



Orange Water and Sewer Authority

OWASA is Carrboro-Chapel Hill's not-for-profit public service agency delivering high quality water, wastewater, and reclaimed water services.

Agenda

Meeting of the OWASA Board of Directors **Thursday, February 27, 2020, 7:00 P.M.** **Chapel Hill Town Hall**

In compliance with the "Americans with Disabilities Act," interpreter services are available with five days prior notice. If you need this assistance, please contact the Clerk to the Board at 919-537-4217 or aorbich@owasa.org.

The Board of Directors appreciates and invites the public to attend and observe its meetings. Public comment is invited either by petition upon topics not on the Board's agenda, or by comments upon items appearing on the Board's agenda. Speakers are invited to submit more detailed comments via written materials, ideally submitted at least three days in advance of the meeting to the Clerk to the Board via email or US Postal Service (aorbich@owasa.org/400 Jones Ferry Road, Carrboro, NC 27510).

Public speakers are encouraged to organize their remarks for delivery within a four-minute time frame allowed each speaker, unless otherwise determined by the Board of Directors.

Announcements

1. Announcements by the Chair
 - A. Any Board Member who knows of a conflict of interest or potential conflict of interest with respect to any item on the agenda tonight is asked to disclose the same at this time.
 - B. Members of the Orange County Board of Commissioners and Orange County Appointees to the OWASA Board will meet on Wednesday, March 25, 2020 at 8:30 a.m. in the OWASA Boardroom
2. Announcements by Board Members
 - A. Update on the February 24, 2020 Finance Committee Meeting (Bruce Boehm)
 - B. Chatham-Orange Task Force Meeting on Friday, March 6, 2020 at 12:00 noon at Clarion Associates in Chapel Hill (Jody Eimers)
3. Announcements by Staff
 - A. Lakes Open for Recreation on March 21, 2020 (Todd Taylor)
 - B. Change to Disinfection of Drinking Water with Free Chlorine instead of Chloramines in the month of March (Todd Taylor)

Petitions and Requests

1. Public - P.M. Dubbeling, PLLC, on behalf of Frank Baumgartner and Rachel Sumney, request a change to the Water and Sewer Management Planning and Boundary Agreement
2. Board
3. Staff

Consent Agenda

Information and Reports

1. 12 Month Board Meeting Schedule (Ray DuBose/Todd Taylor)
2. Information on Proposed Computerized Maintenance Management System (Allison Spinelli)

Action

3. Resolution Awarding a Construction Contract for the Jones Ferry Road Water Treatment Plant Finished Water Pump Improvements (Mary Darr)
4. Minutes of the January 30, 2020 Special Meeting of the Board of Directors (Andrea Orbich)
5. Minutes of the February 13, 2020 Meeting of the Board of Directors (Andrea Orbich)
6. Minutes of the February 13, 2020 Closed Session of the Board of Directors for the Purpose of Discussing a Personnel Matter (Robert Morgan)

Information and Reports

7. Safety Performance Metrics (Stephanie Glasgow/Tyrus Johnson)

Summary of Board Meeting Action Items

8. General Manager of Operations will summarize the key action items from the Board meeting and note significant items for discussion and/or action expected at the next meeting

Closed Session

9. The Board of Directors will convene in a Closed Session for the Purpose of Discussing a Personnel Matter (Robert Morgan)

P.M. Dubbeling, PLLC

210 North Columbia Street
Chapel Hill, NC 27514

Kaitlin O'Connor
Phone: 919-635-6005
Fax: 919-404-7074
kaitlin.oconnor@pmdubbeling.com

14 February 2020

**Petition for Approval to Hook Up Existing Water and Sewer Lines at 1204 and
1205 Bayberry Lane in Chapel Hill**

Chapel Hill residents Frank Baumgartner and Rachel Sumney petition Orange County Water and Sewer Authority ("OWASA") to provide water and sewer services to 1204 and 1205 Bayberry Drive in Chapel Hill. This petition is made for the following reasons:

Background

Frank Baumgartner and Rachel Sumney own lots located in the Hunt's Reserve neighborhood in Chapel Hill – Lots 1204 and 1205 respectively on the attached map. Attachment 1. As part of the initial development in the late 1990's, water and sewer lines were laid to all the lots in Hunt's Reserve, including 1204 and 1205 Bayberry Lane. At that time, the entirety of Hunt's Reserve was located within the OWASA service boundary and it was understood that all of the lots would have water and sewer service provided by OWASA.

In 2001, Orange County, OWASA, and the Towns of Chapel Hill, Hillsborough, and Carrboro entered into a Water and Sewer Management, Planning, and Boundary Agreement ("WSMPBA"). The WSMPBA set the OWASA primary service boundary so that it runs down the middle of Hunt's Reserve. Attachment 1. As shown on the map, lots 100, 1200, 1202, 1204, 1205, and 1203 lie outside the current boundary. At that time,

P.M. Dubbeling, PLLC

development of lots 100, 1200, 1202, and 1203 had already begun and water and sewer services were provided to those lots despite their lying outside the new boundary – leaving 1204 and 1205 with water and sewer lines laid, but without actual water and sewer service.

Ms. Sumney bought her lot prior to 2001 and always understood that it would be provided water and sewer service. She did not find out that it was now outside the OWASA service boundary until she recently began to prepare the lot for sale. Mr. Baumgartner bought his lot more recently, but also was unaware that the lot did not currently have water and sewer service as this did not become apparent during the standard pre-purchase procedures. He only became aware of this in speaking with Ms. Sumney.

Petition

Under the WSMPBA, service to the lots at 1204 and 1205 Bayberry Lane may only be turned on with the approval of each party to the WSMPBA. Attachment 2 at page 2. This petition asks for such approval from OWASA. Permission of the other parties is being sought simultaneously.

Service to 1204 and 1205 Bayberry Lane comes at no additional cost to any party to the WSMPBA that will not be fully recouped from fees paid by the residents. There are existing water and sewer lines that only require “hook up.” Each of the other lots in the subdivision is currently provided service and, at the time Mr. Baumgartner and Ms. Sumney purchased these lots, they did so with the understanding that the lots would also be within OWASA’s service boundary. Mr. Baumgartner and Ms. Sumney only became aware that the lots were now outside the boundary when Ms. Sumney prepared to sell and develop her lot.

1204 and 1205 Bayberry Lane are in a very rare if not unique situation – water and sewer lines have already been laid and service was anticipated prior to the change in

P.M. Dubbeling, PLLC

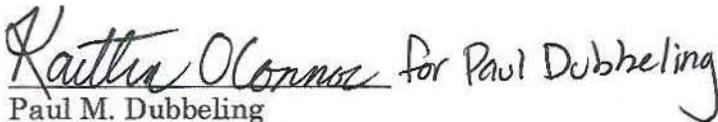
boundaries in 2001. By accepting this petition, no party runs the risk of creating a precedent whereby other properties currently outside the OWASA boundary have a rightful claim to service. OWASA is only being asked to turn on service through already existing lines. Conversely, providing services to 1204 and 1205 Bayberry Lane does not provide grounds for expanding other services areas in Orange County. Again, these lines have already been laid and the only thing needed is permission to utilize them. Providing services to 1204 and 1205 Bayberry Lane will not negatively impact any party or subvert the purpose of the WSMPBA.

Conclusion

Mr. Baumgartner and Ms. Sumney respectfully request that OWASA approve this Petition by stating that it has no objection to OWASA providing services to 1204 and 1205 Bayberry Drive in Chapel Hill.

Should any member of OWASA have any questions, I can be reached at the email or phone number below.

This the 14th day of February, 2020.

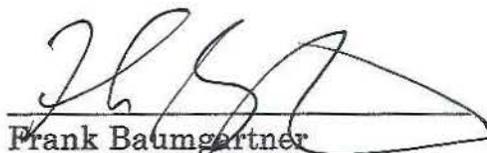


Paul M. Dubbeling
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Attorney for Mr. Baumgartner and Ms. Sumney

AFFIDAVIT OF FRANK BAUMGARTNER

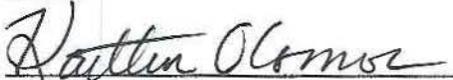
I, Frank Baumgartner, have reviewed the contents of the attached Petition for Approval to Hook Up Existing Water and Sewer Lines at 1204 and 1205 Bayberry Lane in Chapel Hill. The contents of the Petition are true and accurate to the best of my information and belief.

This the 14 day of February 2020.


Frank Baumgartner

STATE OF NORTH CAROLINA
COUNTY OF ORANGE

Sworn and subscribed to before me by Frank Baumgartner this 14 day of February 2020.


Kaitlin O'Connor
Notary Public
My Commission Expires 9/22/24

Kaitlin O'Connor
NOTARY PUBLIC
Durham County, NC
My Commission Expires September 22, 2024

AFFIDAVIT OF RACHEL SUMNEY

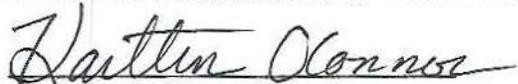
I, Rachel Sumney, have reviewed the contents of the attached Petition for Approval to Hook Up Existing Water and Sewer Lines at 1204 and 1205 Bayberry Lane in Chapel Hill. The contents of the Petition are true and accurate to the best of my information and belief.

This the 14th day of February 2020.

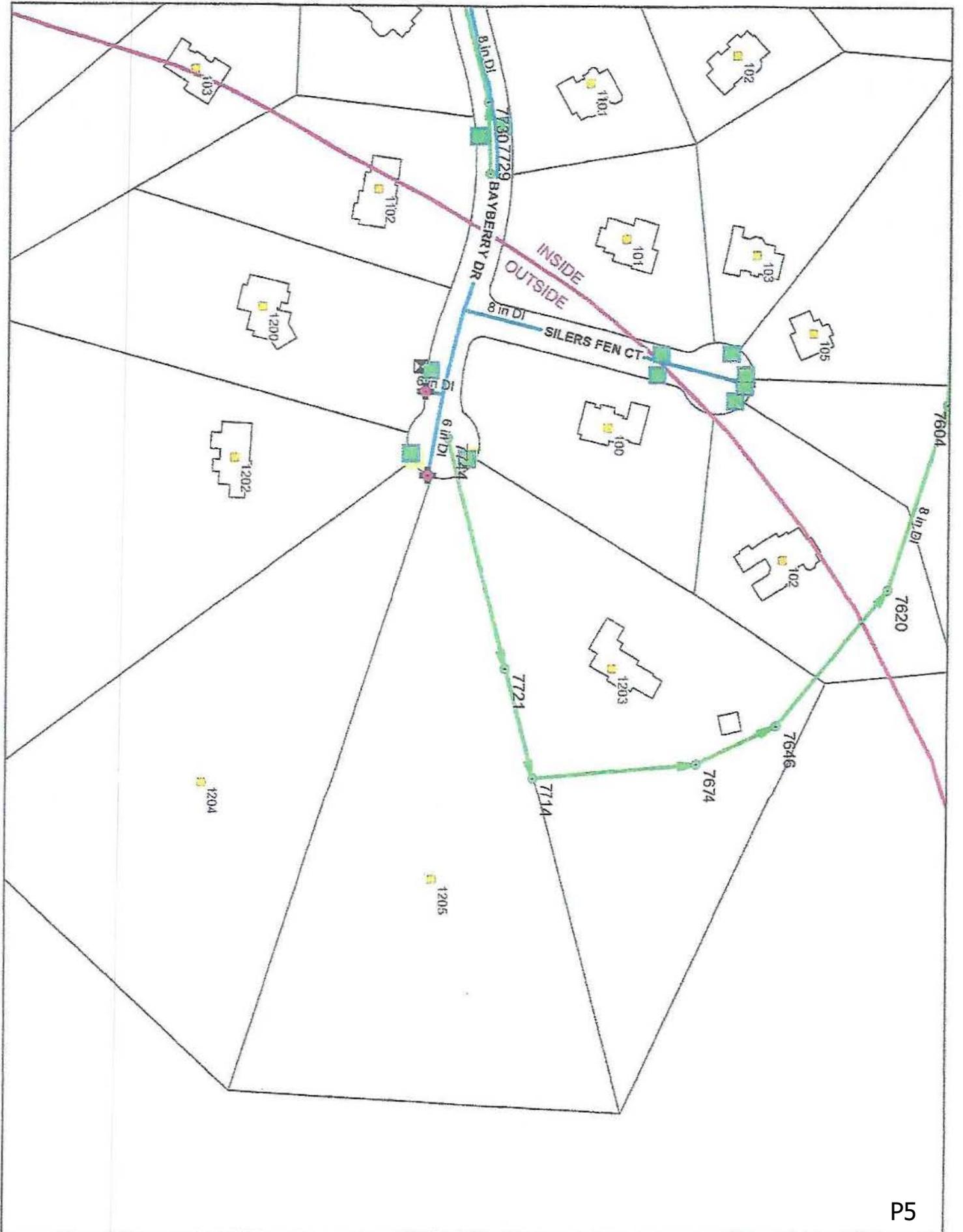

Rachel Sumney

STATE OF NORTH CAROLINA
COUNTY OF ORANGE

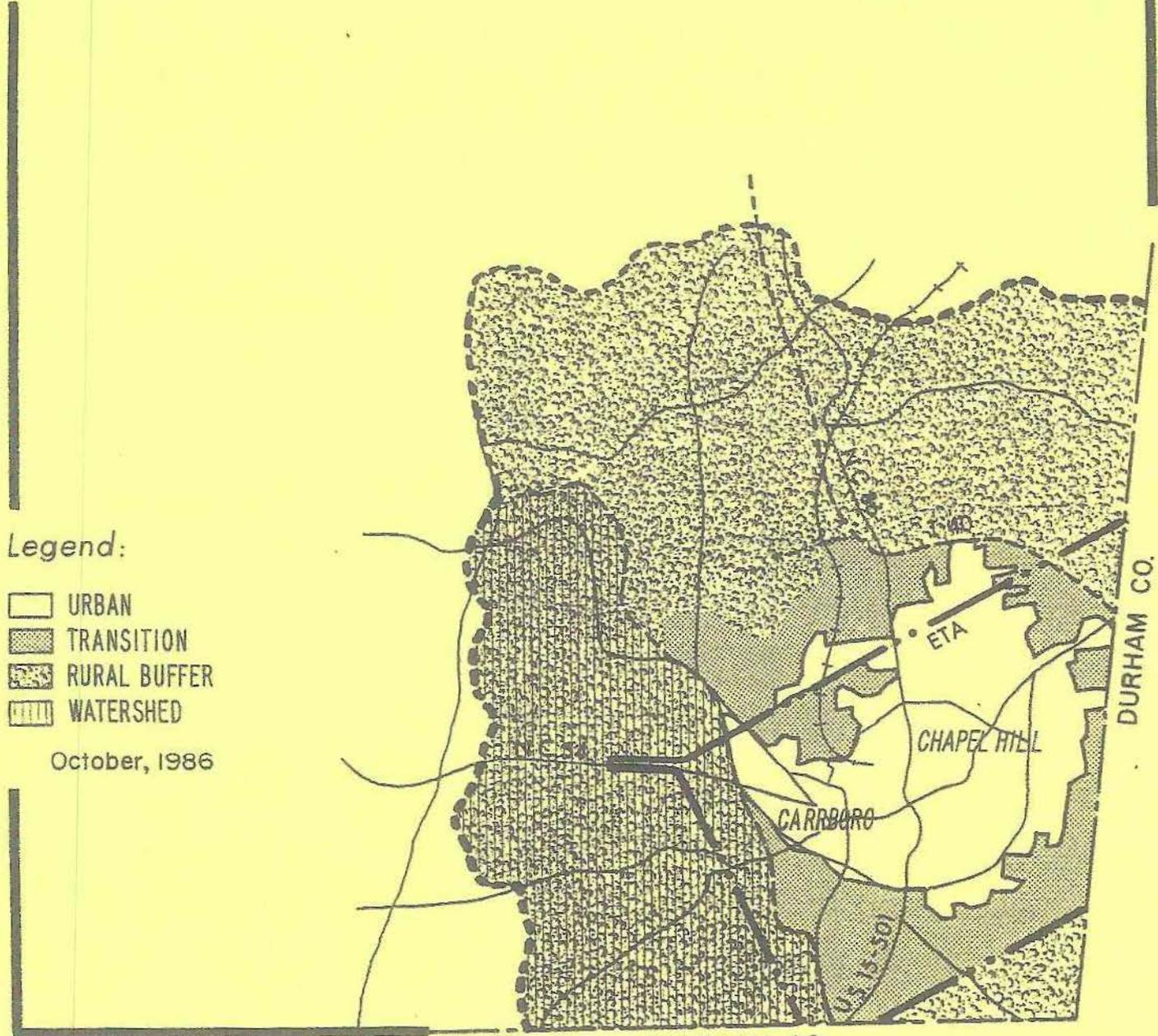
Sworn and subscribed to before me by Rachel Sumney this 14 day of February 2020.


Kaitlin O'Connor
Notary Public
My Commission Expires 9/22/24

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JOINT PLANNING LAND USE PLAN



Adopted 10-13-86
Amended 8-16-88
9-6-88
4-2-90
2-3-92 (effective 2/24/92)
2-1-93
2-2-99
8-20-02
6-24-03
10-1-03

Amended 6/9/14
6/17/14
4/7/15
12/7/15

Exhibit B

WATER AND SEWER MANAGEMENT, PLANNING AND BOUNDARY AGREEMENT

THIS AGREEMENT, made and entered into this 3rd day of December, 2001, by and between the COUNTY OF ORANGE, a political subdivision of the State of North Carolina; the TOWN OF CARRBORO, the TOWN OF CHAPEL HILL, and the TOWN OF HILLSBOROUGH, municipal corporations duly created and existing under the laws of North Carolina; and the ORANGE WATER AND SEWER AUTHORITY, a public water and sewer authority duly created and existing under Chapter 162A, Article 1 of the North Carolina General Statutes.

WITNESSETH:

In consideration of mutual benefits regarding the definition of water and sewer service boundaries and the management and planning thereof, the parties to this agreement hereby mutually agree as follows:

I. PREAMBLE

A. Charge to the Water and Sewer Boundary Task Force

Since the mid-1980's, several attempts to define water and sewer service boundaries for Orange County and the municipalities of Chapel Hill, Carrboro and Hillsborough have been undertaken. In 1994, a Task Force was formed consisting of elected officials from Carrboro, Chapel Hill, Hillsborough and Orange County, as well as two members of the Orange Water and Sewer Authority Board of Directors. The charge to the Water and Sewer Service Boundary Task Force is attached as Appendix B.

B. Purpose of Water and Sewer Boundary Agreement

1. To provide a comprehensive, County-wide system of service areas for future utility development and interest areas for dealing with private water and wastewater system problems in areas without public water and sewer service.

2. To complement growth management objectives, land use plans and annexation plans in existing agreements, such as the Orange County-Chapel Hill-Carrboro Joint Planning Agreement and Joint Planning Area Land Use Plan
 3. To resolve in advance and preclude future conflicts about future service areas and annexation areas.
 4. To provide for predictable long-range water and sewer capital improvement planning and financing.
 5. To provide for limitations on water and sewer service in certain areas, as defined.
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II. HOW THE AGREEMENT WORKS

A. Effective Date of the Agreement

This agreement shall become effective upon execution by all of the parties and signature by the chief elected or appointed official.

B. Term of Agreement

This agreement shall remain in effect for ten (10) years from its execution, and shall be renewable as provided in the following subsection.

C. Procedure for renewal

At the end of each ten year term, the agreement shall renew automatically, unless written notice is provided of intent to withdraw as noted in subsection E below.

D. Procedure for proposing and acting on changes in agreement including boundaries

1. Any change to the agreement (including boundaries) requires approval of all parties to the agreement.

OWASA Board of Directors – 12 Month Board Meeting Schedule (February 21, 2020)

Month	Board Meetings		Committee & Other Meetings
	Work Session	Business Meeting	
February 2020	Department Managers FY 21 Budget Presentations Position Reclassification for Biosolids Technician CS – Prepare for GC Interim Review (C) <div style="text-align: right;">2/13/2020</div>	Award the WTP Finished Water Pump Improvements Contract Information on proposed CMMS Discuss Safety Performance Metrics CS – GC Interim Review (C) <div style="text-align: right;">2/27/2020</div>	<i>D&I Session with VISIONS, Inc. (2/12/2020)</i> <i>Finance Committee meeting – in-depth review of 1st draft operating budget (2/24/2020)</i>
March 2020	FY 21 Draft Budget including 1 st iteration of new budget format (C) Forest Management Program Update Award the WTP Water Mains Resiliency Contract Award the WTP Chemical Facility Improvements Contract Update on New Water Main Prioritization Model <div style="text-align: right;">3/12/2020</div>	Set date for Public Hearings – FY 21 Budget & Rates (C) FY 21 Draft Budget & Rates and Proposed Staff Rate Adjustment Recommendation (C) (Tentative) Update on Website Relaunch (Tentative) Receive OC Health Department Fluoridation Report CS – Prepare for ED Interim Review (C) <div style="text-align: right;">3/26/2020</div>	<i>Board CS with the Consultant to discuss personnel matter 3/10/2020</i> <i>OC Appointees to the OWASA Board meet with Members of Orange County BOCC (3/25/2020)</i> <i>Finance Committee meeting(s) to review FY 21 budget and rates, as necessary</i> <i>Chapel Hill OWASA Board Members meet with TOCH OWASA Committee (TBD)</i>
April 2020	Review Employee Health and Dental Insurance Renewals (C) FY 21 Draft Budget and Rate Adjustment Information (C) CS – ED Interim Review (C) <div style="text-align: right;">4/9/2020</div>	FY 21 Draft Budget and Rate Adjustment Information and Authorize Staff to Publish Proposed Rates (C) Q3 Financial Report (C) <div style="text-align: right;">4/23/2020</div>	<i>Finance Committee meeting(s) to review FY 21 budget and rates, as necessary</i> <i>Interview ED Candidates (Tentative: 4/24 & 25/2020)</i>
May 2020	Approve Employee Health and Dental Insurance Renewals (C) Discuss Employee Merit Pay for FY 21 (C) Diversity and Inclusion Update (C) Discuss LRWSP Supply & Demand Alternatives <div style="text-align: right;">5/14/2020</div>	Public Hearings – FY 21 Budget and Rates (C) Approve Employee Health and Dental Insurance Renewals (if needed) (C) <div style="text-align: right;">5/28/2020</div>	
June 2020	Approve FY 21 Budget and Rates, including merit pay decision (C) Election of Officers (C) <div style="text-align: right;">6/11/2020</div>	TBD <div style="text-align: right;">6/25/2020</div>	
July 2020	TBD <div style="text-align: right;">7/9/2020</div>	TBD <div style="text-align: right;">7/23/2020</div>	
August 2020	Award the Bolinwood Drive Interceptor Contract (C) CS – Prepare for GC Annual Review (C) <div style="text-align: right;">8/13/2020</div>	Preliminary 12 Month Financial Report (C) CIP Semiannual Report (C) CS – GC Annual Review (C) <div style="text-align: right;">8/27/2020</div>	
September 2020	EEO/Affirmative Action Report & Diversity and Inclusion Update (C) Annual Report on Disposal of Surplus Personal Property (C) Forest Management Update (Tentative) Discuss Work Plan for New ED (Tentative) Discuss Process to Update the Strategic Plan CS – Prepare for ED Annual Review (C) <div style="text-align: right;">9/10/2020</div>	Annual Report and Financial Audit (C) Annual Update of the Energy Management Plan (C) Approve General Counsel Engagement (C) CS – ED Annual Review (C) <div style="text-align: right;">9/24/2020</div>	

OWASA Board of Directors – 12 Month Board Meeting Schedule (February 21, 2020)

Abbreviations Used in Draft Schedule:

<p>(C) Recurring agenda item (generally these are “required” items)</p> <p>AV/AMI Agua Vista/Advanced Metering Infrastructure</p> <p>BOCC Board of County Commissioners</p> <p>CE Community Engagement</p> <p>CEP Community Engagement Plan</p> <p>CHTC Chapel Hill Town Council</p> <p>CIP Capital Improvements Program</p> <p>COLA Cost of Labor Adjustment</p> <p>CS Closed Session of the Board</p> <p>CTC Carrboro Town Council</p> <p>CY Calendar Year</p> <p>D&I Diversity and Inclusion</p> <p>ED Executive Director</p> <p>EEO Equal Employment Opportunity</p> <p>FY Fiscal Year</p> <p>GC General Counsel</p> <p>HR Human Resources</p>	<p>JLP Jordan Lake Partnership</p> <p>KPI Key Performance Indicator</p> <p>LRWSP Long-Range Water Supply Plan</p> <p>MOA Memorandum of Agreement</p> <p>MWBE Minority/Women-owned Business Enterprises</p> <p>MST Mountains-to-Sea Trail</p> <p>MFMM Multi-Family Master Meter</p> <p>NCDOT North Carolina Department of Transportation</p> <p>NRTS Natural Resources and Technical Services</p> <p>OC Orange County</p> <p>Q Quarter</p> <p>RFP Request for Proposals</p> <p>SRF State Revolving Fund</p> <p>SOW Scope of Work</p> <p>TBD To Be Determined</p> <p>WTP Water Treatment Plant</p> <p>WWTP Wastewater Treatment Plant</p>
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Orange Water and Sewer Authority

OWASA is Carrboro-Chapel Hill's not-for-profit public service agency delivering high quality water, wastewater, and reclaimed water services.

To: Board of Directors

Through: Ed Kerwin 

From: Allison Spinelli

Date: February 21, 2020

Subject: **Information on Proposed Computerized Maintenance Management System**

Purpose

To provide information on the proposed new Computerized Maintenance Management System (CMMS) project.

Background

OWASA staff maintains over 6,530 pieces of active equipment at the Water Treatment Plant (WTP), Wastewater Treatment Plant (WWTP), three reservoirs, 21 wastewater pump stations, and other facilities and as well as over 231 vehicles, associated equipment, and pieces of heavy equipment. Our WTP and WWTP maintenance staff have utilized Infor's MP2 CMMS software as the work order management and asset inventory system for over 20 years. The software is outdated, not mobile-enabled, no longer being improved or developed by the vendor, and no longer meets our work order management or asset management needs. WTP and WWTP staff requested that we look at a new system that provides improvements with regards to work order management, asset management, cost tracking, mobility, among other needs. Additionally, this request provided an opportunity to evaluate and ensure that Cityworks is meeting the needs of the Distribution and Collection Systems department. (Cityworks is the CMMS software currently used by the Distribution and Collection Systems department.) Beginning the process to select a new and comprehensive CMMS is one of the Reliability and Resiliency objectives in the [Executive Director's Key Focus Areas](#) approved by the Board in November 2019.

Discussion

After contacting several peer utilities, we learned they utilize a variety of different CMMS software packages to varying degrees of success (City of Durham – a combination of NexGen and Cityworks, Raleigh Water – Cityworks, Winston-Salem/Forsyth County Utilities – Maximo, Town of Cary - Utility Cloud, Fayetteville Public Works Commission – Oracle). A



multi-departmental team was formed to better understand the magnitude and goals of this project. OWASA's team is made up of the IT Department Director, the General Manager of Operations, the Water Supply and Treatment Manager, the Wastewater Treatment and Biosolids Recycling Manager, and the Asset Manager. The diverse team makeup is important to allow for all of the different needs of the organization to be captured and accounted for within this important project. Moving forward we also plan to include the Distribution and Collection System Manager in this project team since we are evaluating Cityworks within this project as well.

OWASA's project team came to consensus that assistance from a consultant that specializes in CMMS implementation is essential. By capitalizing on the extensive experience a consultant has with this type investment, we will better understand the best-in-class options for CMMS software, find a solution that will work for OWASA for years to come, and ensure an effective implementation which will help us avoid costly mistakes. The consultant's expertise will help identify the evaluation criteria for a new CMMS and the software packages that will meet our needs for today and into the future; they will also assist and guide the implementation phase of this project. A large portion of the upfront work associated with this project will include assessing organizational readiness: in particular, ensuring we have the right resources, training, and knowledge to implement and fully realize the benefits of the software and overall program. This approach is similar to how we utilized a consultant to help with the Advanced Metering Infrastructure project (from vendor selection through implementation).

OWASA released a request for qualifications (RFQ) for consulting services in November 2019 and received responses in December 2019. Our project team reviewed the responses and selected the consulting firm Hazen and Sawyer as best qualified and began developing a scope of services. The first draft scope and fee were received in early January 2020. Initial work to refine the scope and fee was completed with Hazen and Sawyer and a second draft of the scope was received in February 2020 and includes the following:

- Assessing our current CMMS Software and Business Processes
 - Business process mapping of how we currently manage the work order process, where opportunities for improvements exist, and identify gaps
- Developing the requirements for the new CMMS software
 - Workshops/interviews with end users
 - Workshops/interviews with supervisors and high-level users
 - Identify how the requirements align with OWASA's core mission, strategic plan/vision, asset management goals, and other enterprise data systems
- Assessing institutional readiness and creating a business case for a new software system
 - Business Requirements, Functional Requirements, and Technical Requirements
 - Staffing requirements and technological competence
 - IT requirements/limitations
 - Cost/Benefits
 - Support for level of service goals and performance measures
- Developing the Request for Proposals for the new CMMS
 - This includes visiting with other utilities and seeing their systems in action, capturing lessons learned from their CMMS selection and implementation

- Reviewing Proposals from vendors
 - Checking references, past experience and alignment with our requirements
- Participating in OWASA-specific demonstrations and interviews with vendors
 - Assist in developing vendor required demonstrations using our data and our type of work order process to assess in real-time how our staff can use the software

The total fee for these consultant services is \$172,000, about \$120,000 of which will be spent in Fiscal Year (FY) 2020 and with the remainder (~\$52,000) in FY 2021. The upcoming FY 2021 budget request will include initial funding of \$250,000 for CMMS procurement and implementation, including software, associated licensing fees, implementation of the software, migration of our existing data into a new system, training, and potential additional project oversight from our consultant team. However, we will not know the full cost of a new CMMS system until we complete the assessment and procurement process. Hazen and Sawyer has provided an estimated range of \$250,000-\$900,000 depending on the CMMS system selected and the type (vendor or third party) of implementation needed.

The new CMMS project was not funded in FY 2020 since it was dependent upon the Asset Manager position being filled. We are not proposing a budget amendment at this time because we think we can cover the expense under the existing budget.

Our team recognizes the upfront investment of \$172,000 for consultant assistance is significant. There are many CMMS products available in the market place and there is not a clear choice CMMS software solution for the water and sewer industry. As noted above, five of our peer utilities use five different CMMS products. As we learned from our very successful experience with the Advanced Metering Infrastructure project, we believe this is a smart upfront investment to select the the best CMMS for OWASA, ensure a smooth implementation, and provide a successful long-term maintenance and asset management tool.

If you have any questions, please let me know. I look forward to keeping the Board apprised of our progress on this project.



Allison M. Spinelli, P.E.
Asset Manager

AGENDA ITEM

- Resolution Awarding a Construction Contract for the Jones Ferry Road Water Treatment Plant Finished Water Pumping Improvements.

PURPOSE

- To request the Board's approval to award a construction contract for the Jones Ferry Road Water Treatment Plant Finished (WTP) Water Pumping Improvements Project (Project).

BACKGROUND

- The Project consists of replacing Finished Water Pump No. 5, installing a new Variable Frequency Drive (VFD) and associated work. The project increases reliability and provides a redundancy as an alternate pump to Pump No. 4 to the finished water pumping system, replaces aging equipment, and addresses certain risks identified in the WTP Risk and Reliability Action Plan.
- Plans and specifications for the construction of this project were prepared by AECOM (Engineer).
- The construction contract was publicly bid. Three bids were received at the re-bid deadline of February 13, 2020 and opened publicly. The apparent low bidder was Dellinger, Inc. (Dellinger) with a bid of \$783,000.00. The Engineer's estimate was \$979,055.00.
- The Engineer evaluated bids and the qualifications of the low bidder to successfully complete the work, and subsequently recommended award of the construction contract to Dellinger.
- Minority and Women-Owned Business Enterprise (MWBE) participation for the low bidder includes approximately 19.4% of the contract value, consisting of 17.9% (Women-owned) and 1.5% (Hispanic) participation.

STAFF RECOMMENDATION

- Staff recommends that the Board of Directors adopt the attached resolution awarding the construction contract for the Jones Ferry Road Water Treatment Plant Finished Water Pumping Improvements Project to Dellinger.



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MEMORANDUM

TO: Board of Directors

THROUGH: Ed Kerwin 

FROM: Brad Barber, P.E.

DATE: February 20, 2020

SUBJECT: **Award of Construction Contract for Jones Ferry Road Water Treatment Plant Finished Water Pumping Improvements Project**

Purpose

This memorandum recommends that OWASA award a construction contract to Dellinger, Inc. (Dellinger) for the construction of the Jones Ferry Road Water Treatment Plant (WTP) Finished Water Pumping Improvements Project (Project).

Background

The WTP uses four pumps (Finished Water Pumps Nos. 4 through 7) to send drinking water from the plant into the distribution system. Finished water pumping is the largest consumer of electrical energy at the WTP. Pumps Nos. 4, 6 and 7 utilize variable frequency drives (VFD) and have pumping capacity ranges from 6 to 10 million gallons per day (MGD), from 7 to 12 MGD, and from 3 to 7 MGD, respectively. Pump No. 5, installed in 1985, does not have a VFD and has a capacity of 10 MGD. (A VFD is a motor controller that varies the frequency and voltage provided to an electric motor and therefore controls the speed of the motor and the associated pump.)

A Preliminary Engineering Report (PER) was completed in July 2019 which identified, evaluated, and quantified the energy efficiency and conservation opportunities within the finished water pumping system. Key recommendations from the PER informed the final scope objectives for the capital improvements program (CIP) project:

1. replace the existing Pump No. 5 pump and motor with a new, more efficient inverter duty rated motor to allow the equipment to be driven by a new VFD (rather than the outdated Reduced Voltage Soft Start);
2. increase reliability in the finished water system and provide redundancy as an alternate to the primary Pump No. 4;
3. complete electrical improvements to allow the new VFD to be served by 480-Volt switchgear

With respect to OWASA's [WTP Reliability and Risk Assessment Action Plan](#), the Project will complete an important step in addressing the Electrical Distribution System ([Risk No. W-R3](#))



mixed power system of 2300-Volt and 480-Volt by switching strictly to 480-Volt. (Note that the remainder of electrical distribution system work is currently under design as part of CIP 272-52 WTP Electrical Distribution Improvements.) The Project also is associated with the VFD replacement ([Risk No. W-R7](#)) to replace aging electrical drives that have become obsolete and difficult to repair and maintain.

The general area of work is displayed in Figure 1 below. Work for the Project will be closely coordinated with other concurrent construction work at the WTP, including the CIP 272-46 Chemical Facilities and CIP 275-92 Water Mains Resiliency Improvements projects.



Figure 1 – Location of the Project within the WTP site

Advertising and Bidding

The Project was designed by AECOM (Engineer”), and design and bid documents were completed in December 2019. The bid advertisement was posted to websites, news outlets, and emailed on December 19, 2019. A total of two bids were submitted at the initial January 28, 2020 deadline. Whereas state statute requires receipt of a minimum of three bids for construction contracts greater than \$500,000, the two received bids were returned unopened and the contract was re-advertised with a re-bid date of February 13, 2020. On February 13, 2020, a total of three bids were received and opened publicly, and the results are summarized below:

Dellinger	\$783,000.00
Eberhart Construction	\$859,000.00
Carolina Civilworks	\$962,832.00

Engineer's Estimate

\$979,055.00

After an evaluation of the low bidder's project references, current projects list, financial statement and references, safety performance data, debarment status, and claims and judgements information, Dellinger was determined to be the low, responsive and responsible bidder. A copy of the certified bid tabulation is attached with the Engineer's recommendation for award (Attachment 1).

Minority and Women Business Enterprise (MWBE) Participation

OWASA's Minority Business Participation Outreach Plan and Guidelines include all of the statutory requirements from the State of North Carolina and specifies a 10% goal for participation by minority businesses. OWASA staff took several actions to solicit minority participation in this contract, including advertising the construction bid with the Greater Diversity News, publishing the advertisement on the websites of the State of North Carolina Interactive Purchasing System (NC IPS) and OWASA, and posting advertisement in multiple plan rooms. Staff also emailed the advertisement directly to approximately eighty minority contractors registered with NC IPS.

OWASA also requires bidders to complete "good faith efforts" to solicit participation by minority subcontractors, and to attest to those efforts via an affidavit submitted with the bid. Staff reiterated this requirement at the pre-bid meeting and provided the bidders with detailed guidelines. Dellinger provided the required documentation of their good faith efforts, including identification of their subcontractors who qualify as Minority and Women-owned Business Enterprise (MWBE) contractors. The total percentage of work going to MWBE in this contract is approximately 19.4% of the contract value, consisting of 17.9% (Women-owned) and 1.5% (Hispanic) participation.

Bid Analysis and Recommendation

Staff are satisfied that the proposed contract amount represents a competitive price for this work. Based on feedback received from contractors and consultants, the low number of bids on this project appears to reflect the general bidding climate at this time, with an increasing number of private and public projects competing for a limited set of qualified contractors.

Dellinger has demonstrated sufficient qualifications in past project performance (including the recent WTP projects for Sedimentation Basin Rehabilitation, Filter Media and Backwash Improvements, and Fluoride System Improvements projects), personnel qualifications/experience, and reference checks. OWASA staff also determined that Dellinger met safety performance, relevant project experience, bonding capacity, and other requirements.

AECOM's recommendation that the construction contract for this project be awarded to Dellinger is attached along with the certified bid tabulation (Attachment 1). OWASA staff strongly concurs with this recommendation and requests the Board's adoption of the attached resolution (Attachment 2) awarding the construction contract to Dellinger.

WTP Finished Water Pumping Improvements Project

February 20, 2020

Page 4

Please let me know if you have any questions or need additional information. I can be reached at 537-4245 or bbarber@owasa.org. Thank you.



Brad Barber, P.E.

Utilities Engineer

Attachment 1 – Engineer’s Recommendation for Award and Certified Bid Tabulation

Attachment 2 – Resolution

February 19, 2020

Mr. Brad Barber, PE
OWASA Utilities Engineer
400 Jones Ferry Road
Carrboro, NC 27510

Re: Water Treatment Plant Finished Water Pumping Improvements Project
CIP No. 272-42
Bid Recommendation

Dear Mr. Barber:

On Thursday, February 13, 2020, three (3) bids were received at the Board Room of the Orange Water and Sewer Authority (OWASA) headquarters building for construction of the Water Treatment Plant Finished Water Pumping Improvements Project. The results of the bids are shown below.

No.	Bidder	Lump Sum Bids
1	Dellinger, Inc.	\$783,000.00
2	Eberhart Construction, Inc.	\$859,000.00
3	Carolina Civilworks, Inc.	\$962,832.00
	<i>Engineer's OPCC</i>	\$979,055.00

Dellinger, Inc. is the lowest responsive, responsible bidder for the project with a base bid of \$783,000.00. This bid was within 20% of the Engineer's opinion of probable construction cost (OPCC). Although the Engineer's OPCC is higher than all the bids, the second lowest bid is within 10% of the lowest bid which indicates that two lowest bids are consistent and competitive.

Based on AECOM's review, Dellinger's bid is complete: all addenda are acknowledged; all contract items are signed and sealed, and there are no math errors on the bid form. Dellinger, Inc. experience meets the project requirements, their financial statement was audited by a third party and our review found no issues, and their NC contractor license is active.

Dellinger's Past Safety Performance provided in the bid indicates that their current year EMR is 0.94 and the previous DART Rates are 0.96, 0.93, and 2.63. Their three-year average DART rate is 1.507. The 2018 rate for NAICS 237 (U.S. Bureau of Labor Statistics) is 1.5, therefore Dellinger's three-year average is less than 1.5 times the national average.

We reached out to several of Dellinger's relevant project references:

- Brad Flowers (City of Albemarle WWTP) said they have worked with Dellinger on several projects at the WWTP and all have been successful and will continue to work with them on future projects.
- Simon Lobdell (OWASA) said he has no concerns with Dellinger, and that they have done well at completed all work in accordance with plans, specs, and the Authority's directions.
- Steve Scruggs (AECOM) has worked with Dellinger on past projects and does not have any issues with them.

Our evaluation of the experience and reputation of Dellinger Inc. indicates that this company is capable of completing the work required under this project. Therefore, we recommend awarding this contract to Dellinger, Inc. in the amount of \$ 783,000.00.

Please advise of any questions or comments you may have concerning this recommendation.

Respectfully,

AECOM Technical Services of North Carolina, Inc.



Reid Campbell, P.E.,

Enclosure

Copies:
Stephen Crowe, AECOM
David Gustafson, AECOM

BID TABULATION

Project Owner: Orange Water and Sewer Authority
Project Name: Water Treatment Plant Finished Water Pumping Improvements
Bid Opening Date: Thursday, Feb 13, 2020
Bid Opening Time: 1:00 PM
Bid Opening Location: Orange Water and Sewer Authority
 Board Room
 400 Jones Ferry Rd
 Carrboro, NC 27510

Name of Bidder	Carolina Civilworks, Inc.	Dellinger Inc.	Eberhart Construction Inc.
Address of Bidder	PO Box 80337 Raleigh, NC 27623	2631 Old Charlotte Highway Monroe, NC 28110	9040 Idas Way Willow Spring, NC 27592
North Carolina Contractor's License No.	74658	5992	27847
Executed Lump Sum Bid Form	X	X	X
Acknowledgement of All four (4) Addenda	X	X	X
Certified List of Equipment/Material Manufacturers and Subcontractors/Suppliers	X	X	X
Certification Affidavit	X	X	X
Bid Certification	X	X	X
Contractor Experience	X	X	X
Qualifications of Bidders	X	X	X
Appropriate Bid Form Signature Page	X	X	X
Bid Security or Bid Bond and Power of Attorney	X	X	X
Proposal Signature Page	X	X	X
Contractor's Affidavit of Organization and Authority	X	X	X
Non-Collusion Affidavit of Bidder	X	X	X
Equal Employment Opportunity Certification	X	X	X
Acknowledgement for Equal Opportunity Certification	X	X	X
Bidder's North Carolina General Contractor's License	X	X	X
M/WBE Identification of Minority Business Participation	X	X	X
M/WBE Affidavit A or B	X	X	X
Submitted Bid as Written	\$ 962,832.00	\$ 783,000.00	\$ 859,000.00

Discrepancies:

1. None

I hereby certify that the tabulation of bids shown herein was prepared under my direct supervision on this date, and that all information herein is true, and complete to the best of my knowledge.

Prepared By: Reid Campbell, PE
 AECOM Technical Services of North Carolina, Inc.
 F-0342
 1600 Perimeter Park Drive
 Morrisville, North Carolina 27560



**RESOLUTION AWARDING A CONSTRUCTION CONTRACT FOR THE JONES
FERRY ROAD WATER TREATMENT PLANT FINISHED WATER PUMPING
IMPROVEMENTS PROJECT**

WHEREAS, there is a need to improve the finish water pumping capabilities at the Jones Ferry Road Water Treatment Plant; and

WHEREAS, plans and specifications for the construction of this project have been prepared by AECOM; and

WHEREAS, the construction contract bid was publicly advertised on the State of North Carolina Interactive Purchasing System and OWASA websites, Greater Diversity News, and MWBE contractors were directly contracted on December 19, 2019; and

WHEREAS, Dellinger, Inc. of Monroe, North Carolina has been determined to be the low responsive, responsible bidder for the project; and

WHEREAS, on June 13, 2019 the Board approved a resolution authorizing funds for Capital Improvement Projects, including funds for this project;

NOW, THEREFORE, BE IT RESOLVED:

1. That the Orange Water and Sewer Authority Board of Directors awards the construction contract to Dellinger, Inc. the low responsive, responsible bidder for the Jones Ferry Road Water Treatment Plant Finish Water Pumping Improvements Project, in accordance with the approved plans and specifications, in the amount of \$783,000.00, subject to such change orders as may apply.

2. That the Executive Director be, and hereby is, authorized to execute said contract, subject to prior approval of legal counsel, and to approve and execute change orders and such documents as may be required in connection with the construction contract.

Adopted this 27th day of February, 2020.

Raymond E. DuBose, P.E., Chair

ATTEST:

Bruce Boehm, Secretary

Orange Water and Sewer Authority
 Special Meeting of the Board of Directors
 January 30, 2020

The Board of Directors of the Orange Water and Sewer Authority (OWASA) held a Special Meeting on Thursday, January 30, 2020, at 6:00 p.m. in OWASA's Community Room, 400 Jones Ferry Road, Carrboro.

Board Members present: Raymond (Ray) DuBose (Chair), Ruchir Vora (Vice Chair), Bruce Boehm (Secretary), Yinka Ayankoya, John Cooley, Jody Eimers, Robert Morgan, John N. Morris and Bruce Runberg.

OWASA staff present: Mary Darr, Monica Dodson, Patrick Davis, Vishnu Gangadharan, Robin Jacobs (Epting and Hackney), Ed Kerwin, Andrea Orbich, Ruth Rouse, Todd Taylor, Mary Tiger, Stephen Winters and Richard Wyatt.

Others present: Meg Holton (UNC Water Resources Manager) and Terri Buckner.

Motions

No Motions were made.

* * * * *

Announcements

Ray DuBose asked if any Board Member knows of a conflict of interest or potential conflict of interest with respect to any item on the agenda tonight to disclose the same at this time; none were disclosed.

Item One: Preliminary Evaluation of Supply and Demand Management Alternatives for the Long-Range Water Supply Plan

Ed Kerwin, Executive Director, provided background information on OWASA's update of the Long-Range Water Supply Plan (LRWSP). The LRWSP is Carrboro-Chapel Hill's roadmap to ensure there is reliable, high-quality supply of water for the community through 2070. Mr. Kerwin said OWASA has a long history of being proactive and making important decisions regarding the communities' water supply. He provided a summary of OWASA's key water supply actions since 1977.

Ruth Rouse, Planning and Development Manager, said OWASA is currently at low risk of running out of water; she further noted that the information in the agenda package is a working draft, and costs and other technical information may be updated in future reports. She then provided a presentation on the background information of the draft evaluation of Supply and

Demand Management Alternatives for the LRWSP. The Board and staff had a lengthy discussion on the nine supply alternatives.

Staff stated that as part of Alternatives 1 – 4 (alternatives to access Jordan Lake), staff will recommend the Drought Response Operating Protocol be updated to include flexibility to utilize OWASA's Jordan Lake allocation during non-peak demand periods.

Board comments on the supply alternatives included:

- Requested the Board approved 2016 goals be listed in the agenda documents;
- Recognized that the Board should make short-term and long-term decisions concerning water supply;
- Requested that Western Intake Partners (Jordan Lake Alternative 4) have high environmental standards for a new intake and plant; Staff noted that the Western Intake Partners are evaluating the use of the Institute of Sustainable Infrastructure Envision program;
- Deep Quarry Reservoir alternative (Alternative 6) seems expensive; Board members also requested that the cost of the improvements to the Cane Creek pump station and parallel raw water line be estimated separately from the Quarry pump station needs and provide more information on the capacity of the Cane Creek pipeline;
- Reclaimed water options (Alternatives 7, 8, and 9) will result in reduced flow in Morgan Creek and this should be noted; and
- Summary table of options should include some way to evaluate the impact of the option on drought or the risk of needing mandatory water conservation measures.

The Board noted that Demand Management Alternatives will impact revenue. The Board agreed to review the Demand Management Alternatives at a future spring meeting and staff will provide a consolidated summary table of the alternatives that evaluates their impacts from a social, environmental, and financial perspective. The Board also requested staff provide OWASA's mutual aid agreements with Town of Cary and City of Durham.

The meeting was adjourned at 8:45 p.m.

Respectfully submitted by:

Andrea Orbich
Executive Assistant/Clerk to the Board

Orange Water and Sewer Authority
Meeting of the Board of Directors
February 13, 2020

The Board of Directors of the Orange Water and Sewer Authority (OWASA) met in a work session on Thursday, February 13, 2020, at 6:00 p.m. in OWASA's Community Room, 400 Jones Ferry Road, Carrboro.

Board Members present: Ruchir Vora (Vice Chair), Bruce Boehm (Secretary), Yinka Ayankoya, Jody Eimers, Robert Morgan, John N. Morris and Bruce Runberg. Board Members absent: Raymond (Ray) DuBose (Chair) and John Cooley.

OWASA staff present: Justin Andrews, Mary Darr, Monica Dodson, Jesse DuClau, Robert Epting, Esq. (Epting and Hackney), Pat Farl, Vishnu Gangadharan, Stephanie Glasgow, Tiffanie Hawley, Marcus Hill, Blake Hodge, Robin Jacobs (Epting and Hackney), Tyrus Johnson, Ed Kerwin, Ken Loflin, Andrea Orbich, Nick Rogers, Ruth Rouse, Kelly Satterfield, Shawn Stanley, Todd Taylor, Mary Tiger, Stephen Winters and Richard Wyatt.

Others present: Randy Horton and Meg Holton (UNC Water Resources Manager).

Motions

1. BE IT RESOLVED THAT the Board of Directors of the Orange Water and Sewer Authority adopts the Resolution to amend the Schedule of Employee Classification and Authorized Compensation to Reclassify the Biosolids Recycling Technician Position. Motion by Yinka Ayankoya, second by Robert Morgan and unanimously approved.
2. Yinka Ayankoya made a motion to approve the Minutes of the January 23, 2020 Meeting of the Board of Directors; second by Ruchir Vora and unanimously approved.

* * * * *

Announcements

Ruchir Vora asked if any Board Member knows of a conflict of interest or potential conflict of interest with respect to any item on the agenda tonight to disclose the same at this time; none were disclosed.

Mr. Vora said on Wednesday, February 12, 2020 the Board held a Diversity and Inclusion Session with VISIONS, Inc. This session was productive and well received by the all Board members in attendance.

Bruce Boehm announced there will be a Finance Committee Meeting on Monday, February 24, 2020 at 5:00 p.m. in the OWASA Boardroom to provide an opportunity for an in-depth analysis of staff's first draft of the Fiscal Year 2021 Operating Budget.

Jody Eimers announced the Chatham-Orange Task Force Meeting was rescheduled to Friday, March 6, 2020 at 12:00 noon at a place to be determined. Discussion topics include: an update on development along the 15-501 corridor between Pittsboro and Interstate 40 (at the Durham County line); affordable housing strategies and programs; and the Regional Transit/Transit Plan.

Robert Morgan provided an update on the executive search and assessment services for OWASA's next Executive Director. He said a closed session will be scheduled for the first or second week in March 2020 to receive a report from the consultant on the top candidates. Mr. Morgan also noted that the Board will develop specific criteria as part of the selection process and the Board will have the opportunity to review questions from the consultant for interviews in April 2020.

Robin Jacobs announced the passing of former and founding Board Member, Shirly Marshall, on January 28, 2020. Ms. Marshall was very active in the Carrboro-Chapel Hill-Orange County Community.

Item One: Position Reclassification for Biosolids Recycling Technician

Yinka Ayankoya made a motion to adopt the Resolution to Amend the Schedule of Employee Classification and Authorize Compensation to Reclassify the Biosolids Recycling Technician Position; second by Robert Morgan and unanimously approved. Please see Motion 1.

Item Two: Minutes

Yinka Ayankoya made a motion to approve the Minutes of the January 23, 2020 Meeting of the Board of Directors; second by Robert Morgan and unanimously approved. Please see Motion 2.

Item Three: Department Managers Fiscal Year 2021 Budget Presentations

Todd Taylor, General Manager of Operations, provided an overview of this item and introduced the presenters: Kenneth Loflin (Water Supply and Treatment Manager), Jesse DuClau (Distribution and Collection Systems Manager) and Monica Dodson (Wastewater Treatment and Biosolids Recycling Manager).

Mr. Loflin said after a taste and odor event in 2017, new equipment (Gas Chromatograph/Mass Spectrometer) and a new Lab Analyst position was supported by the Board which allows staff to track the taste and odor changes in real-time and more quickly adjust treatment processes to meet expectations of the community. Mr. Loflin said work continues to maintain the highest level of performance within the Partnership for Safe Water while his team prepares for future challenges, including proposed changes to the Federal Lead and Copper Rule and monitoring of per- and polyfluoroalkyl substances (PFAS).

Mr. DuClau reported on his team's work last year to inspect all 13,000 valves across the system to improve the effectiveness of valve inspection program. He also discussed shifting a portion of distribution piping installation to OWASA's construction crew to reduce costs and improve employee development and morale. Staff is also working to keep up with demand for locating

our utilities as underground cabling continues across the service area in order to protect critical water and wastewater infrastructure.

Ms. Dodson said her staff is looking at the implementation of the Jordan Lake Discharge Rule for Total Nitrogen and will continue work to further optimize the process to reliably meet these new limits and achieve higher performance goals under the Partnership for Clean Water. Her team plans to reduce costs and improve safety, reliability and efficiency of the operation through implementation of a new Computerized Maintenance Management System (CMMS) and the addition of staff. These investments will allow maintenance staff to focus on preventative maintenance and better manage assets before they experience a failure.

Stephen Winters, Director of Finance and Customer Service, noted staff is in the process of purchasing CMMS and requested the Board's concurrence to move forward with the scope and cost of proposed consultant's work on CMMS. The Board requested staff provide additional information on CMMS and expressed appreciation on the process for an in-depth discussion on the operations budget. The Board will continue to receive budget updates before final adoption in June 2020.

Item Four: Review Board Work Schedule

The Board agreed to add Safety Performance Metric item and Closed Session to discuss personnel matter with General Counsel to the February 27, 2020 agenda; and add the Long-Range Water Supply Plan path forward on the Board's May 14, 2020 agenda.

The Board agreed to schedule the Closed Session with Slavin Management Consultants on Tuesday, March 10, 2020 at 6:00 p.m. and a doodle poll will be sent to schedule two full days in April (Friday & Saturday) for the Board to interview of top Executive Director candidates.

Ed Kerwin noted Orange County Health Department is on schedule to provide their report on fluoridation within a month; once received, it will be provided to the Board as an informational item on a future meeting agenda and fluoridation stakeholders will be notified.

Item Five: Summary of Work Session Items

Ed Kerwin noted the following items for staff follow-up:

- Provide information about scope and cost of proposed consultant's work on new Computerized Maintenance Management System; and
- Send a doodle poll to schedule two full days in April (Friday & Saturday) for the Board to interview top Executive Director candidates.

Item Six: Closed Session

Without objection, the Board of Directors convened in a closed session for the purpose of discussing a personnel matter.

The Board meeting reconvened in open session at 8:30 p.m., and the meeting was adjourned.

Respectfully submitted by:

Andrea Orbich
Executive Assistant/Clerk to the Board

Attachment

DRAFT

Orange Water and Sewer Authority

Closed Session of the Board of Directors

February 13, 2020

The Board of Directors of Orange Water and Sewer Authority met in Closed Session in on Thursday, February 13, 2020, following the Board meeting.

Board Members present: Ruchir Vora (Vice Chair), Bruce Boehm (Secretary), Yinka Ayankoya, Jody Eimers, Robert Morgan and Bruce Runberg. Board Members absent: Ray DuBose (Chair), John Cooley and John N. Morris.

Staff present: none.

Item One

The Board of Directors met in Closed Session without staff to evaluate General Counsel's semiannual performance review.

No official action was taken at the meeting.

The meeting was adjourned at 8:30 p.m.

Robert Morgan, Chair
Human Resources Committee

Agenda Item:

Safety Performance Metrics

Purpose:

The purpose is to provide the Board of Directors with information on the Safety Performance Metrics staff will use to inform our actions to reduce our incident rate.

Background:

The Occupational Safety and Health Administration (OSHA) has mandated the reporting of recordable injuries on an annual basis for employers who have had more than ten (10) employees at any time during the calendar year.

A recordable injury/illness is defined as one that results in one or more of the following work-related events: a fatality, loss of an eye, amputation, loss of consciousness, days away from work, restricted work, job transfer, medical treatment beyond first-aid, and hearing loss.

To gauge the safety performance of different industries, a formation of industry standards for Safety Incident Rates was determined by the Bureau of Labor Statistics (BLS). The current water/wastewater industry Safety Incident Rate is 5.5. OWASA has set a goal of 3.5 or less to promote higher safety standards than the industry. At the end of Fiscal Year 2019, our rate was 4.7, which is above our self-imposed goal.

The use of Safety Metrics is essential for informing decisions needed to provide our employees the proposed training and resources for a safe working environment. Safety metrics have been categorized as either “Leading” or “Lagging” indicators. Leading Indicators are proactive measures intended to reduce incidents and Lagging Indicators are reactive measures taken after incidents. The combined application of these measures are OWASA’s effort to reduce the incident rate.

Action Needed:

Receive and discuss report.

February 27, 2020



Orange Water and Sewer Authority

OWASA is Carrboro-Chapel Hill's not-for-profit public service agency delivering high quality water, wastewater, and reclaimed water services.

MEMORANDUM

TO: Board of Directors
THROUGH: Ed Kerwin *EJK*
FROM: Tyrus Johnson
DATE: February 21, 2020
SUBJECT: Safety Performance Metrics

Purpose

The purpose of this memo is to provide the Board of Directors with detailed information on the Safety Performance Metrics staff will use to inform our actions to reduce our incident rate.

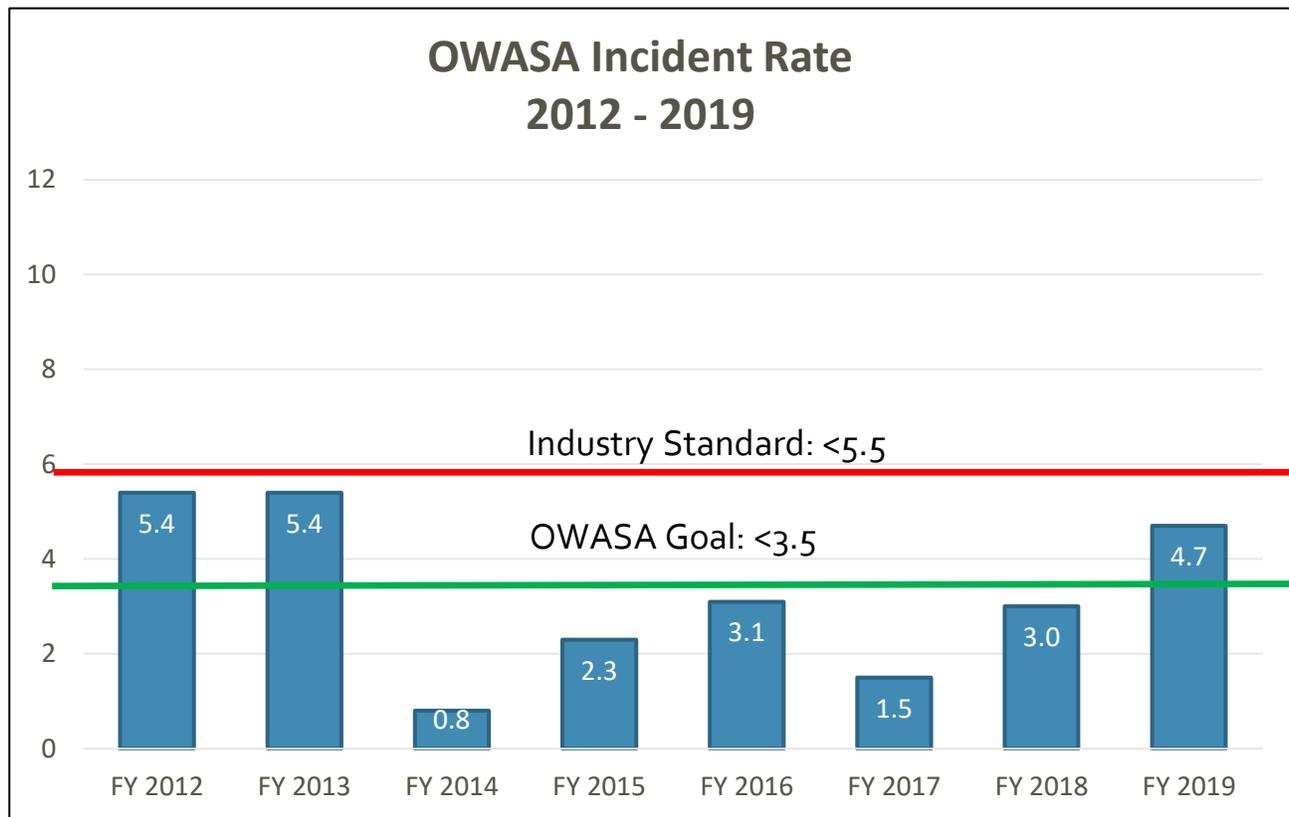
Background

The Occupational Safety and Health Administration (OSHA) has mandated the reporting of recordable injuries on an annual basis for employers who have had more than ten (10) employees at any time during the calendar year.

A recordable injury/illness is defined as one that results in one or more of the following work-related events: a fatality, loss of an eye, amputation, loss of consciousness, days away from work, restricted work, job transfer, medical treatment beyond first-aid, and hearing loss.

To gauge the safety performance of different industries, a formation of industry standards for Safety Incident Rates was determined by the Bureau of Labor Statistics (BLS). The current water/wastewater industry Safety Incident Rate is 5.5. OWASA has set a goal of 3.5 or less to promote higher safety standards than the industry. At the end of Fiscal Year 2019, our rate was 4.7, which is above our internal goal.

The chart below shows OWASA's incident rate for the past eight (8) years in relation to the industry standard and our internal goal.



Information

To inform our decisions and actions to achieve our goal of a 3.5 or less Safety Incident Rate, we have identified several Safety Performance Metrics. These metrics have been sorted into “Short-term” (to be implemented immediately) and “Mid-term” (to be implemented over the next year) objectives.

The metrics as shown below are categorized by Method of Measure, Goal/Purpose, Responsibility, Support Personnel, and whether it is a Leading or Lagging indicator. Both types of indicators are important to produce innovative solutions that result in injury reduction. The meaning of these indicator types are as follows:

- **Leading Indicator:** measures prevention efforts which can be observed and recorded prior to an accident or injury.
- **Lagging Indicator:** measures outcomes, such as an injury or accident, once it has occurred.

The Safety Metrics were formed to track, address, and provide data to analyze occurrences. The Senior and Employee Safety Committee collectively reviewed and supported these metrics. Greater explanation of each is provided below:

Metrics to Reduce Safety Incident Rate					
Short-Term Objective: 1. Reduce Recurring Incidents					
No.	Method of Measure	Goal / Purpose	Responsibility	Support Personnel	Indicator
1.1	Evaluate work area safety audit findings	Identify and correct hazardous situations in work areas	Safety and Risk Manager	Employee Safety Committee	Leading
1.2	Monitor corrective actions for incidents and near miss reports	Ensure corrective actions are being taken.	Safety and Risk Manager	Department Managers	Leading
Short-Term Objective: 2. Increase Employee Safety Awareness					
No.	Method of Measure	Goal / Purpose	Responsibility	Support Personnel	Indicator
2.1	Provide safety training sessions and track attendance	Ensure all employees receive their required safety training	Safety and Risk Manager	Employees	Leading
2.2	Monitor the number of Tool Box Safety Talks conducted	Reinforce safety guidelines prior to performing work activities	Supervisors	Department Managers	Leading
Mid-Term Objective: 3. Reduce Personal Injuries					
No.	Method of Measure	Goal / Purpose	Responsibility	Support Personnel	Indicator
3.1	Track the number of employee injuries	Identify what types of injuries are occurring and at what frequency to formulate solutions	Safety and Risk Manager	Department Managers	Lagging
3.2	Track the number of visitor injuries	Identify what types of injuries are occurring and at what frequency to formulate solutions	Safety and Risk Manager	Department Managers	Lagging
3.3	Monitor Job Safety Analysis performed	Identify corrective actions for high safety risk tasks	Safety and Risk Manager	Department Managers	Leading
Mid Term Objective: 4. Reduce Vehicle Incidents					
No.	Method of Measure	Goal / Purpose	Responsibility	Support Personnel	Indicator
4.1	Track the number of vehicle accidents	Identify trends with vehicle accidents and develop corrective solutions	Safety and Risk Manager	Department Managers	Lagging

Short-term Objectives:

1. Reduce Recurring Incidents

1.1. Evaluate work area safety audit findings:

The purpose of a work area safety audit is to identify and address any unsafe working conditions at our facilities and jobsites. Two types of audits are performed on a routine basis.

Monthly audits are performed by the Employee Safety Committee Members for their respective departments; findings are either corrected on the spot or brought to the attention of the Committee if further assistance is needed.

Quarterly audits are performed by the Safety and Risk Manager in each department. During these audits, the Department Manager and Safety Committee Member are invited to join and get a first-hand look at what is identified to immediately put corrective measures in place.

Both the monthly and quarterly audits are recorded and kept on file for progress review. The review will be evaluated by the Senior Safety Committee in the 4th Quarter. Please see the image below for an example of a quarterly audit finding.

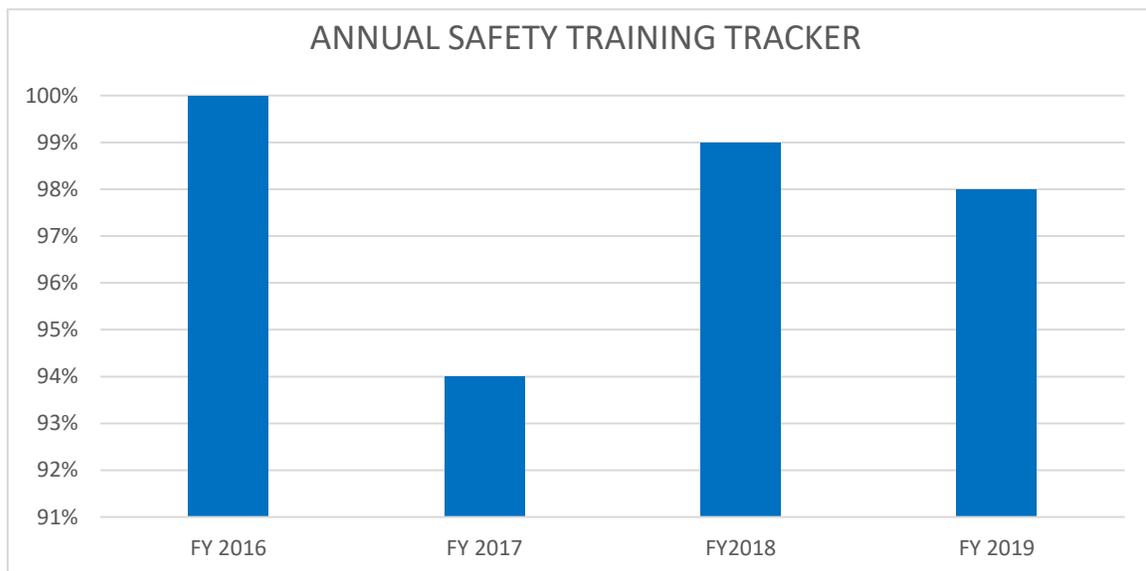
Inspection / 4.0 - Walking & Working Surfaces

4.1 - Are floor surfaces even and uncluttered?	No
<p>- Photos</p> <div data-bbox="277 1062 493 1283"></div> <p data-bbox="277 1283 354 1308">Photo 4</p> <ul data-bbox="602 1104 894 1188" style="list-style-type: none">- Replace stairs- Currently a trip hazard- Uneven surface	
4.4 - Are stairs and risers in good condition?	No
<p>- Photos</p> <div data-bbox="277 1455 493 1675"></div> <p data-bbox="277 1675 354 1701">Photo 5</p> <ul data-bbox="602 1486 894 1545" style="list-style-type: none">- Unlevel surface- Currently a trip hazard	

1.2. Monitor Corrective Actions for Incidents and Near Miss reports: All reported incidents and near misses are reviewed by the Employee Safety Committee and Senior Safety Committee. Recommendations are made regarding corrective actions to be taken. This measure requires following-up with affected employees and their departmental managers to ensure that identified issues were mitigated.

2. Increase Employee Safety Awareness

2.1. Provide safety training and track attendance: This measure tracks the attendance rates for required safety trainings. Percentages for the last four years are shown in the following chart:



OWASA’s goal is to have 100% of our workforce attend all required training sessions for their position.

With the addition of the new Safety and Risk Manager position, we have also improved the quality, content and relevancy of OWASA’s safety training. Here are a few examples of how we have accomplished this:

- Training topics and frequency have been reviewed to ensure compliance with OSHA and other regulatory requirements.
- Meetings have been held with departmental managers to discuss required trainings and any supplemental courses desired.
- Employees within each department have provided input on training for their position.
- Based on this feedback, multiple safety trainings were added to increase awareness and address concerns.
- Many of the safety training sessions are now conducted in-house by the Safety and Risk Manager.

2.2. Monitor the number of Tool Box Safety Talks conducted: This measure tracks the frequency of delivery of safety information before tasks are performed.

Providing a pre-task Tool Box Safety Talk helps employees to be more aware of the immediate hazards for the task at hand and the appropriate safety measures to take in order to avoid injuries. The Tool Box Safety Talk covers the scope of work to be performed and identifies the required Personal Protective Equipment (PPE), tools and equipment needed, documentation (confined space permits), associated hazards, and the safety procedures to be followed.

In addition to the Tool Box Safety Talk, to further increase awareness, the Senior and Employee Safety Committees have implemented a Safety Focus of The Month. Prior to distribution, a topic is selected by the Safety and Risk Manager and the Employee Safety Committee. At the beginning of each month, information is sent to all employees to bring attention to the specific topic. Topics are determined by current events, injuries, and issues directly related to our operations.



Safety Focus of the Month

Head Protection (Hard Hats)

-  Shall resist penetration
-  Shall absorb the shock of a blow
-  Shall protect against electrical shock
-  Shall meet the ANSI Z89.1 standard
-  Shall be inspected regularly
-  Shall not have holes drilled in them or contain any cracks
-  Shall fit firmly on your head
-  Each hard hat must have the following information clearly marked inside:
 -  Manufacturer's name
 -  ANSI standard that it conforms with, such as "ANSI Z89.1-2009"
 -  ANSI type and class designation (G, E or C)
 -  Size range for fitting
 -  Date of manufacture



“Promote Safety, Protect Environment, Produce Quality”

Mid-term Objectives:

3. Reduce Personal Injuries

3.1. Track the number of employee injuries: This measure accounts for each type of injury that has occurred. Below are the employee injuries for 2019:

Incident and Injury Report 2019

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Totals
Total Incidents	3	0	1	2	5	1	5	0	4	0	1	0	15
Near Miss	0	0	1	0	0	0	2	0	2	0	0	0	5
First Aid	1	0	0	0	1	0	0	0	1	0	0	0	3
Recordable	1	0	0	1	1	1	1	0	1	0	1	0	7

This chart is a sample-size version of the actual tracking metrics for incidents. The categories break down the number of incidents each month for Near Miss, First-Aid, and Recordable Injuries. With this information, we identify trends and take corrective actions moving forward.

When a recordable injury occurs, a Root Cause Analysis is performed.

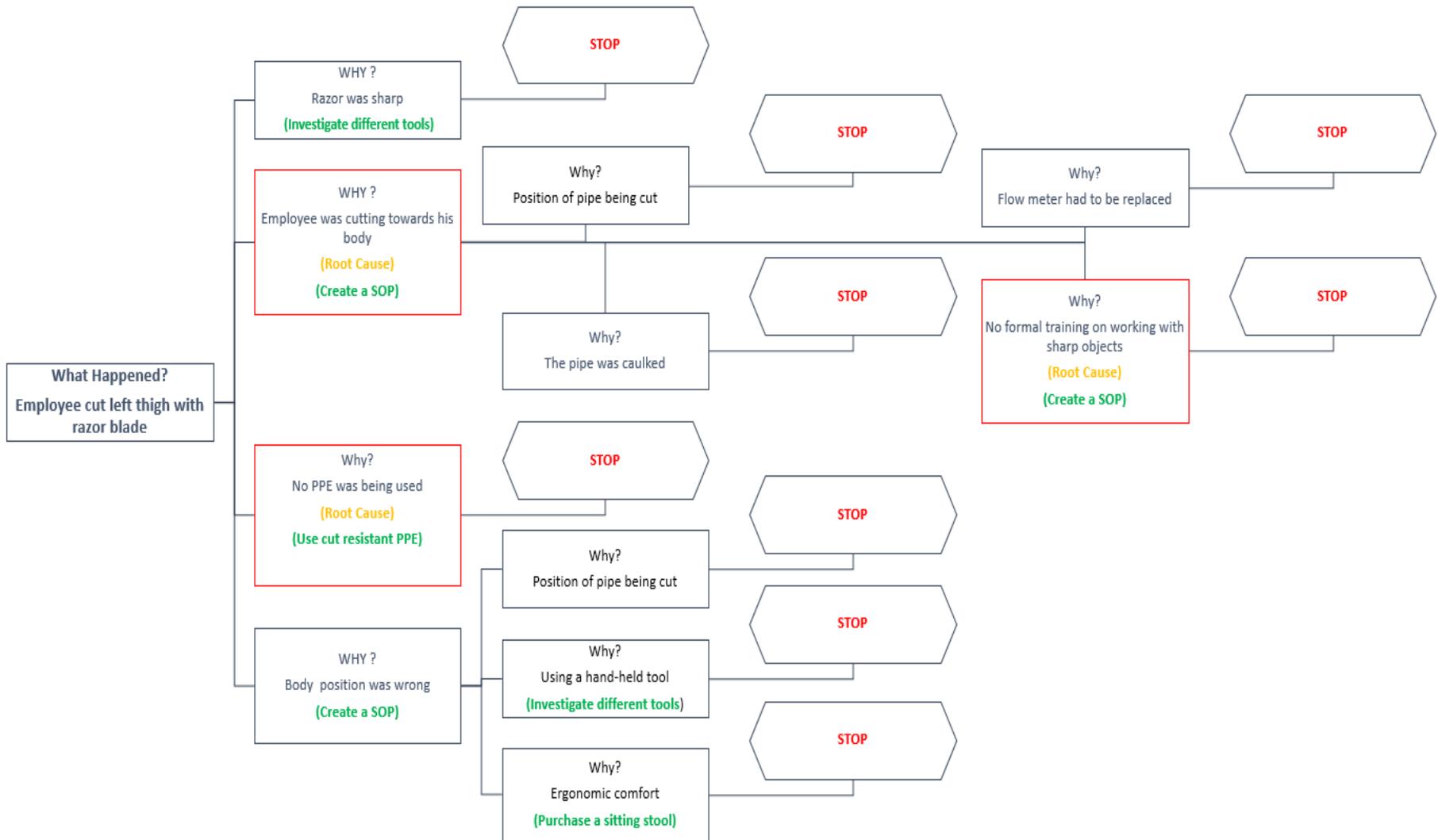
Root Cause Analysis

This analysis is a process that explores all possible reasons why the incident occurred. The method used to find the root cause is referred to as “Five Whys”. The method is simply to repeatedly ask the question, “why?” five times to identify the root cause(s) of the incident.

We have a structured method of conducting this process, as described below:

1. **Identify Root Cause Analysis Team:** this group typically includes the affected employee(s), the Department Manager, the Safety and Risk Manager, Employee Safety Committee Member, and any witnesses to the incident.
2. **Conduct Five Whys Analysis**
3. **Establish Root Cause(s):**
4. **Assign Corrective Actions**

The chart is an example of “Root Cause Analysis”. Items in **green** are corrective actions and the items in the **red** square have been identified as the root cause.



3.2. Track the number of visitor injuries:

Similar to tracking employee accidents and near-miss situations, we will also gather information on visitor accidents at OWASA facilities.

3.3. Monitor Job Safety Analysis (JSA) performed: This measure evaluates job tasks to determine what actions need to be taken to reduce the risk of injury. The objective of a JSA is to evaluate each step an employee takes to complete a job task. The JSA process is not meant to place blame or find fault in an employee; is conducted to identify risk and ensure employee safety while performing job assignments.

The corrective actions may involve one or all the following:

- Engineering Controls: Physically changing the job or work station.
- Administrative Controls: Implementing a new or updated Standard Operating Procedure (SOP) for how to safely do the job.
- Training: Initial and refresher training for how to perform the task safely.
- PPE: Additional protective equipment for the job.

An example of the first section of a JSA is provided below. In this section the activity is listed, followed by evaluation categories. These categories identify hazards associated with each element of the work being performed.

Exhibit 1

First Section of Job Safety Analysis (JSA)

Activities (Process)	Specific Area	Job/Activity/Task	Condition	Type of Risk	Subject of Job Safety Analysis	Health & Safety Hazards/Risks
Chemical Offload	Bulk Storage Chemical Offload	Chemical Offload Preparation - Employee uses fixed ladder to get inside of secondary containment to check tank valves (when required).	Normal	Ergonomics	Work Activities	Fall Hazard
	Bulk Storage Chemical Offload	Chemical Offload Preparation - Employee places plugs into secondary containment drains leading to storm water drains.	Normal	Ergonomics	Work Activities	Back Strain
	Bulk Storage Chemical Offload	Chemical Offload Preparation - Truck Driver connects hose to mobile tank for offload.	Normal	Materials and Substances	Work Activities	Chemical Spill/Chemical Exposure
	Bulk Storage Chemical Offload	Chemical Offload Preparation - Truck Driver connects hose to mobile tank for offload.	Normal	Materials and Substances	Work Activities	Pinch Hazard
	Bulk Storage Chemical Offload	Chemical Offload Preparation - Truck Driver connects hose to fixed tank cap fitting.	Normal	Materials and Substances	Work Activities	Pinch Hazard
	Bulk Storage Chemical Offload	Chemical Offload Preparation - Truck Driver connects hose to fixed tank cap fitting.	Normal	Materials and Substances	Work Activities	Chemical Reaction/Chemical Mishap
	Bulk Storage Chemical Offload	Chemical Offload - Truck Driver offloads chemical from mobile tank to fixed tank.	Normal	Materials and Substances	Work Activities	Link Breakage/Hose Leak
	Bulk Storage Chemical Offload	Chemical Offload Completion - Truck Driver disconnects hose and the employee closes valve then replaces cap fitting.	Normal	Materials and Substances	Work Activities	Chemical Spill/Chemical Exposure

In 2019, the only recurring incident was OWASA vehicles being hit by other vehicles (see items below in **red**). In total, there were 2 cases. We will continue to track this information and look at other innovative measures to reduce vehicle accidents.

2019 Vehicle Accidents

Date	NATURE OF EVENT
1/14/2019	Employee backed Vac-Con truck into the bottom of wash bay door resulting in cost for door repair.
4/26/2019	Employee ran into a wild turkey while driving the Roll-Off, resulting in a busted headlight.
5/13/2019	Employee ran off the road and flipped Dump Truck, resulting in totaling the vehicle.
5/20/2019	Employee tried to make a sharp turn and hit a guardrail, damaging the passenger door.
5/28/2019	Employee was parked at a gas station and a vehicle backed into his OWASA work truck, resulting in minor scratches to the bumper.
7/2/2019	Employee ran into an oncoming car that failed to stop at a Stop Sign, resulting in minor scratches to the truck.
7/16/2019	Employee ran into the back of a pedestrian vehicle, resulting in damage to the rear of the pedestrian vehicle and minor scratches to the truck.
7/25/2019	Employee was parked at a restaurant for lunch and another vehicle backed into his OWASA work truck.

Conclusion and Recommendations

Safety is the top priority at OWASA. The Employee Safety Committee has a new identity as “OWASA S.A.F.E.” which means Orange Water and Sewer Authority Safety Awareness For Employees. However, we are currently not meeting our goals in terms of the Safety Incident Rate.

We have recently implemented the Safety Metrics discussed herein in order to help us determine the underlying causes, and we need additional time to identify potential trends. At some point in the future, we may need additional resources to address these issues and will bring those requests to the Board of Directors when warranted.

We appreciate the Board of Directors continued interest and support for our No.1 goal.


 Tyrus Johnson
 Safety and Risk Manager