

**Minutes Of
Engineering And Maintenance Committee Meeting
Of The Water Works Board
Of The City Of Birmingham
March 27, 2018**

An Engineering and Maintenance Committee Meeting of The Water Works Board of the City of Birmingham was held Tuesday, March 27, 2018, at 9:00 a.m., in the principal office of the Board, 3600 First Avenue North, Birmingham, Alabama, 35222, to discuss engineering and maintenance issues.

The following Committee members were present: Brett A. King, Ronald A. Mims and Brenda J. Dickerson; Sherry Lewis was absent. Other Board Members present were: Tommy Joe Alexander, Deborah Clark and George Munchus who do not serve on the Committee.

The meeting was also attended by: Mac Underwood, General Manager; T. M. "Sonny" Jones, Assistant General Manager of Engineering and Maintenance; Darryl R. Jones, Assistant General Manager of Operations and Technical Services; Michael Johnson, Assistant General Manager of Finance and Administration; Grace Amison, Executive Assistant to the Board of Directors; Tammy Wilson, Executive Assistant to T. M. "Sonny" Jones and Darryl R. Jones; Mark Parnell, Parnell Thompson, LLC; Patrick Flannelly, ARCADIS; Kelvin Howard, KWH, LLC; Tommy Palladino, Agency 54; Birmingham City Police officer; Stephen Franks, Engineer; Scott Starkey, Security Manager; Terrell Jones, Security Superintendent; Rick Jackson, Public Relations Specialist; Barry Williams, Business Systems/Operations Manager; Dana Nail, State Attorney General's Office; Derrick Murphy, Allworld Project Management; Hal Humphrey, Gresham, Smith and Partners.

Chair of the Committee, Director Brett King called the meeting to order at 9:01 a.m. IT Manager, George Anderson opened the meeting with prayer.

Following, agenda item 1 was a request for the Committee to recommend to the full Board to decline the right of first refusal on the structure at Lot 76 for sale at Inland Lake and to require Staff and/or Board attorneys to attend the property closing and to execute a new recreational site agreement. The sales price of the structure is \$245,000.00. Assistant General Manager, Sonny Jones referred to a map of Inland Lake pointing out the location of the structure for sale. Staff does not see any use for the purchase AGM Sonny Jones stated. Director Munchus asked if anyone could purchase these structures that go on the market. AGM Sonny Jones responded they are available for anyone to purchase. Director Munchus asked why the Board would not want to purchase this structure. General Manager, Mac Underwood stated the Board is concerned with water quality issues therefore; in the past if the Board has purchased a structure at Inland Lake it was demolished. Some discussion occurred regarding developing on or around Inland Lake. Director Mims made a motion to recommend to the full Board to decline the right of first refusal on the structure at Lot 76 for sale at Inland Lake and to

require Staff and/or Board attorneys to attend the property closing and to execute a new recreational site agreement; Director Dickerson seconded the motion. Therefore, this item was recommended to the full Board to decline its right of refusal and not to purchase the property.

Next, agenda item 2 was a request for the Committee to recommend to the full Board to authorize the Engineering Department to take bids for re-roofing of buildings at three filter plants and two pumping stations. AGM Sonny Jones explained that the Board would like to take bids to re-roof five structures at various Board facilities. Director Dickerson asked if this would be all the roofing projects this year. AGM Sonny Jones responded a schedule would be provided to the Board of all roofing projects for the year. Director Dickerson asked how many buildings there are in total with roofs at Board facilities. AGM Sonny Jones responded he was unsure, adding he knew how many facilities there are, but not how many individual roofs there are. Director Clark asked AGM Sonny Jones to confirm he did not know how many individual roofs there were on Birmingham Water Works Board (BWWB) facilities. Director Dickerson asked Staff if anyone knew the answer. Assistant General Manager, Darryl Jones stated there are over 51 pump station facilities in the system and another 20 facilities including raw water intakes, raw water booster stations and water treatment plants. This does not include about 6 individual buildings on the main campus. AGM Darryl Jones stated there are anywhere from 70 to 100 roofs on Board facility property. Director Dickerson asked GM Underwood if he knew how many total roofs there are on all the Board's properties. GM Underwood responded he did not, but added Staff would compile a list all Board facilities by location and all the roofs that may have to be replaced, highlighting those that may need to be replaced in the short-term. Director Dickerson asked for a list of each facility and each roof needing to be replaced. Director King asked which facilities have roofs that need replacing on the agenda today. AGM Sonny Jones responded Putnam Filter Plant, Shades Mountain Filter Plant, Cahaba Pump Station, Carl Sims Pump Station and Carson Filter Plant. GM Underwood stated all information on the current roofing projects for this item are in Diligent Books. Each project's location along with a description of the different types of roofing was provided in a handout (a copy of which is on file with the Committee meeting book) to the Committee. AGM Sonny Jones explained the spreadsheet from Diligent Books listing the projects. Director King asked if the bids would be received for all the projects together or individually. AGM Sonny Jones responded the bids would be sought individually for each project. Director King asked if everyone was good with moving the item to the full Board and authorizing Staff to take bids. Director Clark asked for a global view of all roofs so the Board will know exactly what they are looking for. AGM Darryl Jones stated he did not want the Board to misunderstand that Staff does not know how many facilities the Board has because there are documents that contain this information that Staff does have access to. Chairman Alexander stated in the City of Irondale he would have to take a count to know the exact figure for roofs when he was Mayor there. Director Dickerson said if she was the Mayor, she would know the exact number of roofs. Director Clark stated someone should know this number and be able to rattle it off. Director Mims made a motion to recommend to the full Board to authorize the Engineering Department to take bids for re-roofing

buildings at three filter plants and two pumping stations and Director Dickerson seconded the motion.

Following, agenda item 3 was a request for the Committee to recommend to the full Board to approve an easement agreement with Alabama Power Company (APCO) for the lighting installation work at Sicard Hollow Road landfill. A Memo from Engineering (a copy is on file with the Committee meeting book) regarding the LED lighting installation was provided to the Committee. AGM Sonny Jones stated the landfill is used for crews to place material taken from the river along with construction spoil. The work is sometimes done at night and on the weekends and it is very dark. GM Underwood pointed out the location on an area map. Director Munchus asked who would be paying for this and how much the cost would be. GM Underwood stated the Board would be responsible for the cost. AGM Sonny Jones stated the cost would be a little less than \$1,000.00 per month for a period of 60 months. GM Underwood stated all the information on this item is in Diligent. Director King asked if there is room at this landfill for use for a long period of time. AGM Sonny Jones responded yes. Director Munchus asked if the landfill was ADEM and EPA compliant. GM Underwood responded yes and BWWB are the only ones who use it. Director Clark asked who is clearing the land. AGM Sonny Jones stated BWWB is clearing the trees and we plan to sell the timber that is cut. GM Underwood clarified this is not like a timber cut, but more like pulp wood. GM Underwood stated APCO will probably clear the land more following the timber removal by a forester, which the Board hires. APCO will maintain the area keeping trees cut back so the limbs do not interfere with the power lines GM Underwood stated. Director King confirmed that the \$453.23 per month will remain in place as long as the Board has service with APCO at this location. Director Mims made a motion to recommend to the full Board to approve the easement agreement with APCO for the lighting installation work at Sicard Hollow Road landfill and Director Dickerson seconded the motion.

Next, agenda item 4 was a request for the Committee to discuss the request for an increase in the rate of pay for sheriff deputies working at Inland Lake. GM Underwood explained that Director King had received a letter regarding this item. A handout (Blount County Deputy Pay Rate Review) was provided to the Committee. Director Munchus asked if Blount County deputy sheriffs worked at Inland Lake. GM Underwood responded yes adding that following September 11, 2001, the EPA required that all facilities be secured. Jefferson County provided security at Lake Purdy for about 15 years. Currently, the City of Birmingham provides security at Lake Purdy. Director King stated these are off-duty officers providing their services. GM Underwood stated all are paid by BWWB. Assistant General Manager, Darryl Jones walked the Committee through the booklet. The spreadsheet within the booklet shows the rate at \$20.00 per hour for Blount County deputies and \$25.00 per hour for Jefferson County deputies from 2001 through 2016 at Inland Lake and Lake Purdy. When City of Birmingham police officers were hired, they paid a rate of \$30.00 per hour. The spreadsheets compare the proposed increases. AGM Darryl Jones stated the increase was not budgeted for 2018. Director Munchus asked where Security Engineers fit in. AGM Darryl Jones responded that Security Engineers provides service for the Board at the Security Gate on the Main

Campus, the Lobby of the Main Building, the Lobby of the Customer Service Center and at the Putnam Filter Plant. Director Munchus asked what the difference in authority is. AGM Darryl Jones responded that the deputies have arresting powers. Director King explained the process at Inland Lake in which the deputies collect \$5.00 from customers desiring to use the lake. That money is intended for BWWB to re-coup some of its costs to secure the Lake. Director Clark recommended BWWB set the rates. Chairman Alexander stated the Fraternal Order of Police (FOP) sets their going rates. AGM Darryl Jones stated they want equal pay for equal work and they have not had an increase since they began working for BWWB. Director Munchus asked how much is typically collected in a year to launch boats. AGM Darryl Jones stated anywhere from \$700.00 to \$1000.00 per month. Director Clark reminded Director Munchus that is not the issue the Committee is discussing right now. Director Mims stated he believed it is fair to pay the deputies at the same rate as the City of Birmingham police officers. Some discussion occurred regarding the 2018 budget already being approved and how to proceed. Director Dickerson asked if the budget could be adjusted during the year. GM Underwood stated Staff could make some adjustments during the year. Various options were discussed. GM Underwood stated the rates changed in the middle of the year for City of Birmingham police officers last year. Director Dickerson made a motion to move to the full Board a request for a rate increase in the amount of \$30.00 per hour for sheriff deputies working at Inland Lake and Director Mims seconded the motion. Director Clark added for the sake of the ratepayer that Staff look at employing its own security officers. Chairman Alexander stated a bill would have to be passed to do that. Director Munchus stated the Board has had great success with the Legislature, adding that Jabo Waggoner was the man. AGM Darryl Jones stated that would cost the Board more money also. Director Munchus asked if any water systems employ their own security personnel. Patrick Flannelly stated New York City does police its reservoir because they do not have filtration. GM Underwood added this new rate would go into effect April 1, 2018.

Following, agenda item 5 was a request for the Committee to hear a presentation on network security penetration testing activity and to recommend approval of a Statement of Work with Dell SecureWorks in the amount of \$29,241.00 to perform network security penetration testing. IT Manager, George Anderson provided a handout (a copy is on file with the Committee meeting book) of his presentation. Director Dickerson asked if this work was provided for in the budget. Mr. Anderson responded yes. The drivers for this topic include the complexity of the landscape, the malicious intent, the awareness of your weaknesses and perspective. Safe testing attempts certain malicious events that have been successful at other companies, simulates how cyber attackers exploit various levels of vulnerability, identifies vulnerabilities, assesses the magnitude of successful attacks and tests the ability of network defenders to successfully detect and respond to attacks. Regarding internal people and devices; we continually educate and remind users of warning signs, expand end user access controls, minimize administrative privileges and properly maintain security management software on devices used by end users. Regarding the internal network elements; we protect network points where devices enter the internal network, examine network traffic flows to detect and prevent vulnerability exploits, monitor network traffic for suspicious activity perform alerts, utilize host-based and/or network based security firewalls, maintain a focus on

threat intelligence, actively run anti-malware software on various individual systems and utilize security assessments. Regarding external people, devices and systems; we require and maintain use of a private network that encrypts connections over the Internet into the company network, require certain access into the company network to use multi-factor authentication and utilize and maintain demilitarized zones, which separate internal LAN network activity from outside untrusted networks. Some discussion occurred regarding the five sewer systems the BWWB does billing for. Regarding securing infrastructure elements; we utilize security information and event management, mobile device management, email security appliances, web security appliances, ensure efficient handling of data back-ups, effective patching of servers and workstations, restrict use of unapproved and/or unsupported computer software, continuously train IT staff on the various elements of security and invest in IT security hardening measures. Dell SecureWorks is the company chosen and they are a leader in managed security services worldwide. Mr. Anderson stated the Board's legal team gave approval that this does not have to be bid out due to it being a professional service along with its confidential nature. Director Dickerson made a motion to recommend to the full Board to approve a Statement of Work with Dell SecureWorks in the amount of \$29,241.00 to perform network security penetration testing and Director Mims seconded the motion.

Next, agenda item 6 was a request for the Committee to recommend to the full Board to approve a Scope of Services with ARCADIS for the 2018 Annual SAP System Support, including program management, basis support, ongoing system support and system enhancements. Patrick Flannelly started out by saying that this item and item 7 are included in the budget. In 2011, the Board decided to implement SAP in Phases. Phase 1 started in 2011 and a company named EA was hired to implement that work. The Board had a falling out with EA while this Phase was underway and their contract was terminated. ARCADIS came in to help clean-up along with Phoenix and Cole during years 2011-2013. This was called SAP Phase 1.5. In 2014 the Board purchased licenses to do Phase 2 and the Customer Relationship & Billing (CR & B) System was implemented. Mr. Flannelly used a diagram of a house with the roof removed to show the various layers of the SAP implementation. Portions in red were older systems yet to be updated. Phase 2, the Blueprinting Phase, went live in November of 2016. The implementer of the Phase 2 components from a business process perspective was Utegration, which had a separate contract with the Board Mr. Flannelly stated. Director Munchus asked who supervised the work Utegration was performing. Business Systems/Operation Manager, Barry Williams stated the supervision was done in-house. Mr. Williams stated prior to SAP, the Board had several standalone systems and they wanted to put all data on one platform. Human Resources will be brought online toward the end of 2018 or 2019. Mr. Flannelly stated Human Resources could not wait for SAP and UltiPro was added in 2008 and 2009. Director Munchus asked if money was in the budget for Human Resources. GM Underwood responded it will be by 2019, and a portion is provided for in 2018 already. Director Munchus asked what the status of the litigation with EA was. Attorney Parnell stated that was settled in February 2017 for \$100,000.00. The total cost for SAP 2018 support is \$672,155.74. Some discussion occurred regarding the hiring of employees that have expertise in SAP. One SAP employee was hired from attending SAP conferences and Sreedhar Atluri was an

ARCADIS employee that worked on the implementation team. Luther Austin, an ARCADIS employee was hired to manage SCADA. Another employee hired from ARCADIS was Scott Starkey hired as Manager for the Security Department Mr. Flannelly stated. Director Clark asked if the new technology would reduce the number of employees needed. Mr. Williams responded the new technology means the Board is more cost efficient. The nature of the work here remains labor intensive according to Mr. Williams. Director Clark asked if SAP would take away the need for Acculynk or Paymentus. Mr. Anderson responded no. Director Mims made a motion to recommend to the full Board to approve a Scope of Services with ARCADIS for the 2018 Annual SAP System Support, including program management, basis support, ongoing system support and system enhancements at an estimated cost of \$672,155.74 and Director Dickerson seconded the motion.

Following, agenda item 7 was a request for the Committee to hear an update on the Inland Lake Dam Safety Program. A handout (a copy is on file with the Committee meeting book) from Patrick Flannelly on the Inland Lake Dam Evaluation and Monitoring Program was distributed to the Committee. Built in the 1930's, Inland Dam is between a quarter and a third of a mile wide. It is 195 feet tall and at least three times the width of Lake Purdy dam. It is twice the height of Lake Purdy Dam according to Mr. Flannelly. It is a high hazard dam and in today's dollars one of the most expensive projects the Board has ever undertaken, even though this was built under the Industrial Water Board's ownership which the Board inherited. There was seepage detected in 2012 and we began monitoring this more closely at that time manually. In 2016, monitoring the seepage was planned to be automated. The Corp of Engineers came back and wanted a permit for the seepage weir. We broke it into two parts and we are expecting bids in April on the first part. The cost will be somewhere in the \$210,000.00 range for the instrumentation installation. Meanwhile the Corp has come back and given permission to go ahead and do the seepage weir at the bottom of the dam, Mr. Flannelly stated. The cost of this seepage weir construction is estimated at \$150,000.00. Director Munchus asked if this was an emergency. GM Underwood stated emergency work was performed in 2013, but there are not any emergencies right now. Mr. Flannelly confirmed this was not an emergency. Director King requested the next time the valves are opened at Inland Lake in June, holding an Engineering and Maintenance Committee Meeting there. Director King stated several Board members have never seen that, adding it was awesome to see the valve testing. AGM Darryl Jones stated it could be done in the next 30 days while the lake is full and running over. Director King suggested the Committee could then have lunch in Oneonta. GM Underwood stated Staff would schedule another meeting because AGM Darryl Jones had two or three items that needed to go on this agenda. No action was taken, the presentation was for information only.

Under new business, Chairman Alexander stated he and GM Underwood looked at some reservoir sites recently and there is a reservoir that the Board may want to consider buying. Director King asked about the size. Chairman Alexander stated it was much smaller than lake Purdy but it is not currently on the market. Director King asked why it was built. Chairman Alexander stated it was built for the owner's, Mr. Drummond's personal use. Director King stated more information could be brought to an

Engineering and Maintenance Committee meeting. Director Munchus asked if there was any litigation currently with Drummond. Some discussion occurred regarding possible issues with Reed Mine.

As there was no further business to be brought before the Committee the meeting was adjourned at 10:43 a.m.

_____/s/_____
Mac Underwood
General Manager

_____/s/_____
Brett A. King, Esq.
Director

_____/s/_____
Ronald A. Mims
Assistant Secretary-Treasurer

_____/s/_____
Brenda J. Dickerson, Ph.D.
Second Vice-Chairwoman/Second Vice President