



April 27, 2016

The Honorable  
Board of Directors  
Great Lakes Water Authority

Dear Chairman Daddow and Directors:

**Regarding: CEO's Report – April, 2016**

April has been a month focused on advancing our efforts to bring the GLWA's first biennial budget to the Board for consideration. With the finalization of the DWSD budget, we presented a consolidated budget view to the GLWA Audit Committee last week, and today that information was reviewed with the GLWA Board. Our next efforts will bring a comprehensive look at the biennial budget, the Capital Improvement Plan and financing together with recommended charges to the Audit Committee in early May.

April also included continuing at a remarkable pace on fire remediation to restore full capacity in solids handling operations at the Wastewater Treatment Plant. Additional detail on the remediation efforts can be found in the Wastewater Operations section of this report. In spite of this challenge, the plant was in compliance with all NPDES and MDEQ water quality permits in the month of March through April 20, 2016. The Biosolids Dryer Facility availability has been key in handling solids through the remediation.

EPA conducted a Performance Audit Inspection (PAI) of the Wastewater laboratory facilities mid-month. As anticipated in an audit of this nature, there were minor infractions which are expected during this type of audit and will be quickly remedied. Positive comments were made on the competency and qualification of laboratory management and staff. The scope of the PAI was expanded when EPA was on site, and included a walkthrough of the area impacted by the March fire. No major issues were identified in the closing conference, however a formal report will follow and may identify other issues or EPA recommendations. More detail can be found herein.

The Water Center at the University of Michigan has a significant project funded by the Erb Foundation to develop a phosphate budget for the Detroit River watershed and its contribution to Lake Erie phosphorus loadings. MSU has invited GLWA to serve on the advisory committee for the project. This is a three (3) year project (2016 - 2018) with the first advisory group meeting May 5<sup>th</sup> at Wayne State in Detroit.

I represented GLWA in April with presentations at the Michigan Public Service Institute and the American Society for Public Administration. I was also interviewed for a documentary on the future of water resources in America. The interest in GLWA continues.

## **PLANNING SERVICES**

### ***Asset Management and CIP Group***

The Asset Management and CIP Customer Outreach Work Group held continued discussions on CIP prioritization and the progress of our Asset Management Program. Work has continued internally to pilot a new prioritization methodology for both water and wastewater projects, and preliminary results were presented and reviewed with the workgroup. Future workgroup meetings will focus on finalizing this prioritization methodology to use with the 2018 CIP program development, and to facilitate presentations on the state of GLWA utility asset management programs.

Newly on boarded staff are quickly becoming familiar with the status and utilization of the Work and Asset Management (WAM) system currently in place. Progress in this area is focused on reviewing operations protocols related to inventory management, and to develop work plans related to the next phase(s) of WAM after the GLWA/DWSD split into two “Plants”.

Progress continues to be made to advance the Capital Program Management support solicitation. It is anticipated that this solicitation will be released in May 2016.

Recruitment in the Asset Management and CIP group is continuing. Various engineering positions are currently open on the GLWA website and interviews are occurring. We are continuously looking for solid, hardworking, progressive engineers to add to this newly developing area within GLWA.

### ***Systems Planning Group***

Facilitated by Cheryl Porter, the newly formed Water Quality Work Group had its second meeting on April 21<sup>st</sup>, and continued discussions regarding a variety of water quality topics ending with hosting of a webcast from the Water Research Foundation focused on potential regulatory changes regarding the lead and copper rule. In follow on discussions, the attendees expressed interest in GLWA facilitating monitoring and providing a conduit for input as Michigan considers the recommendations of the Governor’s FWICC Policy Subcommittee Committee through legislative and administrative processes.

The Planning Group has initiated a second phase of wastewater system modeling on the west side of the sewage collection system. This significant effort has been advanced ahead of the wastewater master plan effort so as to collect as much data as possible in preparation of an update to our Long Term CSO Control Program in the Upper Middle Rouge River area. This complex effort has been termed the West Side Monitoring and Modeling Project.

The Wastewater Master Plan solicitation document continues to evolve with inclusion of coordination with the West Side Monitoring and Modeling Project. A request for proposal is anticipated to be forwarded to the Procurement Group by the end of the month.

Staff continues to work actively with three (3) prospective water customer communities.

**PLANNING SERVICES** (continued)

***System Analytics Group and Meter Operations Group***

The request for proposal for a consultant to re-evaluate “Units of Service for Non-Master Metered Customers of GLWA and System Water Audit” was finalized and submitted to the Procurement group for their review and advertisement. As is prescribed in the Water and Sewer Services Agreement, the work is required to be performed by an independent consultant. It is expected that the solicitation will be advertised in May 2016.

The Wastewater Analytics Task Force was held on April 1<sup>st</sup>. The meeting featured a demonstration of the Greater Detroit Regional Sewerage System Portal and a survey of the users. The survey was also emailed out to users not in attendance to identify improvements needed for the Portal.

The Systems Analytics Team has begun its charge of a robust review of system operational data with a focus to identify issues and opportunities for improvement. This month the team identified an anomaly in consumption in one of our water customer communities. The community investigated the matter and found a significant water main break. The repair of the main resulted in customer consumption decrease of nearly 500,000 gallons per day.

Meter Operations continues to make progress on a wholesale water meter upgrade program. The team is preparing a solicitation document for rehabilitation of 50 water meter locations which includes meter replacement and general site rehabilitation.

We have added two highly qualified Applications Analysts to this staff. Both have extensive knowledge of GLWA systems and water and sewerage metering. Recruitment continues with the next emphasis to be selection of engineers with significant water and wastewater system modeling experience.

***Energy Management Group***

The Energy Management program is continuing to work on the bifurcation of all utility bills, with the majority of the footwork being completed. Assignment of DTE natural gas contracts is in progress.

Progress continues to be made on the two (2) energy savings projects. One project includes a lighting fixture upgrade of both water and wastewater facilities and another includes an upgrade to add load management to one of the water pumping stations.

Systems Planning staff has temporarily relocated to the Wastewater Treatment Plant. They are using this time to engage closely with wastewater treatment plant operations and maintenance staff and learn daily and first-hand the complex operations of this very large component of GLWA operations.

## **WATER OPERATIONS**

Lake Huron, Northeast, and Southwest Water Treatment Plants will receive the 10-Year Director's Award from the Partnership for Safe Water. The 10-Year Director's Award is awarded to plants in good standing that have maintained this level of performance for ten (10) years. The Partnership for Safe Water is a program for utilities and treatment plants that embrace the philosophy of constant vigilance to improve water quality. Partnership subscribers are never satisfied with the status quo, and are tenacious in their efforts to continuously improve.

The Partnership for Safe Water commends all award-winning utilities and plants for their long-term commitment to improving water treatment plant performance and protecting public health.

To further recognize all award-winning facilities, the Partnership will present the awards at the American Water Works Association's 2016 Annual Conference & Exhibition.

Lake Huron has successfully completed their testing of a new mixing station for C-318 polymer. They are now able to use this product as a coagulant aid which will reduce chemical costs. The current cost for C-308 is \$2,000.00 per 275 gallon tote (\$.87/lb.) and C-318 is \$2,300.00 per 275 gallon tote (\$1.00/lb.). Due to C-318's concentration and Lake Huron's ability to dilute the chemical by 50%, there is a potential savings up to 43% or \$851.00 (.37/lb.) comparatively.

### ***Field Services***

GLWA Contract No. WS-681, 42" Water Main along 24 Mile Road from Romeo Plank to Rochester is 100% complete with water main installation. Restoration work is not beginning. Following restoration substantial completion inspection will be performed. The percent of time elapsed is 75%, and the percent of monies expended is 90%. There are no change orders to date.

Contract No. WS-684A, 36" Transmission Main Replacement along Telegraph Road, was re-bid and a contract has been awarded with construction expected to start in late spring.

Dewatering is expected to start about mid-April and pipe installation about mid-May for GLWA Memorandum of Understanding (MOU) 4848, Wick Road Phase I – 4,000 linear feet of 48" water main along Wick Road west of the Wick Road Pumping Station. GLWA expects the water main to be completed around the end of August.

In the last four (4) weeks, GLWA has responded to over 850 requests per week for onsite markings for the location of GLWA sewer or water assets through the MISS DIG one call system. GLWA has provided two (2) employees over the last month to assist the Detroit Water and Sewerage Department (DWSD) for staking inside the City. GLWA, in agreement with MISS DIG, has begun to stand behind the Public Act 174 June 1, 2014 requirement for a design ticket to be submitted before construction staking will be marked by GLWA. This design ticket is leading into GLWA Permits reviewing proposed construction plans to ensure the Authority's assets are on the plans and that profiles of other utilities crossing GLWA assets are prepared before construction.

## **WATER OPERATIONS** (continued)

In addition to the Gordie Howe Bridge project, the Permits team is getting involved in the I-94 bridges advance construction projects and the I-75 bridges construction projects.

### *Systems Control*

GLWA spends approximate \$27M annually pumping water. The GLWA transmission system contains a total of 170 booster pumps in potential operation. Reducing pumping energy cost could result in significant savings. The Systems Control Center has launched a pilot program to optimize the transmission system pumping using existing Ovation Control System and Wholesale Automated Meter Read System. The studied area is serviced by West Service Center, North Service Center, Franklin, and Adams Road booster stations, and has a combination of a constant speed and variable speed pumps. A program has been developed within the Ovation Control System to optimize the discharge pressures and flows in the pilot area to evaluate and adjust excessive discharge pressures. The program recommends optimized real-time pressure set-points for the zone, thus saving energy.

To evaluate the energy conservation savings by optimizing the pump discharge pressure and minimizing the valve throttling at West Service Center, recent SCADA operational records for Adams, Franklin, North Service Center and West Service Center have been collected and used in the evaluation.

Since there is no flow meter in the pumping stations, the pump head characteristic curves and throttling valve curve have been used to estimate the pumping flow rates. The SCADA records for the pump station suction, discharge pressures and the throttling valve status for West Service Center's pumps were also used in calculating the pump flows. The pump power values were then computed with the corresponding pump total dynamic heads, flow rates, and overall efficiencies. The program has realized energy savings of 2% for the pilot timeframe, which equates to \$106,000.00 in energy savings annually. The results will be evaluated for extension to other

## **WASTEWATER OPERATIONS**

GLWA Wastewater Operations Group submitted the annual Greenhouse Gas (GHG) Report of emissions of greenhouse gases for calendar year 2015. Emissions increased 18.7% to 113,019.4 metric tons compared to 95,233.9 for calendar year 2014. This increase was due to an increase in incinerator in-service hours, an increase in standby hours, a decrease in dry tons incinerated, and testing at the Biosolids facility, which increased gas use and decreased sludge incinerated.

Greenhouse gas emissions for 2016 are anticipated to decrease due to the complete shutdown of Complex I and an optimization project which will improve the management of standby incineration capacity.

## **WASTEWATER OPERATIONS** (continued)

The plant was in compliance with all NPDES and MDEQ water quality permits in the month of March through April 20, 2016.

Wastewater Treatment Plant biosolids production and inventory for the month of March 2016 are shown in the “Sludge Disposal by Method” and “Sludge Inventory” performance graphs included in this report. (Attachment) Average disposal for March was 378 dry tons per day (82 burned, 70 trucked, 226 sent to BDF). Average inventory for March was 675 dry tons. For the month of March, the incoming TSS (total suspended solids) loading was 380 dry tons per day.

### ***U.S. EPA Performance Audit Inspection***

The week of April 11, 2016, the U.S. Environmental Protection Agency (EPA) conducted a Performance Audit Inspect (PAI). An opening conference was held with EPA, the Michigan Department of Environmental Quality (MDEQ), and GLWA representatives on April 12<sup>th</sup> where the scope and schedule for the PAI was finalized.

The EPA toured both the Analytical and Operations laboratory facilities, focused on the organization, equipment availability, laboratory records, sampling locations and interviewed the individual analysts performing tests.

Positive comments were made on the competency and qualification of laboratory management and staff. Comments also included that the lab quality programs are good, but additional updates should be made including sample collection blank sample testing, recommendation for additional instrumentation to monitor refrigerator/coolers temperature control, several gaps identified in solids lab records, and the need for a policy on shelf-life of chemical reagents. These are minor infractions which are expected during this type of audit and will be quickly remedied.

On April 13<sup>th</sup>, EPA representatives and MDEQ toured the Wastewater Treatment Plant (WWTP) and the fire damaged area (Complex II Incineration and Dewatering). The tour of the fire damaged area was conducted to report observations to the Regional office. Housekeeping at the WWTP was good, and EPA took a series of photographs for their report.

The EPA also expressed an interest in further understanding of staffing and indicated the likelihood of follow-up questions. The EPA expects to have a final report in approximately 30 days. There were no substantive issues identified during the audit, and we will await final comments in their report to address specific findings.

### ***Fire Remediation Update:***

Replacement of fire-damaged wiring for the Complex II belt filter presses has been completed. The electricians are continuing to replace other fire-damaged wiring. Centrifuge wiring replacement remains to be completed. Award of a contract for lead paint chip abatement in Complex II Dewatering lower level is expected soon. In Complex II Incineration, the erection of scaffold framing is approaching 50% completion.

## **WASTEWATER OPERATIONS** (continued)

A second crew will start April 25 with the objective of having enough scaffolding and decking in place for the engineering inspection of the structural steel to occur during the first week of May. Bidders for the cleaning and painting contract have raised questions. The bid opening has been extended to April 28. Cleaning of soot continues in the mezzanine stairway.

Inspection of the south side conveyors is scheduled this week to allow preparation of a procurement scope for this work by April 29. An inspection has been completed to allow development of a procurement scope for doors and windows. The Complex II roof was inspected to allow preparation of a recommendation regarding repair or replacement and development of a procurement scope by mid-May.

Since the insurance company has reviewed and approved the proposal received for abatement of lead/cleaning for the Complex II centrifuge area, procurement has been requested to issue a P.O. to Walsh Construction for doing that work. A schedule for the remaining procurements was drafted and dates confirmed during the April 15 progress meeting.

### ***Rouge River Outfall (RRO) Disinfection Project Update:***

Hydraulic and disinfection analysis to support the Basis of Design for RRO is ongoing by CDM Smith/subcontractors. The hydraulic analysis includes the construction of a physical model to represent the hydraulic performance of the conduit system being re-purposed under the RRO Project. The physical model is in construction with testing planned for the end of April 2016. A Disinfection Workshop is scheduled for April 27 at the WWTP with all of the stakeholders. The CDM Smith team is on schedule to submit the Basis of Design Engineering Report to MDEQ by June 1. The CDM team received quotations from two out of the three sediment removal companies, but those two subcontractors cannot complete the project until the end of the summer to early fall.

### ***Bio-Solids Dryer Facility Update:***

On April 7, the Train 4 recycle bin experienced a hot spot that resulted in sudden and violent fire event. Trains 1 and 3 were restored to service on April 9, and Train 4 was placed into service on April 14 and is running well. The Train 2 dryer gearbox has been replaced and the recycle bin is being re-seeded in preparation for a restart of Train 2. The Contractor is planning modifications to the recycle bins to reduce the opportunity for future deflagration events. This is the second deflagration event since February 16, 2016. GLWA has requested NEFCO's plan to prevent reoccurrences, citing contract language requiring use of nitrogen blanketing to prevent fires. A response is expected April 22, 2016.

The new continuous SO<sub>2</sub> (sulfur dioxide) emissions monitors are in service, and resulting data will be used to select a treatment approach to be implemented for SO<sub>2</sub> compliance.

## **WASTEWATER OPERATIONS** (continued)

### ***Industrial Waste Control (IWC) Section Update:***

The U.S. Environmental Protection Agency (EPA) performed an onsite audit April 12 through 15, which included the operations lab, analytical lab, and parts of the Wastewater Treatment Plant. Based on initial EPA comments, the audit went well. Questions regarding staffing levels are forthcoming. The EPA's final report is due in approximately 30 days.

IWC is working with the IT group to complete RFP documents for the upgrade/replacement of existing PIMS and LIMS systems.

A site visit was made to Kimmel Steel. The facility is under direction of the MDEQ and U.S. EPA to clean up oil on the property that is impacting nearby railroad lines. It appears that the oil source is scrap material processed by the facility that is not being effectively treated by an on-site oil/water separator. The facility is in the process of cleaning the site drainage system which appears to be obstructed. Issues were communicated to DWSD maintenance staff.

IWC made a site visit to the Marathon refinery to inspect the new Membrane Biological Reactor system installation. The facility provided us with the results of a 90-day compliance report and is operating the system without incident. No oil or odor complaints have been observed or received since start-up in November 2015. Additional information requirements are needed to develop a new Wastewater Discharge Permit for the facility.

IWC received and processed invoices for Underground Storage Tank registration for six (6) facilities, and is awaiting the Registration Certificate from MDEQ.

## **FINANCIAL SERVICES GROUP**

This month's report highlights the strong connection between technology, finance, and focused project management at GLWA.

***FY 2015 Audit:*** Good news – a milestone draft financial report the Detroit Water and Sewerage Department (DWSD) was provided the KPMG, LLC, the City of Detroit's auditors, this week. Pending the timing for a round of internal review, summary financial information may be available for the Audit Committee meeting on Friday, May 6, 2016.

***New Technology:*** Kick-off for the long awaited OnBase content management system occurred last week. OnBase partners well with GLWA's new financial system BS&A. The first phase of the project will be an initial step toward improved document management, storage, workflow, and linking of related document content across the entire organization.

An early example is construction pay estimates from Finance linked electronically to contract documents in Procurement with access from any work location.



## **FINANCIAL SERVICES GROUP** (continued)

***Balance Sheet Bifurcation:*** Staff is currently evaluating proposals for an asset valuation and related services. This will be a key input into the opening balance sheet for GLWA. A report will be presented to the Audit Committee on Friday, May 6<sup>th</sup>. Staff has currently started some of the work on the opening balance sheet. This project plan will soon accelerate as the same team wraps up the June 30, 2015 audit of DWSD.

***WAM Two Plant Configuration:*** The two plant configuration will allow both DWSD and GLWA to leverage the investment in WAM.

To meet each entities' unique needs, WAM is being reconfigured to meet the needs of DWSD and its financial system (Oracle Cloud), and GLWA and its financial system (BS&A). The Go-live date of the WAM split is June 6, 2016. This project is on schedule.

***BS&A Phase 2:*** Also on schedule is the launch of BS&A Phase 2 which will focus intensively on capital assets. The timing of this work is in alignment with the extensive effort to bifurcate the capital assets for GLWA and new DWSD's balance sheets as of January 1, 2016. Phase 2 also encompasses advanced general ledger, accounts payable, and purchasing topics.

***Calendar Year 2016 Bond Refunding:*** This project is also moving forward. Next week, a selection panel will conduct interviews of potential underwriters. The selected firm should be in place by the end of May 2016. The next step will be an intensive effort in June 2016 to prepare GLWA's first preliminary official statement.

## **INFORMATION TECHNOLOGY**

### ***Applications Delivery Update:***

Implemented Service Link at the West and North Yards. Three tablets per yard have been provisioned for the Investigators and Box Crews to share on each shift. Each yard is being brought online individually to facilitate support and logistics for the yard personnel.

### ***Enterprise GIS***

On April 2, a GIS Infrastructure and System Upgrade successfully occurred that modernizes GLWA's GIS environment and positions it for the relaunching the GIS Program. This upgrade establishes a foundation for future growth, reliable integration with other applications for improved service delivery, increased efficiencies, and reliable data access. The upgrade included software and hardware upgrades, the addition of centralized storage, Test and Quality Assurance user environments, a high-availability Production configuration, and a disaster recovery environment on Amazon Web Services. This is an important first step to rolling out GLWA's GIS web services enterprise-wide.

Initiated the Enterprise Content Management Program with a day-long project kickoff and discovery session with Finance.

## **INFORMATION TECHNOLOGY** (continued)

### ***IT Risk and Security Update***

The IT Security and Risk Management team continues to expand GLWA's existing IT Controls program, this month adding quarterly application access revalidation. Now, on a quarterly basis, users of WAM, Inovah, enQuesta, and Invoice Cloud will be identified and acknowledged while those users who no longer require access, either because their job role changed or they are no longer with the organization, will have access removed.

### ***Service Delivery Update***

IT Service Delivery in conjunction with IT Infrastructure staff completed the migration of four print servers to a new virtual environment that is scalable that will accommodate the department resources and provide recoverability.

A new remote support tool called Bomgar was configured for use by IT support staff. This tool allows IT support staff to remotely connect to authenticated computers inside and outside the department's network. This will improve support functions to our mobile workforce employees by reducing travel to remote sites.

### ***Administration***

Instituted a project manager development program to communicate key updates and enhance project manager skillsets. Group meets weekly for a working session to share priority updates and to focus on one skill set each week (e.g., issues management, conflict management, decision management, etc.).

### ***Infrastructure***

The construction of the GLWA 1-NET reached a major milestone with the completion of AT&T WAN and LAN migration for GLWA's Business network. The business network operates at three Core sites (Water Board Building, Central Services Facility and Wastewater Treatment Plant), forty-three intermediate remote facilities including MCHT, Livernois Center, DWSD's Eastside and Westside Payment Centers, West Field Service Yard and all five GLWA water plants and, nineteen pressure sites. Process Control and Security services continue to be migrated to the new GLWA 1-NET.

## **TRAINING**

Terry Daniel (Director – Water Operations), LaShone Bedford (Professional Administrative Analyst), Pawan Kapila (Team Leader - Southwest), Andrew Ross (Team Leader - Springwells), Balvinder Sehgal (Manager - Water Works Park), Patrick Williford (Chemist), and Khader Hamad (Engineer - Field Services) attended the 24th Annual Michigan Public Service Institute training for "Delivering Service Excellence". This training is a unique approach to providing various organization's operation leadership with the tools necessary to impact change in diverse climates. Participants receive continuing education credits for each hour of instruction from the Michigan Department of Environmental Quality. CEU's are required for licensing renewals.

**TRAINING** (continued)

Training was completed for 73 additional Service Link users in Maintenance and Repair, 22 dispatchers and team leaders, and 51 field service technicians were trained to dispatch and complete various WAM investigative work orders in Service Link utilizing new Android tablets.

**LEGAL**

The General Counsel's April Report is attached to this Chief Executive Officer's report.

Respectfully submitted,



Sue F. McCormick  
Chief Executive Officer

SFM/dlr  
Attachments (2)