



Nicolette N. Bateson, CPA
Chief Financial Officer/Treasurer
735 Randolph Street, Suite 1608
Detroit, Michigan 48226
Phone: 313-964-9201

July 11, 2017

Greetings GLWA Stakeholders,

Attached you will find the inaugural five-year planning document for the Great Lakes Water Authority (GLWA). This plan and document are being prepared on the heels of GLWA completing its first full fiscal year with a new financial system in place.

The five-year plan combines documents reviewed with the GLWA Audit Committee and the Board during the budget review season. It also provides expanded analysis in areas that have significance to the overall financial plan and operations. Lastly, this plan includes information related to an improved capital outlay and capital improvement plan process.

Before this document is finalized, we are releasing it for review until August 1, 2017. At that time, we may update this document before it is finalized and/or carry forward proposed revisions and additions for the subsequent year. Either way, please know that your feedback is valuable to us. This document was designed as a communication tool to meet your unique needs and interests.

Please send your comments to the Office of the Chief Financial Officer & Treasurer at CFO@glwater.org.

Best regards,

Nicolette N. Bateson, CPA
Chief Financial Officer & Treasurer



GLWA

Great Lakes Water Authority

**FY 2018 and FY 2019 Biennial Budget
& Five Year Financial Plan
FY 2018 through FY 2022**

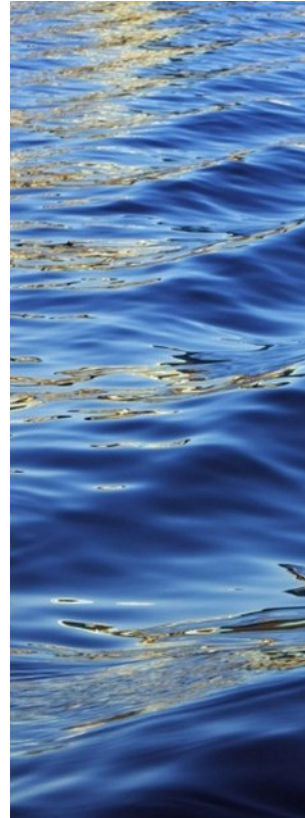


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Great Lakes Water Authority Board of Directors

Robert J. Daddow GLWA Board Chairman; Representative for Oakland County

Freman HendrixGLWA Board Vice Chair; Representative for the City of Detroit

Brian BakerGLWA Board Secretary; Representative for Macomb County

Gary A. BrownGLWA Board Representative for City of Detroit

Craig Hupy GLWA Board Representative for the State of Michigan

Abe Munfakh, PEGLWA Board Representative for Wayne County

Great Lakes Water Authority Executive Leadership Team

Sue F. McCormick.....Chief Executive Officer

William M. Wolfson Chief Administrative and Compliance Officer/General Counsel

Nicolette N. Bateson, CPA..... Chief Financial Officer/Treasurer, Financial Services

Cheryl Porter.....Chief Operating Officer – Water & Field Services

Terri Tabor Conerway.....Chief Organizational Development Officer

Suzanne R. Coffey Chief Planning Officer/Interim Chief Operating Officer – Wastewater

Michelle A. Zrodowski Chief Public Affairs Officer

Jeffrey E. Small.....Chief Information Officer

W. Barnett Jones.....Chief Security and Integrity Officer



A Message from the Chief Executive Officer

Sue F. McCormick

To Our Valued Stakeholders,

It is an honor for the GLWA team to be entrusted with providing safe, reliable drinking water and environmentally responsible wastewater service for the region. As we embark on a new fiscal year, we provide you with this five-year financial plan to communicate our stewardship of the system's assets and commitment to cost control, transparency, and strong financial management. FY 2018 is a clear example of achieving, and in some cases surpassing, the commitments we made only 18 months ago as we launched the Great Lakes Water Authority.

FY 2018 Budget Highlights

Promise - Keep the revenue requirement (budget) increase to less than 4 percent.

- ✓ Promise kept - Approved drinking water system budget *decreased* by one percent.
- ✓ Promise kept - Approved sewer system budget increased by *less than one percent* (0.3 percent).

Promise - Lower the cost of debt.

- ✓ Promise kept - October 2016 bond refunding provides \$27 million of savings in FY 2018 (representing a portion of the \$309 million in savings over the life of the bonds).

Promise - Continue to optimize the system, invest in technology, advance asset management, expand energy management, and assure appropriate resources to operate the system effectively.

- ✓ Promise kept - The GLWA team is committed to excellence. In each area operating financial plan of this document, staff has detailed their objectives for deployment of new and/or restructured resources to achieve these initiatives.

FY 2018 Wholesale Customer Community Charges Highlights

Promise – Moderate the average drinking water charges adjustment.

- ✓ Promise kept – Initial charge proposal in February was a 4 percent adjustment; actual approved average adjustment is 2 percent.

Promise – Explore regional collaboration and new customers for the water system.

- ✓ Promise kept – Statement of Principles reached in long-term service discussions with the City of Flint and regional collaboration with Genesee County. This progress results in an increase in revenue from Genesee County in the first quarter of FY 2018 to offset charges to other water system customers.

Promise – Moderate the average sewer charges adjustment.

- ✓ Promise kept – Initial charge proposal in February was a 4.7 percent adjustment; actual approved average adjustment is 1.9 percent.



A Message from the Chief Executive Officer Sue F. McCormick (continued)

Promise – Revisit the sewer shares allocation.

- ✓ Promise kept – FY 2018 Charges reflect an amended sewer shares allocation, based on strength of flow (SOF) that will be phased-in over a two year period. This outcome was the result of a year-long data collection and research study by a technical team comprised of GLWA and its sewer customers.

Like many charge tasks that rely on flow data, there is not clear path to a definitive single answer. GLWA's sewer share methodology seeks to achieve equity by seeking to identify wastewater flow contributions from each customer, then separating these contributions into types of flow (sanitary, dry weather infiltration and wet weather inflow). The methodology recognizes that the costs of treating these different types of wastewater flow varies with the relative pollutant strength in each type. The Sewer Shares Report concluded that there should be a significant adjustment to reflect more accurate system data regarding the pollutant strength of each type of flow, from the factors that were used in the original shares calculations. Based on data collected, dry and wet weather flows are proportionally less costly to treat than previously assumed. This information led the Customer Outreach technical committee to recommend SOF charges be amended to reflect these findings. Member communities that have less sanitary flows relative to their total flow will see their charges reduced, while communities with predominantly sanitary flow will see larger increases.

Areas for Improvement: Customer Charge Stability = Focus for FY 2018

Water charge stability for our customers is a high priority. While we were able to moderate the average charge increase to two percent, there are customers who vary from that amount. This is, in part, due to usage across the service area declining - a trend we have seen here in S.E. Michigan much like the rest of the country. Fewer units of sale creates upward pressure on charges. We have another issue facing us on the stability front over the next three years as we begin the cycle of contract reopeners. With usage declining, contract demands will likely be reduced as well, shifting costs to those who are not reopening that year and so on for three years. In June 2017, we began the conversation with our customers to address those things which may be improved by adjustments to contract cycles. Recognizing the trend in declining usage, GLWA is focused on the new opportunities the Authority has to market the system's services and capacity to others in the region, leveraging the investment already made. In addition, the GLWA has begun the effort to right-size the system to reduce capacity and take unused infrastructure out of commission. As part of the Authority's right-sizing plan, its Northeast Water Treatment Plant will be taken offline and repurposed as a pumping station. This is expected to be complete within the next four years. The Authority is also diligently working on an overall capacity reduction plan, which will optimize current infrastructure and reduce unneeded capacity at existing plants.

Sewer charge stability is also a high priority for our customers. The recently launched sewer master plan project will encompass customer engagement as we work through this issue together.



A Message from the Chief Executive Officer Sue F. McCormick (continued)

FY 2018 through FY 2022 Financial Plan

In order to achieve our goals, and validate our assumptions, a five-year plan provides a roadmap for the future and allows us to lessen risk of events beyond our control. As you read this document, you will notice several themes.

- ✓ Commitment to the promise to keep the revenue requirement to less than 4%.
- ✓ Commitment to work with our partners to achieve both equity and stability in charges moving forward.
- ✓ Commitment to continue building revenue financed capital to optimize the use of long-term debt.
- ✓ Commitment to engaging, empowering, and developing staff. A record number of cross-functional teams and operational staff at all levels of the organization were involved in this plan development.
- ✓ Commitment to attracting and retaining talented staff as noted in the operating area financial plans.
- ✓ Commitment to strengthened financial planning for improved strategy and timing for future debt issuances.
- ✓ Commitment to improving senior lien debt service coverage to achieve a lower cost of capital for our customers.
- ✓ Supplemental schedules and analysis that address questions from the customer community as well provide the baseline information for an expanded key performance indicator effort in FY 2018.

This five-year financial plan document is a first of its kind for GLWA. As a new organization in 2016, we naturally had many firsts. As a maturing organization in 2017, whose culture embraces continuous improvement and innovation, it is becoming clear that we will drive many more firsts every year. Your feedback as we strive to improve is key to assuring our Vision—if you had to choose your water service provider anew—we want to give every reason to choose us!

WRAP Success Stories Continue

Income-qualified residents in GLWA's service area who are having trouble with their water bill have the opportunity to enroll in the Water Residential Assistance Program (WRAP), which will provide \$4.9 million to residents in participating communities across southeast Michigan in 2018. WRAP funding can provide water bill payment assistance, arrearage assistance, water audits and water conservation education, and up to \$1,000 per home to fix leaks and other minor home plumbing repairs. WRAP is administered by Wayne Metro Community Action Agency. More information is online at www.waynemetro.org/WRAP.

Thank You!

- ✓ Thank you to our customers whose participation and engagement make GLWA uniquely qualified to be responsive to the public interest.
- ✓ Thank you to the principals who support GLWA with the appointment of exceptional board members.
- ✓ Thank you to the Great Lakes Water Authority Board. We greatly appreciate your time, energy, and leadership in this unique year.
- ✓ Thank you to the investors who have continued to follow the GLWA story. We value your role in GLWA's success.
- ✓ Thank you to the GLWA vendor community who provides ready supplies and services for many timely and critical needs.
- ✓ Thank you to the GLWA team – we are truly One Water—One Team.





Budget-at-a-Glance



**GREAT LAKES WATER AUTHORITY
NOTICE OF PUBLIC HEARING
PROPOSED BIENNIAL BUDGET
For the Two Year Period ended June 30, 2019
(FY 2018 and 2019)**

Notice is hereby given that the Great Lakes Water Authority Board of Directors will hold a Public Hearing on the FY 2018 and 2019 Biennial budget.

DATE: Wednesday, March 1, 2017

TIME: 10:00 a.m.

PLACE: 5th Floor Board Room
735 Randolph
Detroit, Michigan 48226

The proposed budget is scheduled to take effect on July 1, 2017. The budget is available for public inspection at the office of the Authority, Water Board Building, 735 Randolph, Detroit, Michigan 48226. A copy of the budget may also be found online at <http://glwater.org/finance/>.

Individuals or groups wishing to make oral presentations or submit prepared statements pertaining to the proposed budget may do so at the Public Hearing. Individuals or groups giving oral presentations are encouraged to have their presentations in writing, with a copy to be submitted for the record to the Great Lakes Water Authority Board of Directors. Oral presentations should be brief to allow all parties the opportunity to participate. A time limit may be imposed based upon registration at the hearing.

Interested parties who are unable to attend the Public Hearing may submit their comments in writing to:

Sue F. McCormick, Chief Executive Officer
Great Lakes Water Authority
735 Randolph
Detroit, Michigan, 48226





**GREAT LAKES WATER AUTHORITY
NOTICE OF PUBLIC HEARING
PROPOSED WATER AND SEWERAGE SERVICE CHARGES**

Notice is hereby given that the Great Lakes Water Authority Board of Directors will hold a Public Hearing on Water and Sewerage service charges proposed by the Great Lakes Water Authority for Fiscal Year 2018.

DATE: Wednesday, March 1, 2017

TIME: 10:00 a.m.

PLACE: 5th Floor Board Room
735 Randolph
Detroit, Michigan 48226

The proposed service charges are scheduled to take effect on July 1, 2017.

The proposed schedule of charges is available for public inspection at the office of the Authority, Water Board Building, 735 Randolph, Detroit, Michigan 48226. The proposed schedule of charges may also be found online at <http://glwater.org/finance/>.

Individuals or groups wishing to make oral presentations or submit prepared statements pertaining to the proposed service charges may do so at the Public Hearing. Individuals or groups giving oral presentations are encouraged to have their presentations in writing, with a copy to be submitted for the record to the Great Lakes Water Authority Board of Directors. Oral presentations should be brief to allow all parties the opportunity to participate. A time limit may be imposed based upon registration at the hearing.

Interested parties who are unable to attend the Public Hearing may submit their comments in writing to:

Sue F. McCormick, Chief Executive Officer
Great Lakes Water Authority
735 Randolph
Detroit, Michigan, 48226



Financial Plan Overview

Creation of the Great Lakes Water Authority

On September 9, 2014, the Mayor of the City of Detroit, the Chief Executives of Wayne, Oakland and Macomb Counties, and the Governor of the State of Michigan executed a Memorandum of Understanding (MOU) to form the regional Great Lakes Water Authority (GLWA, “Authority” or “regional system”). That action also established the foundation for a restructured City of Detroit Water & Sewerage Department (DWSD or “local system”) focused on serving the customers and needs of the local City of Detroit water and sewer system. The terms of the MOU were the foundation for a lease agreement executed on June 12, 2015 between the City of Detroit and the GLWA. That lease agreement established an operational effective date of January 1, 2016 to provide time for drafting and execution of related agreements and to plan for “Day One”. The regional and local system both have a fiscal year that begins on July 1.

Budget Scope

The foundational documents for the Authority establish a biennial budget process, a five-year capital improvement plan, and a quarterly budget amendment process document with fiscal notes to ensure the highest level of accountability. Beginning with FY 2018, this document takes those requirements one step further by encompassing the biennial budget within a five-year financial plan. This initiative provides a better define roadmap to achieve a sustainable future.

The Authority’s budget consists of six funds.

Water Operations & Maintenance
Water Improvement & Extension Fund
Water Bond Construction Fund

Sewer Operations & Maintenance
Sewer Improvement & Extension Fund
Sewer Bond Construction Fund

Key Contextual Topics

This overview and commentary addresses the following key topics to understand the context of GLWA’s core financial plan.

- ✓ 4% Revenue Requirement Commitment
- ✓ Revenue Stability
- ✓ Managing Charge Stability for Our Customers
- ✓ Retail System Revenue and Collections
- ✓ Water Residential Assistance Program
- ✓ Closed Loop Lease Payment
- ✓ Closed Legacy Payment Obligations



Financial Plan Overview

The 4% Revenue Requirement Commitment

Since 2012, the water and sewer system has engaged an optimization effort to reduce expenses and stabilize revenues. The objectives of both efforts were to vastly improve the long-term sustainability of the system.

That optimization effort revealed opportunities to significantly control costs. This resulted in a commitment to preserve the “revenue requirement” budget to limit the annual basis increase to 4% or less. The revenue requirement reflects those items which can be controlled by board policy and good management: operations and maintenance expenses, debt burden, and cash reserves. This 4% pledge by the management team was memorialized in the MOU that established the regional authority for the first ten years of its existence beginning with FY 2016.

Revenue Stability for the System

While the revenue requirement budget can be managed, revenues based on customer volume demands, are subject to external forces. Nationally, changes in weather and the benefits of conservation have contributed to steadily declining water volume demand. To stabilize water system revenue, two modifications to the wholesale customer charge model were implemented beginning with FY 2016. First, the charge model is now based on 60% fixed cost recovery and 40% of volume charges (which previously was 40% fixed cost recovery and 60% volume). Second, a cohesive approach to estimating water sales volumes for each customer was implemented. Instead of developing charges on disparate three to five year projections and methodologies in individual customer contracts, water sales volume projections were calculated based on the same actual 24-month time period ending in September. The first two years of this revenue stability initiative have proven successful with revenues at or near 100%.

Effective with FY 2015, the wholesale sewer rate simplification methodology became effective with the objective of achieving sewer system revenue stability and efficiency. Under this revenue-setting methodology, costs are allocated based on each customer’s historical use of the system known as a “share” and is revisited every three years. Billings are based on one-twelfth of the annual revenue requirement. The sewer system’s wholesale revenue plan has a high degree of stability with achievement with wholesale revenues at 100%.

Charge Stability for Our Customers

The revenue stability initiatives for the water and sewer systems have improved charge stability for our customers – yet we know there is more that we can do.

Due to water revenue stability measures, individual customer water charge adjustments now have less variability from the average charge adjustment. Our goal is to achieve an even narrower band through evaluating the timing of contract reopeners for all customers versus the current multiple year cycle that varies by customer. In addition, declining usage allows the GLWA to decommission and repurpose the Northeast Water Treatment within the next few years. This impacts the geographic component of the charge model. While this optimization project is in its early design phase, GLWA and its wholesale customers will begin evaluating the effect of geographic distance and elevation from water treatment facilities component on the charge model while holding the other two components, specific volumes and peak demands, constant.



Financial Plan Overview

Sewer rate simplification provided a very predictable charge model for financial planning for both GLWA and its customers. As we begin a sewer master plan in late FY 2017 as well as approach the three-year review of shares as a regional authority, new views on regional system optimization as well as allocation, equity, and methodology transition policies going forward are on the table for discussion. As demonstrated by the sewer share methodology initiative in FY 2017 that resulted in shifts in share allocations among customers for FY 2018, the inherent nature of estimated data when evaluating demands on the sewer system. An effective outcome is one in which all stakeholders will be engaged and reach the preferred consensus among alternatives.

Retail System Revenue and Collections

The regional collaboration that resulted in the GLWA was based on a foundation of achieving both a sustainable regional and local system as well as protecting stakeholder interests. That foundation includes sufficient operating and capital resources and a commitment to funding existing and new financial obligations. The relationship between the GLWA and DWSD is outlined in the Leases for the water and sewer systems, water and sewer services agreement, and the GLWA Master Bond Ordinance (MBO). Retail system revenue is pledged revenue to the Authority for repayment of outstanding revenue bonds. DWSD is agent for GLWA in establishing the retail rates, issuing bills, and performing collections. For this reason, all revenue receipts for the local and retail system are deposited into a revenue receipts fund. Based on the flow of funds established in the MBO, on a monthly basis, collected revenues are distributed first to fund 1/12 of the regional system and local system operations and maintenance budgets. Next, revenues are distributed as established by the Trustee to fund revenue bond debt obligations. Further monthly distributions through the flow of funds are depicted in Section IV – Debt Management. The outcome of the flow of funds is that the retail system obligations are funded 100% on a monthly basis. To the extent that there is a collections shortfall, there are a number of remedies including a budget stabilization fund and quarterly budget reviews to adjust expenses to be in line with collections.

Water Residential Assistance Program

The MOU and Water and Sewer Leases included a provision to establish a Water Residential Assistance Program (“WRAP”). This program is funded at 0.5% of base budgeted operating revenues of the water and sewer systems to provide assistance to indigent residential customers throughout the 126 communities served by GLWA. The WRAP provides monthly bill assistance, arrearage assistance, minor plumbing repairs, and replacement of kitchen and bathroom fixtures that contain lead. Qualified applicants have income at or below 150% of the federal poverty threshold. The allocation of funds to the City of Detroit and communities in Wayne, Macomb and Oakland Counties is in the same proportion of revenue that customers within those geographic boundaries pay into the program. The GLWA Board may reallocate underutilized funds to ensure that the program’s objectives are met across the customer base. WRAP is administered by Wayne Metro and other community action agency alliance partners.



Financial Plan Overview

Closed Loop Lease Payment

The Lease agreement between the City of Detroit and the Great Lakes Water Authority, provides that the Authority shall pay an annual amount of \$22.5 million for the regional water system and \$27.5 million for the regional sewer system. The allocation of these amounts, totaling \$50 million, shall be subject to review and adjustment by the Authority every three to five years consistent with the method of allocation of other common-to-all charges between the regional water system and the regional sewer system.

The lease payment is referred to as a closed loop system because the lease payment by the Authority stays within the local water and sewer system for the benefit of the water and sewer system. The City of Detroit can achieve this in one of three ways (or some combination). The lease payment may be used to:

1. pay the principal of and interest on bonds issued to finance the cost of water and sewer system improvements to the Detroit local system; and/or
2. pay the City's share of the principal of and interest on bonds issued to finance the cost of common-to-all improvements to the leased water and sewer facilities; and/or
3. pay the cost of improvements to the Detroit local water and sewer system facilities.

Closed Legacy Benefit Plan Costs

The City of Detroit's Chapter 9 bankruptcy Plan of Adjustment (POA), approved on December 10, 2014, materially restructured the City's pension and retiree healthcare plan (otherwise referenced as other post-employment benefits or OPEB). The POA required annual payments by the then-existing DWSD for these closed plan for nine years with a tail liability in year ten. The first payment was in FY 2015. With the stand-up of the Authority on January 1, 2016, this annual commitment is allocated between the local and regional systems. The total annual commitment is \$45.4 million per year payable to the City of Detroit General Retirement System (GRS). A challenge for all parties will be the growing tail liability in year ten. To manage the risk of that liability, an agreement was made between the City, GLWA, and the GRS to extend the additional contributions over five to ten years.

The Systems are responsible for an allocable share of the portion of the City of Detroit 30 year B Notes relating to settlement of OPEB claims and 10 year C Notes related to the Systems' prior allocable share of the City's pension obligation certificates. The Systems' allocable portions of those settlement payments, in the form of New B/C Notes, is equal to approximately \$105 million. Annual debt service for the next two years is \$2.9 million.

The pension and B/C note payments are allocated between the Operations & Maintenance Expense (O&M) for an estimated amount of what would have been the normal annual pension expense. The remainder is considered an advance payment of a liability and therefore, a non-O&M expense. See further information in Section IV – Legacy Obligations.



Financial Plan Overview

Organization of the Financial Plan Document

- ✓ **Section I – Overview** provides financial and operational highlights as well as explains the planning process and key contextual matters.
- ✓ **Section II - Core Financial Plan Schedules** address the macro view of the GLWA and unique points of intersection between the GLWA and DWSD as outlined in the master bond ordinance, lease agreements, services agreements, pension agreement, shared services agreement. Those documents may be found online at www.glwater.org
- ✓ **Section III - Operating Area Financial Plans** provide a better understanding of GLWA’s operations, staffing, and cost center financial plans.
- ✓ **Section IV – Supplemental Analysis** provides supporting materials that supports the financial plan in the areas of personnel costs, cost allocation, debt management, legacy commitments, shared services, and utilities.
- ✓ **Section V – Customer Charges & Revenues** provides information by customer and reconciliation to total revenue.
- ✓ **Section VI – Capital Investment** summarizes the three categories of capital spending and their related funding sources (Operations & Maintenance, Improvement & Extension, and Construction Bond funds).
- ✓ **Section VII – Authorizing Resolutions** are provided to complete the annual financial planning cycle in advance of the next fiscal year.

We welcome your feedback!

GLWA’s financial plan document is designed with you, our stakeholder, in mind. As this is our inaugural five-year plan document, we have many ideas for improvements for next year – and hope that you will share your thoughts and ideas as well. Please send any comments, questions, or suggestions to CFO@glwater.org. Thank you!



Budget Calendar

FY 2018 and FY 2019 Financial Planning Cycle

The Great Lakes Water Authority (GLWA) FY 2018 and FY 2019 Financial Planning Cycle includes:

1. FY 2018 and FY 2019 biennial budget
2. FY 2018 – FY 2022 Five Year Capital Improvement Plan
3. FY 2018 Schedule of Revenues and Charges

The schedule below reflects planning for the comprehensive GLWA Financial Plan.

Date	Activity
Thursday, December 1, 2016	Customer Rollout Meeting #1 – Capital Improvement Plan and Units of Service
Thursday, December 1, 2016	GLWA and DWSD (City) - Exchange shared services to be provided and costs (Shared Services Agreement 5.4) <i>(Note: For FY 2018 only, on December 13, 2016 the parties met and mutually agreed to perform further analysis due early January 2017.)</i>
Sunday, January 1, 2017	DWSD – Preliminary two year budget forecast Including key assumptions and impact statement due to GLWA (Services Agreement 5.3)
Friday, January 6, 2017	Internal – Deadline for Departmental Budget Request for Cost of Service Analysis
Wednesday, January 11, 2017	GLWA Board Workshop – FY 2018 and 2019 Goals & Objectives and Financial Planning Cycle Update
Thursday, January 11, 2017	GLWA Capital Improvement Planning (CIP) Committee - FY 2018–22 CIP Review
Friday, January 13, 2017	Special GLWA Audit Committee Meeting – FY 2018 & FY 2019 Biennial Budget Status Report
Friday, January 20, 2017	GLWA Audit Committee Meeting - FY 2018 & FY 2019 Biennial Budget Request and Financial Plan
Friday, January 20, 2017	DWSD – Presentation of DWSD FY 2018 & FY 2019 Budget to BOWC Finance Committee
Wednesday, January 25, 2017	GLWA Board Meeting - Present Proposed FY 2018 Schedule of Revenues and Charges, Request for FY 2018 & FY 2019 Biennial Budget Public Hearing, and Review of Capital Improvement Plan
Thursday, January 26, 2017	Customer Rollout Meeting #2 - Proposed Budget, Financial Plan, and Service Charges
Friday, January 27, 2017	Publish notice of the hearing by publication in a newspaper of general circulation (B)
Friday, January 27, 2017	Mail Notice to Customers of Public Hearing to be held on March 1, 2017 (minimum 30 days prior to Act 279 Public Hearing) (D)



Budget Calendar

FY 2018 and FY 2019 Financial Planning Cycle (continued)

Date	Activity
Wednesday, February 1, 2017	DWSD – Current capital improvement plan due to GLWA (Services Agreement 5.3d(i))
Wednesday, February 8, 2017	GLWA Board Workshop – Review of Proposed FY 2018 Schedule of Revenues and Charges, FY 2018 & FY 2019 Biennial Budget, and FY 2018-FY2022 Capital Improvement Plan
Friday, February 17, 2017	GLWA Audit Committee Meeting – Review of FY 2018 Proposed Schedule of Revenues and Charges and FY 2018 & FY 2019 Biennial Budget Request
Wednesday, March 1, 2017	Special GLWA Board Meeting – Public Hearing on FY 2018 & FY 2019 Biennial Budget (A)
Wednesday, March 1, 2017	Special GLWA Board Meeting – Public Hearing on FY 2018 Schedule of Revenues and Charges (Act 279, minimum 120 days before effective date) (C)
Thursday, March 23, 2017	DWSD – Local system’s adopted biennial budget due to GLWA (Services Agreement 5.3B)
Monday, May 1, 2017	DWSD – Local system provides direction to GLWA on how to apply lease payment (Services Agreement 4.3)
Wednesday, June 7, 2017	GLWA Board Meeting – Proposed Approval of FY 2018 & FY 2019 Biennial Budget, FY 2018–22 Capital Improvement Plan, and FY 2018 Schedule of Water and Sewer Charges
Saturday, July 1, 2017	GLWA – Effective date of FY 2018 & FY 2019 Biennial Budget, FY 2018 Schedule of Charges, and FY 2018-2022 Capital Improvement Plan

(A) thru (D) - The above schedule is designed to meet applicable statutory and contractual requirements with excerpts shown below.

- A. **Uniform Budgeting and Accounting Act, Act 2 of 1968, Section 141.434**, “Before final passage of a general appropriations act by the legislative body, a public hearing shall be held as required by 1963 (2nd Ex Sess) PA 43, MCL 141.411 to 141.415, and the open meetings act, 1976 PA 267, MCL 15.261 to 15.275.” (For purposes of Public Act 2, the GLWA Board is the legislative body.)
- B. **Budget Hearings of Local Governments, Act 43 of 1963 (2nd Ex. Sess.), Section 141.412**, “The local unit shall give notice of the hearing by publication in a newspaper of general circulation within the local unit at least 6 days before the hearing.” (For purposes of Public Act 2, the GLWA Board is a local unit.)



Budget Calendar

FY 2018 and FY 2019 Financial Planning Cycle (continued)

- C. **Home Rule City Act, Act 279 of 1909, Section 117.5e**, “Municipal water or sewage system; annual audit; public hearing before proposed rate increase. A municipal water or sewage system established by a city incorporated under this act which serves more than 40% of the population of the state shall:(b) Hold at least 1 public hearing at least 120 days before a proposed rate increase is scheduled to take effect. Each hearing shall be conducted in compliance with Act No. 267 of the Public Acts of 1976, being sections 15.261 to 15.275 of the Michigan Compiled Laws. Notice of the time, date, and place of each hearing shall be given in the manner required by Act No. 267 of the Public Acts of 1976, shall be prominently printed in a daily newspaper of general circulation within the area, and shall be mailed to each city, village, or township served by the system not less than 30 days before each hearing. A final vote by the governing body of the city to implement a proposed rate increase shall not be taken until the hearings provided for in this subdivision are concluded and the results of those hearings are considered by the city's governing body.” (Emphasis added)

It should be noted that the Home Rule City Act does not apply to GLWA. It is relevant to GLWA’s planning cycle, however, as it is referenced in the *Wholesale Customer Model Water Contract* as noted below.

- D. **GLWA Wholesale Customer Model Water Contract Section 7.02** provides: “Notification of Rates. As soon as possible in the ratemaking process, the Board shall provide information on proposed rates and the draft data and information used in the calculation of proposed rates in a format that will enable Customer to assist in the ratemaking process. Not less than thirty calendar days prior to the hearing required by Act 279, the Board shall provide Customer with written notice of a proposed rate and the underlying data used to calculate the rate. The Board shall meet with Customer to review the rate and the data.” (Emphasis added; Act 279 is the Home Rule City Act noted above.)





GLWA
Great Lakes Water Authority

Core Financial Plan Schedules

Core Financial Plan Schedules

The Great Lakes Water Authority budget is presented on an enterprise level utilizing five key schedules to depict the Core Financial Plan. The schedules present the biennial budget for FY 2018 and FY 2019 within the context of a five year financial plan for FY 2018 through FY 2022. Those schedules are listed below.

Schedule 1 - Revenue Requirements

This schedule summarizes the Authority's direct costs of operations and maintenance plus its "allocable" share of debt and other long-term liabilities. These amounts establish the basis for revenue requirements and customer charges.

Schedule 2 – Operations & Maintenance Expenses Budget

This Schedule, and the related analysis, provide an overview of the operations & maintenance (O&M) expenses budget. Additional analysis of the O&M budgets are presented in the **Section III - Operating Area Financial Plans**.

Schedule 3 -Sources of Revenues and Use of Revenue Requirements – Flow of Funds Basis Consistent with the Master Bond Ordinance

This schedule is most important for stakeholders that want to understand the Authority's financial plan as it relates to payment of outstanding debt, other long-term commitments, and compliance with lease terms and the Master Bond Ordinance (MBO). This schedule demonstrates alignment of the financial plan with the MBO flow of funds for the regional and local system combined.

Schedule 4 - Debt Service Coverage Calculations Consistent with the Master Bond Ordinance

Debt service coverage is a key measure of financial sustainability. This schedule demonstrates how debt service coverage is calculated and how the combined local and regional system revenues provide for payment of outstanding bond obligations.

Schedule 5 – Improvement & Extension Funds and Construction Bond Funds

The GLWA has an Improvement & Extension Fund (I&E) and a Bond Construction Fund for each system. Inflows to the I&E Fund represent revenues in excess of expenses. Building the I&E Fund over time is a key financial objective of GLWA to reducing reliance on revenue bonds. Inflows to the Bond Construction Funds include proceeds from the sale of bonds and investment income on those funds. Outflows are for the costs of constructing capital assets.



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Schedule 1 – Revenue Requirements

Overall Water System Revenue Requirements Budget: The approved FY 2018 water revenue requirements of \$328.1 million represents *a budget (annual revenue requirements) decrease of nearly one percent from the prior year*. That decrease is largely attributable to a successful refunding transaction in October 2016 and the GLWA’s ongoing efforts to control costs. After deducting non-operating revenue, the amount to be recovered through customer changes is an overall decrease of 1.2% from the prior year. The approved FY 2019 budget of \$341.2 million is presented with a ceiling of a 4% budget increase and a related revenue requirements from customer charges impact of 3.8% overall.

Schedule 1A – Water System Revenue Requirements Budget

Water System Revenue Requirements	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
1 Operations & Maintenance (O&M) Expense	\$ 111,879,200	\$ 97,415,400	\$ 121,562,600	\$ 9,683,400	8.7%	\$ 125,124,800	\$ 3,562,200	2.9%	\$ 128,584,100	\$ 132,062,400	\$ 135,636,500
2 O&M Legacy Pension Allocation	6,037,100	-	6,048,000	10,900	0.2%	6,048,000	-	0.0%	6,048,000	6,048,000	6,048,000
3 Debt Service Allocation	159,277,500	(74,300)	135,464,400	(23,813,100)	-15.0%	140,942,900	5,478,500	4.0%	153,215,600	161,934,700	161,592,700
4 Accelerated Legacy Pension Allocation	6,035,200	-	6,268,300	233,100	3.9%	6,268,300	-	0.0%	6,268,300	6,268,300	6,268,300
5 Water Residential Assistance Program	1,645,700	-	1,678,600	32,900	2.0%	1,690,800	12,200	0.7%	1,688,200	1,756,100	1,827,200
6 Lease Payment To Local System I&E Account	22,500,000	-	22,500,000	-	0.0%	22,500,000	-	0.0%	22,500,000	22,500,000	22,500,000
7 Improvement & Extension Fund Allocation	23,838,500	-	32,821,200	8,982,700	37.7%	37,154,600	4,333,400	13.2%	35,109,000	36,996,600	48,412,000
8 Operating Reserve Deposit	-	-	323,700	323,700	0.0%	845,700	522,000	161.3%	869,300	893,600	918,400
9 Extraordinary Repair & Replacement Deposit	-	-	1,452,500	1,452,500	0.0%	669,000	(783,500)	-53.9%	688,100	707,500	727,600
Annual Revenue Requirements	331,213,200	97,341,100	328,119,300	(3,093,900)	-0.9%	341,244,100	13,124,800	4.0%	354,970,600	369,167,200	383,930,700
10.1 Non-Operating Revenue	(2,077,600)	(608,200)	(2,968,900)	(891,300)	42.9%	(3,609,000)	(640,100)	21.6%	(3,664,700)	(3,651,800)	(3,702,700)
11 Revenue Requirements from Charges	\$ 329,135,600	\$ 96,732,900	\$ 325,150,400	\$ (3,985,200)	-1.2%	\$ 337,635,100	\$ 12,484,700	3.8%	\$ 351,305,900	\$ 365,515,400	\$ 380,228,000

The following commentary relates to **Schedule 1A – Water System Revenue Requirements Budget**.

Operations & Maintenance Budget: The Operations and Maintenance (O&M) budget indicates an increase of 8.7%. The reality is that that this reflects an improvement in how information technology expense is budgeted. Previously, routine items, such as software licensing and annual equipment and service contracts were charged to the Improvement & Extension Fund. GLWA now has an improved method to manage those costs as well as demonstrates GLWA’s commitment to proper budgeting and accounting practices.

Debt Service Allocation: The decrease of \$23.8 million reflects the impact of refunding savings and the first-year adjustment of debt service allocation between the wholesale and retail systems.

Accelerated Legacy Pension: The increase in the legacy pension is due to resolution of the post-bifurcation allocation percentage between GLWA and DWSD.



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Water Residential Assistance Program: This amount is calculated as a common-to-all charge equal to 0.5% of the base budgeted operating revenues each year.

Lease Payment to Local System Improvement & Extension Fund: The amount of \$22.5 million allocated to the Local (DWSD) system is an amount pre-determined by the lease agreement. The remaining \$27.5 million is recorded in the sewer system budget. The water/sewer allocation of the total lease payment of \$50 million, which is a common-to-all expense, may be revisited every three to five years by the City.

Improvement & Extension Fund Allocation: The increase to the Improvement and Extension (I&E) Fund demonstrates management's commitment to lower outstanding debt and the cost of capital in the future. A portion of the refunding savings allows for an increased allocation in FY 2017. This reverses the trend from previous years of under-performance in targeted I&E funding due to revenue shortfalls thanks to revenue stabilizing policies adopted by the Board.

Operating Reserve Deposit: Pursuant to the Master Bond Ordinance, this represents an adjustment to the minimum of 1 /12 of the upcoming Fiscal Year's Operation and Maintenance Expenses Reserve based on the sum of the Regional Water System and the Local Water System O&M budgets excluding the operating portion of the legacy pension obligation payment which is funded in a separate account. This reserve is estimated as of June 7, 2017 as the Local System's final budget is in process.

Extraordinary Repair & Replacement Deposit: Pursuant to the Master Bond Ordinance, this represents an adjustment to the minimum reserve of 1/12 of 3% of the upcoming fiscal year's budgeted O&M expenses of the Regional Water System and the Local Water System. This reserve is estimated as of June 7, 2017 as the Local System's final budget is in process.

Annual Revenue Requirements: This amount reflects the total "BUDGET" for operating the system and is the base amount for which the GLWA management team has pledged to increase by no more than 4% on an annual basis. This commitment was further memorialized for the first ten years in the Memorandum of Understanding that established the regional authority.

Non-Operating Revenue: This category largely includes investment income. The increase in FY 2018 is due to a) increase in funds available to invest and b) improvements in treasury activities including management of the investment portfolio.

Revenue Requirements from Charges: A schedule of charges by customer may be found at **Section V – Customer Charges & Revenues**. Charge relief to all customers will occur in FY 2018 due to developments that occurred as this budget was being prepared. On April 18, 2017 officials from the City of Flint, Genesee County Drain Commission (GCDC), Karegnondi Water Authority, State of Michigan and GLWA signed a Statement of Principles that lays out a series of agreements to provide long-term GLWA water service to the City of Flint and a new relationship between GCDC and GLWA to provide backup service to their respective systems. Until the GCDC water treatment plant is operational (expected in the first quarter



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of FY 2018), GLWA will provide wholesale finished treated water to GCDC. This revenue source is shown separately due to the interim nature of the service arrangement with GCDC (estimated FY 2018 revenue at \$3.6 million) and the contract with the City of Flint being in the final phase of negotiations (estimated FY 2018 and subsequent year revenues estimated at \$4 million per year subject to the same model contract as all of GLWA's other wholesale customers).

FY 2017 Activity through March 31, 2017: Note that lines 2 thru 9 are zero at this point in the fiscal year. Several of those activities are recorded at year-end and/or are established for budget memo entries only. Further, throughout this budget document, reference to activity through March 31, 2017 is unaudited and is based on a modified accrual basis which is presently used by GLWA for interim reporting purposes.

Overall Sewer System Revenue Requirements Budget: The approved FY 2018 sewer system revenue requirements of \$465.5 million represents a *modest budget increase of 0.3 percent from the prior year*. That increase is largely attributable to a successful refunding transaction in October 2016 and the GLWA's ongoing efforts to control costs. After deducting non-operating revenue, the amount to be recovered through customer charges is an overall increase of 1.2% from the prior year. This variance is a result of decrease in non-operating revenue is due to an insurance cost recovery for a single event. The approved FY 2019 budget of \$484.1 million is presented with a ceiling of a 4% budget increase and a related revenue requirements from charges impact of 3.7% overall.

Schedule 1B – Sewer System Revenue Requirements Budget

Sewer System Revenue Requirements	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
1 Operations & Maintenance (O&M) Expense	\$ 175,858,900	\$ 82,141,400	\$ 191,079,400	\$ 15,220,500	8.7%	\$ 196,692,700	\$ 5,613,300	2.9%	\$ 204,526,800	\$ 210,270,500	\$ 216,184,500
2 O&M Legacy Pension Allocation	10,838,400	-	10,824,000	(14,400)	-0.1%	10,824,000	-	0.0%	10,824,000	10,824,000	10,824,000
3 Debt Service Allocation	222,418,500	620,500	207,615,500	(14,803,000)	-6.7%	224,339,700	16,724,200	8.1%	241,077,200	245,152,300	250,428,800
4 Accelerated Legacy Pension Allocation	11,096,500	-	11,620,700	524,200	4.7%	11,620,700	-	0.0%	11,620,700	11,620,700	11,620,700
5 Water Residential Assistance Program	2,299,800	-	2,313,700	13,900	0.6%	2,420,900	107,200	4.6%	2,415,500	2,513,500	2,614,400
6 Lease Payment To Local System I&E Account	27,500,000	-	27,500,000	-	0.0%	27,500,000	-	0.0%	27,500,000	27,500,000	27,500,000
7 Improvement & Extension Fund Allocation	14,066,400	-	11,922,100	(2,144,300)	-15.2%	8,311,200	(3,610,900)	-30.3%	2,800,000	13,000,000	22,700,000
8 Operating Reserve Deposit	-	-	341,600	341,600	0.0%	1,394,600	1,053,000	308.3%	1,435,800	1,478,500	1,522,200
9 Extraordinary Repair & Replacement Deposit	-	-	2,283,100	2,283,100	0.0%	1,016,300	(1,266,800)	-55.5%	1,149,200	1,183,300	1,218,500
Annual Revenue Requirements	464,078,500	82,761,900	465,500,100	1,421,600	0.3%	484,120,100	18,620,000	4.0%	503,349,200	523,542,800	544,613,100
10.1 Non-Operating Revenue	(4,115,800)	(9,872,400)	(2,751,000)	1,364,800	-33.2%	(3,933,700)	(1,182,700)	43.0%	(9,337,600)	(9,643,500)	(9,862,200)
10.2 Bad Debt True-Up From Prior Years	-	-	2,810,600	2,810,600	0.0%	2,810,600	-	0.0%	2,810,600	2,810,600	2,810,600
11 Revenue Requirements from Charges	\$ 459,962,700	\$ 72,889,500	\$ 465,559,700	\$ 5,597,000	1.2%	\$ 482,997,000	\$ 17,437,300	3.7%	\$ 496,822,200	\$ 516,709,900	\$ 537,561,500



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The following commentary relates to **Schedule 1B – Sewer System Revenue Requirements Budget**.

Operations & Maintenance Budget: The Operations and Maintenance (O&M) budget indicates an increase of 8.7%. The reality is that that this reflects an improvement in how information technology expense is budgeted. Previously, routine items, such as software licensing and annual equipment and service contracts were charged to the Improvement & Extension Fund. GLWA now has an improved method to manage those costs as well as demonstrates GLWA’s commitment to proper budgeting and accounting practices.

Operations & Maintenance Pension Allocation: The decrease in the legacy pension is due to resolution of the post-bifurcation allocation percentage between GLWA and DWSD. These allocations are based on the implementation calculations.

Debt Service Allocation: The decrease of \$14.8 million reflects the impact of refunding savings and the first-year adjustment of debt service allocation between the wholesale and retail systems.

Accelerated Legacy Pension: The increase is due to resolution of the allocation percentage between GLWA and DWSD in January 2017.

Water Residential Assistance Program: This is a common-to-all charge equal to 0.5% of the base budgeted operating revenues each year.

Lease Payment to Local System Improvement & Extension Fund: The amount of \$27.5 million allocated to the Local (DWSD) system is an amount pre-determined by the lease agreement. The remaining \$22.5 million is recorded in the water system budget. The allocation of the total lease payment of \$50 million, which is a common-to-all expense, may be revisited every three to five years.

Improvement & Extension Fund Allocation: The contribution to the Improvement and Extension (I&E) Fund demonstrates management’s commitment to lower outstanding debt and the cost of capital in the future through strategic evaluation of I&E fund balances. Policies enacted to stabilize the sewer revenues have provided a sufficient level of I&E funding to allow for a decrease in FY 2019.

Operating Reserve Deposit: Pursuant to the Master Bond Ordinance, this represents an adjustment to the minimum of 1 /12 of the upcoming Fiscal Year’s Operation and Maintenance Expenses Reserve based on the sum of the Regional Water System and the Local Water System O&M budgets excluding the operating portion of the legacy pension obligation payment which is funded in a separate account. This reserve is estimated as of June 7, 2017 as the Local System’s final budget is in process.

Extraordinary Repair & Replacement Deposit: Pursuant to the Master Bond Ordinance, this represents an adjustment to the minimum reserve of 1/12 of 3% of the upcoming fiscal year’s budgeted O&M expenses of the Regional Water System and the Local Water System. This reserve is estimated as of June 7, 2017 as the Local System’s final budget is in process.



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Non-Operating Revenue: This category largely includes investment income for FY 2018 and FY 2019. The decrease of \$2.7 million from FY 2017 is due to a) insurance proceeds for a fire incident at the Water Resource Recovery Facility (WRRF) decrease in insurance proceeds from a fire at the water resources recovery facility in FY 2017 and b) offset by an increase in investment income due to improvements in treasury activities including management of the investment portfolio.

Bad Debt True-Up: The FY 2018 base for allocating wholesale customer charges includes an allocation of \$2.81 million for recovery of bad debt expense from Highland Park. It is anticipated that the same may be true for FY 2019.

Net Revenue Requirements from Charges: This amount is net of an estimated FY 2018 collection shortfall from Highland Park of \$4.39 million (assumption is a 20% collection rate). While GLWA and representatives of Highland Park continue to meet, resolution of the Highland Park collection matter has not been resolved. The billings to customers, including Highland Park, will be at the total of \$469,559,700 as shown in **Section V – Customer Charges & Revenues** anticipating that actual collections will be equal to the Net Revenue Requirements from Charges of \$465.5 million.

FY 2017 Activity through March 31, 2017: Note that lines 2 thru 9 are zero at this point in the fiscal year. Several of those activities are recorded at year-end and/or are established for budget memo entries only. Further, throughout this budget document, reference to activity through March 31, 2017 is unaudited and is a modified accrual basis which is presently used by GLWA for interim reporting purposes.

Schedule 2 – Operations & Maintenance Expense Budget

Schedule 2 is a series of analysis that provides an overview of the operations & maintenance (O&M) expenses budget in four different ways: A) by expense type, B) by service area, C) by fund type, and D) by personnel allocation. More in-depth analysis of the O&M budgets are presented in the Operating Area Financial Plans in **Section III – Operating Area Financial Plans** and **Section IV – Supplemental Analysis**.

Operations and Maintenance Budget by Expense Type: **Schedule 2A – Operations & Maintenance Expense by Expense Type** identifies the major categories of expenses and the variance from the prior year for FY 2018 and FY 2019. As noted earlier, what appears to be an 8.7% increase overall is primarily driven by a reclassification of Information Technology costs which were previously charged to the I&E Fund. A commentary of each major category follows the table below.



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Schedule 2A – Operations & Maintenance Expense by Expense Type

Operations & Maintenance Expense	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
1.1 Salaries & Wages	\$ 54,575,400	\$ 32,857,700	\$ 60,370,500	\$ 5,795,100	10.6%	\$ 62,338,200	\$ 1,967,700	3.3%	\$ 62,417,400	\$ 62,417,400	\$ 62,417,400
1.1 Workforce Development	-	-	764,800	764,800	0.0%	764,800	-	0.0%	764,800	764,800	764,800
1.2 Overtime	8,532,400	5,317,100	7,328,500	(1,203,900)	-14.1%	7,316,800	(11,700)	-0.2%	7,318,800	7,320,900	7,322,900
1.3 Employee Benefits	20,684,400	15,996,800	22,523,700	1,839,300	8.9%	23,343,100	819,400	3.6%	23,804,600	24,131,700	24,564,700
1.4 Personnel Transition Adjustment	(6,391,500)	31,600	(3,769,900)	2,621,600	-41.0%	(2,179,000)	1,590,900	-42.2%	(1,900,800)	(1,894,300)	(1,887,800)
2 Transition Services	14,772,200	5,496,500	13,006,100	(1,766,100)	-12.0%	11,786,500	(1,219,600)	-9.4%	11,632,400	11,666,600	11,701,100
Total Personnel Costs	92,172,900	59,699,700	100,223,700	8,050,800	8.7%	103,370,400	3,146,700	3.1%	104,037,200	104,407,100	104,883,100
3.1 Electric	51,164,700	27,357,600	44,283,000	(6,881,700)	Total	44,453,200	170,200	0.4%	44,630,300	44,808,900	44,989,400
3.2 Gas	9,314,800	3,924,900	6,766,900	(2,547,900)	-27.4%	6,896,100	129,200	1.9%	7,025,000	7,154,200	7,282,800
3.4 Sewage Service	1,228,400	1,169,300	2,010,500	782,100	63.7%	2,059,800	49,300	2.5%	2,108,000	2,156,400	2,204,600
3.5 Water Service	4,855,800	3,556,200	5,976,200	1,120,400	23.1%	6,024,300	48,100	0.8%	6,072,200	6,121,000	6,170,200
Total Utilities Costs	66,563,700	36,008,000	59,036,600	(7,527,100)	-11.3%	59,433,400	396,800	0.7%	59,835,500	60,240,500	60,647,000
4 Chemicals	20,538,100	10,839,500	17,806,600	(2,731,500)	-13.3%	18,452,300	645,700	3.6%	18,173,300	18,219,700	18,240,300
5 Supplies & Other	26,185,500	24,093,900	34,801,500	8,616,000	32.9%	31,452,400	(3,349,100)	-9.6%	31,451,400	31,045,300	31,025,300
6 Contractual Services	108,394,300	50,143,000	128,706,600	20,312,300	18.7%	119,418,900	(9,287,700)	-7.2%	115,306,600	110,479,800	107,048,900
7 Capital Program Allocation	(26,377,000)	11,200	(25,358,600)	1,018,400	-3.9%	(21,600,200)	3,758,400	-14.8%	(17,018,300)	(13,833,300)	(11,606,800)
8 Shared Services	(10,306,900)	(1,142,300)	(16,281,700)	(5,974,800)	58.0%	(16,346,900)	(65,200)	0.4%	(16,370,700)	(16,428,300)	(16,426,800)
9 Unallocated Reserve	10,566,300	-	6,353,900	(4,212,400)	-39.9%	20,811,600	14,457,700	227.5%	30,871,700	40,974,700	51,057,000
10 Capital Outlay	-	2,700	7,353,400	7,353,400	0.0%	6,825,600	(527,800)	-7.2%	6,824,200	7,227,400	6,953,000
Total Other Categories	129,000,300	83,948,000	153,381,700	24,381,400	18.9%	159,013,700	5,632,000	3.7%	169,238,200	177,685,300	186,290,900
Grand Total	\$ 287,736,900	\$ 179,655,700	\$ 312,642,000	\$ 24,905,100	8.7%	\$ 321,817,500	\$ 9,175,500	2.9%	\$ 333,110,900	\$ 342,332,900	\$ 351,821,000

Personnel Services Costs are the second largest category of expenses. It includes traditional categories (salaries & wages, overtime, benefits) in addition to three unique categories. The first is “transition services” which represents the use of contractual and/or temp to hire personnel that are placed in positions that would otherwise be filled by employees. While progress has been made in filling a number of positions, the tight labor market and volume of recruitments have presented a challenge. The second and related category is “personnel transition adjustment”. This accounts for anticipated savings that will be realized as positions are filled with employees and GLWA is not paying the mark-up that is built into transition services contracts. The third category, is workforce development. In order to overcome the labor shortage, GLWA has partnered with Focus Hope and others to implement an apprenticeship program in the latter half of FY 2017. With early positive feedback, this appears to be a program that fits with GLWA’s long-term mission and is likely to be evaluated and continued in future years.

Utilities are the third largest category and are a strategic target for optimization through energy management efforts and improved review of billings. See further analysis of Utilities **Section IV – Supplemental Analysis**.



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Contractual Services are the single largest category of expenses. This is not unusual for a large utility like GLWA. This is a broad category that spans all cost centers from engineering, legal, operations, planning, information technology, and finance. A commentary that addresses the contractual services by each cost center is in **Section III – Operating Area Financial Plans**.

Capital Program Allocation denotes a portion of operations and maintenance expenses that are properly allocable to capital program management overhead based on staff time and task tracking.

Shared Services accounts for recoverable operations and maintenance costs pursuant to a shared services agreement executed in December 2015 with the City of Detroit. Shared services largely fall in the information technology and security budgets. See further analysis of Shared Services at **Section IV – Supplemental Analysis**.

Capital Outlay is new category this year to provide an appropriate to account for small purchases that may have been previously recorded in supplies, services, or repairs. Capital outlay accounts in the Operations and Maintenance budget is for items that are either a) under \$5,000 or b) over \$5,000. The under \$5,000 items are equipment and tools that GLWA tags and tracks for internal control purposes and is not capitalized as an asset. Items over \$5,000 will also be tagged and tracked as well as capitalized if the life is three years or greater. See further analysis of the Capital Outlay plan **Section VI – Capital Spending**.

Unallocated Reserve reflects a reserve for unforeseen operational needs. The inaugural FY 2017 and 2018 biennial budget cycle placed downward pressure on individual budgetary lines to remove contingencies which were previously within individual cost centers and line items while providing assurance to operators that sufficient funds existed if they had an emergency. This appears to have been effective because there were very few requests for use of the unallocated reserve with the exception of true emergency repairs and items overlooked in last year's budget process.

Operations and Maintenance Budget by Service Area: **Schedule 2B – Operations & Maintenance Expense by Service Area** depicts how similar cost centers are grouped and managed by the GLWA's Financial Planning and Analysis team. There are four broad categories as listed and defined below.

- A) **Water System Operations** are the direct operational activities to ensure the delivery of quality water, operation of five water treatment plants, 20 pumping stations, engineering, laboratory services, and management of those activities.
- B) **Wastewater System Operations** include direct operational wastewater activities related to operations (process control, primary, secondary, dewatering, and incineration), biosolids dryer facility and hauling, combined sewer overflow management, nine combined sewer overflow facilities, six pumping stations, engineering, industrial waste control, laboratory services, and management of those facilities.



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- C) **Centralized Services** include operational functions that serve both water and wastewater operations. This includes the chief planning office (systems planning, systems analytics, asset management and capital planning, and energy management), field services (operations, engineering, and fleet), systems control, information technology (Chief Information Officer, business applications, enterprise applications, infrastructure, service desk), and Security & Integrity.
- D) **Administrative Services** include the Board of Directors, Chief Executive Officer, Chief Administrative Officer, General Counsel, public affairs, organizational development, risk management & safety, and financial services (Chief Financial Officer, finance, treasury, public finance, procurement, internal audit & lease administration, and transformation).

The Centralized and Administrative Services act as an internal shared service to better manage resources and technical expertise. A supplemental section of this financial plan document, **Section IV - Supplemental Analysis (Centralized and Administrative Services Costs Allocation)**, explains the cost allocation methodology and related process improvements over the course of the past year. For the next year, a review of cost allocation methodology and updated plan is a high priority project in FY 2018.

The table below, **Schedule 2B – Operations & Maintenance Expense Budget Service Area**, presents the categorization of O&M by the four major categories above. As discussed elsewhere in this financial plan, a detailed review of expenses during FY 2017 revealed that annual, soft cost, and/or short-term expenses, primarily for information technology (in centralized services), were charged to I&E funds rather than O&M for many years. This generally resulted in an annual year-end adjustment to reclassify these items to expense. Beginning with January 1, 2016 (start of GLWA), a 100% review of expenses occurred and a proper realignment of O&M versus I&E occurred that is being carried forward into the financial plan. For this reason, a 25.6% increase in Centralized Services is depicted in the following table. As noted with Schedule 1, this was achieved with no increase to the budget or customer charges since there was a corresponding offset in the overall budget.

Schedule 2B – Operations & Maintenance Expense by Service Area

Cost Center & Description	Current Year		Biennial Budget							Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested	
A Water System Operations	\$ 64,904,000	\$ 39,372,600	\$ 66,596,200	\$ 1,692,200	2.6%	\$ 70,332,300	\$ 3,736,100	5.6%	\$ 73,614,700	\$ 77,424,400	\$ 81,003,200	
B Wastewater System Operations	121,911,800	81,554,200	118,318,900	(3,592,900)	-2.9%	124,161,900	5,843,000	4.9%	131,762,100	137,946,300	143,866,100	
C Centralized Services	73,701,100	43,715,400	99,044,500	25,343,400	34.4%	99,161,200	116,700	0.1%	99,475,400	98,635,900	97,984,000	
D Administrative Services	27,220,000	15,013,500	28,682,400	1,462,400	5.4%	28,162,100	(520,300)	-1.8%	28,258,700	28,326,300	28,967,700	
Total	\$ 287,736,900	\$ 179,655,700	\$ 312,642,000	\$ 24,905,100	8.7%	\$ 321,817,500	\$ 9,175,500	2.9%	\$ 333,110,900	\$ 342,332,900	\$ 351,821,000	



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Operations and Maintenance Budget by Fund: After the Centralized and Administrative services are allocated to the water and sewer O&M funds, the result of the above costs being allocated is shown below in **Schedule 2C – Operations & Maintenance Expense by Fund with Centralized & Administrative Services Allocated**. The O&M expense with the Centralized and Administrative Services agrees with Schedule 1 of the budget which is the basis for O&M expenses reflected in customer charges.

Schedule 2C – Operations & Maintenance Expense by Fund with Centralized & Administrative Services Allocated

System	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Water	\$ 111,878,300	\$ 97,514,300	\$ 121,562,600	\$ 9,684,300	8.7%	\$ 125,124,800	\$ 3,562,200	2.9%	\$ 128,584,100	\$ 132,062,400	\$ 135,636,500
Wastewater	175,858,600	82,141,400	191,079,400	15,220,800	8.7%	196,692,700	5,613,300	2.9%	204,526,800	210,270,500	216,184,500
Total	\$ 287,736,900	\$ 179,655,700	\$ 312,642,000	\$ 24,905,100	8.7%	\$ 321,817,500	\$ 9,175,500	2.9%	\$ 333,110,900	\$ 342,332,900	\$ 351,821,000

Operations and Maintenance Budget by Personnel Allocation: As noted in schedule 2A, the overall personnel budget increases by 8.7% for FY 2018 and 3.1% for FY 2019. The *increase in expense* is driven by a *decrease in the estimated vacant positions* from FY 2017 to FY 2018. This was expected as the new entity had a high number of vacant positions due to the bifurcation of the local and regional operations on January 1, 2016 and uncertainty during calendar year 2015 while the parties worked through the conditions precedent leading up to that date. Going forward when GLWA prepares its budget, a factor is applied to account for turnover, vacancies, and positions that may be filled with transitional service contracts. **Schedule 2D – Measures of Organizational Change** depicts the experienced in the last 12 to 18 months with intent to stabilize by the end of FY 2019. In some instances, there are strategic reasons why transition contracts are preferred (specialized skill set, peak workload at points during the year, schedule flexibility, technology rollout, and operational needs) and is an ongoing aspect of the staffing plan.

Schedule 2D – Measures of Organizational Change*

Group	Current Year		Biennial Budget				Forecast					
	FY 2017 Transition Contracts	FY 2017 Vacant at 03.31.2017	FY 2018 Transition Contracts	FY 2018 Vacant	FY 2019 Transition Contracts	FY 2019 Vacant	FY 2020 Transition Contracts	FY 2020 Vacant	FY 2021 Transition Contracts	FY 2021 Vacant	FY 2022 Transition Contracts	FY 2022 Vacant
A Water System Operations	9	37	6	-	3	-	3	-	3	-	3	-
B Wastewater System Operations	22	107	37	-	37	-	37	-	37	-	37	-
C Centralized Services	38	92	42	5	32	1	32	1	32	1	32	1
D Administrative Services	41	39	17	17	17	-	17	-	17	-	17	-
Total FTE Positions	110	275	102	22	89	1	89	1	89	1	89	1

FTE: Full time equivalent position based on 2,080 hours per year for employees; 1,960 for transition contracts



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The maximum staffing plan is at 1,188 FTE in FY 2019. The allocation of those positions is shown in **Schedule 3B - Staffing Plan FTE**. As a percent of the total staffing plan, the direct assignment of personnel to Wastewater Operations is 436 FTE. This excludes the FTE services provided by the Centralized and Administrative Services.

Schedule 2E - Staffing Plan FTE

Group	Current Year		Biennial Budget				Forecast		
	FY 2017		FY 2018 Staffing Plan	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
	Adopted Staffing Plan	FY 2017 Staff Count							
A Water System Operations	187	201	209	17.8%	211	17.8%	211	211	211
B Wastewater System Operations	478	439	436	37.0%	436	36.7%	436	436	436
C Centralized Services	340	327	370	31.4%	375	31.6%	375	375	375
D Administrative Services	143	142	162	13.8%	166	14.0%	166	166	166
Grand Total	1,148	1,109	1,177	100.0%	1,188	100.0%	1,188	1,188	1,188

As shown in **Schedule 2F - Staffing Plan Dollars**, the allocation of financial resources as a percent is relatively consistent with the FTE allocation shown in **Schedule 2E - Staffing Plan FTE**. For example, Water Operations is equal to 17.8% of the FTE positions for FY 2018 and is 17.9% of the staffing plan in dollars. This pattern is consistent among the other three operating groups.

Schedule 2F - Staffing Plan Dollars

Group	Current Year		Biennial Budget				Forecast		
	FY 2017		FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
	FY 2017 Adopted	Activity Through March 31, 2017							
A Water System Operations	\$ 14,428,074	\$ 11,355,382	\$ 18,094,000	17.9%	\$ 18,719,700	17.9%	\$ 18,924,500	\$ 18,995,200	\$ 19,086,600
B Wastewater System Operations	33,777,441	23,030,624	34,633,437	34.3%	35,478,990	34.0%	35,710,190	35,833,790	35,997,290
C Centralized Services	29,551,717	16,056,657	32,550,973	32.2%	33,976,424	32.5%	34,162,695	34,293,796	34,456,296
D Administrative Services	14,416,120	9,256,718	15,835,143	15.7%	16,234,899	15.5%	16,279,449	16,323,999	16,382,599
Grand Total	\$ 92,173,352	\$ 59,699,381	\$ 101,113,553	100.0%	\$ 104,410,013	100.0%	\$ 105,076,834	\$ 105,446,785	\$ 105,922,785

As shown in **Schedule 2G – Personnel Expense Categories**, employee benefit program expenses account for 22.3% of the of the FY 2018 personnel expenses budget. A consistent ratio is expected for future years. As a new employer, GLWA established a modernized benefit plan design to retain and attract a multi-generational workforce in different phases of their career. Further, the plan design results in no risk of incurring unfunded liabilities by focusing on defined contribution programs.



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Schedule 2G - Personnel Expense Categories

Personnel Expense Categories	Current Year		Biennial Budget				Forecast		
	FY 2017 Adopted	FY 2017 Activity Through March 31, 2017	FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
1.1 Salaries & Wages	\$54,575,824	\$ 32,857,625	\$ 60,370,582	59.7%	\$ 62,338,147	59.7%	\$ 62,417,346	\$ 62,417,346	\$ 62,417,346
1.1 Salaries & Wages - Workforce Development	-	-	764,876	0.8%	764,876	0.7%	764,876	764,876	764,876
1.2 Overtime	8,532,400	5,316,866	7,328,523	7.2%	7,316,773	7.0%	7,318,773	7,320,873	7,322,873
1.3 Employee Benefits	20,684,488	15,996,860	22,523,782	22.3%	23,343,087	22.4%	23,804,609	24,131,760	24,564,760
1.4 Personnel Transition Adjustment	(6,391,500)	31,568	(3,769,888)	-3.7%	(2,178,988)	-2.1%	(1,900,788)	(1,894,288)	(1,887,788)
2 Transition Services	14,772,140	5,496,462	13,895,678	13.7%	12,826,118	12.3%	12,672,018	12,706,218	12,740,718
Total Personnel Expenses	\$92,173,352	\$ 59,699,381	\$ 101,113,553	100.0%	\$ 104,410,013	100.0%	\$ 105,076,834	\$ 105,446,785	\$ 105,922,785

The employee benefit program is managed like an internal service fund. A uniform rate is applied to actual payroll and expensed to the Employee Benefits in each cost center. As shown in **Schedule 2H - Employee Benefits Program Budget**, the amounts charged to the cost centers as well as employee contributions provide the funding for managing the employee benefits program. Like most employers, the most significant area of risk management in the benefits program is managing the cost of healthcare. As a large employer, GLWA's most cost effective option for the medical insurance plan to be partially self-funded. As a new employer, there was no claims history to establish a projection so actuarial assumptions were utilized. Based on analysis from January 1, 2016 through March 31, 2017, however, the cost of the medical plan is within the budget. A modest Reserve for Claims and Market Adjustments is included in the budget for that reason as well as to anticipate medical plan provider cost adjustments. The medical benefit plan year is a calendar year which result in mid-year adjustments as of January 1st each year.



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Schedule 2H - Employee Benefits Program Budget

	Current Year		Biennial Budget				Forecast					
	FY 2017		FY 2018		FY 2019		FY 2020		FY 2021		FY 2022	
Employee Benefit Contribution	\$	1,104,197	\$	1,182,434	\$	1,217,391	\$	1,217,391	\$	1,217,391	\$	1,217,391
Employee Benefits Budget - All Cost Centers		20,684,488		22,523,782		23,343,087		23,804,609		24,131,760		24,564,760
Total Benefit Contributions	\$	21,788,685	\$	23,706,216	\$	24,560,478	\$	25,022,000	\$	25,349,151	\$	25,782,151
Employee Benefits - Fixed & Variable Elements												
Fixed Cost	\$	10,415,873		8,757,316		9,016,214		9,016,214		9,016,214		9,016,214
Variable Based on Base Wages		10,369,407		11,401,763		11,768,714		11,783,484		11,783,484		11,783,484
Variable Based on Overtime Wages		1,621,156		1,366,770		1,364,578		1,364,951		1,365,343		1,365,716
Reserve for Claims and Market Adjustments		628,639		4,820,546		4,847,934		5,265,034		5,598,291		6,037,473
Personnel Transition Budget		(2,350,586)		(2,640,179)		(2,436,962)		(2,407,683)		(2,414,181)		(2,420,736)
Total Employee Benefits	\$	20,684,488		23,706,216		24,560,477		25,022,000		25,349,150		25,782,150
		100.0%		100.0%		100.0%		100.0%		100.0%		100.0%

Fixed cost benefits, estimated at 60% for FY 2018 represent those that are incurred as a flat rate per employee. Variable cost benefits, at a combined rate of 19%, are those that are incurred as a percent of payroll such as payroll taxes and the defined contribution pension plan equate to 40% of the employee benefit plan cost for FY 2018.

The personnel transition adjustment represents the employee benefit expense impact of turnover and conversion of transitional service contract positions to employee status.

Schedule 3 – Sources of Revenues and Uses of Revenues – Flow of Funds Basis Consistent with the Master Bond Ordinance

While the prior schedules 1A and 1B provide the GLWA budget as a wholesale provider of service, **Schedule 2- Sources of Revenues and Use of Revenues – Flow of Funds Basis per Master Bond Ordinance** is provided to demonstrate compliance with the pledge of establishing sufficient regional and local system revenues to service financial commitments consistent with the Master Bond Ordinance (MBO) Flow of Funds. Noteworthy items include the following.

- ✓ The analysis validates that GLWA has a financial plan in place to ensure that revenues are sufficient to fund debt service.
- ✓ Schedule 2 is reconciled to Schedules 1A and 1B to demonstrate that all line items in the budget plan for the biennial budget approved for FY 2018 and FY 2019 (Schedules 1A and 1B) are in alignment with the financial plan.
- ✓ The local system revenue is shown net of its regional system commitments demonstrating the local system has sufficient revenues for local system operations as well as the regional debt service and legacy commitments.



Core Financial Plan Schedules

- ✓ The amount of debt service allocation between GLWA and DWSD is being addressed through a memorandum of understanding currently being discussed. The allocation of debt service for FY 2018 was agreed upon by both parties for FY 2018 to allow for sufficient time for further analysis of the ending audited Statement of Net Assets as of December 31, 2015 (day prior to operational effective date for GLWA of January 1, 2016). The audit report is due in late June 2017.
- ✓ The legacy pension commitment was a result of the City of Detroit's Chapter 9 Plan of Adjustment approved in December 2014. At the time of the operational start-up of the GLWA, that liability was allocated between GLWA and DWSD based upon estimates. Monthly funding of the annual payment for that liability occurs through the flow of funds. Schedule 2 confirms that both GLWA and DWSD have sufficient revenue to address that commitment as payments come due. It should be noted, however, that a fixed annual payment amount was established through FY 2024. All parties (City of Detroit, Detroit General Retirement System, DWSD, and GLWA) will need to confer to address a growing City of Detroit General Retirement System (GRS) liability past 2024 that was not identified at the time of the plan of adjustment. **Section IV - Supplemental Analysis (Legacy Commitments)** provides further information related to the pension system.
- ✓ Line 26, net revenues allocable to the regional system quantify GLWA's efforts to improve financial stability, debt service coverage ratio, cash position, and flexibility to meet future capital needs without maximum reliance on debt.
- ✓ The resolution adopting the FY 2018 & FY 2019 Biennial Budget is in **Section VII—Authorizing Resolutions** affirms the annual debt service funding. See additional debt analysis at **Section IV - Supplemental Analysis (Debt Management)**.
- ✓ All other known commitments are planned to be funded in accordance with supporting calculations and analysis. To the extent that there are any variances, they will be addressed with a budget amendment.



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Schedule 3A – Sources of Revenues and Use of Revenues – Flow of Funds Basis Consistent with Master Bond Ordinance*

Flow of Funds Basis		FY 2018	FY 2018	FY 2018 Combined (Informational Only)	FY 2019	FY 2019	FY 2019 Combined (Informational Only)
		Water Fund Requested	Sewer Fund Requested		Water Fund Requested	Sewer Fund Requested	
Revenues							
1	Regional System Wholesale Revenues - Suburban Wholesale	\$ 310,019,800	\$ 286,590,600	\$ 596,610,400	\$ 321,745,700	\$ 297,284,000	\$ 619,029,700
2	Regional System Wholesale Revenues - Detroit	15,130,600	178,969,100	194,099,700	15,889,400	185,756,400	201,645,800
3	Total Regional System Wholesale Revenues	325,150,400	465,559,700	790,710,100	337,635,100	483,040,400	820,675,500
4	DWSD Local System Revenues - Detroit Customers	73,860,600	77,397,900	151,258,500	76,815,000	80,493,800	157,308,800
5	Miscellaneous Revenue (Local System)	4,750,000	5,000,000	9,750,000	4,750,000	5,000,000	9,750,000
6	Non-Operating Revenue (Regional System)	2,968,900	2,751,000	5,719,900	3,609,000	3,933,700	7,542,700
7	Total Revenues	\$ 406,729,900	\$ 550,708,600	\$ 957,438,500	\$ 422,809,100	\$ 572,467,900	\$ 995,277,000
Revenue Requirements							
Operations & Maintenance Expense							
8	Regional System Wholesale Expenses	\$ 121,562,600	\$ 191,079,400	\$ 312,642,000	\$ 125,124,800	\$ 196,692,700	\$ 321,817,500
9	Local System Expenses	30,820,200	46,690,900	77,511,100	33,757,600	44,259,300	78,016,900
10	GRS Pension allocable to Regional System	6,048,000	10,824,000	16,872,000	6,048,000	10,824,000	16,872,000
11	GRS Pension allocable to Local System	4,272,000	2,856,000	7,128,000	4,272,000	2,856,000	7,128,000
12	Total Operations & Maintenance Expense	162,702,800	251,450,300	414,153,100	169,202,400	254,632,000	423,834,400
13	Net Revenues after O&M Expense	244,027,100	299,258,300	543,285,400	253,606,700	317,835,900	571,442,600
Non-operating Activities							
14	Debt Service Allocable to Regional System	135,464,400	207,615,500	343,079,900	140,942,900	224,339,700	365,282,600
15	Debt Service Allocable to Local System	37,486,700	27,392,500	64,879,200	37,486,700	32,967,200	70,453,900
16	GRS Accelerated Pension from Regional System	6,268,300	11,620,700	17,889,000	6,268,300	11,620,700	17,889,000
17	GRS Accelerated Pension from Local System	4,427,400	3,066,800	7,494,200	4,427,400	3,066,800	7,494,200
18	WRAP Contribution from Regional System	1,678,600	2,313,700	3,992,300	1,690,800	2,420,900	4,111,700
19	WRAP Contribution from Local System	424,300	506,700	931,000	441,300	502,900	944,200
20	DWSD Budget Stabilization Fund Contribution	-	-	-	-	-	-
21	ER&R Fund Contribution from Regional System	1,452,500	2,283,100	3,735,600	669,000	1,016,300	1,685,300
22	ER&R Fund Contribution from Local System	1,180,000	1,885,000	3,065,000	1,180,000	1,885,000	3,065,000
23	Contribution to Operating Reserves	323,700	341,600	665,300	845,700	1,394,600	2,240,300
24	Total Nonoperating Activities	188,705,900	257,025,600	445,731,500	193,952,100	279,214,100	473,166,200
25	Net Revenues Available for Revenue Financed Capital	55,321,200	42,232,700	97,553,900	59,654,600	38,621,800	98,276,400
Reserve for Revenue Financed Capital from Net Revenues							
26	Lease Payment to Local System I&E Account	22,500,000	27,500,000	50,000,000	22,500,000	27,500,000	50,000,000
27	Net Revenues Allocable to Local System	-	-	-	-	-	-
28	Net Revenues Allocable to Regional System	32,821,200	14,732,700	47,553,900	37,154,600	11,121,800	48,276,400
29	Reserve for Revenue Financed Capital Both Systems	55,321,200	42,232,700	97,553,900	59,654,600	38,621,800	98,276,400
30	Total Revenue Requirements	\$ 406,729,900	\$ 550,708,600	\$ 957,438,500	\$ 422,809,100	\$ 572,467,900	\$ 995,277,000

* Rows highlighted in light blue in the above table are designed to align with the DWSD Budget (DWSD data preliminary at July 7, 2017).



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Schedule 3B – Recap of Allocated Commitments in Schedule 3A provides an analysis to crosswalk amounts from Schedule 2 to key financial reference points for several stakeholders. A commentary follows the table below.

Schedule 3B – Recap of Allocated Commitments in Schedule 3A**

Recap of Allocated Commitments in Schedule 2A		FY 2018	FY 2018	FY 2018 Combined (Informational Only)	FY 2019	FY 2019	FY 2019 Combined (Informational Only)
		Water Fund Requested	Sewer Fund Requested		Water Fund Requested	Sewer Fund Requested	
Debt Service							
<i>Schedule 2 Line Number</i>							
31	Debt Service Allocable to Regional System	\$ 135,464,400	\$ 207,615,500	\$ 343,079,900	\$ 140,942,900	\$ 224,339,700	\$ 365,282,600
32	Debt Service Allocable to Local System	37,486,700	27,392,500	64,879,200	37,486,700	32,967,200	70,453,900
	Total Debt Service	\$ 172,951,100	\$ 235,008,000	\$ 407,959,100	\$ 178,429,600	\$ 257,306,900	\$ 435,736,500
Legacy Pension Obligation Allocation							
<i>Schedule 2 Line Number</i>							
33	GRS Pension allocable to Regional System	\$ 6,048,000	\$ 10,824,000	\$ 16,872,000	\$ 6,048,000	\$ 10,824,000	\$ 16,872,000
34	GRS Pension allocable to Local System	4,272,000	2,856,000	7,128,000	4,272,000	2,856,000	7,128,000
	Subtotal Allocated to Operations & Maintenance	10,320,000	13,680,000	24,000,000	10,320,000	13,680,000	24,000,000
35	GRS Accelerated Pension from Regional System	6,268,300	11,620,700	17,889,000	6,268,300	11,620,700	17,889,000
36	GRS Accelerated Pension from Local System	4,427,400	3,066,800	7,494,200	4,427,400	3,066,800	7,494,200
	Subtotal Allocated to Accelerated Pension	10,695,700	14,687,500	25,383,200	10,695,700	14,687,500	25,383,200
	Total Legacy Pension Obligation	\$ 21,015,700	\$ 28,367,500	\$ 49,383,200	\$ 21,015,700	\$ 28,367,500	\$ 49,383,200
Nature of Legacy Pension Obligation							
	GRS Administrative Fee	\$ 1,075,000	\$ 1,425,000	\$ 2,500,000	\$ 1,075,000	\$ 1,425,000	\$ 2,500,000
	GRS Pension Contribution	9,245,000	12,255,000	21,500,000	9,245,000	12,255,000	21,500,000
	Subtotal - Operations & Maintenance Allocation	10,320,000	13,680,000	24,000,000	10,320,000	13,680,000	24,000,000
	GRS Accelerated Pension Contribution	9,202,000	12,198,000	21,400,000	9,202,000	12,198,000	21,400,000
	B&C Note Payment to City of Detroit	1,493,700	2,489,500	3,983,200	1,493,700	2,489,500	3,983,200
	Subtotal - Non-Operations & Maintenance Allocation	10,695,700	14,687,500	25,383,200	10,695,700	14,687,500	25,383,200
	Total Legacy Pension Obligation	\$ 21,015,700	\$ 28,367,500	\$ 49,383,200	\$ 21,015,700	\$ 28,367,500	\$ 49,383,200

** Debt service allocations for FY 2019 are the subject of ongoing discussions among the parties.



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Debt service represents the annual principal and interest payments on revenue bonds that were assumed by the GLWA from DWSD, issued by GLWA, and issued on behalf of GLWA and DWSD (i.e. State Revolving Fund bonds) for regional and local system improvements. Both the net revenues of GLWA, and DWSD as its agent, are pledged as repayment of these bonds consistent with Michigan PA 94 of 1933, the Revenue Bond Act.

Legacy pension obligation was established as DWSD's commitment in the City of Detroit's Chapter 9 Bankruptcy Plan of Adjustment (POA) approved on December 10, 2014. The POA established parameters that required DWSD to fund its entire City of Detroit General Retirement System (GRS) frozen pension liability over ten years with an anticipated tail payment in year 11. The annual pension contribution was established at \$24 million per year with a portion attributable to operations and maintenance expense as a proxy for an annual period expense and the remainder as an accelerated payment of a long-term liability. With the subsequent establishment of the regional authority, the parties agreed that the liability would be allocated between DWSD and GLWA (as both systems were provided services that generated the liability). In January 2017, the parties reached an agreement on the allocation method as presented in **Section IV - Supplemental Analysis (Legacy Commitments)**. Similarly, the POA provided for the issuance, by the City, of what is known as B & C Notes, in resolution of the termination of the previous retiree healthcare plan and related liabilities. The portion allocated to DWSD in the POA is now funded by both GLWA and DWSD in the same manner as the frozen pension. The third element of the POA required DWSD to pay an annual administrative fee to the GRS of \$2.5 million per year. That cost is allocated in the same manner. With the establishment of the GLWA, an additional agreement between the City, GRS, and GLWA was executed that outlines additional reporting requirements.



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Schedule 4 - Debt Service Coverage Calculations Consistent with the Master Bond Ordinance

The Master Bond Ordinance and Michigan PA 94 of 1933 (the Revenue Bond Act) established the Required Coverage levels. Debt service coverage is calculated as Net Revenues divided by the Maximum Annual Debt Service requirements. As shown in **Schedule 3 - Debt Service Coverage Calculations per Master Bond Ordinance**, GLWA's projected coverage exceeds the minimum levels.

Senior Lien Bonds: 120%

Second Lien Bonds: 110%

SRF Junior Lien Bonds and Pension Junior Lien GLWA Bonds: 100%

Debt Service Coverage Calculation	FY 2018			FY 2019		
	FY 2018 Water Fund Requested	FY 2018 Sewer Fund Requested	FY 2018 Combined (Informational Only)	FY 2019 Water Fund Requested	FY 2019 Sewer Fund Requested	FY 2019 Combined (Informational Only)
Revenues						
1 Regional System Wholesale Revenues	\$ 325,150,400	\$ 465,559,700	\$ 790,710,100	\$ 337,635,100	\$ 483,040,400	\$ 820,675,500
2 Local System Revenues	73,860,600	77,397,900	151,258,500	76,815,000	80,493,800	157,308,800
3 Miscellaneous Revenue (Local System)	4,750,000	5,000,000	9,750,000	4,750,000	5,000,000	9,750,000
4 Non-Operating Revenue (Regional System)	2,968,900	2,751,000	5,719,900	3,609,000	3,933,700	7,542,700
5 Total Revenues	\$ 406,729,900	\$ 550,708,600	\$ 957,438,500	\$ 422,809,100	\$ 572,467,900	\$ 995,277,000
Revenue Requirements						
Operations & Maintenance Expense						
6 Regional System Wholesale Expenses	\$ 121,562,600	\$ 191,079,400	\$ 312,642,000	\$ 125,124,800	\$ 196,692,700	\$ 321,817,500
7 Local System Expenses	30,820,200	46,690,900	77,511,100	33,757,600	44,259,300	78,016,900
8 GRS Pension allocable to Regional System	6,048,000	10,824,000	16,872,000	6,048,000	10,824,000	16,872,000
9 GRS Pension allocable to Local System	4,272,000	2,856,000	7,128,000	4,272,000	2,856,000	7,128,000
Total Operations & Maintenance Expense	162,702,800	251,450,300	414,153,100	169,202,400	254,632,000	423,834,400
10 Net Revenues after Operations & Maintenance Expense	\$ 244,027,100	\$ 299,258,300	\$ 543,285,400	\$ 253,606,700	\$ 317,835,900	\$ 571,442,600
Debt Service by Lien						
11 Senior Lien Bonds	\$ 127,687,500	\$ 142,376,800	\$ 270,064,300	\$ 126,355,900	\$ 161,235,300	\$ 287,591,200
12 Second Lien Bonds	42,852,900	43,990,100	86,843,000	49,020,400	43,922,600	92,943,000
13 SRF Junior Lien Bonds	2,410,700	48,641,100	51,051,800	3,053,300	52,149,000	55,202,300
14 Total Debt Service	\$ 172,951,100	\$ 235,008,000	\$ 407,959,100	\$ 178,429,600	\$ 257,306,900	\$ 435,736,500
Debt Service Coverage (a)						
15 Senior Lien Bonds (10) / (11)	1.91	2.10		2.01	1.97	
16 Senior and Second Lien Bonds (10) / [(11) + (12)]	1.43	1.61		1.45	1.55	
17 All Bonds, including SRF Junior Lien Bonds (10) / (14)	1.41	1.27		1.42	1.24	



Core Financial Plan Schedules

Schedule 4 - Debt Service Coverage Calculations

Debt Service Coverage Calculation	FY 2018			FY 2019		
	FY 2018 Water Fund Requested	FY 2018 Sewer Fund Requested	FY 2018 Combined (Informational Only)	FY 2019 Water Fund Requested	FY 2019 Sewer Fund Requested	FY 2019 Combined (Informational Only)
Revenues						
1 Regional System Wholesale Revenues	\$ 325,150,400	\$ 465,559,700	\$ 790,710,100	\$ 337,635,100	\$ 483,040,400	\$ 820,675,500
2 Local System Revenues	73,860,600	77,397,900	151,258,500	76,815,000	80,493,800	157,308,800
3 Miscellaneous Revenue (Local System)	4,750,000	5,000,000	9,750,000	4,750,000	5,000,000	9,750,000
4 Non-Operating Revenue (Regional System)	2,968,900	2,751,000	5,719,900	3,609,000	3,933,700	7,542,700
5 Total Revenues	\$ 406,729,900	\$ 550,708,600	\$ 957,438,500	\$ 422,809,100	\$ 572,467,900	\$ 995,277,000
Revenue Requirements						
Operations & Maintenance Expense						
6 Regional System Wholesale Expenses	\$ 121,562,600	\$ 191,079,400	\$ 312,642,000	\$ 125,124,800	\$ 196,692,700	\$ 321,817,500
7 Local System Expenses	30,820,200	46,690,900	77,511,100	33,757,600	44,259,300	78,016,900
8 GRS Pension allocable to Regional System	6,048,000	10,824,000	16,872,000	6,048,000	10,824,000	16,872,000
9 GRS Pension allocable to Local System	4,272,000	2,856,000	7,128,000	4,272,000	2,856,000	7,128,000
Total Operations & Maintenance Expense	162,702,800	251,450,300	414,153,100	169,202,400	254,632,000	423,834,400
10 Net Revenues after Operations & Maintenance Expense	\$ 244,027,100	\$ 299,258,300	\$ 543,285,400	\$ 253,606,700	\$ 317,835,900	\$ 571,442,600
Debt Service by Lien						
11 Senior Lien Bonds	\$ 127,687,500	\$ 142,376,800	\$ 270,064,300	\$ 126,355,900	\$ 161,235,300	\$ 287,591,200
12 Second Lien Bonds	42,852,900	43,990,100	86,843,000	49,020,400	43,922,600	92,943,000
13 SRF Junior Lien Bonds	2,410,700	48,641,100	51,051,800	3,053,300	52,149,000	55,202,300
14 Total Debt Service	\$ 172,951,100	\$ 235,008,000	\$ 407,959,100	\$ 178,429,600	\$ 257,306,900	\$ 435,736,500
Debt Service Coverage (a)						
15 Senior Lien Bonds (10) / (11)	1.91	2.10		2.01	1.97	
16 Senior and Second Lien Bonds (10) / [(11) + (12)]	1.43	1.61		1.45	1.55	
17 All Bonds, including SRF Junior Lien Bonds (10) / (14)	1.41	1.27		1.42	1.24	

Schedule 5 – Improvement & Extension Funds and Construction Bond Funds

Improvement & Extension Funds: The table below presents the FY 2018 and FY 2019 biennial budget and five-year financial plan for the separate Improvement & Extension (I&E) Funds for the water and sewer systems. See also **Section VI—Capital Spending**.

Inflows to the I&E Fund

- Transfers from the Revenue Receipts Fund in accordance the Master Bond Ordinance and Financial Plan
- Presently there are no active grants
- Interest earned on the I&E funds has traditionally been returned to the flow of funds as allowed, but not required, by the MBO; this practice is being revisited



Core Financial Plan Schedules

Outflows from the I&E Fund

- Capital outlay funding (generally non-construction capital outlay such as machinery, equipment, vehicles, and systems)
- Transfers to the Construction Bond Fund for specific capital improvement plan projects
- Transfers to the Construction Bond Fund for strategic reduction of new revenue bonds and/or flexibility in timing for new bonds

Schedule 5A – Water Improvement & Extension Fund

Inflows & Outflows	Current Year		Biennial Budget		Forecast		
	FY 2017 Projected	FY 2017 Activity Through March 31, 2017	FY 2018 Requested	FY 2019 Requested	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Water Improvement & Extension Fund							
Water System Revenue Transfers	\$ 23,838,500	\$ -	\$ 32,821,200	\$ 37,154,600	\$ 35,109,000	\$ 36,996,600	\$ 48,412,000
Grant Revenues	-	-	-	-	-	-	-
Earnings on Investments, Net	-	-	-	-	-	-	-
<i>Capital Outlay</i>	<i>(4,000,000)</i>	<i>(2,651,700)</i>	<i>(15,829,300)</i>	<i>(10,114,300)</i>	<i>(7,093,300)</i>	<i>(7,192,100)</i>	<i>(6,402,400)</i>
Transfer to Construction Bond Fund - Specific	(3,258,000)	-	(14,936,000)	(6,942,000)	(1,813,000)	(266,000)	-
Transfer to Construction Bond Fund - Strategic	(2,500,000)	-	(10,000,000)	(30,000,000)	(35,000,000)	(35,000,000)	(45,000,000)
Increase (Decrease) in Reserves	14,080,500	(2,651,700)	(7,944,100)	(9,901,700)	(8,797,300)	(5,461,500)	(2,990,400)
Beginning of Year	66,000,000	80,080,500	80,080,500	72,136,400	62,234,700	53,437,400	47,975,900
Projected Ending Balance	\$ 80,080,500	\$ 77,428,800	\$ 72,136,400	\$ 62,234,700	\$ 53,437,400	\$ 47,975,900	\$ 44,985,500



Core Financial Plan Schedules

Schedule 5B – Sewer Improvement & Extension Fund

Inflows & Outflows	Current Year		Biennial Budget		Forecast		
	FY 2017 Projected	FY 2017 Activity Through March 31, 2017	FY 2018 Requested	FY 2019 Requested	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Sewer Improvement & Extension Fund							
Sewer System Revenue Transfers	\$ 14,066,400	\$ -	\$ 11,922,100	\$ 8,311,200	\$ 2,800,000	\$ 13,000,000	\$ 22,700,000
Grant Revenues	-	-	-	-	-	-	-
Earnings on Investments, Net	-	-	-	-	-	-	-
<i>Capital Outlay</i>	<i>(1,706,000)</i>	<i>(1,422,000)</i>	<i>(8,646,100)</i>	<i>(4,692,900)</i>	<i>(2,931,000)</i>	<i>(3,190,200)</i>	<i>(3,170,700)</i>
Transfer to Construction Bond Fund - Specific	-	-	(3,758,000)	(1,024,000)	(2,080,000)	(5,000,000)	(5,000,000)
Transfer to Construction Bond Fund - Strategic	(5,000,000)	-	(15,000,000)	(5,000,000)	(20,000,000)	(20,000,000)	(20,000,000)
Increase (Decrease) in Reserves	7,360,400	(1,422,000)	(15,482,000)	(2,405,700)	(22,211,000)	(15,190,200)	(5,470,700)
Beginning of Year	97,000,000	104,360,400	104,360,400	88,878,400	86,472,700	64,261,700	49,071,500
Projected Ending Balance	\$ 104,360,400	\$ 102,938,400	\$ 88,878,400	\$ 86,472,700	\$ 64,261,700	\$ 49,071,500	\$ 43,600,800

Construction Bond Funds: The table below presents the FY 2018 and FY 2019 biennial budget and five year financial plan for the separate Construction Bond Funds for the water and sewer systems. See also **Section VI—Capital Spending**.

Inflows to the Construction Bond Fund

- Issuance of new bonds
- Interest earned on investments
- Transfers from the Improvement & Extension Fund for specific capital improvement plan projects
- Transfers from the Improvement & Extension Fund for strategic reduction of new revenue bonds
- Presently there are no active grants

Outflows from the Construction Bond Fund

- Capital Improvement Plan projects and other large capital initiatives authorized by the Chief Executive Officer
- The GLWA Capital Improvement Plan document is available online at www.glwater.org



Core Financial Plan Schedules

Schedule 5C – Water Construction Bond Fund

Inflows & Outflows	Current Year		Biennial Budget		Forecast		
	FY 2017 Activity		FY 2018 Requested	FY 2019 Requested	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
	FY 2017 Projected	Thru March 31, 2017					
Water Construction Bond Fund							
Bond Proceeds, Net	\$ 225,883,000	\$ 225,883,000	\$ -	\$ 188,000,000	\$ -	\$ 134,000,000	\$ -
Earnings on Investments, Net	577,000	257,000	435,000	743,000	462,000	408,000	252,000
Transfer from Improvement & Extension Fund - Specific	3,258,000	-	14,936,000	6,942,000	1,813,000	266,000	-
Transfer from Improvement & Extension Fund - Strategic	2,500,000	-	10,000,000	30,000,000	35,000,000	35,000,000	45,000,000
Grant Revenue	-	-	-	-	-	-	-
Project Expenses	(63,265,000)	(21,191,800)	(110,124,000)	(155,271,000)	(157,807,000)	(113,044,000)	(104,240,000)
Increase (Decrease) in Reserves	168,953,000	204,948,200	(84,753,000)	70,414,000	(120,532,000)	56,630,000	(58,988,000)
Beginning of Year	5,000,000	173,953,000	173,953,000	89,200,000	159,614,000	39,082,000	95,712,000
Projected Ending Balance	\$ 173,953,000	\$ 378,901,200	\$ 89,200,000	\$ 159,614,000	\$ 39,082,000	\$ 95,712,000	\$ 36,724,000

Schedule 5D – Sewer Construction Bond Fund

Inflows & Outflows	Current Year		Biennial Budget		Forecast		
	FY 2017 Activity		FY 2018 Requested	FY 2019 Requested	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
	FY 2017 Projected	Thru March 31, 2017					
Sewer Construction Bond Fund							
Bond Proceeds, Net	\$ -	\$ -	\$ 150,000,000	\$ -	\$ 230,500,000	\$ -	\$ -
SRF Loan Reimbursements	20,621,000	-	52,897,000	49,732,000	25,488,000	-	-
Earnings on Investments, Net	250,000	533,000	429,000	299,000	633,000	361,000	194,000
Transfer from Improvement & Extension Fund - Specific	-	-	3,758,000	1,024,000	2,080,000	5,000,000	5,000,000
Transfer from Improvement & Extension Fund - Strategic	5,000,000	-	15,000,000	5,000,000	20,000,000	20,000,000	20,000,000
Grant Revenue	-	-	-	-	-	-	-
Project Expenses	(52,435,000)	(13,615,300)	(139,176,000)	(167,941,000)	(156,933,000)	(92,354,000)	(71,400,000)
Increase (Decrease) in Reserves	(26,564,000)	(13,082,300)	82,908,000	(111,886,000)	121,768,000	(66,993,000)	(46,206,000)
Beginning of Year	100,000,000	73,436,000	73,436,000	156,344,000	44,458,000	166,226,000	99,233,000
Projected Ending Balance	\$ 73,436,000	\$ 60,353,700	\$ 156,344,000	\$ 44,458,000	\$ 166,226,000	\$ 99,233,000	\$ 53,027,000





GLWA
Great Lakes Water Authority

Operating Area Financial Plans

Operating Area Financial Plans

How We Work: The GLWA is organized into six intersecting operating areas as identified in the influencer chart to the right. Within each area, there are functional groups. Together, these groups work in a cross-functional manner to achieve the organization’s mission.

Our Promise: Through regional collaboration, GLWA strives to be a provider of choice dedicated to efficiently delivering the nation’s best water and sewer services in partnership with our customers.

How we deliver on that Promise:

Demonstrating a commitment to:

- Regional collaboration,
- High quality through innovation, and
- Trustworthiness & Integrity.

Each operating area sets forth their initiatives and the operating and financial plan that supports those goals. The five-year financial plan for each of the six operating areas is presented on the following pages.



Operating Area Financial Plans Introduction

The GLWA's operating area financial plans provide the bridge from the operating unit objectives with the overall GLWA mission. The operating area plan also ensures that the organization is financially sound by aligning the allocation of resources across all levels of GLWA. This coordination requires a high level of preparation and interaction from both within and outside of the organization. Sound approaches to financial planning are imperative for ensuring long-term success in today's complex environment. The GLWA has prepared a balanced and responsible operating budget for fiscal years 2018 and 2019 & forecasted financial plan for fiscal years 2020 through 2022 that reflects the needs of the GLWA customers while continuing to be responsive to current economic conditions. This section and the tables below represents the operating area financial plan summary for the following areas.

- A. Water System Operations
- B. Wastewater System Operations
- C. Centralized Services
- D. Administrative & Other Services



Operating Area Financial Plans

Budget by Operating Area with Percentage Change from Prior Year

Cost Center & Description	Current Year		Biennial Budget						Forecast		
	FY 2017 Activity through		FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
	FY 2017 Adopted	March 31, 2017									
A Water System Operations	\$ 55,348,300	\$ 33,243,200	\$ 57,671,100	\$ 2,322,800	4.2%	\$ 61,407,200	\$ 3,736,100	6.5%	\$ 64,689,600	\$ 68,499,300	\$ 72,078,100
B Wastewater System Operations	\$ 118,030,500	\$ 80,674,400	\$ 116,062,900	\$ (1,967,600)	-1.7%	\$ 121,905,900	\$ 5,843,000	5.0%	\$ 129,506,100	\$ 135,690,300	\$ 141,610,100
C Centralized Services	\$ 73,701,100	\$ 43,715,400	\$ 99,044,500	\$ 25,343,400	34.4%	\$ 99,161,200	\$ 116,700	0.1%	\$ 99,475,400	\$ 98,635,900	\$ 97,984,000
D Administrative Services	\$ 27,220,000	\$ 15,013,500	\$ 28,682,400	\$ 1,462,400	5.4%	\$ 28,162,100	\$ (520,300)	-1.8%	\$ 28,258,700	\$ 28,326,300	\$ 28,967,700
Grand Total:	\$ 274,299,900	\$ 172,646,500	\$ 301,460,900	\$ 27,161,000	42.3%	\$ 310,636,400	\$ 9,175,500	9.8%	\$ 321,929,800	\$ 331,151,800	\$ 340,639,900

Budget by Operating Area and Cost Center with Percentage Change from Prior Year

Cost Center & Description	Current Year		Biennial Budget						Forecast		
	FY 2017 Activity through		FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
	FY 2017 Adopted	March 31, 2017									
A Water System Operations	\$ 55,348,300	\$ 33,243,200	\$ 57,671,100	\$ 2,322,800	4.2%	\$ 61,407,200	\$ 3,736,100	6.5%	\$ 64,689,600	\$ 68,499,300	\$ 72,078,100
9.1 Chief Operating Officer Water Operations & Field Services	259,500	204,200	499,400	239,900	92.4%	507,400	8,000	1.6%	511,600	515,200	518,900
9.2.1 Water Director	431,000	523,500	1,145,800	714,800	165.8%	1,142,700	(3,100)	-0.3%	1,154,200	1,164,400	1,174,800
9.2.2 Water Quality	652,300	796,500	958,600	306,300	47.0%	1,086,100	127,500	13.3%	1,093,700	1,099,300	1,105,200
9.3 Water Treatment Plants											
9.3.1 Water Works Park	9,301,100	6,215,500	10,329,400	1,028,300	11.1%	10,426,900	97,500	0.9%	10,483,100	10,530,600	10,564,800
9.3.2 Lake Huron Water Plant	12,808,200	7,555,800	12,923,100	114,900	0.9%	13,192,900	269,800	2.1%	13,224,500	13,248,000	13,247,500
9.3.3 Springwells Water Plant	11,291,100	7,020,000	11,643,600	352,500	3.1%	11,767,000	123,400	1.1%	11,849,900	11,924,800	12,003,700
9.3.4 Northeast Water Plant	10,308,300	5,347,700	10,483,400	175,100	1.7%	10,558,200	74,800	0.7%	10,525,000	10,583,500	10,594,800
9.3.5 Southwest Water Plant	6,648,800	4,146,700	6,730,600	81,800	1.2%	6,809,500	78,900	1.2%	6,840,900	6,871,800	6,905,600
Subtotal Water Treatment Plants	50,357,500	30,285,700	52,110,100	1,752,600	3.5%	52,754,500	644,400	1.2%	52,923,400	53,158,700	53,316,400
9.5.1 Water Engineering	1,148,000	1,433,300	920,700	(227,300)	-19.8%	1,162,000	241,300	26.2%	1,254,900	1,262,600	1,270,600
9.7.1 Water Operations Unallocated Reserve	2,500,000	-	2,036,500	(463,500)	-18.5%	4,754,500	2,718,000	133.5%	7,751,800	11,299,100	14,692,200



Operating Area Financial Plans

Budget by Operating Area and Cost Center with Percentage Change from Prior Year *(continued)*

Cost Center & Description	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
B Wastewater System Operations	\$ 118,030,500	\$ 80,674,400	\$ 116,062,900	\$ (1,967,600)	-1.7%	\$ 121,905,900	\$ 5,843,000	5.0%	\$ 129,506,100	\$ 135,690,300	\$ 141,610,100
8.1 Chief Operating Officer Wastewater	1,408,200	1,304,800	3,730,800	2,322,600	164.9%	3,188,600	(542,200)	-14.5%	3,195,700	3,203,600	3,214,900
8.2.1 Wastewater Operations	78,326,000	47,213,900	62,034,100	(16,291,900)	-20.8%	60,743,500	(1,290,600)	-2.1%	60,853,100	61,282,200	61,619,400
8.2.2 Wastewater Process Control	45,000	476,800	3,071,300	3,026,300	6725.1%	3,050,100	(21,200)	-0.7%	2,963,900	2,967,800	2,971,700
8.2.4 Wastewater Primary Process	932,000	184,100	775,000	(157,000)	-16.8%	775,000	-	0.0%	775,000	775,000	775,000
8.2.4 Wastewater Secondary Process	492,000	643,900	1,302,000	810,000	164.6%	1,302,000	-	0.0%	1,302,000	1,302,000	1,302,000
8.2.5 Wastewater Dewatering Process	2,140,000	897,700	2,700,000	560,000	26.2%	2,700,000	-	0.0%	2,700,000	2,700,000	2,700,000
8.2.6 Wastewater Incineration Process	562,000	652,800	1,196,100	634,100	112.8%	1,198,100	2,000	0.2%	1,200,100	1,202,100	1,204,100
8.2.7 Biosolids Dryer Facility and Hauling Contracts	16,495,000	8,951,200	24,199,700	7,704,700	46.7%	24,356,400	156,700	0.6%	24,514,500	24,674,000	24,835,200
8.2.8 Wastewater Fire Damage	500,000	10,790,600	-	(500,000)	-100.0%	-	-	n/a	-	-	-
8.3 Combined Sewer Overflow											
8.3.1 Combined Sewer Overflow	1,552,600	1,254,100	1,739,800	187,200	12.1%	1,745,000	5,200	0.3%	1,750,100	1,755,200	1,762,000
8.3.2 Combined Sewer Overflow Facilities	2,987,000	2,615,600	6,153,100	3,166,100	106.0%	4,452,900	(1,700,200)	-27.6%	4,488,900	4,525,500	4,562,100
Subtotal Combined Sewer Overflow	4,539,600	3,869,700	7,892,900	3,353,300	73.9%	6,197,900	(1,695,000)	-21.5%	6,239,000	6,280,700	6,324,100
8.5 Wastewater Engineering	469,800	2,142,500	2,735,700	2,265,900	482.3%	2,339,200	(396,500)	-14.5%	2,333,200	2,338,900	2,346,400
8.6 Industrial Waste Control	5,404,000	3,508,800	4,944,600	(459,400)	-8.5%	4,952,400	7,800	0.2%	4,972,300	4,992,300	5,017,400
8.7 Analytical Laboratory	-	37,600	1,060,700	1,060,700	n/a	1,071,200	10,500	1.0%	1,091,400	1,112,100	1,133,500
8.8 O&M Unallocated Reserve - Wastewater	6,716,900	-	420,000	(6,296,900)	-93.7%	10,031,500	9,611,500	2288.5%	17,365,900	22,859,600	28,166,400



Operating Area Financial Plans

Budget by Operating Area and Cost Center with Percentage Change from Prior Year *(continued)*

Cost Center & Description	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
C Centralized Services	\$ 73,701,100	\$ 43,715,400	\$ 99,044,500	\$ 25,343,400	34.4%	\$ 99,161,200	\$ 116,700	0.1%	\$ 99,475,400	\$ 98,635,900	\$ 97,984,000
4.1 Chief Planning Officer	293,900	310,300	1,446,000	1,152,100	392.0%	1,149,100	(296,900)	-20.5%	1,000,300	1,001,500	1,003,100
4.2 System Planning	1,549,200	338,700	1,233,700	(315,500)	-20.4%	1,108,600	(125,100)	-10.1%	1,113,800	1,115,000	846,600
4.3 System Analytics	5,810,000	2,100,700	8,697,800	2,887,800	49.7%	7,213,400	(1,484,400)	-17.1%	8,258,100	7,189,400	6,125,600
4.4 Asset Management & Capital Planning	215,400	455,500	1,832,400	1,617,000	750.7%	1,343,300	(489,100)	-26.7%	1,308,300	1,311,800	1,317,000
4.5 Energy Management	508,000	165,300	161,100	(346,900)	-68.3%	292,400	131,300	81.5%	201,700	123,800	45,900
Subtotal Planning Services	8,376,500	3,370,500	13,371,000	4,994,500	59.6%	11,106,800	(2,264,200)	-16.9%	11,882,200	10,741,500	9,338,200
5.1 Field Services Director	341,800	2,700	399,300	57,500	16.8%	401,300	2,000	0.5%	401,400	401,500	401,700
5.2 Field Engineering	436,100	749,800	761,500	325,400	74.6%	803,500	42,000	5.5%	805,600	807,700	810,400
5.3 Field Service Operations	17,899,400	2,027,800	17,494,100	(405,300)	-2.3%	17,621,500	127,400	0.7%	17,620,200	17,625,800	17,633,500
Subtotal Field Services	18,677,300	2,780,300	18,654,900	(22,400)	-0.1%	18,826,300	171,400	0.9%	18,827,200	18,835,000	18,845,600
5.4 Facility Operations	13,865,700	2,058,000	11,288,000	(2,577,700)	-18.6%	11,395,500	107,500	1.0%	11,406,200	11,411,700	11,418,900
5.5 Fleet Operations	2,150,900	543,900	2,150,900	-	0.0%	2,150,900	-	0.0%	2,150,900	2,150,900	2,150,900
Subtotal Fleet and Facilities Operations	16,016,600	2,601,900	13,438,900	(2,577,700)	-18.6%	13,546,400	107,500	1.0%	13,557,100	13,562,600	13,569,800
6.1 Chief Information Officer	3,914,200	1,871,700	635,300	(3,278,900)	-83.8%	645,900	10,600	1.7%	633,900	640,200	646,900
6.2 Administration	142,600	272,000	1,007,000	864,400	606.2%	1,162,100	155,100	15.4%	1,164,500	1,136,900	1,170,200
6.3 Business Applications	1,879,000	1,271,400	5,205,100	3,326,100	177.0%	4,782,700	(422,400)	-8.1%	4,816,600	4,851,800	4,904,300
6.4 Enterprise Applications	547,100	1,096,900	2,032,100	1,485,000	271.4%	1,747,900	(284,200)	-14.0%	1,818,100	1,778,300	1,849,900
6.5 Infrastructure	452,200	13,692,200	15,794,800	15,342,600	3392.9%	15,758,300	(36,500)	-0.2%	15,800,300	15,509,300	15,262,000
6.6 Service Desk	353,900	1,467,000	3,177,700	2,823,800	797.9%	3,202,900	25,200	0.8%	3,228,400	3,278,800	3,305,800
6.7 Security & Risk	-	129,500	283,200	283,200	n/a	533,600	250,400	88.4%	534,000	534,500	535,100
Subtotal Information Technology	7,289,000	19,800,700	28,135,200	20,846,200	286.0%	27,833,400	(301,800)	-1.1%	27,995,800	27,729,800	27,674,200
7.1 Systems Control	19,243,900	10,068,400	19,226,600	(17,300)	-0.1%	19,693,400	466,800	2.4%	19,766,800	19,831,400	19,900,400
10.1 Security	3,423,100	5,094,200	4,320,500	897,400	26.2%	4,529,300	208,800	4.8%	4,572,300	4,575,600	4,604,600



Operating Area Financial Plans

Budget by Operating Area and Cost Center with Percentage Change from Prior Year *(continued)*

Cost Center & Description	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
D Administrative Services	\$ 27,220,000	\$ 15,013,500	\$ 28,682,400	\$ 1,462,400	5.4%	\$ 28,162,100	\$ (520,300)	-1.8%	\$ 28,258,700	\$ 28,326,300	\$ 28,967,700
1.1 Board of Directors	197,000	1,100	197,000	-	0.0%	198,900	1,900	1.0%	200,900	203,000	205,000
1.2 Chief Executive Officer	773,700	779,300	567,900	(205,800)	-26.6%	570,800	2,900	0.5%	573,800	576,900	580,100
Subtotal Chief Executive Officer	970,700	780,400	764,900	(205,800)	-21.2%	769,700	4,800	0.6%	774,700	779,900	785,100
1.3 Public Affairs	713,200	662,300	1,271,300	558,100	78.3%	1,127,200	(144,100)	-11.3%	1,134,900	1,092,000	1,108,000
2.1 Chief Administrative Officer	156,900	274,400	654,300	497,400	317.0%	661,700	7,400	1.1%	663,700	665,700	668,200
2.2 General Counsel	3,540,700	1,525,100	3,074,800	(465,900)	-13.2%	2,392,600	(682,200)	-22.2%	1,983,400	1,445,200	1,297,600
2.3 Organizational Development	3,229,500	1,409,000	4,131,200	901,700	27.9%	4,139,600	8,400	0.2%	4,148,000	4,156,400	4,167,600
Enterprise Risk Management											
2.4 Risk Management and Safety	819,500	247,700	2,730,700	1,911,200	233.2%	3,030,600	299,900	11.0%	3,033,300	3,035,900	3,039,200
2.5 Risk Management Insurance Fund	3,174,600	727,900	1,000,000	(2,174,600)	-68.5%	1,000,000	-	0.0%	1,000,000	1,000,000	1,000,000
Subtotal Enterprise Risk Management	3,994,100	975,600	3,730,700	(263,400)	-6.6%	4,030,600	299,900	8.0%	4,033,300	4,035,900	4,039,200
Financial Services											
3.1 Chief Financial Officer	844,300	330,300	562,500	(281,800)	-33.4%	565,500	3,000	0.5%	569,000	572,600	575,900
3.21 Financial Reporting & Accounting	3,958,700	3,325,000	3,584,000	(374,700)	-9.5%	3,342,300	(241,700)	-6.7%	3,350,100	3,358,900	3,368,800
3.22 Financial Planning & Analysis	-	48,900	897,600	897,600	n/a	799,800	(97,800)	-10.9%	752,700	755,300	759,000
3.3 Treasury	377,400	381,600	1,062,100	684,700	181.4%	1,055,300	(6,800)	-0.6%	1,074,100	1,093,400	1,113,500
3.4 Public Finance	1,088,000	452,300	938,600	(149,400)	-13.7%	916,800	(21,800)	-2.3%	916,000	918,400	917,300
3.5 Procurement	4,594,800	3,021,300	4,400,000	(194,800)	-4.2%	4,362,900	(37,100)	-0.8%	4,380,000	4,397,100	4,419,900
3.6 Data Analytics & Internal Audit	375,000	129,300	496,900	121,900	32.5%	484,600	(12,300)	-2.5%	485,300	486,000	486,900
3.7 Transformation	2,702,000	1,697,400	1,113,500	(1,588,500)	-58.8%	1,113,500	-	0.0%	1,113,500	1,113,500	1,113,500
Subtotal Financial Services	13,940,200	9,386,100	13,055,200	(885,000)	-6.3%	12,640,700	(414,500)	-3.2%	12,640,700	12,695,200	12,754,800
Grand Total:	\$ 274,299,900	\$ 172,646,500	\$ 301,460,900	\$ 27,161,000	42.3%	\$ 310,636,400	\$ 9,175,500	9.8%	\$ 321,929,800	\$ 331,151,800	\$ 340,639,900



Water Operating Services Area Financial Plan

The **Water Operating Services Area** encompasses the following functional groups.

1. Water System Operations
2. Systems Control (a GLWA centralized service)
3. Field Services (a GLWA centralized service)
4. Fleet Services (a GLWA centralized service)
5. Facilities Services (a GLWA centralized service)

Water Operating Services

The Water Operating Services Area includes the following groups.

- ✓ **Water System Operations** – the direct cost of water treatment
- ✓ **Systems Control** – a centralized service that supports both water transmission and wastewater collection
- ✓ **Field Services** – a centralized service that supports both water and wastewater operations
- ✓ **Fleet and Facilities** – a centralized service that supports both water and wastewater operations

The Water Operations Group produces and delivers water of unquestionable quality to nearly 40% of the State of Michigan’s population while meeting or exceeding all state, federal, local, and department standards for quality and safety.

This is accomplished by employing qualified staff certified by the Michigan Department of Environmental Quality (MDEQ), maintaining the Safe Drinking Water Act (PA399) mandated requirements and ensuring that all contractual obligations are maintained for pressure and flow requirements for all communities served.

The contractual requirements (pressure and flow) for the communities served is accomplished by having a robust system of five (5) water treatment facilities, nineteen (19) water booster and sewer lift stations, and thirty-one (31) reservoirs.

The Water Operations Group is further supported by its' Engineering and Water Quality Groups. The Engineering Group services are required for the management of capital improvements, emergencies, immediate investigations, evaluations and support to ensure continued operation and the highest level of service. The Water Quality Group is responsible for the majority of the testing and reporting of water quality throughout the water system by managing & applying the state and federal rules to the entire water system.

The Systems Control Group operates the water transmission system by controlling & monitoring the distribution of water throughout the Regional Water System. Our treatment and distribution system is controlled by an award winning state of the arts Supervisory Control and Data Acquisition (SCADA) system. Operators remotely control the many pumps and valves that allow the system to deliver water to all communities.



Water Operating Services Area Financial Plan

The Field, Fleet and Facilities Groups manage the repairs and maintenance of facilities, water transmission, and the wastewater collection systems. The Field Group is responsible for ensuring reliable service of customer delivery and collection in the water system, as well as all associated equipment, such as valves, gates, interceptors and siphons. The Fleet and Facilities Group is responsible for maintaining and managing all properties, such as the grounds and structures associated with the water and wastewater system.

FY 2018 & FY 2019 Initiatives

1. Ongoing: Maintain 100% water quality compliance (Trustworthiness & Integrity)

FY 2018 & FY 2019

- Delivery of pure, safe drinking water is an essential part of Great Lakes Water Authority's (GLWA) mission

2. Ongoing: Construction phases; Automation; Condition Assessments (High Quality through Innovation)

FY 2018

- Complete the construction phase of the water production metering for Northeast and Southwest plants
- Automation of High lift controls at Southwest (SW) for control by Systems Operations Control
- Begin the construction phase of the new Springwells (SPW) Reservoir fill line

FY 2019

- Complete the condition assessment and design for Waterworks Park Yard Piping and Pump Station Improvement
- Complete the construction phase of the Springwells (SPW) reservoir fill line



Water Operating Services Area Financial Plan

Water Operations

FY 2018 & FY 2019 Budget Summary

The water system operations budget is allocated among five groups: Chief Operating Officer (COO) Water Operations & Field Services, Water Director, Water Quality, Water Engineering and five water treatment plants (Water Works Park, Lake Huron Water Plant, Springwells Water Plant, Northeast Water Plant and Southwest Water Plant). Of those groups, the five water treatment plants combined have the largest budget at \$52.1 million (90.4%) for FY 2018 and \$52.8 million (85.9%) for FY 2019.

Budget by Cost Center as Percent of Total

Cost Center	Current Year		Biennial Budget				Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Water System Operations	\$ 55,348,300	\$ 33,243,200	\$ 57,671,100	100.0%	\$ 61,407,200	100.0%	\$ 64,689,600	\$ 68,499,300	\$ 72,078,100
9.1 Chief Operating Officer Water Operations & Field Services	259,500	204,200	499,400	0.9%	507,400	0.8%	511,600	515,200	518,900
9.2.1 Water Director	431,000	523,500	1,145,800	2.0%	1,142,700	1.9%	1,154,200	1,164,400	1,174,800
9.2.2 Water Quality	652,300	796,500	958,600	1.7%	1,086,100	1.8%	1,093,700	1,099,300	1,105,200
9.5.1 Water Engineering	1,148,000	1,433,300	920,700	1.6%	1,162,000	1.9%	1,254,900	1,262,600	1,270,600
9.7.1 Water Operations Unallocated Reserve	2,500,000	-	2,036,500	3.5%	4,754,500	7.7%	7,751,800	11,299,100	14,692,200
Subtotal Water Treatment Plants	50,357,500	30,285,700	52,110,100	90.4%	52,754,500	85.9%	52,923,400	53,158,700	53,316,400
9.3.1 Water Works Park	9,301,100	6,215,500	10,329,400	17.9%	10,426,900	17.0%	10,483,100	10,530,600	10,564,800
9.3.2 Lake Huron Water Plant	12,808,200	7,555,800	12,923,100	22.4%	13,192,900	21.5%	13,224,500	13,248,000	13,247,500
9.3.3 Springwells Water Plant	11,291,100	7,020,000	11,643,600	20.2%	11,767,000	19.2%	11,849,900	11,924,800	12,003,700
9.3.4 Northeast Water Plant	10,308,300	5,347,700	10,483,400	18.2%	10,558,200	17.2%	10,525,000	10,583,500	10,594,800
9.3.5 Southwest Water Plant	6,648,800	4,146,700	6,730,600	11.7%	6,809,500	11.1%	6,840,900	6,871,800	6,905,600



Water Operating Services Area Financial Plan

The largest category of expense in the water system operations budget is utilities at \$22.5 million (39%) for FY 2018 and \$22.6 million (36.8%) FY 2019. The second largest category of expense is personnel services at \$18.1 million (31.4%) for FY 2018 and \$18.7 million (30.5%) for FY 2019. Contractual services for repairs and maintenance and chemicals for water treatment are the third and fourth largest categories of expense, respectively. Further analysis of the budget follows the tables below.

Budget by Expense Category as Percent of Total

Expense Categories	Current Year		Biennial Budget				Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Water System Operations	\$ 55,348,300	\$ 33,243,200	\$ 57,671,100	100.0%	\$ 61,407,200	100.0%	\$ 64,689,600	\$ 68,499,300	\$ 72,078,100
1.1 Salaries & Wages	9,896,700	6,337,600	11,331,000	19.6%	12,042,400	19.6%	12,042,400	12,042,400	12,042,400
1.1 Salaries & Wages - Workforce Development	-	-	150,400	0.3%	150,400	0.2%	150,400	150,400	150,400
1.2 Overtime	1,620,000	1,204,700	1,545,000	2.7%	1,547,000	2.5%	1,549,000	1,551,100	1,553,100
1.3 Employee Benefits	3,673,600	2,936,400	4,259,100	7.4%	4,454,300	7.3%	4,566,000	4,628,400	4,711,600
1.4 Personnel Transition Adjustment	(2,402,000)	-	(546,000)	-0.9%	(85,000)	-0.1%	-	-	-
2 Transition Services	1,639,800	876,800	1,354,500	2.3%	610,600	1.0%	616,700	622,900	629,100
Subtotal Personnel Costs	14,428,100	11,355,500	18,094,000	31.4%	18,719,700	30.5%	18,924,500	18,995,200	19,086,600
3.1 Electric	21,350,200	11,801,500	20,499,700	35.5%	20,559,800	33.5%	20,620,600	20,682,000	20,744,000
3.2 Gas	1,096,800	619,000	1,096,800	1.9%	1,104,900	1.8%	1,113,000	1,121,200	1,129,500
3.4 Sewage Service	640,100	262,300	855,800	1.5%	859,200	1.4%	862,700	866,200	869,800
3.5 Water Service	400	-	50,000	0.1%	50,000	0.1%	50,000	50,000	50,000
Subtotal Utilities	23,087,500	12,682,800	22,502,300	39.0%	22,573,900	36.8%	22,646,300	22,719,400	22,793,300
4 Chemicals	6,192,400	4,016,100	6,338,300	11.0%	6,388,800	10.4%	6,420,000	6,451,100	6,456,600
5 Supplies & Other	4,917,300	1,703,600	5,110,800	8.9%	5,117,900	8.3%	5,123,700	5,134,700	5,145,200
6 Contractual Services	7,450,700	3,485,200	7,898,400	13.7%	7,926,200	12.9%	7,920,700	8,013,200	8,037,400
7 Capital Program Allocation	(2,895,500)	-	(3,923,600)	-6.8%	(3,641,700)	-5.9%	(3,662,100)	(3,676,000)	(3,693,300)
8 Shared Services	(332,200)	-	(385,600)	-0.7%	(432,100)	-0.7%	(435,300)	(437,400)	(439,900)
9 Unallocated Reserve	2,500,000	-	2,036,500	3.7%	4,754,500	7.9%	7,751,800	11,299,100	14,692,200



Water Operating Services Area Financial Plan

Budget by Expense Category with Percentage Change from Prior Year

Expense Categories	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Water System Operations	\$ 55,348,300	\$ 33,243,200	\$ 57,671,100	\$ 2,322,800	4.2%	\$ 61,407,200	\$ 3,736,100	6.5%	\$ 64,689,600	\$ 68,499,300	\$ 72,078,100
1.1 Salaries & Wages	9,896,700	6,337,600	11,331,000	1,434,300	14.5%	12,042,400	711,400	6.3%	12,042,400	12,042,400	12,042,400
1.1 Salaries & Wages - Workforce Development	-	-	150,400	150,400	n/a	150,400	-	0.0%	150,400	150,400	150,400
1.2 Overtime	1,620,000	1,204,700	1,545,000	(75,000)	-4.6%	1,547,000	2,000	0.1%	1,549,000	1,551,100	1,553,100
1.3 Employee Benefits	3,673,600	2,936,400	4,259,100	585,500	15.9%	4,454,300	195,200	4.6%	4,566,000	4,628,400	4,711,600
1.4 Personnel Transition Adjustment	(2,402,000)	-	(546,000)	1,856,000	-77.3%	(85,000)	461,000	-84.4%	-	-	-
2 Transition Services	1,639,800	876,800	1,354,500	(285,300)	-17.4%	110,600	(743,900)	-54.9%	616,700	622,900	629,100
Subtotal Personnel Costs	14,428,100	11,355,500	18,094,000	3,665,900	25.4%	18,719,700	625,700	3.5%	18,924,500	18,995,200	19,086,600
3.1 Electric	21,350,200	11,801,500	20,499,700	(850,500)	-4.0%	20,559,800	60,100	0.3%	20,620,600	20,682,000	20,744,000
3.2 Gas	1,096,800	619,000	1,096,800	-	0.0%	1,104,900	8,100	0.7%	1,113,000	1,121,200	1,129,500
3.4 Sewage Service	640,100	262,300	855,800	215,700	33.7%	859,200	3,400	0.4%	862,700	866,200	869,800
3.5 Water Service	400	-	50,000	49,600	12400.0%	50,000	-	0.0%	50,000	50,000	50,000
Subtotal Utilities	23,087,500	12,682,800	22,502,300	(585,200)	-2.5%	22,573,900	71,600	0.3%	22,646,300	22,719,400	22,793,300
4 Chemicals	6,192,400	4,016,100	6,338,300	145,900	2.4%	6,388,800	50,500	0.8%	6,420,000	6,451,100	6,456,600
5 Supplies & Other	4,917,300	1,703,600	5,110,800	193,500	3.9%	5,117,900	7,100	0.1%	5,123,700	5,134,700	5,145,200
6 Contractual Services	7,450,700	3,485,200	7,898,400	447,700	6.0%	7,926,200	27,800	0.4%	7,920,700	8,013,200	8,037,400
7 Capital Program Allocation	(2,895,500)	-	(3,923,600)	(1,028,100)	35.5%	(3,641,700)	281,900	-7.2%	(3,662,100)	(3,676,000)	(3,693,300)
8 Shared Services	(332,200)	-	(385,600)	(53,400)	16.1%	(432,100)	(46,500)	12.1%	(435,300)	(437,400)	(439,900)
9 Unallocated Reserve	2,500,000	-	2,036,500	(463,500)	-18.5%	4,754,500	2,718,000	133.5%	7,751,800	11,299,100	14,692,200

Personnel Costs - The most significant change in water system operations budget is an increase in personnel costs by \$3.67 million (25.4%) for FY 2018.

- ✓ **Salaries & Wages** - The proposed budget provides for the increase in staffing of eighteen new positions, (sixteen team leaders and two investigators), which will be added to support the day to day operational decision making needs of the GLWA in the amount of \$1.43 million (14.5%) for FY 2018 and \$711,400 (6.3%) for FY 2019. This is the result of three factors. First, new technology essential to the calendar year 2013 EMA job design and staffing levels to automate operational processes has been on hold during the transition from DWSD to GLWA. Second, this plan provides an appropriate level of supervision. Third, staffing is proposed to be at a level to avoid staff fatigue as well as overtime cost incurred. Until new technology is implemented, this staffing level is recommended to assure water quality.
- ✓ **Salaries & Wages – Workforce Development** - Recruiting and developing talent is a high priority for GLWA. For this reason, four new positions are added to support the new Electrical Instrumentation Control Technician – Instrument Technician (EICT-I) Apprenticeship and Training program through Focus Hope in the amount of \$150,400 for FY 2018. The EICT-I Apprenticeship program will span a two-year period and will be partially funded with a \$320,000 grant from Focus Hope. The investment in this program will enable the GLWA to develop a workforce for positions which have been challenging to recruit and fill.



Water Operating Services Area Financial Plan

- ✓ **Personnel Transition Adjustment** - The decrease in the personnel transition adjustment of \$1.86 million (77.3%) reflects the water operations reaching a steady state in staffing as we enter the second year of budgeting water operations as a regional authority.
- ✓ **Transition Services** - The proposed budget provides for a decrease in transition services over the time period of FY 2017 to FY 2019 (\$285,300 (17.4%) for FY 2018 and \$743,900 (54.9%) for FY 2019). This is a result of progress in staff placements. A number of staff vacancies previously filled by individuals on a contractual basis will transition to GLWA employees. The impact of this decrease in budget offsets the increase in salaries/wages/benefits.

Utilities - Overall, the decrease to the utilities budget is \$585,200 (-2.5%) for FY 2018. This is largely the result of an entity-wide effort to audit the accounting and budgeting of utility costs to provide a better baseline for future analysis of GLWA expenses using the new financial system.

Chemicals - Chemicals is budgeted at a level based on current usage and pricing. It should be noted that during early FY 2017 the chemists at Water Works Park conducted a lean project to control the cost of chemicals for water operations. The outcome is an estimated savings of approximately \$2.1 million per year. Although the table above shows an increase from FY 2017 to FY 2018 of \$145,900 (2.4%), the FY 2017 amounts are understated. FY 2018 reflects a new level of accuracy provided by GLWA's new financial system and business processes. In prior years, a portion of chemicals was recorded in other operating categories.

Capital Program Allocation - The increase in capital program allocation of \$1.03 million (35.5%) is directly related to an increase in construction activity for FY 2018 and 2019. Projects, as a result of the recent completion of the 2015 water master plan, have been under evaluation and design during FY 2016 and FY 2017, with procurements being initiated in the latter half of FY 2017.

Budget by Cost Center with Percentage Change from Prior Year

Cost Center	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Water System Operations	\$ 55,348,300	\$ 33,243,200	\$ 57,671,100	\$ 2,322,800	4.2%	\$ 61,407,200	\$ 3,736,100	6.5%	\$ 64,689,600	\$ 68,499,300	\$ 72,078,100
9.1 Chief Operating Officer Water Operations & Field Services	259,500	204,200	499,400	239,900	92.4%	507,400	8,000	1.6%	511,600	515,200	518,900
9.2.1 Water Director	431,000	523,500	1,145,800	714,800	165.8%	1,142,700	(3,100)	-0.3%	1,154,200	1,164,400	1,174,800
9.2.2 Water Quality	652,300	796,500	958,600	306,300	47.0%	1,086,100	127,500	13.3%	1,093,700	1,099,300	1,105,200
9.5.1 Water Engineering	1,148,000	1,433,300	920,700	(227,300)	-19.8%	1,162,000	241,300	26.2%	1,254,900	1,262,600	1,270,600
9.7.1 Water Operations Unallocated Reserve	2,500,000	-	2,036,500	(463,500)	-18.5%	4,754,500	2,718,000	133.5%	7,751,800	11,299,100	14,692,200
Subtotal Water Treatment Plants	50,357,500	30,285,700	52,110,100	1,752,600	3.5%	52,754,500	644,400	1.2%	52,923,400	53,158,700	53,316,400
9.3.1 Water Works Park	9,301,100	6,215,500	10,329,400	1,028,300	11.1%	10,426,900	97,500	0.9%	10,483,100	10,530,600	10,564,800
9.3.2 Lake Huron Water Plant	12,808,200	7,555,800	12,923,100	114,900	0.9%	13,192,900	269,800	2.1%	13,224,500	13,248,000	13,247,500
9.3.3 Springwells Water Plant	11,291,100	7,020,000	11,643,600	352,500	3.1%	11,767,000	123,400	1.1%	11,849,900	11,924,800	12,003,700
9.3.4 Northeast Water Plant	10,308,300	5,347,700	10,483,400	175,100	1.7%	10,558,200	74,800	0.7%	10,525,000	10,583,500	10,594,800
9.3.5 Southwest Water Plant	6,648,800	4,146,700	6,730,600	81,800	1.2%	6,809,500	78,900	1.2%	6,840,900	6,871,800	6,905,600



Water Operating Services Area Financial Plan

The variability from FY 2017 in the budget among the Chief Operating Officer, Water Director, Water Quality, and Water Engineering is the result of stabilizing the staffing level, staff placements, and work assignments (such as capital project management) since stand-up of GLWA on January 1, 2016.

Water System Operations - The increase in water system operations is due to the increase in operational staff as noted earlier.

- ✓ **Chief Operating Officer Water Operations & Field Services** - The net increase of \$239,900 (92.4%) in the Chief Operating Officer's budget consists of a(n):
 - Reduction of the contra account for personnel transition adjustment from -\$331,000 for FY 2017 to \$0 for FY 2018. The level of personnel transition adjustment is stabilized for FY 2018 since no vacancies currently exist in the Chief Operating Officer's budget. The impact of this reduction is a net increase to the FY 2018 budget.
 - Memberships, licenses & subscriptions for the Water Research Foundation annual subscription budget of \$92,000 for FY 2018 has been moved to the Wastewater Operations budget which offsets the net increase in the Chief Operating Officer's budget.
- ✓ **Water Director** - The net increase of \$714,800 (165.8%) in the Water Director's budget consists of a(n):
 - Salaries/Wages/Benefits budget increase of \$329,000 due to a staff realignment involving multiple cost centers. The realignment added a total of four (4) positions to the Water Director's cost center comprising of (1) at Springwells, (1) at Southwest, and (2) at Water Engineering.
 - Reduction of the contra account for personnel transition adjustment from -\$331,000 for FY 2017 to \$0 for FY 2018. The level of personnel transition adjustment is stabilized for FY 2018 since no vacancies are expected in the Water Director's budget. The impact of this reduction is a net increase to the FY 2018 budget.
 - Training budget increase of \$125,000 relates to the overall increase of staff for Water Operations (22 positions). Additional training is required to develop and improve the decision-making and skillsets of the Water Operations staff.
 - The increase in capital program: salaries & wages contra account of -\$174,000 is related to the staff realignment mentioned above and an increase in construction activity for FY 2018.
- ✓ **Water Quality** - The net increase of \$306,300 (47%) in the Water Quality budget consists of a(n):
 - Salaries/Wages/Benefits budget increase of \$240,000 due to a staff realignment (1) position from Water Engineering and (2) new investigator positions to support the day to day operational decision making needs of the GLWA.



Water Operating Services Area Financial Plan

- Reduction of the contra account for personnel transition adjustment from -\$166,000 for FY 2017 to \$0 for FY 2018. The level of personnel transition adjustment is stabilized for FY 2018 since no vacancies are expected in the Water Quality budget. The impact of this reduction is a net increase to the FY 2018 budget.
- ✓ **Water Engineering – The net decrease of \$227,300 (19.8%) in the Water Engineering budget consists of a(n):**
 - Salaries/Wages/Benefits budget decrease of \$217,300 due to a staff realignment of (2) positions to the Water Director’s cost center, (1) position to Water Works Park and (1) position to Water Quality to support the day to day operational decision making needs of the GLWA.

Staffing Plan

Water system operations personnel is largely comprised of water treatment plant staffing at 163 FTE for FY 2018 and FY 2019. Water engineering and water quality are the second and third largest categories for FY 2018 and FY 2019.

The following tables provide two alternate views of the staffing plan.

1. The table below presents the number of positions in the plan. Each position has a value of one. The position count does not distinguish between a position that is filled 100% (2,080 hours per year), filled for a number of hours less than 2,080 per year, or one that is vacant.

Staffing Plan – Number of Positions

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Staffing Plan	FY 2018 Staffing Plan	FY 2019 Staffing Plan	FY 2020 Staffing Plan	FY 2021 Staffing Plan	FY 2022 Staffing Plan
Water System Operations	187.00	209.00	211.00	211.00	211.00	211.00
Chief Operating Officer - Water Operations & Field Services	2.00	2.00	2.00	2.00	2.00	2.00
Water Director	3.00	7.00	7.00	7.00	7.00	7.00
Water Engineering	23.00	19.00	19.00	19.00	19.00	19.00
Water Quality	15.00	18.00	20.00	20.00	20.00	20.00
Subtotal Water Treatment Plants	144.00	163.00	163.00	163.00	163.00	163.00
Water Works Park	30.00	36.00	36.00	36.00	36.00	36.00
Springwells Water Plant	32.00	35.00	35.00	35.00	35.00	35.00
Northeast Water Plant	26.00	32.00	32.00	32.00	32.00	32.00
Southwest Water Plant	27.00	29.00	29.00	29.00	29.00	29.00
Lake Huron Water Plant	29.00	31.00	31.00	31.00	31.00	31.00



Water Operating Services Area Financial Plan

2. The table below presents “full-time equivalent” (FTE) staffing. FTE is based on the number of hours that the position is filled, or budgeted for, in a given year based upon a standard of 2,080 hours per year. For this budget area, the Staffing Plan and the FTEs are consistent.

Staffing Plan – Full-time Equivalents

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Approved FTE's	FY 2018 FTE's	FY 2019 FTE's	FY 2020 FTE's	FY 2021 FTE's	FY 2022 FTE's
Water System Operations	187.00	209.00	211.00	211.00	211.00	211.00
Chief Operating Officer - Water Operations & Field Services	2.00	2.00	2.00	2.00	2.00	2.00
Water Director	3.00	7.00	7.00	7.00	7.00	7.00
Water Engineering	23.00	19.00	19.00	19.00	19.00	19.00
Water Quality	15.00	18.00	20.00	20.00	20.00	20.00
Subtotal Water Treatment Plants	144.00	163.00	163.00	163.00	163.00	163.00
Water Works Park	30.00	36.00	36.00	36.00	36.00	36.00
Springwells Water Plant	32.00	35.00	35.00	35.00	35.00	35.00
Northeast Water Plant	26.00	32.00	32.00	32.00	32.00	32.00
Southwest Water Plant	27.00	29.00	29.00	29.00	29.00	29.00
Lake Huron Water Plant	29.00	31.00	31.00	31.00	31.00	31.00



Water Operating Services Area Financial Plan

Systems Control

FY 2018 & FY 2019 Initiatives

1. **Ongoing: Drive the use of Ovation (distributed control system) and OSIsoft PI (application software for real-time data infrastructure solutions called process information) systems for technology enhancement and analytics** (High Quality through Innovation)

FY 2018

- Implement Real-Time pump curves at all the booster stations for pump efficiency monitoring
- Study Digital Business Technology for the control system to gather asset data for predictive maintenance

FY 2019

- Plan implementation of additional automation enhancements

FY 2018 & FY 2019 Budget Summary

The systems control budget is primarily contractual services in the amount of \$14.5 million (75.3%) for FY 2018 and \$14.5 million (73.7%) for FY 2019 which support the high level of technology and complex nature of the water and wastewater operations. Contracted services include the following.

- ✓ Support and maintenance of the Supervisory Control and Data Acquisition (SCADA) System to effectively manage water treatment, water transmission and wastewater collection (\$3 million for FY 2018 and \$3 million for FY 2019).
- ✓ Specialized process and facilities equipment, installation and maintenance services to ensure effective operation of pumps, motors, valves and associated systems (\$5.3 million for FY 2018 and \$5.3 million for FY 2019).
- ✓ Repair and maintenance of high voltage electrical transformers, switch gears and breakers at various facilities to verify the functionality and extend the useful life of the equipment (\$2.1 million for FY 2018 and \$2.1 million for FY 2019).
- ✓ Periodic inspection of the water station reservoirs to assess structural integrity and to ensure compliance with water quality standards including those mandated by the Department of Environmental Quality (\$44,000 for FY 2018 and \$44,000 for FY 2019).
- ✓ Seasonal support of skilled operators at the Imlay Pumping Station and Systems Control Center (\$1.28 million for FY 2018 and \$1.28 million for FY 2019).

The second largest category is personnel costs in the amount of \$7.4 million (38.5%) for FY 2018 and \$7.89 million (40.1%) for FY 2019. Further analysis of the budget by expense category as a percent of total follows the table below.



Water Operating Services Area Financial Plan

Budget by Expense Category as Percent of Total

Expense Categories	Current Year		Biennial Budget				Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Systems Control	\$ 19,243,900	\$ 10,068,400	\$ 19,226,600	100.0%	\$ 19,693,400	100.0%	\$ 19,766,800	\$ 19,831,400	\$ 19,900,400
1.1 Salaries & Wages	2,744,400	1,920,200	3,261,300	17.0%	3,359,200	17.1%	3,359,200	3,359,200	3,359,200
1.1 Salaries & Wages - Workforce Development	-	-	150,400	0.8%	150,400	0.8%	150,400	150,400	150,400
1.2 Overtime	700,000	515,300	700,000	3.6%	700,000	3.6%	700,000	700,000	700,000
1.3 Employee Benefits	1,000,300	833,900	1,240,500	6.5%	1,257,900	6.4%	1,292,900	1,310,300	1,333,500
1.4 Personnel Transition Adjustment	-	-	(700,000)	-3.6%	(350,000)	-1.8%	(350,000)	(350,000)	(350,000)
2 Transition Services	4,007,400	267,700	2,746,500	14.3%	2,773,900	14.1%	2,801,600	2,829,600	2,857,900
Subtotal Personnel Costs	8,452,100	3,537,100	7,398,700	38.5%	7,891,400	40.1%	7,954,100	7,999,500	8,051,000
3.1 Electric	11,600	27,300	50,000	0.3%	50,000	0.3%	50,000	50,000	50,000
3.2 Gas	71,500	12,200	36,000	0.2%	36,000	0.2%	36,000	36,000	36,000
3.4 Sewage Service	6,000	8,200	6,000	0.0%	6,000	0.0%	6,000	6,000	6,000
3.5 Water Service	1,900	25,800	5,000	0.0%	5,000	0.0%	5,000	5,000	5,000
Subtotal Utilities	91,000	73,500	97,000	0.5%	97,000	0.5%	97,000	97,000	97,000
5 Supplies & Other	751,900	374,200	1,440,900	7.5%	1,440,800	7.3%	1,440,900	1,440,900	1,441,400
6 Contractual Services	14,182,500	6,620,900	14,479,300	75.3%	14,519,300	73.7%	14,559,700	14,600,500	14,641,700
7 Capital Program Allocation	(2,894,500)	-	(2,784,400)	-14.5%	(2,839,300)	-14.4%	(2,862,800)	(2,879,200)	(2,897,800)
8 Shared Services	(1,339,100)	(537,300)	(1,404,900)	-7.3%	(1,415,900)	-7.2%	(1,422,100)	(1,427,300)	(1,432,900)



Water Operating Services Area Financial Plan

Personnel Costs - A significant change in systems control budget is a decrease in personnel costs by \$1.05 million (-12.5%) for FY 2018.

- ✓ **Salaries & Wages** - The proposed budget provides for an increase in salaries & wages of \$516,900 (18.8%) for FY 2018 and \$97,900 (3%) for FY 2019. This is a result of progress in staff placements. A number of staff vacancies previously filled by individuals on a contractual basis will transition to GLWA employees. The impact of this increase in budget offsets the decrease in transition services.
- ✓ **Salaries & Wages – Workforce Development** - Recruiting and developing talent is a high priority for GLWA. For this reason, four vacant positions are being filled to support the new Electrical Instrumentation Control Technician – Instrument Technician (EICT-I) Apprenticeship and Training program through Focus Hope in the amount of \$150,400 for FY 2018. The EICT-I Apprenticeship program will span a two-year period and will be partially funded with a \$320,000 grant from Focus Hope. The investment in this program will enable the GLWA to develop a workforce for positions which have been challenging to recruit and fill.
- ✓ **Personnel Transition Adjustment** - The increase in the personnel transition adjustment of \$700,000 for FY 2018 reflects the water operations reaching a steady state in staffing as we enter the second year of budgeting water operations as a regional authority.
- ✓ **Transition Services** - The proposed budget provides for a decrease in transition services of \$1.26 million (-31.5%) for FY 2018. This is a result of progress in staff placements. A number of staff vacancies previously filled by individuals on a contractual basis will transition to GLWA employees. The impact of this decrease in budget offsets the increase in salaries & wages/employee benefits.

Utilities - Overall utilities increased by \$6,000 (6.6%). This is largely the result of an entity-wide effort to audit the accounting and budgeting of utility costs to provide a better baseline for future analysis of GLWA expenses using the new financial system.

- ✓ Electricity budget increased by \$38,400 (331%) as a result of an analysis to gain an understanding of the true budgetary requirement. This increase is offset by a decrease of \$35,500 (-49.7%) in the Gas utility budget.
- ✓ Water budget increased by \$3,100 (163.2%) as a result of an analysis to gain an understanding of the true budgetary requirement.

Supplies & Other - Supplies & Other increase of \$689,000 (91.6%) for FY 2018 is a result of budget being moved from contractual operating services in the amount of \$738,300 in FY 2018 to repairs & maintenance-equipment in order to align with where the expenses are actually being incurred. In addition, \$120,000 was moved from repairs & maintenance-facilities in System Operations cost center and moved to repairs & maintenance buildings & grounds in Facilities Operations cost center.

Further analysis of the budget by expense category with percentage change from prior year follows the table below.



Water Operating Services Area Financial Plan

Budget by Expense Category with Percentage Change from Prior Year

Expense Categories	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Systems Control	\$ 19,243,900	\$ 10,068,400	\$ 19,226,600	\$ (17,300)	-0.1%	\$ 19,693,400	\$ 466,800	2.4%	\$ 19,766,800	\$ 19,831,400	\$ 19,900,400
1.1 Salaries & Wages	2,744,400	1,920,200	3,261,300	516,900	18.8%	3,359,200	97,900	3.0%	3,359,200	3,359,200	3,359,200
1.1 Salaries & Wages - Workforce Development			150,400	150,400	n/a	150,400	-	0.0%	150,400	150,400	150,400
1.2 Overtime	700,000	515,300	700,000	-	0.0%	700,000	-	0.0%	700,000	700,000	700,000
1.3 Employee Benefits	1,000,300	833,900	1,240,500	240,200	24.0%	1,257,900	17,400	1.4%	1,292,900	1,310,300	1,333,500
1.4 Personnel Transition Adjustment			(700,000)	(700,000)	n/a	(350,000)	350,000	-50.0%	(350,000)	(350,000)	(350,000)
2 Transition Services	4,007,400	267,700	2,746,500	(1,260,900)	-31.5%	2,773,900	27,400	1.0%	2,801,600	2,829,600	2,857,900
Subtotal Personnel Costs	8,452,100	3,537,100	7,398,700	(1,053,400)	-12.5%	7,891,400	492,700	6.7%	7,954,100	7,999,500	8,051,000
3.1 Electric	11,600	27,300	50,000	38,400	331.0%	50,000	-	0.0%	50,000	50,000	50,000
3.2 Gas	71,500	12,200	36,000	(35,500)	-49.7%	36,000	-	0.0%	36,000	36,000	36,000
3.4 Sewage Service	6,000	8,200	6,000	-	0.0%	6,000	-	0.0%	6,000	6,000	6,000
3.5 Water Service	1,900	25,800	5,000	3,100	163.2%	5,000	-	0.0%	5,000	5,000	5,000
Subtotal Utilities	91,000	73,500	97,000	6,000	6.6%	97,000	-	0.0%	97,000	97,000	97,000
5 Supplies & Other	751,900	374,200	1,440,900	689,000	91.6%	1,440,900	-	0.0%	1,440,900	1,440,900	1,441,400
6 Contractual Services	14,182,500	6,620,900	14,479,300	296,800	2.1%	14,519,300	40,000	0.3%	14,559,700	14,600,500	14,641,700
7 Capital Program Allocation	(2,894,500)		(2,784,400)	110,100	-3.8%	(2,839,300)	(54,900)	2.0%	(2,862,800)	(2,879,200)	(2,897,800)
8 Shared Services	(1,339,100)	(537,300)	(1,404,900)	(65,800)	4.9%	(1,415,900)	(11,000)	0.8%	(1,422,100)	(1,427,300)	(1,432,900)



Water Operating Services Area Financial Plan

Staffing Plan

Systems Control personnel is comprised of technicians that operate and maintain electrical and instrumentation equipment in the water and wastewater operations, field services, pumping stations, electrical systems, computerized process controls, and equipment.

The following tables provide two alternate views of the staffing plan.

1. The table below presents the number of positions in the plan. Each position has a value of one. The position count does not distinguish between a position that is filled 100% (2,080 hours per year), filled for a number of hours less than 2,080 per year, or one that is vacant.

Staffing Plan – Number of Positions

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Staffing Plan	FY 2018 Staffing Plan	FY 2019 Staffing Plan	FY 2020 Staffing Plan	FY 2021 Staffing Plan	FY 2022 Staffing Plan
Systems Control	79.00	79.00	79.00	79.00	79.00	79.00

2. The table below presents “full-time equivalent” (FTE) staffing. FTE is based on the number of hours that the position is filled, or budgeted for, in a given year based upon a standard of 2,080 hours per year.

Staffing Plan – Full-time Equivalents

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Approved FTE's	FY 2018 FTE's	FY 2019 FTE's	FY 2020 FTE's	FY 2021 FTE's	FY 2022 FTE's
Systems Control	79.00	79.00	79.00	79.00	79.00	79.00



Water Operating Services Area Financial Plan

Field Services

FY 2018 & FY 2019 Initiatives

1. **Ongoing: Sewer & Valve Condition Assessment Program** (Trustworthiness & Integrity)

FY 2018 & FY 2019

- Expedite Sewer Condition Assessment Program for the remaining conveyance system
- Expedite Valve Assessment and replacement program to improve service reliability
- Initiate Water Main Condition Assessment Program to provide reliable water service

2. **Ongoing: Transmission Main Assessment & Rehabilitation** (Regional Collaboration and Trustworthiness & Integrity)

FY 2018

- Complete the Telegraph Road Transmission Main construction
- Complete the design and construction of Glenwood Phase 2 water main
- Complete the design of the Merriman Road water main

FY 2019

- Complete the construction of Merriman Road water main
- Initiate the water main rehabilitation based on the water main condition assessment report

FY 2018 & FY 2019 Budget Summary

The field service operations budget is allocated among three groups: Field Services Director, Field Engineering and Field Service Operations. From these groups, field service operations has the largest budget at \$17.5 million (93.8%) for FY 2018 and \$17.6 million (93.6%) for FY 2019.

Budget by Cost Center as Percent of Total

Cost Center	Current Year		Biennial Budget				Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Field Services	\$ 18,677,300	\$ 2,780,300	\$ 18,654,900	100.0%	\$ 18,826,300	100.0%	\$ 18,827,200	\$ 18,835,000	\$ 18,845,600
5.1 Field Services Director	341,800	2,700	399,300	2.1%	401,300	2.1%	401,400	401,500	401,700
5.2 Field Engineering	436,100	749,800	761,500	4.1%	803,500	4.3%	805,600	807,700	810,400
5.3 Field Service Operations	17,899,400	2,027,800	17,494,100	93.8%	17,621,500	93.6%	17,620,200	17,625,800	17,633,500



Water Operating Services Area Financial Plan

The field service operations budget is primarily contractual services in the amount of \$12.7 million (68.2%) for FY 2018 and \$12.7 million (67.6%) for FY 2019 which support the complex nature of the water transmission and wastewater collection system. Contracted services include the following.

- ✓ Investigation, inspection and cleaning of sewers to assess current conditions related to interceptors and sewer trunks for future repairs program (\$2.4 million for FY 2018 and \$2.4 million for FY 2019).
- ✓ Gate valve inspection and exercising to create a regular system of maintenance in order to verify the readiness in case of emergency and useful life of the valve (\$2.2 million for FY 2018 and \$2.2 million for FY 2019)
- ✓ Repair broken and blocked sewer mains as necessary (\$1.4 million for FY 2018 and \$1.4 million for FY 2019).
- ✓ Repair and restoration of pavement after completion of water and sewer repairs in the system (\$2.2 million for FY 2018 and \$2.2 million for FY 2019).
- ✓ Repair leaking and broken water mains as necessary (\$1.92 million for FY 2018 and \$1.92 million for FY 2019)

The second largest category is personnel cost in the amount of \$4.05 million (21.7%) for FY 2018 and \$4.18 million (22.2%) for FY 2019. Further analysis of the budget follows the tables below.

Budget by Expense Category as Percent of Total

Expense Categories	Current Year		Biennial Budget				Forecast		
	FY 2017		FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
	FY 2017 Adopted	Activity through March 31, 2017							
Field Services	\$ 18,677,300	\$ 2,780,300	\$ 18,654,900	100.0%	\$ 18,826,300	100.0%	\$ 18,827,200	\$ 18,835,000	\$ 18,845,600
1.1 Salaries & Wages	2,065,400	860,900	2,310,700	12.4%	2,490,100	13.2%	2,490,100	2,490,100	2,490,100
1.2 Overtime	900,000	107,700	900,000	4.8%	900,000	4.8%	900,000	900,000	900,000
1.3 Employee Benefits	767,000	441,000	880,300	4.7%	936,600	5.0%	949,800	963,000	980,600
1.4 Personnel Transition Adjustment	-	-	(302,000)	-1.6%	(145,000)	-0.8%	(145,000)	(145,000)	(145,000)
2 Transition Services	-	132,200	258,000	1.4%	-	0.0%	-	-	-
Subtotal Personnel Costs	3,732,400	1,541,800	4,047,000	21.7%	4,181,700	22.2%	4,194,900	4,208,100	4,225,700
3.1 Electric	1,000,700	-	-	0.0%	-	0.0%	-	-	-
3.2 Gas	465,700	-	-	0.0%	-	0.0%	-	-	-
3.4 Sewage Service	15,500	-	-	0.0%	-	0.0%	-	-	-
3.5 Water Service	5,700	-	-	0.0%	-	0.0%	-	-	-
Subtotal Utilities	1,487,600	-	-	0.0%	-	0.0%	-	-	-
5 Supplies & Other	3,630,200	18,000	3,409,400	18.3%	3,409,400	18.1%	3,409,400	3,409,400	3,409,400
6 Contractual Services	11,064,900	1,220,500	12,720,000	68.2%	12,727,000	67.6%	12,720,000	12,720,000	12,720,000
7 Capital Program Allocation	(1,237,800)	-	(1,521,500)	-8.2%	(1,491,800)	-7.9%	(1,497,100)	(1,502,500)	(1,509,500)



Water Operating Services Area Financial Plan

Budget by Expense Category with Percentage Change from Prior Year

Expense Categories	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Field Services	\$ 18,677,300	\$ 2,780,300	\$ 18,654,900	\$ (22,400)	-0.1%	\$ 18,826,300	\$ 171,400	0.9%	\$ 18,827,200	\$ 18,835,000	\$ 18,845,600
1.1 Salaries & Wages	2,065,400	860,900	2,310,700	245,300	11.9%	2,490,100	179,400	7.8%	2,490,100	2,490,100	2,490,100
1.2 Overtime	900,000	107,700	900,000	-	0.0%	900,000	-	0.0%	900,000	900,000	900,000
1.3 Employee Benefits	767,000	441,000	880,300	113,300	14.8%	936,600	56,300	6.4%	949,800	963,000	980,600
1.4 Personnel Transition Adjustment	-	-	(302,000)	(302,000)	n/a	(145,000)	157,000	-52.0%	(145,000)	(145,000)	(145,000)
2 Transition Services	-	132,200	258,000	258,000	n/a	-	(258,000)	-100.0%	-	-	-
Subtotal Personnel Costs	3,732,400	1,541,800	4,047,000	314,600	8.4%	4,181,700	134,700	3.3%	4,194,900	4,208,100	4,225,700
3.1 Electric	1,000,700	-	-	(1,000,700)	-100.0%	-	-	n/a	-	-	-
3.2 Gas	465,700	-	-	(465,700)	-100.0%	-	-	n/a	-	-	-
3.4 Sewage Service	15,500	-	-	(15,500)	-100.0%	-	-	n/a	-	-	-
3.5 Water Service	5,700	-	-	(5,700)	-100.0%	-	-	n/a	-	-	-
Subtotal Utilities	1,487,600	-	-	(1,487,600)	-100.0%	-	-	n/a	-	-	-
5 Supplies & Other	3,630,200	18,000	3,409,400	(220,800)	-6.1%	3,409,400	-	0.0%	3,409,400	3,409,400	3,409,400
6 Contractual Services	11,064,900	1,220,500	12,720,000	1,655,100	15.0%	12,727,000	7,000	0.1%	12,720,000	12,720,000	12,720,000
7 Capital Program Allocation	(1,237,800)	-	(1,521,500)	(283,700)	22.9%	(1,491,800)	29,700	-2.0%	(1,497,100)	(1,502,500)	(1,509,500)

Overall, the Field Services budget is consistent with the prior year.

Personnel Costs - A slight change in the overall field services budget is an increase in personnel costs by \$314,600 (8.4%) for FY 2018.

- ✓ **Salaries & Wages** - The proposed budget provides for the increase in staffing of five new positions in the amount of \$245,300 (11.9%) for FY 2018 and \$179,400 (7.8%) for FY 2019 to support CIP delivery and improve field service response time.
- ✓ **Personnel Transition Adjustment** - The increase in the personnel transition adjustment contra account of \$302,000 for FY 2018 and a decrease of \$157,000 (-52%) for FY 2019 reflects field services reaching a steady state in staffing as we enter the second year of budgeting water operations as a regional authority.
- ✓ **Transition Services** - The proposed budget provides for an increase in transition services of \$258,000 for FY 2018 and a decrease of \$258,000 (-100%) for FY 2019. This is the result of an expected salaries & wages staff vacancy being filled on a contractual basis. This position will transition to a GLWA employee by FY 2019.

Utilities - The utilities budget decreased by \$1.49 million (-100%). This is largely the result of an entity-wide effort to audit the accounting and budgeting of utility costs to provide a better baseline for future analysis of GLWA expenses using the new financial system.

- ✓ Electricity budget of \$1 million, gas budget of \$465,700, sewage budget of \$15,500, and water budget of \$5,700 was removed as a result of an analysis to gain an understanding of the true budgetary requirement. A determination was made that the budget for utilities should not reside in the Field Services cost centers.



Water Operating Services Area Financial Plan

Contractual Services – The proposed budget provides for an increase of \$1.66 million (15%) for FY 2018 in contractual services as a result of increased projects related to water & sewer mains, sewer investigation, inspection & cleaning, valve inspection & exercising and pavement repair & restoration.

Capital Program Allocation - The increase in capital program: salaries & wages contra account of -\$283,700 (22.9%) for FY 2018 is related to the additional staff mentioned above and an increase in construction activity for FY 2018.

Budget by Cost Center with Percentage Change from Prior Year

Cost Center	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Field Services	\$ 18,677,300	\$ 2,780,300	\$ 18,654,900	\$ (22,400)	-0.1%	\$ 18,826,300	\$ 171,400	0.9%	\$ 18,827,200	\$ 18,835,000	\$ 18,845,600
5.1 Field Services Director	341,800	2,700	399,300	57,500	16.8%	401,300	2,000	0.5%	401,400	401,500	401,700
5.2 Field Engineering	436,100	749,800	761,500	325,400	74.6%	803,500	42,000	5.5%	805,600	807,700	810,400
5.3 Field Service Operations	17,899,400	2,027,800	17,494,100	(405,300)	-2.3%	17,621,500	127,400	0.7%	17,620,200	17,625,800	17,633,500

Overall, the Field Services budget is consistent with the prior year.

- ✓ **Field Engineering - The net increase of \$325,400 (74.6%) for FY 2018 in the Field Engineering budget consists of a(n):**
 - Salaries/Wages/Benefits budget increase of \$261,000 due to an additional (4) positions to support CIP delivery and improve field service response time.
 - Increase of the contra account for personnel transition adjustment from \$0 for FY 2017 to -\$145,000 for FY 2018. Several vacant positions currently exist in the Field Engineering budget. The level of personnel transition adjustment is expected to stabilize for FY 2018. The impact of this increase is a net decrease to the FY 2018 budget.
 - Transition services budget increase of \$258,000 is the result of an expected salaries & wages staff vacancy being filled on a contractual basis.
 - After a review of the actual anticipated costs for FY 2017, a determination was made to reduce the Contractual Services budget from \$94,900 in FY 2017 to \$0 for the years beginning with FY 2018.
- ✓ **Field Services Director - The net increase of \$57,500 (16.8%) in the Field Services Director’s budget consists of a(n):**
 - Salaries/Wages/Benefits budget increase of \$140,100 due to a staff realignment involving multiple cost centers. The realignment added a total of one (1) position to the Field Services Director’s cost center from Field Services Operations cost center.
 - Increase in the capital program allocation contra account of -\$77,100 is related to the staff realignment of one (1) position from the Field Services Operations cost center and an increase in construction activity for FY 2018.



Water Operating Services Area Financial Plan

Staffing Plan

Field services personnel is largely comprised of operations staffing that perform a variety of skilled field work relative to the operations and maintenance of water and wastewater systems.

The increase from FY 2017 to FY 2018 includes two engineers for CIP delivery, three inspectors to improve field service response time to events such as water main breaks throughout the GLWA regional service area, and 1 special projects technician to support GLWA’s needs during this transition phase.

The following tables provide two alternate views of the staffing plan.

1. The table below presents the number of positions in the plan. Each position has a value of one. The position count does not distinguish between a position that is filled 100% (2,080 hours per year), filled for a number of hours less than 2,080 per year, or one that is vacant.

Staffing Plan – Number of Positions

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Staffing Plan	FY 2018 Staffing Plan	FY 2019 Staffing Plan	FY 2020 Staffing Plan	FY 2021 Staffing Plan	FY 2022 Staffing Plan
Field Services	38.00	44.00	44.00	44.00	44.00	44.00
Field Services Director	0.00	1.00	1.00	1.00	1.00	1.00
Field Engineering	13.00	17.00	17.00	17.00	17.00	17.00
Field Service Operations	25.00	26.00	26.00	26.00	26.00	26.00

2. The table below presents “full-time equivalent” (FTE) staffing. FTE is based on the number of hours that the position is filled, or budgeted for, in a given year based upon a standard of 2,080 hours per year.

Staffing Plan – Full-time Equivalents

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Approved FTE's	FY 2018 FTE's	FY 2019 FTE's	FY 2020 FTE's	FY 2021 FTE's	FY 2022 FTE's
Field Services	38.00	44.00	44.00	44.00	44.00	44.00
Field Services Director	0.00	1.00	1.00	1.00	1.00	1.00
Field Engineering	13.00	17.00	17.00	17.00	17.00	17.00
Field Service Operations	25.00	26.00	26.00	26.00	26.00	26.00



Water Operating Services Area Financial Plan

Fleet and Facilities

FY 2018 & FY 2019 Initiatives

1. **Ongoing: Fleet Needs Assessment Program** (High Quality through Innovation and Trustworthiness & Integrity)
2. **Ongoing: Facilities Needs and Maintenance Assessment Program** (High Quality through Innovation and Trustworthiness & Integrity)

FY 2018 & FY 2019

- Ensuring vehicles and equipment are properly matched to the job requirements and functioning properly and safely
- Ensuring facilities, buildings and grounds are properly maintained, secure, environmentally safe and upgraded to support their specific operations
- Staff the Fleet and Facilities Team to increase proactive facility maintenance

FY 2018 & FY 2019 Budget Summary

The fleet and facilities operations budget is allocated among two groups: Facility Operations and Fleet Operations. From these groups, facility operations has the largest budget at \$11.3 million (84%) for FY 2018 and \$11.4 million (84%) for FY 2019.

Budget by Cost Center as Percent of Total

Cost Center	Current Year		Biennial Budget				Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Fleet and Facilities Operations	\$ 16,016,600	\$ 2,601,900	\$ 13,438,900	100%	\$ 13,546,400	100%	\$ 13,557,100	\$ 13,562,600	\$ 13,569,800
5.4 Facility Operations	13,865,700	2,058,000	11,288,000	84%	11,395,500	84%	11,406,200	11,411,700	11,418,900
5.5 Fleet Operations	2,150,900	543,900	2,150,900	16%	2,150,900	16%	2,150,900	2,150,900	2,150,900



Water Operating Services Area Financial Plan

The fleet and facilities budget is primarily contractual services in the amount of \$9.5 million (71%) for FY 2018 and \$9.5 million (70.5%) for FY 2019. The level of contractual services reflects the decision to contract for certain non-core services as well as the efficient management of peak workload activities.

- ✓ **Fleet** includes the shared service agreement with Detroit Water and Sewerage Department (DWSD) to manage and maintain all fleet vehicles (\$2.15 million).
- ✓ **Facilities** contracts include elevator maintenance (\$1.26 million), landscaping and exterior maintenance (\$2.78 million), and shared services with the DWSD for tenancy in the Water Board Building and Central Services Facility (\$1.1 million).

The second largest category is supplies & other in the amount of \$2.14 million (16%) for FY 2018 and \$2.14 million (15.8%) for FY 2019. Further analysis of the budget follows the tables below.

Budget by Expense Category as Percent of Total

Expense Categories	Current Year		Biennial Budget				Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Fleet and Facilities Operations	\$ 16,016,600	\$ 2,601,900	\$ 13,438,900	100.0%	\$ 13,546,400	100.0%	\$ 13,557,100	\$ 13,562,600	\$ 13,569,800
1.1 Salaries & Wages	1,153,100	508,500	1,190,100	8.9%	1,225,800	9.0%	1,225,800	1,225,800	1,225,800
1.2 Overtime	750,000	10,400	250,000	1.9%	250,000	1.8%	250,000	250,000	250,000
1.3 Employee Benefits	446,600	259,200	451,800	3.4%	458,400	3.4%	471,500	478,100	486,900
1.4 Personnel Transition Adjustment	-	-	(143,000)	-1.1%	(70,000)	-0.5%	(70,000)	(70,000)	(70,000)
Subtotal Personnel Costs	2,349,700	778,100	1,748,900	13.0%	1,864,200	13.8%	1,877,300	1,883,900	1,892,700
3.1 Electric	224,500	300	-	0.0%	-	0.0%	-	-	-
3.4 Sewage Service	213,300	-	-	0.0%	-	0.0%	-	-	-
3.5 Water Service	59,300	-	-	0.0%	-	0.0%	-	-	-
Subtotal Utilities	497,100	300	-	0.0%	-	0.0%	-	-	-
5 Supplies & Other	2,474,800	254,800	2,144,800	16.0%	2,144,800	15.8%	2,144,800	2,144,800	2,144,800
6 Contractual Services	10,987,900	1,568,700	9,545,900	71.0%	9,545,900	70.5%	9,545,900	9,545,900	9,545,900
7 Capital Program Allocation	(292,900)	-	(303,200)	-2.3%	(311,000)	-2.3%	(313,400)	(314,500)	(316,100)
10 Capital Outlay	-	-	302,500	2.3%	302,500	2.2%	302,500	302,500	302,500



Water Operating Services Area Financial Plan

Budget By Expense Category With Percentage Change From Prior Year

Expense Categories	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Fleet and Facilities Operations	\$ 16,016,600	\$ 2,601,900	\$ 13,438,900	\$ (2,577,700)	-16.1%	\$ 13,546,400	\$ 107,500	0.8%	\$ 13,557,100	\$ 13,562,600	\$ 13,569,800
1.1 Salaries & Wages	1,153,100	508,500	1,190,100	37,000	3.2%	1,225,800	35,700	3.0%	1,225,800	1,225,800	1,225,800
1.2 Overtime	750,000	10,400	250,000	(500,000)	-66.7%	250,000	-	0.0%	250,000	250,000	250,000
1.3 Employee Benefits	446,600	259,200	451,800	5,200	1.2%	458,400	6,600	1.5%	471,500	478,100	486,900
1.4 Personnel Transition Adjustment	-	-	(143,000)	(143,000)	n/a	(70,000)	73,000	-51.0%	(70,000)	(70,000)	(70,000)
Subtotal Personnel Costs	2,349,700	778,100	1,748,900	(600,800)	-25.6%	1,864,200	115,300	6.6%	1,877,300	1,883,900	1,892,700
3.1 Electric	224,500	300	-	(224,500)	-100.0%	-	-	n/a	-	-	-
3.4 Sewage Service	213,300	-	-	(213,300)	-100.0%	-	-	n/a	-	-	-
3.5 Water Service	59,300	-	-	(59,300)	-100.0%	-	-	n/a	-	-	-
Subtotal Utilities	497,100	300	-	(497,100)	-100.0%	-	-	n/a	-	-	-
5 Supplies & Other	2,474,800	254,800	2,144,800	(330,000)	-13.3%	2,144,800	-	0.0%	2,144,800	2,144,800	2,144,800
6 Contractual Services	10,987,900	1,568,700	9,545,900	(1,442,000)	-13.1%	9,545,900	-	0.0%	9,545,900	9,545,900	9,545,900
7 Capital Program Allocation	(292,900)	-	(303,200)	(10,300)	3.5%	(311,000)	(7,800)	2.6%	(313,400)	(314,500)	(316,100)
10 Capital Outlay	-	-	302,500	302,500	n/a	302,500	-	0.0%	302,500	302,500	302,500

Personnel Costs - A significant change in the overall fleet and facilities operations budget is a decrease in personnel costs by \$600,800 (-25.6%) for FY 2018.

- ✓ **Overtime** - The proposed budget provides for a decrease in overtime of \$500,000 (-66.7%) for FY 2018 as a result of progress in staff placement.
- ✓ **Personnel Transition Adjustment** - The increase in the personnel transition adjustment contra account of \$143,000 for FY 2018 and a decrease of \$73,000 (-51%) for FY 2019 reflects fleet & facilities services reaching a steady state in staffing as we enter the second year of budgeting water operations as a regional authority.

Utilities - The utilities budget decreased by \$497,100 (-100%) for FY 2018. This is largely the result of an entity-wide effort to audit the accounting and budgeting of utility costs to provide a better baseline for future analysis of GLWA expenses using the new financial system.

- ✓ Electricity budget of \$224,500, sewage budget of \$213,300, and water budget of \$59,300 for FY 2018 was removed as a result of an analysis to gain an understanding of the true budgetary requirement. A determination was made that the budget for utilities should not reside in the Fleet and Facilities Operations cost centers.



Water Operating Services Area Financial Plan

Supplies & Other – The supplies & other budget decreased by \$330,000 (-13.3%) for FY 2018. After a review of the actual anticipated costs for FY 2017, a determination was made to reduce the repairs & maintenance-automotive budget from \$369,203 in FY 2017 to \$0 for the years beginning with FY 2018. All budget for automotive is included in the Fleet Operations cost center.

Contractual Services – The contractual services budget decrease of \$1.44 million (-13.1%) for FY 2018 is due to expense realignments involving multiple cost centers. The realignment removed duplicate budgeted items (GDI Janitorial (\$1.1 million), Gallagher Fire Equipment (\$121,000)) from the facility operations cost center that were captured in individual cost centers.

Capital Outlay – The increase in capital outlay of \$302,500 for FY 2018 is related to the budget realignment of capital equipment (condensate pump system & chiller replacement) from repairs & maintenance-buildings & grounds to capital outlay greater than \$5,000.

Budget by Cost Center with Percentage Change from Prior Year

Cost Center	Current Year		Biennial Budget						Forecast		
	FY 2017		FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
	FY 2017 Adopted	Activity through March 31, 2017									
Fleet and Facilities Operations	\$ 16,016,600	\$ 2,601,900	\$ 13,438,900	\$ (2,577,700)	-16.1%	\$ 13,546,400	\$ 107,500	0.8%	\$ 13,557,100	\$ 13,562,600	\$ 13,569,800
5.4 Facility Operations	13,865,700	2,058,000	11,288,000	(2,577,700)	-18.6%	11,395,500	107,500	1.0%	11,406,200	11,411,700	11,418,900
5.5 Fleet Operations	2,150,900	543,900	2,150,900	-	0.0%	2,150,900	-	0.0%	2,150,900	2,150,900	2,150,900

- ✓ **Facility Operations** - The net decrease of \$2.58 million (-16.1%) in the Facility Operations budget consists of a(n):
 - Decrease in overtime of \$500,000 as a result of progress in staff placement.
 - Decrease in utilities from \$497,100 for FY 2017 to \$0 for FY 2018. Utilities budget was removed as a result of an analysis to gain an understanding of the true budgetary requirement. A determination was made that the budget for utilities should not reside in the Fleet and Facilities Operations cost centers.
 - Decrease of \$1.44 million is due to expense realignments involving multiple cost centers. The realignment removed duplicate budgeted items (GDI Janitorial (\$1.1 million), Gallagher Fire Equipment (\$121,000)) from the facility operations cost center that were captured in individual cost centers.



Water Operating Services Area Financial Plan

Staffing Plan

The fleet and facilities operations personnel costs account for 13% of the total budget for FY 2018 and FY 2019. The staffing level is in the tables below.

The following tables provide two alternate views of the staffing plan.

1. The table below presents the number of positions in the plan. Each position has a value of one. The position count does not distinguish between a position that is filled 100% (2,080 hours per year), filled for a number of hours less than 2,080 per year, or one that is vacant.

Staffing Plan – Number of Positions

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Staffing Plan	FY 2018 Staffing Plan	FY 2019 Staffing Plan	FY 2020 Staffing Plan	FY 2021 Staffing Plan	FY 2022 Staffing Plan
Fleet and Facilities Operations	22.00	22.00	22.00	22.00	22.00	22.00
Facility Operations	22.00	22.00	22.00	22.00	22.00	22.00

2. The table below presents “full-time equivalent” (FTE) staffing. FTE is based on the number of hours that the position is filled, or budgeted for, in a given year based upon a standard of 2,080 hours per year.

Staffing Plan – Full-time Equivalents

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Approved FTE's	FY 2018 FTE's	FY 2019 FTE's	FY 2020 FTE's	FY 2021 FTE's	FY 2022 FTE's
Fleet and Facilities Operations	22.00	22.00	22.00	22.00	22.00	22.00
Facility Operations	22.00	22.00	22.00	22.00	22.00	22.00



Wastewater Operating Services Area Financial Plan

The **Wastewater Operating Services Area** provides for the direct cost of wastewater treatment.

The Water Resource Recovery Facility (WRRF) treats regional sanitary and combined sewage to protect receiving waters and public health. Discharges are regulated by a National Pollutant Discharge Elimination System (NPDES) Permit. These limits are established by federal, state laws and regulations. Wastewater Operating Services reclaims a significant portion of its Biosolids for beneficial reuse.

FY 2018 & FY 2019 Initiatives

1. Engage Fully in the Wastewater Master Plan Initiative (Regional Collaboration)

- Collaborate with the Steering Team to find creative ways to maximize the use of the existing Combined Sewer Overflow Facilities and the Collection System
- Contribute technical knowledge in the forward-thinking/Utility of the Future discussions related to energy and nutrient recovery at the WRRF

2. Increase Staff Participation in Water Sector Organizations and Conferences (Regional Collaboration)

- Encourage staff attendance in the Michigan Water Environment Association committees
- Encourage staff to apply for presentation opportunities to showcase GLWA projects and initiatives

3. 100% NPDES Permit Compliance (Trustworthiness & Integrity)

4. Improve Delivery of Capital Projects to Align with the Capital Improvement Plan (Trustworthiness & Integrity)

- Assist in the process to initiate Program Management for the Capital Improvement Program (CIP)
- Increase communication and tracking processes with Project Managers

5. Implement the MDEQ Approved Staffing Plan (Trustworthiness & Integrity)

- Recruit talented individuals to fill vacancies with a focus on first filling leadership positions
- Increase recruitment efforts to fill vacancies and reduce the number of positions currently held by contract workers

6. Improve the Reliability of Equipment (Trustworthiness & Integrity)

- Increase the use of an asset management approach to maintenance activities
- Increase the number of Maintenance Technician staff members through a focus on recruitment



Wastewater Operating Services Area Financial Plan

7. Optimize Use of Ferric Chloride through the Use of In-Line Phosphorous Monitors (High Quality through Innovation)

- Reduction of ferric chloride is a cost savings measure however this must be balanced with the State and Federal Government’s goal of achieving 40% reduction in phosphorus loading in the Western Lake Erie Basin
- Use of real-time monitoring equipment will assist in determining the right balance to achieve both goals

8. Initiate a Project to Optimize the Use of Oxygen in the Secondary Treatment Process (High Quality through Innovation)

- Use of real-time dissolved oxygen sensors in the secondary treatment tanks will allow operators to determine optimum oxygen delivery to the treatment tanks
- Increase system automation to enhance the ability to reduce oxygen usage while ensuring adequate dissolved oxygen for the biomass in the aeration basins
- Partner with the Research and Innovation Group to explore opportunities to partner with universities to conduct research at the WRRF

FY 2018 & FY 2019 Budget Summary

The largest category of expense in the wastewater operations budget is personnel services at \$34.6 million, or 29.8%, for FY 2018 and \$35.5 million, or 29.1%, for FY 2019. The fulfillment of the wastewater staffing plan and associated staff development is a primary focus of the wastewater management. Utilities continue to be a significant cost at \$25.1 million, or 21.6%, for FY 2018 and \$25.4 million, or 20.8%, for FY 2019 annually. Contractual Services remain substantial with New England Fertilizer Company’s (NEFCO) operation and maintenance of the Biosolids Dryer Facility totaling \$13 million; accounting for almost half of this category. Noteworthy for FY 2018 is a focus on improving the integrity of wastewater operations. The maintenance budget, included largely in supplies and other, for both mechanical and control systems equipment is \$12.2 million for FY 2018 and \$9.2 million for FY 2019.

In March 2016, the WRRF sustained significant fire damage to the conveyor system feeding the newly upgraded Complex 2 incinerators. The majority of the costs for the repairs have been, or will be, covered by insurance proceeds. Additional modifications for safety and mechanical equipment and control systems improvements are being implemented to Complex 2 while the incinerators are off line.



Wastewater Operating Services Area Financial Plan

Budget by Expense Category as Percent of Total

Expense Categories	Current Year		Biennial Budget				Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Wastewater Operations	\$ 118,030,500	\$ 80,674,400	\$ 116,062,900	100.0%	\$ 121,905,900	100.0%	\$ 129,506,100	\$ 135,690,300	\$ 141,610,100
1.1 Salaries & Wages	21,056,000	11,809,500	20,255,000	17.5%	20,455,100	16.8%	20,455,100	20,455,100	20,455,100
1.1 Salaries & Wages - Workforce Development	-	-	225,600	0.2%	225,600	0.2%	225,600	225,600	225,600
1.2 Overtime	4,200,000	2,924,600	3,380,000	2.9%	3,380,000	2.8%	3,380,000	3,380,000	3,380,000
1.3 Employee Benefits	8,581,100	6,581,400	7,963,300	6.9%	8,151,400	6.7%	8,271,100	8,390,800	8,550,400
1.4 Personnel Transition Adjustment	(2,500,000)	900	(1,011,200)	-0.9%	(553,800)	-0.5%	(442,300)	(438,400)	(434,500)
2 Transition Services	2,440,200	1,714,300	3,820,600	3.3%	3,820,600	3.1%	3,820,600	3,820,600	3,820,600
Subtotal Personnel Costs	33,777,300	23,030,700	34,633,300	29.8%	35,478,900	29.1%	35,710,100	35,833,700	35,997,200
3.1 Electric	15,207,000	8,463,900	12,677,900	10.9%	12,787,300	10.5%	12,897,500	13,008,500	13,120,500
3.2 Gas	7,583,000	3,238,200	5,383,600	4.6%	5,504,700	4.5%	5,625,500	5,746,500	5,866,800
3.4 Sewage Service	348,300	897,600	1,118,800	1.0%	1,164,700	1.0%	1,209,400	1,254,300	1,298,900
3.5 Water Service	4,640,500	3,496,700	5,873,100	5.1%	5,921,200	4.9%	5,969,100	6,017,900	6,067,100
Subtotal Utility Costs	27,778,800	16,096,400	25,053,400	21.6%	25,377,900	20.8%	25,701,500	26,027,200	26,353,300
4 Chemicals	14,345,700	6,823,400	11,468,300	9.9%	12,063,500	9.9%	11,753,300	11,768,600	11,783,700
5 Supplies & Other	9,694,800	17,766,200	14,346,700	12.4%	11,498,700	9.4%	11,472,300	11,558,900	11,528,000
6 Contractual Services	28,778,400	16,957,700	30,452,900	26.2%	28,496,000	23.4%	28,547,300	28,690,200	28,834,300
7 Capital Program Allocation	(3,061,400)	-	(1,034,000)	-0.9%	(1,037,700)	-0.9%	(1,041,400)	(1,045,000)	(1,049,900)
8 Shared Services	-	-	(6,400)	0.0%	(2,900)	0.0%	(2,900)	(2,900)	(2,900)
9 Unallocated Reserve	6,716,900	-	420,000	0.4%	10,031,500	8.2%	17,365,900	22,859,600	28,166,400
10 Capital Outlay	-	-	728,700	0.6%	-	0.0%	-	-	-

Budget by Expense Category with Percentage Change from Prior Year

Expense Categories	Current Year		Biennial Budget					Forecast			
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Wastewater Operations	\$ 118,030,500	\$ 80,674,400	\$ 116,062,900	\$ (1,967,600)	-1.7%	\$ 121,905,900	\$ 5,843,000	5.0%	\$ 129,506,100	\$ 135,690,300	\$ 141,610,100
1.1 Salaries & Wages	21,056,000	11,809,500	20,255,000	(801,000)	-3.8%	20,455,100	200,100	1.0%	20,455,100	20,455,100	20,455,100
1.1 Salaries & Wages - Workforce Development	-	-	225,600	225,600	n/a	225,600	-	0.0%	225,600	225,600	225,600
1.2 Overtime	4,200,000	2,924,600	3,380,000	(820,000)	-19.5%	3,380,000	-	0.0%	3,380,000	3,380,000	3,380,000
1.3 Employee Benefits	8,581,100	6,581,400	7,963,300	(617,800)	-7.2%	8,151,400	188,100	2.4%	8,271,100	8,390,800	8,550,400
1.4 Personnel Transition Adjustment	(2,500,000)	900	(1,011,200)	1,488,800	-59.6%	(553,800)	457,400	-45.2%	(442,300)	(438,400)	(434,500)
2 Transition Services	2,440,200	1,714,300	3,820,600	3,820,600	56.6%	3,820,600	-	0.0%	3,820,600	3,820,600	3,820,600
Subtotal Personnel Costs	33,777,300	23,030,700	34,633,300	856,000	2.5%	35,478,900	845,600	2.4%	35,710,100	35,833,700	35,997,200
3.1 Electric	15,207,000	8,463,900	12,677,900	(2,529,100)	-16.6%	12,787,300	109,400	0.9%	12,897,500	13,008,500	13,120,500
3.2 Gas	7,583,000	3,238,200	5,383,600	(2,199,400)	-29.0%	5,504,700	121,100	2.2%	5,625,500	5,746,500	5,866,800
3.4 Sewage Service	348,300	897,600	1,118,800	770,500	221.2%	1,164,700	45,900	4.1%	1,209,400	1,254,300	1,298,900
3.5 Water Service	4,640,500	3,496,700	5,873,100	1,232,600	26.6%	5,921,200	48,100	0.8%	5,969,100	6,017,900	6,067,100
Subtotal Utility Costs	27,778,800	16,096,400	25,053,400	(2,725,400)	-10.9%	25,377,900	324,500	1.3%	25,701,500	26,027,200	26,353,300
4 Chemicals	14,345,700	6,823,400	11,468,300	(2,877,400)	-20.1%	12,063,500	595,200	5.2%	11,753,300	11,768,600	11,783,700
5 Supplies & Other	9,694,800	17,766,200	14,346,700	4,651,900	48.0%	11,498,700	(2,848,000)	-19.9%	11,472,300	11,558,900	11,528,000
6 Contractual Services	28,778,400	16,957,700	30,452,900	1,674,500	5.8%	28,496,000	(1,956,900)	-6.4%	28,547,300	28,690,200	28,834,300
7 Capital Program Allocation	(3,061,400)	-	(1,034,000)	2,027,400	-66.2%	(1,037,700)	(3,700)	0.4%	(1,041,400)	(1,045,000)	(1,049,900)
8 Shared Services	-	-	(6,400)	(6,400)	n/a	(2,900)	3,500	-54.7%	(2,900)	(2,900)	(2,900)
9 Unallocated Reserve	6,716,900	-	420,000	(6,296,900)	-93.7%	10,031,500	9,611,500	2288.5%	17,365,900	22,859,600	28,166,400
10 Capital Outlay	-	-	728,700	728,700	n/a	-	(728,700)	-100.0%	-	-	-



Wastewater Operating Services Area Financial Plan

Salaries & Wages of \$20.3 million for FY 2018 and \$20.5 million for FY 2019 were designed to comply with the agreement with the Michigan Department of Environmental Quality (MDEQ). The plan was designed to reduce the number of overall positions required for WRRF operations through the use of better oversight. Under the agreement the staffing levels were decreased from 441 positions to 407 positions.

- ✓ The number of Team Leader positions increased from 22 in FY 2017 to 37 in FY 2018 and FY 2019. This increase is in line with management's plan of adding supervisory level personnel within the maintenance groups. As a result, there is a corresponding reduction in Maintenance Technician positions which fell from 82 positions to 70.
- ✓ The addition of a Wastewater Operations Director and a Maintenance and Engineering Director positions; both of which were filled during FY 2017.
- ✓ Two additional Managers and one Management Professional position were added for FY 2018.
- ✓ These positions were offset by a total reduction of 49 positions; 32 from the Plant Technician & Special Projects Technician groups, 6 Chemists, 8 Inspectors & Investigators, and 3 Office Support Specialists.
- ✓ Contract labor is used to supplement some of these positions. See below for further information concerning positions filled by contract labor.

Salaries & Wages – Workforce Development is made up of the Electrical Instrumentation Control Technician – Instrument Technician (EICT-I) apprenticeship program through Focus Hope. The budget, of \$225,600 for both FY 2017 and FY 2018, is recognized by the addition of six positions in the Wastewater Operations cost center during the fourth quarter of FY 2017. The investment in this program will enable the GLWA to develop a workforce for positions which have been challenging to recruit and fill.

Overtime was based on current FY 2017 estimates; adjusted for staffing levels and forecasted fill rate. The reduction in the Overtime budget from FY 2017 to FY 2018 of \$820,000, 19.5%, is also due to the use of Transition Services which covers positions that would be eligible for overtime if filled by GLWA staff.

Personnel Transition Adjustment is reduced by \$1.5 million, 59.6%, in FY 2018 and by \$457,400, 45.2%, due to the expected fill rate of vacant positions by GLWA staff as outlined in the Transitional Services discussion below.

Transition Services increased from FY 2017 to FY 2018 by \$1.4 million, 56.6%, as a result of an increased reliance on outside agencies in order to maintain staffing levels as outlined in the MDEQ agreement cited above.

- ✓ In FY 2017 there were 22 positions forecasted. This number increased to 37 positions for both FY 2018 and FY 2019 (Positions to be filled by Lakeshore Global Corporation personnel, contract PC-798A).
- ✓ Positions filled by transition services personnel are expected to be the last positions filled by GLWA staff; contract staff to be replaced by GLWA staff only after all other vacant positions have been filled.



Wastewater Operating Services Area Financial Plan

Total Utility Costs

- ✓ **Electricity** – The budget is based on an entity-wide review of actual costs incurred over the past 12 months. This review resulted in a decrease in the budget from FY 2017 to FY 2018 of \$2.5 million, or -16.6%.
- ✓ **Gas** - The budget is based on the review of actual costs incurred over the past 12 months. The decrease of \$2.2 million, 29.0%, between FY 2017 and FY 2018, is partially due to the shift from incineration to use of the Biosolids Dryer Facility (BDF). The BDF was put into operation in March 2016; therefore, actual costs were not available when the FY 2017 budget was developed.
- ✓ **Sewage Service** – The increase in budget, from FY 2017 to FY 2018, of \$770,500, 221.2%, is based on the review of actual costs.
 - Previously the amount billed to the Combined Sewer Overflow (CSO) facilities for sewage was variable. These facilities are now subject to sewer and storm water drainage charges from the Detroit Water and Sewerage Department. This is under review.
 - An example of the above is the budget for the CSOs which, in FY 2017, was \$43,000. Actual costs for these facilities for the past 9 months were in excess of \$460,000.
- ✓ **Water Service** - The increase in budget, from FY 2017 to FY 2018, of \$1.2 million, 26.6%, is based on the review of actual costs.
 - As a new facility, as of March 2016, the Biosolids Dryer Facility had no history of water service from which to develop an accurate budget for FY 2017. Review of actual costs to date indicates that \$94,000 should have been budgeted for FY 2017.
 - The CSO facilities' FY 2017 budget totaled \$138,000. The budget has increased to \$243,700 for FY 2018 and \$246,000 for FY 2019 based on more accurate review of cost allocation.

Note: The overall review of the total utility costs included an in-depth review of the CSO facilities. In FY 2017, the utility budget for the CSOs totaled \$1.4 million. The increase in budget to \$1.99 million, for FY 2018 and FY 2019, is based on the review of actual costs. See tables on subsequent pages related specifically to CSO facilities.

Chemicals decreased for FY 2018 and FY 2019 \$2.9 million, or 20.1%. The largest reduction in the chemical budget was for Ferric Chloride. The FY 2017 budget for this chemical was \$5.9 million. This amount was reduced to \$2 million for FY 2018 and FY 2019. There were two factors that lead to the reduction in the budgeted amounts.

- ✓ The current contract for this chemical is at a significantly reduced price from prior years. The current contract is at approximately \$306/ton compared to over \$500/ton on the previous contract. This contract has a built in renewal for one year which is anticipated to be exercised.
- ✓ The actual tons used of this chemical is lower than the amount budgeted for in FY 2017.
- ✓ For FY 2019 a 5% forecast increase is due principally to the River Rouge Outfall project (PC-797).



Wastewater Operating Services Area Financial Plan

Supplies and Other – The increase, from FY 2017 to FY 2018, of \$4.7 million, or 48.0%, is due primarily to an increase in repairs and maintenance.

- ✓ Repairs & Maintenance, the budget for FY 2017 totaled \$7.9 million. In FY 2018 this increased to \$12.0 million with a reduction for FY 2019 to \$9.5 million. Several pieces of equipment are in need of expedited repair. These repairs will be made towards the end of FY 2017 and will continue into FY 2018.
- ✓ Within these costs are those attributable to the CSO facilities. For FY 2017 the repair budget for the CSOs totaled \$433,000 as compared to \$2.2 million for FY 2018 and \$1.2 million for FY 2019. The largest single part of the increase for FY 2018 is a project to clean the sewer tunnels at the Baby Creek, St. Aubin, and Lieb CSOs. This cost is projected to be \$1 million.

Contractual Services – This increased from \$28.8 million in FY 2017 to \$30.5 million or 5.8% in FY 2018. During the course of the budget development some contractual services were noted as having been omitted from the FY 2017 budget. A review of the actual costs for the past 12 months was used to develop the FY 2018 and future budgets.

- ✓ GDI Janitorial Services which totaled approximately \$432,000 was added for FY 2018 and thereafter.
- ✓ The review had an impact on the CSO budget where services, such as Vactor truck and HVAC services, had been budgeted to the WRRF in FY 2017. These costs were moved to the actual location of use, the CSOs, beginning with the FY 2018 budget.

Capital Outlay (O&M) - For FY 2018 is comprised of identified equipment that is not part of a Capital improvement Program and was previously included in repairs and maintenance. For FY 2018 this cost is attributable to the CSOs. Further explanation is provided under the section below for Combined Sewer Overflow facilities.

Combined Sewer Overflow Facilities

Combined Sewer Overflow (CSO) facilities are an integral part of the Wastewater Operating Services. The budget of \$7.9 million for FY 2018 is 7% of the total wastewater operations budget. FY 2018 is the first full year of a new maintenance approach. For that reason there is an increase in the budget for FY 2018 with a stabilized budget for future years emphasizing good maintenance practices.

As noted on the Budget by Expense Category as Percent of Total table, the largest cost of operations for the CSOs are utility costs at \$1.99 million, or 25.3%, for FY 2018 and \$2.02 million, or 32.6%, for FY 2019. For FY 2018 Supplies and Other, which includes repairs and maintenance, had the largest category increase at \$1.8 million, or 416.4%. Total Personnel costs remain relatively stable. For FY 2018 and FY 2019 recognition of contract labor used at the CSO under Lakeshore Global Corporation contract PC-798A was added to the Transitional Services budget. Chemical usage at the various facilities for ferric chloride is projected to remain relatively stable for FY 2018 and FY 2019.



Wastewater Operating Services Area Financial Plan

Budget by Expense Category as Percent of Total

Expense Categories	Current Year		Biennial Budget				Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Combined Sewer Overflow	\$ 4,539,600	\$ 3,869,700	\$ 7,892,900	100.0%	\$ 6,197,900	100.0%	\$ 6,239,000	\$ 6,280,700	\$ 6,324,100
1.1 Salaries & Wages	1,006,500	504,000	951,100	12.1%	951,200	15.3%	951,200	951,200	951,200
1.2 Overtime	-	394,600	130,000	1.6%	130,000	2.1%	130,000	130,000	130,000
1.3 Employee Benefits	429,900	286,300	319,600	4.0%	324,700	5.2%	329,800	334,900	341,700
1.4 Personnel Transition Adjustment	-	-	-	0.0%	-	0.0%	-	-	-
2 Transition Services	-	-	89,100	1.1%	89,100	1.4%	89,100	89,100	89,100
Subtotal Personnel Costs	1,436,400	1,184,900	1,489,800	18.9%	1,495,000	24.1%	1,500,100	1,505,200	1,512,000
3.1 Electric	1,002,000	600,600	955,600	12.1%	965,200	15.6%	974,700	984,200	993,800
3.2 Gas	221,000	110,500	311,000	3.9%	318,700	5.1%	326,400	334,200	342,000
3.4 Sewage Service	43,000	460,600	484,300	6.1%	488,100	7.9%	492,100	496,100	500,200
3.5 Water Service	138,000	239,200	243,700	3.1%	246,600	4.0%	249,400	252,200	255,000
Subtotal Utility Costs	1,404,000	1,410,900	1,994,600	25.3%	2,018,600	32.6%	2,042,600	2,066,700	2,091,000
4 Chemicals	1,150,000	636,100	1,200,000	15.2%	1,212,000	19.6%	1,224,000	1,236,500	1,248,800
5 Supplies & Other	433,000	475,100	2,236,200	28.3%	1,225,200	19.8%	1,225,200	1,225,200	1,225,200
6 Contractual Services	116,200	162,700	250,000	3.2%	250,000	4.0%	250,000	250,000	250,000
8 Shared Services	-	-	(6,400)	-0.1%	(2,900)	0.0%	(2,900)	(2,900)	(2,900)
10 Capital Outlay	-	-	728,700	9.2%	-	0.0%	-	-	-

As noted on the Budget by Expense Category with Percentage Change from Prior Year table, Supplies & Other has the largest increase at 416.4% for FY 2018. This includes a onetime \$1 million charge for a project to clean the sewer tunnels at three of the CSOs. Utility costs have a 29.6% (\$590,600) increased forecast for FY 2018 due to the recognition of specific utilities as previously noted.



Wastewater Operating Services Area Financial Plan

Budget by Expense Category with Percentage Change from Prior Year

Cost Center & Description	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Combined Sewer Overflow	\$ 4,539,600	\$ 3,869,700	\$ 7,892,900	\$ 3,353,300	73.9%	\$ 6,197,900	\$ (1,695,000)	-21.5%	\$ 6,239,000	\$ 6,280,700	\$ 6,324,100
1.1 Salaries & Wages	1,006,500	504,000	951,100	(55,400)	-5.5%	951,200	100	0.0%	951,200	951,200	951,200
1.2 Overtime	-	394,600	130,000	130,000	100.0%	130,000	-	0.0%	130,000	130,000	130,000
1.3 Employee Benefits	429,900	286,300	319,600	(110,300)	-25.7%	324,700	5,100	1.6%	329,800	334,900	341,700
1.4 Personnel Transition Adjustment	-	n/a	n/a	-	n/a	n/a	-	n/a	n/a	n/a	n/a
2 Transition Services	-	n/a	89,100	89,100	100.0%	89,100	-	0.0%	89,100	89,100	89,100
Subtotal Personnel Costs	1,436,400	1,184,900	1,489,800	53,400	3.6%	1,495,000	5,200	0.3%	1,500,100	1,505,200	1,512,000
3.1 Electric	1,002,000	600,600	955,600	(46,400)	-4.6%	965,200	9,600	1.0%	974,700	984,200	993,800
3.2 Gas	221,000	110,500	311,000	90,000	40.7%	318,700	7,700	2.5%	326,400	334,200	342,000
3.4 Sewage Service	43,000	460,600	484,300	441,300	1026.3%	488,100	3,800	0.8%	492,100	496,100	500,200
3.5 Water Service	138,000	239,200	243,700	105,700	76.6%	246,600	2,900	1.2%	249,400	252,200	255,000
Subtotal Utility Costs	1,404,000	1,410,900	1,994,600	590,600	29.6%	2,018,600	24,000	1.2%	2,042,600	2,066,700	2,091,000
4 Chemicals	1,150,000	636,100	1,200,000	50,000	4.3%	1,212,000	12,000	1.0%	1,224,000	1,236,500	1,248,800
5 Supplies & Other	433,000	475,100	2,236,200	1,803,200	416.4%	1,225,200	(1,011,000)	-45.2%	1,225,200	1,225,200	1,225,200
6 Contractual Services	116,200	162,700	250,000	133,800	115.1%	250,000	-	0.0%	250,000	250,000	250,000
8 Shared Services	-	-	(6,400)	(6,400)	-100.0%	(2,900)	3,500	-54.7%	(2,900)	(2,900)	(2,900)
10 Capital Outlay	-	-	728,700	728,700	100.0%	n/a	(728,700)	-100.0%	n/a	n/a	n/a

Salaries & Wages - For FY 2018 and FY 2019 were designed to reflect the current increased reliance on contractual labor.

Overtime – This is based on current overtime actuals and projections based on current staffing.

Transitional Services – These costs are based on work orders for contractor work performed at the CSOs.

Utility Costs – Each utility is based on actual costs over the past 12 months by account at each facility. As previously noted these actual costs were reviewed for completeness and appropriate application to each facility. Some costs, as applied to the CSOs, are new and were previously not recognized.

Chemicals – This is forecast to remain at a steady state with a minor increase at the conclusion of the current contract for ferric chloride.

Supplies and Other - The largest component would be for repairs and maintenance at \$2.2 million in FY 2018. These costs are based on a defined list of objectives at each facility. As noted above this includes a onetime charge \$1 million for three facilities.

Contractual Services – This covers services such as Vactor Truck services provided under contract with Lakeshore Global Corporation. Additionally other significant services include crane inspections and HVAC maintenance.



Wastewater Operating Services Area Financial Plan

Capital Outlay (O&M) - For FY 2018 is comprised of identified equipment that is not part of a Capital improvement Program and was previously included in repairs and maintenance. For FY 2018 this cost is attributable to the CSOs.

- ✓ Overhaul of discharge gates at Puritan / Fenkell and 7 Mile facilities totals approximately \$400,000.
- ✓ Replacement of the fire alarm panels at the nine CSO facilities totals approximately \$96,000.
- ✓ Overhaul of pumps, mixers and bar screens total approximately \$170,000.

CSO - Budget by Facility as Percent of Total

CSO Facility	Current Year		Biennial Budget				Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Combined Sewer Overflow	\$ 4,539,600	\$ 3,869,700	\$ 7,892,900	100.00%	\$ 6,197,900	100.00%	\$ 6,239,000	\$ 6,280,700	\$ 6,324,100
CSO Common Costs	1,552,600	1,254,100	1,739,800	22.04%	1,745,000	28.15%	1,750,100	1,755,200	1,762,000
Puritan / Fenkell CSO	126,600	108,400	549,600	6.96%	182,700	2.95%	184,000	185,400	186,700
7 Mile CSO	55,600	70,000	285,000	3.61%	175,900	2.84%	177,300	178,800	180,200
Hubble / Southfield CSO	438,400	240,700	510,800	6.47%	504,800	8.14%	509,400	514,100	518,700
Leib CSO	175,000	102,000	595,800	7.55%	169,000	2.73%	169,800	170,700	171,600
St Aubin CSO	160,300	60,600	549,000	6.96%	179,900	2.90%	181,200	182,500	183,800
Conner Creek CSO	838,600	827,900	1,404,400	17.79%	1,406,300	22.69%	1,419,000	1,431,900	1,444,700
Baby Creek CSO	405,000	400,100	1,147,800	14.54%	781,200	12.60%	787,200	793,200	799,300
Oakwood CSO	681,900	737,700	946,700	11.99%	944,000	15.23%	951,900	959,700	967,800
Belle Isle CSO	105,600	68,200	164,000	2.08%	109,100	1.76%	109,100	109,200	109,300

CSO - Budget by Facility with Percentage Change from Prior Year

CSO Facility	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Combined Sewer Overflow	\$ 4,539,600	\$ 3,869,700	\$ 7,892,900	\$ 3,353,300	73.9%	\$ 6,197,900	\$ (1,695,000)	-21.5%	\$ 6,239,000	\$ 6,280,700	\$ 6,324,100
CSO Common Costs	1,552,600	1,254,100	1,739,800	187,200	12.1%	1,745,000	5,200	0.3%	1,750,100	1,755,200	1,762,000
Puritan / Fenkell CSO	126,600	108,400	549,600	423,000	334.1%	182,700	(366,900)	-66.8%	184,000	185,400	186,700
7 Mile CSO	55,600	70,000	285,000	229,400	412.6%	175,900	(109,100)	-38.3%	177,300	178,800	180,200
Hubble / Southfield CSO	438,400	240,700	510,800	72,400	16.5%	504,800	(6,000)	-1.2%	509,400	514,100	518,700
Leib CSO	175,000	102,000	595,800	420,800	240.5%	169,000	(426,800)	-71.6%	169,800	170,700	171,600
St Aubin CSO	160,300	60,600	549,000	388,700	242.5%	179,900	(369,100)	-67.2%	181,200	182,500	183,800
Conner Creek CSO	838,600	827,900	1,404,400	565,800	67.5%	1,406,300	1,900	0.1%	1,419,000	1,431,900	1,444,700
Baby Creek CSO	405,000	400,100	1,147,800	742,800	183.4%	781,200	(366,600)	-31.9%	787,200	793,200	799,300
Oakwood CSO	681,900	737,700	946,700	264,800	38.8%	944,000	(2,700)	-0.3%	951,900	959,700	967,800
Belle Isle CSO	105,600	68,200	164,000	58,400	55.3%	109,100	(54,900)	-33.5%	109,100	109,200	109,300



Wastewater Operating Services Area Financial Plan

Staffing Plan (EFTs)

Wastewater System Operations personnel expense is largely comprised of wastewater operations staffing of 312 positions or 72% of the total FY 2018 staffing from the table below. Industrial Waste Control is second highest with 56 positions or 13% for FY 2018 with similar percentages respectively for FY 2019 through FY 2022. The WRRF staffing plan target is agreed upon with the Michigan Department of Environmental Quality. Staff reliability increased during the current fiscal year through the addition of an Operations Director, a Maintenance and Engineering Director and 15 Team Leader positions.

The tables on the following page provide two alternate views of the staffing plan.

1. The table on the following page presents the number of positions in the plan. Each position has a value of one. The position count does not distinguish between a position that is filled 100% (2,080 hours per year), filled for a number of hours less than 2,080 per year, or one that is vacant.

Staffing Plan – Number of Positions

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Staffing Plan	FY 2018 Staffing Plan	FY 2019 Staffing Plan	FY 2020 Staffing Plan	FY 2021 Staffing Plan	FY 2022 Staffing Plan
Wastewater System Operations	477.00	436.00	436.00	436.00	436.00	436.00
Wastewater Director	4.00	18.00	18.00	18.00	18.00	18.00
Wastewater Engineering	33.00	32.00	32.00	32.00	32.00	32.00
Wastewater Operations	350.00	312.00	312.00	312.00	312.00	312.00
Industrial Waste Control	67.00	56.00	56.00	56.00	56.00	56.00
Combined Sewer Overflow Facilities	23.00	18.00	18.00	18.00	18.00	18.00



Wastewater Operating Services Area Financial Plan

2. The table below presents “full-time equivalent” (FTE) staffing. FTE is based on the number of hours that the position is filled, or budgeted for, in a given year based upon a standard of 2,080 hours per year.

Staffing Plan – Full-time Equivalents

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Approved FTE's	FY 2018 FTE's	FY 2019 FTE's	FY 2020 FTE's	FY 2021 FTE's	FY 2022 FTE's
Wastewater System Operations	460.80	432.50	436.00	436.00	436.00	436.00
Wastewater Director	4.00	18.00	18.00	18.00	18.00	18.00
Wastewater Engineering	34.00	32.00	32.00	32.00	32.00	32.00
Wastewater Operations	332.80	308.50	312.00	312.00	312.00	312.00
Industrial Waste Control	67.00	56.00	56.00	56.00	56.00	56.00
Combined Sewer Overflow Facilities	23.00	18.00	18.00	18.00	18.00	18.00



Planning Services Operating Area Financial Plan

The financial plan for the **Planning Services Area** consists of the five groups as listed below and presented on subsequent pages.

1. Asset Management & Capital Improvement Planning (CIP)
2. Systems Planning
3. Systems Analytics & Meter Operations
4. Energy Management
5. Research & Innovation

Planning Services

The Planning Services Area includes centralized services that encompasses the following groups:

- ✓ **Asset Management & Capital Improvement Planning:** Life cycle asset management using systematic and data driven tools
- ✓ **Systems Planning:** Customer outreach, master planning, and marketing
- ✓ **Systems Analytics & Meter Operations:** Meter operations and maintenance, data collection and analysis, and modeling
- ✓ **Energy Management:** Integrate sustainability, energy optimization, and energy reduction initiatives
- ✓ **Research & Innovation:** Identify and implement the latest advancements in managing water quality

FY 2018 & FY 2019 Initiatives

1. **Successfully Transition to a New Third-Party Customer Outreach Facilitator** (Regional Collaboration and Trustworthiness & Integrity)
 - Refresh partnering agreements with customers
 - Selection of new third-party facilitator
 - Overlapping of consultants will allow time for training and transition
2. **Advance the Energy Management Program** (High Quality through Innovation)
 - Complete an Investment Grade Audit of the Water Resource Recovery Facility (WRRF) through Energy Service Contracting
 - Increase employee awareness and solicit input on energy management projects
 - Install additional electric metering equipment to provide for tracking of energy consumption at a more granular level to provide a data platform from which energy optimization and reduction can be achieved
 - Install energy efficient light-emitting diode (LED) light fixtures throughout select water system facilities



Planning Services Operating Area Financial Plan

- Manage a pilot program at the Adams Road Pumping Station to use real-time asset intelligence software to optimize pumping strategies
- Participate as one of three participants in the State’s Wastewater Infrastructure Accelerator Program which is intended to accelerate a pathway toward sustainable infrastructure of the future

3. Water Units of Service, Metering Plan and Water Audits (Regional Collaboration and Trustworthiness & Integrity)

- Verify and/or redevelop annual volume, peak-hour and maximum day demands for non-master water metered customers
- Develop a long-term water metering plan
- Conduct a wholesale water meter audit
- Conduct a water audit of the system as a whole

4. Regional Wastewater Master Plan (Regional Collaboration and Trustworthiness & Integrity)

- Multi-year modeling and master planning effort
- Coordination of similar efforts being conducted by our customers
- Stakeholders to be involved include the Michigan Department of Environmental Quality (MDEQ), as well as local watershed councils

5. Advance the Research & Innovation Program Efforts (High Quality through Innovation)

- Work toward receiving the designation of Utility of the Future from the Water Research Environment Federation which involves implementing initiatives to increase sustainability, including nutrient and energy recovery
- Increase the number of research projects on the water and wastewater systems
- Actively participate in the Wastewater Master Planning project to add knowledge and ideas for the future of the WRRF

FY 2018 & FY 2019 Budget Summary

The mission of the Planning Services Area in its first years is to assess current procedures and systems to advance a robust planning function for the new regional authority. During FY 2017, leadership and key staff members in the areas of Asset Management, Energy Management, and Research & Innovation were hired. The Planning Services Area’s goals will be achieved through a series of projects. For this reason, contractual services is the largest category of expenses at \$15.3 million for FY 2017, \$21.9 million for FY 2018, and \$15.8 million for FY 2019. These services include the following.



Planning Services Operating Area Financial Plan

Asset Management & CIP and Systems Planning Groups' Projects

- ✓ **Water System CIP Program Management:** A three to four-year project currently under procurement to study the current operations and implement new software, processes, and procedures based on findings (\$4 million for FY 2017, \$4.4 million for FY 2018, and \$4.4 million for FY 2019).
- ✓ **Sewer System CIP Program Management:** A three to four-year project currently under procurement to study the current operations and implement new software, processes, and procedures based on findings (\$3.4 million for FY 2017, \$4.5 million for FY 2018, and \$3.5 million for FY 2019).
- ✓ **Wastewater Master Plan (WWMP):** A System Planning three-year project to update the WWMP, which is a projection of the sewer system's needs and long term Combined Sewer Overflow (CSO) Control Program and treatment process improvements for the next 40-50 years (This project has been finalized with CDM Smith Michigan Inc. at a total cost of \$8.3 million from FY 2017 into FY 2020).

Systems Analytics & Meter Operations Group Projects

- ✓ Sewage flow analysis and quality control to support sewer meter flow trend analysis and customer outreach support for the Wastewater Analytical Task Force CS-1543 (\$1.3 million for FY 2018, \$1.3 million for FY 2019, and \$1.3 million for FY 2020).
- ✓ Collection system monitoring and modeling program including meter leasing and maintenance, data collection, review and analysis, and outfall monitoring (\$2 million for FY 2019, \$2 million for FY 2020, and \$1 million for FY 2021).
- ✓ The Independent Financial and Engineering Analysis for [water] Units of Service project (CS-039) activities began in FY 2017. The anticipated costs are \$320,000 for FY 2017 and \$570,000 for FY 2018.

Energy Management Group Projects

- ✓ Water Resource Recovery Facility energy study; State of Michigan supported energy study over 12 to 18 months. Contract will be for three years at a cost of \$13,000 monthly. (\$78,000 for FY 2018, \$156,000 for FY 2019, and \$156,000 for FY 2020).

Given that the nature of these expenses supports the capital program, a significant portion of these expenses are allocable to capital program management allocation overhead as shown on the following page.



Planning Services Operating Area Financial Plan

Budget by Expense Category as Percent of Total

Expense Categories	Current Year		Biennial Budget				Forecast		
	FY 2017	FY 2017	FY 2018	FY 2018	FY 2019	FY 2019	FY 2020	FY 2021	FY 2022
	Adopted	Activity through March 31, 2017	Requested	% of Total	Requested	% of Total	Requested	Requested	Requested
Planning Services	\$ 8,376,500	\$ 3,370,500	\$ 13,371,000	100.0%	\$ 11,106,800	100.0%	\$ 11,882,200	\$ 10,741,500	\$ 9,338,200
1.1 Salaries & Wages	2,886,100	1,256,300	3,570,900	26.7%	3,921,300	35.3%	4,000,500	4,000,500	4,000,500
1.1 Salaries & Wages - Workforce Development	-	-	225,600	1.7%	225,600	2.0%	225,600	225,600	225,600
1.2 Overtime	80,000	65,700	122,700	0.9%	109,000	1.0%	109,000	109,000	109,000
1.3 Employee Benefits	952,100	484,800	1,232,600	9.2%	1,332,600	12.0%	1,410,500	1,427,600	1,448,000
1.4 Personnel Transition Adjustment	(587,000)	-	(483,400)	-3.6%	(390,900)	-3.5%	(309,200)	(306,600)	(304,000)
2 Transition Services	384,100	166,400	1,618,000	12.1%	1,372,900	12.4%	1,185,000	1,185,000	1,185,000
Subtotal Personnel Costs	3,715,300	1,973,200	6,286,400	47.0%	6,570,500	59.2%	6,621,400	6,641,100	6,664,100
3.1 Electric	195,000	164,300	202,800	1.5%	203,500	1.8%	209,600	215,800	222,300
5 Supplies & Other	414,900	234,800	642,900	4.8%	679,400	6.1%	629,200	694,300	645,400
6 Contractual Services	15,310,000	998,200	21,927,000	164.0%	15,788,500	142.2%	11,966,600	7,451,700	3,833,700
7 Capital Program Allocation	(11,258,700)	-	(15,538,400)	-116.2%	(11,971,700)	-107.8%	(7,333,800)	(4,107,400)	(1,830,300)
8 Shared Services	-	-	(440,900)	-3.3%	(441,000)	-4.0%	(441,100)	(441,300)	(441,400)
10 Capital Outlay	-	-	291,200	2.2%	277,600	2.5%	230,300	287,300	244,400

Budget by Expense Category with Percentage Change from Prior Year

Expense Categories	Current Year		Biennial Budget						Forecast		
	FY 2017	FY 2017	FY 2018	FY 2018	FY 2018	FY 2019	FY 2019	FY 2019	FY 2020	FY 2021	FY 2022
	Adopted	Activity through March 31, 2017	Requested	\$ Change	% Change	Requested	\$ Change	% Change	Requested	Requested	Requested
Planning Services	\$ 8,376,500	\$ 3,370,500	\$ 13,371,000	\$ 4,994,500	59.6%	\$ 11,106,800	\$ (2,264,200)	-16.9%	\$ 11,882,200	\$ 10,741,500	\$ 9,338,200
1.1 Salaries & Wages	2,886,100	1,256,300	3,570,900	684,800	23.7%	3,921,300	350,400	9.8%	4,000,500	4,000,500	4,000,500
1.1 Salaries & Wages - Workforce Development	-	-	225,600	225,600	n/a	225,600	-	0.0%	225,600	225,600	225,600
1.2 Overtime	80,000	65,700	122,700	42,700	53.4%	109,000	(13,700)	-11.2%	109,000	109,000	109,000
1.3 Employee Benefits	952,100	484,800	1,232,600	280,500	29.5%	1,332,600	100,000	8.1%	1,410,500	1,427,600	1,448,000
1.4 Personnel Transition Adjustment	(587,000)	-	(483,400)	103,600	-17.6%	(390,900)	92,500	-19.1%	(309,200)	(306,600)	(304,000)
2 Transition Services	384,100	166,400	1,618,000	1,233,900	321.2%	1,372,900	(245,100)	-15.1%	1,185,000	1,185,000	1,185,000
Subtotal Personnel Costs	3,715,300	1,973,200	6,286,400	2,571,100	69.2%	6,570,500	284,100	11.0%	6,621,400	6,641,100	6,664,100
3.1 Electric	195,000	164,300	202,800	7,800	4.0%	203,500	700	0.3%	209,600	215,800	222,300
5 Supplies & Other	414,900	234,800	642,900	228,000	55.0%	679,400	36,500	5.7%	629,200	694,300	645,400
6 Contractual Services	15,310,000	998,200	21,927,000	6,617,000	43.2%	15,788,500	(6,138,500)	-28.0%	11,966,600	7,451,700	3,833,700
7 Capital Program Allocation	(11,258,700)	-	(15,538,400)	(4,279,700)	38.0%	(11,971,700)	3,566,700	-23.0%	(7,333,800)	(4,107,400)	(1,830,300)
8 Shared Services	-	-	(440,900)	(440,900)	n/a	(441,000)	(100)	0.0%	(441,100)	(441,300)	(441,400)
10 Capital Outlay	-	-	291,200	291,200	n/a	277,600	(13,600)	-4.7%	230,300	287,300	244,400



Planning Services Operating Area Financial Plan

Salaries & Wages has increased although the position count has decreased in FY 2018; while the overall position count has decreased, the positions that are being added are at a higher level of expertise. As Planning Services has worked through its initial year of operation, they have assessed the needs of the operating area and adjusted their plan accordingly.

- ✓ During FY 2017 Asset Management & CIP adjusted their staffing plan by reducing their overall position count while increasing the level of the positions needed.
- ✓ Research & Innovation was created during FY 2017 under the Chief Planning Officer which added two positions. Of these two positions one is an internal transfer from Water Resource Recovery.
- ✓ For FY 2019 the increased cost is due to Asset Management & CIP and Systems Analytics & Meter Operations continuing to fill vacant positions. The Systems Analytics & Meter Operations increase is partially offset by reductions in Transition Services (noted below).

Salaries & Wages – Workforce Development is made up of the Electrical Instrumentation Control Technician - Instrument Technician (EICT-I) apprenticeship program through Focus Hope. This is recognized by the addition of six positions in the Systems Analytics & Meter Operations cost center. This program will start in the fourth quarter of FY 2017.

Transition Services has increased in Systems Analytics & Meter Operations as the reliance on contractors, specifically for Electrical Instrumentation Control Technicians and Field Service Technicians, continues. In FY 2017 six positions were planned to be filled by contract personnel. For FY 2018 this count is increased to eleven positions. For FY 2019 this count falls to nine positions as Systems Analytics & Meter Operations projects the filling of their vacant positions.

Supplies and Other increased \$228,000 in FY 2018 with an additional increase of \$36,500 for FY 2019. These increases took place in four areas.

- ✓ The primary increase came from an organizational membership with the Water Environment & Reuse Foundation for \$200,000. This is a new charge for the Planning Services Operating area.
- ✓ Second was the reclassification of the Water Research Foundation annual dues from the Water Operating Services to Research and Innovation under the Chief Planning Officer of \$96,000.
- ✓ Third is training costs for Planning Services which increased from \$15,000 in FY 2017 to \$41,000 in FY 2018. In FY 2019 training includes an additional \$60,000 which is the estimated cost for the second round of the apprenticeship program.
- ✓ The fourth area of increase is travel (related to training) which increased from \$55,000 in FY 2017 to \$98,000 in FY 2018. In FY 2019 the budget for travel is reduced to \$87,000.
- ✓ An offset to these increases is the reclassification of equipment replacement costs that had been budgeted to repairs & maintenance in FY 2017 but moved to the O&M Capital Outlay budget beginning in FY 2018.



Planning Services Operating Area Financial Plan

O&M Capital Outlay is new for 2018. This is comprised of equipment purchases previously budgeted as repairs for the various Planning Services Operating Areas.

- ✓ For FY 2018 and FY 2019 Systems Analytics & Meter Operations budgeted \$267,000 and \$232,000 respectively for equipment that had been budgeted in repairs & maintenance for FY 2017.
- ✓ Asset Management & CIP budgeted \$24,000 for FY 2018 and \$46,000 for FY 2019 for the buildout for their offices at the WRRF.

Budget by Cost Center as Percent of Total

Cost Center	Current Year		Biennial Budget				Forecast		
	FY 2017		FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
	FY 2017 Adopted	Activity through March 31, 2017							
Planning Services	\$ 8,376,500	\$ 3,370,500	\$ 13,371,000	100.0%	\$ 11,106,800	100.0%	\$ 11,882,200	\$ 10,741,500	\$ 9,338,200
4.1 Chief Planning Officer	293,900	310,300	1,446,000	10.8%	1,149,100	10.3%	1,000,300	1,001,500	1,003,100
4.2 System Planning	1,549,200	338,700	1,233,700	9.2%	1,108,600	10.0%	1,113,800	1,115,000	846,600
4.3 System Analytics	5,810,000	2,100,700	8,697,800	65.0%	7,213,400	64.9%	8,258,100	7,189,400	6,125,600
4.4 Asset Management & Capital Planning	215,400	455,500	1,832,400	13.7%	1,343,300	12.1%	1,308,300	1,311,800	1,317,000
4.5 Energy Management	508,000	165,300	161,100	1.2%	292,400	2.6%	201,700	123,800	45,900

Budget by Cost Center with Percentage Change from Prior Year

Cost Center	Current Year		Biennial Budget						Forecast		
	FY 2017		FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
	FY 2017 Adopted	Activity through March 31, 2017									
Planning Services	\$ 8,376,500	\$ 3,370,500	\$ 13,371,000	\$ 4,994,500	59.6%	\$ 11,106,800	\$ (2,264,200)	-16.9%	\$ 11,882,200	\$ 10,741,500	\$ 9,338,200
4.1 Chief Planning Officer	293,900	310,300	1,446,000	1,152,100	392.0%	1,149,100	(296,900)	-20.5%	1,000,300	1,001,500	1,003,100
4.2 System Planning	1,549,200	338,700	1,233,700	(315,500)	-20.4%	1,108,600	(125,100)	-10.1%	1,113,800	1,115,000	846,600
4.3 System Analytics	5,810,000	2,100,700	8,697,800	2,887,800	49.7%	7,213,400	(1,484,400)	-17.1%	8,258,100	7,189,400	6,125,600
4.4 Asset Management & Capital Planning	215,400	455,500	1,832,400	1,617,000	750.7%	1,343,300	(489,100)	-26.7%	1,308,300	1,311,800	1,317,000
4.5 Energy Management	508,000	165,300	161,100	(346,900)	-68.3%	292,400	131,300	81.5%	201,700	123,800	45,900



Planning Services Operating Area Financial Plan

Contractual Services increased \$6.6 million in FY 2018 and was reduced by \$6.1 million for FY 2019. The increase is made up of the following items.

- ✓ **Chief Planning Officer** cost center has four new projects budgeted for FY 2018.
 - Three of the projects are budgeted exclusively for FY 2018: (1) \$100,000 for an anaerobic digestion testing program with MSU; (2) \$100,000 for a research fellow for Research & Innovation; and (3) \$75,000 for lab analysis in support of a nutrient study.
 - \$150,000 was budgeted, for both FY 2018 and FY 2019, for university work projects.
- ✓ **Systems Planning** cost center has a reduction in Contractual Services for FY 2018 but an increase for FY 2019.
 - Project Innovations LLC plans to conclude their services during FY 2018. Project Innovations LLC was budgeted at \$800,000 for FY 2017; \$600,000 for FY 2018, and nothing for FY 2019.
 - With the departure of Project Innovations LLC, two new items have been added to the budget. Outreach program costs for facilities and meals are budgeted at \$36,000 for both FY 2018 and FY 2019. This effort is to be coordinated by the Systems Planning staff.
 - A new third party facilitator is budgeted at \$100,000 for FY 2018 (as Project Innovations transitions out) and \$300,000 for FY 2019.
 - The Wastewater Master Plan (CS-036 with CDM Smith Michigan Inc.) has a current budget of \$2.5 million for FY 2017. The forecast costs for FY 2017 is projected at \$970,000. It has been budgeted at \$4.8 million for FY 2018, \$2.3 million for FY 2019 and \$271,000 for FY 2020. This contract is expected to identify a number of long ranging capital projects that would incorporate these costs.
- ✓ **Asset Management & CIP** cost center's management of the Water CIP, Wastewater CIP, and Strategic Asset Management programs created the greatest increase. Requests for proposals for these three contracts are currently being written.
 - Water CIP management program budget was \$4 million in FY 2017. For FY 2018 and FY 2019 this budget was increased to \$4.4 million each.
 - Wastewater CIP management program increase was larger. For FY 2017, \$3.4 million was budgeted. In FY 2018 this was increased to \$4.5 million, however, the budget is reduced to \$3.5 million for FY 2019.
 - The Strategic Asset Management program consulting budget increased from \$250,000 for FY 2017 to \$1 million for FY 2018. This budget is reduced to \$500,000 for FY 2019.
 - The increases of the three projects above are offset by a corresponding increase in the non-personnel capital program adjustment.
 - In FY 2018, \$320,000 has been budgeted for Experis for the Work & Asset Management (WAM) program assistance and configuration. There is no budget for this service in FY 2019.



Planning Services Operating Area Financial Plan

- ✓ **Energy Management** cost center has a reduction in Contractual Services for FY 2018.
 - Two programs; (1) high ground feasibility studies and (2) battery energy storage for pump stations and CSO facilities; were originally budgeted in FY 2017 at \$100,000 each. These two programs have been moved to FY 2019 at a reduced cost of \$40,000 each.
 - An energy conservation program, with support from the State of Michigan, is scheduled to begin at the Water Resource Recovery Facility and Adams booster Station. This is a three-year program with Aquasite and is budgeted to start mid FY 2018. The program is budgeted at \$78,000 for FY 2018, \$156,000 for FY 2019, and \$156,000 for FY 2020. The program is scheduled to conclude in FY 2021 with a budget of \$78,000.
- ✓ **Systems Analytics & Meter Operations** cost center has the following projects under way;
 - Wade Trim (contract CS-1525) was added in FY 2018 for \$994,000 for Regulatory Compliance and Strategic Planning.
 - CS-1525 also included additional funds for Wade Trim for Westside Modelling of \$75,000 for FY 2018 and \$300,000 for FY 2019.
 - ASI (CS-1482) was increased from \$375,000 in FY 2017 to \$975,000 in FY 2018 due to additional work required for the Westside Modelling project.
 - ADS LLC (CS-082) was added for Meters for the Westside Modelling with a budget for FY 2018 of \$428,000 and \$63,000 for FY 2019.
 - The Units of Service study (CS-039) was \$200,000 for FY 2017 and \$570,000 for FY 2018. There is no further budget for CS-039 beyond FY 2018.
 - In FY 2019 an Eastside Modelling contract is planned to begin for \$768,000

Staffing Plan (FTEs)

The following tables provide two alternate views of the staffing plan.

The staffing plan (Table 1 on the following page) provides for a steady state of 68 positions. This change from FY 2017 is the result of the addition of two positions for Research & Innovation and six Electrical Instrumentation Control Technician-Instrument Technicians (EICT-I) positions in Systems Analytics & Meter Operations. The increase of the eight positions is offset by the reduction of eleven other positions throughout the group resulting in a net decrease of three positions.

Table 1 – The table on the following page presents the number of positions in the plan. Each position has a value of one. The position count does not distinguish between a position that is filled 100% (2,080 hours per year), filled for a number of hours less than 2,080 per year, or one that is vacant.



Planning Services Operating Area Financial Plan

Staffing Plan – Number of Positions

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Staffing Plan	FY 2018 Staffing Plan	FY 2019 Staffing Plan	FY 2020 Staffing Plan	FY 2021 Staffing Plan	FY 2022 Staffing Plan
Planning Services	71.00	68.00	68.00	68.00	68.00	68.00
Chief Planning Officer	3.00	5.00	5.00	5.00	5.00	5.00
Systems Analytics & Meter Operations	33.00	39.00	39.00	39.00	39.00	39.00
Energy Management	3.00	3.00	3.00	3.00	3.00	3.00
Systems Planning	8.00	4.00	4.00	4.00	4.00	4.00
Asset Management & CIP	24.00	17.00	17.00	17.00	17.00	17.00

The Full-Time Equivalent shows an increase of twenty-two FTEs from FY 2017 to FY 2019. This increase is in line with the staffing plan as vacant and partially filled positions begin to be filled with full-time staff.

Table 2 - The table below presents “full-time equivalent” (FTE) staffing. FTE is based on the number of hours that the position is filled, or budgeted for, in a given year based upon a standard of 2,080 hours per year.

Staffing Plan – Full-time Equivalents

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Approved FTE's	FY 2018 FTE's	FY 2019 FTE's	FY 2020 FTE's	FY 2021 FTE's	FY 2022 FTE's
Planning Services	45.25	63.50	67.00	67.00	67.00	67.00
Chief Planning Officer	2.00	4.50	4.50	4.50	4.50	4.50
Systems Analytics & Meter Operations	28.75	39.00	39.00	39.00	39.00	39.00
Energy Management	2.25	2.75	3.00	3.00	3.00	3.00
Systems Planning	2.00	3.25	4.00	4.00	4.00	4.00
Asset Management & CIP	10.25	14.00	16.50	16.50	16.50	16.50



Administrative & Compliance Services Operating Area Financial Plan

The financial plan for the **Administrative & Compliance Services Area** consists of the five groups as listed below and presented on subsequent pages.

1. Administrative & Compliance Services Overview
2. Enterprise Risk Management
3. Organizational Development
4. General Counsel
5. Information Technology

Administrative & Compliance Services Overview

The Administrative & Compliance Services Area includes the following groups.

- ✓ Office of the Chief Administrative & Compliance Officer
- ✓ Enterprise Risk Management
- ✓ Organizational Development
- ✓ General Counsel
- ✓ Information Technology

The Administrative Services Area provides the GLWA and its customers with outstanding people, processes and technology so that it may efficiently provide water supply and wastewater disposal services in compliance with applicable laws, standards and regulations.

Office of the Chief Administrative and Compliance Officer

The Office of the Chief Administrative and Compliance Officer provides support to the Board of Directors and CEO. The Office of the Chief Administrative and Compliance Officer provides coordinative services and administrative support to Enterprise Risk Management, Organizational Development, General Counsel Groups and Information Technology. In addition, the Office of the Chief Administrative and Compliance Officer, in coordination with the CEO, provides routine administrative support to the Authority's Information Technology, Security and Integrity, and communications groups.

The Office of the Chief Administrative and Compliance Officer works closely with the CEO and the Authority's Director of Special Projects on selected initiatives for the Authority.

The Office of the Chief Administrative and Compliance Officer works closely with the Authority's Security and Integrity Group on compliance related matters. Finally, the Chief Administrative and Compliance Officer is responsible for resolving Bid Protest Appeals filed pursuant to the GLWA's Procurement Policy.



Administrative & Compliance Services Operating Area Financial Plan

FY 2018 & FY 2019 Initiatives

Key initiatives for the Chief Administrative and Compliance Officer include the following:

1. The Office of the Chief Administrative and Compliance Officer will provide effective and timely support to the GLWA Board of Directors by ensuring that all meeting materials are delivered in a timely manner.
2. The Office of the Chief Administrative and Compliance Officer will support the CEO and Director of Special Projects on Authority initiatives related to fleet maintenance and lateral assets.

FY 2018 & 2019 Budget Summary

The largest category of expense is personnel costs at 95.8% of the total cost. As shown in the staffing plan on the following page, there is an increase of three positions.

Budget by Expense Category as Percent of Total

Expense Categories	Current Year		Biennial Budget				Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Chief Administrative Officer	\$ 156,900	\$ 274,400	\$ 654,300	100.0%	\$ 661,700	100.0%	\$ 663,700	\$ 665,700	\$ 668,200
1.1 Salaries & Wages	114,600	211,700	490,000	74.9%	490,000	74.1%	490,000	490,000	490,000
1.3 Employee Benefits	42,300	62,700	136,800	20.9%	143,700	21.7%	145,200	146,700	148,700
Subtotal Personnel Costs	156,900	274,400	626,800	95.8%	633,700	95.8%	635,200	636,700	638,700
5 Supplies & Other	-	-	27,500	4.2%	28,000	4.2%	28,500	29,000	29,500

The key changes between the FY 2017 and FY 2018 budgets are personnel costs and supplies & other. There is a plan to add three additional positions to this cost center in the first quarter of FY 2018. The three positions are a Government Relations Manager, a Special Projects Manager and a Chief Administrative Officer whose personnel cost in FY 2017 was budgeted solely in the General Counsel cost center. Previously the Chief Administrative Officer also served as the General Counsel causing the entire personnel costs for that position to be charged to that cost center at 100%.

The second change is tracking office supplies and training specifically for the Chief Administrative Officer. In the past these items were budgeted in the General Counsel cost center.



Administrative & Compliance Services Operating Area Financial Plan

Budget by Expense Category with Percentage Change from Prior Year

Expense Categories	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Chief Administrative Officer	\$ 156,900	\$ 274,400	\$ 654,300	\$ 497,400	317.0%	\$ 661,700	\$ 7,400	1.1%	\$ 663,700	\$ 665,700	\$ 668,200
1.1 Salaries & Wages	114,600	211,700	490,000	375,400	327.6%	490,000	-	0.0%	490,000	490,000	490,000
1.3 Employee Benefits	42,300	62,700	136,800	94,500	223.4%	143,700	6,900	5.0%	145,200	146,700	148,700
Subtotal Personnel Costs	156,900	274,400	626,800	469,900	299.5%	633,700	6,900	1.1%	635,200	636,700	638,700
5 Supplies & Other	-	-	27,500	27,500	0.0%	28,000	500	1.8%	28,500	29,000	29,500

Staffing Plan (FTEs)

The following tables provide two alternate views of the staffing plan.

1. The table below presents the number of positions in the plan. Each position has a value of one. The position count does not distinguish between a position that is filled 100% (2,080 hours per year), filled for a number of hours less than 2,080 per year, or one that is vacant.

Staffing Plan – Number of Positions

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Staffing Plan	FY 2018 Staffing Plan	FY 2019 Staffing Plan	FY 2020 Staffing Plan	FY 2021 Staffing Plan	FY 2022 Staffing Plan
Chief Administrative Officer	2.00	5.00	5.00	5.00	5.00	5.00
Chief Administrative Officer	2.00	5.00	5.00	5.00	5.00	5.00

2. The table below presents “full-time equivalent” (FTE) staffing. FTE is based on the number of hours that the position is filled, or budgeted for, in a given year based upon a standard of 2,080 hours per year.

Staffing Plan – Full-time Equivalents

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Approved FTE's	FY 2018 FTE's	FY 2019 FTE's	FY 2020 FTE's	FY 2021 FTE's	FY 2022 FTE's
Chief Administrative Officer	3.00	5.00	5.00	5.00	5.00	5.00
Chief Administrative Officer	3.00	5.00	5.00	5.00	5.00	5.00



Administrative & Compliance Services Operating Area Financial Plan

Enterprise Risk Management

The Enterprise Risk Management and Safety Group coordinates and provides risk analysis, risk avoidance, loss mitigation, and quality assurance services to the GLWA so that its employees may experience a safe and healthy work environment and its customers may experience communities served with and surrounded by clean environmentally compliant water.

FY 2018 & FY 2019 Initiatives

1. Initiate reasonable and appropriate loss control techniques (High Quality through Innovation)
2. Minimize harm to physical, human, fiscal and environmental resources (Trustworthiness & Integrity); and
3. Minimize the total cost of risk to the organization (Trustworthiness & Integrity)
 - FY 2018 - Establish Total Cost of Risk (TCOR) calculation.
 - FY 2018 & FY 2019 - Build out risk management organization structure including support to the Risk Management Committee.

FY 2018 & 2019 Budget Summary

The largest category of expense is contractual services at 88.5% of the total cost. This reflects realignment of two major contract expenses from other budget categories for improved vendor management. The first is the SOMAT Engineering Contract (CS-1513) for environmental health & safety compliance services in the amount of \$1.0 million. In FY 2017 this contract was in the Organizational Development Budget. The second is the HAZMAT Support Services from the City of Detroit Fire Department with an annual estimated cost of \$1.3 million based upon biweekly charges of approximately \$50,000. This contract was previously budgeted in Wastewater Operations. The transfer of the contract to Enterprise Risk Management will continue the intergovernmental partnership.

Budget by Expense Category as Percent of Total

Expense Categories	Current Year		Biennial Budget				Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Enterprise Risk Management	\$ 3,994,100	\$ 975,600	\$ 3,730,700	100.0%	\$ 4,030,600	100.0%	\$ 4,033,300	\$ 4,035,900	\$ 4,039,200
1.1 Salaries & Wages	592,800	243,000	333,000	8.9%	592,800	14.7%	592,800	592,800	592,800
1.2 Overtime	20,000	700	-	0.0%	-	0.0%	-	-	-
1.3 Employee Benefits	193,200	-	103,100	2.8%	195,500	4.9%	197,900	200,300	203,500
Subtotal Personnel Costs	806,000	243,700	436,100	11.7%	788,300	19.6%	790,700	793,100	796,300
5 Supplies & Other	23,500	4,000	60,000	1.6%	60,600	1.5%	61,200	61,800	62,400
6 Contractual Services	3,164,600	727,900	3,300,000	88.5%	3,300,000	81.9%	3,300,000	3,300,000	3,300,000
7 Capital Program Allocation	-	-	(65,400)	-1.8%	(118,300)	-2.9%	(118,600)	(119,000)	(119,500)



Administrative & Compliance Services Operating Area Financial Plan

The main variance between budget FY 2017 and FY 2018 is the personnel costs. This is due to the conscience decision to hold four positions open while the staffing plan was being evaluated. These four positions (one Professional Administrative Analyst and three Environmental Health & Safety (EHS) Coordinators) are budgeted to be filled in the first quarter of FY 2019. Supplies & Other are budgeted to increase in FY 2018 and beyond for equipment calibrations, training, and travel in order to meet the initiatives set by this group.

Budget by Expense Category with Percentage Change from Prior Year

Expense Categories	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Enterprise Risk Management	\$ 3,994,100	\$ 975,600	\$ 3,730,700	\$ (263,400)	-6.6%	\$ 4,030,600	\$ 299,900	8.0%	\$ 4,033,300	\$ 4,035,900	\$ 4,039,200
1.1 Salaries & Wages	592,800	243,000	333,000	(259,800)	-43.8%	592,800	259,800	78.0%	592,800	592,800	592,800
1.2 Overtime	20,000	700	-	(20,000)	-100.0%	-	-	0.0%	-	-	-
1.3 Employee Benefits	193,200	-	103,100	(90,100)	-46.6%	195,500	92,400	89.6%	197,900	200,300	203,500
Subtotal Personnel Costs	806,000	243,700	436,100	(369,900)	-45.9%	788,300	352,200	80.8%	790,700	793,100	796,300
5 Supplies & Other	23,500	4,000	60,000	36,500	155.3%	60,600	600	1.0%	61,200	61,800	62,400
6 Contractual Services	3,164,600	727,900	3,300,000	135,400	4.3%	3,300,000	-	0.0%	3,300,000	3,300,000	3,300,000
7 Capital Program Allocation	-	-	(65,400)	(65,400)	0.0%	(118,300)	(52,900)	80.9%	(118,600)	(119,000)	(119,500)

Staffing Plan

As shown by FY 2017, the staffing model for this cost center provides for 8 FTEs. For FY 2018, the staffing plan is 4 FTEs to accommodate mid- to late- fiscal year recruitment for vacant positions.

The following tables provide two alternate views of the staffing plan.

1. The table below presents the number of positions in the plan. Each position has a value of one. The position count does not distinguish between a position that is filled 100% (2,080 hours per year), filled for a number of hours less than 2,080 per year, or one that is vacant.

Staffing Plan – Number of Positions

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Staffing Plan	FY 2018 Staffing Plan	FY 2019 Staffing Plan	FY 2020 Staffing Plan	FY 2021 Staffing Plan	FY 2022 Staffing Plan
Enterprise Risk Management	8.00	4.00	8.00	8.00	8.00	8.00
Enterprise Risk Management	8.00	4.00	8.00	8.00	8.00	8.00



Administrative & Compliance Services Operating Area Financial Plan

2. The table below presents “full-time equivalent” (FTE) staffing. FTE is based on the number of hours that the position is filled, or budgeted for, in a given year based upon a standard of 2,080 hours per year.

Staffing Plan – Full-time Equivalents

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Approved FTE's	FY 2018 FTE's	FY 2019 FTE's	FY 2020 FTE's	FY 2021 FTE's	FY 2022 FTE's
Enterprise Risk Management	8.00	4.00	8.00	8.00	8.00	8.00
Enterprise Risk Management	8.00	4.00	8.00	8.00	8.00	8.00

Organizational Development

The Organizational Development Group provides recruitment, retention, training, workplace policies, assistance, guidance, benefit coordination, and quality assurance services to the GLWA and its employees. This enables employees to develop and optimize their talent and the deployment of their talent within the organization to support a motivated integrated workforce team that efficiently delivers quality, compliant water services to GLWA customers.

FY 2018 & FY 2019 initiatives

1. **Negotiate model contract with collective bargaining units as their current agreements expire** (Trustworthiness & Integrity)
 - Negotiations are ongoing. The market for skilled trades (BTC-Build & Trade Council) has changed; working on a strategy to reach an agreement.
2. **Resolve outstanding labor issues with all collective bargaining groups** (Trustworthiness & Integrity)
 - Significantly less grievances filed.
 - We anticipate resuming Labor Management meetings in March.
3. **Develop training and apprenticeship programs, with input from the unions, in accordance with 2015 mediation orders** (Trustworthiness & Integrity)
 - The Apprenticeship development is on track. We will have a presentation for the Executive Leadership Team (ELT) on Tuesday, January 17th. Training and development course offerings continue to grow. Technical classes are now offered by the Michigan Water Environment Association (MWEA) and Safety courses are regularly offered to new employees.



Administrative & Compliance Services Operating Area Financial Plan

4. **Continue development and dissemination of Information Bites for the GLWA staff which include optimization updates** (Trustworthiness & Integrity)
 - We will continue with the Info Bites in partnership with Public Affairs. In addition we are planning tear off Info Bites to be located at Plant time clocks.
5. **Continue development and implementation of comprehensive training programs for all levels of leadership, as well as other staff, to ensure the GLWA employees are fully aware of, and competent in, performing their assigned responsibilities and involved in additional learning opportunities** (Trustworthiness & Integrity)
 - We have completed the Hungry Leadership series and plan deep dives into the topic areas for discussion at our Quarterly leadership team meetings and at Team Leaders’ meetings.
6. **Create a public industry presence through active participation in state, regional, national and international professional organizations** (Regional Collaboration)
 - We participate in Operator’s Day and plan to participate in the local Society for Human Resource Management (SHRM) conferences this spring

FY 2018 & 2019 Budget Summary

The largest category of expense is personnel costs at 67.2% for FY 2018 and FY 2019. The key change is the launch of the new Electrical Instrumentation Control Technician – Instrument Technician (EICT-I) Apprenticeship and Training program through Focus Hope. Three positions will be added: A Manager and an Office Support Specialist will be added to support EICT-I and another Manager will be added to support the Training Program. The EICT-I Apprenticeship program will span a two-year period and will be partially funded with a \$320,000 grant from Focus Hope. The investment in this program will enable the GLWA to develop a workforce for positions which have been challenging to recruit and fill. In addition, four staff positions will be added to support labor management relations as well as new GLWA Organizational Development Cost Center needs. These four positions are a Human Resources Generalist to support the labor relations, a Public Affairs Specialist, a Professional Administrative Analyst, and an Office Support Specialist.



Administrative & Compliance Services Operating Area Financial Plan

Budget by Expense Category as Percent of Total

Expense Categories	Current Year		Biennial Budget				Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Organizational Development	\$ 3,229,500	\$ 1,409,000	\$ 4,131,200	100.0%	\$ 4,139,600	100.0%	\$ 4,148,000	\$ 4,156,400	\$ 4,167,600
1.1 Salaries & Wages	1,527,300	908,500	2,097,000	50.8%	2,097,000	50.7%	2,097,000	2,097,000	2,097,000
1.2 Overtime	1,000	2,400	-	0.0%	-	0.0%	-	-	-
1.3 Employee Benefits	501,900	311,400	679,900	16.5%	688,300	16.6%	696,700	705,100	716,300
1.4 Personnel Transition Adjustmer	(133,000)	-	-	0.0%	-	0.0%	-	-	-
Subtotal Personnel Costs	1,897,200	1,222,300	2,776,900	67.2%	2,785,300	67.3%	2,793,700	2,802,100	2,813,300
5 Supplies & Other	22,500	32,000	81,000	2.0%	81,000	2.0%	81,000	81,000	81,000
6 Contractual Services	1,309,800	154,700	1,273,300	30.8%	1,273,300	30.8%	1,273,300	1,273,300	1,273,300

The key change between the FY 2017 and FY 2018 budgets is Supplies & Other which is budgeted to increase 260% in FY 2018 to support the new programs with advertising (\$25,000), office supplies (\$10,000), printing (\$10,000), and tuition refund (\$10,000).

The Contractual Services budget provides for a training program in conjunction with a third party (\$190,000) and the costs of consulting services for GLWA's health and benefits program (\$125,000).

Budget by Expense Category with Percentage Change from Prior Year

Expense Categories	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Organizational Development	\$ 3,229,500	\$ 1,409,000	\$ 4,131,200	\$ 901,700	27.9%	\$ 4,139,600	\$ 8,400	0.2%	\$ 4,148,000	\$ 4,156,400	\$ 4,167,600
1.1 Salaries & Wages	1,527,300	908,500	2,097,000	569,700	37.3%	2,097,000	-	0.0%	2,097,000	2,097,000	2,097,000
1.2 Overtime	1,000	2,400	-	(1,000)	-100.0%	-	-	0.0%	-	-	-
1.3 Employee Benefits	501,900	311,400	679,900	178,000	35.5%	688,300	8,400	1.2%	696,700	705,100	716,300
1.4 Personnel Transition Adjustmer	(133,000)	-	-	133,000	-100.0%	-	-	0.0%	-	-	-
Subtotal Personnel Costs	1,897,200	1,222,300	2,776,900	879,700	46.4%	2,785,300	8,400	0.3%	2,793,700	2,802,100	2,813,300
5 Supplies & Other	22,500	32,000	81,000	58,500	260.0%	81,000	-	0.0%	81,000	81,000	81,000
6 Contractual Services	1,309,800	154,700	1,273,300	(36,500)	-2.8%	1,273,300	-	0.0%	1,273,300	1,273,300	1,273,300



Administrative & Compliance Services Operating Area Financial Plan

Staffing Plan

The staffing model for this cost center increases by seven positions in FY 2018. To support the apprenticeship program, the staffing model includes one new manager position and one new office support specialist. To support the increased demand for internal training programs, one training manager position is requested. Also, one professional administrative analyst position and one human resources generalist position is being added to support labor management relations. The addition of one Public Affairs Specialist and one office support specialist plan to be added to help meet the needs of the new GLWA Organizational Development group.

The following tables provide two alternate views of the staffing plan.

1. The table below presents the number of positions in the plan. Each position has a value of one. The position count does not distinguish between a position that is filled 100% (2,080 hours per year), filled for a number of hours less than 2,080 per year, or one that is vacant.

Staffing Plan – Number of Positions

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Staffing Plan	FY 2018 Staffing Plan	FY 2019 Staffing Plan	FY 2020 Staffing Plan	FY 2021 Staffing Plan	FY 2022 Staffing Plan
Organizational Development	21.00	28.00	28.00	28.00	28.00	28.00
Organizational Development	21.00	28.00	28.00	28.00	28.00	28.00

2. The table below presents “full-time equivalent” (FTE) staffing. FTE is based on the number of hours that the position is filled, or budgeted for, in a given year based upon a standard of 2,080 hours per year.

Staffing Plan – Full-time Equivalents

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Approved FTE's	FY 2018 FTE's	FY 2019 FTE's	FY 2020 FTE's	FY 2021 FTE's	FY 2022 FTE's
Organizational Development	21.00	28.00	28.00	28.00	28.00	28.00
Organizational Development	21.00	28.00	28.00	28.00	28.00	28.00



Administrative & Compliance Services Operating Area Financial Plan

General Counsel

The General Counsel Group provides legal representation, strategic guidance, counseling, advice, and support to the Great Lakes Water Authority so that it may make sound decisions and use appropriate legal processes to better provide its customers with quality compliant water services.

FY 2018 & FY 2019 Initiatives

- 1. Provide transitional support to Detroit Water and Sewerage Department (DWSD) pursuant to the Shared Services Agreement (Regional Collaboration)**
 - FY 2018: Develop protocols for evaluation of easement and encroachment requests
 - FY 2019: Develop property database available to GLWA and DWSD
- 2. Develop GLWA templates (for professional, legal, Information Technology (IT), and personal services contracts and amendments) that modernize the contractual relationship with our vendors (High Quality through Innovation)**
 - FY 2018: 100% of vendors on GLWA form of contract
 - FY 2019: 100% of GLWA contract templates completed and piloted, including Engineers Joint Contract Documents Committee (EJCDC) documents and training provided on templates
- 3. Work collaboratively with GLWA customers to establish GLWA model wholesale customer contracts for water and sewer customers (Regional Collaboration)**
 - FY 2018: Contract templates drafted and approved by GLWA Board
 - FY 2019: Successfully support negotiations resulting in at least one existing and one new customer utilizing revised GLWA contract to receive water or sewer services from GLWA.
- 4. Implement matter management solution to support GLWA legal activities (High Quality through Innovation)**
 - FY 2018: Identify solution
 - FY 2019: Integrate solution with GLWA ERP (if available)
- 5. Negotiate National Pollutant Discharge Elimination System (NPDES) permit revisions that balance GLWA customers' needs for affordable service and need to maintain environmental quality within the communities we serve (Trustworthiness and Integrity)**
 - FY 2018: Conduct negotiation
 - FY 2019: Complete permit negotiations with revised permit recognizing the role of green infrastructure as an affordable supplement to the Combined Sewer Overflow (CSO) system



Administrative & Compliance Services Operating Area Financial Plan

6. Utilize technology and other available resources to improve administration of Family and Medical Leave Act (FMLA)

(High Quality through Innovation)

- FY 2018 & FY 2019: Establish at least one year base-line data and industry experience benchmarks
- FY 2019 & FY 2020: Improved alignment between GLWA experience and industry norms

FY 2018 & 2019 Budget Summary

The largest category of expense in General Counsel is contractual services at 136.3% for FY 2018 and 146.5% for FY 2019. This includes outside counsel for a wide range of matters including, expert witnesses, environmental, labor, contract review, land matters, non-transactional bond counsel, and other matters. This budget also provides for reimbursement of GLWA staff and legal vendors pursuant to the shared services agreement with DWSD.

Budget by Expense Category as Percent of Total

Expense Categories	Current Year		Biennial Budget				Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
General Counsel	\$ 3,540,700	\$ 1,525,100	\$ 3,074,800	100.0%	\$ 2,392,600	100.0%	\$ 1,983,400	\$ 1,445,200	\$ 1,297,600
1.1 Salaries & Wages	489,300	249,500	566,700	18.4%	566,700	23.7%	566,700	566,700	566,700
1.3 Employee Benefits	142,100	81,500	166,800	5.4%	168,600	7.0%	170,400	172,200	174,600
Subtotal Personnel Costs	631,400	331,000	733,500	23.9%	735,300	30.7%	737,100	738,900	741,300
5 Supplies & Other	139,500	7,400	110,400	3.6%	110,400	4.6%	110,400	110,400	110,400
6 Contractual Services	4,465,400	1,189,400	4,190,000	136.3%	3,506,000	146.5%	3,095,000	2,555,000	2,405,000
8 Shared Services	(1,695,600)	(2,700)	(1,959,100)	-63.7%	(1,959,100)	-81.9%	(1,959,100)	(1,959,100)	(1,959,100)

One of the key changes between the FY 2017 and FY 2018 budgets is personnel costs. In first quarter FY 2018, the open Associate General Counsel position is planned to be filled. The review of the budget for Supplies & Other resulted in a decrease of \$29,100 in FY 2018 primarily in the area of conferences/seminars. In FY 2018 the Wade Trim Associates (\$650,000) contract will end and is not budgeted to be renewed. This will decrease the Contractual Services expenses in FY 2019 by 16.3%.



Administrative & Compliance Services Operating Area Financial Plan

Budget by Expense Category with Percentage Change from Prior Year

Expense Categories	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
General Counsel	\$ 3,540,700	\$ 1,525,100	\$ 3,074,800	\$ (465,900)	-13.2%	\$ 2,392,600	\$ (682,200)	-22.2%	\$ 1,983,400	\$ 1,445,200	\$ 1,297,600
1.1 Salaries & Wages	489,300	249,500	566,700	77,400	15.8%	566,700	-	0.0%	566,700	566,700	566,700
1.3 Employee Benefits	142,100	81,500	166,800	24,700	17.4%	168,600	1,800	1.1%	170,400	172,200	174,600
Subtotal Personnel Costs	631,400	331,000	733,500	102,100	16.2%	735,300	1,800	0.2%	737,100	738,900	741,300
5 Supplies & Other	139,500	7,400	110,400	(29,100)	-20.9%	110,400	-	0.0%	110,400	110,400	110,400
6 Contractual Services	4,465,400	1,189,400	4,190,000	(275,400)	-6.2%	3,506,000	(684,000)	-16.3%	3,095,000	2,555,000	2,405,000
8 Shared Services	(1,695,600)	(2,700)	(1,959,100)	(263,500)	15.5%	(1,959,100)	-	0.0%	(1,959,100)	(1,959,100)	(1,959,100)

Staffing Plan

The following tables provide two alternate views of the staffing plan.

1. The table below presents the number of positions in the plan. Each position has a value of one. The position count does not distinguish between a position that is filled 100% (2,080 hours per year), filled for a number of hours less than 2,080 per year, or one that is vacant.

Staffing Plan – Number of Positions

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Staffing Plan	FY 2018 Staffing Plan	FY 2019 Staffing Plan	FY 2020 Staffing Plan	FY 2021 Staffing Plan	FY 2022 Staffing Plan
General Counsel	6.00	6.00	6.00	6.00	6.00	6.00
General Counsel	6.00	6.00	6.00	6.00	6.00	6.00

2. The table below presents “full-time equivalent” (FTE) staffing. FTE is based on the number of hours that the position is filled, or budgeted for, in a given year based upon a standard of 2,080 hours per year.

Staffing Plan – Full-time Equivalents

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Approved FTE's	FY 2018 FTE's	FY 2019 FTE's	FY 2020 FTE's	FY 2021 FTE's	FY 2022 FTE's
General Counsel	4.00	6.00	6.00	6.00	6.00	6.00
General Counsel	4.00	6.00	6.00	6.00	6.00	6.00



Administrative & Compliance Services Operating Area Financial Plan

Information Technology

The Information Technology Group's purpose is to support GLWA's three pillars of Regional Collaboration, High Quality and Innovation, and Trustworthy/Integrity. We do this by providing effective, secure, and reliable technology to the organization. The technology systems and services that the Information Technology Group provides enable our employees to efficiently perform their work and enable transparency for our customers.

Technology systems provided by the IT Group include core infrastructure systems, including e-mail, phones, and the virtualized server environment; enterprise systems like the geographical information system (GIS), business intelligence and document management, and line of business systems like Work Order and Asset Management (WAM), Laboratory Information System (LIMS), and Pre-treatment Information System (PIMS).

Technology services offered by the IT Group include production support; printing; project management; business and system planning; business process development; organizational change management; and information flow optimization.

FY 2018 & FY 2019 Initiatives

1. Improve Customer Engagement (Regional Collaboration and Trustworthiness & Integrity)

- Redesign GLWA website and bring the Outreach Portal in-house
- Expand GovDelivery to facilitate external and internal communications
- Enable customer billing portal online for invoice and history viewing
- Differentiate Intranet content between GLWA and DWSD
- Implement eLearning portal for employees
- Introduce customer-facing podcasts

2. Business Intelligence Tools and Dashboard (Regional Collaboration, High Quality through Innovation, and Trustworthiness & Integrity)

- Implement new software tools and dashboards to provide insights into our operations for performance tracking
- Collaborate with internal business groups to use newly available information to identify cost savings and opportunities for process improvements
- Create dashboards for internal areas and external audiences

3. Continue implementation, enhancement and stabilization of enterprise/business systems (High Quality through Innovation)

- Continue to improve BS&A and Ceridian and integrate with other systems
- Improve data integrity and functionality of GIS to deliver more self-service capabilities throughout the organization
- Retire and replace legacy systems (LIMS, PIMS, etc.)



Administrative & Compliance Services Operating Area Financial Plan

- Fully implement On Base as a basis for Enterprise Content Management
 - Upgrade SharePoint and implement GLWA-only portal in the Cloud
 - Implement solutions to automate manual processes and meet newly identified business needs (Matter Management, Contract Management, etc.)
4. **Automate and expand information security and disaster recovery environment** (Regional Collaboration and Trustworthiness & Integrity)
- Expand workstation hard drive encryption and encrypt data in motion
 - Participate in multi-jurisdictional Cyber Security training and exercises
 - Create, document and exercise Cyber Security and Business Continuity response plans
 - Continue working with the Security and Compliance group to expand and improve network and physical security capabilities for GLWA
5. **Continue implementation, enhancement and stabilization of core infrastructure systems** (High Quality through Innovation and Trustworthiness & Integrity)
- Implement Disaster Recovery Managed Services to ensure critical system availability
 - Install and configure Voice over IP (VoIP) to replace obsolete phone systems and enable modern functionality
 - Create and execute infrastructure bifurcation plan, including rightsizing data center capacity, accommodating long term storage needs, and separating licensing
 - Follow Cloud First strategy to improve GLWA flexibility and responsiveness
 - Collaborate with operations on process network standards and security
6. **Continue to develop and enhance IT standards, policies, and processes based on industry and technology best practices** (High Quality through Innovation and Trustworthiness & Integrity)
- Expand Project Management Office to facilitate project portfolio planning, prioritization, and project execution
 - Establish and implement IT Governance framework to ensure strategic business alignment, reduce business risk, and enable efficient resource allocation
 - In concert with Organizational Development, ensure that employees receive all necessary technical training to effectively perform their job functions
 - Update and standardize legacy IT policies and create new policies where needed
 - Improve cybersecurity position through appropriate technology investment and better coordination with internal, local, regional, and national units of government and law enforcement agencies



Administrative & Compliance Services Operating Area Financial Plan

FY 2018 & FY 2019 Budget Summary

The Information Technology Group budget contains most IT-related costs throughout the GLWA. This includes IT staffing, software licensing services, fees for cloud based solutions, hardware and software maintenance, contracted services and project management for the deployment of upgraded and new technology. The largest expense category is Telecom, Managed Security & Network Services, due to an annual contract with AT&T who owns, operates, updates, and maintains the wide area network, local area network, phone services, Internet, and managed network security.

The IT budget is allocated among seven groups as shown in the table on the following page. These groups include: Chief Information Officer, Administration, Business Applications, Enterprise Applications, Infrastructure, Service Desk and Security & Risk. Of those groups, Infrastructure has the largest budget at approximate \$15.8 million or 56.1% of the total Information Technology budget.

The three most significant areas in the Information Technology budget are:

1. Contract with AT&T for wide area network (WAN), local area network (LAN), managed network and security services, phone services, and Internet services at approximately \$12 Million per year
2. Capital outlay for items previously budgeted in the Capital Improvement Plan (CIP) Fund which are now budgeted in the Operations and Maintenance (O&M) Fund. The total O&M capital outlay for this cost center is approximately \$5.9 million. O&M capital outlay items include:
 - Replication software for backup and recovery \$750,000
 - Network video recorder system replacement \$465,000
 - SQL licenses \$374,000
 - Contract for low voltage wiring \$1.5 million throughout all GLWA locations
3. Shared Services Reimbursement from DWSD of approximately \$9.5 million



Administrative & Compliance Services Operating Area Financial Plan

Budget by Cost Center as Percent of Total

Cost Center	Current Year		Biennial Budget				Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Information Technology	\$ 7,289,000	\$ 19,666,300	\$ 28,135,200	100.0%	\$ 27,833,400	100.0%	\$ 27,995,800	\$ 27,729,800	\$ 27,674,200
6.1 Chief Information Officer	3,914,200	1,871,700	635,300	2.3%	645,900	2.3%	633,900	640,200	646,900
6.2 Administration	142,600	272,200	1,007,000	3.6%	1,162,100	4.2%	1,164,500	1,136,900	1,170,200
6.3 Business Applications	1,879,000	1,271,400	5,205,100	18.5%	4,782,600	17.2%	4,816,600	4,851,800	4,904,300
6.4 Enterprise Applications	547,100	1,096,900	2,032,100	7.2%	1,748,000	6.3%	1,818,100	1,778,300	1,849,900
6.5 Infrastructure	452,200	11,977,500	15,794,800	56.1%	15,758,300	56.6%	15,800,300	15,509,300	15,262,000
6.6 Service Desk	353,900	1,467,100	3,177,700	11.3%	3,202,900	11.5%	3,228,400	3,278,800	3,305,800
6.7 Security & Risk	-	1,709,500	283,200	1.0%	533,600	1.9%	534,000	534,500	535,100

Total personnel costs are 26.4% of the total budget; contractual services are 64.3% comprised of the items on the prior page. The Information Technology Business Applications and Enterprise Applications teams engage third party support vendors and staff augmentation firms. Most notably this includes a contract with HP Enterprise Services LLC for support of Oracle Work & Asset Management (WAM) at an annual estimated cost of \$3 million.

Budget by Expense Category as Percent of Total

Expense Categories	Current Year		Biennial Budget				Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Information Technology	\$ 7,289,000	\$ 19,666,300	\$ 28,135,200	100.0%	\$ 27,833,400	100.0%	\$ 27,995,800	\$ 27,729,800	\$ 27,674,200
1.1 Salaries & Wages	3,178,500	2,506,200	4,928,100	17.5%	4,928,100	17.7%	4,928,100	4,928,100	4,928,100
1.2 Overtime	-	200	-	0.0%	-	0.0%	-	-	-
1.3 Employee Benefits	1,036,700	877,800	1,543,100	5.5%	1,564,000	5.6%	1,582,400	1,600,700	1,625,100
1.4 Personnel Transition Adjustment	(240,000)	-	(106,100)	-0.4%	(106,100)	-0.4%	(106,100)	(106,100)	(106,100)
2 Transition Services	2,192,800	215,600	1,069,800	3.8%	1,219,800	4.4%	1,219,800	1,219,800	1,219,800
Subtotal Personnel Costs	6,168,000	3,599,800	7,434,900	26.4%	7,605,800	27.3%	7,624,200	7,642,500	7,666,900
5 Supplies & Other	2,846,000	2,579,700	6,240,500	22.2%	5,767,200	20.7%	5,806,800	5,244,300	5,284,600
6 Contractual Services	7,383,700	13,842,300	18,092,300	64.3%	17,772,600	63.9%	17,828,200	17,793,200	17,884,300
7 Capital Program Allocation	(4,336,400)	11,200	-	0.0%	-	0.0%	-	-	-
8 Shared Services	(4,772,300)	(366,700)	(9,539,000)	-33.9%	(9,538,900)	-34.3%	(9,536,000)	(9,569,000)	(9,538,900)
10 Capital Outlay	-	-	5,906,500	21.0%	6,226,700	22.4%	6,272,600	6,618,800	6,377,300



Administrative & Compliance Services Operating Area Financial Plan

The key changes between the FY 2017 and FY 2018 budgets are contractual services and capital outlay. The contractual services is budgeted to increase 145% in FY 2018 due to the \$12 million per year contract with AT&T for wide area network (WAN), local area network (LAN), managed network and security services, phone services, and Internet services.

Beginning in FY 2018, the budget for items with a short useful life (less than 20 years), such as licenses, desktop computers, low voltage wiring and software, are being categorized as Capital Outlay instead of being part of the CIP (Capital Improvement Plan) budget. This will allow for more effective use of financial resources.

One of the notable changes between the FY 2017 and FY 2018 budgets is personnel costs. In FY 2017 there were twelve open positions that were planned but not expected to be filled until the end of fourth quarter FY 2017 or first quarter of FY 2018. These positions consist of five Application Analysts positions to support BS&A, Business Intelligence, Human Resource Payroll System and Work & Asset Management (WAM). In addition, there is one GIS Team Lead and one Database Administrator who will support the Business Applications and Enterprise Applications cost centers. Rounding out the twelve open positions is one Project Manager and four Infrastructure Administrators to support the Administration and Infrastructure cost centers. In first quarter of FY 2018 five additional positions plan to be added: Two project Managers, two Infrastructure Administrators, and one Security Analyst.

Budget by Expense Category with Percentage Change from Prior Year

Expense Categories	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Information Technology	\$ 7,289,000	\$ 19,666,300	\$ 28,135,200	\$ 20,846,200	286.0%	\$ 27,833,400	\$ (301,800)	-1.1%	\$ 27,995,800	\$ 27,729,800	\$ 27,674,200
1.1 Salaries & Wages	3,178,500	2,506,200	4,928,100	1,749,600	55.0%	4,928,100	-	0.0%	4,928,100	4,928,100	4,928,100
1.2 Overtime	-	200	-	-	0.0%	-	-	0.0%	-	-	-
1.3 Employee Benefits	1,036,700	877,800	1,543,100	506,400	48.8%	1,564,000	20,900	1.4%	1,582,400	1,600,700	1,625,100
1.4 Personnel Transition Adjustment	(240,000)	-	(106,100)	133,900	-55.8%	(106,100)	-	0.0%	(106,100)	(106,100)	(106,100)
2 Transition Services	2,192,800	215,600	1,069,800	(1,123,000)	-51.2%	1,219,800	150,000	14.0%	1,219,800	1,219,800	1,219,800
Subtotal Personnel Costs	6,168,000	3,599,800	7,434,900	1,266,900	20.5%	7,605,800	170,900	2.3%	7,624,200	7,642,500	7,666,900
5 Supplies & Other	2,846,000	2,579,700	6,240,500	3,394,500	119.3%	5,767,200	(473,300)	-7.6%	5,806,800	5,244,300	5,284,600
6 Contractual Services	7,383,700	13,842,300	18,092,300	10,708,600	145.0%	17,772,600	(319,700)	-1.8%	17,828,200	17,793,200	17,884,300
7 Capital Program Allocation	(4,336,400)	11,200	-	4,336,400	-100.0%	-	-	0.0%	-	-	-
8 Shared Services	(4,772,300)	(366,700)	(9,539,000)	(4,766,700)	99.9%	(9,538,900)	100	0.0%	(9,536,000)	(9,569,000)	(9,538,900)
10 Capital Outlay	-	-	5,906,500	5,906,500	0.0%	6,226,700	320,200	5.4%	6,272,600	6,618,800	6,377,300



Administrative & Compliance Services Operating Area Financial Plan

Staffing Plan

The staffing plan for Information Technology reflects a 17 position increase for FY 2018 with an additional position added in FY 2019. This increase is driven by two factors. First, the prior year’s budget reflected a number of positions which were not intended to be fully staffed for the entire fiscal year. Second, GLWA as an independent entity, now supports its own enterprise financial system, human resource system, and payroll system. In addition the Information Technology area has significant demands on its resources as staff and service providers have been focused on the stand up of the new entity. A back log of project requests exists across the organization including document management, business intelligence, website redesign, and numerous new business and operational applications.

The following tables provide two alternate views of the staffing plan.

1. The table below presents the number of positions in the plan. Each position has a value of one. The position count does not distinguish between a position that is filled 100% (2,080 hours per year), filled for a number of hours less than 2,080 per year, or one that is vacant.

Staffing Plan – Number of Positions

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Staffing Plan	FY 2018 Staffing Plan	FY 2019 Staffing Plan	FY 2020 Staffing Plan	FY 2021 Staffing Plan	FY 2022 Staffing Plan
Information Technology	51.00	68.00	69.00	69.00	69.00	69.00
Chief Information Officer	4.00	4.00	4.00	4.00	4.00	4.00
Administration	6.00	10.00	10.00	10.00	10.00	10.00
Business Applications	10.00	12.00	12.00	12.00	12.00	12.00
Enterprise Applications	9.00	14.00	14.00	14.00	14.00	14.00
Infrastructure	10.00	14.00	14.00	14.00	14.00	14.00
Service Desk	10.00	12.00	13.00	13.00	13.00	13.00
Security & Risk	2.00	2.00	2.00	2.00	2.00	2.00



Administrative & Compliance Services Operating Area Financial Plan

2. The table below presents “full-time equivalent” (FTE) staffing. FTE is based on the number of hours that the position is filled, or budgeted for, in a given year based upon a standard of 2,080 hours per year.

Staffing Plan – Full-time Equivalents

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Approved FTE's	FY 2018 FTE's	FY 2019 FTE's	FY 2020 FTE's	FY 2021 FTE's	FY 2022 FTE's
Information Technology	55.00	67.75	69.00	69.00	69.00	69.00
Chief Information Officer	5.00	4.00	4.00	4.00	4.00	4.00
Administration	5.00	9.75	10.00	10.00	10.00	10.00
Business Applications	9.00	12.00	12.00	12.00	12.00	12.00
Enterprise Applications	11.00	14.00	14.00	14.00	14.00	14.00
Infrastructure	11.00	14.00	14.00	14.00	14.00	14.00
Service Desk	12.00	12.00	13.00	13.00	13.00	13.00
Security & Risk	2.00	2.00	2.00	2.00	2.00	2.00



Chief Executive Office Operating Area Financial Plan

The financial plan for the **Chief Executive Office Area** consists of the four groups as listed below and presented on subsequent pages.

1. Chief Executive Officer
2. Board of Directors
3. Public Affairs
4. Security and Integrity

Chief Executive Officer

The Chief Executive Officer Area ensures that the GLWA's Service Areas function in a communicative and collaborative fashion to implement the Board's policies; GLWA facilities and personnel are protected to the maximum extent possible; organizational efficiencies are pursued and optimized; customer needs are met in an open and transparent manner; that the integrity of the utility is maintained; that the organization maintains the highest standards of integrity and compliance; and that the customers of the GLWA receive efficiently delivered, quality compliant water services.

FY 2018 & FY 2019 Initiatives

Through the leadership of the Chief Executive Officer, the GLWA has identified seven entity-wide initiatives.

1. Maintain 100% Compliance (Trustworthiness & Integrity)

- ✓ Delivery of pure, safe drinking water and safe and efficient collection, treatment, and discharge of wastewater are essential to GLWA's mission

2. Become a Utility of Choice for Southeastern Michigan (Trustworthiness & Integrity)

- ✓ Identify and address policies, partnerships, opportunities, and financial matrix that support expansion of the customer base

3. Further Development of the Asset Management Program (High Quality through Innovation)

- ✓ Better prioritize capital projects
- ✓ Optimize asset replacement schedules

4. Expand Community Outreach Effort and Engage in Local Community Activities (Regional Collaboration)

- ✓ Establish a regular presence in front of local policy makers and in local communities
- ✓ Participate in local, regional, and state initiatives addressing water and related industry matters



Chief Executive Office Operating Area Financial Plan

5. **GLWA/DWSD Standup** (Regional Collaboration)

- ✓ Continue collaboration, capture economies of scale whenever possible, and proactively engage in matters of mutual interest and benefit
- ✓ Deliver studies and activities identified in the lease and services agreements

6. **Align Performance with Recognized Utility Standards** (Trustworthiness & Integrity)

- ✓ FY 2018 establishes a baseline measure for future strategic planning
- ✓ Identify and implement industry recognized strategies
- ✓ Foster continuous improvement with use of Lean and related tools

7. **Continued Cost Containment Efforts** (Trustworthiness & Integrity)

- ✓ Energy optimization
- ✓ Execution of water master plan
- ✓ Improved capital management (planning/procurement/delivery/close out)
- ✓ Improved procurement (chemical buyer; vendor outreach; Engineers Joint Contracts Document Committee/EJCDC)
- ✓ Ongoing automation

FY 2018 & FY 2019 Budget Summary

The Chief Executive Officer's budget encompasses staff and services that supports the executive office as well as the GLWA board activities and expenses. The largest category of expense is salaries based upon the nature of this service area. The second largest category is contractual services which provides for board member activities and various services. Supplies and other provides for training and organizational memberships.



Chief Executive Office Operating Area Financial Plan

Budget by Expense Category as Percent of Total

Expense Categories	Current Year		Biennial Budget				Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Chief Executive Officer	\$ 970,700	\$ 780,400	\$ 764,900	100.0%	\$ 769,700	100%	\$ 774,700	\$ 779,900	\$ 785,100
1.1 Salaries & Wages	263,300	241,600	262,000	34.3%	262,000	34%	262,000	262,000	262,000
1.2 Overtime	4,400	-	-	0.0%	-	0%	-	-	-
1.3 Employee Benefits	69,000	62,700	68,800	9.0%	69,400	9%	70,000	70,600	71,400
2 Transition Services	-	410,800	-	0.0%	-	0%	-	-	-
Subtotal Personnel Costs	336,700	715,100	330,800	43.2%	331,400	43%	332,000	332,600	333,400
5 Supplies & Other	309,000	65,300	184,100	24.1%	185,800	24%	187,700	189,800	191,600
6 Contractual Services	325,000	-	250,000	32.7%	252,500	33%	255,000	257,500	260,100

Supplies & Other – In FY 2017, \$100,000 was budgeted to Inspection & Permit Fees. In FY 2018, this budget was moved to the operations areas to align with where the fees are actually being incurred. An additional \$25,000 was removed from several line items of the budget (i.e., Supplies reduced by \$5,000), beginning with FY 2018, based on the review of actual anticipated costs.

Contractual Services – Based on a review of the actual anticipated costs for FY 2017, a determination was made to reduce the Contractual Services budget by (\$75,000) for the years beginning with FY 2018.



Chief Executive Office Operating Area Financial Plan

These decreases are reflected in the tables below.

Budget by Expense Category with Percentage Change from Prior Year

Cost Center	Current Year		Biennial Budget						Forecast		
	FY 2017		FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
	FY 2017 Adopted	Activity through March 31, 2017									
Chief Executive Officer	\$ 970,700	\$ 780,400	\$ 764,900	\$ (205,800)	-21.2%	\$ 769,700	\$ 4,800	0.6%	\$ 774,700	\$ 779,900	\$ 785,100
1.1 Salaries & Wages	263,300	241,600	262,000	(1,300)	-0.5%	262,000	-	0.0%	262,000	262,000	262,000
1.2 Overtime	4,400	-	-	(4,400)	-100.0%	-	-	n/a	-	-	-
1.3 Employee Benefits	69,000	62,700	68,800	(200)	-0.3%	69,400	600	0.9%	70,000	70,600	71,400
2 Transition Services	-	410,800	-	-	n/a	-	-	n/a	-	-	-
Subtotal Personnel Costs	336,700	715,100	330,800	(5,900)	-1.8%	331,400	600	0.2%	332,000	332,600	333,400
5 Supplies & Other	309,000	65,300	184,100	(124,900)	-40.4%	185,800	1,700	0.9%	187,700	189,800	191,600
6 Contractual Services	325,000	-	250,000	(75,000)	-23.1%	252,500	2,500	1.0%	255,000	257,500	260,100

The following tables show the Chief Executive Officer's budget by Cost Center.

Budget by Cost Center as a Percent of Total

Expense Categories	Current Year		Biennial Budget				Forecast		
	FY 2017		FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
	FY 2017 Adopted	Activity through March 31, 2017							
Chief Executive Officer	\$ 970,700	\$ 780,400	\$ 764,900	100.0%	\$ 769,700	100.0%	\$ 774,700	\$ 779,900	\$ 785,100
1.1 Board of Directors	197,000	1,100	197,000	25.8%	198,900	25.8%	200,900	203,000	205,000
1.2 Chief Executive Officer	773,700	779,300	567,900	74.2%	570,800	74.2%	573,800	576,900	580,100

Budget by Cost Center with Percentage Change from Prior Year

Cost Center	Current Year		Biennial Budget						Forecast		
	FY 2017		FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
	FY 2017 Adopted	Activity through March 31, 2017									
Chief Executive Officer	\$ 970,700	\$ 780,400	\$ 764,900	\$ (205,800)	-21.2%	\$ 769,700	\$ 4,800	0.6%	\$ 774,700	\$ 779,900	\$ 785,100
1.1 Board of Directors	197,000	1,100	197,000	-	0.0%	198,900	1,900	1.0%	200,900	203,000	205,000
1.2 Chief Executive Officer	773,700	779,300	567,900	(205,800)	-26.6%	570,800	2,900	0.5%	573,800	576,900	580,100



Chief Executive Office Operating Area Financial Plan

Staffing Plan

The staffing plan provides for the CEO and administrative support. The following tables provide two alternate views of the staffing plan.

1. The table below presents the number of positions in the plan. Each position has a value of one. The position count does not distinguish between a position that is filled 100% (2,080 hours per year), filled for a number of hours less than 2,080 per year, or one that is vacant.

Staffing Plan – Number of Positions

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Staffing Plan	FY 2018 Staffing Plan	FY 2019 Staffing Plan	FY 2020 Staffing Plan	FY 2021 Staffing Plan	FY 2022 Staffing Plan
Chief Executive Officer	2.00	2.00	2.00	2.00	2.00	2.00
Chief Executive Officer	2.00	2.00	2.00	2.00	2.00	2.00

2. The table below presents “full-time equivalent” (FTE) staffing. FTE is based on the number of hours that the position is filled, or budgeted for, in a given year based upon a standard of 2,080 hours per year.

Staffing Plan – Full-time Equivalents

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Approved FTE's	FY 2018 FTE's	FY 2019 FTE's	FY 2020 FTE's	FY 2021 FTE's	FY 2022 FTE's
Chief Executive Officer	2.00	2.00	2.00	2.00	2.00	2.00
Chief Executive Officer	2.00	2.00	2.00	2.00	2.00	2.00



Chief Executive Office Operating Area Financial Plan

Public Affairs

The GLWA Public Affairs Group is responsible for sharing the Authority’s mission, vision, values and accomplishments with its stakeholders – both internal and external. Public Affairs engages stakeholders through a combination of internal communication initiatives, proactive media relations and social media strategies and system-wide community outreach.

FY 2018 & FY 2019 Initiatives

1. Ongoing implementation of a comprehensive internal communications strategy that both informs and engages GLWA team members (Trustworthiness & Integrity)

FY 2018

- Publish a weekly “One Water” news update (online using GovDelivery and paper) that will be a central source for dissemination of system-wide, employee-focused information
- Continue coordination and publication of Water Works Magazine, GLWA’s quarterly employee news magazine written by employees for employees
- Implement an “Ask the CEO” podcast and video series that provides employees with answers to their Frequently Asked Questions
- Develop and maintain enhanced employee-focused content on the GLWA Intranet; establish an Internet landing page for all GLWA employees
- Incorporate video vignettes into Welcome/Get to Know You “5 Questions” for each new employee
- Develop a “One Water; One Team” print and video campaign that highlights GLWA employees, what they do and why it’s important to the system. This can be used in employee recruitment, new employee orientation, social media, etc.

FY 2019

- Continue initiatives from FY 2018
- Implement an employee recognition program
- Create an employee suggestion box that provides employees with the opportunity to offer process improvement and system optimization ideas
- Develop a monthly 15-minute video news program, “One Water News Monthly,” that contains key GLWA developments, as well as employee profiles. This can also be used in employee recruitment and with social media efforts
- Expand the use of GovDelivery to include text messaging on key initiatives



Chief Executive Office Operating Area Financial Plan

2. Grow and enhance GLWA’s brand recognition (Trustworthiness & Integrity and Regional Collaboration)

FY 2018 & FY 2019

- Implementation of a proactive media relations strategy to share accomplishments being achieved by Water and Wastewater Operations and GLWA Administration
- Bring GLWA’s brand promise to life via an updated social media strategy that more fully embraces and embodies the Authority’s brand personality, incorporating a regular use of videos highlighting GLWA’s accomplishments (featuring our employees and customers), as well as engaging our customer communities in liking and following our posts on Facebook and Twitter
- Publication of an annual “GLWA Year in Review,” that is distributed electronically with enhanced interactive content, as well as in print. This publication will also be used as the subject of town hall meetings in our customer communities
- In coordination with Information Technology, redesign the GLWA website to create a stronger visitor experience that clearly and succinctly shares GLWA’s story
- Continued participation in and support of the Public Education Work Group.
- Represent GLWA in service sector organizations. Continue participation in AWWA’s Communications Council

FY 2018

- Publication of GLWA brand guidelines/style guide

FY 2019

- Develop a quarterly 30-minute video news program, “One Water News,” that contains key GLWA accomplishments/developments for airing on public access channels in our customer communities and posting online. An audio podcast of the broadcast would also be created and both would be posted to our website, as well as employee profiles. This can also be used in employee recruitment and with social media efforts

3. Grow GLWA’s Community Outreach Efforts (Regional Collaboration)

FY 2018 & FY 2019

- For the purpose of exposing the GLWA brand to residents of our customer communities, support at least one community-focused event each year in Wayne, Oakland and Macomb Counties, as well as in an out-county community to which GLWA provides service
- Participate in at least one event each quarter focused on student education regarding water quality in GLWA’s customer communities



Chief Executive Office Operating Area Financial Plan

FY 2018

- Develop a signature annual GLWA event that conveys the Authority’s service sector leadership and serves to educate the public about GLWA operations and benefits.
- Expand use of GovDelivery to cross promote GLWA initiatives and accomplishments with our customer communities

FY 2019

- Redesign the Water Works Park tour experience and promote to a broader audience

4. Provide strategic communication counsel and marketing support to all areas of the Authority, including the Board, Administration, TAC and Steering Committees, as well as Work Groups (Regional Collaboration)

FY 2018 & FY 2019

- Development of materials to support trade show and professional conference attendance.
- Development of paid and earned advertising strategies to support staff recruitment in key areas

FY 2018

- Development of a writing workshop to enhance capabilities of Leadership Team members

FY 2018 & FY 2019 Budget Summary

As shown on the subsequent table, the Public Affairs Group’s budget encompasses staff and services that support internal (employee) and external (current/potential customers, media, general public, elected officials and key influencers) communication efforts, including overall GLWA branding initiatives. The largest category of expense is personnel costs at 52.5% for FY 2018 and 59.3% for FY 2019. The second largest category is contractual services at 23.7% for FY 2018 and 22.2% for FY 2019. The primary service provider specializes in public relations (traditional and social media outreach), graphic design, and ongoing internal communications research. A secondary service provider will assist GLWA in conducting employee satisfaction research. Supplies & Other, which is the next largest category, covers all community outreach as well as branding support at 14.1% for FY 2018 and 16.8% for FY 2019.



Chief Executive Office Operating Area Financial Plan

Budget by Expense Category as Percent of Total

Expense Categories	Current Year		Biennial Budget				Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Public Affairs	\$ 713,200	\$ 662,300	\$ 1,271,300	100.0%	\$ 1,127,200	100.0%	\$ 1,134,900	\$ 1,092,000	\$ 1,108,000
1.1 Salaries & Wages	356,200	264,800	501,000	39.4%	501,000	44.4%	501,000	501,000	501,000
1.2 Overtime	-	200	-	0.0%	-	0.0%	-	-	-
1.3 Employee Benefits	118,200	98,200	165,800	13.0%	167,900	14.9%	170,000	172,100	174,100
Subtotal Personnel Costs	474,400	363,200	666,800	52.5%	668,900	59.3%	671,000	673,100	675,100
5 Supplies & Other	102,800	51,500	179,000	14.1%	189,500	16.8%	194,100	197,100	200,100
6 Contractual Services	136,000	247,600	301,000	23.7%	250,000	22.2%	251,000	203,000	204,000
10 Capital Outlay	-	-	124,500	9.8%	18,800	1.7%	18,800	18,800	28,800

Noteworthy fluctuations in the FY 2017 and FY 2018 are identified below.

Personnel Costs – In FY 2018 the Personnel Costs budget is projected to increase by 40.6%. The three open positions in FY 2017 are budgeted to be filled between the last quarter of FY 2017 and the first quarter of FY 2018. The open positions are: Government Outreach Specialist, Office Support Specialist, and Public Affairs Specialist.

Supplies & Other - In FY 2018 the Supplies & Other account is budgeted to increase from FY 2017 to support the promotion of GLWA brand recognition (\$25,000) and event production costs (\$22,000).

Contractual Services - The Contractual Services account is budgeted to increase 121.3% between FY 2017 and FY 2018 to account for the renewing of the Fleishman-Hillard Communications (FH) Services contract. At the time that last year’s budget was prepared, the Chief Public Affairs Officer position was vacant. Now that the position has been filled, the new leadership has developed a strategic communications plan that requires additional resources. The new FH contract will include preparing the annual survey and the drafting & designing the Year in Review publication. A contract with an established vendor will include the preparation and execution of the employee satisfaction survey. Over the course of the five-year plan, however, it is presently envisioned that reliance on outside resources will be reduced.

Capital Outlay (O&M) - The Capital Outlay budget provides for equipment and software purchases. This includes video storytelling equipment (\$25,000), employee communication boards for 9 locations (\$22,500), custom design digital signage/monitors (two at each facility for \$67,200), and a digital messaging system that powers the communication monitors (\$9,800). In FY 2019 the Capital Outlay (O&M) budget is projected to decrease by 84.9%; the \$18,800 budget is for the refurbishing of the equipment and new needs as the Public Affairs team expands.



Chief Executive Office Operating Area Financial Plan

Budget by Expense Category with Percentage Change from Prior Year

Staffing Plan (FTEs)

Expense Categories	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Public Affairs	\$ 713,200	\$ 662,300	\$ 1,271,300	\$ 558,100	78.3%	\$ 1,127,200	\$ (144,100)	-11.3%	\$ 1,134,900	\$ 1,092,000	\$ 1,108,000
1.1 Salaries & Wages	356,200	264,800	501,000	144,800	40.7%	501,000	-	0.0%	501,000	501,000	501,000
1.2 Overtime	-	200	-	-	0.0%	-	-	0.0%	-	-	-
1.3 Employee Benefits	118,200	98,200	165,800	47,600	40.3%	167,900	2,100	1.3%	170,000	172,100	174,100
Subtotal Personnel Costs	474,400	363,200	666,800	192,400	40.6%	668,900	2,100	0.3%	671,000	673,100	675,100
5 Supplies & Other	102,800	51,500	179,000	76,200	74.1%	189,500	10,500	5.9%	194,100	197,100	200,100
6 Contractual Services	136,000	247,600	301,000	165,000	121.3%	250,000	(51,000)	-16.9%	251,000	203,000	204,000
10 Capital Outlay	-	-	124,500	124,500	0.0%	18,800	(105,700)	-84.9%	18,800	18,800	28,800

The Public Affairs Group restructured operations in FY 2017, and now has a staff of three Public Affairs Specialists (including new internal communication, digital media and visual storytelling roles), one Professional Administrative Analyst, and a Chief Public Affairs Officer. The staffing level is expected to stabilize at seven positions over the next five years. The goal for this staffing plan is to build additional internal capacity to reduce reliance on the contractual communications provider. This reduction is reflected on the contractual services line, for FY 2021 and FY 2022, in the Expense Categories tables (previously shown).

The following tables provide two alternate views of the staffing plan.

1. The table below presents the number of positions in the plan. Each position has a value of one. The position count does not distinguish between a position that is filled 100% (2,080 hours per year), filled for a number of hours less than 2,080 per year, or one that is vacant.

Staffing Plan – Number of Positions

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Staffing Plan	FY 2018 Staffing Plan	FY 2019 Staffing Plan	FY 2020 Staffing Plan	FY 2021 Staffing Plan	FY 2022 Staffing Plan
Public Affairs	5.00	7.00	7.00	7.00	7.00	7.00
Public Affairs	5.00	7.00	7.00	7.00	7.00	7.00



Chief Executive Office Operating Area Financial Plan

2. The table below presents “full-time equivalent” (FTE) staffing. FTE is based on the number of hours that the position is filled, or budgeted for, in a given year based upon a standard of 2,080 hours per year.

Staffing Plan – Full-time Equivalents

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Approved FTE's	FY 2018 FTE's	FY 2019 FTE's	FY 2020 FTE's	FY 2021 FTE's	FY 2022 FTE's
Public Affairs	5.00	7.00	7.00	7.00	7.00	7.00
Public Affairs	5.00	7.00	7.00	7.00	7.00	7.00

Security & Integrity

The Security and Integrity Group provides continuous, high quality, professional security operations and technical intelligence for the Great Lakes Water Authority’s infrastructure, staff and its valued customers throughout Michigan. Over the next five years the Security Group plans an increase in personnel by eleven new positions while absorbing the responsibility of Hazmat Control and Prevention.

FY 2018 & FY 2019 Initiatives

1. **The Security group will continue enhanced training for its officers, by offering a variety of scheduled training in this fiscal year** (High Quality through Innovation) (FY 2018)
2. **Enhancing the security IT network systems** (High Quality through Innovation) (FY 2018)
 - Implement a new Video Management System.
 - Update 10 to 15 percent of the current Analog cameras to IP (Internet Protocol) cameras.
 - Complete the initiative for rolling out mobile devices.
 - Initiate and complete the Employee Security policy, procedures and Safe Practices rollout
3. **Notification Procedure Table Top Exercise with Wastewater Treatment Plant Chemist, Detroit Fire Department Hazmat, GLWA Security, and other outside agencies** (Regional Collaboration) (FY 2018)
4. **Plan, Organize and Conduct a Regional Security Critical-Infrastructure Forum with Local Public Safety Departments in Southeastern Michigan** (Regional Collaboration) (FY 2018)



Chief Executive Office Operating Area Financial Plan

5. **Continue to conduct Public Safety forums across Southeastern Michigan relative to Security/Critical Infrastructure** (High Quality through Innovation) (FY 2019)
6. **Continue Enhanced Training of GLWA’s Security Officers** (High Quality through Innovation) (FY 2019)
7. **Table Top exercise with the Lake Huron Facility, GLWA Security Officers, Local Fire Departments and other outside agencies** (Regional Collaboration) (FY 2019)
8. **Continue Threat Assessment of GLWA’s Critical Infrastructure** (High Quality through Innovation) (FY 2019)
9. **Recommended improvements** (High Quality through Innovation) (FY 2019)
 - Perimeter Camera upgrade for Water Plants
 - Smart Phone facility Access
 - License Plate recognition system
 - Upgrade and update of all facility fence lines

FY 2018 & FY 2019 Budget Summary

The largest category of expense is personnel costs at 130.4%. The second highest category is contractual services which primarily represents a contract for maintenance of all non-IT based equipment.

Budget by Expense Category as Percent of Total

Expense Categories	Current Year		Biennial Budget				Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Security & Integrity	\$ 3,423,100	\$ 5,243,300	\$ 4,320,500	100.0%	\$ 4,529,300	100.0%	\$ 4,572,300	\$ 4,575,600	\$ 4,604,600
1.1 Salaries & Wages	3,433,400	2,486,800	3,620,000	83.8%	3,753,000	82.9%	3,753,000	3,753,000	3,753,000
1.2 Overtime	197,000	461,500	402,100	9.3%	402,100	8.9%	402,100	402,100	402,100
1.3 Employee Benefits	1,503,600	1,678,300	1,612,800	37.3%	1,707,800	37.7%	1,735,700	1,763,600	1,800,800
Subtotal Personnel Costs	5,134,000	4,626,600	5,634,900	130.4%	5,862,900	129.4%	5,890,800	5,918,700	5,955,900
5 Supplies & Other	223,100	172,700	264,500	6.1%	266,200	5.9%	287,900	269,700	271,300
6 Contractual Services	300,000	620,100	350,000	8.1%	333,200	7.4%	336,500	339,900	343,200
7 Capital Program Allocation	(204,800)	-	(117,200)	-2.7%	(117,600)	-2.6%	(118,000)	(118,400)	(118,900)
8 Shared Services	(2,029,200)	(176,100)	(1,811,700)	-41.9%	(1,815,400)	-40.1%	(1,824,900)	(1,834,300)	(1,846,900)



Chief Executive Office Operating Area Financial Plan

Personnel Costs – One of the notable changes between the FY 2017 and FY 2019 budgets is the personnel costs. In FY 2018 an additional six security officers and a part-time investigator will be hired in the first quarter to provide security 24/7 at all facilities as well as provide specialized investigative work. In FY 2019 an additional four security officers will be hired to support the workload. The overtime budget is increasing 104.1% between FY 2017 and FY 2018 to account for the 2% minimum wage increase per the security union contract. The budget took into account the FY 2016 actual expenses and increased the expense by 2% (overtime \$290,000, shift premium \$57,000, and holiday premium \$55,000; all are approximate amounts).

Supplies & Other – The 18.6% increase in the supplies & other budget is for the Notification Procedure Table Top with Waste Water Treatment Plant (\$10,000); two Regional Security Critical Infrastructure Forums (\$10,000); and the Media Sonar Technology Base Fee (\$23,100).

Contractual Services - The 16.7% increase in the contractual services budget between FY 2017 and FY 2018 is primarily due to the addition of an outside firm who will be used for emergency purposes (\$35,000).

Budget by Expense Category with Percentage Change from Prior Year

Expense Categories	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Security & Integrity	\$ 3,423,100	\$ 5,243,300	\$ 4,320,500	\$ 897,400	26.2%	\$ 4,529,300	\$ 208,800	4.8%	\$ 4,572,300	\$ 4,575,600	\$ 4,604,600
1.1 Salaries & Wages	3,433,400	2,486,800	3,620,000	186,600	5.4%	3,753,000	133,000	3.7%	3,753,000	3,753,000	3,753,000
1.2 Overtime	197,000	461,500	402,100	205,100	104.1%	402,100		0.0%	402,100	402,100	402,100
1.3 Employee Benefits	1,503,600	1,678,300	1,612,800	109,200	7.3%	1,707,800	95,000	5.9%	1,735,700	1,763,600	1,800,800
Subtotal Personnel Costs	5,134,000	4,626,600	5,634,900	500,900	9.8%	5,862,900	228,000	4.0%	5,890,800	5,918,700	5,955,900
5 Supplies & Other	223,100	172,700	264,500	41,400	18.6%	266,200	1,700	0.6%	287,900	269,700	271,300
6 Contractual Services	300,000	620,100	350,000	50,000	16.7%	333,200	(16,800)	-4.8%	336,500	339,900	343,200
7 Capital Program Allocation	(204,800)	-	(117,200)	87,600	-42.8%	(117,600)	(400)	0.3%	(118,000)	(118,400)	(118,900)
8 Shared Services	(2,029,200)	(176,100)	(1,811,700)	217,500	-10.7%	(1,815,400)	(3,700)	0.2%	(1,824,900)	(1,834,300)	(1,846,900)



Chief Executive Office Operating Area Financial Plan

Staffing Plan (FTEs)

The staffing plan increases by 11.0 positions from FY 2017 to FY 2019. This includes the addition of six Security Officers in FY 2018 and four in FY 2019. The additional staff will provide security 24/7 at all facilities as well as provide specialized investigate work. In addition, a part-time investigator will be hired in FY 2018 to support the workload.

The following tables provide two alternate views of the staffing plan.

1. The table below presents the number of positions in the plan. Each position has a value of one. The position count does not distinguish between a position that is filled 100% (2,080 hours per year), filled for a number of hours less than 2,080 per year, or one that is vacant.

Staffing Plan – Number of Positions

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Staffing Plan	FY 2018 Staffing Plan	FY 2019 Staffing Plan	FY 2020 Staffing Plan	FY 2021 Staffing Plan	FY 2022 Staffing Plan
Security	82.00	89.00	93.00	93.00	93.00	93.00
Security	82.00	89.00	93.00	93.00	93.00	93.00

2. The table below presents “full-time equivalent” (FTE) staffing. FTE is based on the number of hours that the position is filled, or budgeted for, in a given year based upon a standard of 2,080 hours per year.

Staffing Plan – Full-time Equivalents

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Approved FTE's	FY 2018 FTE's	FY 2019 FTE's	FY 2020 FTE's	FY 2021 FTE's	FY 2022 FTE's
Security	78.00	88.50	92.50	92.50	92.50	92.50
Security	78.00	88.50	92.50	92.50	92.50	92.50



Financial Services Operating Area Financial Plan

The financial plan for the **Financial Services Area** consists of the eight groups as listed below and presented on subsequent pages.

1. Chief Financial Officer
2. Financial Reporting & Accounting
3. Financial Planning & Analysis
4. Treasury
5. Public Finance
6. Procurement
7. Data Analytics & Internal Audit
8. Transformation

Financial Services

The Financial Services Group supports external and internal customers through a team of professionals dedicated to excellence, continuous improvement, and transparency.

- ✓ **Chief Financial Officer:** Provides overall leadership in carrying out the GLWA’s mission emphasizing long-term sustainability, transparency, and integrity
- ✓ **Financial Reporting & Accounting:** Accounting, financial reporting, payroll, accounts payable, support for effective capital planning and spending, asset management, and asset tracking
- ✓ **Financial Planning & Analysis:** Operational and strategic budgeting, cash flow forecasting, planning, and analysis for optimal decision-making
- ✓ **Treasury:** Cash management, investing, and Master Bond Ordinance compliance for revenue collections
- ✓ **Public Finance:** Debt management, charge-setting, billing, water residential assistance program management, intergovernmental relations, and administration of operational agreements with Detroit Water and Sewerage Department (DWSD)
- ✓ **Procurement:** Supply Chain Operations, Logistics and Materials, Construction and Contracted Services, and Construction Owner’s Representative to ensure timely, fair, and cost-effective operational and capital spend
- ✓ **Data Analytics & Internal Audit:** Analysis of data and systems to support improved internal controls, management information, effective system implementation, and internal audit activities to assess risks and controls
- ✓ **Transformation:** Lean, process improvement coaching, performance management, restructuring support, and technology roll-out



Financial Services Operating Area Financial Plan

FY 2018 & FY 2019 Initiatives

1.Strategic Debt Management (Trustworthiness & Integrity)

- Monitor refunding opportunities to lessen debt service and optimize savings
- Identify and implement strategies to the cost of capital

2. Recognizing that desired financial outcomes are the result of effective entity-wide operations, facilitate a new level of support to operational partners (Trustworthiness & Integrity and High Quality through Innovation)

- Establish a Balanced Scorecard or similar type philosophy with internal partners combining financial metrics with customer satisfaction, internal processes, and the ability to innovate
- Facilitate the rollout of established utility performance management standards
- Expand the cost containment tracking and reporting
- Expand cross-functional support of lean and related initiatives
- Assign specific Financial Services Group staff to operating units for frontline financial planning and analysis support

3. Pilot New Technology in Partnership with Information Technology (Trustworthiness & Integrity)

- Document Management: Establish reliable financial document storage, retrieval, and workflow utilizing OnBase document management information system
- Business Intelligence: Develop reports and measures to support operational partners and stakeholders with financial and non-financial analysis utilizing new resources
- Expanded technology solutions such as electric utility service management and payment, vendor cash disbursement, and construction estimating tools

4. Maximize New Financial Systems Launched in FY 2016 (Trustworthiness & Integrity and High Quality through Innovation)

- Utilizing new financial systems, establish preferred financial management practices and transparency that were previously unattainable due to system limitations
- Directly impacts financial reporting, accounting, procurement, financial planning & analysis, and treasury
- Positively impacts operating units that will now have direct access to financial data in a user friendly system

5. Provide Ongoing Project Management Support for Stand-up of GLWA and DWSD (Regional Collaboration)

- Monitor and facilitate the open items list and resources until shared services and other lease commitments are established operationally



Financial Services Operating Area Financial Plan

6. Improved Procurement Practices (Trustworthiness & Integrity)

- Engage chemical buyer
- Expand vendor outreach program
- Rollout Engineers Joint Contracts Document Committee (EJCDC) with internal partners
- Expand just-in-time and consignment inventory
- Modernize logistics and supply chain
- Align with engineers and operations staff to develop procurement calendar to proactively manage workload and turnaround time
- Launch procurement contracts database on website

FY 2018 & FY 2019 Budget Summary

The Financial Services Area is largely a service organization whose customers are both external and internal. Accordingly, the largest category of expenses is personnel costs at 78.6% in FY 2018 and 81.4% in FY 2019. The second largest category is contractual services at 23.3% in FY 2018 and 21.3% in FY 2019 which includes the annual audit (approximately \$200,000), external strategic financial consulting (\$410,000), investment management fees (\$350,000), non-transactional financial and legal advisor fees (\$50,000), and debt disclosure services (\$5,000). In addition, contractual services includes bank fees for the collection of both regional and local system revenues of \$1 million of which approximately \$721,000 is recoverable through shared services.

Budget by Expense Category as Percent of Total

Expense Categories	Current Year		Biennial Budget				Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Financial Services	\$ 13,940,200	\$ 9,386,100	\$ 13,055,200	100.0%	\$ 12,640,700	100.0%	\$ 12,640,700	\$ 12,695,200	\$ 12,754,800
1.1 Salaries & Wages	4,818,300	3,052,600	5,653,700	43.3%	5,653,700	44.7%	5,653,700	5,653,700	5,653,700
1.1 Salaries & Wages - Workforce Development	-	-	12,800	0.1%	12,800	0.1%	12,800	12,800	12,800
1.2 Overtime	60,000	23,700	28,700	0.2%	28,700	0.2%	28,700	28,700	28,700
1.3 Employee Benefits	1,656,700	1,287,500	2,019,000	15.5%	2,046,700	16.2%	2,074,500	2,102,200	2,139,200
1.4 Personnel Transition Adjustment	(529,500)	30,700	(478,200)	-3.7%	(478,200)	-3.8%	(478,200)	(478,200)	(478,200)
2 Transition Services	4,107,900	1,712,700	3,028,200	23.2%	3,028,200	24.0%	3,028,200	3,028,200	3,028,200
Subtotal Personnel Costs	10,113,400	6,107,200	10,264,200	78.6%	10,291,900	81.4%	10,319,700	10,347,400	10,384,400
5 Supplies & Other	624,900	471,200	559,000	4.3%	472,600	3.7%	473,500	479,200	480,200
6 Contractual Services	3,535,400	2,835,000	3,037,000	23.3%	2,688,900	21.3%	2,667,900	2,696,900	2,726,500
7 Capital Program Allocation	(195,000)	-	(70,900)	-0.5%	(71,100)	-0.6%	(71,100)	(71,300)	(71,500)
8 Shared Services	(138,500)	(30,000)	(734,100)	-5.6%	(741,600)	-5.9%	(749,300)	(757,000)	(764,800)
10 Capital Outlay	-	2,700	-	0.0%	-	0.0%	-	-	-



Financial Services Operating Area Financial Plan

Salaries & Wages - Workforce Development represents one part-time intern for the Financial Reporting & Accounting group.

Overtime – The decrease of \$31,300, in FY 2018, is based on the review of the payment history and the staffing levels of the financial Services area

Transition Services - The decrease of \$1.1 million, in FY 2018, is the result of transitioning positions previously filled by individuals on a contractual basis to GLWA employees.

Capital Program Allocation - The decrease in the Capital Program Allocation budget, between FY 2017 and FY 2018, means that more of the personnel expenses are carried in the Operations & Maintenance (O&M) budget beginning with FY 2018. This decrease represents a realignment between O&M costs and Capital Program expenses as a strategy to build financial stability.

Shared Services - The increase in shared services reflects the Treasury group expenses that were not reflected in the FY 2017 budget. A budget amendment for FY 2017 is in process as we finalize the FY 2016 Shared Services true-up process. Ultimately, the dollar amounts are consistent from year to year.

Budget by Expense Category with Percentage Change from Prior Year

Expense Categories	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Financial Services	\$ 13,940,200	\$ 9,386,100	\$ 13,055,200	\$ (885,000)	-6.3%	\$ 12,640,700	\$ (414,500)	-3.2%	\$ 12,640,700	\$ 12,695,200	\$ 12,754,800
1.1 Salaries & Wages	4,818,300	3,052,600	5,653,700	835,400	17.3%	5,653,700	-	0.0%	5,653,700	5,653,700	5,653,700
1.1 Salaries & Wages - Workforce Development	-	-	12,800	12,800	n/a	12,800	-	0.0%	12,800	12,800	12,800
1.2 Overtime	60,000	23,700	28,700	(31,300)	-52.2%	28,700	-	0.0%	28,700	28,700	28,700
1.3 Employee Benefits	1,656,700	1,287,500	2,019,000	362,300	21.9%	2,046,700	27,700	1.4%	2,074,500	2,102,200	2,139,200
1.4 Personnel Transition Adjustment	(529,500)	30,700	(478,200)	51,300	-9.7%	(478,200)	-	0.0%	(478,200)	(478,200)	(478,200)
2 Transition Services	4,107,900	1,712,700	3,028,200	(1,079,700)	-26.3%	3,028,200	-	0.0%	3,028,200	3,028,200	3,028,200
Subtotal Personnel Costs	10,113,400	6,107,200	10,264,200	150,800	1.5%	10,291,900	27,700	0.3%	10,319,700	10,347,400	10,384,400
5 Supplies & Other	624,900	471,200	559,000	(65,900)	-10.5%	472,600	(86,400)	-15.5%	473,500	479,200	480,200
6 Contractual Services	3,535,400	2,835,000	3,037,000	(498,400)	-14.1%	2,688,900	(348,100)	-11.5%	2,667,900	2,696,900	2,726,500
7 Capital Program Allocation	(195,000)	-	(70,900)	124,100	-63.6%	(71,100)	(200)	0.3%	(71,100)	(71,300)	(71,500)
8 Shared Services	(138,500)	(30,000)	(734,100)	(595,600)	430.0%	(741,600)	(7,500)	1.0%	(749,300)	(757,000)	(764,800)
10 Capital Outlay	-	2,700	-	-	n/a	-	-	n/a	-	-	-



Financial Services Operating Area Financial Plan

In preparing the FY 2018 budget, the Finance Director position was eliminated and two teams in the Finance group were restructured to report directly to the Chief Financial Officer. Those teams are: Financial Reporting & Accounting and Financial Planning & Analysis. This change is reflected in the chart below (Cost Centers 3.21 and 3.22). This will better position the managers of these groups to support continuous improvement and expanded responsibility both operationally as well as financially. Further, this supports improved internal controls and segregation of duties.

Budget by Cost Center with Percentage Change from Prior Year

Cost Center	Current Year		Biennial Budget						Forecast		
	FY 2017		FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
	FY 2017 Adopted	Activity through March 31, 2017									
Financial Services	\$ 13,940,200	\$ 9,386,100	\$ 13,055,200	\$ (885,000)	-6.3%	\$ 12,640,700	\$ (414,500)	-3.2%	\$ 12,640,700	\$ 12,695,200	\$ 12,754,800
3.1 Chief Financial Officer	844,300	330,300	562,500	(281,800)	-33.4%	565,500	3,000	0.5%	569,000	572,600	575,900
3.21 Financial Reporting & Accounting	3,958,700	3,325,000	3,584,000	(374,700)	-9.5%	3,342,300	(241,700)	-6.7%	3,350,100	3,358,900	3,368,800
3.22 Financial Planning & Analysis		48,900	897,600	897,600	n/a	799,800	(97,800)	-10.9%	752,700	755,300	759,000
3.3 Treasury	377,400	381,600	1,062,100	684,700	181.4%	1,055,300	(6,800)	-0.6%	1,074,100	1,093,400	1,113,500
3.4 Public Finance	1,088,000	452,300	938,600	(149,400)	-13.7%	916,800	(21,800)	-2.3%	916,000	918,400	917,300
3.5 Procurement	4,594,800	3,021,300	4,400,000	(194,800)	-4.2%	4,362,900	(37,100)	-0.8%	4,380,000	4,397,100	4,419,900
3.6 Data Analytics & Internal Audit	375,000	129,300	496,900	121,900	32.5%	484,600	(12,300)	-2.5%	485,300	486,000	486,900
3.7 Transformation	2,702,000	1,697,400	1,113,500	(1,588,500)	-58.8%	1,113,500	-	0.0%	1,113,500	1,113,500	1,113,500

Budget by Cost Center as a Percent of Total

Cost Center	Current Year		Biennial Budget				Forecast		
	FY 2017		FY 2018 Requested	FY 2018 % of Total	FY 2019 Requested	FY 2019 % of Total	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
	FY 2017 Adopted	Activity through March 31, 2017							
Financial Services	\$ 13,940,200	\$ 9,386,100	\$ 13,055,200	100.0%	\$ 12,640,700	100.0%	\$ 12,640,700	\$ 12,695,200	\$ 12,754,800
3.1 Chief Financial Officer	844,300	330,300	562,500	4.3%	565,500	4.5%	569,000	572,600	575,900
3.21 Financial Reporting & Accounting	3,958,700	3,325,000	3,584,000	27.5%	3,342,300	26.4%	3,350,100	3,358,900	3,368,800
3.22 Financial Planning & Analysis		48,900	897,600	6.9%	799,800	6.3%	752,700	755,300	759,000
3.3 Treasury	377,400	381,600	1,062,100	8.1%	1,055,300	8.3%	1,074,100	1,093,400	1,113,500
3.4 Public Finance	1,088,000	452,300	938,600	7.2%	916,800	7.3%	916,000	918,400	917,300
3.5 Procurement	4,594,800	3,021,300	4,400,000	33.7%	4,362,900	34.5%	4,380,000	4,397,100	4,419,900
3.6 Data Analytics & Internal Audit	375,000	129,300	496,900	3.8%	484,600	3.8%	485,300	486,000	486,900
3.7 Transformation	2,702,000	1,697,400	1,113,500	8.5%	1,113,500	8.8%	1,113,500	1,113,500	1,113,500



Financial Services Operating Area Financial Plan

Staffing Plan (FTEs)

Staffing in the Financial Services area is allocated among eight groups each with unique technical knowledge to advance and support transformation across the organization. The increase in FTE from FY 2017 to FY 2018 is a by-product of less vacancies in FY 2018 as we move toward a steady state. The Financial Services Group is one of the GLWA’s operating areas that experienced significant staffing disruption during the bifurcation of the local and regional systems as of January 1, 2016. As we enter the latter half of FY 2017, a number of vacancies are being filled and the impact of the regional leases and related agreements on financial operations is becoming clearer. The staffing increase in FY 2018, for the Procurement team, is due to the opening of the Logistics & Materials unit at the Northeast Water Plant. The opening is planned for the end of FY 2017 to provide improved service and warehouse inventory access for the Water Operating Services area.

The following tables provide two alternate views of the staffing plan.

1. The table below presents the number of positions in the plan. Each position has a value of one. The position count does not distinguish between a position that is filled 100% (2,080 hours per year), filled for a number of hours less than 2,080 per year, or one that is vacant.

Staffing Plan – Number of Positions

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Staffing Plan	FY 2018 Staffing Plan	FY 2019 Staffing Plan	FY 2020 Staffing Plan	FY 2021 Staffing Plan	FY 2022 Staffing Plan
Financial Services	100.00	110.00	110.00	110.00	110.00	110.00
Chief Financial Officer	2.00	2.00	2.00	2.00	2.00	2.00
Financial Reporting & Accounting	25.00	27.00	27.00	27.00	27.00	27.00
Financial Planning & Analysis	4.00	6.00	6.00	6.00	6.00	6.00
Treasury	3.00	4.00	4.00	4.00	4.00	4.00
Public Finance	5.00	5.00	5.00	5.00	5.00	5.00
Procurement	49.00	57.00	57.00	57.00	57.00	57.00
Data Analytics & Internal Audit	5.00	3.00	3.00	3.00	3.00	3.00
Transformation	7.00	6.00	6.00	6.00	6.00	6.00



Financial Services Operating Area Financial Plan

2. The table below presents “full-time equivalent” (FTE) staffing. FTE is based on the number of hours that the position is filled, or budgeted for, in a given year based upon a standard of 2,080 hours per year.

Staffing Plan – Full-time Equivalents

Cost Center	Current Year	Biennial Budget		Forecast		
	FY 2017 Approved FTE's	FY 2018 FTE's	FY 2019 FTE's	FY 2020 FTE's	FY 2021 FTE's	FY 2022 FTE's
Financial Services	98.00	109.50	109.50	109.50	109.50	109.50
Chief Financial Officer	3.00	2.00	2.00	2.00	2.00	2.00
Financial Reporting & Accounting	24.00	26.50	26.50	26.50	26.50	26.50
Financial Planning & Analysis	4.00	6.00	6.00	6.00	6.00	6.00
Treasury	3.00	4.00	4.00	4.00	4.00	4.00
Public Finance	5.00	5.00	5.00	5.00	5.00	5.00
Procurement	49.00	57.00	57.00	57.00	57.00	57.00
Data Analytics & Internal Audit	5.00	3.00	3.00	3.00	3.00	3.00
Transformation	5.00	6.00	6.00	6.00	6.00	6.00





GLWA
Great Lakes Water Authority

Supplemental Schedules & Analysis

Supplemental Schedules & Analysis

The Budget and Five Year Plan is the compilation of significant effort at the cost center level. This section provides additional information that have an entity-wide impact and are significant elements of the financial plan. The supplemental schedules and analysis include the following categories.

- A. Personnel Costs
- B. Utilities
- C. Centralized & Administrative Services Cost Allocation
- D. Debt Management
- E. Legacy Commitments
- F. Shared Services



Personnel Costs

Achieving GLWA's promise is dependent on the ability to attract, retain, and develop GLWA team members. This section of the Financial Plan outlines the allocation and strategy for managing personnel costs in an era of transition to a best practices state. As shown in **Table 1 – Staffing Plan Budget**, the entity-wide personnel budget increases \$8.9 million, or 9.7%, for FY 2018 and a more stable \$3.3 million, or 3.3%, for FY 2019. An analysis by operating area is below.

1. Water Operations – increase of \$2.3 million, or 8.0%, for FY 2018; increase of 31 positions

- a. Eighteen positions (sixteen team leaders and two investigators) have been added to support the day to day operations of the Water
- b. System Operations. This increase is due to delays in implementing new technology that support more efficient operations.
- c. Four positions have been added to support the new Electrical Instrumentation Control Technician-Instrument Technician (EICT-I) apprenticeship and training program. The benefit of this program is to develop a workforce in an area that is a recruiting challenge.
- d. Six positions have been added to the Field Services group, for FY 2018, to improve both capital improvement plan (CIP) delivery and field service response time. In addition, three positions were added to FY 2017, (1) Manager, (1) Team Leader, and (1) Professional Administrative Analyst
- e. Transition Services have decreased throughout the Water Operations groups because of transitioning positions previously filled by individuals on a contractual basis to be GLWA employees.

2. Wastewater Operations – increase of \$856,000, or 2.5%, for 2018; decrease of 41 positions (fewer positions but increase in level of knowledge, skill, and ability)

- a. Wastewater Resource Recovery Facility (WRRF) – For FY 2018 the WRRF position count was designed to comply with the agreement with the Michigan Department of Environmental Quality (MDEQ). The plan was designed to reduce the number of overall positions required for WRRF operations through the use of better oversight. Under the agreement the staffing levels were decreased 34 positions, from 441 to 407 positions.
- b. Wastewater Operations – In addition to the overall decrease of 34 positions at WRRF, there was a reduction of an additional 7 positions throughout the entire Wastewater Operations group for a total reduction of 41 positions. The following is a summary of the change in position count from FY 2017 to FY 2018 for the entire Wastewater Operations group.
 - i. The number of Team Leader positions increased by 15. This is in line with management's plan of adding supervisory level personnel within the maintenance groups. As a result of this plan, there is a corresponding reduction of 12 Maintenance Technician positions.



Personnel Costs

- ii. The following positions were added; (1) Wastewater Operations Director, (1) Maintenance and Engineering Director, (2) Managers, and (1) Management Professional.
- iii. The positions, referenced above, were offset by a total reduction of 49 positions; (32) from the Plant Technician & Special Projects Technician groups, (6) Chemists, (8) Inspectors & Investigators, and (3) Office Support Specialists.
- iv. While the overall number of positions has been reduced, in the Wastewater Operations area, the level of the knowledge, skills, and abilities in those positions has increased to better the needs of GLWA. This has resulted in an increase in Salaries & Wages and Benefits.



Personnel Costs

Table 1- Staffing Plan Budget

Operating Area and Expense Category	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Chief Operating Officer Water Operations	28,962,361	17,212,476	31,288,600	2,326,239	8.0%	32,657,000	1,368,400	4.4%	32,950,800	33,086,700	33,256,000
1.1 Salaries & Wages	15,859,732	9,627,292	18,093,100	2,233,368	14.1%	19,117,500	1,024,400	5.7%	19,117,500	19,117,500	19,117,500
1.1 Salaries & Wages - Workforce Development			300,800	300,800	n/a	300,800	-	0.0%	300,800	300,800	300,800
1.2 Overtime	3,970,000	1,837,926	3,395,000	(575,000)	-14.5%	3,397,000	2,000	0.1%	3,399,000	3,401,100	3,403,100
1.3 Employee Benefits	5,887,423	4,470,510	6,831,700	944,277	16.0%	7,107,200	275,500	4.0%	7,280,200	7,379,800	7,512,600
1.4 Personnel Transition Adjustment	(2,402,000)		(1,691,000)	711,000	-29.6%	(650,000)	1,041,000	-61.6%	(565,000)	(565,000)	(565,000)
2 Transition Services	5,647,206	1,276,748	4,359,000	(1,288,206)	-22.8%	3,384,500	(974,500)	-22.4%	3,418,300	3,452,500	3,487,000
Chief Operating Officer Wastewater Operations	33,777,441	23,030,624	34,633,437	855,996	2.5%	35,478,990	845,553	2.4%	35,710,190	35,833,790	35,997,290
1.1 Salaries & Wages	21,056,112	11,809,435	20,255,031	(801,081)	-3.8%	20,455,075	200,044	1.0%	20,455,075	20,455,075	20,455,075
1.1 Salaries & Wages - Workforce Development			225,638	225,638	n/a	225,638	-	0.0%	225,638	225,638	225,638
1.2 Overtime	4,200,000	2,924,584	3,380,000	(820,000)	-19.5%	3,380,000	-	0.0%	3,380,000	3,380,000	3,380,000
1.3 Employee Benefits	8,581,145	6,581,410	7,963,325	(617,820)	-7.2%	8,151,434	188,109	2.4%	8,271,134	8,390,834	8,550,434
1.4 Personnel Transition Adjustment	(2,500,000)	905	(1,011,200)	1,488,800	-59.6%	(553,800)	457,400	-45.2%	(442,300)	(438,400)	(434,500)
2 Transition Services	2,440,184	1,714,290	3,820,643	1,380,459	56.6%	3,820,643	-	0.0%	3,820,643	3,820,643	3,820,643
Chief Planning Officer	3,715,400	1,973,274	6,286,574	2,571,174	69.2%	6,570,489	283,915	4.5%	6,621,422	6,641,123	6,664,123
1.1 Salaries & Wages	2,886,220	1,256,297	3,570,964	684,744	23.7%	3,921,305	350,341	9.8%	4,000,504	4,000,504	4,000,504
1.1 Salaries & Wages - Workforce Development			225,638	225,638	n/a	225,638	-	0.0%	225,638	225,638	225,638
1.2 Overtime	80,000	65,700	122,750	42,750	53.4%	109,000	(13,750)	-11.2%	109,000	109,000	109,000
1.3 Employee Benefits	952,130	484,880	1,232,686	280,556	29.5%	1,332,570	99,884	8.1%	1,410,504	1,427,605	1,448,005
1.4 Personnel Transition Adjustment	(587,000)		(483,400)	103,600	-17.6%	(390,900)	92,500	-19.1%	(309,200)	(306,600)	(304,000)
2 Transition Services	384,050	166,397	1,617,936	1,233,886	321.3%	1,372,876	(245,060)	-15.1%	1,184,976	1,184,976	1,184,976
Chief Administration & Compliance Officer	9,659,550	5,671,082	12,008,202	2,348,652	24.3%	12,548,370	540,168	4.5%	12,580,908	12,613,308	12,656,508
1.1 Salaries & Wages	5,902,540	4,118,824	8,414,764	2,512,224	42.6%	8,674,600	259,836	3.1%	8,674,600	8,674,600	8,674,600
1.2 Overtime	21,000	3,270		(21,000)	-100.0%		-	n/a			
1.3 Employee Benefits	1,916,210	1,333,420	2,629,757	713,547	37.2%	2,760,089	130,332	5.0%	2,792,627	2,825,027	2,868,227
1.4 Personnel Transition Adjustment	(373,000)		(106,140)	266,860	-71.5%	(106,140)	-	0.0%	(106,140)	(106,140)	(106,140)
2 Transition Services	2,192,800	215,568	1,069,821	(1,122,979)	-51.2%	1,219,821	150,000	14.0%	1,219,821	1,219,821	1,219,821
Chief Financial Officer	10,113,480	6,107,016	10,264,217	150,737	1.5%	10,291,967	27,750	0.3%	10,319,717	10,347,467	10,384,467
1.1 Salaries & Wages	4,818,300	3,052,580	5,653,630	835,330	17.3%	5,653,630	-	0.0%	5,653,630	5,653,630	5,653,630
1.1 Salaries & Wages - Workforce Development			12,800	12,800	n/a	12,800	-	0.0%	12,800	12,800	12,800
1.2 Overtime	60,000	23,677	28,700	(31,300)	-52.2%	28,700	-	0.0%	28,700	28,700	28,700
1.3 Employee Benefits	1,656,780	1,287,440	2,018,957	362,177	21.9%	2,046,707	27,750	1.4%	2,074,457	2,102,207	2,139,207
1.4 Personnel Transition Adjustment	(529,500)	30,663	(478,148)	51,352	-9.7%	(478,148)	-	0.0%	(478,148)	(478,148)	(478,148)
2 Transition Services	4,107,900	1,712,656	3,028,278	(1,079,622)	-26.3%	3,028,278	-	0.0%	3,028,278	3,028,278	3,028,278
Chief Executive Officer	5,945,120	5,704,909	6,632,523	687,403	11.6%	6,863,197	230,674	3.5%	6,893,797	6,924,397	6,964,397
1.1 Salaries & Wages	4,052,920	2,993,197	4,383,093	330,173	8.1%	4,516,037	132,944	3.0%	4,516,037	4,516,037	4,516,037
1.2 Overtime	201,400	461,709	402,073	200,673	99.6%	402,073	-	0.0%	402,073	402,073	402,073
1.3 Employee Benefits	1,690,800	1,839,200	1,847,357	156,557	9.3%	1,945,087	97,730	5.3%	1,975,687	2,006,287	2,046,287
2 Transition Services		410,803		-	n/a		-	n/a			
Grand Total	\$ 92,173,352	\$ 59,699,381	\$ 101,113,553	\$ 8,940,201	9.7%	\$ 104,410,013	\$ 3,296,460	3.3%	\$ 105,076,834	\$ 105,446,785	\$ 105,922,785



Personnel Costs

- 3. Planning Services - increase of \$2.6 million, or 69.2%, for FY 2018; decrease of 3 positions** (fewer positions but increase in level of knowledge, skill, and abilities)
- a. While the overall number of positions has been reduced by three, in the Planning Services area, the level of the knowledge, skills, and abilities in those positions has increased to better the needs of GLWA. This has resulted in an increase in Salaries & Wages and Benefits. The area most impacted by this change is the Asset Management & CIP group which shows a decrease of 7 engineering positions. The remaining positions will be filled by Asset Management Professionals who will provide a higher level of expertise in this area.
 - b. Four positions have been reduced from Systems Planning. After evaluating the staffing needs, it was determined that the responsibilities that would be assigned to these four positions were being covered by positions in other areas of the organization. The need for these positions will continue to be evaluated.
 - c. Two positions have been created for Research & Innovation. Of these two positions, one is an internal transfer from Water Resource Recovery.
 - d. Six positions have been added to Systems Analytics & Meter Operations for the new Electrical Instrumentation Control Technician-Instrument Technician (EICT-I) apprenticeship and training program.
- 4. Chief Administrative & Compliance Services – increase of \$2.3 million, or 24.3%, for FY 2018; increase of 23 positions**
- a. Chief Administrative Officer - Three positions have been added to the Chief Administrative Officer group; (1) Government Relations Manager, (1) Special Projects Manager, and (1) Chief Administrative Officer (whose personnel cost in FY 2017 was budgeted solely in the General Counsel cost center).
 - b. Organizational Development
 - i. Three positions have been added to support the new Electrical Instrumentation Control Technician-Instrument Technician (EICT-I) apprenticeship and the internal training program; (1) Manager, (1) Training Manager, and (1) Office Support Specialist.
 - ii. Four positions have been added to support labor management relations as well as the needs of the new GLWA Organizational Development group; (1) Human Resources Generalist, (1) Public Affairs Specialist, (1) Professional Administrative Analyst, and (1) Office Support Specialist.



Personnel Costs

- c. Enterprise Risk Management – Four positions have been put on hold for FY 2018 while the staffing plan is being evaluated. These four positions are budgeted to be filled in the first quarter of FY 2019; (1) Professional Administrative Analyst and (3) Environmental Health & Safety (EHS) Coordinators.
- d. Information Technology – A total of 17 positions have been added to support the seven groups of GLWA Information Technology (IT). These additions include (3) Project Managers, (1) GIS Team Lead, (1) Security Analyst, (5) Application Analysts, (1) Database Administrator, and (6) Infrastructure Administrators. The increase in resources to the IT service area reflect the expanded deployment and demands of GLWA as an independent entity that is leveraging the use of technology across the entire organization.
- e. Transition Services has decreased as a result of transitioning positions previously filled by individuals on a contractual basis to GLWA employees.

5. Financial Services – increase of \$151,000, or 1.5%, for FY 2018; increase of 10 positions

- a. Procurement Financial Services - Eight positions are being added due to the opening of the Logistics & Materials unit at the Northeast Water Plant.
- b. Financial Planning & Analysis – Two Management Professionals are being added to meet the expanding requirements of this group.
- c. Transition Services has decreased as a result of transitioning positions previously filled by individuals on a contractual basis to GLWA employees.

6. Chief Executive Officer area – increase of \$687,000, or 11.6%, for FY 2018; increase of nine positions

- a. Public Affairs – Two positions are being added to the Public Affairs group; (1) Government Outreach Specialist and (1) Office Support Specialist
- b. Security – Six Security Officers and one part-time Investigator plan to be added, for FY 2018, to provide security 24/7 at all facilities as well as provide specialized investigative work.

7. Capital Program Allocation – the decrease of capital program allocation of \$1.43 million, or 11.4%, means that more of the personnel expenses are carried in the O&M budget. (See **Table 2 – Capital Program Allocation** on the following page.) This is consistent with GLWA’s strategy to realign its capital project overhead strategy and reduce O&M budget variance risk from capital activities to support long-term financial sustainability.



Personnel Costs

Capital Program Allocation - The amounts in **Table 2 – Capital Program Allocation** are shown as negative amounts because they are “contra” accounts which represent an offset to the Personnel Costs section of the O&M budget. The Capital Program Allocation activity supports project delivery of the Capital Improvement Plan (CIP). As previously described, the decrease represents a realignment between Operations & Maintenance (O&M) Costs and Capital Program Expenses as a strategy to build financial sustainability. This is achieved by ensuring an appropriately conservative policy is in place for charging internal personnel costs to projects. Two major areas of change are Water Operations and Wastewater Operations.

1. **Water Operations** – The increase in Capital Program Allocation is the result of an increase in construction activity for FY 2018 and FY 2019. Projects, as a result of the recent completion of the 2015 Water Master Plan, have been under evaluation and design during FY 2016 and FY 2017 with procurements being initiated in the latter half of FY 2017.
2. **Wastewater Operations** - The decrease is the result of a change in budget methodology from the prior year. Last year’s budget was based on an estimate by employee classification. This year, a more refined calculation was applied by individuals directly responsible for working on the CIP projects.

Table 2 – Capital Program Allocation

Operating Area	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Capital Program Allocation	\$ (12,511,076)	\$ 11,155	\$ (11,080,974)	\$ 1,430,102	-11.4%	\$ (11,047,400)	\$ 33,574	-0.3%	\$ (11,126,981)	\$ (11,172,247)	\$ (11,228,035)
Chief Operating Officer Water Operations	(7,320,700)		(8,532,700)	(1,212,000)	16.6%	(8,283,800)	248,900	-2.9%	(8,335,400)	(8,372,200)	(8,416,700)
Chief Operating Officer Wastewater Operations	(3,061,321)		(1,034,009)	2,027,312	-66.2%	(1,037,684)	(3,675)	0.4%	(1,041,359)	(1,045,034)	(1,049,934)
Chief Planning Officer	(992,855)		(1,260,724)	(267,869)	27.0%	(1,419,019)	(158,295)	12.6%	(1,442,440)	(1,446,346)	(1,451,554)
Chief Administration & Compliance Officer	(736,400)	11,155	(65,421)	670,979	-91.1%	(118,252)	(52,831)	80.8%	(118,612)	(118,972)	(119,452)
Chief Financial Officer	(195,000)		(70,890)	124,110	-63.6%	(71,040)	(150)	0.2%	(71,190)	(71,340)	(71,540)
Chief Executive Officer	(204,800)		(117,230)	87,570	-42.8%	(117,605)	(375)	0.3%	(117,980)	(118,355)	(118,855)

Overtime – The amounts in **Table 3 – Overtime** reflect a decrease of \$1.2 million, or 14.1%, for FY 2018 and is expected to be at a steady state in future years.

1. **Water Operations** - decrease of \$575,000, or 14.5%, for FY 2018 - Based on the review of the payment history and the proposed staffing levels of the Water Operations area, a determination was made to decrease the budget for overtime.
2. **Wastewater Operations** - decrease of \$820,000, or 19.5% for FY 2018 is due to a reduction in staffing level from 477 positions to 436 positions as well as the review of the actual overtime costs for the preceding twelve months.



Personnel Costs

3. **Planning Services** - increase of \$42,750, or 53.4%, for FY 2018 is due to the review of actual overtime costs for the preceding twelve months as well as an increase in full-time equivalent positions for field personnel in Systems Analytics & Meter Operations
4. **Chief Administrative & Compliance Services** – decrease of \$21,000, or 100.0%, for FY 2018 - Based on the review of the payment history and the staffing levels of the Chief Administrative & Compliance Services area, a determination was made that a budget for overtime was not needed in this area.
5. **Financial Services** – decrease of \$31,300, or 52.2%, for FY 2018 is based on the review of the payment history and the staffing levels of the Financial Services area.
6. **Chief Executive Officer** - increase of \$200,673, or 99.6%, for FY 2018 to support expanded security measures by the Security & Integrity Group.

Table 3 – Overtime

Operating Area	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Overtime	\$ 8,532,400	\$ 5,316,866	\$ 7,328,523	\$ (1,203,877)	-14.1%	\$ 7,316,773	\$ (11,750)	-0.2%	\$ 7,318,773	\$ 7,320,873	\$ 7,322,873
Chief Operating Officer Water Operations	3,970,000	1,837,926	3,395,000	(575,000)	-14.5%	3,397,000	2,000	0.1%	3,399,000	3,401,100	3,403,100
Chief Operating Officer Wastewater Operations	4,200,000	2,924,584	3,380,000	(820,000)	-19.5%	3,380,000	-	0.0%	3,380,000	3,380,000	3,380,000
Chief Planning Officer	80,000	65,700	122,750	42,750	53.4%	109,000	(13,750)	-11.2%	109,000	109,000	109,000
Chief Administration & Compliance Officer	21,000	3,270		(21,000)	-100.0%		-	n/a			
Chief Financial Officer	60,000	23,677	28,700	(31,300)	-52.2%	28,700	-	0.0%	28,700	28,700	28,700
Chief Executive Officer	201,400	461,709	402,073	200,673	99.6%	402,073	-	0.0%	402,073	402,073	402,073

Employee Benefits – The amounts in **Table 4 – Employee Benefits** reflects an increase of \$1.8 million, or 8.9%, for FY 2018 and is expected to be at a steady state in future years.

1. As noted in **Table 1- Staffing Plan Budget** personnel costs are projected to increase 9.7%. The increase in employee benefits is a result of variable costs such as employer payroll taxes, defined contribution pension, and worker’s compensation increase.
2. The remaining increase in the budget reflects an estimate for increased medical costs for GLWA’s self-funded medical plan of 4.5%. Given that there is no claims history prior to January 1, 2016, this continues to be a cost category monitored by the Organizational -Development group.



Personnel Costs

Table 4 – Employee Benefits

Operating Area	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity through March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Employee Benefits	\$ 20,684,488	\$ 15,996,860	\$ 22,523,782	\$ 1,839,294	8.9%	\$ 23,343,087	\$ 819,305	3.6%	\$ 23,804,609	\$ 24,131,760	\$ 24,564,760
Chief Operating Officer Water Operations	5,887,423	4,470,510	6,831,700	944,277	16.0%	7,107,200	275,500	4.0%	7,280,200	7,379,800	7,512,600
Chief Operating Officer Wastewater Operations	8,581,145	6,581,410	7,963,325	(617,820)	-7.2%	8,151,434	188,109	2.4%	8,271,134	8,390,834	8,550,434
Chief Planning Officer	952,130	484,880	1,232,686	280,556	29.5%	1,332,570	99,884	8.1%	1,410,504	1,427,605	1,448,005
Chief Administration & Compliance Officer	1,916,210	1,333,420	2,629,757	713,547	37.2%	2,760,089	130,332	5.0%	2,792,627	2,825,027	2,868,227
Chief Financial Officer	1,656,780	1,287,440	2,018,957	362,177	21.9%	2,046,707	27,750	1.4%	2,074,457	2,102,207	2,139,207
Chief Executive Officer	1,690,800	1,839,200	1,847,357	156,557	9.3%	1,945,087	97,730	5.3%	1,975,687	2,006,287	2,046,287

Staffing Plan – The amounts in **Table 5 – Staffing Plan (Number of Positions and Full-time Equivalents)** presents both a “Staffing Plan” reflecting the *number* of positions and a “Staffing Budget” based on “*full-time equivalent*” (FTE). In the Staffing Plan, each position has a value of one. The position count does not distinguish between a position that is filled 100% (2,080 hours per year), filled for a number of hours less than 2,080 per year, or one that is vacant. The FTE staffing is based on the number of hours that the position is filled, or budgeted for, in each year based upon a standard of 2,080 hours per year.

The increase in staffing plan from 1,147 to 1,177 is explained in detail with the related budget dollar increases presented earlier in this document. An overriding theme of the staffing plan is optimizing the organization with an appropriate level of personnel to achieve operational reliability to ensure a safe, reliable and quality services as well as achieving compliance, security, efficient capital delivery and modern technology to achieve optimization. As GLWA has recently completed its first twelve months of operations, there is a peak in workload to establish the operating model for the new regional entity. It is likely that this staffing plan will continue to be reviewed.



Personnel Costs

Table 5 – Staffing Plan (Number of Positions and Full-time Equivalents) *(continued)*

Operating Area and Cost Center	Current Year		Biennial Budget				Forecast					
	FY 2017 Staffing Plan	FY 2017 Budget FTEs (Per Approved Budget)	FY 2018		FY 2019		FY 2020		FY 2021		FY 2022	
			(Positions in Whole Numbers)	FY 2018 Requested FTEs	(Positions in Whole Numbers)	FY 2019 Requested FTEs	(Positions in Whole Numbers)	FY 2020 Requested FTEs	(Positions in Whole Numbers)	FY 2021 Requested FTEs	(Positions in Whole Numbers)	FY 2022 Requested FTEs
Chief Operating Officer Water Operations	323.00	326.00	354.00	354.00	356.00	356.00	356.00	356.00	356.00	356.00	356.00	356.00
5.1 Field Services Director	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
5.2 Field Engineering	13.00	13.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00
5.3 Field Service Operations	22.00	25.00	26.00	26.00	26.00	26.00	26.00	26.00	26.00	26.00	26.00	26.00
5.4 Facility Operations	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00
7.1 Systems Control	79.00	79.00	79.00	79.00	79.00	79.00	79.00	79.00	79.00	79.00	79.00	79.00
9.1 Chief Operating Officer Water Operations & Field Services	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
9.2.1 Water Director	3.00	3.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
9.2.2 Water Quality	15.00	15.00	18.00	18.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
9.3.1 Water Works Park	30.00	30.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00
9.3.2 Lake Huron Water Plant	29.00	29.00	31.00	31.00	31.00	31.00	31.00	31.00	31.00	31.00	31.00	31.00
9.3.3 Springwells Water Plant	32.00	32.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
9.3.4 Northeast Water Plant	26.00	26.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00
9.3.5 Southwest Water Plant	27.00	27.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00
9.5.1 Water Engineering	23.00	23.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00
Chief Operating Officer Wastewater Operations	477.65	460.80	436.00	432.50	436.00	436.00	436.00	436.00	436.00	436.00	436.00	436.00
8.1 Chief Operating Officer Wastewater	4.00	4.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
8.2.1 Wastewater Operations	350.25	332.80	312.00	308.50	312.00	312.00	312.00	312.00	312.00	312.00	312.00	312.00
8.3.1 Combined Sewer Overflow	23.00	23.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
8.5 Wastewater Engineering	33.40	34.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00
8.6 Industrial Waste Control	67.00	67.00	56.00	56.00	56.00	56.00	56.00	56.00	56.00	56.00	56.00	56.00
Chief Planning Officer	71.00	45.00	68.00	63.50	68.00	67.00	68.00	67.00	68.00	67.00	68.00	67.00
4.1 Chief Planning Officer	3.00	2.00	5.00	4.50	5.00	4.50	5.00	4.50	5.00	4.50	5.00	4.50
4.2 System Planning	8.00	2.00	4.00	3.25	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
4.3 System Analytics	33.00	28.75	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00
4.4 Asset Management & Capital Planning	24.00	10.25	17.00	14.00	17.00	16.50	17.00	16.50	17.00	16.50	17.00	16.50
4.5 Energy Management	3.00	2.00	3.00	2.75	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Chief Administration & Compliance Officer	87.75	91.00	111.00	110.75	116.00	116.00	116.00	116.00	116.00	116.00	116.00	116.00
2.1 Chief Administrative Officer	2.00	3.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
2.2 General Counsel	6.00	4.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
2.3 Organizational Development	20.50	21.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00
2.4 Risk Management and Safety	8.00	8.00	4.00	4.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
6.1 Chief Information Officer	4.00	5.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
6.2 Administration	6.00	6.00	10.00	9.75	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
6.3 Business Applications	10.00	9.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
6.4 Enterprise Applications	9.00	12.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
6.5 Infrastructure	10.00	11.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
6.6 Service Desk	10.25	11.00	12.00	12.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
6.7 Security & Risk	2.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00



Personnel Costs

Table 5 – Staffing Plan (Number of Positions and Full-time Equivalents) *(continued)*

Operating Area and Cost Center	Current Year		Biennial Budget				Forecast					
	FY 2017 Staffing Plan	FY 2017 Budget FTEs (Per Approved Budget)	FY 2018		FY 2019		FY 2020		FY 2021		FY 2022	
			Staffing Plan (Positions in Whole Numbers)	FY 2018 Requested FTEs	Staffing Plan (Positions in Whole Numbers)	FY 2019 Requested FTEs	Staffing Plan (Positions in Whole Numbers)	FY 2020 Requested FTEs	Staffing Plan (Positions in Whole Numbers)	FY 2021 Requested FTEs	Staffing Plan (Positions in Whole Numbers)	FY 2022 Requested FTEs
Chief Financial Officer	99.50	98.00	110.00	109.50	110.00	109.50	110.00	109.50	110.00	109.50	110.00	109.50
3.1 Chief Financial Officer	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
3.22 Financial Planning & Analysis	4.00	4.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
3.3 Treasury	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
3.4 Public Finance	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
3.5 Procurement	48.50	49.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00
3.7 Transformation	7.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
3.21 Financial Reporting & Accounting	25.00	25.00	27.00	26.50	27.00	26.50	27.00	26.50	27.00	26.50	27.00	26.50
3.6 Data Analytics & Internal Audit	5.00	5.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Chief Executive Officer	89.00	85.00	98.00	97.50	102.00	101.50	102.00	101.50	102.00	101.50	102.00	101.50
1.2 Chief Executive Officer	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
1.3 Public Affairs	5.00	5.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
10.1 Security	82.00	78.00	89.00	88.50	93.00	92.50	93.00	92.50	93.00	92.50	93.00	92.50
Grand Total	1,147.90	1,105.80	1,177.00	1,167.75	1,188.00	1,186.00	1,188.00	1,186.00	1,188.00	1,186.00	1,188.00	1,186.00



Centralized and Administrative Services Costs Allocation

Centralized Services include operational functions that serve both water and wastewater operations. This Includes cost centers for the Chief Planning Office (System Planning, System Analytics, Asset Management & Capital Planning, and Energy Management), Field Services (Operations, Engineering, and Fleet), Systems Control, Information Technology (Chief Information Officer, Business Applications, Enterprise Applications, Infrastructure, Service Desk, Security and Risk), and Security & Integrity.

Administrative & Other Services include the Board of Directors, Chief Executive Officer, Chief Administrative Officer, General Counsel, Public Affairs, Organizational Development, Risk Management & Safety, Financial Services Group (Chief Financial Officer, Financial Reporting & Accounting, Financial Planning & Analysis, Treasury, Public Finance, Procurement, Internal Audit & Data Analytics, and Transformation).

Cost Allocation for each of the above cost centers provides support to both the water system and the sewer system. For effective budget control, the expenses are recognized in one cost center. Those costs are then allocated as a pool to the water and sewer systems. The method of allocation is based on both specific identification of certain expenses as well as a formula basis for other expenses. Refining the cost allocation methodology and process is a high priority for FY 2018. This project will build on efforts in from FY 2016 which focused on stand up of new financial systems to support GLWA. As well as the initiative in FY 2017 to review 100% of every transaction since January 1, 2016 to ensure that expenses were in the correct cost center and to ensure that any account coding was carried back to the initiating purchase order. This was a necessary task given the condition of the prior legacy systems.

In **Table 1 – Costs Subject to Allocation – Water and Sewer Budgeted Amounts** presents the dollar amount allocated to each system based on the analysis of expenses by cost center.

Table 1 – Costs Subject to Allocation – Water and Sewer Budgeted Amounts

Cost Center & Description	Current Year		Biennial Budget						Forecast		
	FY 2017		FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
	FY 2017 Adopted	Activity thru March 31, 2017									
Water	\$ 46,974,300	\$ 58,728,900	\$ 54,966,400	\$ 7,992,100	17.0%	\$ 54,792,500	\$ (173,900)	-2.2%	\$ 54,969,400	\$ 54,638,000	\$ 54,633,300
Centralized Services	38,720,500	43,716,000	42,589,000	3,868,500	10.0%	42,639,300	50,300	1.3%	42,774,300	42,413,300	42,132,900
Administrative Services	8,253,800	15,012,900	12,377,400	4,123,600	50.0%	12,153,200	(224,200)	-5.4%	12,195,100	12,224,700	12,500,400
Wastewater	\$ 53,946,800	\$ -	\$ 72,760,500	\$ 18,813,700	34.9%	\$ 72,530,800	\$ (229,700)	-1.2%	\$ 72,764,700	\$ 72,324,200	\$ 72,318,400
Centralized Services	34,980,600		56,455,500	21,474,900	61.4%	56,521,900	66,400	0.3%	56,701,100	56,222,600	55,851,100
Administrative Services	18,966,200		16,305,000	(2,661,200)	-14.0%	16,008,900	(296,100)	11.1%	16,063,600	16,101,600	16,467,300
Grand Total	\$ 100,921,100	\$ 58,728,900	\$ 127,726,900	\$ 26,805,800	26.6%	\$ 127,323,300	\$ (403,600)	-1.5%	\$ 127,734,100	\$ 126,962,200	\$ 126,951,700



Centralized and Administrative Services Costs Allocation

In **Table 2 – Costs Subject to Allocation by Cost Center Group** summarizes the financial plan by cost center groups subject to allocation to the water or sewer system. Key variances in FY 2018 relate to the FY 2017 effort to validate that costs are in the correct general ledger strings at the fund-cost center-account level where fund could be O&M vs I&E or water vs. sewer. A notable example for FY 2018 was re-aligning IT expenses from the I&E fund to the O&M fund for the respective water or sewer system. This is a significant improvement in internal controls, budget accountability, and transparency in the budget process. Variances in subsequent years are minimal.

Table 2 – Costs Subject to Allocation by Cost Center Group

Cost Center & Description	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity thru March 31, 2017	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Centralized Services	\$ 73,701,100	\$ 43,716,000	\$ 99,044,500	\$ 25,343,400	25.6%	\$ 99,161,200	\$ 116,700	0.1%	\$ 99,475,400	\$ 98,635,900	\$ 97,984,000
Field Services	18,677,300	2,780,300	18,654,900	(22,400)	-0.1%	18,826,300	171,400	0.9%	18,827,200	18,835,500	18,845,600
Fleet & Facilities	16,016,600	2,601,900	13,438,900	(2,577,700)	-19.2%	13,546,400	107,500	0.8%	13,557,100	13,562,600	13,569,800
Information Technology	7,289,000	19,800,700	28,135,200	20,846,200	74.1%	27,833,400	(301,800)	-1.1%	27,995,800	27,729,800	27,674,200
Planning	8,376,500	3,370,500	13,371,000	4,994,500	37.4%	11,106,800	(2,264,200)	-20.4%	11,882,200	10,741,500	9,338,200
Security & Integrity	3,423,100	5,094,200	4,320,500	897,400	20.8%	4,529,300	208,800	4.6%	4,572,300	4,575,600	4,604,600
Systems Control	19,243,900	10,068,400	19,226,600	(17,300)	-0.1%	19,693,400	466,800	2.4%	19,766,800	19,831,400	19,900,400
Unallocated Reserve	674,700		1,897,400	1,222,700	64.4%	3,625,600	1,728,200	47.7%	2,874,000	3,360,000	4,051,200
Administrative Services	\$ 27,220,000	\$ 15,012,900	\$ 28,682,400	\$ 1,462,400	5.1%	\$ 28,162,100	\$ (520,300)	-1.8%	\$ 28,258,700	\$ 28,326,300	\$ 28,967,700
Chief Executive Officer	970,700	780,400	764,900	(205,800)	-26.9%	769,700	4,800	0.6%	774,700	779,900	785,100
General Counsel	3,540,700	1,525,100	3,074,800	(465,900)	-15.2%	2,392,600	(682,200)	-28.5%	1,983,400	1,445,200	1,297,600
Organizational Development	3,229,500	1,409,000	4,131,200	901,700	21.8%	4,139,600	8,400	0.2%	4,148,000	4,156,400	4,167,600
Public Affairs	713,200	662,300	1,271,300	558,100	43.9%	1,127,200	(144,100)	-12.8%	1,134,900	1,092,000	1,108,000
Risk Management and Safety	3,994,100	975,600	3,730,700	(263,400)	-7.1%	4,030,600	299,900	7.4%	4,033,300	4,035,900	4,039,200
Financial Services	13,940,200	9,386,100	13,055,200	(885,000)	-6.8%	12,640,700	(414,500)	-3.3%	12,640,700	12,695,200	12,754,800
Unallocated Reserve	674,700		2,000,000	1,325,300	66.3%	2,400,000	400,000	16.7%	2,880,000	3,456,000	4,147,200
Grand Total	\$ 100,921,100	\$ 58,728,900	\$ 127,726,900	\$ 26,805,800	21.0%	\$ 127,323,300	\$ (403,600)	-0.3%	\$ 127,734,100	\$ 126,962,200	\$ 126,951,700



Centralized and Administrative Services Costs Allocation

In **Table 3 – Costs Allocation – Water and Sewer Percentages** the aggregate allocation percentages are presented. A word of caution in reviewing aggregate amounts. What appears as an increase in percentage allocation to water (and corresponding decrease in sewer) from FY 2017 to FY 2018 is not due to an overall change in a percentage method but is based upon specific identification of certain expenses that should clearly be borne solely by one system versus another. Going forward, the cost allocation percentages are stable.

Table 3 – Costs Allocation – Water and Sewer Percentages

Cost Center & Description	FY 2017 Adopted	FY 2018 Requested	FY 2019 Requested	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Centralized Services	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Water	52.5%	43.0%	43.0%	43.0%	43.0%	43.0%
Wastewater	47.5%	57.0%	57.0%	57.0%	57.0%	57.0%
Administrative Services	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Water	30.3%	43.2%	43.2%	43.2%	43.2%	43.2%
Wastewater	69.7%	56.8%	56.8%	56.8%	56.8%	56.8%
Total Allocated Services	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Water	46.5%	43.0%	43.0%	43.0%	43.0%	43.0%
Wastewater	53.5%	57.0%	57.0%	57.0%	57.0%	57.0%



Debt Management

A clear long-term objective of the Great Lakes Water Authority is to reduce the level of annual debt service as a percent of the revenue requirement. For FY 2018, debt service equates to 41% of the water system revenue requirement and 45% of the sewer system revenue requirement. Similar percentages apply to FY 2019.

Based on the two year capital plan need from the FY 2018 to FY 2022 Sewer Capital Improvement Plan (CIP), GLWA may issue approximately \$97 million of new sewer system bonds in late FY 2018. Additionally, based on the two year capital need from the FY 2018 to FY 2022 Water CIP, GLWA may issue approximately \$200 million of new water system revenue bonds in FY 2019. Where possible, the GLWA is seeking to maximize the use of lower interest cost loan programs such as the Drinking Water Revolving Fund (DWRF) and State Revolving Fund (SRF), programs.

Pursuant to the terms of the lease agreements dated June 12, 2015 and subsequent bondholder consent achieved in November 2015, the GLWA is the successor obligor for the former City of Detroit Water & Sewerage Department (DWSD) revenue bonds. Revenues from *both* the DWSD and GLWA systems, however, represent pledged assets for the payment of the bonds. Revenues collections from both systems are therefore deposited with the Trustee pursuant to the terms of the GLWA Master Bond Ordinance (MBO). The Trustee then distributes and maintains trust accounts for specified purposes including the payment of debt obligations. The MBO and lease agreements are available online at <http://www.glwater.org/board/organizational-documents/>.

The tables on the following pages provide an analysis of the annual debt service and total remaining principal for both the water and sewer systems. Also provided is a table of outstanding debt at year end.



Debt Management

Great Lakes Water Authority Annual Debt Service Payments - Water Fund FY 2018 and FY 2019

	FY 2018			FY 2019		
	Current	Proposed	Total	Current	Proposed	Total
Principal						
Senior Lien	\$ 43,955,000	\$ -	\$ 43,955,000	\$ 37,705,000	\$ - (2)	\$ 37,705,000
Second Lien	8,815,000	-	8,815,000	15,420,000	-	15,420,000
Junior Lien- DWRF	1,532,500	- (1)	1,532,500	1,798,800	97,100 (1)	1,895,900
Total Principal	\$ 54,302,500	\$ -	\$ 54,302,500	\$ 54,923,800	\$ -	\$ 55,020,900
Interest						
Senior Lien	\$ 83,732,400	\$ -	\$ 83,732,400	\$ 81,525,800	\$ 7,125,000 (2)	\$ 88,650,800
Second Lien	34,037,800	-	34,037,800	33,600,400	-	33,600,400
Junior Lien- DWRF	665,900	212,500 (1)	878,400	632,500	525,000 (1)	1,157,500
Total Interest	\$ 118,436,100	\$ 212,500	\$ 118,648,600	\$ 115,758,700	\$ 7,650,000	\$ 123,408,700
Total Debt Service						
Senior Lien	\$ 127,687,400	\$ -	\$ 127,687,400	\$ 119,230,800	\$ 7,125,000 (2)	\$ 126,355,800
Second Lien	42,852,800	-	42,852,800	49,020,400	-	49,020,400
Junior Lien- DWRF	2,198,400	212,500 (1)	2,410,900	2,431,300	622,100 (1)	3,053,400
Total Debt Service	\$ 172,738,600	\$ 212,500	\$ 172,951,100	\$ 170,682,500	\$ 7,747,100	\$ 178,429,600
Allocation of Debt Service Per "Schedule 2"						
Debt Service Allocable to Regional System			\$ 135,464,400			\$ 140,942,900
Debt Service Allocable to Local System			37,486,700			37,486,700
Total Debt Service			\$ 172,951,100			\$ 178,429,600

(1) Includes debt service payments from Issuance of \$17,000,000 in Drinking Water Revolving Fund (DWRF) Bonds in FY 2017.

(2) Includes debt service payments on proposed \$200,000,000 in Water Revenue Bonds issued in FY 2019.



Debt Management

Great Lakes Water Authority Annual Debt Service Payments - Sewer Fund FY 2018 and FY 2019

	FY 2018			FY 2019		
	Current	Proposed	Total	Current	Proposed	Total
Principal						
Senior Lien Fixed	\$ 42,720,000	\$ -	\$ 42,720,000	\$ 48,765,000	\$ 3,534,600 (2)	\$ 52,299,600
Senior Lien Capital Appreciation	811,200	-	811,200	1,055,300	-	1,055,300
Senior Lien Variable Rate	-	-	-	-	-	-
Senior Lien-SRF	8,457,500	-	8,457,500	8,423,800	-	8,423,800
Second Lien	5,850,000	-	5,850,000	6,075,000	-	6,075,000
Junior Lien-SRF/SAW	36,566,300	- (1)	36,566,300	38,428,800	1,846,700 (1)	40,275,500
Total Principal	\$ 94,405,000	\$ -	\$ 94,405,000	\$ 102,747,900	\$ 5,381,300	\$ 108,129,200
Interest						
Senior Lien	\$ 83,485,100	\$ - (2)	\$ 83,485,100	\$ 81,345,800	\$ 10,687,500 (2)	\$ 92,033,300
Senior Lien Capital Appreciation	1,658,800	-	1,658,800	2,389,700	-	2,389,700
Senior Lien Variable Rate	4,430,300	-	4,430,300	4,430,300	-	4,430,300
Senior Lien-SRF	813,900	-	813,900	603,300	-	603,300
Second Lien	38,140,100	-	38,140,100	37,847,600	-	37,847,600
Junior Lien-SRF/SAW	10,184,400	1,890,400 (1)	12,074,800	10,376,000	1,497,500 (1)	11,873,500
Total Interest	\$ 138,712,600	\$ 1,890,400	\$ 140,603,000	\$ 136,992,700	\$ 12,185,000	\$ 149,177,700
Total Debt Service						
Senior Lien	\$ 126,205,100	\$ - (2)	\$ 126,205,100	\$ 130,110,800	\$ 14,222,100 (2)	\$ 144,332,900
Senior Lien Capital Appreciation	2,470,000	-	2,470,000	3,445,000	-	3,445,000
Senior Lien Variable Rate	4,430,300	-	4,430,300	4,430,300	-	4,430,300
Senior Lien-SRF	9,271,400	-	9,271,400	9,027,100	-	9,027,100
Second Lien	43,990,100	-	43,990,100	43,922,600	-	43,922,600
Junior Lien-SRF/SAW	46,750,700	1,890,400 (1)	48,641,100	48,804,800	3,344,200 (1)	52,149,000
Total Debt Service	\$ 233,117,600	\$ 1,890,400	\$ 235,008,000	\$ 239,740,600	\$ 17,566,300	\$ 257,306,900
Allocation of Debt Service Per "Schedule 2"						
Debt Service Allocable to Regional System			\$ 207,615,500			\$ 229,914,400
Debt Service Allocable to Local System			27,392,500			27,392,500
Total Debt Service			\$ 235,008,000			\$ 257,306,900

(1) Includes debt service payments from Issuance of \$38,450,000 in State Revolving Fund (SRF) Bonds in late FY 2017.

(2) Includes debt service payments on proposed \$97,000,000 in Sewer Revenue Bonds issued in late FY 2018.



Debt Management

Great Lakes Water Authority Outstanding Debt Obligations FY 2018 and FY 2019

Water Fund				
Fiscal Year	Beginning Balance	Payments	Additions	Ending Balance
FY 2018	\$ 2,372,848,761	\$ (54,302,500)	\$ -	\$ 2,318,546,261
FY 2019	2,318,546,261	(55,020,900)	200,000,000	2,463,525,361

Sewer Fund				
Fiscal Year	Beginning Balance	Payments	Additions	Ending Balance
FY 2018	\$ 3,229,893,237	\$ (94,405,000)	\$ 97,000,000	\$ 3,232,488,237
FY 2019	3,232,488,237	(108,129,200)	-	3,124,359,037

Water Fund Additions: Based on the financial forecast included in the FY 2018 to FY 2022 Water Supply System Capital Improvement Plan, GLWA will need to issue approximately \$200,000,000 in New Money Water Supply System Revenue Bonds during FY 2019.

Sewer Fund Additions: Based on the financial forecast included in the FY 2018 to FY 2022 Sewage Disposal System Capital Improvement Plan, GLWA will need to issue approximately \$97,000,000 in New Money Sewage Disposal System Revenue Bonds during FY 2018.



Legacy Obligations

In municipal finance, the term “legacy obligations” represent unfunded liabilities accrued over prior decades. In the context of GLWA, legacy obligations represent an allocable portion of the DWSD’s closed defined benefit pension and restructured retiree healthcare liability obligation. The terms of that obligation were established in the City of Detroit’s Chapter 9 bankruptcy plan of adjustment (POA) approved on December 10, 2014 . With the standup of the GLWA on January 1, 2016, those legacy obligations were bifurcated between GLWA and DWSD. That allocation was based upon a review of wholesale and retail data in the cost of service studies at intervals throughout the prior three decades.

Background – Prior to January 1, 2016 Bifurcation

The City of Detroit’s Chapter 9 bankruptcy plan of adjustment (POA), approved on December 10, 2014, materially restructured the City’s pension and retiree healthcare plan (otherwise referenced as other post-employment benefits or OPEB). Under the Plan of Adjustment, the GRS defined benefit plan was frozen as of July 1, 2014, and closed to new participants; however, the City retained the responsibility to fund amounts necessary to provide adjusted (reduced) pension benefits to employees and retirees who accrued benefits under the GRS Plan. Claims relating to the City’s pension obligation certificates and post-retirement health benefits were funded by the City’s BC Note Obligation. DWSD was assigned an allocable share of those bonds.

The plan of adjustment required the following of DWSD as it related to the GRS Component II frozen, closed pension plan.

1. Annual payments by the DWSD to fully fund its portion of the closed defined benefit pension liability due to the City of Detroit General Retirement System (GRS) over nine years beginning in FY 2015.
2. The water and sewer systems are required to annually contribute a total of \$42.9 million per year, plus \$2.5 million per year in administrative expenses, for a total of \$45,400,000 for the nine Fiscal Years beginning on July 1, 2014 and ending on June 30, 2023 to GRS.
3. The required funding under the Plan of Adjustment represents a substantial reduction in the Systems’ overall funding obligation from the pre-bankruptcy liability. After the initial nine-year period through June 30, 2023, the Systems’ remain responsible for the remaining allocable share of the unfunded accrued actuarial liability (UAAL) of GRS. Under the Plan of Adjustment, an assumed investment rate of 6.75% and then-available mortality tables were utilized in calculating the potential size of the Systems’ remaining liability.
4. It is important to note that this annual payment represents both a normal expense plus an advance payment of a liability that would otherwise be amortized over a period up to 30 years. For that reason, a portion of the payment is recorded in Operations & Maintenance expense for the administrative fee and a proxy for normal cost. The remaining non-operating portion is treated like a long-term debt payment subordinate to bonded debt in the MBO flow of funds.
5. Payment of an unknown tail pension liability payable to GRS in year eleven (FY 2024) which, at that time, was represented as minimal.
6. Payment of an annual administrative fee to the GRS pension system of \$2.5 million.
7. The first payment to GRS was in FY 2015.

The plan of adjustment required the following of DWSD as it related to the BC Notes for pension obligation certificates and post-retirement health benefits.



Legacy Obligations

1. The DWSD is responsible for an allocable share of the portion of the City of Detroit 30-year B Notes relating to settlement of OPEB claims and 10-year C Notes related to the Systems' prior allocable share of the City's pension obligation certificates.
2. The allocable portions of those settlement payments, in the form of New B/C Notes, was equal to approximately \$105 million. Annual debt service for the next two years is \$2,923,000.
3. With the stand-up of the Authority on January 1, 2016, this annual commitment is allocated between the local and regional systems.

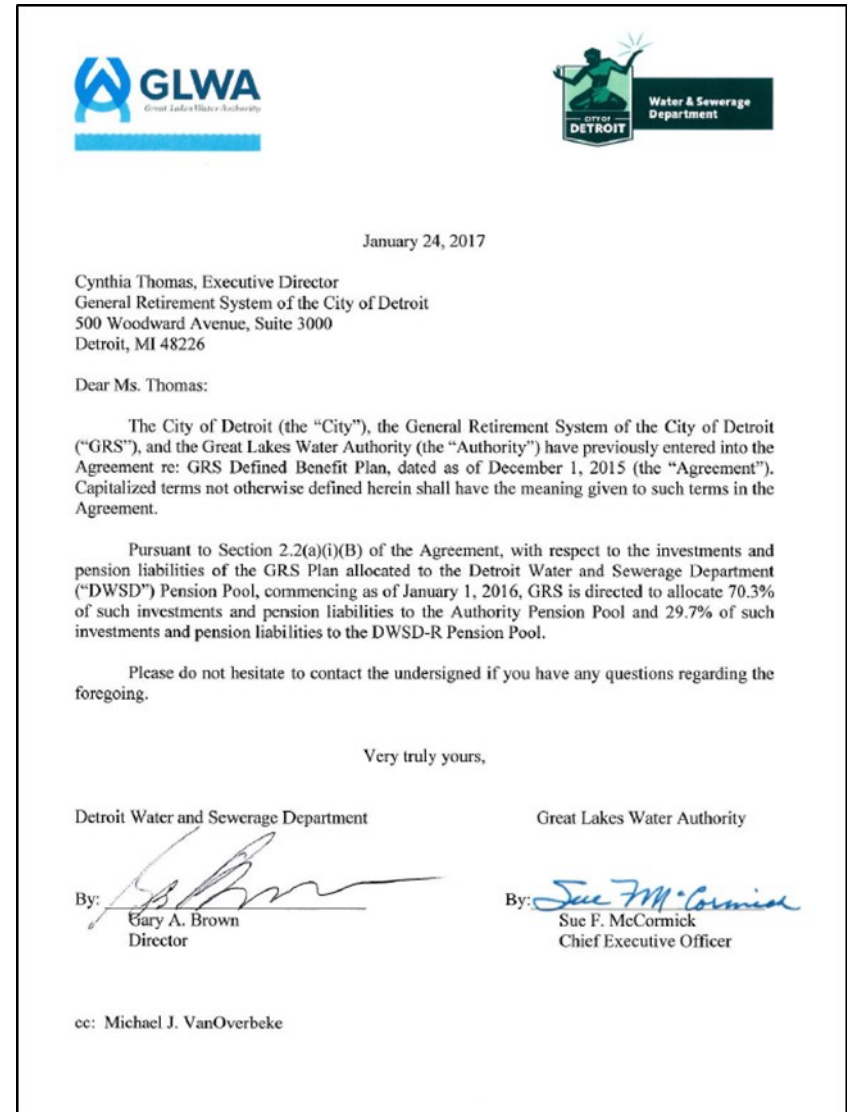
January 1, 2016 – Operational Effective Date of Bifurcated Legacy Obligations

With the stand-up of the Authority on January 1, 2016, the legacy obligations for the GRS Pension and BC Note obligation was allocated between the local and regional systems. Cost of service studies at intervals throughout the prior three decades were reviewed to establish the allocation between water and sewer systems as well as wholesale and retail customer cost pools. Based upon the review of that information, the Chief Executive Officer for GLWA and Director for DWSD authorized the GRS to begin accounting for pension cost pool activity with GLWA accountable for 70.3% of the pension activity and DWSD accountable for 29.7% of the pension activity as shown in the letter to the right dated January 24, 2017.

The **Table 1 – Legacy Obligation Allocation** able at the end of this section provides the annual six-way allocation of the liability between water and sewer system, DWSD and GLWA, and O&M and non-O&M.

Leading up to the operational effective date, one of the required tasks was development of an agreement among the GRS, the City and the Authority re GRS Defined Benefit Plan (the "pension agreement"). This agreement, dated December 1, 2015, establishes certain disclosures, calculations, and other recordkeeping by the GRS, its auditors, and its actuaries.

In addition, the pension agreement also requires the GRS to provide the Authority with a determination of the UAAL for the Authority Pension Pool using



Legacy Obligations

the market value of assets for the Authority Pension Pool and whether the Authority Pension Pool is funded at 100%. If the Authority Pension Pool is less than 100% funded, then the Authority is required to make such level annual contributions to the GRS as necessary to amortize such shortfall over five years (as provided in the leases or such greater period not to exceed ten years as agreed upon by GRS and the Authority) at an interest rate equal to the then current GRS investment return assumption.

The pension agreement also establishes reporting of the annual funded administrative expenses compared to actual in the annual GRS audit report.

Future Planning

The sufficiency of the funding plan for the GRS to provide for limiting the tail liability is a growing concern. As reported in the latest audit of the GRS, the Legacy Plan's ratio of plan net position as a percent of pension liability decreased from 72.06% at June 30, 2015 to 66.1% at June 30, 2016. GLWA management has continuing conversation with City, DWSD, and GRS personnel regarding the concerns for the growing liability and continues to seek innovative solutions to protect the financial sustainability for all parties.



Legacy Obligations

Table 1 – Legacy Obligation Allocation

Description	Allocation Percentage	Initial 9 Year										
		FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Totals	
Operations & Maintenance (O&M) Portion of Legacy Payments - Component II												
O&M Admin Fee												
Old DWSD-Water	n/a	\$ 1,075,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,075,000
Old DWSD-Sewer	n/a	1,425,000	-	-	-	-	-	-	-	-	-	1,425,000
GLWA-Water	25.20%	-	630,000	630,000	630,000	630,000	630,000	630,000	630,000	630,000	630,000	5,040,000
GLWA-Sewer	45.10%	-	1,127,500	1,127,500	1,127,500	1,127,500	1,127,500	1,127,500	1,127,500	1,127,500	1,127,500	9,020,000
DWSD-R-Water	17.80%	-	445,000	445,000	445,000	445,000	445,000	445,000	445,000	445,000	445,000	3,560,000
DWSD-R-Sewer	11.90%	-	297,500	297,500	297,500	297,500	297,500	297,500	297,500	297,500	297,500	2,380,000
Subtotal - Admin Fee in O&M		\$ 2,500,000	\$ 2,500,000	\$ 2,500,000	\$ 2,500,000	\$ 2,500,000	\$ 2,500,000	\$ 2,500,000	\$ 2,500,000	\$ 2,500,000	\$ 2,500,000	\$ 22,500,000
O&M Legacy Pension												
Old DWSD-Water	n/a	\$ 9,245,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9,245,000
Old DWSD-Sewer	n/a	12,255,000	-	-	-	-	-	-	-	-	-	12,255,000
GLWA-Water	25.20%	-	5,418,000	5,418,000	5,418,000	5,418,000	5,418,000	5,418,000	5,418,000	5,418,000	5,418,000	43,344,000
GLWA-Sewer	45.10%	\$ -	9,696,500	9,696,500	9,696,500	9,696,500	9,696,500	9,696,500	9,696,500	9,696,500	9,696,500	77,572,000
DWSD-R-Water	17.80%	\$ -	3,827,000	3,827,000	3,827,000	3,827,000	3,827,000	3,827,000	3,827,000	3,827,000	3,827,000	30,616,000
DWSD-R-Sewer	11.90%	\$ -	2,558,500	2,558,500	2,558,500	2,558,500	2,558,500	2,558,500	2,558,500	2,558,500	2,558,500	20,468,000
Subtotal - O&M Legacy Pension		\$ 21,500,000	\$ 21,500,000	\$ 21,500,000	\$ 21,500,000	\$ 21,500,000	\$ 21,500,000	\$ 21,500,000	\$ 21,500,000	\$ 21,500,000	\$ 21,500,000	\$ 193,500,000
Total O&M Legacy Pension Payment (Admin Fee plus Pension Contribution)												
Old DWSD-Water	n/a	\$ 10,320,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10,320,000
Old DWSD-Sewer	n/a	13,680,000	-	-	-	-	-	-	-	-	-	13,680,000
GLWA-Water	25.20%	-	6,048,000	6,048,000	6,048,000	6,048,000	6,048,000	6,048,000	6,048,000	6,048,000	6,048,000	48,384,000
GLWA-Sewer	45.10%	-	10,824,000	10,824,000	10,824,000	10,824,000	10,824,000	10,824,000	10,824,000	10,824,000	10,824,000	86,592,000
DWSD-R-Water	17.80%	-	4,272,000	4,272,000	4,272,000	4,272,000	4,272,000	4,272,000	4,272,000	4,272,000	4,272,000	34,176,000
DWSD-R-Sewer	11.90%	-	2,856,000	2,856,000	2,856,000	2,856,000	2,856,000	2,856,000	2,856,000	2,856,000	2,856,000	22,848,000
Total O&M Legacy Pension Payment		\$ 24,000,000	\$ 24,000,000	\$ 24,000,000	\$ 24,000,000	\$ 24,000,000	\$ 24,000,000	\$ 24,000,000	\$ 24,000,000	\$ 24,000,000	\$ 24,000,000	\$ 216,000,000
Non-Operating Portion of Legacy Payments - Component II												
Old DWSD-Water	n/a	\$ 9,202,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9,202,000
Old DWSD-Sewer	n/a	12,198,000	-	-	-	-	-	-	-	-	-	12,198,000
GLWA-Water	25.20%	-	5,392,800	5,392,800	5,392,800	5,392,800	5,392,800	5,392,800	5,392,800	5,392,800	5,392,800	43,142,400
GLWA-Sewer	45.10%	-	9,651,400	9,651,400	9,651,400	9,651,400	9,651,400	9,651,400	9,651,400	9,651,400	9,651,400	77,211,200
DWSD-R-Water	17.80%	-	3,809,200	3,809,200	3,809,200	3,809,200	3,809,200	3,809,200	3,809,200	3,809,200	3,809,200	30,473,600
DWSD-R-Sewer	11.90%	-	2,546,600	2,546,600	2,546,600	2,546,600	2,546,600	2,546,600	2,546,600	2,546,600	2,546,600	20,372,800
Total Non-Operating Legacy Pension Payment		\$ 21,400,000	\$ 21,400,000	\$ 21,400,000	\$ 21,400,000	\$ 21,400,000	\$ 21,400,000	\$ 21,400,000	\$ 21,400,000	\$ 21,400,000	\$ 21,400,000	\$ 192,600,000
Total Combined Legacy Pension O&M and Non-Operating Payment - Component II												
Old DWSD-Water	n/a	\$ 19,522,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 19,522,000
Old DWSD-Sewer	n/a	25,878,000	-	-	-	-	-	-	-	-	-	25,878,000
GLWA-Water	25.20%	-	11,440,800	11,440,800	11,440,800	11,440,800	11,440,800	11,440,800	11,440,800	11,440,800	11,440,800	91,526,400
GLWA-Sewer	45.10%	-	20,475,400	20,475,400	20,475,400	20,475,400	20,475,400	20,475,400	20,475,400	20,475,400	20,475,400	163,803,200
DWSD-R-Water	17.80%	-	8,081,200	8,081,200	8,081,200	8,081,200	8,081,200	8,081,200	8,081,200	8,081,200	8,081,200	64,649,600
DWSD-R-Sewer	11.90%	-	5,402,600	5,402,600	5,402,600	5,402,600	5,402,600	5,402,600	5,402,600	5,402,600	5,402,600	43,220,800
Total Legacy Pension Payment		\$ 45,400,000	\$ 45,400,000	\$ 45,400,000	\$ 45,400,000	\$ 45,400,000	\$ 45,400,000	\$ 45,400,000	\$ 45,400,000	\$ 45,400,000	\$ 45,400,000	\$ 408,600,000
BC Notes (Non-Operating)												
Old DWSD-Water	n/a	\$ 580,320	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 580,320
Old DWSD-Sewer	n/a	967,201	-	-	-	-	-	-	-	-	-	967,201
GLWA-Water	21.98%	-	867,924	875,508	875,508	875,508	875,508	875,508	875,508	875,508	875,508	6,996,482
GLWA-Sewer	49.44%	-	1,952,237	1,969,297	1,969,296	1,969,296	1,969,296	1,969,296	1,969,296	1,969,296	1,969,297	15,737,310
DWSD-R-Water	15.52%	-	612,838	618,193	618,193	618,193	618,193	618,193	618,193	618,193	618,193	4,940,191
DWSD-R-Sewer	13.06%	-	515,700	520,207	520,206	520,206	520,206	520,206	520,206	520,206	520,207	4,157,145
Total BC Notes (Non-Operating)		\$ 1,547,521	\$ 3,948,700	\$ 3,983,205	\$ 3,983,203	\$ 3,983,203	\$ 3,983,204	\$ 3,983,204	\$ 3,983,204	\$ 3,983,204	\$ 3,983,205	\$ 33,378,649



Shared Services

The GLWA and DWSD leverage economies of scale, assets, technology, and expertise by sharing services. The shared service agreement, dated December 1, 2015, is available online at <http://www.glwater.org/board/organizational-documents/>.

The shared services billing process is new to both entities and is subject to manual tabulation until appropriate systems are in place. To best facilitate the tracking of expenses, GLWA has designed its general ledger system to manage the budget and accumulate costs via a “contra” account in each cost center that matches the source of the expense. The net effect on the cost center expense is zero which preserves the basis appropriate cost allocation. Amounts charged by DWSD for services are recorded in a manner consistent with other vendor expenses.

In **Table 1 – Budgeted Shared Services Billings by GLWA**, the total shared services billings for FY 2018 are \$16.2 million and for FY 2019 are \$16.3 million. The parties are continuing to evaluate operational goals. Actual shared services over the next year may decrease in the area of security and fleet services but increase in the area of information technology.

Table 1 – Budgeted Shared Services Billings by GLWA

Cost Center & Description	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
A Water System Operations	(332,200)	-	(385,600)	(53,400)	13.8%	(432,100)	(46,500)	10.8%	(435,300)	(437,400)	(439,900)
9.2.2 Water Quality	(332,200)	-	(385,600)	(53,400)	13.8%	(432,100)	(46,500)	10.8%	(435,300)	(437,400)	(439,900)
B Wastewater System Operations	-	-	(6,400)	(6,400)	100.0%	(2,900)	3,500	-120.7%	(2,900)	(2,900)	(2,900)
8.3.2 Combined Sewer Overflow Facilities	-	-	(6,400)	(6,400)	100.0%	(2,900)	3,500	-120.7%	(2,900)	(2,900)	(2,900)
C Centralized Services	(8,140,600)	(1,109,600)	(13,196,500)	(5,055,900)	38.3%	(13,211,200)	(14,700)	0.1%	(13,224,100)	(13,271,900)	(13,260,100)
4.3 System Analytics	-	-	(440,900)	(440,900)	100.0%	(441,000)	(100)	0.0%	(441,100)	(441,300)	(441,400)
6.1 Chief Information Officer	(1,853,200)	-	(270,400)	1,582,800	-585.4%	(270,100)	300	-0.1%	(270,000)	(269,800)	(269,600)
6.2 Administration	(31,400)	-	(236,500)	(205,100)	86.7%	(236,500)	-	0.0%	(236,500)	(266,500)	(236,500)
6.3 Business Applications	(152,800)	(366,700)	(1,845,100)	(1,692,300)	91.7%	(1,845,100)	-	0.0%	(1,845,100)	(1,845,100)	(1,845,100)
6.4 Enterprise Applications	(440,400)	-	(1,922,300)	(1,481,900)	77.1%	(1,922,300)	-	0.0%	(1,922,300)	(1,922,300)	(1,922,300)
6.5 Infrastructure	(2,145,800)	(205,600)	(4,521,100)	(2,375,300)	52.5%	(4,521,100)	-	0.0%	(4,518,100)	(4,521,100)	(4,521,100)
6.6 Service Desk	(148,700)	-	(658,500)	(509,800)	77.4%	(658,500)	-	0.0%	(658,500)	(658,600)	(658,500)
6.7 Security & Risk	-	-	(85,100)	(85,100)	100.0%	(85,300)	(200)	0.2%	(85,500)	(85,600)	(85,800)
7.1 Systems Control	(1,339,100)	(537,300)	(1,404,900)	(65,800)	4.7%	(1,415,900)	(11,000)	0.8%	(1,422,100)	(1,427,300)	(1,432,900)
10.1 Security	(2,029,200)	-	(1,811,700)	217,500	-12.0%	(1,815,400)	(3,700)	0.2%	(1,824,900)	(1,834,300)	(1,846,900)
D Administrative Services	(1,834,100)	(32,700)	(2,693,200)	(859,100)	31.9%	(2,700,700)	(7,500)	0.3%	(2,708,400)	(2,716,100)	(2,723,900)
2.2 General Counsel	(1,695,600)	(2,700)	(1,959,100)	(263,500)	13.5%	(1,959,100)	-	0.0%	(1,959,100)	(1,959,100)	(1,959,100)
3.3 Treasury	-	-	(734,100)	(734,100)	100.0%	(741,600)	(7,500)	1.0%	(749,300)	(757,000)	(764,800)
3.5 Procurement	(58,500)	-	-	58,500	0.0%	-	-	0.0%	-	-	-
3.7 Transformation	(80,000)	(30,000)	-	80,000	0.0%	-	-	0.0%	-	-	-
Grand Total	(10,306,900)	(1,142,300)	(16,281,700)	(5,974,800)	36.7%	(16,346,900)	(65,200)	0.4%	(16,370,700)	(16,428,300)	(16,426,800)



Shared Services

In Table 2 – Budgeted Shared Services Billings by GLWA & Invoicing from DWSD, both activities by GLWA as service “provider” and services received by GLWA as the service “subscriber” are shown. (Note: Cost Center Coding with an asterisk (*) is new as of July 1, 2017.)

Table 2 – Budgeted Shared Services Billings by GLWA & Invoicing from DWSD

Shared Services Number and Description	Cost Center - Description	GLWA's Role	Current Year		Biennial Budget		Forecast			FY 2018 through FY 2022 Cost Center Coding
			GLWA Adopted (Billing)/ Expense	FY 2017 Activity through March 31, 2017	FY 2018 GLWA (Billing)/ Expense	FY 2019 GLWA (Billing)/ Expense	FY 2020 GLWA (Billing)/ Expense	FY 2021 GLWA (Billing)/ Expense	FY 2022 GLWA (Billing)/ Expense	
OPS-004 Water Quality Sampling, Testing, Reporting	882121 - Water Quality	Provider	(322,000)		(61,500)	(62,000)	(62,200)	(62,800)	(63,200)	5910-882121.000-741310-WS7000
OPS-004 Water Quality Sampling, Testing, Reporting	882121 - Water Quality	Provider	(400)							*5910-882121.000-741310-WS7000
OPS-004 Water Quality Sampling, Testing, Reporting	882121 - Water Quality	Provider	(9,800)							*5910-882121.000-741310-WS7000
OPS-004 Water Quality Sampling, Testing, Reporting	882121 - Water Quality	Provider			(324,100)	(370,100)	(373,100)	(374,600)	(376,700)	5910-882121.000-741315-WS7000
OPS-005 Security and Integrity	881201 - Security	Provider	(2,029,200)		(1,811,700)	(1,815,400)	(1,824,900)	(1,834,300)	(1,846,900)	5910-881201.000-741315-WS7900
OPS-008 Systems Control Center: Detroit Only Pump Stations/CSO	882301 - Systems Operations Control	Provider	(266,700)							*5910-882301.000-741310-WS7810
OPS-008 Systems Control Center: Detroit Only Pump Stations/CSO	892279 - Belle Isle Combined Sewer Overflow	Provider			(6,400)	(2,900)	(2,900)	(2,900)	(2,900)	5960-892279.000-741310-SD8620
OPS-008 Systems Control Center: Detroit Only Pump Stations/CSO	882301 - Systems Operations Control	Provider	(1,700)	139,600						*5910-882301.000-741310-WS7810
OPS-008 Systems Control Center: Detroit Only Pump Stations/CSO	882301 - Systems Operations Control	Provider	(10,100)							*5910-882301.000-741310-WS7810
OPS-008 Systems Control Center: Detroit Only Pump Stations/CSO	882301 - Systems Operations Control	Provider	(574,700)							*5910-882301.000-741310-WS7810
OPS-008 Systems Control Center: Detroit Only Pump Stations/CSO	882301 - Systems Operations Control	Provider	(485,900)	(676,900)	(961,000)	(963,400)	(965,900)	(968,300)	(970,800)	5910-882301.000-741310-WS7810
OPS-008 Systems Control Center: Detroit Only Pump Stations/CSO	882301 - Systems Operations Control	Provider			(443,900)	(452,500)	(456,200)	(459,000)	(462,100)	5910-882301.000-741315-WS7810
ITS-001 Retail AMR	883341 - IT Enterprise Applications	Provider	(440,400)		(1,325,800)	(1,324,100)	(1,322,500)	(1,320,800)	(1,318,600)	5910-883341.000-741310-WS7900
ITS-001 Retail AMR	883341 - IT Enterprise Applications	Provider			(596,500)	(598,200)	(599,800)	(601,500)	(603,700)	5910-883341.000-741315-WS7900
ITS-002 Customer Service Tech Suite	883351 - IT Business Applications	Provider	(152,800)	(366,700)	(1,381,800)	(1,380,600)	(1,379,400)	(1,378,200)	(1,376,600)	5910-883351.000-741310-WS7900
ITS-002 Customer Service Tech Suite	883351 - IT Business Applications	Provider			(463,300)	(464,500)	(465,700)	(466,900)	(468,500)	5910-883351.000-741315-WS7900
ITS-002 Customer Service Tech Suite	883321 - IT Service Desk	Provider	(148,680)		(309,900)	(358,700)	(357,600)	(356,600)	(355,100)	5910-883321.000-741310-WS7900
ITS-002 Customer Service Tech Suite	883321 - IT Service Desk	Provider			(348,600)	(299,800)	(300,900)	(302,000)	(303,400)	5910-883321.000-741315-WS7900
ITS-004 WAM	883311 - IT Administration	Provider	(31,440)		(143,600)	(143,400)	(143,200)	(172,900)	(142,600)	5910-883311.000-741310-WS7900
ITS-004 WAM	883311 - IT Administration	Provider			(92,900)	(93,100)	(93,300)	(93,600)	(93,900)	5910-883311.000-741315-WS7900
ITS-004 WAM	881510 - Transition	Provider	(80,000)	(30,000)						*5910-883311.000-741310-WS7900
ITS-006 ESRI - Geographic Information System	883301 - Info Technology	Provider	(1,853,200)		(193,900)	(193,500)	(193,200)	(192,900)	(192,500)	5910-883301.000-741310-WS7900
ITS-006 ESRI - Geographic Information System	883301 - Info Technology	Provider			(76,500)	(76,600)	(76,800)	(76,900)	(77,100)	5910-883301.000-741315-WS7900
ITS-009 IT Infrastructure	883331 - Infrastructure	Provider	(2,145,780)	(205,600)	(4,073,900)	(4,176,800)	(4,172,800)	(4,174,800)	(4,173,400)	5910-883331.000-741310-WS7900
ITS-009 IT Infrastructure	883331 - Infrastructure	Provider			(447,200)	(344,300)	(345,300)	(346,300)	(347,700)	5910-883331.000-741315-WS7900
ITS-009 IT Infrastructure	883361 - Info Technology Security & Risk	Provider			(85,100)	(85,300)	(85,500)	(85,600)	(85,800)	5910-883361.000-741315-WS7900
PRO-001 Applications Analyst	884121 - Procurement	Provider	(58,500)							5910-884121.000-741310-WS7900
New - DWSD - Bank Fees	884131 - Treasury	Provider			(721,000)	(728,500)	(736,100)	(743,800)	(751,600)	5910-884131.000-741310-WS7900
New - DWSD - Bank Fees	884131 - Treasury	Provider			(13,100)	(13,100)	(13,200)	(13,200)	(13,200)	5910-884131.000-741315-WS7900
New - HPE & West Coast	886401 - Systems Analytics	Provider			(400,400)	(400,400)	(400,400)	(400,400)	(400,400)	5910-886401.000-741310-WS7900
New - HPE & West Coast	886401 - Systems Analytics	Provider			(40,500)	(40,600)	(40,700)	(40,900)	(41,000)	5910-886401.000-741315-WS7900
LS-001-A Litigation and Joint Defense (GLWA Provider)	883101 - General Counsel	Provider	(1,695,600)	(1,200)	(1,959,100)	(1,959,100)	(1,959,100)	(1,959,100)	(1,959,100)	5910-883101.000-741310-WS7900
LS-001-A Litigation and Joint Defense (GLWA Provider)	883101 - General Counsel	Provider		(1,100)						5910-883101.000-741315-WS7900
LS-001-A Litigation and Joint Defense (GLWA Provider)	883101 - General Counsel	Provider		(400)						5910-883101.000-741320-WS7900
	Subtotal - Billings to DWSD		(10,306,900)	(1,142,300)	(16,281,700)	(16,346,900)	(16,370,700)	(16,428,300)	(16,426,800)	
OPS-001 Fleet	882422 - Fleet	Subscriber	2,150,900	537,700	2,150,900	2,150,900	2,150,900	2,150,900	2,150,900	5910-882422.000-617900-WS7310
OPS-002 MISS DIG	882411 - Field Engineering	Subscriber	94,900	23,700						5910-882411.000-617900-WS7310
OPS-006 Shared Facilities Shared Costs	882421 - Facility Operations	Subscriber	1,106,000		1,106,000	1,106,000	1,106,000	1,106,000	1,106,000	5910-882421.000-617900-WS7310
DoIT-001 Financial Information System	883331 - Infrastructure	Subscriber	53,405	146,700	800,000	400,000	400,000	400,000	400,000	5910-883331.000-617900-WS7900
DoIT-002 Radios	883351 - IT Business App	Subscriber	297,816	411,100						5910-883351.000-617900-WS7900
DoIT-003 Customer Service Technology Suite	883351 - IT Business App	Subscriber	79,787							5910-883351.000-617900-WS7900
	Subtotal - Invoicing from DWSD		3,782,808	1,119,200	4,056,900	3,656,900	3,656,900	3,656,900	3,656,900	
	Net Billings to DWSD		(6,524,092)	(23,100)	(12,224,800)	(12,690,000)	(12,713,800)	(12,771,400)	(12,769,900)	



Utilities

As GLWA staff has implemented a new financial system in 2016, additional efforts were dedicated to audit of utility charges to ensure the validity of the charges as well as ensuring the proper accounting and budgeting. Ensuring that we are capturing these costs accurately is fundamental to measuring our progress in ongoing optimization and deployment of energy management strategies.

As shown in **Table 1 – Electricity**, FY 2018 indicates a decrease of \$6.7 million. This decrease is largely due to the improved budgeting practices due to new financial system and experienced staff dedicated to establishing a true baseline for the FY 2018 Budget. This has launched into a cross-functional team from energy management, operations, and finance review the monthly billings to better understand and address unusual activity.

Table 1 – Electricity

Cost Center & Description	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Electricity	\$ 51,004,800	\$ 27,357,600	\$ 44,283,000	\$ (6,721,800)	-15.2%	\$ 44,453,200	\$ 170,200	0.4%	\$ 44,630,300	\$ 44,808,900	\$ 44,989,400
4.3 System Analytics	195,000	164,300	202,800	7,800	3.8%	203,500	700	0.3%	209,600	215,800	222,300
5.3 Field Service Operations	1,000,700			(1,000,700)							
5.4 Facility Operations	224,500	300		(224,500)							
7.1 Systems Control	11,600	27,300	50,000	38,400	76.8%	50,000	-	0.0%	50,000	50,000	50,000
8.2.1 Wastewater Operations	14,100,000	7,351,800	10,572,200	(3,527,800)	-33.4%	10,663,700	91,500	0.9%	10,756,000	10,849,100	10,943,000
8.2.7 Biosolids Dryer Facility and Hauling Contracts		442,900	1,046,400	1,046,400	100.0%	1,054,000	7,600	0.7%	1,061,700	1,069,400	1,077,200
8.3.2 Combined Sewer Overflow Facilities	1,002,000	600,600	955,600	(46,400)	-4.9%	965,200	9,600	1.0%	974,700	984,200	993,800
8.4 Pumping Stations	3,793,300	819,700	2,159,000	(1,634,300)	-75.7%	2,159,000	-	0.0%	2,159,000	2,159,000	2,159,000
8.6 Industrial Waste Control	105,000	68,600	103,700	(1,300)	-1.3%	104,400	700	0.7%	105,100	105,800	106,500
9.3.1 Water Works Park	2,792,700	1,763,800	2,548,900	(243,800)	-9.6%	2,548,900	-	0.0%	2,548,900	2,548,900	2,548,900
9.3.2 Lake Huron Water Plant	7,285,900	3,840,500	7,067,300	(218,600)	-3.1%	7,067,300	-	0.0%	7,067,300	7,067,300	7,067,300
9.3.3 Springwells Water Plant	4,571,800	2,670,300	4,434,700	(137,100)	-3.1%	4,479,000	44,300	1.0%	4,523,800	4,569,100	4,614,800
9.3.4 Northeast Water Plant	5,016,700	2,437,900	4,866,200	(150,500)	-3.1%	4,866,200	-	0.0%	4,866,200	4,866,200	4,866,200
9.3.5 Southwest Water Plant	1,683,100	1,089,000	1,582,600	(100,500)	-6.4%	1,598,400	15,800	1.0%	1,614,400	1,630,500	1,646,800
9.4.1 Pumping Stations	9,222,500	6,080,600	8,693,600	(528,900)	-6.1%	8,693,600	-	0.0%	8,693,600	8,693,600	8,693,600



Utilities

As shown in **Table 2 – Gas**, FY 2018 indicates a decrease of \$2.5 million. The decrease is partially due to the shift from incineration at the WRRF to use of the Biosolids Dryer Facility (BDF) beginning in March 2016. The remainder is largely due to the improved budgeting practices noted above.

Table 2 – Gas

Cost Center & Description	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Gas	\$ 9,314,800	\$ 3,924,900	\$ 6,766,900	\$ (2,547,900)	-37.7%	\$ 6,896,100	\$ 129,200	1.9%	\$ 7,025,000	\$ 7,154,200	\$ 7,282,800
5.3 Field Service Operations	465,700			(465,700)			-	#DIV/0!			
7.1 Systems Control	71,500	12,200	36,000	(35,500)	-98.6%	36,000	-	0.0%	36,000	36,000	36,000
8.2.1 Wastewater Operations	7,350,000	1,880,300	2,937,600	(4,412,400)	-150.2%	3,031,500	93,900	3.1%	3,124,900	3,218,300	3,311,300
8.2.7 Biosolids Dryer Facility and Hauling Contracts		1,233,400	2,103,600	2,103,600	100.0%	2,121,300	17,700	0.8%	2,139,200	2,157,200	2,175,400
8.3.2 Combined Sewer Overflow Facilities	221,000	110,500	311,000	90,000	28.9%	318,700	7,700	2.4%	326,400	334,200	342,000
8.4 Pumping Stations	72,000	7,700	32,000	(40,000)	-125.0%	32,000	-	0.0%	32,000	32,000	32,000
8.6 Industrial Waste Control	12,000	14,000	31,400	19,400	61.8%	33,200	1,800	5.4%	35,000	36,800	38,100
9.3.1 Water Works Park	489,200	149,800	489,200	-	0.0%	494,100	4,900	1.0%	499,000	504,000	509,000
9.3.2 Lake Huron Water Plant	202,700	134,600	202,700	-	0.0%	202,700	-	0.0%	202,700	202,700	202,700
9.3.3 Springwells Water Plant	178,500	161,100	178,500	-	0.0%	180,300	1,800	1.0%	182,100	183,900	185,800
9.3.4 Northeast Water Plant	87,400	79,800	87,400	-	0.0%	87,400	-	0.0%	87,400	87,400	87,400
9.3.5 Southwest Water Plant	139,000	93,700	139,000	-	0.0%	140,400	1,400	1.0%	141,800	143,200	144,600
9.4.1 Pumping Stations	25,800	47,800	218,500	192,700	88.2%	218,500	-	0.0%	218,500	218,500	218,500

As shown in **Table 3 – Sewage**, FY 2018 indicates an increase of \$782,000. This is due to a new circumstance as a result of the bifurcation of the wholesale and retail system operations – most notably in wastewater operations. Previously the amount billed to the Combined Sewer Overflow (CSO) facilities for sewage was variable. These facilities are now subject to sewer and storm water drainage charges from the Detroit Water and Sewerage Department. This is under review. For example, the budget for the CSOs was \$43,000 in FY 2017. Actual charges for calendar years 2016 were more than \$300,000.



Utilities

Table 3 – Sewage

Cost Center & Description	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Sewage	\$ 1,228,400	\$ 1,169,300	\$ 2,010,500	\$ 782,100	38.9%	\$ 2,059,800	\$ 49,300	2.4%	\$ 2,108,000	\$ 2,156,400	\$ 2,204,600
5.3 Field Service Operations	15,500			(15,500)			-				
5.4 Facility Operations	213,300			(213,300)			-				
7.1 Systems Control	6,000	8,200	6,000	-	0.0%	6,000	-	0.0%	6,000	6,000	6,000
8.1 Chief Operating Officer Wastewater											
8.2.1 Wastewater Operations	300,000	382,900	546,400	246,400	45.1%	587,700	41,300	7.0%	627,700	667,900	707,700
8.2.7 Biosolids Dryer Facility and Hauling Contracts		37,800	59,000	59,000	100.0%	59,500	500	0.8%	60,000	60,500	61,000
8.3.2 Combined Sewer Overflow Facilities	43,000	460,600	484,300	441,300	91.1%	488,100	3,800	0.8%	492,100	496,100	500,200
8.4 Pumping Stations		300	25,000	25,000	100.0%	25,000	-	0.0%	25,000	25,000	25,000
8.6 Industrial Waste Control	5,300	16,300	29,100	23,800	81.8%	29,400	300	1.0%	29,600	29,800	30,000
9.3.1 Water Works Park		66,600	160,000	160,000	100.0%	160,000	-	0.0%	160,000	160,000	160,000
9.3.2 Lake Huron Water Plant	58,800	47,200	101,000	42,200	41.8%	101,000	-	0.0%	101,000	101,000	101,000
9.3.4 Northeast Water Plant	236,500	122,500	250,000	13,500	5.4%	250,000	-	0.0%	250,000	250,000	250,000
9.3.5 Southwest Water Plant	344,800	26,000	344,800	-	0.0%	348,200	3,400	1.0%	351,700	355,200	358,800
9.4.1 Pumping Stations	5,200	900	4,900	(300)	-6.1%	4,900	-	0.0%	4,900	4,900	4,900

As shown in **Table 4 – Water**, FY 2018 indicates an increase of \$1,120,000. This is due partly to the addition of the new Biosolids Dryer Facility coming online in March 2016. There was no history of water service from which to develop an accurate budget for FY 2017. Review of actual costs to date indicates that \$94,000 should have been budgeted for FY 2017. The CSO facilities' FY 2017 budget totaled \$138,000. The budget has increased to \$243,700 for FY 2018 and \$246,000 for FY 2019 based on more accurate review of cost allocation. Finally, there are new charges from the Detroit Water & Sewerage Department that began in 2016 to the wastewater operations. That charge is under review.

Table 4 – Water

Cost Center & Description	Current Year		Biennial Budget						Forecast		
	FY 2017 Adopted	FY 2017 Activity	FY 2018 Requested	FY 2018 \$ Change	FY 2018 % Change	FY 2019 Requested	FY 2019 \$ Change	FY 2019 % Change	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Water	\$ 4,855,800	\$ 3,556,200	\$ 5,976,200	\$ 1,120,400	18.7%	\$ 6,024,300	\$ 48,100	0.8%	\$ 6,072,200	\$ 6,121,000	\$ 6,170,200
5.2 Field Engineering	500			(500)			-				
5.3 Field Service Operations	5,200			(5,200)			-				
5.4 Facility Operations	59,300			(59,300)			-				
7.1 Systems Control	1,900	25,800	5,000	3,100	62.0%	5,000	-	0.0%	5,000	5,000	5,000
8.2.1 Wastewater Operations	4,500,000	3,202,000	5,529,300	1,029,300	18.6%	5,573,300	44,000	0.8%	5,617,600	5,662,800	5,708,300
8.2.7 Biosolids Dryer Facility and Hauling Contracts		52,200	94,400	94,400	100.0%	95,300	900	0.9%	96,000	96,700	97,500
8.3.2 Combined Sewer Overflow Facilities	138,000	239,200	243,700	105,700	43.4%	246,600	2,900	1.2%	249,400	252,200	255,000
8.4 Pumping Stations	16,000	33,600	40,000	24,000	60.0%	40,000	-	0.0%	40,000	40,000	40,000
8.6 Industrial Waste Control	2,500	3,300	5,700	3,200	56.1%	6,000	300	5.0%	6,100	6,200	6,300
9.3.2 Lake Huron Water Plant	400		14,000	13,600	97.1%	14,000	-	0.0%	14,000	14,000	14,000
9.3.4 Northeast Water Plant			36,000	36,000	100.0%	36,000	-	0.0%	36,000	36,000	36,000
9.4.1 Pumping Stations	132,000	100	8,100	(123,900)	-1529.6%	8,100	-	0.0%	8,100	8,100	8,100





GLWA
Great Lakes Water Authority

Customer Charges & Revenues

Water System Revenue Charges

The Water System Revenue Charges are based on industry practices and customer contract terms. Inputs to the charge development process include meter data, usage patterns, budgetary decisions, capital needs, debt obligations, cost allocation methodologies, and related documents. GLWA's charges are developed by a third party financial consultant, The Foster Group, LLC in conjunction with a robust customer engagement process. This process included three Water Charges Roll-Out meetings and one Water Charges Work Group meeting held between October 25, 2016 and February 16, 2017. During this time, the proposed units of service, proposed budget, and recommended service charges were the topic of discussion with customers which resulted in a recommendation to the GLWA Board for the FY 2018 Schedule of Charges.

The Foster Group, LLC Report – Sewer System

The basis for the proposed water system service charges for FY 2018 are reflected in the cost of service and service charge study prepared for GLWA, as prepared by The Foster Group and as set forth in a memorandum dated February 12, 2017. The cost of service study in the memorandum report only addresses the wholesale service costs of service (revenue requirements) that are GLWA's responsibility, as retail revenue requirement elements solely allocable to the City of Detroit were still under development as of the date of that study. The results of the cost of service study were presented to wholesale customer representatives via the customer outreach program at key milestone dates throughout the study period, and customers were formally notified of their proposed service charges on January 27, 2017. The memorandum report is available at <http://www.glwater.org/wp-content/uploads/2015/12/FY-2018-Service-Charge-Recommendations.pdf> on the GLWA web site.

Subsequent to the public hearing on the proposed water service charges on March 1, 2017 adjustments to the wholesale water charges were made and reflect the following:

- A reallocation of debt service that reflects the tentative agreement reached by the GLWA and DWSD principals regarding the "Obligation Payable". The initial agreement regarding the amortization contemplates a FY 2018 "Obligation Payable" increase of approximately \$3.1 million, and a corresponding decrease of approximately \$3.1 million of Regional System debt service for FY 2018. This change results in an overall proposed GLWA BUDGET for FY 2018 that is approximately one percent **lower** than the FY 2017 BUDGET.
- An increase in "short term" revenues from Flint/GCDC based on long-term service agreements with both of these customers that are in the final stages of negotiations. These agreements provide security to include an additional \$3.6 million of budgeted FY 2018.
- An elimination of the originally budgeted deposit to the Budget Stabilization Fund required of the Detroit customer class, which aligns with the reduction in bad debt expense for the Detroit customer class reported as part of the FY 2016 financial statements.



Water System Revenue Charges

Great Lakes Water Authority
Approved FY 2018 Water Supply System Allocated Revenue Requirements and Service Charges

	Projected Sales Volume (Mcf)	Fixed Monthly Charge (\$/month)	Commodity Charge (\$/Mcf)	Annual Revenue Requirement (\$)	
<i>Allocation of Wholesale Revenue Requirement</i>		60%	40%		
Suburban Wholesale					
1	Allen Park	135,500	\$ 116,400	\$6.87	\$ 2,327,700
2	Almont Village	9,000	10,900	9.72	218,300
3	Ash Township	40,200	37,300	7.41	745,500
4	Belleville	14,300	15,500	8.64	309,600
5	Berlin Township	29,000	35,900	9.90	717,900
6	Brownstown Township	138,500	170,900	9.87	3,417,800
7	Bruce Township	1,040	8,600	66.55	172,400
8	Canton Township	335,600	650,900	15.52	13,019,300
9	Center Line	32,600	23,700	5.82	474,100
10	Chesterfield Township	163,400	191,500	9.37	3,829,100
11	Clinton Township	404,200	392,600	7.77	7,851,800
12	Commerce Township	97,800	247,400	20.24	4,948,300
13	Dearborn	619,800	473,100	6.11	9,464,200
14	Dearborn Heights	212,000	190,500	7.19	3,810,300
15	Eastpointe	114,100	80,900	5.68	1,618,900
16	Ecorse	149,300	71,400	3.82	1,427,100
17	Farmington	47,400	49,000	8.27	980,000
18	Farmington Hills	365,900	446,900	9.76	8,934,000
19	Ferndale	67,900	49,100	5.79	982,300
20	Flat Rock	64,000	59,800	7.48	1,196,300
21	Fraser	63,600	65,200	8.20	1,303,900
22	Garden City	89,600	82,300	7.34	1,645,300
23	Gibraltar	17,300	23,400	10.83	468,200
24	Grosse Ile Township	41,300	63,900	12.37	1,277,700
25	Grosse Pointe Park	61,100	71,400	9.34	1,427,500
26	Grosse Pointe Shores	19,700	31,000	12.57	619,600
27	Grosse Pointe Woods	72,000	73,100	8.13	1,462,600
28	Hamtramck	58,900	34,100	4.63	681,900



Water System Revenue Charges

**Great Lakes Water Authority
Approved FY 2018 Water Supply System Allocated Revenue Requirements and Service Charges**

	Projected Sales Volume (Mcf)	Fixed Monthly Charge (\$/month)	Commodity Charge (\$/Mcf)	Annual Revenue Requirement (\$)
Allocation of Wholesale Revenue Requirement		60%	40%	
Suburban Wholesale				
29 Harper Woods	57,300	43,600	6.09	872,200
30 Harrison Township	92,500	71,700	6.20	1,433,900
31 Hazel Park	51,400	35,000	5.45	700,100
32 Huron Township	61,200	70,700	9.24	1,413,900
33 Imlay City	37,700	49,600	10.54	992,600
34 Imlay Township	80	700	68.63	13,900
35 Inkster	97,700	92,000	7.53	1,839,700
36 Keego Harbor	10,400	15,200	11.67	303,800
37 Lapeer	56,200	69,200	9.85	1,384,000
38 Lenox Township	17,400	14,600	6.71	292,000
39 Lincoln Park	142,800	110,900	6.22	2,219,000
40 Livonia	493,300	682,200	11.06	13,642,300
41 Macomb Township	311,100	534,600	13.75	10,692,800
42 Madison Heights	140,700	101,300	5.75	2,024,600
43 Mayfield Township	550	1,700	23.53	33,300
44 Melvindale	44,700	33,300	5.96	666,000
45 New Haven, Village of	14,200	17,500	9.86	350,000
46 North Oakland County Water Authority	930,800	1,165,900	10.02	23,317,400
47 Northville	32,100	37,500	9.35	750,100
48 Northville Township	132,900	304,200	18.31	6,083,800
49 Novi	273,900	444,700	12.99	8,894,400
50 Oak Park	100,000	66,600	5.32	1,331,200
51 Oakland County Drain Commission	8,600	3,200	2.96	63,900
52 Plymouth	42,000	50,800	9.69	1,016,600
53 Plymouth Township	169,900	214,100	10.08	4,281,800
54 Redford Township	172,500	170,500	7.90	3,408,800
55 River Rouge	53,100	34,800	5.25	696,400



Water System Revenue Charges

**Great Lakes Water Authority
Approved FY 2018 Water Supply System Allocated Revenue Requirements and Service Charges**

	Projected Sales Volume (Mcf)	Fixed Monthly Charge (\$/month)	Commodity Charge (\$/Mcf)	Annual Revenue Requirement (\$)
Allocation of Wholesale Revenue Requirement		60%	40%	
Suburban Wholesale				
56 Riverview	44,700	45,800	8.20	916,100
57 Rockwood	10,600	14,900	11.21	297,600
58 Romeo	6,000	12,500	16.62	249,700
59 Romulus	196,100	184,700	7.54	3,695,000
60 Roseville	199,100	132,700	5.33	2,653,600
61 Royal Oak Township	11,800	11,200	7.54	223,400
62 Southeastern Oakland County Water Authority	1,291,300	1,145,000	7.10	22,908,200
63 Shelby Township	399,300	678,900	13.60	13,577,300
64 South Rockwood	5,200	5,100	7.90	102,300
65 Southgate	123,500	108,700	7.04	2,173,800
66 St. Clair County-Burtchville Township	8,100	14,600	14.45	292,200
67 St. Clair County-Greenwood	11,400	19,900	13.95	397,800
68 St. Clair Shores	207,000	155,400	6.00	3,106,800
69 Sterling Heights	615,900	797,300	10.35	15,942,200
70 Sumpter Township	29,100	32,100	8.82	641,900
71 Sylvan Lake	6,700	11,800	14.02	235,500
72 Taylor	281,400	242,200	6.88	4,842,400
73 Trenton	90,100	106,300	9.43	2,125,200
74 Troy	456,200	673,300	11.80	13,462,800
75 Utica	24,300	29,600	9.75	592,100
76 Van Buren Township	128,500	145,100	9.03	2,901,600
77 Walled Lake	30,800	45,600	11.83	911,600
78 Warren	683,900	506,900	5.93	10,138,300
79 Washington Township	70,500	105,800	12.00	2,115,600
80 Wayne	94,800	138,700	11.71	2,774,500



Water System Revenue Charges

**Great Lakes Water Authority
Approved FY 2018 Water Supply System Allocated Revenue Requirements and Service Charges**

	Projected Sales Volume (Mcf)	Fixed Monthly Charge (\$/month)	Commodity Charge (\$/Mcf)	Annual Revenue Requirement (\$)	
Allocation of Wholesale Revenue Requirement		60%	40%		
Suburban Wholesale					
81	West Bloomfield Township	263,500	482,500	14.65	9,650,300
82	Westland	317,100	301,800	7.61	6,034,700
83	Wixom	69,000	121,500	14.08	2,429,500
84	Woodhaven	62,200	102,400	13.17	2,048,000
85	Ypsilanti Community Utilities Authority	494,300	542,900	8.78	10,854,800
86	Total Contract Wholesale Customers	<u>13,242,470</u>	<u>\$ 177,900</u>	9.13	\$ 302,344,900
87	Adjustments for customers without a current GLWA contract (a)				\$7,674,900
88	Net Requirement from Wholesale Charges (agrees with GLWA Budget "Schedule 3A")				<u>\$ 310,019,800</u>
Detroit Customer Class					
89	Wholesale Revenue Requirements (b)				\$ 15,130,600
90	Indirect Retail Revenue Requirements (c)				43,518,400
91	Direct Retail Revenue Requirements (d)				35,092,200
92	Total				<u>93,741,200</u>
93	less: Estimated Miscellaneous Operating Revenue				(4,750,000)
94	Net Requirement from Detroit Customer Class (agrees with GLWA Budget "Schedule 3A")				<u>\$ 88,991,200</u>

(a) Includes the City Flint, Highland Park and the Genesee County Drain Commission.

(b) Reflects Great Lakes Water Authority wholesale amounts only.

(c) Reflects amounts assigned to the Detroit Local System pursuant to the GLWA Master Bond Ordinance flow of funds and the Water and Sewer Services Agreement.

(d) Reflects amounts allocable to the Local System, for which GLWA transfers monies to DWSD. Preliminary, subject to receipt of final DWSD budget.



Sewer System Revenue Charges

The Sewer System Revenue Charges are part of a robust customer engagement process which included three Water Charges Roll-Out meetings and three Sewer Charges Work Group meetings which were held between January 14, 2016 to February 16, 2017. During this time, the proposed Sewer Shares update, proposed budget and recommended service charges were presented to the customers in order to get feed-back and to answer questions. In addition to the normal outreach meetings, a 12 month process was undertaken by the Sewer Shares Update Team which provided technical analysis of recent historical data and flow sampling with the goal of making a recommendation to GLWA management and Board of Directors to assist in the update of the Sewer Shares for the next three years. The final report from this team was provided on March 15, 2017 and its recommendations were used in the final Sewer Shares for the FY 2018 charges.

The Foster Group, LLC Report – Sewer System

The basis for the proposed sewer system service charges for FY 2018 are reflected in the cost of service and service charge study prepared for GLWA, as prepared by The Foster Group and as set forth in a memorandum dated February 12, 2017. The cost of service study in the memorandum report only addresses the wholesale service costs of service (revenue requirements) that are GLWA's responsibility, as retail revenue requirement elements solely allocable to the City of Detroit were still under development as of the date of that study. The results of the cost of service study were presented to wholesale customer representatives via the customer outreach program at key milestone dates throughout the study period, and customers were formally notified of their proposed service charges on January 27, 2017. The memorandum report is available at <http://www.glwater.org/wp-content/uploads/2015/12/FY-2018-Service-Charge-Recommendations.pdf> on the GLWA web site.

Subsequent to the public hearing on the proposed water service charges on March 1, 2017 adjustments to the wholesale sewer charges were made and reflect the following:

- An approximate \$3.2 million reduction in proposed “new money” debt service included in the original budget expectations, as current CIP financing plans anticipate a delay in the budgeted bond sale. Also, a reallocation of debt service that reflects the tentative agreement reached by the GLWA and DWSD principals regarding the “Obligation Payable”. The initial agreement regarding the amortization contemplates an FY 2018 decrease of approximately \$4.8 million of Regional System debt service for FY 2018. These two changes result in an overall 1.7% reduction in the originally proposed GLWA budget for FY 2018. The final proposed FY 2018 budget reflects an increase of approximately 0.3% compared to the FY 2017 budget.
- An elimination of the originally budgeted deposit to the Budget Stabilization Fund and of the phased “bad debt true-up required of the Detroit customer class for FY 2018 which aligns with the reduction in bad debt expense for the Detroit customer class reported as part of the FY 2016 financial statements.
- An acceptance of the full technical proposal on the recommended shares, via an implementation plan to phase in the approximate \$12 million impact over two, equal steps in FY 2018 and FY 2019.



Sewer System Revenue Charges

**Great Lakes Water Authority
Approved FY 2018 Sewage Disposal System Annual Revenue Requirements
and Monthly Fixed Charges**

	Annual Revenue Requirement (\$)	Fixed Monthly Charge (\$/mo)
Suburban Wholesale		
1 Oakland Macomb Interceptor District	\$ 72,815,900	\$ 6,068,000
2 Rouge Valley	55,022,300	4,585,200
3 Oakland County - George W. Kuhn	45,751,500	3,812,600
4 Evergreen Farmington	33,733,200	2,811,100
5 Northeast Wayne County	24,637,000	2,053,100
6 Dearborn	19,628,400	1,635,700
7 Grosse Pointe Farms	2,696,100	224,700
8 Grosse Pointe Park	1,739,500	145,000
9 Melvindale	1,468,200	122,300
10 Farmington	1,138,100	94,900
11 Center Line	986,200	82,200
12 Allen Park	771,000	64,300
13 Highland Park	5,641,700	470,200
14 Hamtramck	3,958,800	329,900
15 Grosse Pointe	909,500	75,800
16 Harper Woods	231,700	19,300
17 Redford Township	254,700	21,200
18 Wayne County #3	45,500	3,800
19 Subtotal "Regional Wholesale Revenues from Charges"	<u>\$ 271,429,300</u>	<u>\$ 22,619,300</u>
20 Industrial Specific Revenues	19,551,700	
21 Subtotal "Regional Wholesale Revenues"	<u>\$ 290,981,000</u>	
22 Less: Highland Park Bad Debt	(\$4,390,400)	
23 Total "Regional Wholesale Revenues" (agrees with GLWA Budget "Schedule 3A")	<u>\$ 286,590,600</u>	



Sewer System Revenue Charges

**Great Lakes Water Authority
Approved FY 2018 Sewage Disposal System Annual Revenue Requirements
and Monthly Fixed Charges**

	Annual Revenue Requirement (\$)	Fixed Monthly Charge (\$/mo)
	<hr/>	<hr/>
	Annual Revenue Requirement (\$)	
	<hr/>	
Detroit Annual Revenue Requirement		
24 Wholesale Revenue Requirements (a)	\$ 178,969,100	
25 Indirect Retail Revenue Requirements (b)	32,851,000	
26 Subtotal	<hr/> 211,820,100	
27 Direct Retail Revenue Requirements (c)	49,546,900	
28 Total	<hr/> 261,367,000	
29 less: Estimated Miscellaneous Operating Revenue	(5,000,000)	
30 Net Requirement from Detroit Customer Rates (agrees with GLWA Budget "Schedule 3A")	<hr/> \$ 256,367,000 <hr/>	

(a) Reflects Great Lakes Water Authority wholesale amounts only.

(b) Reflects amounts assigned to the Detroit Local System pursuant to the GLWA Master Bond Ordinance flow of funds and the Water and Sewer Services Agreement.

(c) Reflects amounts allocable to the Local System, for which GLWA transfers monies to DWSD. Preliminary, subject to receipt of final DWSD budget.





GLWA
Great Lakes Water Authority

Capital Investment

Capital Financial Plan

The Great Lakes Water Authority assures effective operational flexibility, while controlling spending and optimizing the cost of capital, by utilizing five categories in GLWA’s Capital Financial Plan for funding both “Capital Outlay” and the “Capital Improvement Plan” (CIP).

Category	Capital Outlay < \$5,000	Capital Outlay > \$5,000	Capital Outlay > \$5,000 – Specific I&E	Capital Improvement Plan – Strategic I&E	Capital Improvement Plan - Bonds
Funding Source	Operations & Maintenance	Operations & Maintenance	Improvement & Extension Fund	Improvement & Extension Fund	Construction Bond Fund
Rationale	Tagged and tracked for internal asset control purposes (not capitalized)	Efficiencies in budget control and procurement	Isolate items that cause variability in the annual financial plan that do not meet the criteria for CIP	Lower the cost of capital by funding the CIP with Revenue Financed Capital versus bond financing	Constructed Assets
Frequency	Recurring in nature	Recurring in nature	Unique, nonrecurring, purchases, and/or large dollar assets on a replacement program	Project specific	Project Specific
Life	> One Year	> One Year	> One Year	> 20 years	> 20 years
Examples	Tools, Smartboards, Small Equipment	Pumps, motors, and equipment	Vehicles, large equipment, security and information technology systems	Infrastructure, plant, and facility upgrade, rehabilitation, and/or replacement	Infrastructure, plant, and facility upgrade, rehabilitation, and/or replacement
Justification	Internal review panel	Internal review panel, prioritization, replacement validation with asset records	Internal review panel, prioritization, replacement validation with asset records	Business Case Evaluation; Internal Review Panel; Customer Outreach; GLWA Board Committee	Business Case Evaluation; Internal Review Panel; Customer Outreach; GLWA Board Committee
Procurement Impact	Low – recurring in nature; shorter lead time to bid	Low – recurring in nature; shorter lead time to bid	Medium – specialized resources; additional lead time for RFX; may need evaluation panel	High - specialized resources; additional lead time for RFX; evaluation panel required	High - specialized resources; additional lead time for RFX; evaluation panel required

The Capital Financial Plan is presented in the next two sections of this document. The plan and presentation align with the two major categories above, “Capital Outlay” (which is largely funded by the Improvement & Extension Fund) and the “Capital Improvement Plan” (which is largely funded by the Construction Fund). This approach is driven by the business process, stakeholders engaged, and funding sources identified in developing those plans.



Capital Outlay Plan

“Capital outlay” are assets that are purchased and are either above the dollar threshold for capitalizing on the financial statements (i.e. over \$5,000) or are an asset that should be tagged and tracked for internal control purposes. In both instances, they have an estimated useful life of more than a year.

Capital outlay includes vehicles, shop, lab, plant and field equipment, office furniture and equipment, as well as software and hardware. Generally capital outlay items have a life of less than 20 years. Capital outlay items are **not** included in the “capital Improvement program” (CIP). The CIP focuses on longer lived constructed assets with a life greater than 20 years.

Beginning with FY 2018, GLWA is rolling the first phase of a new approach to capital outlay planning. This has required significant effort by staff across operations as they have begun to encompass additional metrics in the planning process. One example of the process improvements is identifying the priority level among three categories.

Priority 1: CRITICAL – Required to prevent a **critical** reduction in service, operating efficiency, economy, and/or safety, to protect valuable property, and/or comply with insurance or code requirements.

Priority 2: UPGRADE – Required for **significant upgrade** in service, operating efficiency, economy and/or safety of current operations.

Priority 3: DESIRABLE – Required to introduce **desirable**, but optional new service, or to make small improvements in operating efficiency, economy and/or safety.

Many of the tables in this section present an entity-wide view of capital outlay. This is because capital outlay is subject to cost sharing between the water and sewer systems. Examples include fleet, centralized facilities, and information technology. The activity allocated by water system and sewer system is **Section II – Core Financial Plan Schedules**.

Funding Sources

The capital outlay expenditures are proposed to be \$31.8 million for FY 2018, and \$21.6 million for FY 2019. As shown Table 1 – Capital Outlay is funded by two primary sources: Operations & Maintenance and Improvement & Extension Funds.

Operations & Maintenance: Capital items funded by the O&M Fund are paid for with current year revenues. The nature of these items is recurring and lower dollar in amount so the impact on charges from year-to-year is not significant. Many of these investments are included in the analysis in Section III – Operating Area Financial Plans.

Improvement & Extension: Capital items funded by the I&E Fund are paid for with revenue financed capital carried over from prior years. The nature of these items is not necessarily recurring each year. They instead are replaced on a longer-term cycle or are unique to a three to five year planning horizon.



Capital Outlay Plan

Table 1 – Capital Outlay by Funding Source

	Current Year	Biennial Budget		Forecast		
Funding Source	FY 2017 Adopted	FY 2018 Requested	FY 2019 Requested	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Operations & Maintenance	-	7,353,443	6,825,829	6,824,341	7,227,487	6,953,038
Improvement & Extension	3,320,413	24,475,402	14,807,347	10,024,324	10,382,402	9,573,198
Total - All Capital Outlay	\$3,320,413	\$31,828,845	\$21,633,176	\$16,848,665	\$17,609,889	\$16,526,236

Table 2 - Total Capital Outlay by Asset Type (funded by both I&E and O&M)

	Current Year	Biennial Budget		Forecast		
Asset Type	FY 2017 Adopted	FY 2018 Requested	FY 2019 Requested	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Operations & Maintenance Budget	\$ -	\$7,353,443	\$6,825,829	\$6,824,341	\$7,227,487	\$6,953,038
Machinery & Equipment	-	1,351,566	598,950	551,700	608,650	575,700
Safety & Security	-	95,400	-	-	-	-
Information Technology	-	5,906,477	6,226,879	6,272,641	6,618,837	6,377,338
Improvement & Extension Funding	\$3,320,413	\$24,475,402	\$14,807,347	\$10,024,324	\$10,382,402	\$9,573,198
Leasehold Improvements	180,000	504,500	440,000	100,000	50,000	50,000
Machinery & Equipment	3,088,413	11,081,948	6,704,899	5,150,325	4,784,793	4,779,933
Multiple Asset Types	-	1,100,000	-	125,000	-	-
Safety & Security	-	8,318,585	4,216,340	2,351,358	2,192,523	1,692,523
Buildings & Structures	12,000	1,057,500	1,007,500	1,007,500	1,007,500	1,007,500
Vehicles	40,000	2,162,869	2,138,608	1,040,141	2,097,586	1,793,242
Site Improvements	-	250,000	300,000	250,000	250,000	250,000
Total - All Capital Outlay	\$3,320,413	\$31,828,845	\$21,633,176	\$16,848,665	\$17,609,889	\$16,526,236

Discussion and analysis of major capital outlay by major budget categories for FY 2018-FY 2022 can be found on the following pages.



Capital Outlay Plan

Water System Operations

Water system operations is responsible for providing customers with high-quality, safe drinking water. In order to support this objective, the capital outlay program identifies current and future needs and prioritizes those needs based on certain operating assumptions. The primary objective of the capital outlay program is to create a stable, long-range plan to support an orderly, efficient program of improvement and replacement. In subsequent years, the capital outlay program will be further informed by the asset management program.

The water system operations capital outlay budget is comprised of three groups: Water Quality, Water Engineering and five water treatment plants (Water Works Park, Lake Huron Water Plant, Springwells Water Plant, Northeast Water Plant and Southwest Water Plant). Of those groups, the five water treatment plants combined have the largest capital outlay budget of \$2.8 million for FY 2018 and \$2.1 million for FY 2019 out of the total amounts shown in the table below.

Asset Type	Current Year	Biennial Budget		Forecast		
	FY 2017 Adopted	FY 2018 Requested	FY 2019 Requested	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Water System Operations						
Improvement & Extension Funding	\$2,680,893	\$2,849,321	\$2,072,044	\$1,351,388	\$723,136	\$677,136
Leasehold Improvements	180,000	10,000	180,000	-	-	-
Machinery & Equipment	2,448,893	2,824,321	1,892,044	1,351,388	723,136	677,136
Buildings & Structures	12,000	-	-	-	-	-
Vehicles	40,000	15,000	-	-	-	-

The largest dollar items in the Machinery & Equipment asset category are the following.

- ✓ The variable-frequency drive (VFD) for 1250 horsepower low lift motor replacement (\$320,000) for FY 2018 at Lake Huron Water Plant
 - A variable-frequency drive is an electronic controller that adjusts the speed of an electric motor by modulating the power being delivered. Variable-frequency drives provide continuous control, matching motor speed to the specific demands of work being performed. Variable-frequency drives enable pumps to accommodate fluctuating demand, running pumps at lower speeds and drawing less energy while still meeting pumping needs. The variable-frequency drive (VFD) replacement is needed and is an excellent choice for adjustable-speed drive users because they allow operators to fine-tune processes while reducing costs for energy and equipment maintenance. Other advantages for replacement include “soft start” capability which gradually ramps up a motor to operating speed. This lessens the mechanical and electrical stress on the motor system and reduces maintenance and repair costs and extends motor life.



Capital Outlay Plan

- Variable-frequency drives allow more precise control of processes such as water distribution, aeration and chemical feed. Pressure in water distribution systems can be maintained to closer tolerances.
- ✓ The flocculation drives replacement (\$250,000) for FY 2018 at Northeast Water Plant
 - The flocculation process consists of untreated water that flows into a basin with paddles (flocculation mixers) that provide slow mixing which brings the small particles together to form large particles called flocs. Mixing is done quite slowly and gently in the flocculation step. If the mixing is too fast, the flocs will break apart into small particles that are difficult to remove by sedimentation or filtration. Replacing the flocculation drives ensures optimal operation of the flocculation process and thoroughness of the agitation related to the mixing process.
- ✓ The cone valve replacement (\$200,000) for FY 2018 at Northeast Water Plant,
 - Cone valves are used primarily as pump check (shutoff) valves, but are also used in other applications requiring full port waterway openings and metal seats. Full port waterway openings provide lower head loss and reduced energy costs. Cone valves also serve as excellent throttling valves which reduces pressure loss. The valves can be operated manually, with hydraulic cylinders and controls, or with electric actuators. The actuators are mounted to an operating mechanism, which is designed to lift, turn, and squeeze the metal seats for tight shut off. The lift/turn mechanism provides positive seating with minimal wear of the metal seats. Replacing the cone valves enables the pumps to function effectively for many years in service and requires low maintenance (limited to lubrication of moving parts and replacement of packing in the stuffing box).
- ✓ The high lift field cubicle upgrade (\$160,000) for FY 2018 at Lake Huron Water Plant
 - The high lift pumping system delivers filtered water to underground water mains for distribution through the local booster pumping stations. Each high lift pump have their own individual field control cubicle. The cubicle contains contactors, relays, field discharge resistors, various indicating instruments, space heater switches, various push buttons, and indicating lights. The high lift field cubicle upgrade will reduce maintenance, increase excitations system diagnostic capabilities, reliable starts and decades of durability.
- ✓ The ozone programmable logic controller (PLC) upgrade (\$130,000) for FY 2018 at Water Works Park
 - The existing programmable logic controller (PLC) hardware needs to be replaced because it has reached the end of its maintainable life and is no longer supported by its manufacturer. In addition, the existing PLC programming environment is no longer supported, nor is it compatible with the new specified PLC hardware. The upgrade will afford the GLWA an opportunity to improve system redundancy and security, and address deficiencies in legacy equipment by implementing modern programmable logic controller (PLC) equipment.



Capital Outlay Plan

- ✓ Replace/Rebuild the ozone generator (\$130,000) for FY 2018 at Water Works Park
 - Ozone is the unstable, highly reactive triatomic form of oxygen. In order for oxygen to form into ozone, oxygen molecules must be “pulled apart” and reformed. This is usually accomplished with high voltage ozone generators. Once ozone is formed, it can be put to work as a very aggressive oxidizer and sanitizer. Producing ozone is relatively easy with a reliable, cost-effective ozone generator. Since ozone cannot be stored, and must be used on-site when and where it is produced, rebuilding the current ozone generator will ensure that the right amount of ozone concentration is applied in the water treatment process. Ozone generators produce ozone out of oxygen and there are no on-going costs for chemicals or other inputs into ozone generators other than electricity.
- ✓ The filter media (sand and anthracite) replacement (\$125,000) for FY 2018 at Southwest Water Plant
 - A typical sand and anthracite media system requires replacement every 10 to 20 years in order to ensure optimal performance. Filter media has a tendency to round-off from attrition and lose its effectiveness. The filter media can also increase in size due to the mass collection of chemicals and polymers adhering to the filter media. Replacing the media system on time results in adequate backwash rates, even backwash flow distribution, effective surface wash, and proper chemical dosages.
- ✓ The condensate pump and controls replacement (\$100,000) for FY 2018 at Springwells Water Plant
 - The current condensate pumps are failing more often or its discharge is blocked. When the condensate pumps fail or are blocked, this prevents the production of further condensate. Condensate is purified water and may have some chemical treatment left in it which is valuable. It is less expensive to regenerate hot condensate back into steam than it would be to heat cold water into steam due to a failed condensate pump. The replacement of the condensate pumps is one of the best energy-saving measures and improves efficiency.

The largest dollar item in the Buildings/Structures asset category is the following.

- ✓ The sedimentation basin upgrade (\$180,000) for FY 2019 at Water Works Park.
 - Water Works Park plant management plans to upgrade sedimentation basins in 2019. This includes replacing the sludge collecting equipment i.e. flights and chains in all the six basins. The sludge sensors will also be installed in each basin.
 - Upgrading the sedimentation basins will minimize the breakdown of flights and chains while improving the efficiency for sedimentation process. With the installation of sludge sensors, the water plant will be able to know the exact height of sludge accumulated in each basin without draining it. This will allow the water plant to optimize the sludge treatment process and ultimately, by regular monitoring and removal of sludge, the water plant will be able to optimize the sedimentation process and increase the operations treatment efficiency.



Capital Outlay Plan

Wastewater System Operations

The Wastewater Capital Outlay includes the cost of the Water Resource Recovery Facility (WRRF), Combined Sewer Overflow Facilities (CSO) and Industrial Waste Control Group (IWC).

Asset Type	Current Year	Biennial Budget		Forecast		
	FY 2017 Adopted	FY 2018 Requested	FY 2019 Requested	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Wastewater System Operations						
Operations & Maintenance Budget	\$ -	\$728,666	\$ -	\$ -	\$ -	\$ -
Machinery & Equipment	-	633,266	-	-	-	-
Safety & Security	-	95,400	-	-	-	-
Improvement & Extension Funding	\$35,000	\$8,646,107	\$4,692,940	\$2,931,010	\$3,190,216	\$3,170,716
Leasehold Improvements	-	294,500	250,000	100,000	50,000	50,000
Machinery & Equipment	35,000	5,976,107	2,580,440	1,563,510	1,847,716	1,845,216
Safety & Security	-	510,000	510,000	10,000	10,000	10,000
Buildings & Structures	-	1,057,500	1,007,500	1,007,500	1,007,500	1,007,500
Vehicles	-	558,000	45,000	-	25,000	8,000
Site Improvements	-	250,000	300,000	250,000	250,000	250,000
Total - All Capital Outlay	\$35,000	\$9,374,773	\$4,692,940	\$2,931,010	\$3,190,216	\$3,170,716

For FY 2018 and FY 2019 the most significant portion of the capital outlay is for Machinery & Equipment. The processing of material through the WRRF and CSO facilities places significant wear on operational equipment. An ongoing review of this equipment has determined several areas for improvement.

Significant capital outlay includes the following.

- ✓ For FY 2018 Dewatering, sludge, flushing, sump and chemical pumps total approximately \$3.3 million. For FY 2019 this projected cost totals approximately \$1.7 million.
- ✓ Metering equipment used in Operations, at the CSO facilities and Process Controls totaled approximately \$360,000 for FY 2018 and \$193,500 for FY 2019.



Capital Outlay Plan

- ✓ For FY 2018 Mixers for the CSO facilities totaled \$440,000.
- ✓ The upgrade of equipment used for monitoring WRRF and CSO facilities operations and outfall totals \$360,000 for FY 2018. This upgrade for Process Controls is not forecast to be repeated for several years. Ongoing capital outlays for monitoring equipment is approximately \$7,200 for FY 2019.
- ✓ Other processing capital outlay inclusive of conveyor systems, gear drives, major valves and screen brushes totals approximately \$741,000 for FY 2018 and approximately \$329,000 for FY 2019.
- ✓ For FY 2018 and FY 2019 a \$1 million annual program is proposed to begin for the replacement of air handling and A/C units throughout the WRRF.

Administrative & Other Services

The groups within Administrative & Other Services that have a capital budget include the Chief Executive Officer, the Chief Financial Officer, Public Affairs, Organizational Development and Procurement.

- ✓ There is a \$1.1 Million building/structure project for FY 2018 to renovate each GLWA floor within the Water Board Building. The renovations will include updating the training room on the fourteenth floor to accommodate the growing workforce and to support the Organizational Development new company wide professional development training initiatives. Other renovations will include restoring the lobbies on each floor along with the conference rooms and workstations for each Cost Center.

Capital Outlay Budget for Administrative Services

Asset Type	Current Year	Biennial Budget		Forecast		
	FY 2017 Adopted	FY 2018 Requested	FY 2019 Requested	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Administrative & Other Services						
Operations & Maintenance Budget	\$ -	\$124,500	\$18,800	\$18,800	\$18,800	\$28,800
Machinery & Equipment	-	124,500	18,800	18,800	18,800	28,800
Improvement & Extension Funding	\$ -	\$1,100,000	\$ -	\$ -	\$ -	\$ -
Leasehold Improvements	-	200,000	-	-	-	-
Multiple Asset Types	-	900,000	-	-	-	-
Total - All Capital Outlay	\$ -	\$1,224,500	\$18,800	\$18,800	\$18,800	\$28,800



Capital Outlay Plan

Centralized Services

Centralized Services includes functions that support all of GLWA. The groups within Centralized Services that have a capital budget include Information Technology, Security, Planning Services, Systems Control, Facility Operations, and Fleet Operations.

As shown in the table below, capital outlay funded in the O&M budget is consistent from year-to-year. This consistency is due to the recurring nature of these items. Further detail about the Centralized Services capital outlay follows the tables below by each cost center or cost center grouping.

Capital Outlay Budget for Centralized Services

Asset Type	Current Year	Biennial Budget		Forecast		
	FY 2017 Adopted	FY 2018 Requested	FY 2019 Requested	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Centralized Services						
Operations & Maintenance Budget	\$ -	\$6,500,277	\$6,807,029	\$6,805,541	\$7,208,687	\$6,924,238
Machinery & Equipment	-	593,800	580,150	532,900	589,850	546,900
Information Technology	-	5,906,477	6,226,879	6,272,641	6,618,837	6,377,338
Improvement & Extension Funding	\$604,520	\$11,879,974	\$8,042,363	5,741,926	\$6,469,050	5,725,346
Leasehold Improvements	-	-	10,000	-	-	-
Machinery & Equipment	604,520	2,281,520	2,232,415	2,235,427	2,213,941	2,257,581
Multiple Asset Types	-	200,000	-	125,000	-	-
Safety & Security	-	7,808,585	3,706,340	2,341,358	2,182,523	1,682,523
Vehicles	-	1,589,869	2,093,608	1,040,141	2,072,586	1,785,242
Total - All Capital Outlay	\$604,520	\$18,380,251	\$14,849,392	\$12,547,467	\$13,677,737	\$12,649,584



Capital Outlay Plan

Information Technology

The Information Technology (IT) Centralized Services Capital Outlay Plan for Operations and Maintenance is budgeted at \$5.9 Million in FY 2018 and \$6 Million for each additional year through FY 2022. The IT Centralized Services Capital Outlay Plan is for IT services used across GLWA that include core infrastructure systems, including e-mail, phones, and the virtualized server environment; enterprise systems like the geographical information system, business intelligence and document management, and line of business systems like Work Order and Asset Management (WAM), Laboratory Information System (LIMS), and Pre-treatment Information System (PIMS). Technology services offered by the IT Group include production support; printing; project management; business and system planning; business process development; organizational change management; and information flow optimization.

Capital Outlay Budget for Information Technology

Asset Type	Current Year	Biennial Budget		Forecast		
	FY 2017 Adopted	FY 2018 Requested	FY 2019 Requested	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Information Technology						
Operations & Maintenance Budget	\$ -	\$5,906,477	\$6,226,879	\$6,272,641	\$6,618,837	\$6,377,338
Data/Network	-	1,500,013	1,500,055	1,500,034	1,500,018	1,499,973
Hardware	-	1,830,000	2,178,150	2,201,567	2,525,228	2,260,961
Software	-	2,576,464	2,548,674	2,571,040	2,593,591	2,616,404
Improvement & Extension Funding	\$ -	\$100,000	\$ -	\$ -	\$ -	\$ -
Multiple Asset Types	-	100,000	-	-	-	-
Total - All Capital Outlay	\$ -	\$6,006,477	\$6,226,879	\$6,272,641	\$6,618,837	\$6,377,338

Capital items include the following:

- ✓ VMX 10K 100 TBs (Storage system - Hardware) \$300,000
- ✓ LIMS (Laboratory Information Management System) \$323,464
- ✓ GeoNexus Technologies - Asset Management (WAM) Integration Software & Implementation Services \$350,000
- ✓ Desktop Computers (Hardware) \$500,000
- ✓ Enterprise MFP (Multifunction printers) (Hardware) \$550,000
- ✓ Replication Software (Backup and Recovery) (Software) \$750,000
- ✓ Low Voltage Wiring \$1,500,013



Capital Outlay Plan

Security

The \$7.9 Million budget in FY 2018 is to launch the Security Infrastructure Improvements project to provide reliable physical and electronic security systems for multiple GLWA facilities. This is a five-year project with a \$9.9 Million forecasted budget for FY 2019 through FY 2022. The project will encompass multiple GLWA facilities; the Water Plants, Waste Water Treatment Plant, Pumping Stations and the CSO Facilities. In each facility, the critical security systems, both physical and electronic will be upgraded or replaced to keep GLWA staff and infrastructure safe. On the perimeter of each of the facilities, the fencing, gates, doors, vehicle restrains/barriers will be replaced and intrusion detection alarm points and camera surveillances will be upgraded. In the interior of each facility, the access control, camera surveillance, video records and servers will be upgraded to enhance GLWA Security Programs to fend off any attacks to the Water and Wastewater Systems.

Capital Outlay Budget for Security

Asset Type	Current Year	Biennial Budget		Forecast		
	FY 2017 Adopted	FY 2018 Requested	FY 2019 Requested	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Security						
Improvement & Extension Funding	\$ -	\$7,908,585	\$3,706,340	\$2,341,358	\$2,182,523	\$1,682,523
Multiple Asset Types	-	100,000	-	-	-	-
Safety & Security	-	7,808,585	3,706,340	2,341,358	2,182,523	1,682,523
Total - All Capital Outlay	\$ -	\$ 7,908,585	\$ 3,706,340	\$ 2,341,358	\$ 2,182,523	\$ 1,682,523



Capital Outlay Plan

Planning Services

FY 2018 & FY 2019 Planning Services Budget Summary

- ✓ Metering equipment such as magnetic flow meters and control cabinets used in Systems Controls & Meter Operations totaled approximately \$211,500 for FY 2018 and \$171,200 for FY 2019.

Capital Outlay Budget for Planning Services

Asset Type	Current Year	Biennial Budget		Forecast		
	FY 2017 Adopted	FY 2018 Requested	FY 2019 Requested	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Planning Services						
Operations & Maintenance Budget	\$ -	\$291,300	\$277,650	\$230,400	\$287,350	\$244,400
Machinery & Equipment	-	291,300	277,650	230,400	287,350	244,400
Improvement & Extension Funding	\$169,520	\$231,520	\$192,415	\$310,427	\$163,941	\$207,581
Leasehold Improvements	-	-	10,000	-	-	-
Machinery & Equipment	-	231,520	182,415	185,427	163,941	207,581
Multiple Asset Types	-	-	-	125,000	-	-
Total - All Capital Outlay	\$169,520	\$522,820	\$470,065	\$540,827	\$451,291	\$451,981



Capital Outlay Plan

Systems Control

The systems capital outlay budget is comprised of Machinery & Equipment replacements in the amounts of \$2.1 million for FY 2018 and FY 2019.

Capital Outlay Budget for Systems Control

Asset Type	Current Year	Biennial Budget		Forecast		
	FY 2017 Adopted	FY 2018 Requested	FY 2019 Requested	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Systems Control						
Improvement & Extension Funding	\$ -	\$2,050,000	\$2,050,000	\$2,050,000	\$2,050,000	\$2,050,000
Machinery & Equipment	-	2,050,000	2,050,000	2,050,000	2,050,000	2,050,000
Total - All Capital Outlay	\$ -	\$2,050,000	\$2,050,000	\$2,050,000	\$2,050,000	\$2,050,000

The largest dollar items in the Machinery & Equipment asset category are the following.

- ✓ The motor replacements/rehabilitation (\$750,000) for FY 2018
- ✓ The pump replacements/rehabilitation (\$750,000) for FY 2018
- ✓ The valve replacements/rehabilitation (\$300,000) for FY 2018
- ✓ The instrumentation and control system upgrades and integration (\$250,000) for FY 2018.

Pumping stations in a water distribution system are necessary. The most expensive cost of pumping stations is the energy supply for pumps (mostly electrical). Energy usage is a critical factor in determining the lifecycle costs of pumps and their motors. Replacing valves in a timely manner reduces frictional losses in the water distribution system and increases the control method. Therefore, it is very important that pumps have a high degree of efficiency and are maintained properly in order to guarantee safe water quality. In order to continue the transition from a reactive replacement mode to a condition-based replacement mode, the GLWA is implementing steps focused on improving the replacement processes and increasing the effectiveness and productivity of the GLWA's assets such as motor, pump and valve replacements.

The instrumentation and control system upgrades will allow efficient remote operation of all water-pumping sites. The pumps can be locally controlled by Allen Bradley PLC's, and then connect back to the systems control central room via radio links which monitors and controls the entire water distribution system and wastewater collection system. The control system upgrade helps improve operational efficiency, improve data generated by the high-capacity historian system which is used to plot trends, analyze events and project future operational requirements, maintain regulatory and environmental compliance, and accommodate future system expansion.



Capital Outlay Plan

The significant benefits of replacing outdated control systems include better management of distributed systems and remote sites, streamlined environmental reporting, improved water/wastewater process control reliability, and reduced operations and maintenance (O&M) costs. For example, because operators at the water distribution and wastewater collection systems now have access to real-time data from throughout the system, they are able to more quickly detect and isolate system leaks as well as better react to rapidly changing conditions such as storm water inflow.

Facility Operations

The facility operations capital outlay budget is comprised of Machinery & Equipment replacements (\$302,500) for FY 2018 and FY 2019, currently captured in the capital outlay > \$5K section of the O&M budget.

Capital Outlay Budget for Facility Operations

Asset Type	Current Year	Biennial Budget		Forecast		
	FY 2017 Adopted	FY 2018 Requested	FY 2019 Requested	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested
Facility Operations						
Operations & Maintenance Budget	\$ -	\$302,500	\$302,500	\$302,500	\$302,500	\$302,500
Machinery & Equipment	-	302,500	302,500	302,500	302,500	302,500
Improvement & Extension Funding	\$300,000	\$ -	\$ -	\$ -	\$ -	\$ -
Machinery & Equipment	300,000	-	-	-	-	-
Total - All Capital Outlay	\$300,000	\$302,500	\$302,500	\$302,500	\$302,500	\$302,500

The largest dollar items in the Machinery & Equipment asset category are:

- ✓ The chiller replacement (\$220,000) for FY 2018
 - In most facilities, chillers are one of the most expensive pieces of equipment. They are also the single biggest users of electricity which is why it is important to replace chillers on time. Even though a chiller has a relatively long service life of 20-25 years, other factors such as a chiller’s condition, age and reliability should be weighed to determine if replacement is necessary. Just because a chiller is operating does not mean that it is operating efficiently. Replacing an older chiller with one that delivers higher efficiency can greatly reduce overall electricity costs.



Capital Outlay Plan

- ✓ The condensate pump system (\$82,500) for FY 2018
 - The current condensate pumps are failing more often or its discharge is blocked. When the condensate pumps fail or are blocked, this prevents the production of further condensate. Condensate is purified water and may have some chemical treatment left in it which is valuable. It is less expensive to regenerate hot condensate back into steam than it would be to heat cold water into steam due to a failed condensate pump. The replacement of the condensate pumps is one of the best energy-saving measures and improves efficiency.

Fleet Operations

Fleet Operations is responsible for maintaining and managing all vehicles, such as the cars, trucks, lifts, vactors, etc. associated with the water and wastewater system while ensuring vehicles and equipment are properly matched to the job requirements and functioning properly and safely

FY 2018 & FY 2019 Capital Outlay Budget Summary

The fleet operations capital outlay – equipment cost for vehicles is currently estimated at \$9.9 million. Currently, GLWA has a fleet of approximately 294 vehicles and a shared services agreement for vehicle maintenance with DWSD (OPS-001 – Fleet) for \$2.15 million. This shared services agreement states that DWSD shall manage and maintain all fleet and equipment of GLWA (including passenger vehicles, dump trucks, combination loaders and vacuum trucks, generators, portable pumps, backhoes, heavy equipment, etc.). The initial term of the shared services agreement is through June 30, 2017 with an automatic annual renewal unless notification is provided.

GLWA has been exploring the option of outsourcing fleet and maintenance as part of its ongoing optimization effort. A fleet leasing and maintenance program could allow GLWA to replace vehicles, with an average life of nine years, at appropriate lifecycles. Modernizing the fleet could also reduce maintenance and fuel costs.

Until a decision is made, fleet purchases are on hold for the first quarter of FY 2018. That being said, in the absence of an alternative, a proposed replacement funding table has been prepared (see table on the following pages). This table provides the mileage, age of vehicle, condition of vehicle and vehicle type. This was taken into consideration to set realistic levels while keeping the fleet within an appropriate life cycle.

For the purposes of this document, the GLWA fleet has been grouped into eight (8) distinct categories. Each category is described below, and the number of units currently on hand, replacement cost and useful life range for each category is summarized in the descriptions below.

Car: Motor vehicles with at least four wheels, used for the transport of passengers, and comprising no more than eight seats in addition to the driver's seat. This class of vehicle is used for staff and support functions. The GLWA currently owns fifteen (15) cars with an average replacement value of \$16,863 per vehicle over a five year period. The typical useful life of a car is 5 to 10 years.



Capital Outlay Plan

Heavy Duty Truck: These vehicles are used to haul heavy loads, tow equipment and other miscellaneous projects. Examples of heavy duty trucks include: dump trucks, stake trucks, street flusher trucks, snow plow & salt spreader trucks, generator service trucks, trash compactor/crane carrier trucks and are commonly referred to as 2-1/2 tons to 5 tons and have a gross vehicle weight rating (GVWR) of 20,001 lbs. to 45,000 lbs. The GL WA currently owns twenty-three (23) heavy duty trucks with an average replacement value of \$113,363 per vehicle over a five year period. The typical useful life of a heavy duty truck is 7 to 10 years.

Light Duty Truck: These vehicles are used to transport tools and equipment to job sites and have a gross vehicle weight rating (GVWR) of up to 10,000 lbs. An example of a light duty truck include: step trucks. The GLWA currently owns six (6) light duty trucks with an average replacement value of \$33,273 per vehicle over a five year period. The typical useful life of a light duty truck is 7 to 10 years.

Pickup Truck: These vehicles may be equipped with either two or four wheel drive and may have an extended cab capable of carrying a crew of five personnel along with light hand equipment or materials and are commonly referred to as ½ ton to 1 ton. Pickup trucks may be used for winter operations, plowing, and pulling small trailers. The GLWA currently owns (51) pickup trucks with an average replacement value of \$30,327 per vehicle over a five year period. The typical useful life of a heavy duty truck is 7 years.

SUV: These vehicles are larger than, and provide more passenger room and better off road performance than traditional cars or pickup trucks. SUV's are commonly referred to as Sports Utility Vehicles and provide the operator with better visibility than cars. The GLWA currently owns twenty-six (26) SUV's with an average replacement value of \$25,032 per vehicle over a five year period. The typical useful life of a SUV is 5 to 10 years.

Utility Truck: These vehicles are truck chassis cabs that are fitted with various bodies e.g. tools, materials and storage beds and are limited in their use but are used daily to perform a specific task. Utility trucks are commonly referred to as ¾ ton to 1-1/4 tons and have a gross vehicle weight rating (GVWR) of 10,001 lbs. to 20,000 lbs. The GLWA currently owns twenty (20) utility trucks with an average replacement value of \$65,762 per vehicle over a five year period. The typical useful life of a utility truck is 7 to 10 years.

Vactor: These vehicles are equipped with special bodies that are required to provide a specific service. Vactors, commonly referred to as vacuum truck or vacuum tanker, have a pump and a tank, designed to pneumatically extract liquids, sludges, slurries or sand/water mixtures without the contact of any mechanical equipment. The GLWA currently owns four (4) vactors with an average replacement value of \$272,409 per vehicle over a five year period. The typical useful life of a vactor truck is 8 to 10 years.

Van: These vehicles are used to transport personnel and equipment to job sites. Vans range in size from ¼ ton (transit vans) to 1 ton (regular-sized vans). The GLWA currently owns one hundred and forty-nine (149) vans with an average replacement value of \$27,355 per vehicle over a five year period. The typical useful life of a van is 7 to 10 years.

Further analysis of the vehicles – capital outlay follows in the tables on the following pages.



Capital Outlay Plan

The proposed vehicle replacement schedule will bring GLWA’s fleet into lifecycle status and reduce maintenance as well as repair and fuel costs. The replacement schedule focuses on the replacement of 37 vehicles (cost of \$1.59 million) for FY 2018, 48 vehicles (cost of \$2.09 million) for FY 2019, 32 vehicles (cost of \$1.04 million) for FY 2020, 65 vehicles (cost of \$2.07 million) for FY 2021, and 41 vehicles (cost of \$1.79 million) for FY 2022.

Capital Outlay Budget by Vehicle Type and Age with Proposed Replacement Year and Cost

Current Year (Vehicles at 7.01.2017)					Proposed Replacement Funding											
					Biennial Budget				Forecast						Five Year Count	Five Year Cost
Age in Years by Type	Average Mileage by Type	Total Count	Average Original Cost	Average Replacement Cost over Five Years	FY 2018 Count	FY 2018 Cost	FY 2019 Count	FY 2019 Cost	FY 2020 Count	FY 2020 Cost	FY 2021 Count	FY 2021 Cost	FY 2022 Count	FY 2022 Cost		
Car	67,128	15	\$12,863	\$16,863	3	\$47,138	3	\$46,124	3	\$52,806	6	\$106,874	-	\$ -	15	\$252,942
9.00	51,799	9	13,407	17,799	1	17,290	-	-	3	52,806	5	90,099	-	-	9	160,195
10.00	94,176	3	12,426	15,947	-	-	2	31,065	-	-	1	16,775	-	-	3	47,840
11.00	79,749	2	12,047	15,360	1	15,661	1	15,059	-	-	-	-	-	-	2	30,720
13.00	98,710	1	10,913	14,187	1	14,187	-	-	-	-	-	-	-	-	1	14,187
Heavy Duty Truck	32,436	23	\$81,268	\$113,363	6	\$652,220	4	\$581,143	-	\$ -	3	\$265,122	2	\$201,960	15	\$1,700,445
-	n/a		n/a	210,000	-	-	1	210,000	-	-	-	-	-	-	1	210,000
5.00	10,524	2	92,725	n/a	-	-	-	-	-	-	-	-	-	-	-	-
6.00	43,839	6	77,530	n/a	-	-	-	-	-	-	-	-	-	-	-	-
7.00	4,386	2	79,257	110,960	-	-	-	-	-	-	-	-	1	110,960	1	110,960
11.00	52,950	2	53,134	69,074	-	-	1	66,418	-	-	1	71,731	-	-	2	138,148
12.00	30,950	1	96,630	120,788	-	-	1	120,788	-	-	-	-	-	-	1	120,788
13.00	30,950	1	147,150	183,938	-	-	1	183,938	-	-	-	-	-	-	1	183,938
15.00	5,676	2	71,627	96,696	-	-	-	-	-	-	2	193,392	-	-	2	193,392
17.00	27,829	3	83,740	111,028	2	242,085	-	-	-	-	-	-	1	91,000	3	333,085
18.00	64,337	2	93,749	121,873	2	243,746	-	-	-	-	-	-	-	-	2	243,746
19.00	30,928	2	63,996	83,195	2	166,390	-	-	-	-	-	-	-	-	2	166,390
Light Duty Truck	45,190	6	\$21,752	\$33,273	3	\$79,964	1	\$57,500	-	\$ -	1	\$31,049	2	\$64,399	7	\$232,912
-	n/a		n/a	57,500	-	-	1	57,500	-	-	-	-	-	-	1	57,500
13.00	73,073	1	32,588	42,364	1	42,364	-	-	-	-	-	-	-	-	1	42,364
16.00	33,244	4	23,000	31,337	1	29,900	-	-	-	-	1	31,049	2	64,399	4	125,348
17.00	65,091	1	5,923	7,700	1	7,700	-	-	-	-	-	-	-	-	1	7,700

(Table continued on next page)



Capital Outlay Plan

Capital Outlay Budget by Vehicle Type and Age with Proposed Replacement Year and Cost (continued)

Current Year (Vehicles at 7.01.2017)					Proposed Replacement Funding											
Age in Years by Type	Average Mileage by Type	Average			Biennial Budget				Forecast				Five			
		Total Count	Original Item Cost	Replacement Cost over Five Years	FY 2018 Count	FY 2018 Cost	FY 2019 Count	FY 2019 Cost	FY 2020 Count	FY 2020 Cost	FY 2021 Count	FY 2021 Cost	FY 2022 Count	FY 2022 Cost	Year Count	Year Cost
Pickup Truck	36,270	51	\$24,687	\$30,327	6	\$175,125	6	\$135,961	6	\$210,519	14	\$394,002	4	\$176,155	36	\$1,091,762
-	n/a		n/a	42,000	2	84,000	-	-	-	-	-	-	-	-	2	84,000
5.00	48,798	1	48,300	n/a	-	-	-	-	-	-	-	-	-	-	-	-
6.00	35,818	19	28,144	42,241	-	-	-	-	2	84,481	-	-	-	-	2	84,481
7.00	35,062	1	45,000	63,000	-	-	-	-	-	-	-	-	1	63,000	1	63,000
8.00	28,336	3	24,729	33,796	-	-	-	-	1	32,148	-	-	2	69,241	3	101,389
9.00	40,445	17	20,647	26,907	4	91,125	4	89,143	2	66,204	8	237,862	-	-	18	484,333
10.00	24,555	2	17,366	23,444	-	-	-	-	-	-	2	46,888	-	-	2	46,888
11.00	41,538	4	18,901	24,947	-	-	1	28,444	-	-	3	71,343	-	-	4	99,787
13.00	41,603	2	17,999	23,031	-	-	1	18,375	1	27,686	-	-	-	-	2	46,061
16.00	2,916	1	28,080	37,908	-	-	-	-	-	-	1	37,908	-	-	1	37,908
17.00	11,417	1	31,367	43,914	-	-	-	-	-	-	-	-	1	43,914	1	43,914
SUV	93,520	26	\$19,486	\$25,032	4	\$99,365	8	\$193,971	3	\$74,021	9	\$231,780	1	\$26,670	25	\$625,807
-	n/a		n/a	20,000	1	20,000	-	-	-	-	-	-	-	-	1	20,000
6.00	38,328	1	23,675	n/a	-	-	-	-	-	-	-	-	-	-	-	-
7.00	113,292	8	19,050	25,581	1	24,765	-	-	1	24,765	4	102,870	1	26,670	7	179,070
8.00	58,273	3	19,200	25,920	-	-	-	-	-	-	3	77,760	-	-	3	77,760
9.00	95,152	11	19,298	24,830	2	54,600	5	118,125	2	49,256	2	51,150	-	-	11	273,131
10.00	88,457	3	20,226	25,282	-	-	3	75,846	-	-	-	-	-	-	3	75,846
Utility Truck	54,053	20	\$48,479	\$65,762	2	\$92,127	1	\$47,032	4	\$253,237	4	\$269,135	9	\$653,710	20	\$1,315,242
7.00	59,088	5	55,759	77,505	-	-	-	-	-	-	1	75,275	4	312,250	5	387,525
8.00	45,896	8	49,200	67,628	-	-	-	-	1	65,910	2	133,650	5	341,460	8	541,020
9.00	58,470	4	47,175	61,884	-	-	-	-	3	187,327	1	60,210	-	-	4	247,537
10.00	73,073	1	37,626	47,032	-	-	1	47,032	-	-	-	-	-	-	1	47,032
12.00	63,333	1	39,500	51,350	1	51,350	-	-	-	-	-	-	-	-	1	51,350
17.00	48,170	1	31,367	40,777	1	40,777	-	-	-	-	-	-	-	-	1	40,777
Vactor	8,657	4	\$357,773	\$272,409	1	\$154,817	1	\$390,000	-	\$ -	-	\$ -	-	\$ -	2	\$544,817
-	0	2	500,000	n/a	-	-	-	-	-	-	-	-	-	-	-	-
7.00	11,543	1	312,000	390,000	-	-	1	390,000	-	-	-	-	-	-	1	390,000
12.00	23,086	1	119,090	154,817	1	154,817	-	-	-	-	-	-	-	-	1	154,817

(Table continued on next page)



Capital Outlay Plan

Capital Outlay Budget by Vehicle Type and Age with Proposed Replacement Year and Cost (continued)

Current Year (Vehicles at 7.01.2017)					Proposed Replacement Funding											
					Biennial Budget				Forecast							
Age in Years by Type	Average Mileage by Type	Total Count	Average Original Item Cost	Average Replacement Cost over Five Years	FY 2018 Count	FY 2018 Cost	FY 2019 Count	FY 2019 Cost	FY 2020 Count	FY 2020 Cost	FY 2021 Count	FY 2021 Cost	FY 2022 Count	FY 2022 Cost	Five Year Count	Five Year Cost
Van	46,738	149	\$20,945	\$27,355	12	\$289,113	24	\$641,876	16	\$449,557	28	\$774,623	23	\$662,348	103	\$2,817,518
-	n/a		n/a	24,000	-	-	1	24,000	-	-	-	-	-	-	1	24,000
5.00	32,012	17	18,738	22,328	-	-	1	18,915	-	-	2	40,856	1	29,539	4	89,310
6.00	32,991	35	22,610	31,336	-	-	-	-	1	27,429	1	31,440	3	97,813	5	156,682
7.00	35,194	14	18,940	26,200	-	-	-	-	-	-	2	51,138	4	106,064	6	157,202
8.00	37,543	20	19,972	27,728	-	-	-	-	-	-	5	125,638	15	428,932	20	554,570
9.00	64,107	42	22,503	29,256	3	89,319	14	396,391	11	312,414	14	430,648	-	-	42	1,228,772
10.00	73,171	10	19,566	24,088	5	111,982	8	202,570	-	-	1	22,680	-	-	14	337,232
11.00	79,546	6	16,341	21,498	4	87,813	-	-	-	-	2	41,173	-	-	6	128,986
16.00	17,877	3	21,733	28,636	-	-	-	-	2	54,857	1	31,049	-	-	3	85,907
17.00	16,461	1	21,099	27,429	-	-	-	-	1	27,429	-	-	-	-	1	27,429
18.00	49,930	1	21,099	27,429	-	-	-	-	1	27,429	-	-	-	-	1	27,429
Grand Total	48,929	294	\$32,244	\$38,482	37	\$1,589,869	48	\$2,093,608	32	\$1,040,141	65	\$2,072,586	41	\$1,785,242	223	\$8,581,445



Construction Bond Financial Plan

The Great Lakes Water Authority (GLWA) maintains a separate construction bond fund for both the water and wastewater systems. These funds provide the record keeping mechanism for bond proceeds, related interest earnings, and system improvement expenses. The bond proceeds are used to fund the GLWA's Five Year Capital Improvement Plan (CIP). New with the FY 2018 – 2022 CIP, GLWA implemented a financial plan strategy where long-lived assets, defined as constructed infrastructure and plant facilities with an estimated useful life greater than 20 years, are eligible for bond funding.

Sources of revenue in the construction bond fund include the following.

1. **Bond Proceeds:** The GLWA uses an incremental method of funding long-lived capital projects through a bond financing program rather than funding all projects in advance. The Authority issues revenue bonds pursuant to Michigan Public Act 94 of 1933 (the Revenue Bond Act). The Act provides a pledge of "net revenues" for the payment of the bond principal and interest. "Net revenues" means the revenues of the system remaining after deducting reasonable expenses for administration, operation, and maintenance of the water and sewer systems.
2. **Transfers from the Improvement & Extension Fund (Revenue Financed Capital):** Based upon ongoing expense, capital, and revenue optimization efforts, the GLWA is building a pay-as-you-go plan for shorter-lived and lower-dollar capital expenditures. These funds are accounted for in the Improvement & Extension fund. In addition, establishing sufficient revenue financed capital is critical to strategically reducing the water and sewer system's reliance on long-term debt. Striking the optimized balance between bond proceeds and revenue financed capital will lower the cost of capital over the long-term. Revenue financed capital is budgeted for use only after it is received to minimize financial plan risk. When I&E funds are assigned to offset a portion of the costs of specific capital expenses, a transfer is made from the I&E Fund to the Construction Bond Fund. "Transfers from I&E Transfers" are labeled as specific or strategic. "Specific" transfers relate to specifically identified projects (general soft costs for services at the study or design phase). "Strategic" relates to outlining the potential use of Revenue Financed Capital to lower the amount of revenue bonds. Planning and measuring this effort over time will inform stakeholders of the effectiveness of this approach.
3. **Federal Loan Programs:** The GLWA actively seeks funding from lower cost financing programs including the State Revolving Fund (SRF) Loan Program and the Drinking Water Revolving Fund (DWRf) Loan Program.
4. **Grants:** The Authority utilizes public grants programs such as Stormwater, Asset Management, and Wastewater (SAW) program which provides both grants and loans. GLWA is pursuing federal and private grants for energy optimization.
5. **Contributed Capital:** Periodically, the Authority may have the opportunity to optimize the systems with specific customer participation. Depending on the nature of the shared financing strategy, the Authority may offset the cost of system expansion or improvements with contributed capital from that customer.

The basis of accounting for the capital spending is the accrual basis. Under this basis of accounting, revenues are recognized when earned and measurable regardless of when collected; and expenses are recorded, or accrued, on a matching basis when incurred. Accrued expenses are expected to be paid in a subsequent accounting period.



Construction Bond Financial Plan

This CIP should be considered a planning document – it is a dynamic and evolving plan that requires continual review and modification each year. The CIP process includes engagement with an internal cross-functional team, customers (largely facilitated through the Asset Management/CIP Committee), and the GLWA Board Capital Improvement Planning Committee. Ultimately, the GLWA Board adopts the five-year CIP on an annual basis.

The financial aspects of the CIP review process include an extensive review of the total project, or “lifetime” budget, which reflects historical spending prior to, during, and beyond the current 5-year period. The goal of the Authority’s capital financing strategy is to align capital project financing sources with multiple goals including: (1) recovering the costs of capital investment over the useful lives of the capital assets; (b) minimizing the impact of the capital programs on water and sewage revenue requirements; and (c) protecting and enhancing the Authority’s financial position. The potential funding source identified for each project is subject to change based upon the systems need and financial resources available at the time. For the purposes of the financial plan, project expenses are budgeted at 80% of the annual project amount identified in the CIP. This differential is based on historical variances between CIP and actual spending. This variance is not unusual given the nature of the CIP as a planning document. Copies of this CIP and past CIPs are available on GLWA’s website at www.glwater.org.

Water Construction Bond Fund

The Water CIP supports activities to carry out the Water Master Plan completed in 2015 and accepted by the GLWA Board in 2016. The Master Plan is based on new forecasts of population and water use and identifying the least cost solutions in collaboration with our customers. There are seven priorities identified in that plan for implementation through 2020.

1. Reduce water treatment plant capacity to align with projected water demand
2. Reduce non-revenue water
3. Reduce energy use and energy costs
4. Collaborate with customers to address long standing water transmission problems
5. Update water quality goals and monitoring efforts
6. Optimize return on investments using asset management to prioritize capital improvements
7. Renew and rehabilitate the water distribution system in the City of Detroit (Note that this priority was identified prior to the effective date of GLWA operations. The costs to rehabilitate the City’s system are borne by the Detroit Water & Sewerage Department (DWSD). This significance to GLWA shifts to effective planning and coordination with the DWSD.)

The Master Plan is available at <http://www.glwater.org/planning-documents/master-plans/>.



Construction Bond Financial Plan

As shown in **Table 1 – Water Construction Bond Fund Financial Plan**, the next bond issuance is expected in the latter half of FY 2019. The most recent transaction closed in October 2016 with net proceeds of \$225.8 million for the regional water system. The capital project expenditures are aligned with the objectives of the water master plan and CIP as described above.

Table 1 – Water Construction Bond Fund Financial Plan

CIP Funding Sources and Uses	FY 2017 Projected	FY 2018 Requested	FY 2019 Requested	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested	Five Year Total
Water System Bond Construction Fund							
Beginning Balance (unaudited)	\$ 5,000	\$ 173,953	\$ 109,200	\$ 184,614	\$ 69,081	\$ 100,711	\$ 173,953
Bond Proceeds, net	225,883	-	188,000	-	94,000	-	282,000
Investment Income	577	435	743	462	408	252	2,299
DWRF Loan Reimbursements	-	-	-	-	-	-	-
Transfers from I&E Fund - Specific (a)	3,258	14,936	6,942	1,813	266	-	23,957
Transfers from I&E Fund - Strategic (b)	2,500	30,000	35,000	40,000	50,000	60,000	215,000
Grants	-	-	-	-	-	-	-
Contributed Capital Sources	-	-	-	-	-	-	-
Subtotal - Sources	237,219	219,324	339,885	226,888	213,755	160,963	697,209
Capital Project Expenditures (c)	(63,265)	(110,124)	(155,271)	(157,807)	(113,044)	(104,240)	(640,487)
Projected Ending Balance	\$ 173,953	\$ 109,200	\$ 184,614	\$ 69,081	\$ 100,711	\$ 56,723	\$ 56,723



Construction Bond Financial Plan

Sewer Construction Bond Fund

As shown in **Table 2 – Sewer Construction Bond Fund Financial Plan**, debt financing sources include bond proceeds for specific projects that are financed by the State Revolving Fund (SRF) at a lower cost of borrowing. The Authority intends to apply for future SRF funding; only approved SRF financings are shown in the financial plan. The next bond issuance is expected in the latter half of FY 2019. The most recent transaction closed in October 2016 with net proceeds of \$225.8 million for the regional water system.

As we enter FY 2018, the Authority is launching a sewer master plan process which will consider how we can better leverage a regional perspective of wastewater management. The capital project expenditures in the financial plan are aligned with the CIP.

Table 2 – Sewer Construction Bond Fund Financial Plan

CIP Funding Sources and Uses	FY 2017 Projected	FY 2018 Requested	FY 2019 Requested	FY 2020 Requested	FY 2021 Requested	FY 2022 Requested	Five Year Total
Sewer System Bond Construction Fund							
Beginning Balance (unaudited)	\$ 100,000	\$ 75,143	\$ 119,550	\$ 22,664	\$ 144,433	\$ 77,440	\$ 75,143
Bond Proceeds, net	-	96,500	-	230,500	-	-	327,000
Investment Income	250	429	299	633	361	194	1,916
SRF Loan Reimbursements	20,621	52,897	49,732	25,488	-	-	128,117
Transfers from I&E Fund - Specific (a)	1,706	3,758	1,024	2,080	5,000	5,000	16,862
Transfers from I&E Fund - Strategic (b)	5,000	30,000	20,000	20,000	20,000	20,000	110,000
Grants	-	-	-	-	-	-	-
Contributed Capital Sources	-	-	-	-	-	-	-
Subtotal - Sources	127,577	258,727	190,605	301,365	169,794	102,634	659,037
Capital Project Expenditures (c)	(52,435)	(139,176)	(167,941)	(156,933)	(92,354)	(71,400)	(627,803)
Projected Ending Balance	\$ 75,143	\$ 119,550	\$ 22,664	\$ 144,433	\$ 77,440	\$ 31,234	\$ 31,234



Construction Bond Financial Plan

An excerpt shown from the CIP is shown in **Table 3 – Major Sewer CIP Projects – FY 2018 and FY 2019**. Given the nature of the sewer system, key projects are directed toward an ongoing program of rehabilitation of facilities. Project # 1302, Rouge River outfall (RRO) Disinfection, however, is the construction of a new facility. To achieve NPDES permit compliance, GLWA’s WRRF must provide disinfection to all effluent flows from the Detroit River Outfall (DRO) and RRO by April 2019. Only the DRO currently has disinfection; this project will provide chlorination and de-chlorination for RRO effluent during wet weather events. This project is a progressive design-build contract to implement a solution that will result in 100% disinfection of wet weather flow discharged from WRRF to DRO and RRP to meet NPDES Permit requirements. The total estimated cost is \$41.7 million for this approved alternative – which is less than half the cost of the initial project that was proposed in 2013.

Table 3 – Sewer CIP Projects – FY 2018 and FY 2019

Project Description		Projected Expenditures								Project Total
CIP #	Title	Through FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023 & Beyond		
1302	Rouge River Outfall (RRO) Disinfection (Alternative)	\$ 2,840	\$ 15,000	\$ 15,000	\$ 8,920	\$ -	\$ -	\$ -	\$ 41,760	
291	Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building, and Pipe Gallery	10,848	12,097	20,990	7,968	-	-	-	51,903	
1194	Aeration System Improvements	2,242	11,100	2,642	-	-	-	-	15,984	
1329	Detroit River Interceptor (DRI) Evaluation and Rehabilitation	-	9,200	4,600	4,600	-	-	-	18,400	
1221	Rehabilitation of Central Offload Facility	-	5,500	6,500	4,000	-	-	-	16,000	





GLWA
Great Lakes Water Authority

Authorizing Resolutions

Resolution Adopting the FY 2018 & FY 2019 Budget



Board of Directors
735 Randolph Street, Suite 1900
Detroit, Michigan 48226
(313) 224-4785

Great Lakes Water Authority Board of Directors

General Certification

The undersigned hereby certifies that (i) the Resolution **2017-251** regarding **“Resolution Adopting the FY 2018 and FY 2019 Budget”** attached hereto is a true and complete copy of the Resolution duly passed by the Great Lakes Water Authority Board of Directors at a meeting held on June 7, 2017 at which meeting a quorum was present and remained throughout, (ii) the original thereof is on file in the records of the Great Lakes Water Authority Board of Directors, (iii) the meeting was conducted, and public notice thereof was given, pursuant to and in full compliance with the Open Meetings Act (Act No. 267, Public Acts of Michigan, 1976, as amended) and (iv) Minutes of such meeting were kept and will be or have been made available as required thereby.

YES: Robert J. Daddow, Freman Hendrix, Brian Baker, Gary Brown
Craig A. Hupy, and Abe Munfakh

NO: None
ABSTAIN: None
ABSENT: None

Dated: June 7, 2017

By: Rechanda L. Willis
Title: Executive Board Assistant

www.glwater.org



Board of Directors
735 Randolph Street, Suite 1900
Detroit, Michigan 48226
(313) 224-4785

Resolution Adopting the FY 2018 & FY 2019 Budget

Agenda of: June 7, 2017
Item No.: **2017-251**
Amount: N/A

TO: The Honorable
Board of Directors
Great Lakes Water Authority

FROM: Sue F. McCormick
Chief Executive Officer
Great Lakes Water Authority

DATE: June 6, 2017

RE: **Resolution Adopting the FY 2018 & FY 2019 Budget**

MOTION

Upon recommendation of Nicolette Bateson, Chief Financial Officer/Treasurer, the Board of Directors (Board) of the Great Lakes Water Authority (GLWA):

- 1) Approves the attached resolution, 2017-251 adopting the FY 2018 and 2019 Budget for the GLWA;
- 2) Within 90 days, the GLWA administration develop and present to the Board for approval, a preliminary strength of flow sampling plan that provides meaningful basis for the allocation of strength of flow in each of the next three years with the expectation that, in part, the strength of flow could be used in determining SEWER SHARES for the period of FY-2021 through FY-2023.
- 3) Notes that 5 votes is necessary for the approval of this resolution; and
- 4) Authorizes the CEO to take such other action as may be necessary to accomplish the intent of this vote.

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Resolution Adopting the FY 2018 & FY 2019 Budget (continued)

BACKGROUND

The Great Lakes Water Authority (“GLWA” or the “Authority”) assumed the operation of the regional water and sewer systems on January 1, 2016 (the “Effective Date”) pursuant to the Lease Agreements between the GLWA and the City of Detroit dated June 12, 2015. The Lease Agreements provided that Commencing with the Fiscal Year beginning July 1, 2016, the Authority shall adopt a two-year budget for the Regional Sewer System for the following two Fiscal Years that sets forth budgeted Revenues and Expenses for each such Fiscal Year. The Board has received a proposed Budget for FY 2018 and FY 2019 and has conducted a Public Hearing on the proposed Budget.

JUSTIFICATION

The Board is required each year to adopt a Budget for the following two Fiscal Years and to hold a Public Hearing on that Budget. The Public Hearing was opened on March 1, 2017 and has continued to be held open until June 7, 2017, the time at which the Board is being asked to consider the approval of the budget. The proposed Operating Area Financial Plans for FY 2018 through FY 2022 were reviewed at a Board Workshop on March 8, 2017.

BUDGET IMPACT

This is the adoption of the Budget.

COMMITTEE REVIEW

The GLWA Audit Committee began review of the budget and inaugural five year financial plan document developed for FY 2018 through FY 2022 at its meetings on January 20, 2017, and continued on February 17, 2017, February 27, 2017, March 17, 2017, and May 19, 2017.

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Board of Directors
735 Randolph Street, Suite 1900
Detroit, Michigan 48226
(313) 224-4785

Great Lakes Water Authority

Resolution 2017 – 251

Resolution Adopting the FY 2018 & FY 2019 Budget

By Board Member: Freman Hendrix

- WHEREAS** The Great Lakes Water Authority (“GLWA” or the “Authority”) assumed the operation of the regional water system on January 1, 2016 (the “Effective Date”) pursuant to Lease Agreements between the GLWA and the City of Detroit dated June 12, 2015; and
- WHEREAS** In accordance with the by-laws of the GLWA, the Board shall adopt a two-year operating budget for the Regional Water and Sewer Systems; and
- WHEREAS** The budgeted expenses for each such Fiscal Year shall equal the sum of the projected expenses and revenue requirements for the Regional Water System and the Regional Sewer System for each such Fiscal Year; and
- WHEREAS** The budgeted revenue requirements for the Regional Water System for FY 2018 is \$328,119,300 and for FY 2019 is \$341,244,100 as shown on “Schedule 1 – Wholesale Revenue Requirements from Charges” of the budget document; and
- WHEREAS** The budgeted revenue requirements for the Regional Sewer System for FY 2018 is \$465,500,100 and for FY 2019 is \$484,232,500 as shown on “Schedule 1 – Wholesale Revenue Requirements from Charges” of the budget document; and
- WHEREAS** The operations and maintenance budget for the Regional Water System for FY 2018 is \$121,562,600 and for FY 2019 is \$125,124,800 as shown on Schedule 1 – Wholesale Revenue Requirements from Charges of the budget document; and
- WHEREAS** The operations and maintenance budget for the Regional Sewer System for FY 2018 is \$191,079,400 and for FY 2019 is \$196,692,700 as shown on Schedule 1 – Wholesale Revenue Requirements from Charges of the budget document; and
- WHEREAS** The amounts necessary to pay the principal of and interest on all water system bonds and to restore any reserves therefore established in the Master Bond

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Resolution Adopting the FY 2018 & FY 2019 Budget *(continued)*

ordinance is \$172,951,100 for FY 2018 and \$178,429,600 for FY 2019 as shown on Schedule 4 - Debt Service Coverage Calculations Pursuant to Master Bond Ordinance of the budget document; and

WHEREAS The amounts necessary to pay the principal of and interest on all sewer system bonds and to restore any reserves therefore established in the Master Bond Ordinance is \$235,008,000 for FY 2018 and \$257,306,900 for FY 2019 as shown on Schedule 4 - Debt Service Coverage Calculations Pursuant to Master Bond Ordinance of the budget document; and

WHEREAS The amounts necessary to fund the annual water system capital expenditures of \$110,124,000 in FY 2018 and \$155,271,000 in FY 2019 for the capital improvement plan in accordance with the Water Construction Bond Fund budget; and

WHEREAS The amounts necessary to fund the annual sewer system water capital expenditures of \$139,176,000 in FY 2018 and \$167,941,000 in FY 2019 for the capital improvement plan in accordance with the Sewer Construction Bond Fund budget; and

WHEREAS The amounts necessary to fund the annual water system capital expenditures of \$15,839,700 in FY 2018 and \$8,646,100 in FY 2019 for capital outlay in accordance with the Water Improvement and Extension Fund budget; and

WHEREAS The amounts necessary to fund the annual sewer system water capital expenditures of \$10,083,800 in FY 2018 and \$4,692,900 in FY 2019 for the capital outlay in accordance with the Sewer Improvement and Extension Fund budget; and

WHEREAS The GLWA Audit Committee began review of the budget and five year financial plan document developed for FY 2018 through FY 2022 at its meetings on January 20, 2017, and continued February 17, 2017, February 27, 2017, March 17, 2017, and May 19, 2017; and

WHEREAS The GLWA Audit Committee recommended presentation of the proposed budget to the Board for consideration of adoption of the proposed budget; and

WHEREAS The GLWA Board conducted public hearing on the proposed budget in accordance with the provisions of Public Act No. 43 of the Acts of the State Legislature of 1963 ("Budget Hearings of Local Governments"); and

WHEREAS A notice for the public hearing on the proposed budget scheduled for March 1, 2017 at 1:00 pm at the Water Board Building, 735 Randolph, Detroit, Michigan was published in The Detroit Legal News announcing a public hearing on the budget in addition to posting the notice and proposed budget on glwater.org; and

WHEREAS The public hearing continued June 7, 2017, at 10:15 a.m.; and

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WHEREAS An affirmative vote of 5 Board Members is necessary for the adoption of this Resolution,

NOW THEREFORE BE IT:

RESOLVED That the GLWA Board conducted a public hearing on March 1, 2017, and continued that hearing on June 7, 2017, to receive public comment regarding the proposed budget for the Fiscal Years 2018 and 2019; and be it further

RESOLVED That the GLWA Board approves the budget for Fiscal Years 2018 and 2019; and be it finally

RESOLVED That the Chief Executive Officer, and the Chief Financial Officer/Treasurer are authorized to take such other action as may be necessary to accomplish the intent of this resolution.

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Resolution Adopting the FY 2018 & FY 2019 Budget *(continued)*

Great Lakes Water Authority
Schedule 1 - Wholesale Revenue Requirements
FY 2018 and FY 2019 Budget

Revenues	FY 2018	FY 2018	FY 18 Combined	FY 2019	FY 2019	FY 19 Combined
	Water Fund	Sewer Fund	(Informational Only)	Water Fund	Sewer Fund	(Informational Only)
1 O&M Expenses Allocable to Regional System	\$ 121,562,600	\$ 191,079,400	\$ 312,642,000	\$ 125,124,800	\$ 196,692,700	\$ 321,817,500
2 GRS Pension Allocable to Regional System	6,048,000	10,824,000	16,872,000	6,048,000	10,824,000	16,872,000
3 Debt Service Allocable to Regional System	135,464,400	207,615,500	343,079,900	140,942,900	224,339,700	365,282,600
4 GRS Accelerated Pension from Regional System	6,268,300	11,620,700	17,889,000	6,268,300	11,620,700	17,889,000
5 WRAP Contribution from Regional System	1,711,200	2,391,800	4,103,000	1,625,800	2,327,800	3,953,600
6 Lease Payment to Local System I&E Account	22,500,000	27,500,000	50,000,000	22,500,000	27,500,000	50,000,000
7 ER&R Fund Contribution from Regional System	645,700	813,600	1,459,300	669,000	1,016,300	1,685,300
8 Contribution to Operating Reserves	1,097,900	1,733,000	2,830,900	845,700	1,394,600	2,240,300
9 Net Revenues Allocable to Regional System I&E Account (A)	32,821,200	11,922,100	44,743,300	37,219,600	8,516,700	45,736,300
10 Total Budgeted Revenue Requirements	328,119,300	465,500,100	793,619,400	341,244,100	484,232,500	825,476,600
11 Less: Non-Operating Revenue (Regional System)	(2,968,900)	(2,751,000)	(5,719,900)	(3,609,000)	(3,933,700)	(7,542,700)
12 Plus: Bad Debt True-Up Recovery Allocable to Regional System I&E Account	-	2,810,600	2,810,600	-	2,810,600	2,810,600
13 Total Revenue Requirements from Charges	\$ 325,150,400	\$ 465,559,700	\$ 790,710,100	\$ 337,635,100	\$ 483,109,400	\$ 820,744,500

Budget Resolution 2017-251
Preliminary Budget Summary
June 6, 2017



Resolution Adopting the FY 2018 & FY 2019 Budget *(continued)*

Great Lakes Water Authority
 Schedule 2 - Sources of Revenues and Use of Revenue Requirements – Flow of Funds Basis per Master Bond Ordinance
 FY 2018 and FY 2019 Budget

Revenues	FY 2018 Water Fund	FY 2018 Sewer Fund	FY 18 Combined (Informational Only)	FY 2019 Water Fund	FY 2019 Sewer Fund	FY 19 Combined (Informational Only)
1 Regional System Wholesale Revenues	\$ 310,019,800	\$ 283,780,400	\$ 593,800,200	\$ 321,745,700	\$ 294,542,400	\$ 616,288,100
2 DWSD Local System Revenues	88,991,200	256,367,000	345,358,200	92,550,800	266,621,700	359,172,500
3 Miscellaneous Revenue (Local System)	4,750,000	5,000,000	9,750,000	4,750,000	5,000,000	9,750,000
4 Non-Operating Revenue (Regional System)	2,968,900	2,751,000	5,719,900	3,609,000	3,933,700	7,542,700
5 Total Revenues	\$ 406,729,900	\$ 547,898,400	\$ 954,628,300	\$ 422,655,500	\$ 570,097,800	\$ 992,753,300
Revenue Requirements						
Operations & Maintenance Expense						
6 Regional System Wholesale Expenses	\$ 121,562,600	\$ 191,079,400	\$ 312,642,000	\$ 125,124,800	\$ 196,692,700	\$ 321,817,500
7 Local System Expenses	31,691,100	45,661,100	77,352,200	34,491,900	49,128,100	83,620,000
8 GRS Pension allocable to Regional System	6,048,000	10,824,000	16,872,000	6,048,000	10,824,000	16,872,000
9 GRS Pension allocable to Local System	4,272,000	2,856,000	7,128,000	4,272,000	2,856,000	7,128,000
10 Total Operations & Maintenance Expense	163,573,700	250,420,500	413,994,200	169,936,700	259,500,800	429,437,500
11 <i>Net Revenues after Operations & Maintenance Expense</i>	243,156,200	297,477,900	540,634,100	252,718,800	310,597,000	563,315,800
Non-operating Activities						
12 Debt Service Allocable to Regional System	135,464,400	207,615,500	343,079,900	140,942,900	224,339,700	365,282,600
13 Debt Service Allocable to Local System	37,486,700	27,392,500	64,879,200	37,486,700	27,392,500	64,879,200
14 GRS Accelerated Pension from Regional System	6,268,300	11,620,700	17,889,000	6,268,300	11,620,700	17,889,000
15 GRS Accelerated Pension from Local System	4,427,400	3,066,800	7,494,200	4,427,400	3,066,800	7,494,200
16 WRAP Contribution from Regional System	1,711,200	2,391,800	4,103,000	1,625,800	2,327,800	3,953,600
17 WRAP Contribution from Local System	448,200	369,000	817,200	448,200	369,000	817,200
18 DWSD Budget Stabilization Fund Contribution	0	0	0	0	0	0
19 ER&R Fund Contribution from Regional System	645,700	813,600	1,459,300	669,000	1,016,300	1,685,300
20 ER&R Fund Contribution from Local System	285,200	242,300	527,500	285,200	242,300	527,500
21 Contribution to Operating Reserves	1,097,900	1,733,000	2,830,900	845,700	1,394,600	2,240,300
22 Total Nonoperating Activities	187,835,000	255,245,200	443,080,200	192,999,200	271,769,700	464,768,900
23 <i>Net Revenues Available for Revenue Financed Capital</i>	55,321,200	42,232,700	97,553,900	59,719,600	38,827,300	98,546,900
Reserve for Revenue Financed Capital from Net Revenues						
24 Lease Payment to Local System I&E Account	22,500,000	27,500,000	50,000,000	22,500,000	27,500,000	50,000,000
25 Net Revenues Allocable to Local System	-	-	-	-	-	-
26 Net Revenues Allocable to Regional System	32,821,200	14,732,700	47,553,900	37,219,600	11,327,300	48,546,900
27 Reserve for Revenue Financed Capital Both Systems	55,321,200	42,232,700	97,553,900	59,719,600	38,827,300	98,546,900
28 Total Revenue Requirements	\$ 406,729,900	\$ 547,898,400	\$ 954,628,300	\$ 422,655,500	\$ 570,097,800	\$ 992,753,300

Local system amounts are highlighted in gray. Some amounts, such as Local System Revenues and O&M Expenses, to the extent that they are not fixed as a revenue requirement, Master Bond Ordinance requirement, or Lease requirement, were estimated as they were not confirmed at the time of agenda preparation.

Budget Resolution 2017-251
 Preliminary Budget Summary
 June 6, 2017



Resolution Adopting the FY 2018 & FY 2019 Budget *(continued)*

Great Lakes Water Authority
Schedule 4 - Debt Service Coverage Calculations Pursuant to Master Bond Ordinance
 FY 2018 and FY 2019 Budget

	FY 2018 Water Fund	FY 2018 Sewer Fund	FY 18 Combined (Informational Only)	FY 2019 Water Fund	FY 2019 Sewer Fund	FY 19 Combined (Informational Only)
Revenues						
1 Regional System Wholesale Revenues	\$ 310,019,800	\$ 283,780,400	\$ 593,800,200	\$ 321,745,700	\$ 294,542,400	\$ 616,288,100
2 Local System Revenues	88,991,200	256,367,000	345,358,200	92,550,800	266,621,700	359,172,500
3 Miscellaneous Revenue (Local System)	4,750,000	5,000,000	9,750,000	4,750,000	5,000,000	9,750,000
4 Non-Operating Revenue (Regional System)	2,968,900	2,751,000	5,719,900	3,609,000	3,933,700	7,542,700
5 Total Revenues	<u>\$ 406,729,900</u>	<u>\$ 547,898,400</u>	<u>\$ 954,628,300</u>	<u>\$ 422,655,500</u>	<u>\$ 570,097,800</u>	<u>\$ 992,753,300</u>
Revenue Requirements						
Operations & Maintenance Expense						
6 Regional System Wholesale Expenses	\$ 121,562,600	\$ 191,079,400	\$ 312,642,000	\$ 125,124,800	\$ 196,692,700	\$ 321,817,500
7 Local System Expenses	31,691,100	45,661,100	77,352,200	34,491,900	49,128,100	83,620,000
8 GRS Pension allocable to Regional System	6,048,000	10,824,000	16,872,000	6,048,000	10,824,000	16,872,000
9 GRS Pension allocable to Local System	4,272,000	2,856,000	7,128,000	4,272,000	2,856,000	7,128,000
Total Operations & Maintenance Expense	<u>163,573,700</u>	<u>250,420,500</u>	<u>413,994,200</u>	<u>169,936,700</u>	<u>259,500,800</u>	<u>429,437,500</u>
10 Net Revenues after Operations & Maintenance Expense	<u>\$ 243,156,200</u>	<u>\$ 297,477,900</u>	<u>\$ 540,634,100</u>	<u>\$ 252,718,800</u>	<u>\$ 310,597,000</u>	<u>\$ 563,315,800</u>
Debt Service by Lien						
11 Senior Lien Bonds	\$ 127,687,500	\$ 142,376,800	\$ 270,064,300	\$ 126,355,900	\$ 161,235,300	\$ 287,591,200
12 Second Lien Bonds	42,852,900	43,990,100	86,843,000	49,020,400	43,922,600	92,943,000
13 SRF Junior Lien Bonds	2,410,700	48,641,100	51,051,800	3,053,300	52,149,000	55,202,300
14 Total Debt Service	<u>\$ 172,951,100</u>	<u>\$ 235,008,000</u>	<u>\$ 407,959,100</u>	<u>\$ 178,429,600</u>	<u>\$ 257,306,900</u>	<u>\$ 435,736,500</u>
Debt Service Coverage (a)						
15 Senior Lien Bonds (10)/(11)	1.90	2.09	2.00	2.00	1.93	1.96
16 Senior and Second Lien Bonds (10)/[(11) + (12)]	1.43	1.60	1.51	1.44	1.51	1.48
17 All Bonds, including SRF Junior Lien Bonds (10)/(14)	1.41	1.27	1.33	1.42	1.21	1.29

(a) Debt Service Coverage is not applicable to the "Combined" GLWA Water and Sewer presentation.

Local system amounts are highlighted in gray. Some amounts, such as Local System Revenues and O&M Expenses, to the extent that they are not fixed as a revenue requirement, Master Bond Ordinance requirement, or Lease requirement, were estimated as they were not confirmed at the time of agenda preparation.

Budget Resolution 2017-251
 Preliminary Budget Summary
 June 6, 2017



Resolution Adopting the FY 2018 & FY 2019 Budget *(continued)*

Great Lakes Water Authority
Schedule 5 – Improvement & Extension Fund and Construction Bond Fund
FY 2018 and FY 2019 Budget

Water Construction Bond Fund			Sewer Construction Bond Fund		
Revenue and Expense Category	FY 2018 Water Fund	FY 2019 Sewer Fund	Revenue and Expense Category	FY 2018 Water Fund	FY 2019 Sewer Fund
Bond Proceeds, Net	\$ -	\$ 188,000,000	Bond Proceeds, Net	\$ 96,500,000	\$ -
DWRF Loan reimbursements	-	-	SRF Loan Reimbursements	52,897,000	49,732,000
Earnings on Investments, Net	435,000	743,000	Earnings on Investments, Net	429,000	299,000
Transfer from Improvement & Extension Fund - Specific	14,936,000	6,942,000	Transfer from Improvement & Extension Fund - Specific	3,758,000	1,024,000
Transfer from Improvement & Extension Fund - Strategic	30,000,000	35,000,000	Transfer from Improvement & Extension Fund - Strategic	30,000,000	20,000,000
Project Expenses	<u>(110,124,000)</u>	<u>(155,271,000)</u>	Project Expenses	<u>(139,176,000)</u>	<u>(167,941,000)</u>
Increase (Decrease) in Reserves	(64,753,000)	75,414,000	Increase (Decrease) in Reserves	44,408,000	(96,886,000)
Beginning of Year	<u>173,953,000</u>	<u>109,200,000</u>	Beginning of Year	<u>75,142,000</u>	<u>119,550,000</u>
Projected Ending Balance	<u>\$ 109,200,000</u>	<u>\$ 184,614,000</u>	Projected Ending Balance	<u>\$ 119,550,000</u>	<u>\$ 22,664,000</u>
Water Improvement & Extension Fund			Sewer Improvement & Extension Fund		
Revenue and Expense Category	FY 2018 Water Fund	FY 2019 Sewer Fund	Revenue and Expense Category	FY 2018 Water Fund	FY 2019 Sewer Fund
Water System Revenue Transfers	\$ 35,036,000	\$ 42,032,000	Sewer System Revenue Transfers	\$ 19,706,000	\$ 19,979,000
Earnings on Investments, Net	-	-	Earnings on Investments, Net	-	-
Capital Outlay	<u>(15,839,700)</u>	<u>(10,083,800)</u>	Capital Outlay	<u>(8,646,100)</u>	<u>(4,692,900)</u>
Transfer to Construction Bond Fund - Specific	(14,936,000)	(6,942,000)	Transfer to Construction Bond Fund - Specific	(3,758,000)	(1,024,000)
Transfer to Construction Bond Fund - Strategic	(30,000,000)	(30,000,000)	Transfer to Construction Bond Fund - Strategic	(30,000,000)	(20,000,000)
Increase (Decrease) in Reserves	(25,739,700)	(4,993,800)	Increase (Decrease) in Reserves	(22,698,100)	(5,737,900)
Beginning of Year	<u>108,247,000</u>	<u>82,507,300</u>	Beginning of Year	<u>129,011,000</u>	<u>106,312,900</u>
Projected Ending Balance	<u>\$ 82,507,300</u>	<u>\$ 77,513,500</u>	Projected Ending Balance	<u>\$ 106,312,900</u>	<u>\$ 100,575,000</u>

Budget Resolution 2017-251
Preliminary Budget Summary
June 6, 2017



Resolution Regarding Approval of FY 2018 Schedule of Water Service Charges



Board of Directors
735 Randolph Street, Suite 1900
Detroit, Michigan 48226
(313) 224-4785

Great Lakes Water Authority Board of Directors

General Certification

The undersigned hereby certifies that (i) the Resolution **2017-252** regarding “**Approval of FY 2018 Schedule of Water Service Charges**” attached hereto is a true and complete copy of the Resolution duly passed by the Great Lakes Water Authority Board of Directors at a meeting held on June 7, 2017 at which meeting a quorum was present and remained throughout, (ii) the original thereof is on file in the records of the Great Lakes Water Authority Board of Directors, (iii) the meeting was conducted, and public notice thereof was given, pursuant to and in full compliance with the Open Meetings Act (Act No. 267, Public Acts of Michigan, 1976, as amended) and (iv) Minutes of such meeting were kept and will be or have been made available as required thereby.

YES: Robert J. Daddow, Freman Hendrix, Brian Baker, Gary Brown
Craig A. Hupy, and Abe Munfakh

NO: None
ABSTAIN: None
ABSENT: None

Dated: June 7, 2017



By: Rechanda L. Willis
Title: Executive Board Assistant

www.glwater.org



Board of Directors
735 Randolph Street, Suite 1900
Detroit, Michigan 48226
(313) 224-4785

Resolution Regarding Approval of FY 2018 Schedule of Water Service Charges

Agenda of: June 7, 2017
Item No.: **2017-252**
Amount: N/A

TO: The Honorable
Board of Directors
Great Lakes Water Authority

FROM: Sue F. McCormick
Chief Executive Officer
Great Lakes Water Authority

DATE: June 7, 2017

RE: **Approval of FY 2018 Schedule of Water Service Charges**

MOTION

Upon recommendation of Nicolette Bateson, Chief Financial Officer/Treasurer, the Board of Directors (Board) of the Great Lakes Water Authority, **approves the attached Resolution 2017-252 regarding proposed wholesale water service schedule of charges as well as the proposed FY 2018 City of Detroit allocated water revenue requirement of \$62,050,100, as proposed by the Chief Executive Officer of the Great Lakes Water Authority, with an effective date of July 1, 2017**, and authorizes the Chief Executive Officer to take such other action as may be necessary to accomplish the intent of this vote.

BACKGROUND

Pursuant to the water system and sewer system leases signed between the Great Lakes Water Authority (GLWA/Authority) and the City of Detroit, the GLWA began operations of the regional water supply and sewage disposal system on January 1, 2016. Consistent with the terms of those leases, the Authority shall, for each fiscal year fix and approve rates and charges to its customers in an amount that is expected to produce revenues sufficient to satisfy the Authority revenue requirement. The attached, proposed schedule of charges meets that requirement.

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Resolution Regarding Approval of FY 2018 Schedule of Water Service Charges

Leading up to this charge recommendation, staff presented an analysis of proposed water and sewer system charges on January 25, 2017. The proposed FY 2018 and 2019 Biennial Budget was presented at the Board meeting on February 8, 2017. A Public Hearing was held for the FY 2018 Water Service Charges and Sewer Service Charges on March 1, 2017. The five year operating plan was presented on March 8, 2017. On March 22, 2017, the Board received a presentation regarding the proposed sewer shares and sewer charges. On April 19, 2017, members of the Sewer Shares Steering Committee presented additional information relate to sewer shares allocation for the Board's consideration.

JUSTIFICATION

Great Lakes Water Authority ("GLWA") management and its consultant, The Foster Group, developed a Schedule of Water Service Charges and Sewer Service Charges for FY 2018 including the City of Detroit Revenue Requirement for the water and sewer systems. These charges support the proposed FY 2018 water system revenue requirements budget and the proposed FY 2018 sewer system revenue requirements, respectively. The FY 2018 water and sewer revenue requirements reflect GLWA's commitment to not only work within, but perform beyond, the four percent revenue requirement budget limitation outlined in the September 9, 2014 Memorandum of Understanding that resulted in the establishment of the Great Lakes Water Authority. The proposed wholesale customer charges and revenue requirements for the City of Detroit are the result of significant customer engagement in the charge setting process to evaluate the appropriate allocation of revenue requirements.

BUDGET IMPACT

The recommended FY 2018 Schedule of Water Service Charges and Sewer Service Charges as presented produces the necessary revenues to fund the FY 2018 Water System and Sewer System Budget.

COMMITTEE REVIEW

The Audit Committee has reviewed the FY 2018 financial plan, including charge setting matters, at its meetings on January 20, 2017, February 27, 2017, and March 17, 2017.

SHARED SERVICES IMPACT

This item does not impact the Shared Services Agreement between the GLWA and the City of Detroit.

Great Lakes Water Authority Resolution 2017-252

RE: Approval of FY 2018 Schedule of Water Service Charges

By Board Member: Freman Hendrix

Whereas The Great Lakes Water Authority ("GLWA") management and its consultant, The Foster Group, have developed the attached Schedule of Water Service Charges for FY 2018, including the City of Detroit Revenue Requirements for the water system, to support the FY 2018 water system revenue requirements budget and sewer system revenue requirements budget; and

Whereas The FY 2018 water revenue requirements reflect GLWA's commitment to work within the four percent limitation outlined in the Memorandum of Understanding; and

Whereas A Public Hearing was held for the Water Service Charges and Sewer Service Charges proposed by the GLWA for FY 2018 on March 1, 2017 at 10:00 a.m.; and

NOW THEREFORE BE IT:

RESOLVED The Great Lakes Water Authority Board approves the proposed FY 2018 wholesale water service charges as well as the proposed FY 2018 City of Detroit allocated water revenue requirement of \$62,050,100, as proposed by the Chief Executive Officer of the Great Lakes Water Authority, with an effective date of July 1, 2017; and be it finally

RESOLVED That the Chairperson, the Chief Executive Officer, and the Chief Financial Officer/Treasurer are authorized to take such other action as may be necessary to accomplish the intent of this action.

Resolution Regarding Approval of FY 2018 Schedule of Water Service Charges

Great Lakes Water Authority
Proposed FY 2018 Water Supply System
Schedule of Wholesale Service Charges and
Total Revenue Requirement for the Detroit Customer Class
Effective July 1, 2017

Community	Proposed Service Charges		Community	Proposed Service Charges	
	Fixed Mo \$/mo	Commodity \$/Mcf		Fixed Mo \$/mo	Commodity \$/Mcf
Allen Park	116,400	6.87	Melvindale	33,300	5.96
Almont Village	10,900	9.72	New Haven, Village of	17,500	9.86
Ash Township	37,300	7.41	N O C W A	1,165,900	10.02
Belleville	15,500	8.64	Northville	37,500	9.35
Berlin Township	35,900	9.90	Northville Township	304,200	18.31
Brownstown Township	170,900	9.87	Novi	444,700	12.99
Bruce Twp	8,600	66.55	Oak Park	66,600	5.32
Canton Township	650,900	15.52	Oakland Co. Drain Comm.	3,200	2.96
Center Line	23,700	5.82	Plymouth	50,800	9.69
Chesterfield Township	191,500	9.37	Plymouth Township	214,100	10.08
Clinton Township	392,600	7.77	Redford Township	170,500	7.90
Commerce Township	247,400	20.24	River Rouge	34,800	5.25
Dearborn	473,100	6.11	Riverview	45,800	8.20
Dearborn Heights	190,500	7.19	Rockwood	14,900	11.21
Eastpointe	80,900	5.68	Romeo	12,500	16.62
Ecorse	71,400	3.82	Romulus	184,700	7.54
Farmington	49,000	8.27	Roseville	132,700	5.33
Farmington Hills	446,900	9.76	Royal Oak Township	11,200	7.54
Ferndale	49,100	5.79	S O C W A	1,145,000	7.10
Flat Rock	59,800	7.48	Shelby Township	678,900	13.60
Fraser	65,200	8.20	South Rockwood	5,100	7.90
Garden City	82,300	7.34	Southgate	108,700	7.04
Gibraltar	23,400	10.83	St. Clair County-Burtchville Twp	14,600	14.45
Grosse Ile Township	63,900	12.37	St. Clair County-Greenwood	19,900	13.95
Grosse Pt. Park	71,400	9.34	St. Clair Shores	155,400	6.00
Grosse Pt. Shores	31,000	12.57	Sterling Heights	797,300	10.35
Grosse Pt. Woods	73,100	8.13	Sumpster Township	32,100	8.82
Hamtramck	34,100	4.63	Sylvan Lake	11,800	14.02
Harper Woods	43,600	6.09	Taylor	242,200	6.88
Harrison Township	71,700	6.20	Trenton	106,300	9.43
Hazel Park	35,000	5.45	Troy	673,300	11.80
Huron Township	70,700	9.24	Utica	29,600	9.75
Imlay City	49,600	10.54	Van Buren Township	145,100	9.03
Imlay Twp	700	68.63	Walled Lake	45,600	11.83
Inkster	92,000	7.53	Warren	506,900	5.93
Keego Harbor	15,200	11.67	Washington Township	105,800	12.00
Lapeer	69,200	9.85	Wayne	138,700	11.71
Lenox Township	14,600	6.71	West Bloomfield Township	482,500	14.65
Lincoln Park	110,900	6.22	Westland	301,800	7.61
Livonia	682,200	11.06	Wixom	121,500	14.08
Macomb Township	534,600	13.75	Woodhaven	102,400	13.17
Madison Heights	101,300	5.75	Ypsilanti Comm Util Auth	542,900	8.78
Mayfield Twp	1,700	23.53			

Annual
Revenue
Requirement
\$

Allocated Detroit Annual Revenue Requirement

Wholesale Revenue Requirements (a)	15,130,600
Indirect Retail Revenue Requirements (b)	46,919,500
Subtotal	62,050,100
Direct Retail Revenue Requirements (c)	TBD
Total	TBD

- (a) Reflects Great Lakes Water Authority (GLWA) wholesale amounts only.
 (b) Reflects amounts assigned to the Detroit Local System pursuant to the GLWA Master Bond Ordinance flow of funds and the Water and Sewer Services Agreement.
 (c) Reflects amounts allocable to the Local System, for which GLWA transfers monies to DWSD.

Great Lakes Water Authority
Proposed FY 2018 Sewage Disposal System
Schedule of Wholesale Monthly Charges and
Total Revenue Requirement for the Detroit Customer Class
Effective July 1, 2017

	Fixed Monthly Charge \$/mo	Annual Revenue Requirement \$
Suburban Wholesale		
1 OMID		6,068,000
2 Rouge Valley		4,585,200
3 Oakland GWK		3,812,600
4 Evergreen Farmington		2,811,100
5 NE Wayne Co		2,053,100
6 Dearborn		1,635,700
7 Grosse Pointe Farms		224,700
8 Grosse Pointe Park		145,000
9 Melvindale		122,300
10 Farmington		94,900
11 Center Line		82,200
12 Allen Park		64,300
13 Highland Park		470,200
14 Hamtramck		329,900
15 Grosse Pointe		75,800
16 Harper Woods		19,300
17 Redford Township		21,200
18 Wayne County #3		3,800
Allocated Detroit Annual Revenue Requirement		
19 Wholesale Revenue Requirements (a)		178,969,200
20 Indirect Retail Revenue Requirements (b)		33,926,600
21 Subtotal		212,895,800
22 Direct Retail Revenue Requirements (c)		TBD
23 Total		TBD

- (a) Reflects Great Lakes Water Authority (GLWA) wholesale amounts only.
 (b) Reflects amounts assigned to the Detroit Local System pursuant to the GLWA Master Bond Ordinance flow of funds and the Water and Sewer Services Agreement.
 (c) Reflects amounts allocable to the Local System, for which GLWA transfers monies to DWSD.



Resolution Regarding Approval of FY 2018 Schedule of Water Service Charges

Great Lakes Water Authority
 Proposed FY 2018 Sewage Disposal System Service Charge Schedule
 Industrial Waste Control Charges and Pollutant Surcharges
 Effective July 1, 2017

Industrial Waste Control Charges		Pollutant Surcharges	
Meter Size - inches	Charge \$/mo	Pollutant	Charge \$/lb
5/8	5.68	BIOCHEMICAL OXYGEN DEMAND (BOD)	
3/4	8.52	for concentrations > 275 mg/l	0.487
1	14.20		
1-1/2	31.24	TOTAL SUSPENDED SOLIDS (TSS)	
2	45.44	for concentrations > 350 mg/l	0.494
3	82.36		
4	113.60	PHOSPHORUS (P)	
6	170.40	for concentrations > 12 mg/l	7.282
8	284.00		
10	397.60	FATS, OIL AND GREASE (FOG)	
12	454.40	for concentrations > 100 mg/l	0.469
14	568.00		
16	681.60	SEPTAGE DISPOSAL FEE	
18	795.20	\$ per 500 gallons of disposal	47.00
20	908.80		
24	1,022.40		
30	1,136.00		
36	1,249.60		
48	1,363.20		



Resolution Regarding Approval of FY 2018 Sewer Service Charges



Board of Directors
735 Randolph Street, Suite 1900
Detroit, Michigan 48226
(313) 224-4785

Great Lakes Water Authority Board of Directors

General Certification

The undersigned hereby certifies that (i) the Resolution **2017-254** regarding “**Approval of FY 2018 Sewer Service Charges**” attached hereto is a true and complete copy of the Resolution duly passed by the Great Lakes Water Authority Board of Directors at a meeting held on June 7, 2017 at which meeting a quorum was present and remained throughout, (ii) the original thereof is on file in the records of the Great Lakes Water Authority Board of Directors, (iii) the meeting was conducted, and public notice thereof was given, pursuant to and in full compliance with the Open Meetings Act (Act No. 267, Public Acts of Michigan, 1976, as amended) and (iv) Minutes of such meeting were kept and will be or have been made available as required thereby.

YES: Robert J. Daddow, Freman Hendrix, Gary Brown
Craig A. Hupy, and Abe Munfakh

NO: Brian Baker
ABSTAIN: None
ABSENT: None

Dated: June 7, 2017



By: Rechanda L. Willis
Title: Executive Board Assistant

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Board of Directors
735 Randolph Street, Suite 1900
Detroit, Michigan 48226
(313) 224-4785

Resolution Regarding Approval of FY 2018 Sewer Service Charges

Agenda of: June 7, 2017
Item No.: **2017-254**
Amount: N/A

TO: The Honorable
Board of Directors
Great Lakes Water Authority

FROM: Sue F. McCormick
Chief Executive Officer
Great Lakes Water Authority

DATE: June 7, 2017

RE: **Approval of FY 2018 Schedule of Sewer Service Charges**

MOTION

Upon recommendation of Nicolette Bateson, Chief Financial Officer/Treasurer, the Board of Directors (Board) of the Great Lakes Water Authority, **approves the attached Resolution 2017-254 regarding proposed wholesale sewer service schedule of charges as well as the proposed FY 2018 City of Detroit allocated sewer revenue requirement of \$212,895,800, as proposed by the Chief Executive Officer of the Great Lakes Water Authority, with an effective date of July 1, 2017,** and authorizes the Chief Executive Officer to take such other action as may be necessary to accomplish the intent of this vote.

BACKGROUND

Pursuant to the water system and sewer system leases signed between the Great Lakes Water Authority (GLWA/Authority) and the City of Detroit, the GLWA began operations of the regional water supply and sewage disposal system on January 1, 2016. Consistent with the terms of those leases, the Authority shall, for each fiscal year fix and approve rates and charges to its customers in an amount that is expected to produce revenues sufficient to satisfy the Authority revenue requirement. The attached, proposed schedule of charges meets that requirement.

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Resolution Regarding Approval of FY 2018 Sewer Service Charges (continued)

Leading up to this charge recommendation, staff presented an analysis of proposed water and sewer system charges on January 25, 2017. The proposed FY 2018 and 2019 Biennial Budget was presented at the Board meeting on February 8, 2017. A Public Hearing was held for the FY 2018 Water Service Charges and Sewer Service Charges on March 1, 2017. The five year operating plan was presented on March 8, 2017. On March 22, 2017, the Board received a presentation regarding the proposed sewer shares and sewer charges. On April 19, 2017, members of the Sewer Shares Steering Committee presented additional information relate to sewer shares allocation for the Board's consideration.

JUSTIFICATION

Great Lakes Water Authority ("GLWA") management and its consultant, The Foster Group, developed a Schedule of Water Service Charges and Sewer Service Charges for FY 2018 including the City of Detroit Revenue Requirement for the water and sewer systems. These charges support the proposed FY 2018 water system revenue requirements budget and the proposed FY 2018 sewer system revenue requirements, respectively. The FY 2018 water and sewer revenue requirements reflect GLWA's commitment to not only work within, but perform beyond, the four percent revenue requirement budget limitation outlined in the September 9, 2014 Memorandum of Understanding that resulted in the establishment of the Great Lakes Water Authority. The proposed wholesale customer charges and revenue requirements for the City of Detroit are the result of significant customer engagement in the charge setting process to evaluate the appropriate allocation of revenue requirements.

BUDGET IMPACT

The recommended FY 2018 Schedule of Water Service Charges and Sewer Service Charges as presented produces the necessary revenues to fund the FY 2018 Water System and Sewer System Budget.

COMMITTEE REVIEW

The Audit Committee has reviewed the FY 2018 financial plan, including charge setting matters, at its meetings on January 20, 2017, February 27, 2017, and March 17, 2017.

SHARED SERVICES IMPACT

This item does not impact the Shared Services Agreement between the GLWA and the City of Detroit.

Great Lakes Water Authority

Resolution 2017-254

RE: Approval of FY 2018 Schedule of Sewer Service Charges

By Board Member: Freman Hendrix:

Whereas The Great Lakes Water Authority ("GLWA") management and its consultant, The Foster Group, have developed the attached Schedule of Sewer Service Charges for FY 2018, including the City of Detroit Revenue Requirements for the sewer system, to support the FY 2018 sewer system revenue requirements budget; and

Whereas The FY 2018 sewer revenue requirements reflect GLWA's commitment to work within the four percent limitation outlined in the Memorandum of Understanding; and

Whereas A Public Hearing was held for the Sewer Service Charges proposed by the GLWA for FY 2018 on March 1, 2017 at 10:00 a.m.; and

NOW THEREFORE BE IT:

RESOLVED The Great Lakes Water Authority Board approves the proposed FY 2018 wholesale sewer service charges as well as the proposed FY 2018 City of Detroit allocated water revenue requirement of \$62,050,100 and allocated sewer revenue requirement of \$212,895,800, as proposed by the Chief Executive Officer of the Great Lakes Water Authority, with an effective date of July 1, 2017; and be it finally

RESOLVED That the Chairperson, the Chief Executive Officer, and the Chief Financial Officer/Treasurer are authorized to take such other action as may be necessary to accomplish the intent of this action.

Resolution Regarding Approval of FY 2018 Sewer Service Charges *(continued)*

Great Lakes Water Authority
Proposed FY 2018 Water Supply System
Schedule of Wholesale Service Charges and
Total Revenue Requirement for the Detroit Customer Class
Effective July 1, 2017

Community	Proposed Service Charges		Community	Proposed Service Charges	
	Fixed Mo \$/mo	Commodity \$/Mcf		Fixed Mo \$/mo	Commodity \$/Mcf
Allen Park	116,400	6.87	Melvindale	33,300	5.96
Almont Village	10,900	9.72	New Haven, Village of	17,500	9.86
Ash Township	37,300	7.41	N O C W A	1,165,900	10.02
Belleville	15,500	8.64	Northville	37,500	9.35
Berlin Township	35,900	9.90	Northville Township	304,200	18.31
Brownstown Township	170,900	9.87	Novi	444,700	12.99
Bruce Twp	8,600	66.55	Oak Park	66,600	5.32
Canton Township	650,900	15.52	Oakland Co. Drain Comm.	3,200	2.96
Center Line	23,700	5.82	Plymouth	50,800	9.69
Chesterfield Township	191,500	9.37	Plymouth Township	214,100	10.08
Clinton Township	392,600	7.77	Redford Township	170,500	7.90
Commerce Township	247,400	20.24	River Rouge	34,800	5.25
Dearborn	473,100	6.11	Riverview	45,800	8.20
Dearborn Heights	190,500	7.19	Rockwood	14,900	11.21
Eastpointe	80,900	5.68	Romeo	12,500	16.62
Ecorse	71,400	3.82	Romulus	184,700	7.54
Farmington	49,000	8.27	Roseville	132,700	5.33
Farmington Hills	446,900	9.76	Royal Oak Township	11,200	7.54
Ferndale	49,100	5.79	S O C W A	1,145,000	7.10
Flat Rock	59,800	7.48	Shelby Township	678,900	13.60
Fraser	65,200	8.20	South Rockwood	5,100	7.90
Garden City	82,300	7.34	Southgate	108,700	7.04
Gibraltar	23,400	10.83	St. Clair County-Burtchville Twp	14,600	14.45
Grosse Ile Township	63,900	12.37	St. Clair County-Greenwood	19,900	13.95
Grosse Pt. Park	71,400	9.34	St. Clair Shores	155,400	6.00
Grosse Pt. Shores	31,000	12.57	Sterling Heights	797,300	10.35
Grosse Pt. Woods	73,100	8.13	Sumpster Township	32,100	8.82
Hamtramck	34,100	4.63	Sylvan Lake	11,800	14.02
Harper Woods	43,600	6.09	Taylor	242,200	6.88
Harrison Township	71,700	6.20	Trenton	106,300	9.43
Hazel Park	35,000	5.45	Troy	673,300	11.80
Huron Township	70,700	9.24	Utica	29,600	9.75
Imlay City	49,600	10.54	Van Buren Township	145,100	9.03
Imlay Twp	700	68.63	Walled Lake	45,600	11.83
Inkster	92,000	7.53	Warren	506,900	5.93
Keego Harbor	15,200	11.67	Washington Township	105,800	12.00
Lapeer	69,200	9.85	Wayne	138,700	11.71
Lenox Township	14,600	6.71	West Bloomfield Township	482,500	14.65
Lincoln Park	110,900	6.22	Westland	301,800	7.61
Livonia	682,200	11.06	Wixom	121,500	14.08
Macomb Township	534,600	13.75	Woodhaven	102,400	13.17
Madison Heights	101,300	5.75	Ypsilanti Comm Util Auth	542,900	8.78
Mayfield Twp	1,700	23.53			

Annual
Revenue
Requirement
\$

Allocated Detroit Annual Revenue Requirement

Wholesale Revenue Requirements (a)	15,130,600
Indirect Retail Revenue Requirements (b)	46,919,500
Subtotal	62,050,100
Direct Retail Revenue Requirements (c)	TBD
Total	TBD

- (a) Reflects Great Lakes Water Authority (GLWA) wholesale amounts only.
 (b) Reflects amounts assigned to the Detroit Local System pursuant to the GLWA Master Bond Ordinance flow of funds and the Water and Sewer Services Agreement.
 (c) Reflects amounts allocable to the Local System, for which GLWA transfers monies to DWSD.

Great Lakes Water Authority
Proposed FY 2018 Sewage Disposal System
Schedule of Wholesale Monthly Charges and
Total Revenue Requirement for the Detroit Customer Class
Effective July 1, 2017

	Fixed Monthly Charge \$/mo
Suburban Wholesale	
1 OMID	6,068,000
2 Rouge Valley	4,585,200
3 Oakland GWK	3,812,600
4 Evergreen Farmington	2,811,100
5 NE Wayne Co	2,053,100
6 Dearborn	1,635,700
7 Grosse Pointe Farms	224,700
8 Grosse Pointe Park	145,000
9 Melvindale	122,300
10 Farmington	94,900
11 Center Line	82,200
12 Allen Park	64,300
13 Highland Park	470,200
14 Hamtramck	329,900
15 Grosse Pointe	75,800
16 Harper Woods	19,300
17 Redford Township	21,200
18 Wayne County #3	3,800
	Annual Revenue Requirement \$
Allocated Detroit Annual Revenue Requirement	
19 Wholesale Revenue Requirements (a)	178,969,200
20 Indirect Retail Revenue Requirements (b)	33,926,600
21 Subtotal	212,895,800
22 Direct Retail Revenue Requirements (c)	TBD
23 Total	TBD

- (a) Reflects Great Lakes Water Authority (GLWA) wholesale amounts only.
 (b) Reflects amounts assigned to the Detroit Local System pursuant to the GLWA Master Bond Ordinance flow of funds and the Water and Sewer Services Agreement.
 (c) Reflects amounts allocable to the Local System, for which GLWA transfers monies to DWSD.



Resolution Regarding Approval of FY 2018 Sewer Service Charges *(continued)*

Great Lakes Water Authority
 Proposed FY 2018 Sewage Disposal System Service Charge Schedule
 Industrial Waste Control Charges and Pollutant Surcharges
 Effective July 1, 2017

Industrial Waste Control Charges		Pollutant Surcharges	
Meter Size - inches	Charge \$/mo	Pollutant	Charge \$/lb
5/8	5.68	BIOCHEMICAL OXYGEN DEMAND (BOD)	
3/4	8.52	for concentrations > 275 mg/l	0.487
1	14.20		
1-1/2	31.24	TOTAL SUSPENDED SOLIDS (TSS)	
2	45.44	for concentrations > 350 mg/l	0.494
3	82.36		
4	113.60	PHOSPHORUS (P)	
6	170.40	for concentrations > 12 mg/l	7.282
8	284.00		
10	397.60	FATS, OIL AND GREASE (FOG)	
12	454.40	for concentrations > 100 mg/l	0.469
14	568.00		
16	681.60	SEPTAGE DISPOSAL FEE	
18	795.20	\$ per 500 gallons of disposal	47.00
20	908.80		
24	1,022.40		
30	1,136.00		
36	1,249.60		
48	1,363.20		



Five Year Capital Improvement Plan (CIP) For Fiscal Years 2018 Through 2022



Board of Directors
735 Randolph Street, Suite 1900
Detroit, Michigan 48226
(313) 224-4785

Great Lakes Water Authority Board of Directors


General Certification

The undersigned hereby certifies that (i) the Resolution **2017-253** regarding “**Five Year Capital Improvement Plan (CIP) for Fiscal Years 2018 through 2022**” attached hereto is a true and complete copy of the Resolution duly passed by the Great Lakes Water Authority Board of Directors at a meeting held on June 7, 2017 at which meeting a quorum was present and remained throughout, (ii) the original thereof is on file in the records of the Great Lakes Water Authority Board of Directors, (iii) the meeting was conducted, and public notice thereof was given, pursuant to and in full compliance with the Open Meetings Act (Act No. 267, Public Acts of Michigan, 1976, as amended) and (iv) Minutes of such meeting were kept and will be or have been made available as required thereby.

YES: Robert J. Daddow, Freman Hendrix, Brian Baker, Gary Brown
Craig A. Hupy, and Abe Munfakh

NO: None
ABSTAIN: None
ABSENT: None

Dated: June 7, 2017


By: Rechanda L. Willis
Title: Executive Board Assistant

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Board of Directors
735 Randolph Street, Suite 1900
Detroit, Michigan 48226
(313) 224-4785

Five Year Capital Improvement Plan (CIP) For Fiscal Years 2018 Through 2022

Agenda of: June 7, 2017
Item No.: **2017-253**
Time: Fiscal Years 2018 through 2022

TO: The Honorable
Board of Directors
Great Lakes Water Authority

FROM: Sue F. McCormick
Chief Executive Officer
Great Lakes Water Authority

DATE: June 7, 2017

RE: **Approval of FY 2018 through FY 2022 Capital Improvement Plan**

MOTION

Upon recommendation of Suzanne Coffey, Chief Planning Officer & Interim Chief Operating Officer – Wastewater, and Nicolette Bateson, Chief Financial Officer/Treasurer, **the Board of Directors for the Great Lakes Water Authority adopts the resolution supporting the Capital Improvement Plan (CIP) for Fiscal Years 2018 through 2022 resolution and for the Chief Executive Officer to approve the five year Capital Improvement Plan (CIP) for Fiscal Years 2018 through 2022**, noting an affirmative vote of at least five (5) Board Members is necessary for approval of this Motion and also authorizes the Chief Executive Officer to take such other action as may be necessary to accomplish the intent of this vote.

JUSTIFICATION

A capital improvement plan identifies an organization's priorities within available resources over a multiple year period. The related CIP document communicates the scope, funding, and timing to customers, coordinating agencies, investors, and the public. The CIP resolution submitted for adoption by the Great Lakes Water Authority Board reflects that stakeholder engagement. Further, the CIP is consistent with the strategic objectives of effective capital delivery at the lowest cost of capital. The CIP is in alignment

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Five Year Capital Improvement Plan (CIP) For Fiscal Years 2018 Through 2022

with the proposed FY 2018 and FY 2019 Biennial Budget and continues to focus on providing reliable and efficient service.

COMMITTEE REVIEW

The GLWA Capital Planning Committee reviewed the new CIP Format on November 9, 2016. On November 30, 2016, the CIP Committee reviewed the first draft of the FY 2018-FY 2022 CIP. Subsequently, on January 11, 2017, the CIP Committee reviewed revisions to the FY 2018-FY 2022 CIP in addition to customer comments, questions, and related answers related to projects in the CIP, as well as process improvements. At the regular Board meeting on January 25, 2017, staff presented an update to financial systems and business process improvements and the impact on the CIP process.

APPROVAL REQUIRED

The Articles of Incorporation of the Great Lakes Water Authority requires an affirmative vote of at least five (5) members to approve the 5-year Capital Improvement Plan.

Great Lakes Water Authority

Resolution 2017 – 253

Resolution Adopting the FY 2018 through FY 2022 Capital Improvement Plan

By Board Member: Craig Hupy

- WHEREAS** The Great Lakes Water Authority (“GLWA” or the “Authority”) assumed the operation of the regional water and sewer systems on January 1, 2016 (the Effective Date”) pursuant to the Lease Agreements between the GLWA and the City of Detroit dated June 12, 2015; and
- WHEREAS** During the term of the Lease Agreements, the Authority shall be entitled to make such rehabilitation of and replacements and improvements to the Leased Water and Sewer Facilities as it determines to be necessary to keep the Leased Facilities in compliance with performance standards; and
- WHEREAS** In connection with the terms of the Lease Agreements, the Authority shall for each Fiscal Year prepare and approve a Capital Improvement Plan, which shall set forth the improvements to the Leased Sewer Facilities that the Authority proposes to undertake during the next five (5) Fiscal Years; and
- WHEREAS** The GLWA Planning Services staff facilitated the FY 2018 through FY 2022 Capital Improvement Plan which encompassed engineering and operating unit personnel, business case evaluation, scoring by the Capital Improvement Plan Development Review Committee members for each system, customer engagement, and review by the CLWA Board Capital Improvement Planning Committee; and
- WHEREAS** The FY 2018 through FY 2022 Capital Improvement Plan and related financial plan has been prepared within the boundaries establish by the GLWA’s long-term financial strategy emphasizing effective capital delivery at the lowest cost of capital; and
- WHEREAS** The FY 2018 through FY 2022 Capital Improvement Plan identifies \$800.6 million of water system capital improvements and \$752.7 million of sewer system improvements;
- WHEREAS** The GLWA Audit Committee reviewed the Capital Improvement Plan at its meetings on November 30, 2016 and January 11, 2017; and

Five Year Capital Improvement Plan (CIP) For Fiscal Years 2018 Through 2022

WHEREAS An affirmative vote of 5 Board Members is necessary for the adoption of this Resolution,

NOW THEREFORE BE IT:

RESOLVED That the GLWA Board reviewed the FY 2018 through FY 2022 Capital Improvement Plan dated May 30, 2017 (Version 2.0); and be it further

RESOLVED That the GLWA Board approves the Capital Improvement Plan for FY 2018 through FY 2022 as revised in Version 2.0 dated May 30, 2017; and be it finally

RESOLVED That the Chief Executive Officer, and the Chief Financial Officer/Treasurer are authorized to take such other action as may be necessary to accomplish the intent of this resolution.



GLWA
Great Lakes Water Authority

Acronyms & Glossary

This Section in Process





GLWA
Great Lakes Water Authority

Financial Services

Nicolette N. Bateson, CPA
Chief Financial Officer/Treasurer

735 Randolph | Suite 1600 | Detroit, Michigan 48226