

# BALTIMORE REGIONAL WATER GOVERNANCE TASK FORCE

## MEETING #5

### RESPONSES TO FOLLOW-UP QUESTIONS FROM PRIOR MEETINGS

#### Question No. 1.

In the Detroit example and establishment of Great Lakes Water Authority (GLWA), provide details on:

- a. **Transition costs**
  - i. Direct 3<sup>rd</sup> party costs \$12 M – Year 2016
  - ii. Much of the efforts were performed volunteers from the member agencies (City of Detroit, DW&S, Counties – 100 volunteers contributed
  - iii. PMO Steering Committee – Representatives of City of Detroit, DW&S, Counties (+/- 20 people) approved the work group's work plans.
  - iv. A key work effort was to develop a "Consensus Forecast" a Financial 10-year financial statement (revenues, O&M expenses, lease payments, debt service, PayGo, etc.)
- b. **Impact of transition on rates in the region**
  - iii. Have achieved rate stability, improved efficiency and customer satisfaction, increased free cash flow from Debt refunding.
- c. **Pension payments to City employees**
  - iv. Pensions (the "Grand Bargain") \$40 million payment for 10 years – obligation for pensions was to pay liability of pension or cash it out. GLWA paid off amounts due early.
  - v. City Pension was frozen from bankruptcy, (transfers were subject to the Michigan Intergovernment Transfers Act).
  - vi. Vested employees that left to go to GLWA were "Deferred Retirees." GLWA offered all employees a par job, could refuse offer and stay with City, but then subject to lay-off.
  - vii. GLWA had new pension program. New employees began in new GLWA pension program.
- d. **Model contract and the rate structure within it**
  - viii. GLWA is a wholesale utility. Its model contract used three factors to determine a customer's wholesale rate, amount of storage, elevation and distance from supply. A graphical explanation from GLW is appended to this document.
- e. **Breakdown of the US\$4 billion debt payment**
  - ix. Not clear on what is meant by US\$4 billion debt payment. The conditions that any debt be limited to paying debt service and fixing local W&S assets was the County's requirement. The annual payment value was a negotiated value. As the W&S systems overall were intertwined/interdependent between the City and Counties, if the capital funds were used in the City, it would benefit all in the region.

**f. How is the US\$50 million annual payment applied between pension payments and equity/affordability programs**

- x. GLWA – WRAP – Payment Assistance program - dedication of ½ of 1% all revenues to payment assistance. The regional one half of 1% is approx. \$4.3M. Was prohibited under Michigan law. WRAP is contributed by and applies to all members.
- xi. Detroit is allowed to add another one half of 1% to its retail customers. Detroit's one half of 1% - that adds \$2.2M.

**g. Variance (if any) between employee compensation at Detroit Water and Sewerage Department and GLWA for staff at equivalent positions**

- xii. All employees were offered a par job, no layoffs took place, but created a Special Projects labor classification. Some employees could take new functional role, undergo mandatory training, retain employment status.

**h. Pension transition for existing and new employees.**

- xiii. Pension was City of Detroit, defined benefit program. DW&S had a pool therein (had been resolved by bankruptcy proceedings before MOU). GLWA had new pension program. New employees began in new GLWA pension program.

**Answer No. 1.**

See answer provided to each question above.

**Question No. 2.**

For the Detroit and Tampa Bay Water examples, provide details on the Board's composition, term/duration(years), whether the terms are consecutive or staggered, how the Boards are chaired, and whether there are any de facto positions.

**Answer No. 2.**

**The Terms of the Board of Directors of Tampa Bay Water**

The Tampa Bay Water's Board members are appointed as non-partisan representatives to the regional authority by their local Jurisdictions. They can be on the Board as long as they remain in office. Locally, there are not generally term limits, just periodic four-year election cycles. Each year, the Tampa Bay Water Board elects a Chair and a Vice Chair and an Executive Committee. Customarily, the Vice Chair will succeed the Chairman after a two-year term as Chairman.

**The Terms of the Board of Directors of Great Lakes Water Authority**

The Great Lakes Water Authority's Board members are appointed. Each year, the Great Lakes Water Authority's Board elects a Chair, a Vice Chair and a Secretary. The terms the appointees to the Board of Directors from Article III of the By-Laws of the GLWA for are as follows:

- a) Two members of the Board shall be residents of the City of Detroit and shall be appointed by the Mayor of the City of Detroit. The initial term for these members shall be for three (3) years and all subsequent terms shall be for four (4) years.
- b) One member shall be appointed by each of the Incorporating Counties and that member shall be a resident of the county from which he or she is appointed. The appointment shall be made by the person designated with appointing authority within the respective county's Charter or 1973 PA 139. The initial term of office for the two counties with the largest and second largest populations shall be for two (2) years, while the initial term of office for any other county appointee shall be for one (1) year. All subsequent terms after the initial appointment term shall be for four (4) years.
- c) One member shall be a resident of an area served by the Great Lakes Water Authority but shall not be a resident of any County with appointing authority under Section (1)(b) of this Article. This member shall be appointed by the Governor of the State of Michigan and shall serve for an initial term of four (4) years. All subsequent terms shall also be for four (4) years.

### **Question No. 3.**

City to provide details on:

- a) State support for operating costs
- b) Determine what the collection procedures have been over the last few years and are now for commercial properties: are they put in tax sale for long delinquent unpaid water bills?
- c) Whether there has been a third-party independent audit of the integrity of the billing data base and invoicing accuracy of the fire suppression fee data since 2016

### **Answer No. 3.**

- a) The State of Maryland generally does not run programs for assistance for supporting O&M expenses for water and sewer utilities. Traditionally in the US water and sewer industry overall, state and federal assistance programs have supported implementing capital projects with grants and loans.
- b) The City has recently hired two new staff members and created an internal work group within the CCSD to pursue collections. Part of their efforts is to review of the integrity of the billing data base and to correct bad data.
- c) No independent third-party audit of the integrity of the billing data base has been performed.

### **Question No. 4.**

Clarify the proportion of the total water supplied to Anne Arundel County by Baltimore City.

#### **Answer No. 4.**

Anne Arundel County has an agreement with Baltimore City but in recent years only purchases treated drinking water from Baltimore City in emergency situations.

Anne Arundel County's website reports that it delivers nearly 13 billion gallons of public water to its customers. This is approximately 35 million gallons of water per day. Since 2017, the Cost Allocation Model shows that the highest volume of water purchased by Anne Arundel County occurred in 2017. In 2017, Anne Arundel purchased approximately 0.5 million gallons of water per day, or less than 2% of Anne Arundel County's water deliveries.

#### **Question No. 5.**

Clarify in the information indicated in Slide 25 regarding how much Baltimore County receives from its wholesale partners for water and wastewater services it provides.

#### **Answer No. 5.**

This information has been requested from the County and has not yet been provided.

#### **Question No. 6.**

Provide actual City and County financial metrics for Days Cash on Hand, Debt Service Coverage Ratio and Debt to Operating Revenue supporting the City and the County's bond ratings.

#### **Answer No. 6.**

<b>Financial Metric (as of 6/30/22)</b>	<b>City Water</b>	<b>City Wastewater</b>	<b>County Combined Water and Wastewater</b>
Days Cash on Hand	Information requested but not yet available.	Information requested but not yet available.	Information requested but not yet available.
Debt Service Coverage Ratio	2.61	1.29	Information requested but not yet available.
Debt to Operating Revenue	5.22	6.09	Information requested but not yet available.

#### **Notes:**

City sources:

- Debt Service Coverage: FY 22 ACFR, page 141.
- Operating Revenue: FY 22 ACFR, page 141. FY 22 Water Utility Revenues of \$278.28M; FY Wastewater Utility Revenues of \$278.13M
- Outstanding Debt: Task Force Meeting 3 presentation, as of 6/30/22: City water = \$1.454 billion; City wastewater = \$1.696 billion

## Question No. 7.

Comment, to the extent possible, on factors that would have financial impact or that should be considered in case of transitioning to a regional authority model.

## Answer No. 7.

The factors that are anticipated to potentially have the largest financial impact are:

- Baltimore City Charter prohibits leasing of facilities.
- Debt Refinancing costs
- Pension Transition costs
- Third Party Transition Support Services
- MEDCO participation in Transitional and post Stand-up Authority Financings

Debt refinancing costs would only be applicable if the debt is required to be refinanced. Debt refinancing costs have been preliminarily estimated to add from \$370 M to \$720 M in additional financing costs to the transition should a refinancing be required. The WSP Team has engaged the City's bond counsel in preliminary discussions of this issue. At this time, the need to refinance existing debt has not been confirmed, and it may be possible to form an authority without debt refinancing. Further investigation of this issue is needed.

Pension transition costs would be applicable if employees are migrated from the existing City and County pension plans to a new pension plan created by the Authority. Further evaluation of pension policy alternatives is expected during the implementation phase.

## Question No. 8.

Describe the concept of having an independent Rate Setting Board within Model E (special district/water and wastewater authority).

## Answer No. 8.

An alternative would be to create a local community-based board rate setting. That Board could have full powers to set all policies and procedures of the Utility or solely be a board authorized only with the responsibility to determine rates.

### Philadelphia Water Example

City of Philadelphia Water, Sewer, and Storm Water Rate Board (the Board)

**Establishment:** The Board was formed to replace the City Water Department as the entity responsible for setting water, wastewater, and storm water rates in 2012. The Board was

established through legislation authorizing the City Council to establish an independent rate making body and specify rate setting procedures through ordinances.

**Composition:** The Board consists of five members serving staggered terms. The members are appointed by the Mayor and continue to serve until a replacement is installed.

**Charge:** The Board shall “evaluate and determine proposed changes to the rates and charges fixed for supplying water, sewer and storm water service for accounts and properties located in the City of Philadelphia” (Section II.1.(a), REGULATIONS OF THE PHILADELPHIA WATER, SEWER AND STORM WATER RATE BOARD)

The Board carries out its charge through a rate setting process set out in the Regulations of The Philadelphia Water, Sewer and Storm Water Rate Board (Board Regulations). Briefly, the process is initiated by the City Department of Water when it files an Advance Notice of proposed rate changes. This is followed by a Formal Notice of proposed changes. The Board must respond with its Rate Determination within 120 days of the Formal Notice being filed. The last step in the process is for the City to publish the revised rates and charges approved by the Law Department, along with the dates when these revised rates and charges go into effect. The rate determination process is centered around ensuring openness, transparency, and space for public comment.

The **Board’s website** has a useful summary of rate setting procedures, a part of which, is provided below:

Through a process of board meetings and hearings, the board considers testimony and other evidence submitted by City officials and members of the public to arrive at fair and reasonable rates to provide adequate funding for the operation of the Philadelphia Water Department.

The Board must:

- Use open and transparent processes and procedures for public comment on proposed rates and charges.
- Implement regulations for rate hearings and determination of rates and charges consistent with the Philadelphia Code.
- Follow existing Water Department regulations regarding rate setting until new regulations are adopted.
- Hold public hearings prior to fixing and regulating rates.

The Water Department must provide supporting documentation (including financial accounting and engineering data) to the Board with regard to:

1. establishing revenue requirements necessary to meet the System’s immediate and long-term operating and capital needs,
2. maintaining the utility’s financial stability (with reliance upon the Financial Stability Plan), and
3. providing a fair allocation of costs among customer groups based upon cost of service principles.

The Rate Ordinance requires that when the Water Department has proposed changes in rates and charges, the Board must prepare a written report containing the information the Board used

in reaching its decision to approve, modify, or reject the proposed rates and charges. The Board's decision must be made no later than 120 days from the filing of notice of any such proposed changes. If the Board can't act on the proposed rates and charges within that time frame, the Water Department may set emergency rates and charges until a final determination is made by the Board.

### **Indianapolis Example:**

#### **Indianapolis Citizens Trust**

In 1887, Indianapolis civic leaders came up with the idea of operating a natural gas company as a Public Charitable Trust, solely for the benefit of customers and the community.

Today, this Trust lives on as Citizens Energy Group, a locally owned and operated utility service company, providing natural gas, thermal energy, water, and wastewater services to about 800,000 people and thousands of businesses in the Indianapolis area.

### **Saint Louis (wastewater) Example:**

**In the St. Louis case, the board has full authority over all policy and procedures decisions of the METROPOLITAN ST. LOUIS SEWER DISTRICT.**

#### **Number -- Appointment -- Term**

The Board shall consist of six members to be known as Trustees, three of whom shall be appointed by the Mayor of the City of St. Louis and three of whom shall be appointed by the County Executive of St. Louis County. Each Trustee shall be appointed for a term of four years. No Trustee shall serve more than two full consecutive terms plus any portion of an unexpired term. Provided, however, that each Trustee shall serve until his/her successor shall be appointed and qualified. Not more than two Trustees appointed from said City or County, as the case may be, shall be a member of the same political party.

#### **Qualifications.**

Each Trustee appointed by said Mayor shall be a registered voter of the City of St. Louis, shall have been a resident thereof for at least three years next before his/her appointment, and shall continue to reside therein during his/her tenure of office. Each Trustee appointed by said County Executive shall be a registered voter of St. Louis County, shall have been a resident of said County for at least three years next before his/her appointment, and at the time of his/her appointment and during his/her tenure of office shall be a resident of the portion of said County situated within the District. Each Trustee shall comply with all applicable provisions of Missouri law with respect to conflicts of interest. No person holding an office of profit under the United States or any state or local government shall be appointed to the Board, members of the organized militia or of the reserve corps and notaries public excepted. No person who shall have been 'convicted of a felony, malfeasance in office, bribery, or other corrupt practice, or of a misdemeanor involving moral turpitude shall be appointed to the Board, and if any Trustee shall be so convicted, he/she shall thereby forfeit his/her office.

#### **Passage of Ordinances or Actions:**

The enacting clause of all ordinances passed by the Board shall be: "Be It Ordained by the Board of Trustees of The Metropolitan St. Louis Sewer District." An affirmative vote by two members of



the Board of Trustees appointed from the City of St. Louis and two members of the Board appointed from St. Louis County shall be necessary to pass any ordinance, resolution, regulation, rule, or order, except that with at least five Board members present and unanimous consent of all Board members present, an affirmative vote of any four Board members shall be sufficient for passage. On the final passage of any ordinance, resolution, regulation, rule, or order, the yeas and nays shall be entered by name on the journal, and at the request of any one member of the Board the yeas and nays on any other question shall be so entered.

### **Sacramento Utility Rate Advisory Commission Example:**

The Sacramento Utility Rate Advisory Commission's charge is to: (1) Review and comment on proposals made by the department for changes to utility service rates; (2) Develop and provide recommendations to the city council on issues relevant to the setting of rates, not including the level of service; (3) Hold rate hearings on proposals to increase utility service rates or establish new rates and upon conclusion of the hearing, provide recommendations to the city council; and (4) Act as a liaison to encourage community understanding of, and participation in, the utility service rate setting process.

The Utilities Rate Advisory Commission reviews and comments on proposals made by the department for changes to utility service rates; develop and provide recommendations to the city council on issues relevant to the setting of rates, not including the level of service; holds rate hearings on proposals to increase utility service rates or establish new rates and upon conclusion of the hearing, provide recommendations to the city council; and acts as a liaison to encourage community understanding of, and participation in, the utility service rate setting process.

The Utilities Rate Advisory Commission (URAC) commissioners provided the list of topics that can be referenced in the URAC Commissioner Submitted Topics attachment. These topics need to be reviewed to determine which are within the scope of the URAC and included in the 2024 annual workplan. The URAC ten reviewed these topics within scope of commission for annual workplan.

2022 Topics to be considered by the URAC are in the following Table. the Department of Utilities is abbreviated as "DOU".



Department	Topic	Description
DOU	DOU 2020-2025 Strategic Plan Progress Report	URAC independent review of the DOU Strategic Plan Implementation Tracking Document
DOU	Sustainable Funding Mechanisms Study/Review	Survey of approaches to identify practices that protect rate payers from unpredictable rate increases
DOU	Deferred Maintenance Progress Report	Update on DOU progress on deferred maintenance
DOU	Coordination with Rate Agencies on Increases	Request for presentation on what has already been accomplished here
DOU	Coordination of DIFs and utility rate increases	Explore coordinating increases in development impact fees with rate increases
DOU	Providing water for homeless	Explore ability of DOU to provide water to unhoused residents
DOU	Climate Drivers Affecting Rates	On the climate side: smoke, heat, other. From the climate action plan: electrification, other.
DOU	Low Income Assistance Programs	Are there any alternate methods to SURA to accomplish this
RSW	RSW Programs - Implementation Update	Where has the money been spent from the previous rate increase
RSW	RSW Rate Cost Drivers	RSW provide a summary of rate drivers for the commissioners understanding (e.g. Commercial and food waste contracts, labor costs, foreseeable costs related to the City's Climate Action Plan

## Question No. 9.

Clarify the assumptions underlying the (Slides 5- 52) Net Present Value calculations of debt refinancing costs.

## Answer No. 9.

### High Cost Estimate:

- Outstanding refunding bonds and taxable bonds refunded with taxable refunding bonds.
  - Taxable rate = 6.00% (5.00% long-term Treasury rate plus 1.00%)
- Outstanding new money bonds refunded with tax-exempt refunding bonds.
  - Tax exempt rate = 4.50% (5.00% long-term Treasury rate less 0.50%)
- Escrow reinvestment at lesser of 5.00% and tax-exempt rate, where applicable
- NPV discount rate = borrowing rate (taxable rate used where applicable, tax-exempt rate used where applicable)
- January 1, 2024 refunding date.
- Outstanding debt called at first optional redemption date.
- 1% cost of issuance
- Subordinate debt refinanced at same rate as senior debt.
- Savings extrapolated to outstanding bonds with missing/incomplete information.
- Swap breakage costs not included in analysis.

### **Low Cost Estimate:**

- Cost of refinancing outstanding MWQFA Loans is one-third of high cost estimate, reflecting an assumed negotiated outcome.
- Cost of refinancing outstanding WIFIA Loans is one-third of high cost estimate, reflecting an assumed negotiated outcome.
- Cost of refinancing the City's Series 2020AB taxable bonds is one-half of high cost estimate, reflecting a later redemption date.
- All other refinancings are calculated as described in high cost estimate.

### **Question No. 10.**

Describe options within Model E (special district/water and wastewater authority) that do not require debt refinancing.

### **Answer No. 10.**

It is assumed that the creation of the Special District or Authority would not cause by itself a requirement to defease the existing City and County outstanding Water & Sewer debt. The Special District or Authority and the City and County would enter into a Facility Use Agreement or Asset Lease type arrangement (the "Use Agreement"). The Revenues from all Special District or Authority Water & Sewer customers would be deposited into a lock box in trust. The Special District or Authority's Trust would be established based upon a "Flow of Funds" that would be needed to pay all of the Water & Sewer expenses of the Special District or Authority. Under the Use Agreement, the Special District or Authority would agree to pay out of the Trust to the City and/or County the amount of the debt service due and debt related expenses on their Water & Sewer debt obligation to satisfy their respective debt payment obligations. The Special District or Authority Trust Flow of Funds would create a hierarchy of funding obligations for the payment of all expenses. To be fiscally responsible, all O&M expenses are first in priority in any Flow of Funds. Just as an example as to the form of a structure for such a trust and not as a recommendation as to any specific means and methods that should be used or as to the applicable hierarchy of revenue payments that may be applicable to a Baltimore regional authority, the GLWA Trust's Flow of Funds is attached as Exhibit A to illustrate the Flow of Funds concept.

### **Question No. 11.**

Follow up with Maryland Department of the Environment on whether it would be permissible for existing loans to be assumed by a new entity under the same terms without the need for refinancing.

### **Answer No. 11.**

The WSP team has initiated conversations with the Maryland Department of the Environment on this subject. No definitive response has yet been provided. Further discussion is necessary as the implementation of an authority is further defined.

## **Question No. 12.**

1. In case the City were to decide to lease (or use a Facility Use Agreement) for all or any portion of the water and sewer system assets currently on the City's books to another entity, what would be the disposition of these leased assets at the end of the Lease's term?
2. Can the assets remain on the City's books during the term of the lease and thereafter?

## **Answer No. 12.**

WSP has held several discussions with City legal representatives to first assess if a lease arrangement is feasible. As it stands now, Baltimore's City Charter prohibits leasing of facilities. We have discussed leases in very general terms and provided an example, but the discussion regarding the potential treatment of City and County existing debt and potential consequences thereof relative to lease's feasibility in general have been the principal topics to date. The accounting treatment of the Lease, its form and remains an open issue to be followed-up upon.

As a point of reference, the term of the GLWA-Detroit lease is 40 years, with a provision to extend the lease automatically, and without further action of the parties hereto, be amended' to coincide with the date on which all of the Bonds have been paid or provision for payment of all of the Bonds has been made in accordance with the Master Bond Ordinance (the "Extended Lease Termination Date").

## **Question No. 13.**

Within Models C and D, explore the option involving the creation of a separate water and wastewater department within the City as opposed to at the Bureau level within the Department of Public Works. Check governance structure in the City of Atlanta (water and sewer).

## **Answer No. 13.**

Elevating the Water and Sewer functional personnel in the City to a Department level (reporting directly to the Chief Administrative Officer's structure) would result in a sperate Department of Water and Wastewater. While it would positionally elevate the Water and Wastewater Bureau Head to a Department manager, it would increase the span of control of the CAO. It would increase the competition for his or her attention. It could also potentially divide the responsibilities (or attention of) all of the DPW Chief of Administration's office services that are now with the DPW.

Lastly, the policies and procedures such as rate setting, affordability, equity, salaries, training, budget and resource allocation, personnel hiring and terminations, organizational structure, performance accountability, strategic priorities, management of the reservoirs and capital priorities would remain with Water and Wastewater Department Manager they would also remain within the span of control of the City Administrative Staff, Mayor and City Counsel.

## Question No. 14.

Clarify the scope for governance improvements within Model C (intermunicipal agreements) and Model D (wholesale agreements).

## Answer No. 14.

### Consider Changes to City DPW Structure

- Modify W&S Bureau to become City Department
  - Elevate Leadership Positions
  - Reallocate Administrative support services.
- Mandate Processes & Procedures and Requirements for:
  - Audited enterprise fund financials
  - Mandatory consultations with other jurisdictions on Capital Planning and timing
  - Preparing, publishing, an approving Five and 10-Year Capital Improvement Plan (CIP)
  - Approval of Annual CIP Spending Plan (fully reconciled with Approved Annual Budget and Rates)
- Establish Rate Setting Board to review the utility's rate recommendation and performance and solicit community input to determine rate changes for water and sewer services.
  - Use defined open, transparent, collaborative review process.

### City and County DPW should individually consider:

- Periodically conduct salary studies with water & sewer comparators and implement to achieve parity within industry peers to attract and retain talent.
- Develop exit interview information collection approach to assess drivers for departures.
- Develop succession plans for all key positions retiring within the next five years (that includes skill enhancement training)
- Develop workforce development community-based initiatives.
- Track and report on open positions, new hires, departures, net headcount
- Identify and implement best industry practices for retention of Institutional knowledge.
- Develop/publish Utility Billing Relief Program
- Annually publish a 5-year forecast of rates.
- Annually track cost of service expenses (reconcilable to last Cost of Service Study) to inform rate setting in the future.

### City and County DPW should jointly:

- Review and update the CAM.
- Prepare a Contract Administration Memorandum to document its procedures for use (or for basis of assumptions used)

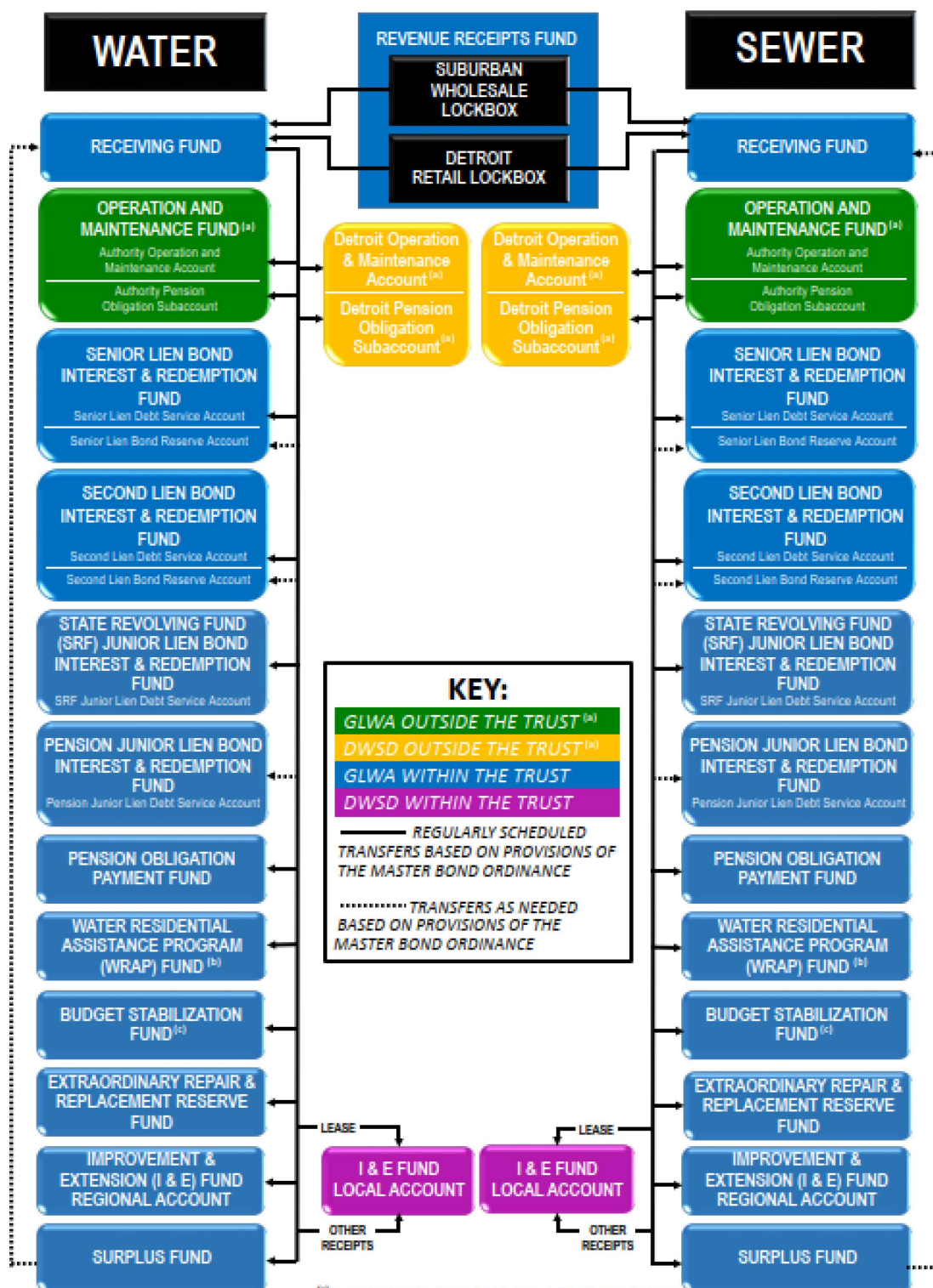


- Document the standard annual procedures and milestone deadlines for developing the annual cost sharing allocation.



## Master Bond Ordinance Flow of Funds

*Note: This chart is a summary of the Master Bond Ordinance Flow of Funds and is for illustrative purposes only. For a more complete and comprehensive description of the flow of funds, reference is made to each Master Bond Ordinance, a copy of which is available at [www.glwater.org](http://www.glwater.org).*



<sup>(a)</sup> Except for these funds, all other funds are held in Trust by the Trustee.

<sup>(b)</sup> Disbursing fund for WRAP.

<sup>(c)</sup> For the Detroit Local Systems per Section 515 of the Master Bond Ordinance.

GLWA Revised 10/10/06

The Master Bond Ordinance can be found on the GLWA website: <http://www.glwater.org/board/organizational-documents/>



# HOW THE GREAT LAKES WATER AUTHORITY SETS WATER CHARGES



**1** GLWA creates a water budget. This budget is capped at a four percent increase (that means it can't increase more than four percent every year).

## GLWA WATER BUDGET



**2** The budget is then used to set charges for each community.

Factors that go into determining charges unique to each community are:

⌚ **Usage patterns** (How much water a city takes, particularly on the hottest days and the highest use day of the year)

⬆️ **Elevation** from the water plant (It's harder to push water up hill)

➡️ **Distance** from the water plant (A long way for water to travel)



⚡ The more electricity that is needed to pump water to a city, the more expensive a city's charge will be. So, the farther and higher elevated a city is, the more energy is needed to pump water to it. There are also more pumps and pipes needed. Usage patterns also affect cost; it takes more effort to serve everyone at once, so if every city is taking water from the GLWA system at the same time, it will cost more. Cities that take their water from GLWA at night and place it into storage enjoy significant savings.

**3** New charges are given to communities, and the communities then add their own local operating costs, which are typically a similar amount (approx 50/50). This total then results in the local rates that are billed to individual homeowners.

**City A**  
(Least Expensive)



**City A has:**

- Storage
- Low elevation
- Short distance from water plant

**City B**  
(More Expensive)



**City B has:**

- No storage
- Low elevation
- Farther distance from water plant

**City C**  
(Most Expensive)



**City C has:**

- No storage
- High elevation
- Farthest distance from water plant

*\*Varies by community; 50% on average*



## How can communities control their water charges?

**Storage.** Creating storage allows communities to avoid having to take water from the system during the highest use times of the day (peak hour) and during the hottest days of the year (max day).

**Manage.** Cities need to responsibly manage their local system's usage and make sure that they don't exceed the peak hour and max day volumes agreed to in their contracts with GLWA.

**Conserve.** Through proper local management, each community has an opportunity to reduce how much water it uses from the regional system.