



Office of the Chief Executive

735 Randolph Street, Suite 1900
Detroit, Michigan 48226

December 29, 2016

The Honorable
Board of Directors
Great Lakes Water Authority

Dear Chairman Daddow and Directors:

Regarding: CEO's Report – December, 2016

As we closed out 2016, GLWA celebrated completing our first year of providing service to our customer communities by sharing a Season's Greeting video. Thank you to all of the GLWA staff who participated in sharing their wishes, and a special thanks to Public Affairs staff who took their idea to reality. In addition to the compliments that we received from many of our customers, the effort demonstrated the pride and focus staff have for the people we work with, and the people we serve as well as the capacity GLWA has to deliver a high quality video production for various needs. Stay tuned. Public Affairs is taking this demonstrated capacity and leveraging it for both internal communications as well as for providing products of value to our customer communities.

In December, much of the staff focus was working through training on the new BS&A budget software and then development of GLWA's second biennial budget. Significant changes and improvements are occurring with the availability of the software that permit more robust budgeting that ultimately will enable better performance tracking and timely reporting.

In parallel with budget development, through the customer outreach process, we engaged with customers in units of service discussions for both the water and sewer systems. With a drier 2016 summer, we were able to observe the increased demands and sales that occurred with that weather variability and discussed how that should be considered in our forecasting of demand and sales moving forward, particularly given the continued slight downward trend in off-peak months. The focus on sewer units of service was working through the share update process and considering data from the strength of flow analyses. GLWA staff received considerable feedback from the customer communities on units of service that will be considered as staff prepares its recommendations to the Board. In order to meet contractual notification requirements, preliminary proposed charges are scheduled to be presented to customer communities later this month. Similar to the approach last year, these charges are subject to Board consideration of the BUDGET and other factors that may result in further adjustment, but are intended to provide a preliminary basis for planning for our customer communities as they consider their own budgets.

Effective communication across an Organization is key to alignment with organizational vision, mission and goals that support high performance as well as employee satisfaction and retention. In December we launched our effort to gauge the effectiveness of various internal organization communication modes. Based on the results of focus groups engaged in this effort, a broader survey is being developed to establish a baseline and gain further insight into ways we can be more effective in communicating across the organization.

PLANNING SERVICES

Asset Management and CIP Group

The Asset Management and CIP Group, in conjunction with the Capital Management Group, presented the Draft Fiscal Year 2018-2022 Capital Improvement Plan, Version 1.1 to the Capital Improvement Planning Committee of the Board, and at the Customer Charges Roll-Out meeting on December 1. Modifications and improvements to the plan will continue over the next several months as a result of customer and Board feedback.

The Asset Management and Capital Improvement Plan Work Group's next scheduled meeting is January 10, 2017.

Date	Description
October 27, 2016	AM/CIP Work Group – New Project BCE's, format & prioritization
November 9, 2016	GLWA CIP Committee – Present and solicit input of format revisions
November 18, 2016	AM/CIP Work Group – Present 2018 CIP Version #1
November 30, 2016	GLWA CIP Committee – Present 2018 CIP Version #1
December 1, 2016	Customer Roll-Out – Present 2018 CIP Version #1
December 16, 2016	Customer Comments Due
January 10, 2017	AM/CIP Work Group – Present 2018 CIP Version #2
January 12, 2016	GLWA CIP Committee – Present 2018 CIP Version #2
January 25, 2017	GLWA Board Meeting – Present 2018 CIP Version #2
January 25, 2017 and beyond	The 2018-2022 Capital Improvement Plan approval process will align with the overall 2018 budget development process after January 25, 2017.

Asset Management Strategic Organization



Throughout the month of December an asset management governance and organizational structure called the Asset Management Strategic Organization (AMSO) was rolled out to staff members. A Strategic Asset Management Organization provides the structure by which various functions within the Authority are commonly united with a focus on how their individual activities contribute to asset management. The purpose of GLWA AMSO is to create a cross functional structure where all team members and business units clearly understand the larger picture for asset management, which involves a life-cycle approach to sustaining assets at the lowest cost while maintaining reliability, availability and safety of GLWA's assets. This framework also provides the mechanism for implementing common asset management practices throughout the Authority which support GLWA's mission. At the center of the AMSO is the Leadership Team which provides the leadership and guidance to meet GLWA's asset management goals. Satellite teams are being developed that directly support asset management. These teams are: WAM Governance Team (Oracle Work and Asset Management) system, Geographic Information System (GIS) Governance Team, Business Process Development Team, Training & Communications Team and Business Unit Asset Management Team.

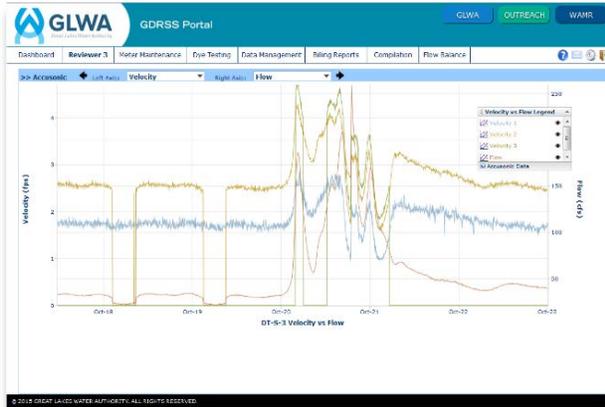
Systems Planning Group

The evaluation team for the selection of the Comprehensive Wastewater Master Plan consultant is has their determination in sight and we all look forward to identifying the selected vendor, negotiating contract terms and kicking off this project in 2017! As we get closer to finalizing the vendor and contract, future meetings of the Wastewater Master Plan Steering Committee will be scheduled.

PLANNING SERVICES (continued)

System Analytics and Meter Operations Group

Progress continues on the wholesale water meter upgrade program. In year 2016 metering technology was upgraded at eleven wholesale water meter locations, improving metering in Allen Park, Canton, Farmington Hills, Hamtramck, Troy, Van Buren and Woodhaven.



Improvements to the Greater Detroit Regional Sewerage System (GRDSS) Portal now include an analysis tool for sewer meters. The base data of the meter is included allowing data reviewers to see further analytics of signal strength and velocities for each sensor path. This provides insight into meter performance and can also be used to determine if the signal has drifted causing inaccurate flow registration. A total of 500,000 records of the base data have been added to the database.

The West Side Sewer Monitoring and Modeling Program team met with MDEQ to report progress. The project team continues to meet monthly internally to review progress. The project is ongoing for the next two or three years.

In a meeting with Oakland County, Macomb County and consultant CDM Smith at Northeast Sewerage Pumping Station on November 29th discrepancies of reported volumes between Oakland-Macomb Interceptor Drain (OMID) and GLWA were reviewed. Collaborating with the OMID engineers resulted in resolving the discrepancy and implementing a plan to have mutual data review in the future.

A programmable logic controller and radio at sewer meter location GP-S-1 was installed and made operational. This meter is located in the City of Grosse Pointe's Neff Road Pump Station and measures sanitary flow from the City of Grosse Pointe. Programming was completed to report the flow through the GDRSS Portal. Real-time flows are reported every five minutes to the portal.

Energy Management Group

Energy Management is scheduling a kick-off meeting for a solar feasibility study at eight water and sewer facilities. Solar energy may provide an ideal method to reduce energy consumption across the organization. Our processes are energy intensive, we have hundreds of treeless acres that we currently maintain at a cost and energy costs are increasing. This study will capture the cost benefit of solar energy and identify the methods to implement if feasible.

Energy Management has also joined the Municipal Energy Conservation Working Group hosted by the Office of Sustainability for the City of Detroit. The purpose of this working group is to establish a process for coordinating and advancing priority areas.

PLANNING SERVICES (continued)

Research and Innovation

GLWA is now participating in the Michigan Water Environmental Association's Sustainable Energy Committee. A meeting was held December 9th at Kettering University (KU), which included a tour of the KU anaerobic digestion laboratory and the Bioworks energy anaerobic digester and generator at the Flint Department of Public Works property. Bioworks digests wastewater sludge and food waste to provide electricity to Flint for 10% less than the price charged by the electric utility. Currently the electricity generated supplies about 10% of the load. It is expected that, as Bioworks grows and secures more food and other organic waste for digestion, and the Flint Wastewater Treatment Plant (WWTP) embarks on an aggressive energy efficiency program, the Flint WWTP could become net energy zero.

Staff members visited the Michigan State University Anaerobic Digestion Research and Education Center to learn about the anaerobic digestion research (particularly the economic feasibility work) and toured the anaerobic digester. The anaerobic digester processes 40% dairy manure and 60% food waste, sending the 70% methane digester gas to a combined heat and power unit when the electricity is sent to the grid and the heat is used to heat the digester and nearby compost wind rows. MSU's on-line tools will be explored to determine if they would be useful to use in a high-level screening of the economics for anaerobic digestion with added organic stream at the GLWA WWTP.

WASTEWATER OPERATIONS

The Wastewater Treatment Plant was in compliance with all National Pollutant Discharge Elimination System and Michigan Department of Environmental Quality water quality permits in the month of November 2016.

Wastewater Engineering

Fire Remediation

Remediation of areas in Incinerator Complex II damaged by the March fire continues. The first incinerators are expected to be in operation by February 2017. The restoration of the conveyors is continuing. The monorail reinstallation work is complete with final adjustments underway. Removal of the long installed scaffolding has begun.

The remaining work includes: installation of enhanced fire protection infrastructure; testing of replacement electrical wiring; cleaning, repair and testing of burner control panels; and installing replacement wall panels.

Biosolids Dryer Facility (BDF)

The contractor has completed all the design modifications for trains 1,2, and 3 and the required simultaneous five-day demonstration testing. The test results are under review. The contractor has proposed to complete performance testing of all trains by January 2017. Operations is reviewing the feasibility of this testing in consideration of seasonal solids availability and Complex 1 startup.

WASTEWATER OPERATIONS (continued)

The pilot testing of ferric chloride addition to reduce sulfur dioxide air emissions is completed. The contractor plans to address all the sulfur dioxide emission issues by March 2017.

Rouge River Outfall Disinfection Project

The contractor (CDM Constructors) is scheduled to submit an updated cost estimate, value engineering report, constructability review report, and design/construction schedule this week. They have scheduled site visits with potential subcontractors to gather work quotations. This design-build project requires that a Guaranteed Maximum Price must be submitted by the contractor in January 2017 in order to begin negotiations. The isolation and dewatering of one of the main wastewater treatment plant discharge conduits continues and has been somewhat problematic. This work allows for inspection access needed to predict accurate construction costs.

Industrial Waste Control (IWC)

The public comment period for the IPP rules was open on October 26, 2016 and remained open until November 23, 2016. A total of 106 comments were provided from 15 persons. Responses were prepared to address each comment, and revisions were made to the proposed rules in response to a number of the comments. All responses and revisions were provided to the Board on November 28, 2016. A public hearing was held by the Board on the proposed rules as amended by public comment. No further comments were made at the hearing from the public and the Board approved the rules as revised. Concurring resolutions will be sought from the county and community governmental bodies prior to submission to the State of Michigan.

The IWC section has been working with the Information Technology and Purchasing groups to find replacement software for the existing Pretreatment (PIMS) and Laboratory (LIMS) Information Management Systems. During the month of November, additional discussions occurred to finalize the Statement of Work and Terms and Conditions. The Office of the General Counsel is reviewing the comments on the Terms and Conditions.

WATER OPERATIONS

Water Quality

The Water Quality team began a study in 2014 to monitor for mercury. Many devices historically used in the water systems to monitor pressure and calibrate pressure gauges contained small amounts of elemental mercury. Several federal regulations now limit the use and import/export of mercury in the United States. As an effort to ensure that the quality of GLWA's drinking water was not compromised by past practices, the Water Quality group (in conjunction with the Meter Operations group) began to sample the 290 meter pits in the fall of 2014 for mercury, and completed this project in November 2016. Coordination between groups was required to gain entry into each of the meter pits. In addition, water was collected from locations within the GLWA distribution system. The current public health goal and the maximum contamination level (MCL) for mercury in drinking water is 2.0 ppb. All sample site locations within the distribution system and meter pits were <0.2 ppb the reporting limit for mercury, which is excellent news.

WATER OPERATIONS (continued)

Water Engineering

As part of his CE-5995/7995 Advanced Water Treatment class at Wayne State University, Water Operations Engineering Manager Grant Gartrell toured a class of engineering students around the Springwells Water Treatment Plant in November. Engineer Eric Kramp, who is overseeing the \$75-million SP-563 construction project at Springwells, participated in the tour. Eric and Grant showed examples of the engineering disciplines involved on GLWA design and construction projects such as architectural, structural, process mechanical, building mechanical, electrical, instrumentation, and controls. The students were amazed with the size of the plant and were especially impressed with the interior architectural grandeur of the Springwells high-and low-lift pumping plant. This is part of GLWA's effort to encourage interest in our service area and to support the education of our future generation.



Pictured: WSU Civil Engineering Students, Grant Gartrell (third from left).

Field Services

Telegraph – Project 684A – 36” from Cherry Hill to Warren: The 300-foot bore at Ford Road is complete with the pipe being installed. Open cut scheduled to begin at Cherry Hill going north on December 21. The bore crew is expected to move the pit to the north the following week at George Avenue for the bore underneath the county drain.

WATER OPERATIONS (continued)

Fleet and Facilities

GLWA Vehicle Inventory began November 17 and concluded on November 29. The purpose of the inventory was to establish the value of GLWA fleet assets. During the inventory, vehicle registration and proof of insurance were placed in the vehicles. Eighty percent (80%) of the vehicle inventory was complete as of December 9, 2016. Work continues.

Systems Control

30” Water Main under Rouge River

The contractor is expecting water main delivery on January 15, 2017. The contractor will mobilize at the site two weeks prior to the delivery date. Total time for Horizontal Direction Drilling and tie-ins will be approximately four weeks.

Sewer Inspection Program

The primary objective of the Interceptor and Sewer Inspection Program initiated by GLWA in 2016 is to perform inspections and assess the structural integrity and maintenance condition of sewer infrastructure. Repairs and identification of Capital Improvement Projects follow on from the inspection results. Sewer Inspection continues on the eastside with approximately 35,744 LF of inspection completed in November. Through the end of November 112,887 feet of sewer inspections were completed.

In November, GLWA Field Services conducted I/I investigation on Detroit River Interceptor (DRI) between sewer meter DT-S-12 and Wastewater Treatment Plant (WWTP). A dye test tracing and inspection of the combined sewer outfalls (CSO) identified I/I flow of approximately 10 MGD. The I/I was investigated and fixed within a week.

INFORMATION TECHNOLOGY

This month marks the official hard launch of the Legistar system used to manage Board Agendas and Minutes. We are currently in the process of updating the www.glwater.org Board of Directors page with the link for our InSite page. The public will be able to click on the Legistar Logo and it will direct them to InSite. Shortly in the future, all Board document links will point directly to InSite as well.

The Infrastructure team, in coordination with ATT, upgraded the GLWA intrusion detection system (IDS) appliance on December 11, 2016. The upgraded appliance will support an internet traffic throughput of 1 Gigabit/second (GB/s), which will allow us to move to an upgraded internet connection in the near future. The upgraded IDS appliance has also increased the security of GLWA’s internet-facing systems.

INFORMATION TECHNOLOGY (continued)

The Service Desk Team is rolling out Skype for Business within GLWA. This collaboration tool will enhance the ability to communicate with a range of functionality from simple instant messaging to advanced video conferencing and sharing of desktops for remote meetings.

The GIS Team has completed asset identification/bifurcation by assigning a value of DWSD, GLWA or Other to every asset in GIS database. This allows for better identification of asset responsibilities in GIS, and will now enable us to move forward with planning the alignment of GIS with WAM for linear assets. Current WAM does not have linear assets, and GIS will be mapped to synchronize its assets into the WAM database. Business units are in the process of reviewing the maps created for GLWA assets and DWSD assets for accuracy and completeness.

The GIS team has been working with DWSD business units through our shared service agreement to improve the Impervious Surface drainage charge process using GIS, as participating in the planning of a citywide Green Infrastructure map and website showcasing GI projects and automating the submission of credit requests from customers.

The Detroit Fire Department has requested the GIS team help them create new fire hydrant inspection districts to improve the way inspection assignments are made. This re-districting is going live by the end of December.

PUBLIC AFFAIRS GROUP

Public Affairs is proud to announce the publication of the second edition of WaterWorks Magazine, a quarterly publication written by GLWA employees for GLWA employees. Highlights include our cover story on the winners of the naming contest for the magazine, 5 Questions with...GLWA Board Member Freman Hendrix, and a feature on Tina Clinkscales, GLWA Purchasing Manager, who was named Purchasing Manager of the Year by the Michigan Public Purchasing Officers Association. The magazine is being distributed in hard copy to each of GLWA's facilities, and will also be available electronically. Public Affairs will also be creating video features from the magazine's articles. The first feature, which was released with the second issue the week of December 19, highlights Ms. Clinkscales and her accomplishment.

SECURITY AND INTEGRITY

During the month of December, the Security and Integrity Group participated in several extensive training efforts, such as Enhanced Public Safety Dispatch and Threat Response Preparation held in Bay City, Michigan. In addition, Security and Integrity has completed a schedule for Calendar year 2017 Training Objectives.

ORGANIZATIONAL DEVELOPMENT

Since January 1, 2016, the organization has hired 138 employees. The total number of FTE's to date is 822. There are 50 open recruitments across the organization which are posted on the GLWA website.

New Employee Orientation is currently being held each month at Water Works Park. To date, 213 employees have participated in the orientation.

Efforts are ongoing with Focus Hope on development of the GLWA's first apprenticeship program. Based on conversations early in 2016, Focus Hope was able to secure grant funds to support this effort.

LEGAL

General Counsel's December Report is an attachment to the Chief Executive Officer's Report.

FINANCIAL SERVICES GROUP

Procurement Savings

In November 2016, a blanket order for liquid chlorine was finalized. The result of the bid was the price per ton dropped from \$362.97 to \$247.20 for an estimated annual cost savings of \$240,000.

Procurement Professional Development

The Great Lakes Water Authority is hosting the Institute for Public Procurement (NIGP) two day seminar at Water Works Park on January 30-31, 2017. A cross-functional team of GLWA Procurement Staff and Engineers will be participating. There is also a limited number of non-member slots available at a cost of \$685 per person. The course is intended for Public Procurement Professionals involved in the construction process, contracting officers, technical representatives, facilities management, engineers, private contractors, project managers, contract administrators, risk managers, and contract auditors.

Seminar Goals include:

- Describe the different budgeting processes and financing options governments use for public improvement projects
- Define and describe the basic steps in hiring a design professional for a governmental construction project
- Differentiate and determine the best contracting method for a specific construction project
- Identify the elements in the construction life cycle and describe the roles and responsibilities of the teams in each element

FINANCIAL SERVICES GROUP (continued)

- Differentiate the options and related impacts of green / sustainable construction processes
- Identify the basic elements of the contract administration plan, and identify the roles and responsibilities of all the parties

Transformation

On December 2, 2016, Transformation Director Mike Grezlik presented highlights of the GLWA Lean program at the Michigan Lean Consortiums' Year End Event. The theme for the event was "This Year's Challenge and What I Learned". Mike's presentation, "Lean Deployment in a Mature Start-Up", described the challenge of driving a Lean Program in an organization that was largely in "Start Up" mode even though its core production processes were very well matured.

This is a challenge in many organizations and the insights shared were of practical value to many of the consortium members present for the event.

The Transformation Team continues to assist the Financial Services Group Chief Financial Officer with a focus on that group's relatively short tenured staff to foster employee retention and satisfaction – a key alignment factor to continuing to drive change based on prioritized business need.

Capital Management

The Capital Management team is making strides in the asset valuation and inventory which began on October 24, 2016. A draft report is expected in early January 2017. This is a key opening balance sheet activity for GLWA.

Financial Planning & Analysis

The Financial Planning & Analysis (FP&A) team has been working on the following items.

- General Ledger review – FP&A will be wrapping up the review and validation of all activity posted to the General Ledger by December 23, 2016. This will meet the year end BS&A closing schedule and take us one step closer to producing meaningful financial statements by auditing general ledger account coding that begins with purchase order requisitions.
- Working with the Budget Managers and Budget Administrators on the development of the personnel and operations & maintenance budgets. The target date for Round One of the budget process was Monday, December 19, 2016. This was the first year that operational personnel entered their budget directly into BS&A which eliminated the need to manage multiple Excel spreadsheets (and reduce resulting errors).

FINANCIAL SERVICES GROUP (continued)

WRAP Update

The Water Residential Assistance Program (“WRAP”) began accepting applications for customer assistance on March 2, 2016. As of October 31, 2016, 52 communities have opted into the program. Below is a summary of committed and spent WRAP funds as well as home audits and home repairs performed through October, 2016 for the City of Detroit and Suburban participants.

WRAP Funding Status As of October 31, 2016

	<u>Detroit</u>	<u>Suburban</u>	<u>Total</u>
Completed Applications	7,288	1,425	8,713
Households Assisted	2,439	737	3,176
Shutoffs Avoided	1,182	253	1,435
Home Audits	444	79	523
Number of Home Repairs	240	46	286
Amount of Home Repairs	\$150,192	\$29,609	\$179,801
Average Cost of Home Repair	\$625.80	\$644	\$628.67
Total Bill Assistance Committed	\$685,667	\$33,284	\$718,951
Total Arrearage Assistance Committed	<u>\$1,396,119</u>	<u>\$480,487</u>	<u>\$1,876,606</u>
Total Assistance Committed	\$2,081,786	\$513,771	\$2,595,557
WRAP Funds Uncommitted	\$538,100	\$1,472,257	\$2,010,357
Total Bill and Arrearage Assistance Paid to Date:	\$53,615	\$17,825	\$71,440

KUDOS

Heather Berger of Washington Township reached out to the Lake Huron Water Treatment Plant in an effort to better understand where the water comes from that supplies her community. Heather works in the Billing and Meter Division of Washington Township’s Department of Public Works, handling the billing complaints and field questions about the quality of water residents receive.



Christopher Steary and Heather Berger

Together with Water Operations Director Terry Daniel, and Plant Manager, Christopher Steary, Heather was able to meet the Lake Huron team that makes water production possible. The team at Lake Huron talked about the high level of education many of our staff members possess and the continuous training GLWA provides. The team also showed Heather the laboratories where water quality is monitored, tested, and quantified continuously.

KUDOS (continued)

The Lake Huron team conveyed to Heather the GLWA's values, expressing that we hold the public's trust, and are committed to providing safe and clean drinking water to all of our customers.

Kudos to Terry and Christopher for taking the time to showcase the Lake Huron Plant and respond to Heather's interest. We are proud to know that because of their efforts, Heather will return to Washington Township better informed and ready to share with the residents of her community that their water is in good hands.

Respectfully submitted,



Sue F. McCormick
Chief Executive Officer

SFM/dlr

Attachment (General Counsel's December Report)