



GreenvilleWater

**MINUTES OF REGULAR MEETING
COMMISSIONERS OF PUBLIC WORKS
407 West Broad Street
Commission Room, Level Two
Greenville, South Carolina
February 4, 2020
8:15 a.m.**

Commissioners of Public Works in attendance:

Chairman Phillip A. Kilgore, Debra M. Sofield, Mayor Knox H. White, and Will Brasington.

Absent: Vice-Chairman James W. Bannister. A quorum was present.

Greenville Water Senior Staff in attendance:

Chief Executive Officer David H. Bereskin, Chief Financial Officer Phil Robey, Chief Operations Officer Jeff Boss, Controller Jondia Berry, Director of Strategic Initiatives Jane Arrington, Human Resources Director Richard Posey, Director of Engineering Mark Hattendorf, Director of Business Services Gary VerDouw, Director of Water Resources Jeff Phillips, Manager of Field Operations Wayne Benson, Facilities Maintenance Fleet Manager Allen White, Public Relations Specialist Emerald Clark and Attorney David Ward.

The Regular Meeting of the Commissioners of Public Works was called to order at 8:15 a.m. by Chairman Kilgore.

1. WELCOME

Chairman Kilgore welcomed Ms. Genna Cortino, visiting from The Greenville News.

2. PUBLIC COMMENT

No comments were presented.

3. CONSENT AGENDA

Chairman Kilgore listed the items of the Consent Agenda which were the meeting minutes of the Regular Commission Meeting January 7, 2020, the Water Resources Report, the Finance Update, and New Development. Commissioner Sofield moved, seconded by Mayor White, to approve the meeting minutes. The motion passed unanimously.

Chairman Kilgore welcomed Mr. Wil Brasington Greenville Water's new Ex-Officio Commissioner.

4. GREENVILLE WATER CYBER ATTACK

Chairman Kilgore called upon Chief Executive Officer David Bereskin to give an update on the recent Greenville Water cyberattack. Mr. Bereskin explained the attack began January 21, 2020 at 8:00 p.m. Greenville Water was performing regular maintenance on systems when Staff noticed strange activities and came into the office. Everything was going dark by the time he arrived.

On January 22, 2020 forensic analysis began. Staff reached out to experts within the industry and started the recovery process. On January 24, 2020 phones were restored to a limited working order. On the weekend of January 25th and 26th Staff focused on getting financial

software systems up, along with human resources, customer service, and meter reading software. On January 26th Field Services staff came in to read the routes that were supposed to be read on Wednesday the 21st, so there was only a two-day delay in reading routes. On January 27th and 28th the Billing department began sending billing batches out to the printer, only one week late. Reading of routes continued through the week and Greenville Water is back on schedule for both cycles four and one.

On January 28th restoration of payment options began, allowing customers to pay by phone with the IVR and via the website. Software systems are continuing to be brought back up to the condition prior to this event. Work continues with Microsoft Office. This software is being moved to Microsoft 365, a cloud solution. Dell and Microsoft are assisting in this process, however, at a slower pace than Greenville Water hoped. Staff is hopeful that e-mail will be restored within the week.

Mr. Bereskin introduced Greenville Water's fractional CIO Mr. Jim Holman with THInc.IT LLC, which provides strategic consulting and managed services for the Southeast Region. Mr. Holman has been with Greenville Water throughout this cyber-event and has been instrumental in the success experienced to date. Assistance from Acumen IT, Advanced Utility Systems, Itron Inc., Metron Farnier and Dell have also been instrumental. Chase Fowler, a Greenville Resident who is the Terminal Manager for SAIA Trucking, was very helpful by opening his trucking terminal so a shipment of laptops could be received. Mr. Fowler graciously opened the terminal on a Saturday which allowed Greenville Water to have the laptops loaded and ready for use on Monday.

A cyber defense firm Blue Voyant, has been aiding Greenville Water by providing A.I. to monitor the computer equipment for malware and viruses. Mr. Holman has been acting as the liaison between Greenville Water and BlueVoyant. Mr. Bereskin also mentioned Greenville Water Supervisors and hourly employees have stepped up and been very helpful throughout this event. Many employees have come in early, stayed late at night and worked through the weekends. Mr. Bereskin concluded the report stating we are beginning to recover systems and should be back to normal in the next week or two.

Commissioner Sofield thanked everyone for the amazing effort put forth throughout the event. Mayor White asked what the event means for customers, in terms of breach of information. Mr. Bereskin responded there are a couple things. The first being half of cycle 3 bills will be one week late getting out. Payment options have been extended for 30 days to allow GW to process the bills. Most importantly, all credit cards accepted at Greenville Water are tokenized, meaning information is not kept. A randomly generated identifier is substituted for the credit card data in order to prevent unauthorized access. Mayor White asked if anything like this happened to other companies in the region or to another water utility. Mr. Bereskin explained similar events happen every day across the Country, and he believes our cyber-event was from an employee clicking on a phishing e-mail, which in turn, started a cascading event.

Chairman Kilgore stated the test of the strength of an organization is how it reacts in adversity, and he has been extremely impressed over the last two weeks, not only with Senior Staff, but with all boots on the ground. On behalf of the Commission, Chairman Kilgore thanked all staff for an excellent job.

5. STRATEGIC PLAN UPDATE - FACILITIES MAINTENANCE

Chairman Kilgore welcomed Director of Strategic Initiatives Dr. Jane Arrington and Facilities Maintenance and Fleet Manager Allen White to present an update on the Strategic Plan. The strategic goal update for February was reporting on the utilization of asset management technology and business processes to promote organizational efficiency. In 2019 the goal was to ensure the installation, implementation, integration and interfacing of the Infor EAM Asset Management Software. Dr. Arrington reviewed the 2019 fourth quarter progress and introduced Mr. White to present on the 2020 Facilities Maintenance goals. Mr. White focused on the goals of:

- Establish meantime between failure and mean-time to repair metrics for each class/type of asset and improve the replacement process based on maintenance and labor costs.
- Integration of the Facilities Maintenance non-consumable inventory into EAM and the completion of regularly scheduled cycle counts.

The first work order was created in training on November 11, 2019. The Adkins Plant Field Maintenance Launch took place on November 12th with the first preventative maintenance service for the raw water generator. The Stovall Plant Field Maintenance Launch took place on November 14th. A snapshot of the work orders completed to date was provided. Dr. Arrington added the iPads used with EAM have been synchronizing and running well. There have been no issues staying online, even in areas where cell phones typically have no signal. Mr. White provided an example of a preventative maintenance work order on a generator at a pump station as well as a follow-up work order that was readily generated from the preventative maintenance checklist through the Infor EAM Asset Management software. The follow-up work order is connected to the original work order which allows staff to roll the work orders up to calculate the overall cost for maintenance for an asset.

The first Field Maintenance and Accounting cycle count took place on January 3, 2020 at the Stovall Water Treatment Plant. Barcodes are used to catalog inventory such as the Programmable logic controllers (PLCs) and central processing units (CPUs). The barcode matches a position and has a description of the item, which is key to completing the cycle counts monthly. The Adkins Plant will use the same system.

The 2020 Facilities Maintenance metrics supporting strategic initiatives are:

Facilities Maintenance	
2020 Goal	Metric Measured Monthly
Increase scheduled maintenance to 80% and decrease unscheduled maintenance to 20%	<ul style="list-style-type: none">• % Completed Scheduled Maintenance• % Completed Unscheduled Maintenance
Establish Mean-Time Between Failure for each class/type of asset	<ul style="list-style-type: none">• Mean-Time Between Failure
Establish Mean-Time to Repair metrics for each class/type of asset	<ul style="list-style-type: none">• Mean-Time To Repair
Integration of the Facilities Maintenance nonconsumable inventory into EAM and initiate cycle counts.	<ul style="list-style-type: none">• Perform monthly cycle counts and maintain inventory variances of less than 5%

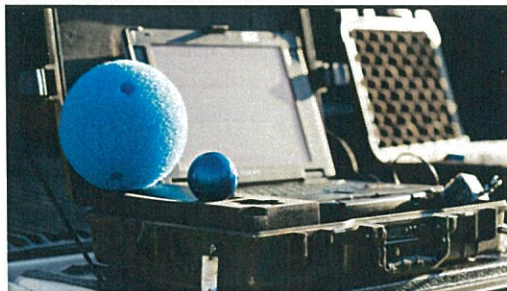
Dr. Arrington announced that Field Operations will launch Asset Management (AM) the following week. A large percentage and wide variety of reactive work is performed in a

predictable manner 24 hours a day, 7 days a week, 365 days a year in Field Operations. Whereas Facilities Maintenance performs primarily preventative maintenance, Field Operations will work with standard work orders. Staff created more than 30 standard work orders for typical jobs. The work orders come with checklist items, associated parts lists that auto populate, and cost codes that connect to the Great Plains financial software to be expensed when parts are installed. This software will improve efficiencies of the processes and allow institutional knowledge to be formalized in checklists with step by step instructions that will also capture data. Installation will be the first type of work orders launched in EAM.

6. PURE TECHNOLOGIES ASSESSMENT UPDATE

Chairman Kilgore invited Director of Engineering Mark Hattendorf to present information provided in the condition assessment at Plaza One and North Main St. Mr. Hattendorf reviewed a snapshot of the project, including the amount spent to date, the budget, the contractor information, the scope, and the schedule. The contractor is Pure Technologies, a world leader in the development and application of innovative technologies for critical infrastructure. The scope of the project includes performing leak and pipe wall thickness analysis on 24" cast iron mains, repair and replacement, if necessary. Pure Technologies used two type of equipment to perform the analysis:

- Smartball: Nerfball w/ acoustic sensor inside inserted into pressurized pipe and flushed out downstream



- Pipe Diver Ultra: Ultrasonic free-floating sensor assembly scans pipe while being pushed with water flow



Chairman Kilgore asked if Staff had an idea of the age of the pipe. Mr. Hattendorf explained the Plaza One area pipe is approximately 80 years old and the North Main Street pipe was installed in 1925. This 95-year-old pipe is one of the original pipes that fed water to the City of Greenville from Paris Mountain and has been found to be in great shape.

The analysis included pipe in a portion of Richardson Street, West North Street, North Laurens Street, and East Coffee Street to Spring Street, and North Main Street from just before Rutherford Road to Croft Street. Mr. Hattendorf explained how the devices were inserted into the mains, reviewed the data collection and pipe condition. A small leak was detected on North Main Street, which coincides with an old 2" main on North Park Drive. Once Greenville Water's leak detection software is up and running, Field Operations will pinpoint the leak to make repairs. The pipe diver report will provide information on pipe wall thickness and is due to Greenville Water in March 2020.

7. LEGISLATIVE UPDATE

Chairman Kilgore invited Legislative Liaison Bob Knight to provide a legislative update. Mr. Knight stated there are several pieces of legislation being watched that would impact Greenville Water. One would require Greenville Water to repair certain damages to pipes on someone's property. There has been no movement on others recently. Legislature has now been in session for three to four weeks. The Santee Cooper report is due within the week. The education debate has held up the Senate and will continue to do so until after filing day. The filing dates are March 15-30.

A bill to allow employers to contribute additional amounts of the employee share of the retirement system contributions needs to get a reading in the Senate. Senator Turner has spoken to Senator Leatherman and a pension subcommittee hearing is expected to include this bill. Ms. Peggy Boykin, Executive Director of the South Carolina Public Employee Benefit Authority (PEBA), said Benefits Tax Counsel in Washington has been contacted about the bill, and there are some technical amendments to be added to ensure compliance with Federal Law.

The Governor's Budget includes money for Statewide Water Planning. The money is earmarked for the Pee Dee Basin, currently planning is being done for the Edisto Basin. The House of Representatives is debating the Budget. Chairman Kilgore asked if anything is being done about the pension shortfall. Mr. Knight did not recall seeing any direct appropriation to pension shortfall. The Governor has called for a defined contribution plan and shut-off of new entrants into the pension plan in 2020 as a budget proviso. Chairman Kilgore asked Mr. Knight to repeat the Commission's position that the Legislature, when presented with a considerable surplus, should address the most serious financial challenge the State is facing.

8. CHIEF EXECUTIVE REPORT

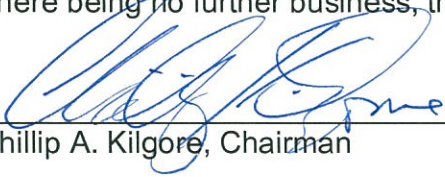
Mr. Bereskin and Staff met with the Developers for the Judson Mill property to discuss the redevelopment of the area. Mr. Bereskin explained the benefits of annexation into The City of Greenville. Renewable Water Resources (Re-Wa) was also a participant in the meeting. Development is moving forward.

9. COMMISSION COMMENTS

Commissioner Brasington thanked everyone for welcoming him to the Commission and shared he was honored to have the opportunity and privilege to serve.

10. ADJOURNMENT

There being no further business, the meeting was adjourned 9:05 a.m.



Phillip A. Kilgore, Chairman



Kimberly J. Haulter, Executive Assistant