2/13/2020		2/27/2020 - ongoing
TOTAL		0.00	22.00	0.00	0.00	10.00	0.00	23.00	0.00	\$ 9,900.00				

JOHN BOUCHARD & SONS Co.

CONSTRUCTION SERVICES DIVISION
DIVISION
MECHANICAL CONTRACTING
BOUCHARD FIRE PROTECTION
ELECTRICAL CONTRACTING



INDUSTRIAL DISTRIBUTION
PUMPING SYSTEMS
AIR COMPRESSORS
INDUSTRIAL SALES

MACHINE SERVICES DIVISION
REPAIR / FABRICATION / SHOP SERVICES

FOUNDRY DIVISION
IRON CONSTRUCTION CASTINGS

March 31, 2020

Re. Overall Creek PS New Soft Starts

We are pleased to offer a bid for the following scope of work; this bid is based on the plans and specifications as issued, up through and including no Addendum's.

Electrical Scope of Work

- Remove (4) existing soft starts.
- Provide and install (4) new soft starts.
- Replace line side wiring if necessary.
- Rework control wiring as needed.
- Dispose of existing soft starts per owner's direction.

Electrical Exclusions of Work

- Bid Bond
- Working Sundays
- Expediting of materials

Cost for the above; See Murfreesboro Service Contract Rate Sheet – 2018 (Overall Creek PS Upgrades Base Bid.

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

We appreciate the opportunity to provide this bid, please advise if you have any questions.

State of Tennessee Contractors License

ID Number: 00000319

Lic Status: Active

Expiration Date: 01/31/2021

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

Sincerely,

Jesse Sutphin

Electrical Estimator / Project Manager

Jesse.Sutphin@jbouchard.com

Office: 615-256-0112

Direct: 615-690-0176

Cell: 615-405-4413

Fax: 615-256-2427

Murfreesboro Service Contract Rate Sheet - 2018

Overall Creek PS Soft Start Installation 3/31/2020

Description	Qty (hrs)	Rate	Extended
Project Mgr (RT)	14	\$75.00	\$1,050.00
Project Mgr (OT)		\$110.00	\$0.00
Superintendent (RT)	10	\$67.00	\$670.00
Superintendent (OT)		\$100.50	\$0.00
Pipefitter/Welder (RT)		\$52.00	\$0.00
Pipefitter/Welder (OT)		\$78.00	\$0.00
Sprinkler Fitter (RT)		\$44.00	\$0.00
Sprinkler Fitter (OT)		\$66.00	\$0.00
Electrician (RT)	168	\$52.00	\$8,736.00
Electrician (OT)	84	\$78.00	\$6,552.00
Apprentice/Helper (RT)	56	\$37.00	\$2,072.00
Apprentice/Helper (OT)	28	\$55.50	\$1,554.00
Expediter/Delivery (RT)		\$29.00	\$0.00
Expediter/Delivery (OT)		\$43.50	\$0.00
Machine Shop Millwright (RT)		\$60.00	\$0.00
Machine Shop Millwright (OT)		\$90.00	\$0.00
HVAC/Plb Service Tech (RT)		\$66.00	\$0.00
HVAC/Plb Service Tech (OT)		\$99.00	\$0.00
Air Compressor Tech (RT)		\$66.00	\$0.00
Air Compressor Tech (OT)		\$99.00	\$0.00
Laborer - Skilled (RT)		\$32.00	\$0.00
Laborer - Skilled (OT)		\$48.00	\$0.00
Laborer - Unskilled (RT)		\$23.00	\$0.00
Laborer - Unskilled (OT)		\$34.50	\$0.00

Equipment	Qty (hrs)	Rate/Hr	Extended
Welder		\$15.00	\$0.00
Power Threader		\$10.00	\$0.00
Mini/Midi Hammer		\$10.00	\$0.00
Variable Reach Forklift	55	\$27.00	\$1,485.00
Pickup Truck	252	\$15.00	\$3,780.00
Scissor Lift		\$19.00	\$0.00
Skid Steer		\$25.00	\$0.00
Boom Man Lift		\$29.00	\$0.00
Cat 420D Backhoe		\$34.00	\$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		N/A	
15 ton Boom Truck*		\$115.00	\$0.00
30-50 Ton RT Crane*		N/A	
80 Ton Crawler Crane*		N/A	
3" Submersible Pump		\$12.00	\$0.00
6" Hydraulic Pump		\$17.00	\$0.00

Materials & Subcontractors		
Materials		\$4,465.00
Irby soft starts		\$56,044.00
Irby Startup		\$6,400.00
Irby estimated shipping		\$2,500.00
Markup on Material & Subcontractors	10.00%	\$6,940.90

TOTAL ESTIMATE \$102,248.90



April 22, 2020

Bill of Materials and Labor

Qty	Tag/Loop	Description
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MR Systems, Inc. is pleased to offer our services for the Overall Creek Pumps Station Upgrade Project for Murfreesboro, TN Water and Sewer Department.

Scope of Work

Owner Requested Changes to original scope for sub panel at OCPS PLC Includes:

- Replace originally specified Compact Logix with Control Logix
- Add second Stratix Ethernet Switch for additional pumps
- Incorporate additional hardware/software changes as noted in most recent Control Narrative
- All necessary design work to implement the changes in this scope

OCPS PLC

Pump Station Building - Electrical Room PLC (subpanel replacement only)

		Remove A-B Compact Logix PLC from scope
		Add A-B Control Logix PLC to scope
1		A-B Control Logix #1756-A10 10-slot Chassis
1		A-B Control Logix #1756-L85E CPU
4		A-B Control Logix #1756-IA16 Digital Input Module 16 point
1		A-B Control Logix #1756-IF8H Analog Input Module 8 channel
2		A-B Control Logix #1756-OA16 Digital Output Module 16point
1		A-B Control Logix #1756-PA72 Power Supply
1		A-B Control Logix #1756-TBCH Wiring Arm
6		A-B Control Logix #1756-TBNH Wiring Arm

Notes:

- [Verify L85E CPU is necessary](#)
- [10 slot rack required for additional I/O to add 4 pumps](#)

UPS

Upgrade UPS to APC SMT2200C

1		Replace SMT1500C with SMT2200C
---	--	--------------------------------

RT-RTD

Supply Specified RTD & Cable from SSR Submittal Review

1		TURCK Miniature Temperature Transmitter and Cordset
---	--	---

SWITCH

Provide Second Stratix Switch to match designed

1		Stratix 5700 w/10 Ethernet ports
---	--	----------------------------------

HW/SW

Incorporate Additional Hardware / Software as noted in most recent Control Narrative and upcoming discussions.

1		- Incorporate future pumps 5-8 (VFD & Bypass Soft Start)
		- Incorporate RTD as stated above
		- Additional relays, wiring, programming for auto transfer when in generator mode

Notes:

[HW/SW is a budgetary estimate for review purposes using high level information only. A final cost will be determined once there is a specific list provided to MR Systems after SSR and Murfreesboro review.](#)

[DeviceNet is no longer to be used. With the removal of Device Net there is no I/O for signals from VFD's or Soft Starters. Final I/O requirements will need to be discussed as a difference may change the scope of work in this quotation.](#)

Customer: Murfreesboro, TN
 Project: Overall Creek PS Upgrades CO
 MR Quote #: Q20-7497, Rev. CO Budgetary



April 22, 2020

Bill of Materials and Labor

Qty	Tag/Loop	Description
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Panel real estate is at a premium. Assuming all of the above items are integrated there will most likely be a need to provide sub panels on the sides of the panel.

All work in this scope is assumed to be performed as part of the subpanel project. Any future work to aid in startup or additional modifications to the additional pumps would be quoted separately.

Project Labor

One Lot		Project Engineering, Electrical Design, Mechanical Design, Drafting & Administrative Labor (including Travel & Living expenses) as required to perform final system design as noted in this document.
N/A		This line intentionally left blank
One Lot		PLC Control Strategy Design & Programming Labor (including Travel & Living expenses if necessary) to be performed as noted in this document.
One Lot		Field Service (including Travel & Living expenses) to provide installation supervision calibrations, startup, training, etc. as noted in this document.
N/A		This line intentionally left blank
1 Year		Onsite Comprehensive Warranty (including Travel & Living expenses)
One Lot		Freight

Subtotal of Labor and Materials: \$56,987

State Sales Tax - NOT INCLUDED: \$

Total Project Cost: \$56,987

General Notes:

- A *** Sales Representation ***
 David Foster, P.E., of MR Systems, Inc. is the local Sales Contact. David may be reached at 678-325-2828 (Office) or 770-519-1293 (Cell).
- B *** Technical Questions ***



April 22, 2020

Bill of Materials and Labor

Qty	Tag/Loop	Description
		For technical or scope of supply questions contact Dan Sheehy, of MR Systems, Inc. Dan may be reached at 678-325-2844 (Office) or 704-467-0303 (Cell).
C	* Installation of Conduit and Wire *	This quotation DOES NOT INCLUDE the supply or physical installation of conduit or wire unless specifically noted above.
D	* Equipment Installation *	This quotation DOES NOT INCLUDE physical installation of field instruments, pipe, tubing, fittings, isolation valves, instrument stands, instrument mounts, control panels, antennas, masts, wooden poles, or other devices or other equipment unless specifically noted above.
E	* Wiring Terminations *	This quotation INCLUDES the termination of field wiring to field instruments, control panels, RTU panels, and/or other devices supplied under this scope of supply. Terminations of wiring to equipment supplied by Others are excluded unless specifically noted above.
F	* Fiber Optics Cable *	This quotation DOES NOT INCLUDE the supply or physical installation of Fiber Optic Cable.
G	* Fiber Optic Cable Termination *	This quotation DOES NOT INCLUDE termination or testing of fiber optics cable.
H	* Coaxial Cable Installation *	This quotation DOES NOT INCLUDE the physical installation of coaxial cable or other related components.
I	* Installation of Communications Towers or Poles *	This quotation DOES NOT INCLUDE the supply or physical installation of Communication Towers or Poles.
J	* Contractor License Information *	MR Systems' Tennessee Electrical Contractors License Number is 00057223 (Unlimited).
K	Intentionally left blank	
L	* Terms and Conditions *	MR Systems, Inc. General Terms & Conditions of Sale apply to any order resulting from this quotation. Please refer to the link provided below for a copy of our General Terms and Conditions of Sale. https://www.mrsystems.com/sellersterms/

Revision Notes:

Rev. 0 First Issue - 2020-04-22 - DAS



WATER RESOURCES

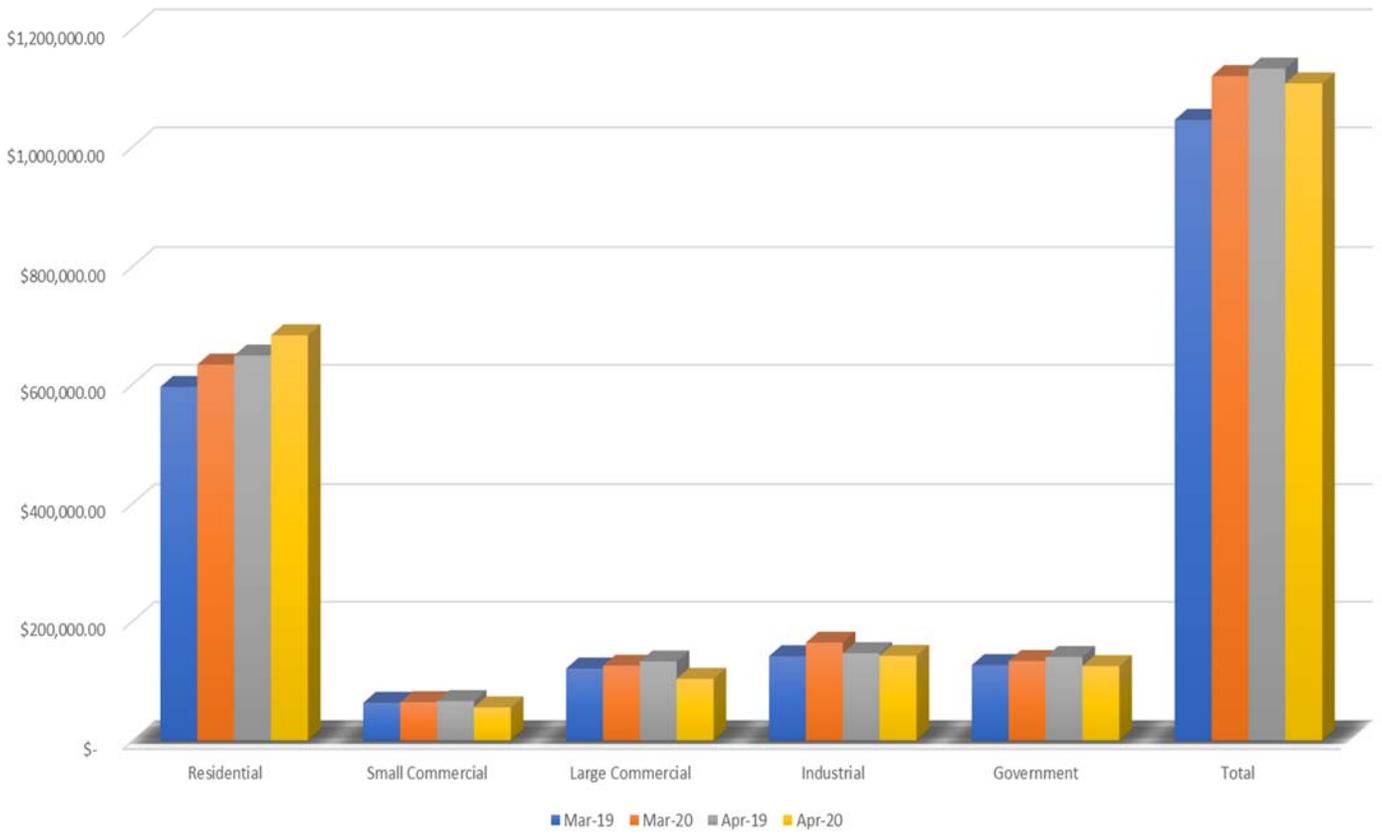
DASHBOARD PERFORMANCE

April 2020



Water Revenue Comparison March/April 2019 vs 2020

April 2020 vs April 2019 down 2%
April 2020 vs March 2020 down 1%



MWRD FY2020-2024 CIP

NO.	PROJECT	2019-2020 2019	2020-2021 2020 Issue	2021-2022 2021 Issue	2022-2023 2022 Issue	2023-2024 2023 Issue	TOTAL
	Construction- Northeast Regional PS & Force Main						\$0
	Overall Creek PS & Force Main Upgrade						\$0
	Construction- Biosolids Processing Equipment						\$0
	TOTAL Capital Improvements funded from Debt Service	\$0	\$0	\$0	\$0	\$0	\$0

NO.	PROJECT	2019-2020 2020 FY	2020-2021 2021 FY	2021-2022 2022 FY	2022-2023 2023 FY	2023-2024 2024 FY	TOTAL
	Sewer rehab- Account 335	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$5,000,000
	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
	Biolsolids Processing Equip & Storage Sinking Fund	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$2,500,000
	Walter Hill Dam Repair/Remediation Sinking Fund	\$125,000	\$125,000	\$125,000	\$125,000	\$125,000	\$625,000
	Lift Station Replacement Sinking Fund	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$1,250,000
	NE Regional PS & FM Sinking Fund	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$2,500,000
	GAC Replacement	\$125,000	\$125,000	\$125,000	\$125,000	\$125,000	\$625,000
	High Service Pumps & Membrane Pump Improv.		\$1,000,000				\$1,000,000
	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	\$5,135,000	\$6,135,000	\$5,135,000	\$5,135,000	\$5,135,000	\$26,675,000

NO.	PROJECT	2019-2020 2020 FY	2020-2021 2021 FY	2021-2022 2022 FY	2022-2023 2023 FY	2023-2024 2024 FY	TOTAL
	W&S CAPITAL IMPROVEMENT PROJECTS						
	Misc FY20 Working Reserve Commitments	\$1,850,000					\$1,850,000
	Biosolids Processing Equipment & Storage Addition	\$1,000,000	\$9,500,000	\$5,500,000			\$16,000,000
	Replace Biosolids Polymer System	\$100,000	\$1,350,000				\$1,450,000
	Overall Creek Pump Station & Force Main Upgrade	\$500,000	\$7,500,000	\$4,300,000			\$12,300,000
	NE Regional Engineering Design	\$500,000	\$1,500,000	\$250,000	\$250,000		\$2,500,000
	NE Regional P.S. & Force Main		\$3,000,000	\$10,000,000	\$7,500,000		\$20,500,000
	Cherry Lane / Sazerac Sanitary Sewer		\$1,000,000	\$1,500,000			\$2,500,000
	SR840 Interchange Area Sanitary Sewer	\$200,000	\$1,100,000	\$1,100,000			\$2,400,000
	Joe B. Jackson Sanitary Sewer	\$50,000	\$750,000				\$800,000
	MWRRF Wet Weather Treatment Train Impr	\$50,000	\$150,000	\$500,000	\$2,500,000	\$2,500,000	\$5,700,000
	Mill Street Painting, Halls Hill and Tiger Hill Tank Repairs	\$1,000,000	\$1,800,000				\$2,800,000
	Replace Pall Membranes					\$650,000	\$650,000
	High Service PS & Membrane Feed Pump Improv.		\$2,500,000				\$2,500,000
	Direct Potable Reuse Demonstration			\$350,000	\$350,000		\$700,000
	Stones River Water Qual Sampling / NPDES Permitting	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$750,000
	Subtotal CAPITAL PROJECTS	\$5,400,000	\$30,300,000	\$23,650,000	\$10,750,000	\$3,300,000	\$73,400,000
	TRANSPORTATION (Water/Sewer Imp.)						
	Bradyville Pike			\$1,500,000	\$1,500,000	\$500,000	\$3,500,000
	Jones Blvd Widening		\$500,000	\$500,000			\$1,000,000
	Cherry Lane Repurified Main Extension (14,600 LF)		\$2,000,000	\$1,000,000			\$3,000,000
	Cherry Lane Sanitary Sewer Construction	\$150,000	\$1,000,000	\$1,500,000			\$2,650,000
	SR 99 Widening- Old Fort to Cason Lane		\$500,000	\$1,000,000			\$1,500,000
	St. Clair St.		\$500,000				\$500,000
	John Rice Blvd & Rucker Lane		\$200,000				\$200,000
	Maney Avenue Reconstruction - Phase 2		\$250,000	\$250,000			\$500,000
	Wilkinson Pike Reconstruction (MCP to TL)		\$650,000	\$650,000			\$1,300,000
	Subtotal TRANSPORTATION PROJECTS	\$150,000	\$5,600,000	\$6,400,000	\$1,500,000	\$500,000	\$14,150,000
	REHABILITATION						
	Sewer Rehabilitation - Maintenance Contract	\$2,770,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$8,770,000
	INFORMATION TECHNOLOGY PROJECTS						
	IT/Computer Systems Hardware Upgrades	\$350,000	\$100,000	\$100,000	\$100,000	\$100,000	\$750,000
	Electronic Content Management (Scanning/Imaging)		\$250,000	\$250,000			\$500,000
	IT Design Services & Consulting	\$100,000	\$100,000	\$100,000			\$300,000
	Comp Maintenance Management System (CMMS)		\$400,000	\$600,000			\$1,000,000
	Subtotal INFORMATION TECHNOLOGY PROJECTS	\$450,000	\$850,000	\$1,050,000	\$100,000	\$100,000	\$2,550,000
	TOTAL Projects from Working Capital Reserves	\$8,770,000	\$38,250,000	\$32,600,000	\$13,850,000	\$5,400,000	\$98,870,000

PROJECTED RESERVE FUND BALANCE REVENUE (TAPS)	\$8,000,000	\$7,500,000	\$7,500,000	\$7,500,000	\$7,500,000
SINKING FUND DEPOSITS TO RESERVES FROM RATES	\$2,375,000	\$3,375,000	\$2,375,000	\$2,375,000	\$2,375,000
SECURED MIN. BALANCE FOR WORKING CAPITAL RESERVES	\$24,331,276	\$24,817,902	\$25,314,260	\$25,820,545	\$26,336,956
PROJECTED WORKING CAPITAL RESERVE BALANCE	\$83,220,668	\$55,845,668	\$33,120,668	\$29,145,668	\$33,620,668
FUNDS ABOVE SECURED MINIMUM BALANCE	\$58,889,392	\$31,027,766	\$7,806,408	\$3,325,123	\$7,283,712

Preliminary *Draft* 5-YR CAPITAL IMPROVEMENTS PLAN (CIP)
STORMWATER UTILITY FUND, FY20.-24

NO.	PROJECT	Originator	2019-2020 2020 FY	2020-2021 2021 FY	2021-2022 2022 FY	2022-2023 2023 FY	2023-2024 2024 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	\$125,000	\$50,000				\$175,000
NP-2	Mitchell-Nielson Drainage Project	City Eng	\$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	\$500,000	\$500,000				\$1,025,000
NP-5	Liberty Dr. / Thatcher Trace Spring Box	City Eng	\$50,000	\$75,000				\$125,000
NP-6	Pennington Drive Drainage Repair/Upgrade (Added)	City Eng						\$0
NP-7	Gateway Pond Repair	Eng/MRSD						\$0
NP-8	Hardwood Drive Drainage Upgrade (Added)	City Eng	\$250,000					\$250,000
NP-9	Pacific Place/Riverrock Blvd Drainage Imp.	City Eng	\$0	\$0				\$0
	Subtotal		\$1,075,000	\$725,000				\$1,875,000
	Water Quality Improvement (Compliance) Projects (WQ)							\$0
WQ-1	Town Creek Bioretention BMP's @ Cannonsburgh	MWRD						\$0
WQ-2	Molloy Lane Water Quality Pond	MWRD	\$25,000	\$125,000	\$75,000			\$225,000
WQ-3	Rosebank Springs Constructed Wetlands	City Eng	\$35,000	\$165,000	\$115,000			\$350,000
WQ-4	Lee's Branch Stream Restoration	City Eng	\$25,000					\$25,000
WQ-5	West Fork Stones River at Cason Trail; bank repair	MWRD	\$140,000					\$180,000
WQ-6	Bear Branch Water Quality Mitigation	City Eng						\$0
WQ-7	Sinking Creek Headwater protection BMP	MWRD/Eng	\$30,000	\$50,000	\$150,000	\$150,000	\$150,000	\$530,000
WQ-8	Todd's Lake Regional Wetlands Improvements	City Eng						\$0
WQ-9	Hooper's Bottom Regional Water Quality Project	City Eng	\$25,000	\$150,000		\$175,000	\$175,000	\$550,000
WQ-10	Lytle Creek/Ridgley Road Bacteriological Reduction (Added)	MWRD	\$15,000	\$75,000	\$25,000			\$125,000
WQ-11	Memorial Blvd/VA Pond Trash Rack (Added)	MWRD						\$0
WQ-12	Spence Creek Restoration	MWRD/Eng	\$25,000	\$25,000	\$25,000			\$100,000
WQ-13	E. Lokey Ave Trash Rack at Sinking Creek	MWRD	\$30,000	\$75,000				\$105,000
WQ-14	Sinking Creek/ Northfield Blvd Commercial Retrofit Study/Project	MWRD	\$25,000	\$50,000	\$100,000			\$185,000
WQ-15	Overall Street retrofit/ bioretention - streetscape	MWRD	\$35,000	\$100,000				\$135,000
WQ-16	Downtown planter box retrofits study/project	MWRD	\$50,000	\$50,000				\$110,000
	Subtotal		\$460,000	\$865,000	\$490,000	\$325,000	\$325,000	\$2,620,000
	Public Drainage/Streets Participation Projects (PD)							\$0
PD-1	Maney Avenue Phase 2	City Eng						\$50,000
PD-2	Town Creek Conveyance (Murfree Springs to Cannonsburgh)	City Eng	\$500,000	\$250,000	\$100,000			\$900,000
PD-3	Maple St. Alley Permeable Paver Project	City Eng						\$0
	Subtotal		\$500,000	\$250,000	\$100,000			\$950,000
	Totals		\$2,035,000	\$ 1,840,000	\$ 590,000	\$ 325,000	\$ 325,000	\$ 5,445,000

EFFECTIVE UTILITY MANAGEMENT
Financial Viability
MWRD WORKING CAPITAL ACCOUNT SUMMARY

ESTIMATED Working Capital at 5/31/20

Board Designated (System Dev, Assessments, etc) as of 6/30/19	\$	34,445,773
Undesignated Excess Funds as of 6/30/19		48,028,398
Estimated Reserve Revenue thru 5/31/20		6,180,624
Estimated Reserve Expenditures thru 5/31/20		(4,892,772)
		83,762,023

COMMITTED Reserves at 4/28/20

Specific Energy Pump Asset Management Software	26,100	
Hazen Sawyer Regulatory Assistance	203,700	
Rucker Lane Widening Sewer Extensions	74,095	
2018/19 Sewer Rehab Change Order #2	79,645	
S&ME - 2020 Sewer Rehab Design	448,000	
Tank Painting (Mill, Tiger, Halls Hill)	1,854,786	
ELI - Thompson Lane Utility Relocation TDOT	140,455	
SSR Task Order - High Service & Membrane Pumps	118,240	
JBS Task Order 19-05 - 3 Aerator Install WRRF	70,047	
Sewer Rehab Change Order #1	150,812	
ADS Temporary Flow Monitoring	69,000	
SEC Engineering Task Order - Salem Hwy Ph 3	17,100	
SSR Task Order Overall Creek PS Upgrade	785,898	
Commercial Painting SRWTP C.O. #1	19,913	
CIA - Cherry Lane Ph2 Utility Design	36,000	
SRWTP Trough Construction Joint Repair	54,519	
ELI - Joe B. Jackson West P.S. and Sewer Design	39,000	
JBS Task Order 19-06 - #5 Raw Water Pump Repair	28,000	
Sanitary Sewer 2019/20 Rehabilitation Contract	1,902,281	
CIS Software Upgrade V4	343,000	
Purchase of Two (2) Aerators at WRRF	38,302	
SSR Task Order - Mill, Tiger, Halls Hill Tank Painting	121,669	
SSR Task Order 201 Facilities Plan	178,818	
Biosolids Thermal Dryer Install (JBS & MR)	107,137	
Overall Creek P.S. Upgrades (VFD's)	275,428	
S&ME - 2019 Sewer Rehab Design	177,169	
WRRF Aerator 2A Gearbox Replacement	130,930	
Biosolids Small-scale Thermal Dryer	216,250	
H-S Blackman Park Sewer Design	180,000	
SEC Jones Blvd Utility Design Proposal	14,225	
Northeast Regional PS & Conv - SSR	1,851,388	
Bradyville Pike Utility Design - Neil-Schaffer	22,710	
Wilkinson Pike Utilities Design	10,190	9,784,807

APPROVAL Requests at 5/26/20

Warrior Dr. Westpoint S/D Watermain Participation	109,477	
Sewer Inspection Software - WinCan	53,138	162,615

BALANCE of Working Capital at 5/26/20 after COMMITMENTS **\$ 73,814,601**

DESIGNATED Projects Pending

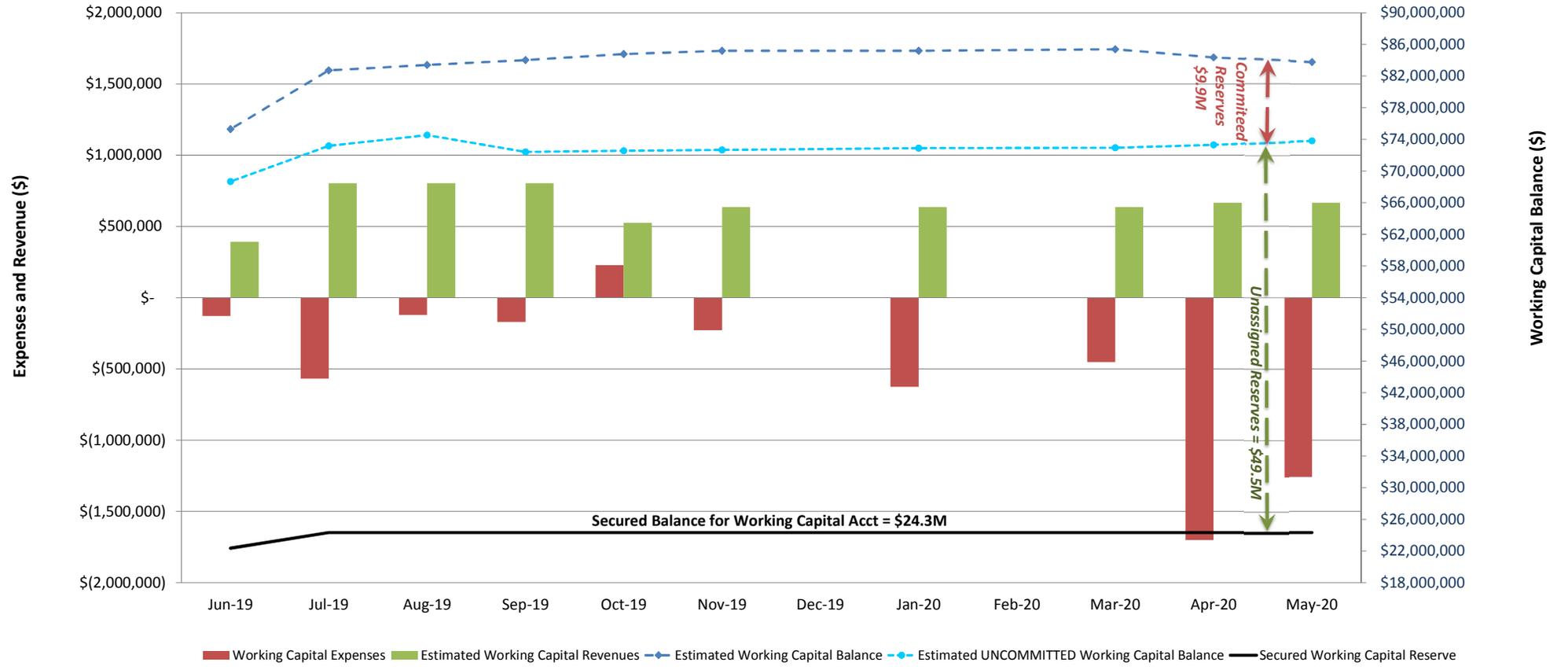
N/A		-
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ESTIMATED UNCOMMITTED Working Capital Reserves as of May 26, 2020 **\$ 73,814,601**

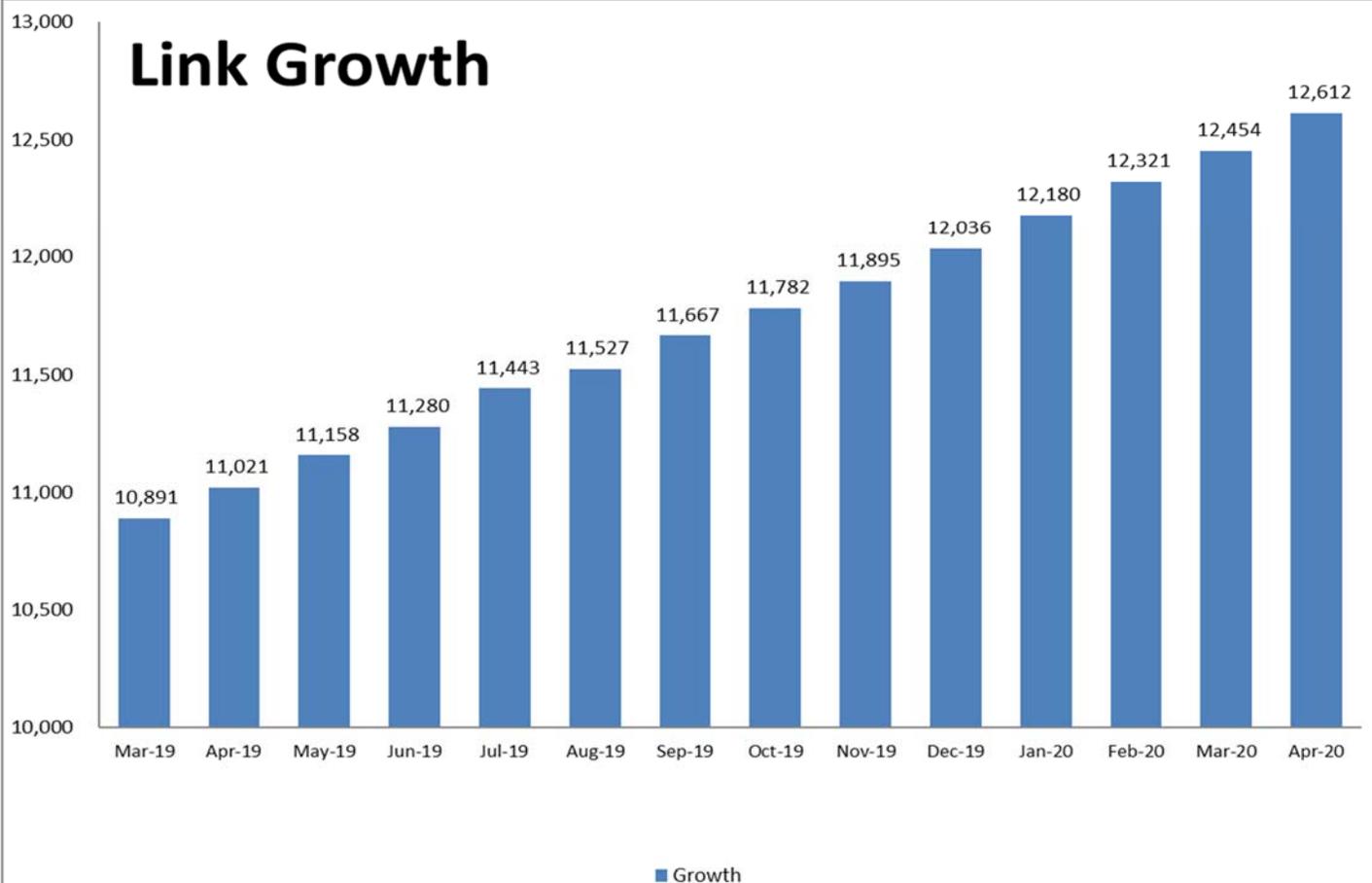
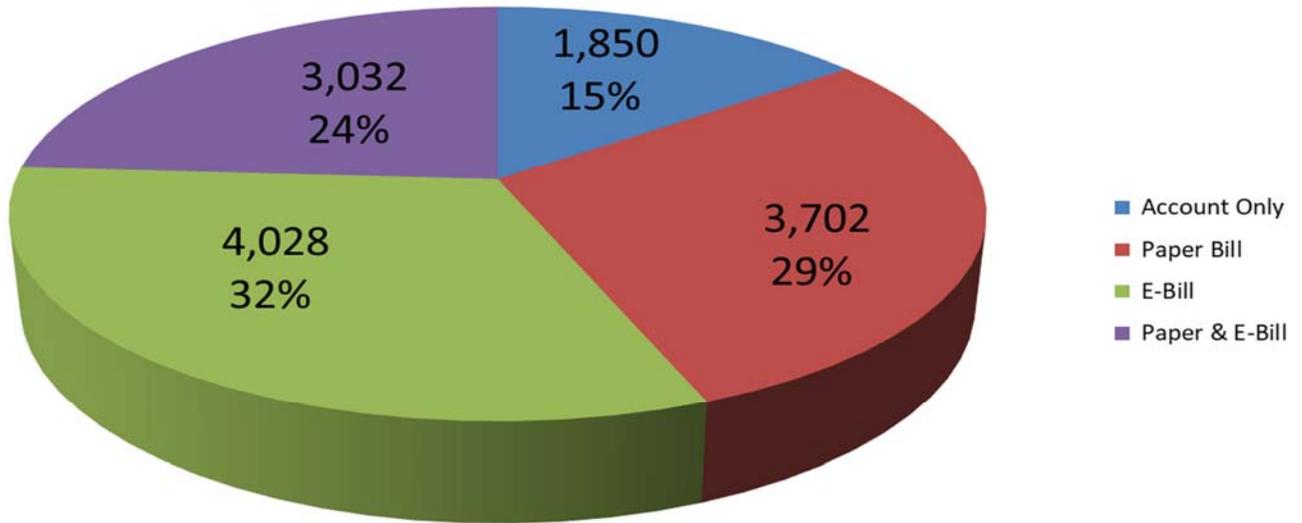
SECURED FY19-20 Operating and Maintenance Expenses **\$ 24,331,276**

UNASSIGNED Working Capital Funds (Est. Uncommitted - Secured) **\$ 49,483,325**

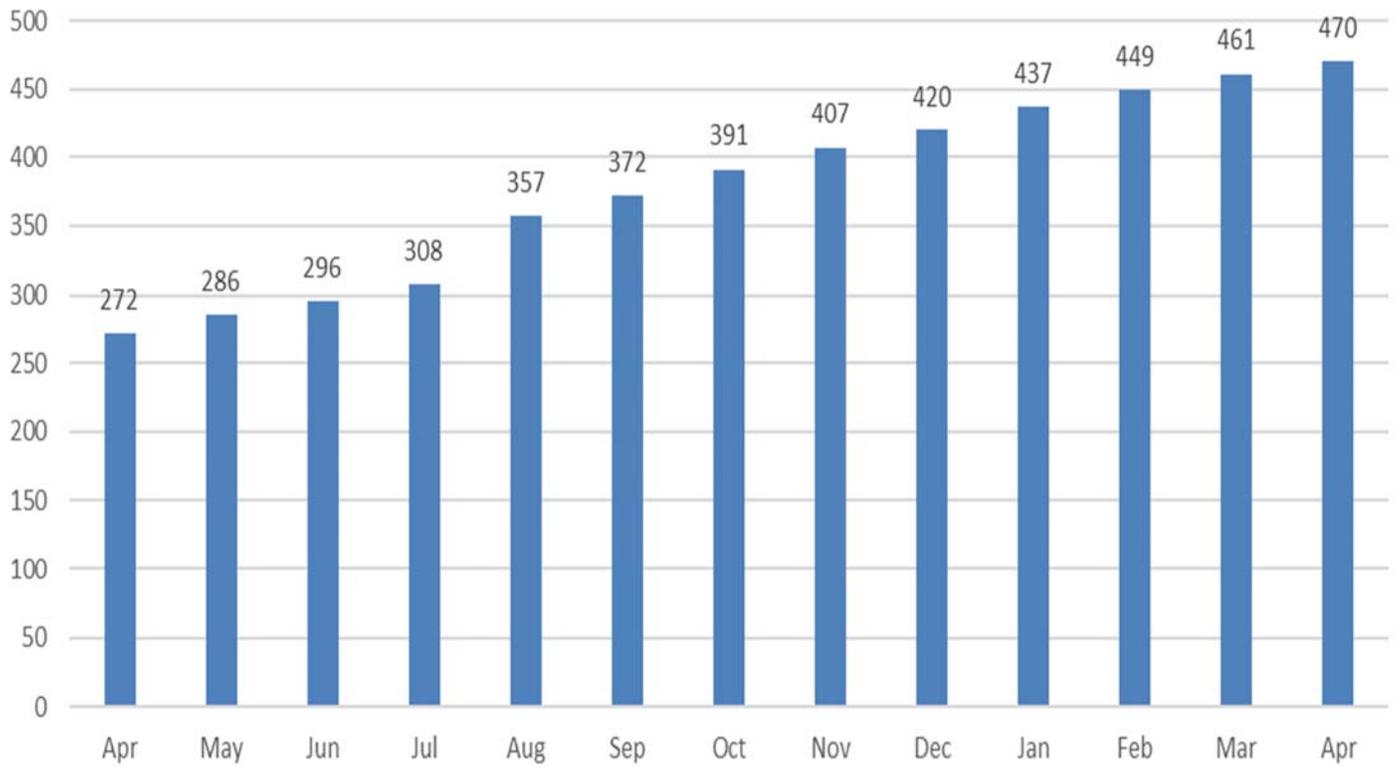
MWRD Working Capital Reserves Dashboard



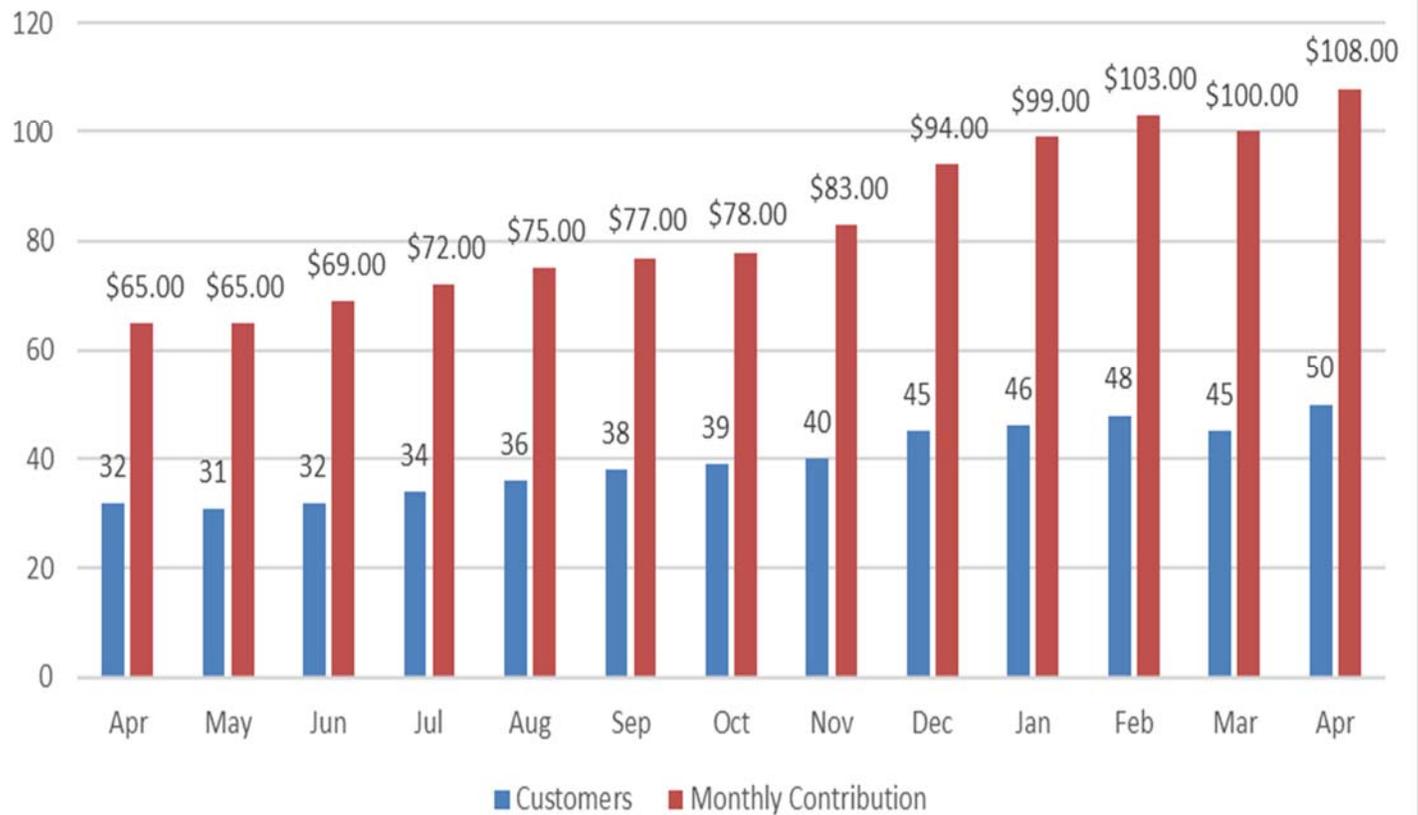
Infinity.Link Customers as of April 2020 = 12,612



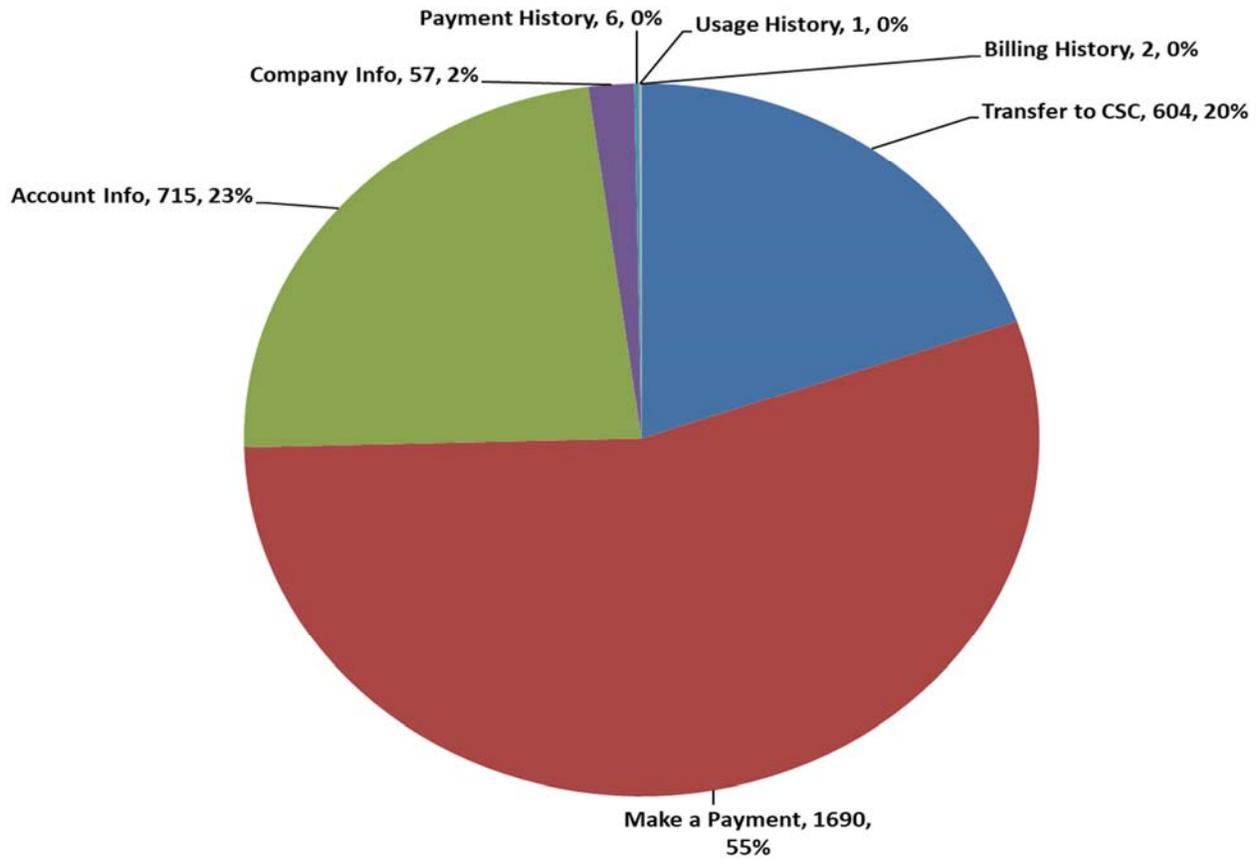
AMI Customer Portal Users



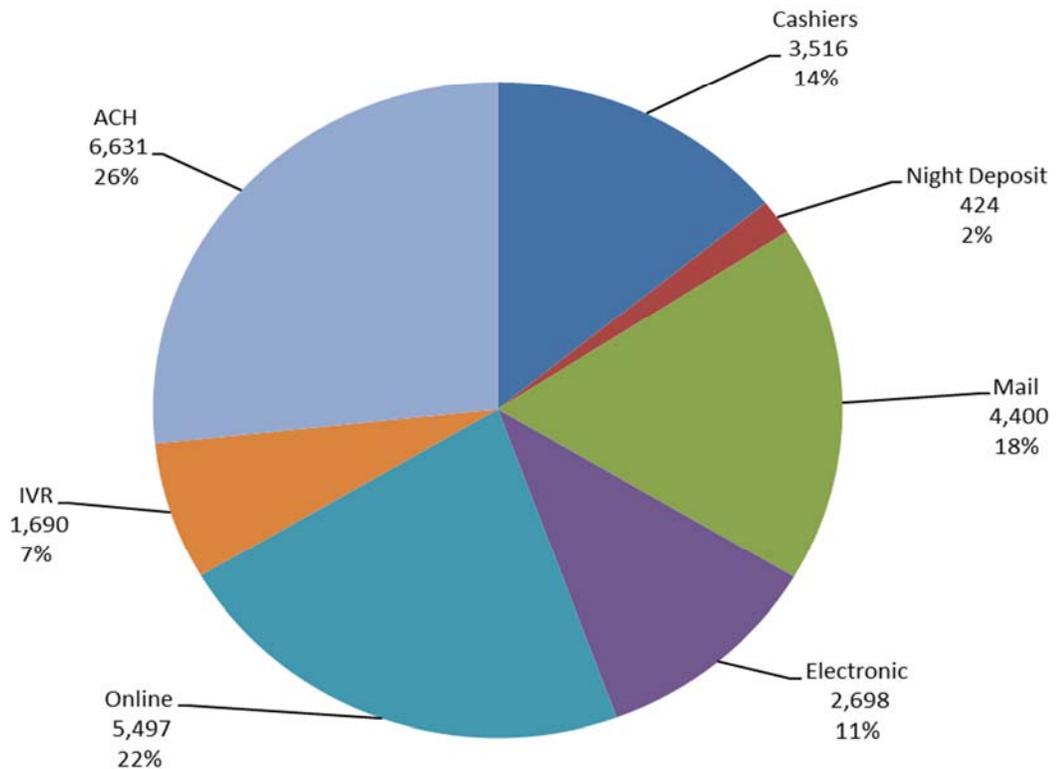
H₂O Users & Monthly Contributions



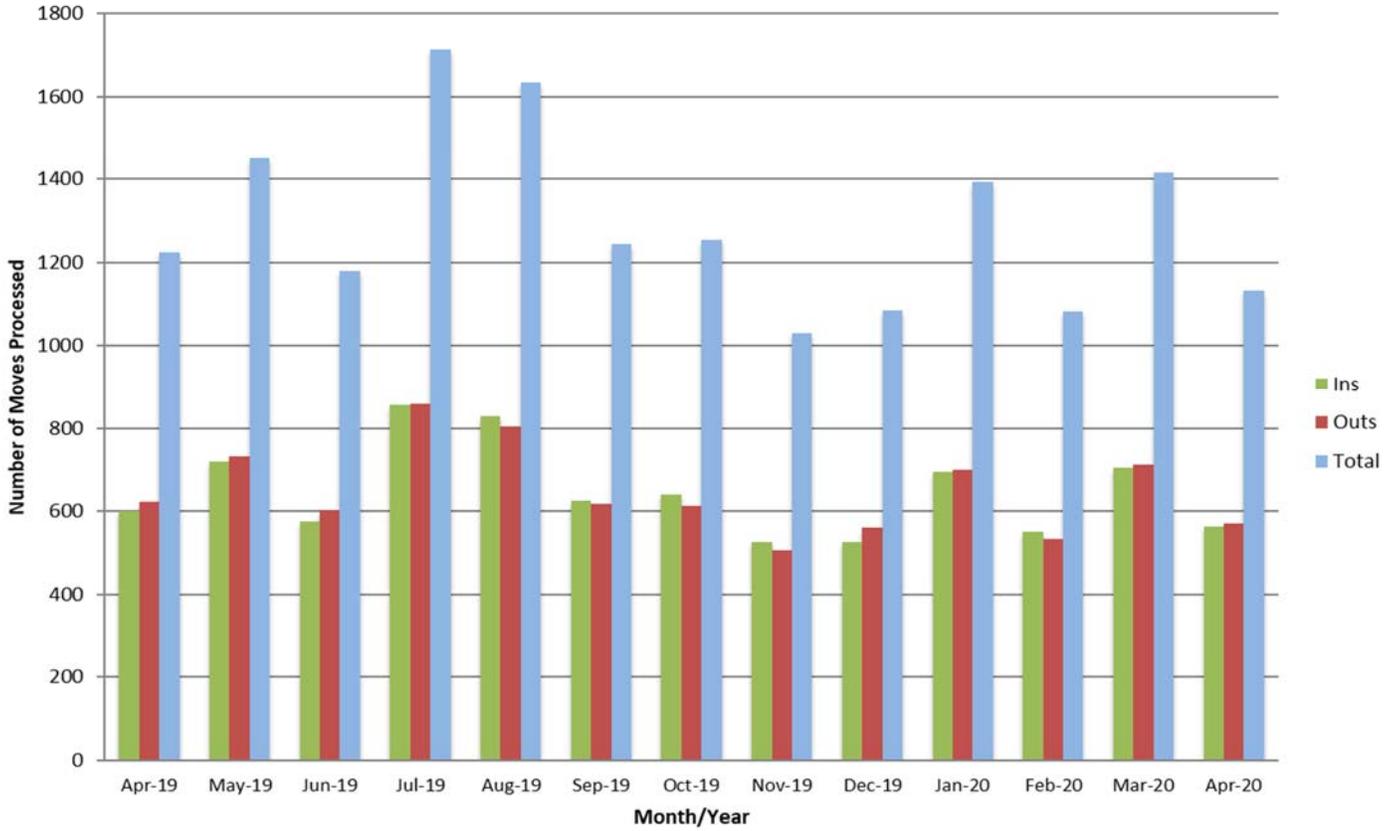
IVR Calls From 04/01-04/30/20 = 3,075



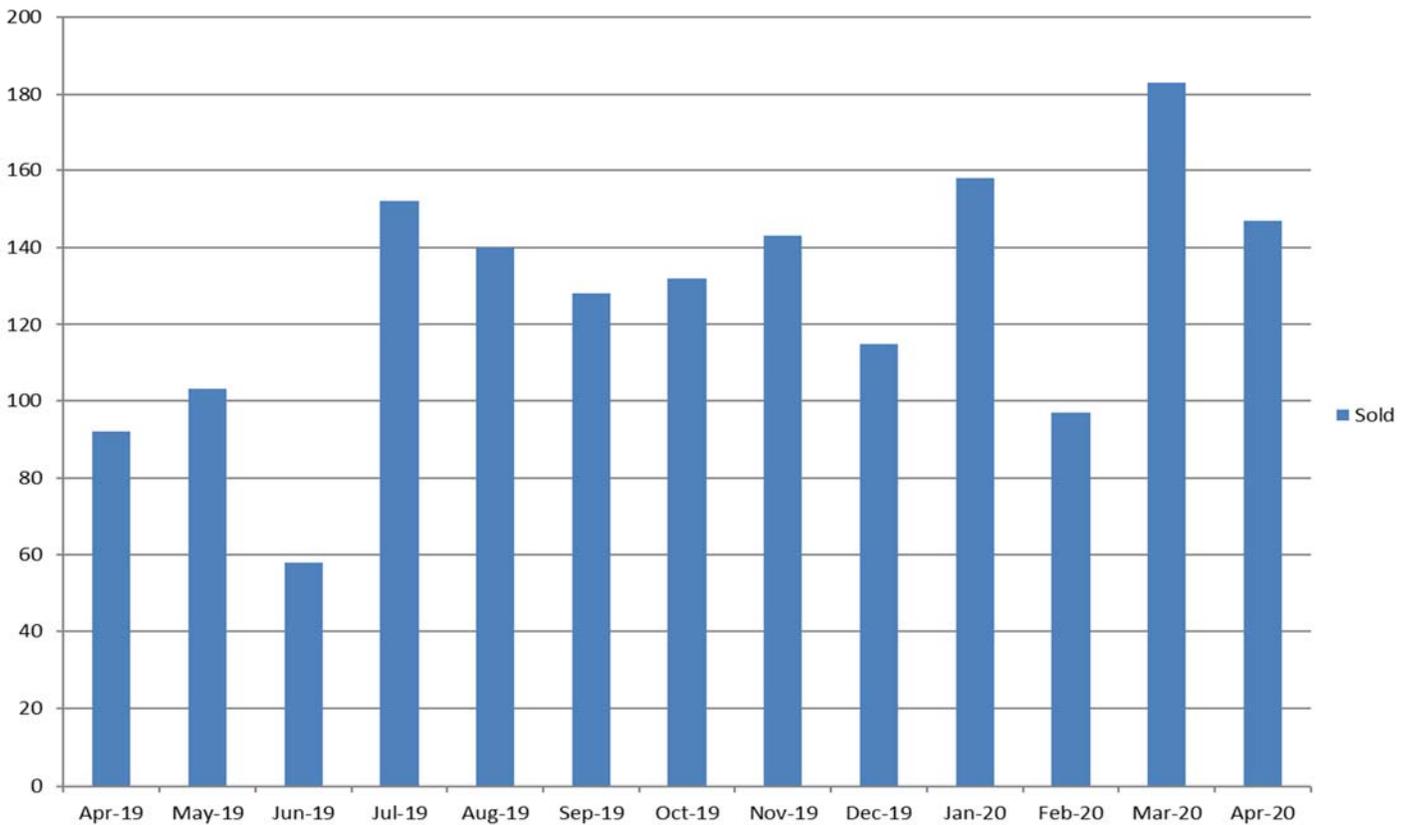
April 2020 Payments by Type



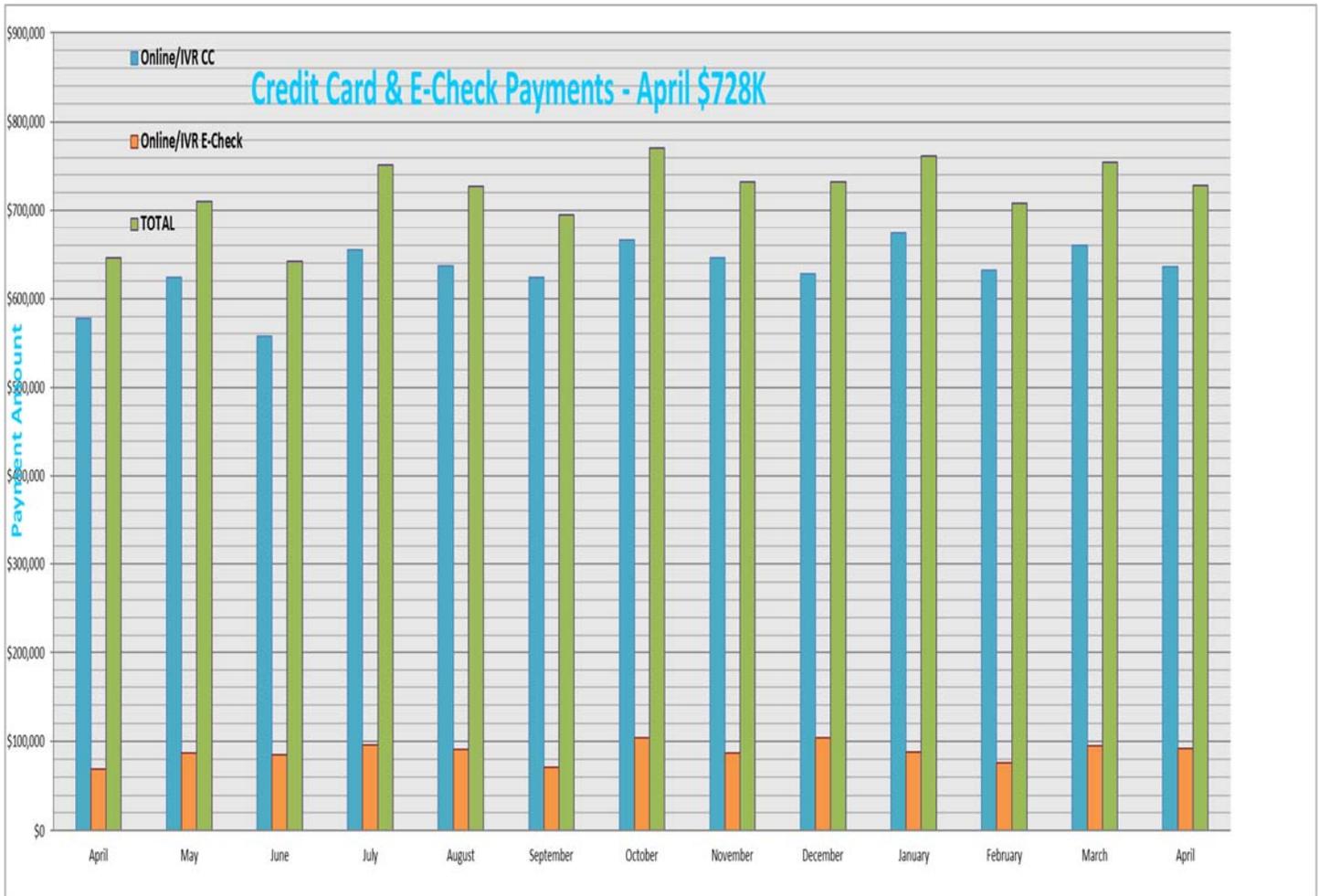
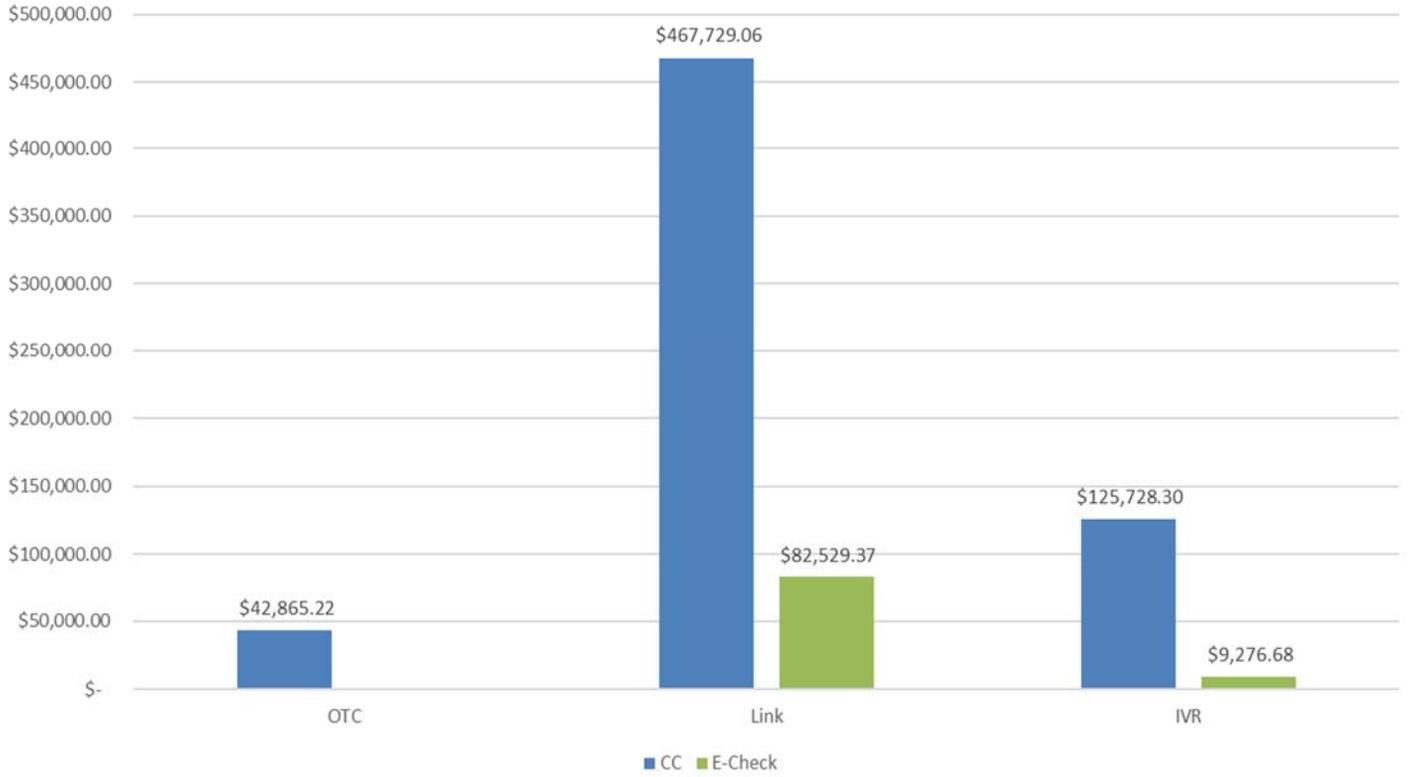
April Moves Processed = 1,133



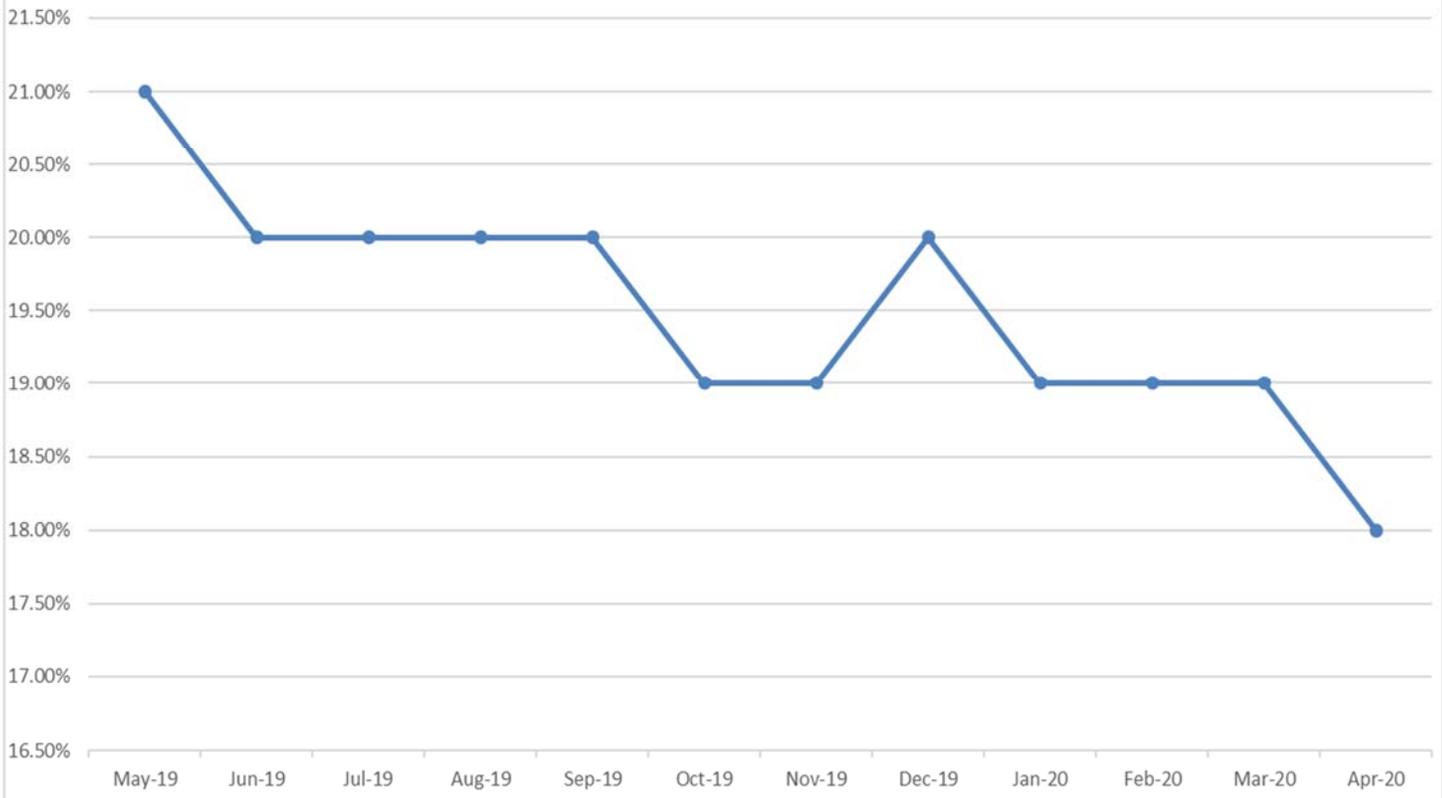
April Taps Sold = 147



Electronic Payment Method April 2020



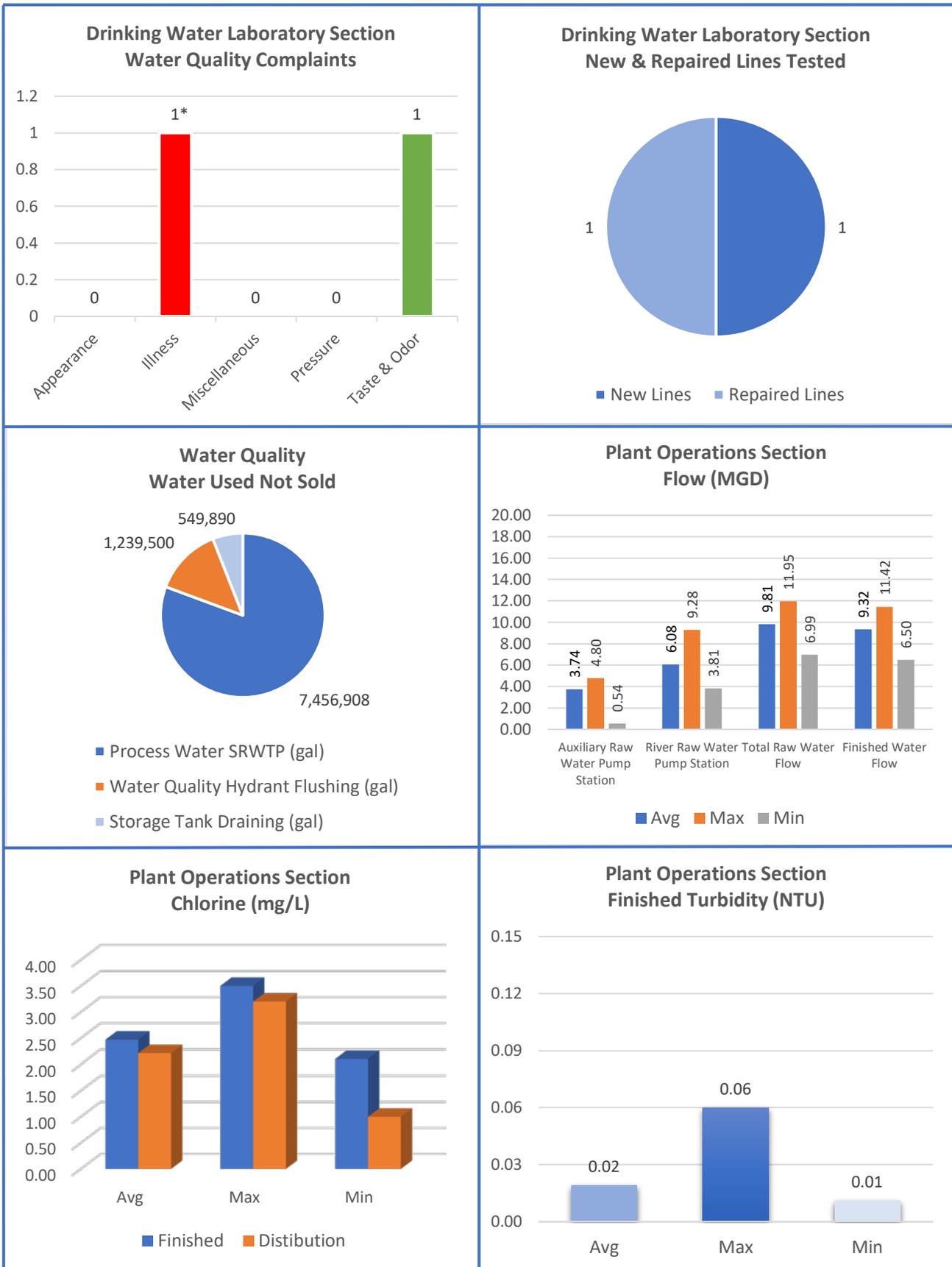
Water Loss - 12-month rolling average



STONES RIVER WATER TREATMENT PLANT

Dashboard Report

April 2020



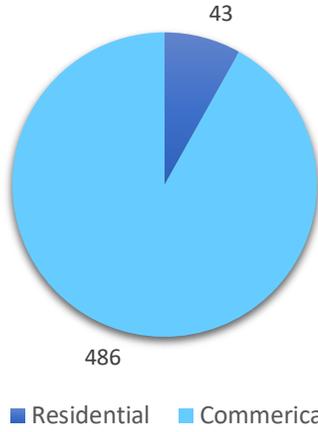
* Customer had reported to Health Department that they got COVID-19 from their drinking water. TDEC contacted Alan Cranford. Testing was conducted and the water was safe and customer and TDEC was notified. No issues.

STONES RIVER WATER TREATMENT PLANT

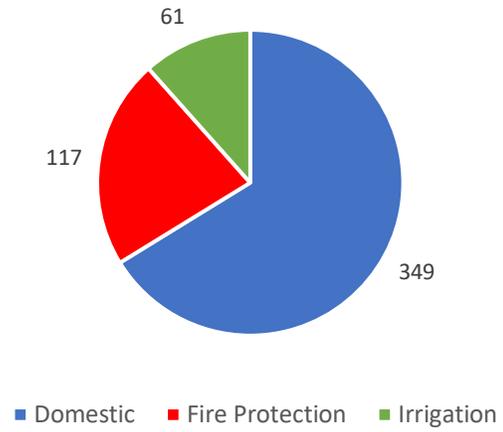
Dashboard Report

April 2020

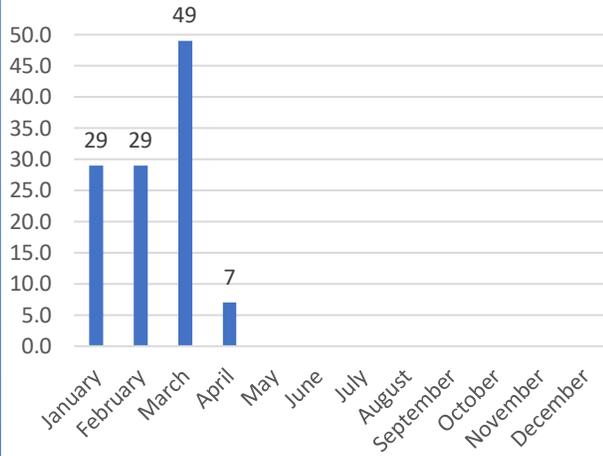
Cross-Connection Control Section Number of Devices Tested By Category



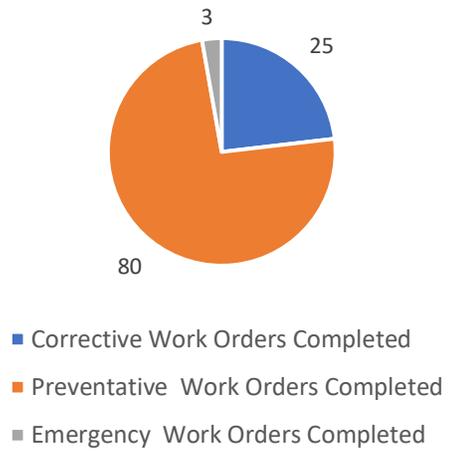
Cross-Connection Control Section Number of Devices Tested



Drinking Water Operations Section Pall Membrane Module Pin Count



Drinking Water Maintenance Section Work Order Status

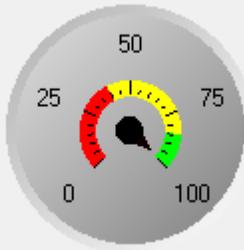


MURFREESBORO WATER RESOURCE RECOVERY FACILITY

DASHBOARD REPORT

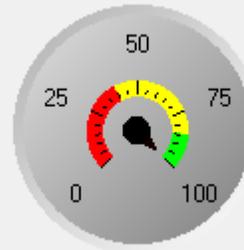
April, 2020

BOD PERCENT REMOVAL



98.6

AMMONIA PERCENT REMOVAL

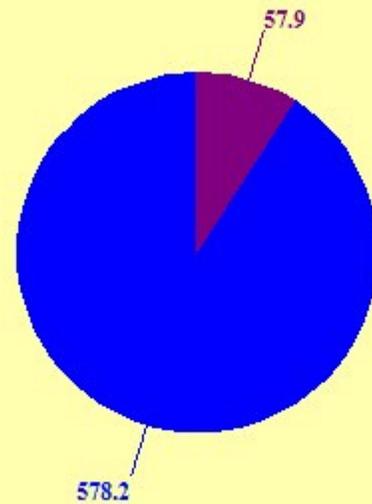


99.3

634.299
**MILLION GALLONS
TREATED**

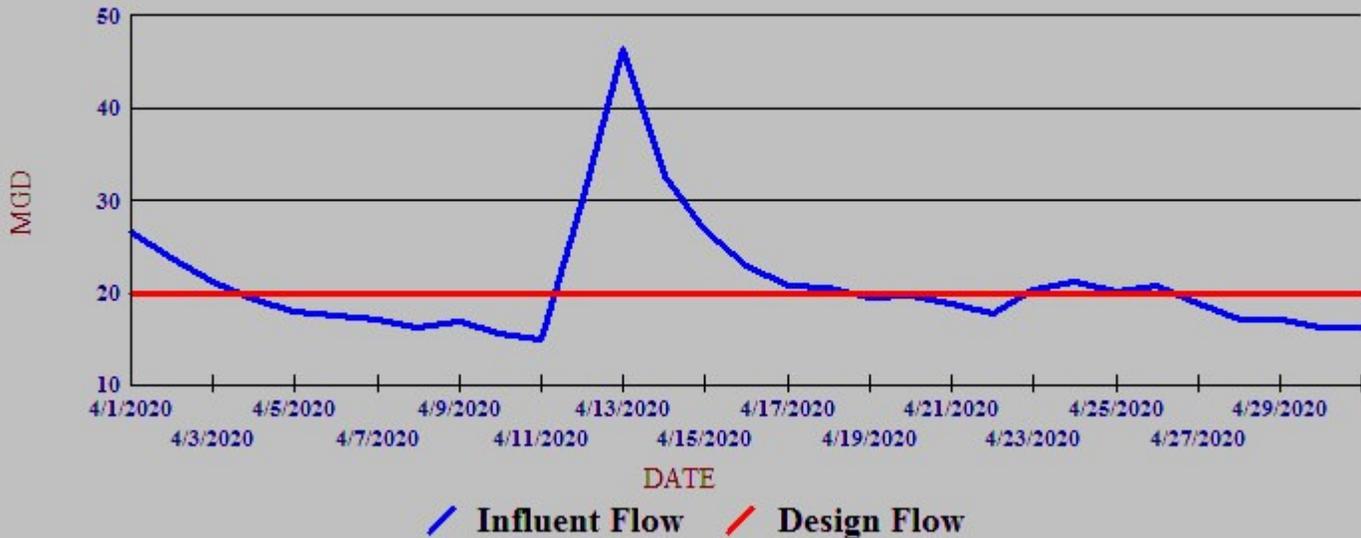
2,841.76
**TONS
BIOSOLIDS
REMOVED**

EFFLUENTS

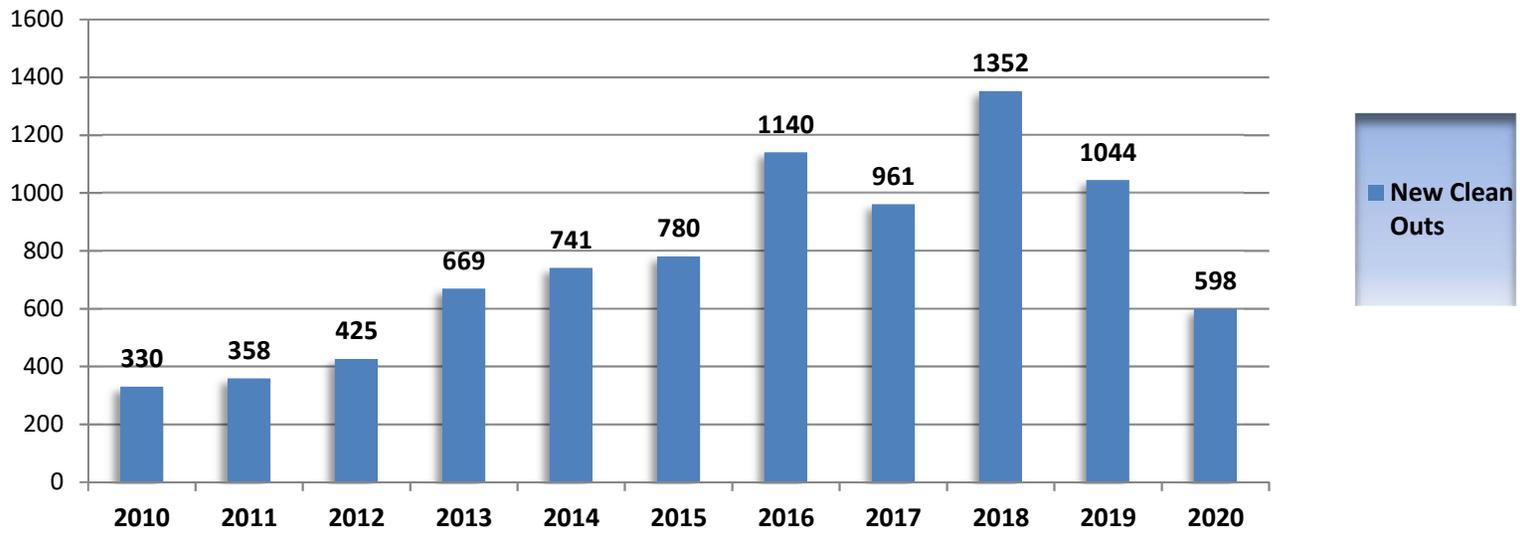


MGD
■ DISCHARGE ■ REUSE

AVERAGE INFLUENT FLOW



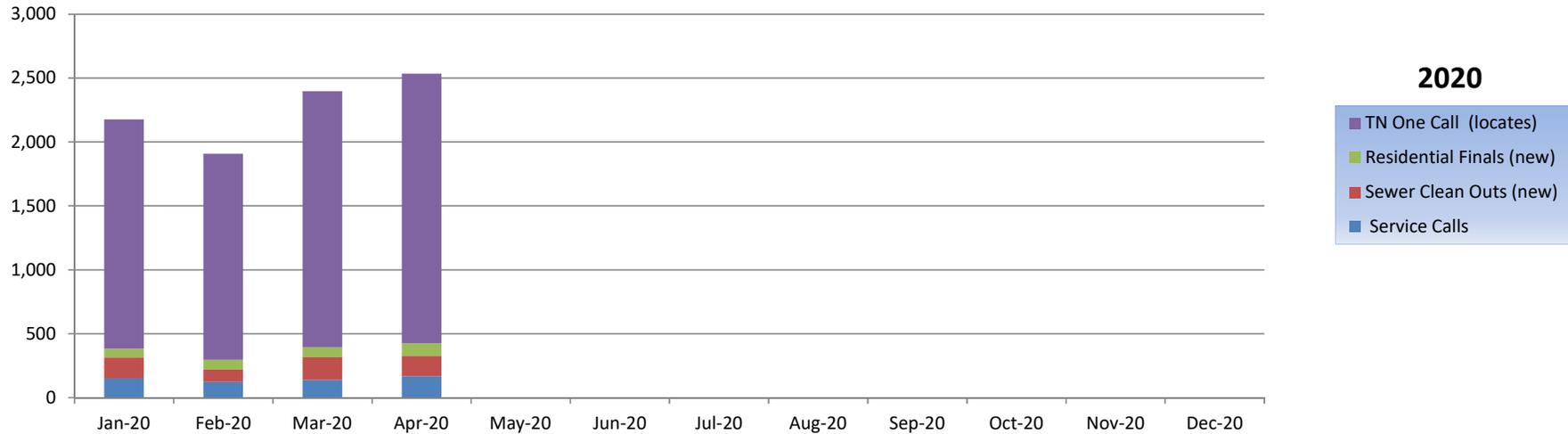
NEW SEWER CLEAN OUTS



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
New Clean Outs	330	358	425	669	741	780	1140	961	1352	1044	598

** For the calendar year Jan-Dec*

OPERATIONS & MAINTENANCE MONTHLY TOTALS



	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Total
Service Calls	148	123	138	166									
Sewer Clean Outs (new)	166	94	177	161									
Residential Finals (new)	68	79	77	96									
TN One Call (locates)	1,794	1,611	2,004	2,110									
TOTAL	2,176	1,907	2,396	2,533									9,012

MWRD - OPERATIONS & MAINTENANCE

ASPHALT QUOTES

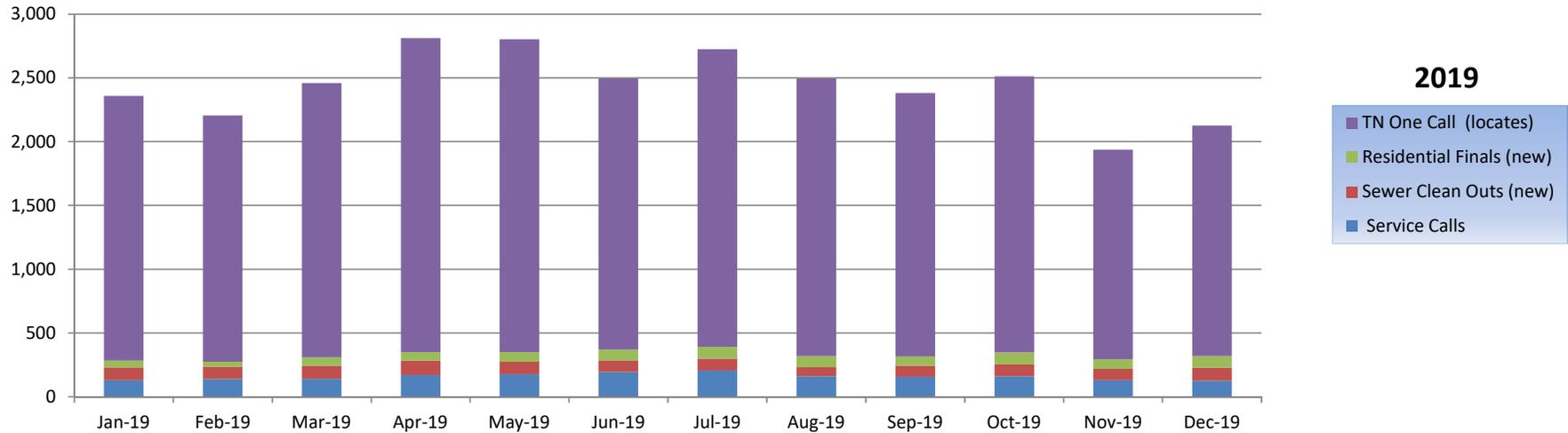
	Blue Water		Hawkins		Vulcan		Notes
	<i>Binder</i>	<i>Topping</i>	<i>Binder</i>	<i>Topping</i>	<i>Binder</i>	<i>Topping</i>	
Jul	\$49.00	\$61.00	\$48.50	\$60.50	\$58.00	\$67.50	
Aug	\$49.00	\$61.00	\$48.50	\$60.50	\$58.00	\$67.50	
Sep	\$49.00	\$61.00	\$48.50	\$60.50	\$58.00	\$67.50	
Oct	\$50.25	\$66.25	\$49.98	\$65.00	\$58.00	\$66.24	
Nov	\$50.25	\$62.50	\$48.50	\$61.25	\$56.84	\$65.96	
Dec	\$65.00	\$75.00	\$52.50	\$64.75	\$56.84	\$65.96	
Jan	\$65.00	\$75.00	\$47.50	\$60.50	\$56.84	\$65.96	
Feb	\$65.00	\$75.00	\$47.50	\$60.50	\$56.84	\$65.96	
Mar	\$65.00	\$75.00	\$47.50	\$60.50	\$56.84	\$65.96	
Apr	\$65.00	\$75.00	\$47.50	\$60.50	\$56.84	\$65.96	
May							
Jun							

MWRD OPERATIONS & MAINTENANCE

ASPHALT PURCHASES

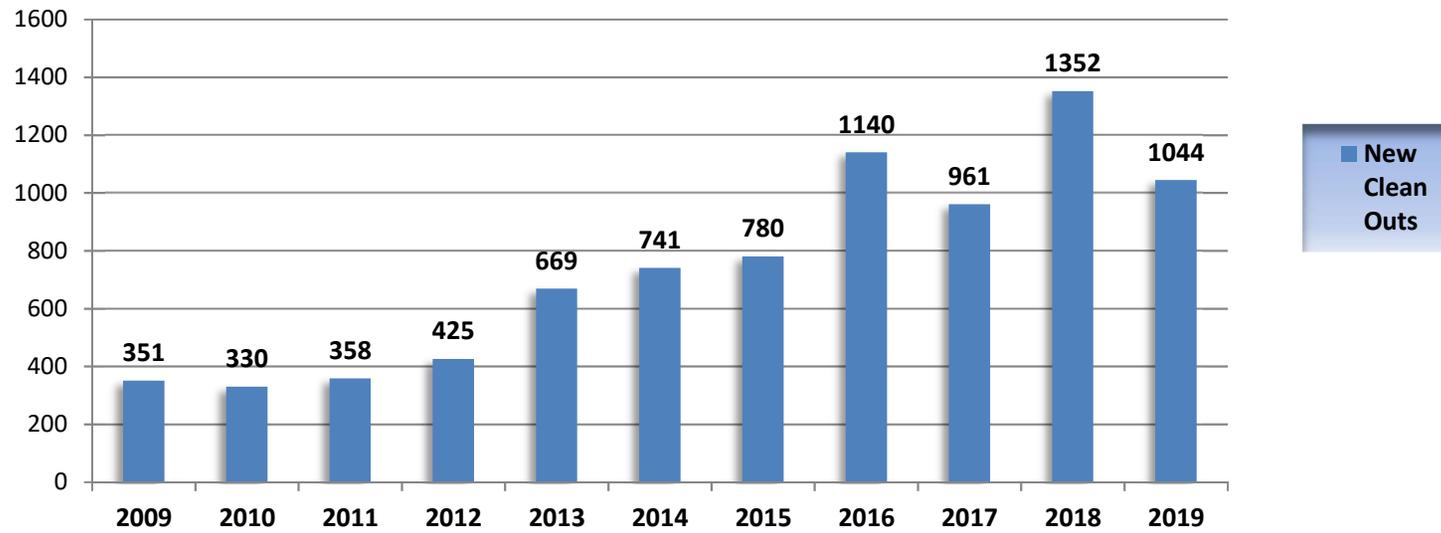
<i>Date</i>	<i>Approval</i>	<i>Vendor</i>	<i>Type</i>	<i>Rate</i>	<i>Qty</i>	<i>Total</i>	<i>FY Total</i>
7/23	DH	Hawkins	BM	\$48.50	23.97	\$1,162.55	\$1,162.55
7/23	DH	Hawkins	411E	\$60.50	8.00	\$484.00	\$1,646.55
7/23	DH	Hawkins	411E	\$60.50	54.06	\$3,270.63	\$4,917.18
7/26	DH	Hawkins	BM	\$48.50	71.84	3,484.24	\$8,401.42
7/29	DH	Hawkins	BM	\$48.50	90.02	4,365.97	\$12,767.39
7/30	DH	Hawkins	BM	\$48.50	79.41	3,851.39	\$16,618.77
7/30	DH	Hawkins	BM	\$48.50	72.00	3,492.00	\$20,110.77
7/31	DH	Hawkins	BM	\$48.50	85.00	\$4,122.50	\$24,233.27
8/27	DH	Hawkins	BM	\$48.50	80.67	\$3,912.50	\$28,145.77
8/27	DH	Hawkins	BM	\$48.50	7.98	\$387.03	\$28,532.80
8/28	DH	Hawkins	411E	\$60.50	10.04	\$607.42	\$29,140.22
8/29	DH	Hawkins	411E	\$60.50	15.97	\$966.19	\$30,106.40
10/31	DH	Hawkins	BM	\$48.50	10.00	\$485.00	\$30,591.40
10/31	DH	Hawkins	411E	\$60.50	14.04	\$849.42	\$31,440.82
10/31	DH	Hawkins	411E	\$60.50	10.09	\$610.45	\$32,051.27
11/25	DH	Hawkins	411E	\$61.25	20.03	\$1,226.84	\$33,278.10
12/23	DH	Hawkins	411E	\$64.75	14.00	\$906.50	\$34,184.60
12/31	DH	Hawkins	BM	\$52.50	88.02	\$4,621.05	\$38,805.65
12/31	DH	Hawkins	411E	\$64.75	9.89	\$640.38	\$39,446.03
1/31	DH	Hawkins	411E	\$60.50	11.99	\$725.40	\$40,171.43
2/17	DH	Hawkins	411E	\$60.50	6.00	\$363.00	\$40,534.43
3/20	DH	Hawkins	411E	\$60.50	15.02	\$908.71	\$41,443.14
3/30	DH	Hawkins	411E	\$60.50	15.19	\$919.00	\$42,362.13
3/31	DH	Hawkins	411E	\$60.50	18.02	1,090.21	\$43,452.34

OPERATIONS & MAINTENANCE MONTHLY TOTALS



	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Total
Service Calls	129	138	139	168	176	193	205	159	156	159	128	124	1,874
Sewer Clean Outs (new)	100	95	104	115	97	91	93	72	85	94	89	102	1,137
Residential Finals (new)	52	41	65	65	76	84	93	86	75	94	75	91	897
TN One Call (locates)	2,076	1,931	2,150	2,463	2,452	2,125	2,334	2,177	2,064	2,165	1,645	1,807	25,389
TOTAL	2,357	2,205	2,458	2,811	2,801	2,493	2,725	2,494	2,380	2,512	1,937	2,124	29,297

NEW SEWER CLEAN OUTS

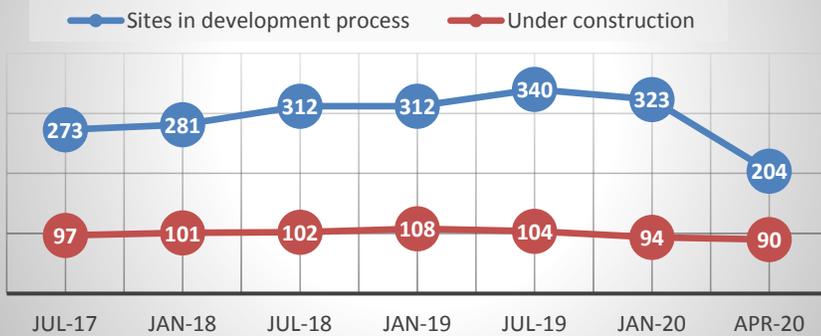


	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
New Clean Outs	351	330	358	425	669	741	780	1140	961	1352	1044

** For the calendar year Jan-Dec*

Stormwater Dashboard - April 2020

Construction Phase Inspections of Stormwater Control Measures (SCMs)



Inspection Program

Stormwater Post Construction Inspections



Education and Outreach

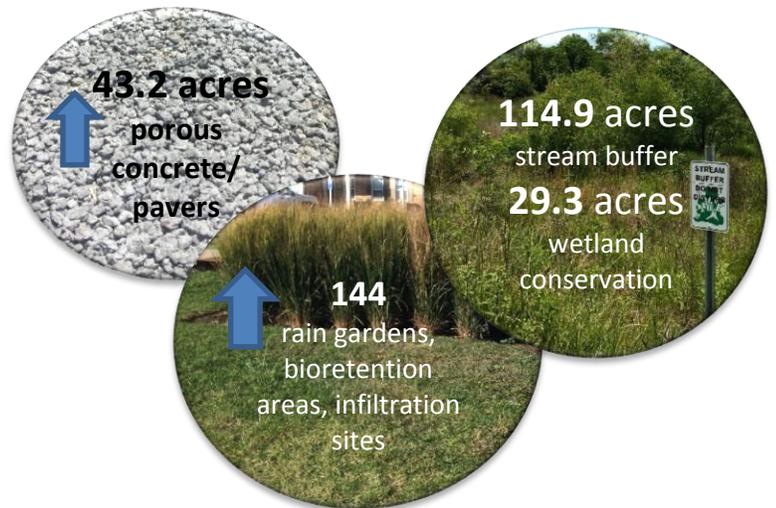


28 Streamside property owners received email newsletter about Spence Creek and Stones River.

5 drainage or water quality consultations.

May/June – distributing trees to streamside property owners along Spence Creek and West Fork Stones River.

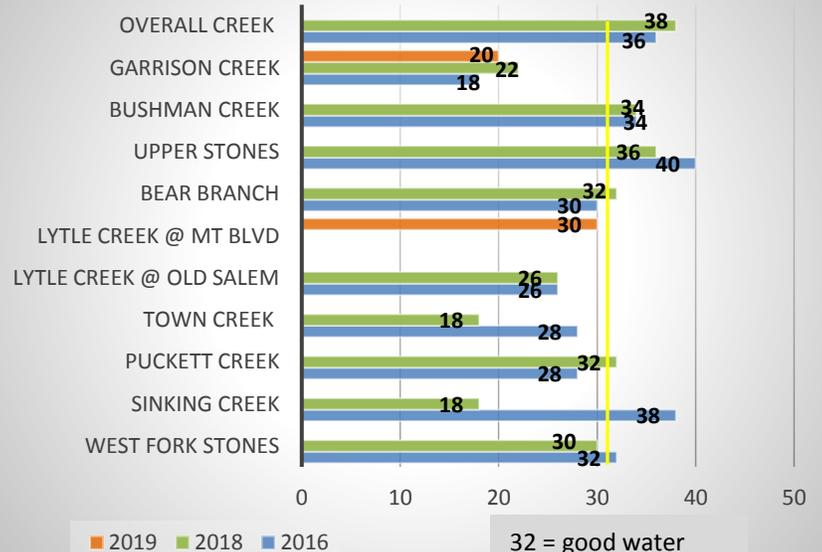
LID/ Green Infrastructure

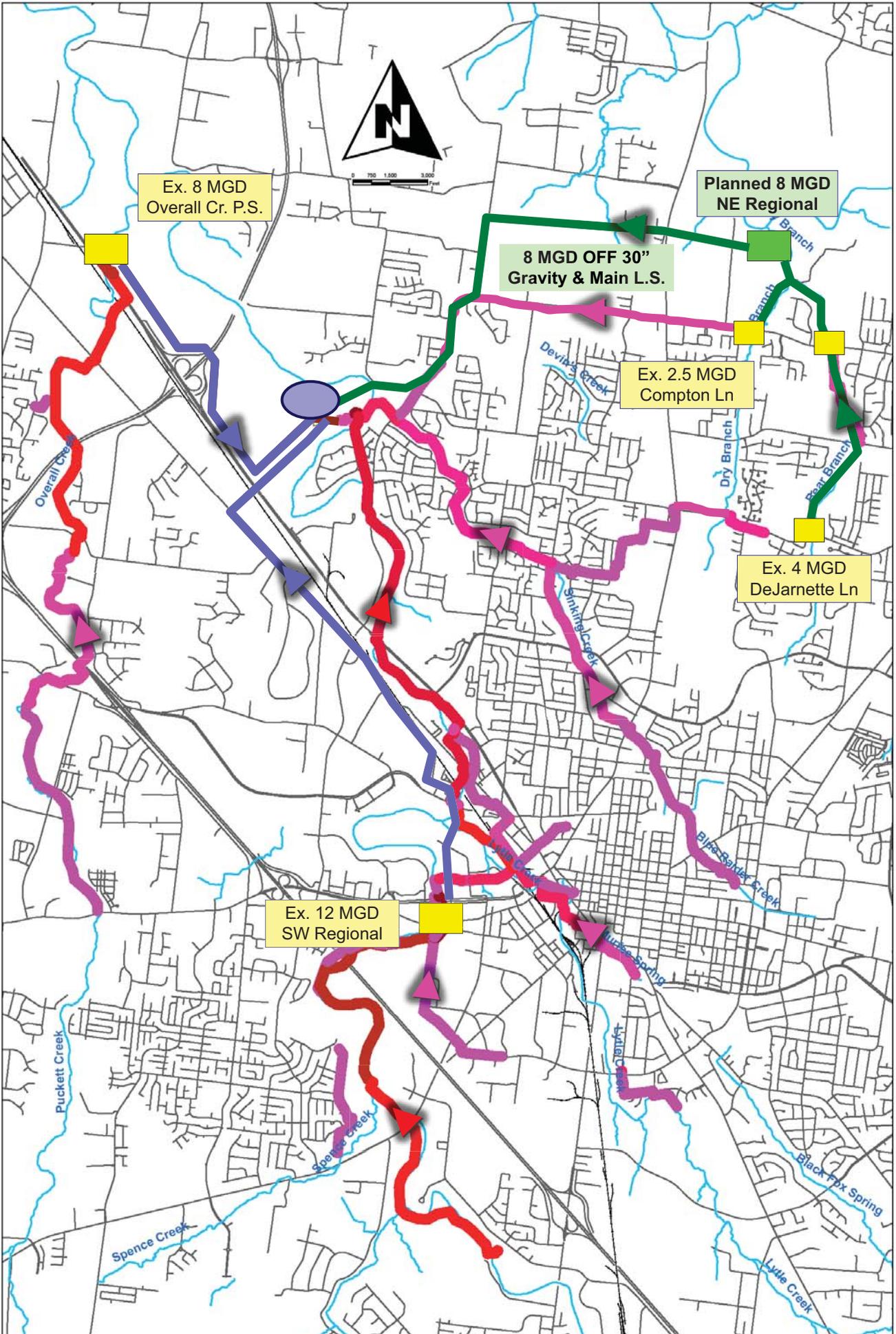


Stormwater Infrastructure

	April	YTD	Total
Junction Boxes	48	242	16,819
Headwalls	20	114	6,994
Ponds	3	15	533
Gravity Mains	6,503 ft	31,613 ft	706.1 miles
Weirs	3	6	315
WQ Units	1	2	114
Underground Storage	0	0	30

Water Quality Scorecard





**MURFREESBORO WATER RESOURCES DEPARTMENT
OPERATING REVENUES AND EXPENDITURES
TEN MONTHS ENDED APRIL 30, 2020**

	YTD ACTUAL	ANNUAL BUDGET	% TO BUDGET
Operating Revenues			
Water Revenue	\$ 13,413,790	\$ 16,654,000	81%
Repurified Revenue	\$ 25,328	\$ 26,000	97%
Wastewater Revenue	\$ 24,637,704	\$ 29,804,000	83%
Other Income	\$ 684,282	\$ 596,000	115%
Total Operating Revenues	\$ 38,761,104	\$ 47,080,000	82%
Water Operating Expenses	\$ 8,011,913	\$ 11,526,114	70%
Wastewater Operating Expenses	\$ 9,025,291	\$ 12,829,162	70%
Total Operating Expenses	\$ 17,037,204	\$ 24,355,276	70%
Net Earnings from Operations	\$ 21,723,900	\$ 22,724,724	96%

	YTD ACTUAL	ANNUAL BUDGET	% TO BUDGET
WATER REVENUES			
Metered Water	\$ 12,219,612	\$ 15,200,000	80%
Water Adjustments	\$ (11,647)	\$ (26,000)	45%
Private Fire Protection	\$ 94,839	\$ 112,000	85%
Service Initiation Fees	\$ 199,375	\$ 230,000	87%
Late Fees	\$ 621,790	\$ 700,000	89%
Non-Payment Fees	\$ 115,080	\$ 180,000	64%
Returned Payment Fees	\$ 6,630	\$ 8,000	83%
Cross Connection	\$ 149,030	\$ 225,000	66%
Enernoc	\$ 19,082	\$ 25,000	76%
Miscellaneous	\$ -	\$ -	
TOTAL WATER REVENUES	\$ 13,413,790	\$ 16,654,000	81%

REPURIFIED REVENUES			
Repurified Revenue	\$ 25,328	\$ 26,000	97%
TOTAL REPURIFIED REVENUES	\$ 25,328	\$ 26,000	97%

WASTEWATER REVENUES			
Enernoc	\$ 7,004	\$ 5,000	140%
Sewer Charges	\$ 24,258,367	\$ 29,500,000	82%
Sewer Adjustments	\$ (66,988)	\$ (140,000)	48%
Surveillance	\$ 31,920	\$ 38,000	84%
Sampler	\$ 15,000	\$ 18,000	83%
BOD	\$ 244,283	\$ 275,000	89%
Amonia	\$ 50,098	\$ 60,000	83%
Septage Charges	\$ 89,065	\$ 45,000	198%
STEP Revenue	\$ 8,955	\$ 3,000	298%
TOTAL SEWER REVENUES	\$ 24,637,704	\$ 29,804,000	83%

OTHER INCOME			
Interest Earnings	\$ 502,022	\$ 400,000	126%
Inspections	\$ 136,009	\$ 166,000	82%
Miscellaneous	\$ 46,250	\$ 30,000	154%
TOTAL OTHER INCOME	\$ 684,282	\$ 596,000	115%

**MURFREESBORO WATER RESOURCES DEPARTMENT
 OPERATING REVENUES AND EXPENDITURES
 TEN MONTHS ENDED APRIL 30, 2020**

	YTD ACTUAL	ANNUAL BUDGET	% TO BUDGET
Water Operating Expenses			
Water Source	\$ 105,739	\$ 208,000	51%
Water Treatment	\$ 3,097,326	\$ 4,259,169	73%
Water Storage	\$ 22,202	\$ 67,300	33%
Water Distribution	\$ 1,285,011	\$ 1,776,098	72%
Cross Connection	\$ 256,126	\$ 351,959	73%
Water Plant Administration	\$ 556,747	\$ 977,419	57%
AMI Field Services	\$ 613,488	\$ 919,329	67%
O&M Admin Allocation (40%)	\$ 189,769	\$ 229,594	83%
Customer Service Allocation (50%)	\$ 523,666	\$ 690,837	76%
Engineering Allocation (40%)	\$ 276,744	\$ 463,758	60%
Field Inspection Allocation (25%)	\$ 100,309	\$ 112,868	89%
Admin Allocation (40%)	\$ 984,787	\$ 1,469,782	67%
Total Water Operating Expenses	\$ 8,011,913	\$ 11,526,114	70%
Wastewater Operating Expenses			
Wastewater Collections	\$ 1,586,670	\$ 2,213,855	72%
Wastewater Rehab	\$ 103,805	\$ 158,500	65%
Wastewater Pump Stations	\$ 695,696	\$ 779,924	89%
Wastewater Industrial Surveillance	\$ 240,174	\$ 320,878	75%
Wastewater House Services	\$ 11,415	\$ -	
Wastewater Treatment	\$ 1,956,079	\$ 2,953,269	66%
Wastewater Disposal	\$ 493,701	\$ 727,407	68%
WRRF Administration	\$ 685,268	\$ 916,888	75%
STEP System	\$ 2,251	\$ 24,000	9%
Repurified Treatment	\$ 34,388	\$ 121,000	28%
Repurified Distribution	\$ 3,836	\$ 29,500	13%
Repurified Disposal	\$ 210,465	\$ 309,797	68%
O&M Admin Allocation (60%)	\$ 284,654	\$ 344,391	83%
Customer Service Allocation (50%)	\$ 523,666	\$ 690,837	76%
Engineering Allocation (60%)	\$ 415,116	\$ 695,638	60%
Field Inspection Allocation (75%)	\$ 300,926	\$ 338,605	89%
Admin Allocation (60%)	\$ 1,477,181	\$ 2,204,674	67%
Total Sewer Operating Expenses	\$ 9,025,291	\$ 12,829,162	70%

**MURFREESBORO WATER RESOURCES DEPARTMENT
 OPERATING REVENUES AND EXPENDITURES
 TEN MONTHS ENDED APRIL 30, 2020**

SUMMARY OF NET TAP FEES	YTD ACTUAL	ANNUAL BUDGET	% TO BUDGET
Water Taps/Reserves	\$ 408,821	\$ 500,000	82%
Sewer Taps/Reserves	\$ 4,226,666	\$ 5,500,000	77%
Special Assessment Districts	\$ 1,399,381	\$ 2,000,000	70%
	<u>\$ 6,034,868</u>	<u>\$ 8,000,000</u>	<u>75%</u>

DEBT SERVICE	YTD ACTUAL	ANNUAL BUDGET	% TO BUDGET
Principal	\$ 2,200,490	\$ 11,547,588	19%
Interest	\$ 1,274,006	\$ 1,940,732	66%
	<u>\$ 3,474,496</u>	<u>\$ 13,488,320</u>	<u>26%</u>

Debt Coverage Ratio	YTD ACTUAL	ANNUAL BUDGET	% TO BUDGET
Operating Net Earnings	\$ 21,723,900	\$ 22,724,724	96%
Debt Service	\$ 3,474,496	\$ 13,488,320	26%
	6.25	1.68	