

COST OF SERVICES ANALYSIS

FOR

CAYUGA REGIONAL WATER AND SEWER AUTHORITY IMPLEMENTATION PROJECT

Prepared by:



Town of Aurelius

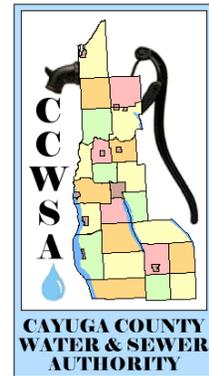


TOWN OF SENNETT, NY



Town of Fleming

Town of Throop



In Consultation with Amawalk Consulting Group
and CRA Infrastructure & Engineering, Inc.

Prepared For:

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One Commerce Plaza, 11th Floor, Suite 1110
99 Washington Avenue
Albany, NY 12231

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1. Executive Summary

The *Cayuga Regional Water & Sewer Authority Implementation Project* is an ongoing collaborative initiative among the City of Auburn, the Towns of Aurelius, Fleming, Owasco, Sennett, Throop, and the Cayuga County Water & Sewer Authority (collectively “project partners” or “participants”). The project is an outgrowth of the recently completed *Cayuga Regional Water & Sewer System Project Feasibility Study* (the “Study”) funded under the NYS Local Government Efficiency (LGE) High Priority Planning Grant Program.

The Study, completed in 2010, examined the potential feasibility and associated benefits of a consolidated delivery structure for water and sewer services. The Study concluded that significant organizational, operational, and technical benefits could result from the formation of a new consolidated water and sewer agency (the “Regional Agency”). The Study also concluded that final policies, governance requirements, and organizational structure of the new Regional Agency would be developed during the Implementation phase of the project. Consequently, the participants applied for a NYS LGE Implementation Grant so that they could develop final arrangements and move to implement a new water and sewer agency.

In late 2010, the participants were awarded a NYS LGE Implementation Grant. For purposes of administering the grant, the participants appointed a Taskforce comprised of two members from each community. Ultimately, the Taskforce was charged with developing the final policies, governance and organizational structure for the implementation of the Regional Agency.

The Cost of Service Analysis (the “Analysis”) was the first task completed under the Implementation Grant. The Taskforce retained Amawalk Consulting Group in conjunction with CRA Infrastructure & Engineering, Inc. (CRA) to complete the Analysis for the purpose of establishing a wholesale rate for use by the new Regional Agency.

The inter-municipal Taskforce met on a monthly basis to carry out the project and consider all matters related to the regional cost of service. Monthly meetings were facilitated by the City of Auburn, in cooperation with the consulting teams Amawalk Consulting Group and CRA. Eight workshops were conducted as part of the Analysis. Topics discussed at these workshops included: water and sewer infrastructure, cost of service allocations, flow measurement, retail and wholesale rate calculations, governance, and other cost related policies. This report documents the work performed during the Analysis, including the findings and unit cost determination.

The Analysis was completed based on a conceptual regional service delivery structure developed during the Feasibility Study. This concept anticipated that the Regional

Agency would take ownership of and operate all regional assets. These regional assets were identified as the major water and wastewater treatment and transmission assets which currently provide service to multiple communities. The Regional Agency would provide wholesale services to each of the participating communities and likely provide retail service on a contract basis to the City of Auburn. The Analysis developed an equitable wholesale rate for water and wastewater services which the Regional Agency would use uniformly across its customer base. Specific retail rates can also be determined by the individual participants by including local operating costs with the regional wholesale rate.

Based on the progress made to date and the results presented herein, a consolidated service delivery structure can now be developed that achieves long-term cost savings for all participants. The anticipated service delivery structure and corresponding rate structure will include three tiers of service. These different service levels will facilitate the consolidation of regional O&M and capital investment and offer a common rate menu for customers of the new Agency. Consequently, the participating communities are committed to moving forward towards the creation of a new regional water and sewer agency that will provide efficient service with equitable rates for all. Ultimately this approach will provide improved water and wastewater services with a reduced number of governmental agencies involved.

2. Introduction and Background

Cayuga County is located in the Finger Lakes Region of Central New York, approximately 20 miles west of the City of Syracuse. Geographically it extends approximately 55 miles southward from its northern tip at Lake Ontario. Near its southern end it traverses three of the Finger Lakes: Cayuga Lake, Owasco Lake, and Skaneateles Lake. The County consists of 1 city, 23 towns, and 9 villages. The project partners comprise the core geographic, population and business center of the County with a majority of the County's population.

Within the project service area, the City of Auburn provides almost all of the treatment and transmission services among the project participants. The City provides wholesale water service to the Towns of Aurelius, Throop, and Sennett and the Cayuga County Water and Sewer Authority (CCWSA). The Town of Owasco has its own water treatment plant and the Town of Fleming purchases water from the Town of Owasco while some water district customers purchase water from Springport. Local distribution is provided by each of the individual communities to their residents.

For wastewater, the City provides wholesale treatment services to the Towns of Owasco, Fleming, Sennett, and Aurelius. The CCWSA does not offer wastewater services within the study area and the Town of Throop has no public waste water system. The local collection services are provided by each of the individual communities to their residents. Table 2-1 shows the various water and wastewater services currently provided by the participants that were considered as part of the analysis and/or may ultimately be part of the Regional Agency. Those services marked as "Not Applicable (NA)" are not currently provided by the City on a regular basis and are not immediately anticipated to be provided by any new Regional Agency.

Table 2-1 Current Water & Wastewater Services Considered in the Analysis

Participant	Water Service Providers			Wastewater Service Providers		
	Water Treatment & Supply	Water Transmission (large mains)	Water Distribution (small mains)	Wastewater Treatment	Wastewater Conveyance (large mains)	Wastewater Collection (small mains)
Auburn	Auburn	Auburn	Auburn	Auburn	Auburn	Auburn
Aurelius	Auburn	Auburn	Aurelius	Auburn	Auburn	Aurelius
Cayuga County Water & Sewer Authority	Auburn	Auburn, CCWSA	CCWSA	NA	NA	NA
Fleming	NA	NA	NA	Auburn	Auburn	Fleming
Owasco	NA	NA	NA	Auburn	Auburn	Owasco
Sennett	Auburn	Auburn	Sennett	Auburn	Auburn	Sennett
Throop	Auburn	Auburn, CCWSA	Throop	NA	NA	NA

Due to the complex service delivery structure and multiple municipal service providers, residents throughout the participating communities are subject to a broad range of rates and fees. Each participating community has its own fiscal pressures and management policies. Consequently, each participant establishes its own retail rates for service, which results in widely different rates between communities. Furthermore, the shared treatment and transmission facilities (currently owned and operated by the City) which provide beneficial services for all member communities, are aging and in need of significant capital investment. Ultimately the costs associated with the necessary rehab/repair/replacement of regional assets will put significant financial pressure on all of the participating communities.

The commonality of location, population density, shared services, deteriorating infrastructure, and various financial pressures differentiate the participating communities from the rest of the more rural County. These shared attributes and challenges of the participants have resulted in a commonality of interests, which supports a regional approach to water and sewer services. The participants believe that a regional solution will be considerably more effective and efficient than the status quo approach. For these primary reasons, the participants are working toward the implementation of a new Regional Agency.

Consequently, to facilitate the creation of a Regional Agency and to address the operational and fiscal challenges of the participants, a Cost of Services Analysis was completed by the Taskforce. This analysis was needed to identify those costs that should be regionally shared and to develop a common wholesale rate sufficient to meet those costs. Furthermore the underlying regional asset cost allocation would be the foundation for the new Agency's service delivery structure.

3. Project Objective & Scope

The Cost of Service Analysis, as the first step in the implementation of a new Regional Agency, has as its primary objective the equitable allocation of regional (water & sewer) treatment and transport costs among all participants. Achieving this objective is contingent on developing a transparent methodology that is mutually agreed. Moreover, the potential terms and conditions of any necessary enabling New York State legislation and/or inter-municipal agreements will be dependent upon the Analysis and its rate-setting methodology. Thus, the Analysis must yield a fair wholesale rate based on acceptable industry principles, which can be applied uniformly to all participants. This rate must be based on and generate sufficient revenues to cover the costs of all regional treatment and transport services as well as the future capital investment costs associated with any regional assets.

The scope of work associated with the Cost of Service Analysis included two primary steps that are needed to facilitate the creation of a Regional Water and Sewer Agency within Cayuga County.

- Detailed Analysis of Key Policy Issues – As a component of the earlier Feasibility Study, the participants reviewed the governance and financial options for a proposed Regional Agency. The participants concluded that the “status quo” is no longer a preferred method of managing the region’s water and sewer systems. Alternative regional structures were presented and briefly evaluated; however, final policy decisions were needed as part of the Analysis to facilitate implementation. Certain key policy decisions were included in the scope that were necessary to complete the Analysis.
- Cost of Service Analysis and Developing a Wholesale Rate – The consulting team worked with the Taskforce to prepare a cost of service analysis for water and wastewater services based on the current cost of providing service. A detailed review of all costs associated with the provision of water and sewer services was completed. These service costs were then allocated between local and regional costs. Subsequently, based on an agreed-upon methodology, a wholesale rate was developed to be used by the Regional Agency. The analysis considered the operating structure and cost structure both before and after regionalization.

4. Key Policy Decisions

As part of the Cost of Service Study, several key policy decisions were made by the Taskforce regarding the division of assets, the allocation of capital and operating expenditures, and the measurement of usage for billing purposes. These policy decisions were critical for the purpose of allocating costs within the Analysis.

4.1. Regional Service Provider Structure

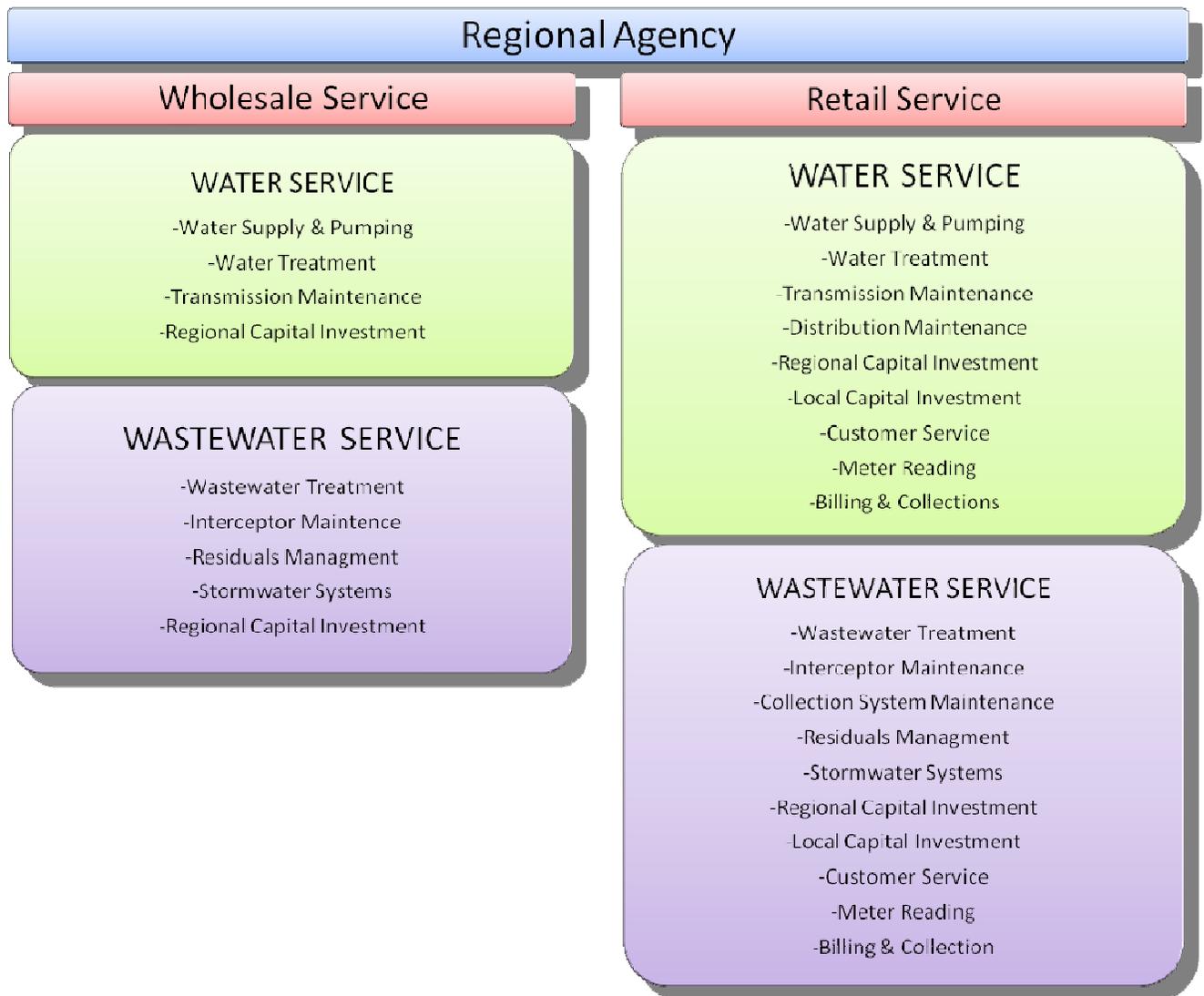
A fundamental policy decision on which the Analysis was completed related to the structure under which services would be provided by the Regional Agency. During the Feasibility Study, it was the preference of the participating communities that the regional service provider take ownership of all regional benefiting assets and provide wholesale service to all communities. Generally, all of the regional water and wastewater assets that benefit the collective participants are currently owned and operated by the City of Auburn. Thus, these regional assets and the staff associated with maintaining them would have to transfer from the City to the new Agency. Any other City assets that do not provide a regional benefit would remain with the City. The City, as well as each of the other project participants, would become wholesale customers of the new Regional Agency. Furthermore, each of the individual communities would provide retail services to their residents by operating and maintaining their own local distribution and collection systems.

During the Cost of Service Analysis this policy decision was reviewed and revised. The major revision was the provision that the Regional Agency would provide retail service to the City by way of contractual agreement. It was determined that the City's local and regional assets were so interdependent and interconnected that it would not be practical or cost effective to have different labor forces maintaining them. It was decided that a common workforce, either under City or under the Regional Agency, would best service all of the assets (both wholesale and retail) within the City. This policy of combining the O&M of regional assets and local assets represents a consolidation of City services under the new Regional Agency. See Figure 4-1 for the conceptual service offerings of the Regional Agency.

Subsequently, this policy decision was revisited again, following additional guidance from the NYS Department of State (DOS). Effectively, the Taskforce was informed that the creation of another agency, despite being regional in nature, without the consolidation of any other municipal water/wastewater departments would not satisfy the Implementation Grant's objective to reduce the size of government. As a result, late

in the Analysis, the Taskforce reviewed an alternative 3-tiered service structure for the Regional Agency (see Section 8 for further discussion on this alternative structure). During the next phase of the Implementation Grant (Legal and Structural Implementation) the Taskforce will work to finalize the structure of the new Regional Agency around these 3 service tiers such that the Agency can be implemented.

Figure 4-1 Regional Agency Wholesale and Retail Service Offering



4.2. Cost of Service Water Policy Decisions

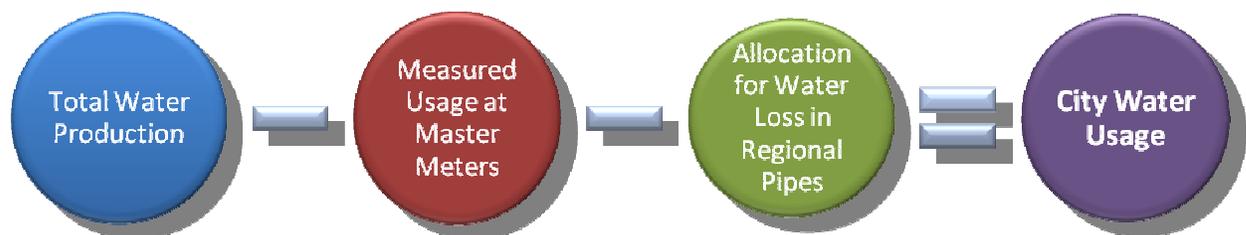
The Taskforce also considered several policies that related directly to the water system cost of service and the resulting allocation of costs among the participants. These policies included:

1. Determination of Regional Water Assets - The Taskforce reviewed and categorized assets as either regional or local. A basic criteria was established that defined regional assets as those that provide ongoing service and/or benefit to more than one of the participating communities. This distinction of assets between regional and local benefit was important for the allocation of costs. The Taskforce determined that any costs associated with the operation, maintenance, or potential upgrades of a regional asset would be included in the wholesale rate.

The water assets that were included in the regional category included: the water supply intake, the raw water transmission main, the water treatment and pumping facilities, the water storage facilities, the State dam, and the water transmission pipes needed to convey water to the Participants. The allocation of a small percentage of transmission lines may be reviewed at a later date, but no substantive change to the wholesale rate is to be expected. See Section 5 for a detailed description of the regional asset categorization.

2. Method of Water Measurement for Billing Purposes - The Taskforce established the policy that water consumption will be measured through master meters for all customers except the City. The calculation for City water usage is shown in the figure below.

Figure 4-2 Calculation of City Water Usage



This approach will make all Participants responsible for their own water losses and provide an incentive to minimize water losses through leak detection and capital improvements.

3. Allocation of Debt between Regional and Local - The Taskforce reviewed and identified all outstanding and potential future debt (based on the current CIP) that was associated with regional assets and determined such debt would be included within the wholesale rate calculation. The outstanding debt for assets defined as regional will be assigned to the Regional Agency either in the form of principal and interest payments on the debt until it is repaid, or through a refinancing of the debt by the New York State Environmental Facilities Corporation ("NYS EFC") or other lending institution.
4. Allocation of O&M expenses between Regional and Local - The Taskforce also agreed that all operational expenses including labor costs associated with the regional assets and/or the provision of regional service would be included in the regional wholesale rate calculation. The percentage allocation of some minor operational expenses for certain services may be reviewed at a later time but no substantive change to the results is to be expected.

4.3. Cost of Service Wastewater Policy Decisions

The Taskforce also considered several policies that related to the wastewater cost of service and the resulting allocation of costs among the participants. These policies included:

1. Determination of Regional Wastewater Assets - Similar to the categorization of water assets, the Taskforce reviewed and categorized wastewater assets as either regional or local. The distinction of assets between regional and local was important for the allocation of costs. Any costs associated with the operation, maintenance, or potential upgrades of regional assets were to be included in the wholesale rate calculation.

The wastewater assets and their associated costs that were included in the regional category included: the wastewater treatment and pumping facilities, the combined sewer overflow facilities, the bio-solids processing and disposal facilities, the major interceptors, and secondary interceptors. All of these assets provide regional benefit to the Participants. However, during the analysis it was noted that the some participants suggested that certain stormwater and underground assets did not

benefit multiple communities and shouldn't be allocated as regional. Consequently, there are some details related to the allocation of some assets that may be reviewed at a later date. See Section 5, Methodology, for more details regarding the regional allocation of costs.

2. Method of Wastewater Measurement for Billing Purposes - The Taskforce established the policy that wastewater flows will be measured through master meters for all customers except the City. City usage will be calculated by the following formula:

Figure 4-3 Calculation of City Flow



This approach will make all Participants responsible for their own Infiltration & Inflow (I&I) and provide an incentive to minimize I&I. Also note that the allowance for shared stormwater flows is yet to be determined.

3. Allocation of Debt between Regional and Local - The Taskforce reviewed and identified all outstanding and potential future debt (based on the current CIP) that was associated with the regional wastewater assets and determined such debt would be included within the wholesale rate calculation. The outstanding debt for assets defined as regional will be assigned to the Regional Agency either in the form of principal and interest payments on the debt until it is repaid, or through a refinancing of the debt by the New York State Environmental Facilities Corporation ("NYS EFC") or other lending institution.
4. Allocation of O&M expenses between Regional and Local - The Taskforce also agreed that all operational expenses including labor costs associated with the regional wastewater assets and/or the provision of regional service would be including in the regional wholesale rate calculation. The percentage allocation of some minor operational expenses for certain services may be reviewed at a later time but no substantive change to the results is to be expected.

5. Cost of Service Study Methodology

5.1. Introduction

There are “generally accepted” water and wastewater industry principles or guidelines regarding the development of cost-based rates and charges. The methodology used during the Analysis generally follows the guidelines set forth in the American Water Works Association Manual M1, *Water Rates*. However, for purposes of developing a common wholesale rate for all participants, the methodology herein was adapted to fit the local needs. The basic principles considered for purposes of this Analysis are listed below:

- Sufficient revenues must be raised by rates, charges and/or other sources of revenue in order to satisfy the annual revenue requirements of the Agency.
- Rates and charges should be equitable and fair, in the sense that charges levied on different users reflect, as closely as practicable, the costs incurred in providing service.
- The rate structure should be relatively simple and easy to administer.
- Rates should be understandable to the customer.
- The rate structure should encourage the wise use of water resources.

Some further considerations within rate structure development that might be considered helpful for the Regional Agency in the future include:

- Separate costs into fixed and usage-based components.
- Generate revenues from different classes of customers (i.e., residential, commercial, industrial) in a similar proportion to the cost of serving such classes.
- Establish alternative rates such as stormwater drainage charges, strength-based wastewater charges or other miscellaneous fees.
- Include a minimum debt service coverage target that exceeds minimum requirements to boost future credit scores and lower the cost of borrowing.

However, for purposes of establishing a new water and sewer agency and developing a regional wholesale rate, such considerations were neither applicable nor achievable at this time among the participants. The primary objective necessary to achieve regional cooperation and ultimately the creation of a new Regional Agency is the perceived equity of a common wholesale rate without variances between customers.

Each water or wastewater system is different, so utility management may add to the above list of principles to reflect local priorities and needs. For example, some utilities try to utilize water rates as an incentive for economic development. However, from the Taskforce's perspective, the first two principles are most important. Namely the Taskforce was seeking a wholesale rate which generated sufficient revenues to recover all of the system's annual costs from a fair, equitable and transparent structure.

Ultimately these principles suggest that revenue requirements be allocated to the users of water/sewer services in a manner that reflects the cost relationships for the delivery of such services. Typically, annual revenue requirements consist of O&M; debt service on bonds issued or loans received to finance capital replacements, improvements and expansions; cash-financed capital expenditures; and cash needs for debt service coverage. Finally, the calculation of the annual cost of service to be recovered from rate revenues should reflect the net remaining revenue requirements after all other sources of revenue are taken into consideration.

5.2. Cost of Service Approach

The Analysis was completed within the context of a regional service delivery mechanism that is comprised of multiple communities. Each community receives benefit (or service) from certain regional assets that also benefit the other communities collectively. In addition, each community receives benefit from their own local assets. In this case the regional assets are owned and operated by the City of Auburn while the local assets are owned by each individual community. These regional assets generally include the treatment facilities, pumping stations, storage facilities and large diameter transmission or interceptor pipes.

To determine the cost of providing water and wastewater services within this regional context, a distinction was made between regional and local assets and the costs associated with maintaining such assets. Figure No. 5.1 shows the general steps of the regional vs. local asset determination process relative to the cost of service determination. As the figure notes, each community's assets were identified and categorized into major categories during the previous Feasibility Study. Each category of assets was evaluated regarding the benefit it provides to either the collective region or to a single local community. The cost of operating, maintaining and/or upgrading the asset categories were then prorated between regional and local based on the

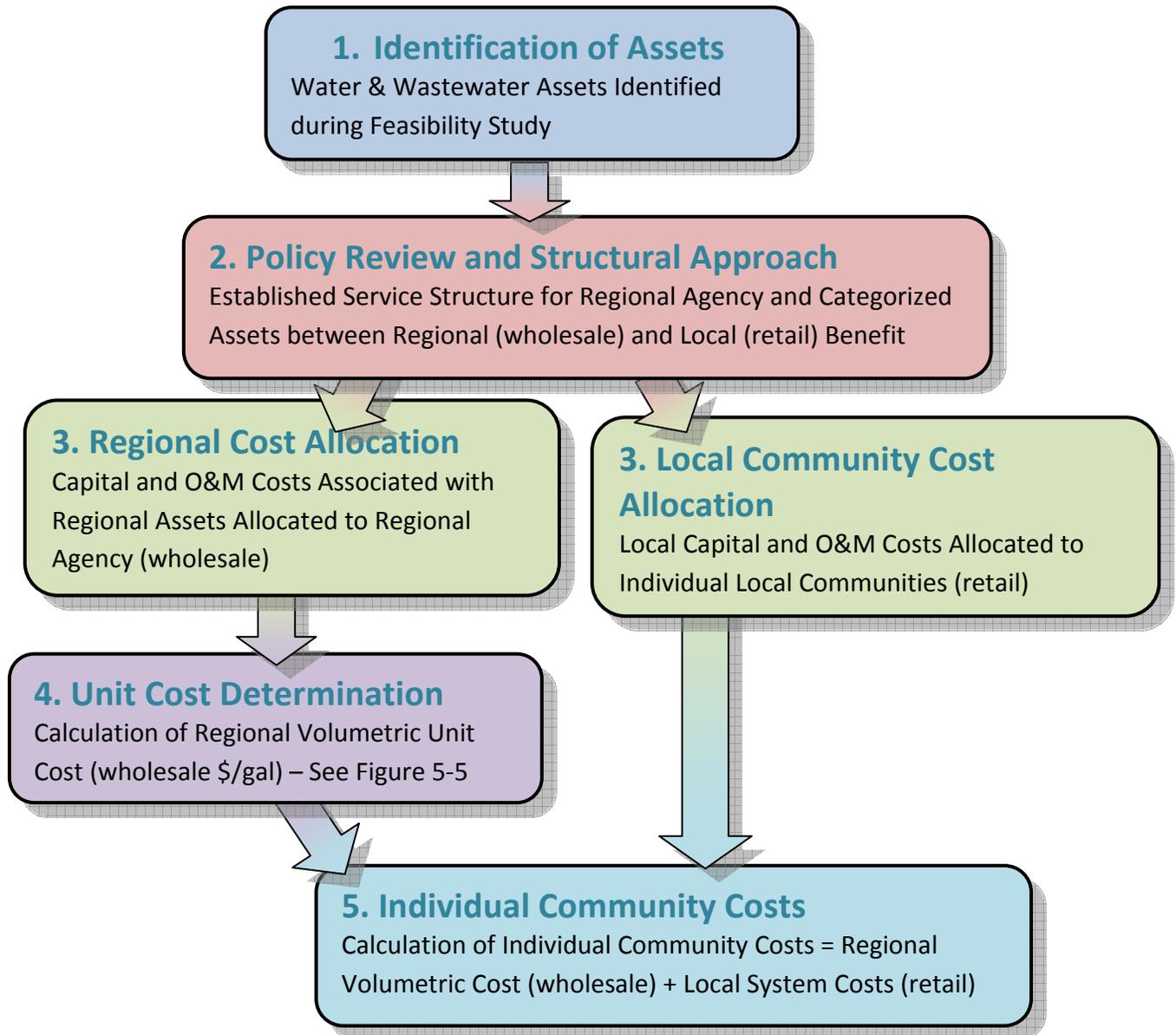
percentage of benefit determined. Once the allocation of costs was determined the Cost of Service per unit volume was determined and a wholesale rate was established.

All local costs were assumed to be the responsibility of their respective communities and no further analysis was required. Ultimately each individual community can determine their total anticipated costs by multiplying their usage/flows by the regional wholesale rate and then adding their own local costs.

As Figure 5-1 below illustrates, the Cost of Service Analysis based on the potential consolidation of water and wastewater service delivery was completed in five steps; (1) Identified the water and wastewater assets within the participating communities, (2) Established the wholesale service structure for the Regional Agency and categorized assets between regional and local, (3) Allocated operation and maintenance and capital expenses to Regional Agency (wholesale) or local community (retail) (4) Computed the total estimated wholesale cost of service and proportioned it on a volumetric unit basis (5) Estimated the individual community costs based on volumetric regional unit (wholesale) and local (retail) costs .

Since most of analysis and detailed computation were completed during steps (3) Regional Cost Allocation and (4) Unit Cost Determination, further detail regarding the methodology of these steps is provided below.

Figure 5-1 Allocation of Regional vs. Local Benefit and Costs



5.3. Regional vs. Local Cost Allocation

The allocation of O&M and capital costs between wholesale and retail was one of the key components of the Analysis. In preparation of the cost allocation a thorough review of all water and wastewater assets was completed. A basic premise of this review included the distinction that some assets are regionally beneficial while some are exclusively local in their benefit. Further, the costs associated with regional assets should be equitably shared among the participants, while local asset costs should be

funded entirely by the specific community benefiting. Moreover, the costs associated with any regional assets would be allocated based on each community's actual usage.

The major assets were grouped into general categories as shown in Table 5-1. The participants then determined the type of benefit (regional or local) that each asset category provided. This framework facilitated the allocation of costs associated with major asset categories between regional (wholesale) and local (retail). As the table indicates, a majority of asset categories were determined to be regional in nature due to the benefits derived by all of the participants. Essentially, all of the treatment, pumping, storage and major conveyance infrastructure benefit the participants collectively. It is only the smaller diameter water distribution and wastewater collection systems that provide exclusively local benefit to the individual communities.

Most of this analysis was intuitive because larger facilities are necessary to provide service to multiple communities. In addition, other assets such as small diameter water and wastewater lines can only service a limited number of users within a local community. As a result, the Taskforce reached consensus quickly regarding the above ground regional assets and their associated costs. However, there was considerable debate regarding the regional vs. local distinction of certain stormwater and below ground assets, i.e. water transmission, sewer interceptor pipes and CSO facilities. To address the specific issue of underground assets a systematic approach based on specific criteria and engineering judgment was used to distinguish between local and regional pipes. However, the details of stormwater asset cost allocation will have to be finalized moving forward.

Table 5-1 Major Asset Categories and Cost of Service Allocation

Major Asset Category	Cost of Service Allocation
Water System Assets	
Water Treatment Plant	Regional
Water Pumping Station	Regional
Water Storage Facilities	Regional
State Dam	Regional
Transmission Lines	Regional
Distribution Lines	Local
Wastewater System Assets	
Wastewater Treatment Plant	Regional
Wastewater Pumping Station	Regional
CSO Facilities	Regional
Storage & Release Facility	Regional
Major Interceptors	Regional
Secondary Interceptors	Regional
Collection Systems	Local

5.3.1 Water Pipe Criteria for Regional Benefit and Wholesale Allocation

The criteria used to determine the specific water mains that provide regional benefit and should thus be included in the wholesale cost are outlined below. See Figure 5-2 in the Appendix, for a graphical representation of the regional water system assets for wholesale allocation.

- Pipe Diameter - All large diameter pipes equal to 12 inches or greater were considered to be transmission and thus beneficial to the region. Such pipes are required for transmission of large volumes of water to the storage facilities and to communities outside of the City.
- Transmission Continuity - Certain select pipes with diameters less than 12 inches were determined to be regional due to their transmission function. In several instances small diameter mains connect directly to and function as the primary supply of certain participants. Without inclusion of such pipes the transmission network would be incomplete and unable to deliver water to certain communities.

- Redundancy & Capacity – Finally, certain pipes were determined to be beneficial to the region due to their provision of redundancy and necessary capacity within the transmission network. Currently all participants benefit from a transmission network with significant redundancy. This provides a stable supply even in the event of bursts, breaks or other emergencies. These pipes will allow a regional agency provide reliable water service with no dependence on other utilities (i.e. local water mains). Furthermore, because the Regional Agency will take ownership of all pumping and storage facilities the City and other communities will now be reliant on the Agency for fire protection. Thus the added transmission capacity of these lines is necessary to provide adequate fire flows from the pumping station and storage facilities to all sections of the City and interconnections with other communities.

5.3.2 Wastewater Pipe Criteria for Regional Benefit and Wholesale Allocation

The criteria used to determine the specific wastewater lines that provide regional benefit and should thus be included in the wholesale cost are outlined below. See Figure 5-3 in the Appendix for a graphical representation of the regional wastewater assets for wholesale allocation.

- Pipe Diameter - All large diameter pipes equal to 14 inches or greater were considered to be primary or secondary interceptors and thus beneficial to the region. Such pipes are required for conveyance of large volumes of wastewater from the communities outside of the City and certain neighborhoods within the City, to the treatment plant.
- Conveyance Continuity - Certain select pipes with diameters less than 12 inches were determined to be regional due to their conveyance function. In several instances small diameter mains connect directly to and function as the primary conveyance of wastewater from certain participants. Without inclusion of such pipes the interceptor network would be incomplete and unable to receive wastewater flows from certain communities.
- Tributary Function – Finally, some smaller diameter pipes were included as regional due to their function as the primary collection pipe of a sizable tributary area within the City. See Figure 5-4 in the Appendix for a representation of these tributary areas.

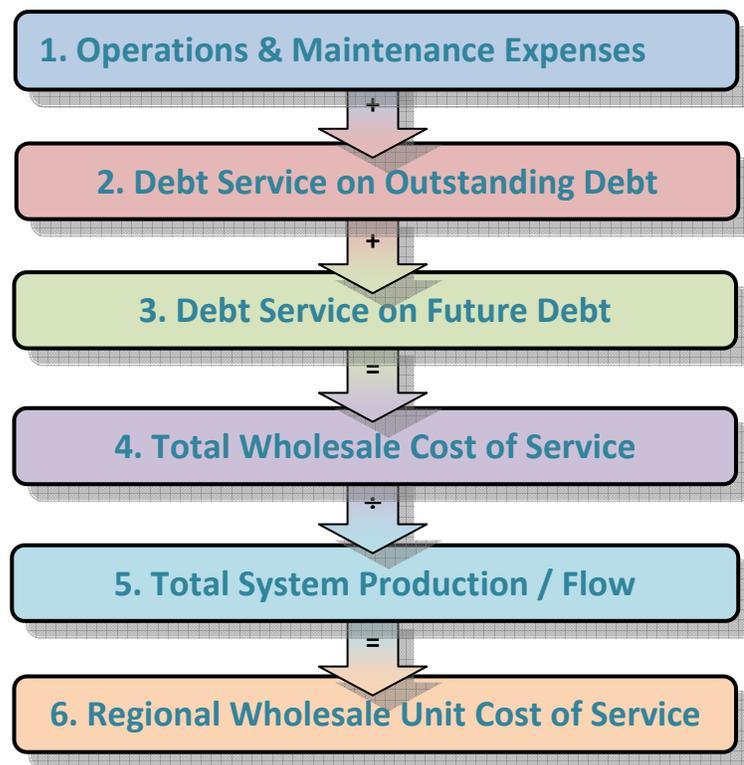
The pipe assets identified by this analysis were used in the Analysis to allocate the associated O&M and capital costs between the regional and local systems. Recognizing that the Taskforce may amend the final allocation of pipes between regional and local

we note that the addition or deletion of a modest amount of water pipe or sewer pipe (e.g., plus or minus 10 percent) will have little effect on the current cost of service.

5.4. Wholesale Unit Cost Determination

The Wholesale Unit Cost Determination is where most of the financial calculations were completed. Following the categorization of assets and allocation of associated costs between wholesale and retail a series of calculations were performed to determine a unit cost of service. Figure 5-5 shows the steps of the unit cost determination calculation.

Figure 5-5 Wholesale Unit Cost Determination



The specific steps in the calculation of the Regional Wholesale Unit Cost of Service for both water and wastewater included:

- (1) Operations & Maintenance Expenses – All regional asset-based O&M expenses were summed up and added to:
- (2) Debt Service on Outstanding Debt – All regional asset-related debt service obligations were summed up and added to:

- (3) Debt Service on Future Debt - The calculated debt service for the next 5 years of projected regional capital projects were summed up together with O&M and exiting debt to equal:
- (4) Total Wholesale Cost of Service - The total cost of providing regional water or wastewater services. This Total Cost of Service was then divided by:
- (5) Total System Production /Flow - A summation of the total system production (water) or flow (wastewater) volumes used to calculate the:
- (6) Regional Wholesale Unit Cost of Service - the cost per gallon of providing water and/or wastewater service to the participating communities.

6. Cost of Service and Unit Rate Calculation for the Water System

This section provides a detailed description of the data, assumptions and calculations pertaining to the Cost of Service Analysis and resulting unit rate for wholesale water service that the new Regional Agency would charge its customers. The unit rate was developed such that sufficient revenues can be generated by the Regional Agency to cover operating and capital expenses for the next 5 years. The unit rate is based on a wholesale provider concept that can be readily adapted to include a retail component for the individual communities that wish to become retail customers of the Regional Agency. Moreover, the wholesale unit rate will serve as the fundamental basis for the new Agency to develop equitable and sustainable rates for the region.

6.1. Current Budget and Historical Water Expenses

The basis of the Analysis is the historic expenses associated with the O&M of those assets that provide benefit to the entire region. Since all of the regional assets identified in Section 5.3 above are currently owned and operated by the City, the associated costs are included within the City's budget. Table 6-1 below summarizes historical and budgeted expenses of the City's water system. Ultimately these expenses were allocated between regional and local costs to determine the unit rate for the new Agency.

Table 6-1 Historical and Budgeted Water Expenses

City Expenses	Actual 2008	Actual 2009	Amended 2010	Recommended 2011
Unallocated Insurance	\$ 43,788	\$ 35,153	\$ 40,000	\$ 40,000
Unallocated Salaries	\$ 7,814	\$ 2,290	\$ 9,000	\$ 6,311
Judgments & Settlements	\$ 1,000	\$ -	\$ 10,000	\$ 7,500
Taxes on City Owned Property	\$ 38,462	\$ 3,358	\$ 5,000	\$ 4,500
Contingency	\$ -	\$ -	\$ -	\$ 50,000
Utility Billing	\$ 102,093	\$ 98,555	\$ 101,101	\$ 102,308
Source of Supply (Pumping Station)	\$ 286,192	\$ 266,898	\$ 314,800	\$ 293,300
Water Filtration	\$ 1,015,622	\$ 1,027,042	\$ 1,093,983	\$ 1,106,894
Transmission & Distribution	\$ 687,613	\$ 658,362	\$ 716,991	\$ 707,285
Unemployment Insurance	\$ -	\$ -		\$ 5,000
Transfers to Other Funds	\$ 660,000	\$ 683,000	\$ 800,000	\$ 665,000
Capital Reserves	\$ -	\$ -	\$ -	\$ 164,000
Debt Service	\$ 307,419	\$ 274,039	\$ 300,655	\$ 301,902
Bond Anticipation Notes	\$ -	\$ 5,485	\$ 6,200	\$ 9,000
Total Water System	\$ 3,150,002	\$ 3,054,181	\$ 3,397,730	\$ 3,463,000

As the table shows, the total cost of O&M and capital has increased by less than 10 percent over the last 3 years. A majority of this increase is a result of newly budgeted capital reserves. Together these trends show tight cost controls but also a recognition that the regional infrastructure is aging and that additional capital investment will soon be required to maintain service levels.

6.2. Regional vs. Local Debt Allocation

One of the primary costs associated with the regional water system is existing and future debt. This important cost element was allocated between regional and local costs based on the intended purpose of the capital projects that were funded (or will be funded) by the debt.

6.2.1 Existing Debt

At the time of this Analysis the water system had five (5) series of outstanding bonds: Series 1996A, Series 2003A, Series 2003F, Series 2006A, and the New York Power Authority ("NYPA") Water Treatment Plant ("WTP") Energy Improvements 2009. There is also a Bond Anticipation Note ("BAN") in the amount of \$200,000. Table 6-2 below summarizes outstanding debt for the water system by issuance. Please note that the BAN is not included in the Table because it is a short term issuance with no anticipated year of retirement at this time. Eventually it will be converted into long term debt.

Table 6-2 Outstanding Debt for the Water System

OUTSTANDING BONDS	ISSUED AMOUNT	OUTSTANDING BALANCE	YEAR PAID IN FULL
Series 1996A	\$ 235,000	\$ 19,555	2012
Series 2003A	\$ 780,000	\$ 354,650	2023
Series 2003F	\$ 2,499,956	\$ 1,845,000	2024
Series 2006A	\$ 410,000	\$ 342,000	2026
NYPA WTP Energy Imp. 2009	\$ 606,065	\$ 573,311	2029
TOTALS	\$ 4,531,021	\$ 3,134,516	

6.2.2 Purpose of Existing Debt

Once all existing water system debt was identified each issuance was examined with regard to its original purpose. Table 6-3 below summarizes outstanding debt by issuance and purpose. Based on the allocation of assets to the regional system as described in Section 5, it has been determined that 90 percent of the outstanding water system debt is related to wholesale, or regional, service.

Table 6-3 Outstanding Debt for the Water System by Purpose of Issue

DATE OF ISSUANCE	TOTAL AMOUNT ISSUED	PURPOSE OF DEBT	PROJECT AMOUNT	REGIONAL ALLOCATION	LOCAL ALLOCATION
February-96	\$ 235,000	State Dam Rehabilitation - Engineering Costs Only	\$ 235,000	\$ 235,000	
June-03	\$ 780,000	Reconstruction of Upper Pumping Station	\$ 160,000	\$ 160,000	
		Town Master & Residential Meters	\$ 145,000	\$ 72,500	\$ 72,500
		Water Distribution System-Computerized Flushing Program	\$ 123,000	\$ 123,000	
		Color Coding of Fire Hydrants	\$ 102,000		\$ 102,000
		Water Line - Seawall/Canoga Street	\$ 250,000		\$ 250,000
July-03	\$ 2,499,956	Water Treatment Plant Improvements - Clarifier, Filter, SCADA	\$ 1,927,767	\$ 1,927,767	
		Engineering	\$ 500,920	\$ 500,920	
		Other	\$ 71,269	\$ 71,269	
June-06	\$ 410,000	Water Filtration Plant Underdrain Repair	\$ 360,000	\$ 360,000	
		Replenish Water Lateral Repair Revolving Loan Fund	\$ 50,000		\$ 50,000
March-09	\$ 606,065	Energy Upgrades to Water Filtration Plant	\$ 606,065	\$ 606,065	
June-10	\$ 200,000	State Dam Rehabilitation - Engineering Costs Only	\$ 200,000	\$ 200,000	
TOTALS			\$ 4,731,021	\$ 4,256,521	\$ 474,500
				90.0%	10.0%

6.2.3 Existing Debt Service Obligations

For each series of debt the City is obligated to make annual debt service payments until the series is retired. Table No. 6-4 below shows the projected debt service on existing debt for the next 5 years. The annual debt obligations associated with the regional service (90 percent) were based on the original purpose of the debt.

Table 6-4 Project Debt Service for Outstanding Water System Debt

OUTSTANDING BONDS	2011	2012	2013	2014	2015
Series 1996A	\$ 21,749	\$ 21,658			
Series 2003A	\$ 42,497	\$ 45,063	\$ 43,153	\$ 44,769	\$ 44,688
Series 2003F	\$ 167,762	\$ 165,726	\$ 168,471	\$ 166,013	\$ 163,321
Series 2006A	\$ 31,286	\$ 30,585	\$ 29,883	\$ 29,182	\$ 33,481
NYPA WTP Energy Imp. 2009	\$ 2,727	\$ 2,727	\$ 2,727	\$ 2,727	\$ 2,727
TOTALS	\$ 266,021	\$ 265,759	\$ 244,234	\$ 242,691	\$ 244,217
REGIONAL ALLOCATION (90%)	\$ 239,419	\$ 239,183	\$ 219,811	\$ 218,422	\$ 219,795

6.2.4 Projected Future Debt

For the purposes of projecting the future debt obligations of the new Regional Agency the City's water system Capital Improvement Plan ("CIP") was evaluated for 2011 through 2015. The CIP was developed as part of the 2008 high-level Master Plan for the City's water system. The costs associated with each capital project were allocated between regional and local based on the specific asset or purpose of the project. As Table 6-5 shows below, about 70.6 percent of the total CIP is expected to benefit regional (wholesale) water customers.

Table 6-5 Capital Improvement Plan for the Water System

PROJECT	2011	2012	2013	2014	2015	TOTAL	REGIONAL	LOCAL
Transmission Main 30" Replacement	\$ 842,400	\$ 842,400	\$ 842,400			\$ 2,527,200	\$ 2,527,200	\$ -
York Street Watermain Replacement	\$ 364,500					\$ 364,500	\$ 364,500	\$ -
Raw Water Intake		\$ 50,000	\$ 461,000	\$ 461,000		\$ 972,000	\$ 972,000	\$ -
Slow Sand Engineering Study		\$ 250,000				\$ 250,000	\$ 250,000	\$ -
Hydrant Replacement Program	\$ 270,000	\$ 270,000	\$ 270,000	\$ 270,000	\$ 270,000	\$ 1,350,000	\$ 202,500	\$ 1,147,500
General Watermain Replacement					\$ 500,000	\$ 500,000	\$ 250,000	\$ 250,000
Lower Pump Station Upgrades		\$ 60,000	\$ 267,915			\$ 327,915	\$ 327,915	\$ -
Increase Pressure on East Side		\$ 100,000		\$ 1,080,000	\$ 540,000	\$ 1,720,000	\$ 860,000	\$ 860,000
Rapid Sand Influent Flume					\$ 86,940	\$ 86,940	\$ 86,940	\$ -
Reservoir Baffle System Replacment					\$ 111,375	\$ 111,375	\$ 111,375	\$ -
Security Improvements					\$ 270,000	\$ 270,000	\$ 270,000	\$ -
Slow Sand Building Exterior Repairs					\$ 392,310	\$ 392,310	\$ 392,310	\$ -
Lagoon Pump Station						\$ -	\$ -	\$ -
Customer Meter Replacement Program	\$ 141,750	\$ 141,750	\$ 141,750	\$ 141,750	\$ 141,750	\$ 708,750	\$ -	\$ 708,750
Lower Pump Station Valves						\$ -	\$ -	\$ -
Slow Sand Outfall Upgrades						\$ -	\$ -	\$ -
VFD Replacement Program	\$ 65,000	\$ 65,000		\$ 65,000	\$ 65,000	\$ 260,000	\$ 260,000	\$ -
Chemical Pump Replacement						\$ -	\$ -	\$ -
Taste & Odor Control					\$ 100,000	\$ 100,000	\$ 100,000	\$ -
SCADA & Telemetry Upgrade						\$ -	\$ -	\$ -
Treatment Plant Valve Program	\$ 31,100	\$ 31,100	\$ 31,100	\$ 31,100	\$ 31,100	\$ 155,500	\$ 155,500	\$ -
TOTAL (2008 Dollars)	\$ 1,714,750	\$ 1,810,250	\$ 2,014,165	\$ 2,048,850	\$ 2,508,475	\$ 10,096,490	\$ 7,130,240	\$ 2,966,250
TOTAL BONDING (2011 Dollars) & ISSUANCE FEES	\$ 1,793,232	\$ 1,883,220	\$ 2,095,354	\$ 2,131,438	\$ 2,609,589	PERCENTAGE ALLOCATION	70.6%	29.4%
REGIONAL ALLOCATION (70.6%)	\$ 1,266,022	\$ 1,329,553	\$ 1,479,320	\$ 1,504,795	\$ 1,842,370			

It is important to note that all of the project costs were originally estimated in 2008. Since then there has been a significant economic recession which has mitigated some inflationary impacts. However, an escalator of approximately 4 percent was added to reflect inflation and to estimate any issuance fees.

6.2.5 Projected Future Debt Service Obligations

Based on the anticipated bonding necessary to fund the CIP, future debt service obligations were projected for the next 5 years. The annual debt service was calculated based on an assumed issuance cost of 2 percent, an interest rate of 4.5 percent and a repayment term of 20 years. Once the annual projected debt service was determined, 70.6 percent was allocated to regional customers based on the purpose of the anticipated projects.

Table 6-6 Estimated Debt Service on Future Capital Projects

YEAR	TOTAL ESTIMATED FUTURE DEBT SERVICE	2011	2012	2013	2014	2015
2011	\$ 1,793,232		\$ 140,859	\$ 140,859	\$ 140,859	\$ 140,859
2012	\$ 1,883,220			\$ 147,928	\$ 147,928	\$ 147,928
2013	\$ 2,095,354				\$ 164,591	\$ 164,591
2014	\$ 2,131,438					\$ 167,425
2015	\$ 2,609,589					
TOTALS	\$ 10,512,833	\$ -	\$ 140,859	\$ 288,787	\$ 453,378	\$ 620,803
REGIONAL ALLOCATION (70.6%)		\$ -	\$ 99,447	\$ 203,884	\$ 320,085	\$ 438,287

A combined summary of the total projected debt service on outstanding bonds and anticipated future bonds allocated to wholesale customers from 2011 to 2015 is presented in Table 6-7 below. Debt service on outstanding and future water system bonds are allocated at 90 percent and 70.6 percent, respectively, to wholesale customers based on the original purpose of the debt.

Table 6-7 Total Projected Debt Service for the Water System

TOTAL PROJECTED REGIONAL DEBT SERVICE	2011	2012	2013	2014	2015
Existing Debt Service	\$ 239,419	\$ 239,183	\$ 219,811	\$ 218,422	\$ 219,795
Future Est. Debt Service	\$ -	\$ 99,447	\$ 203,884	\$ 320,085	\$ 438,287
TOTALS	\$ 239,419	\$ 338,630	\$ 423,694	\$ 538,507	\$ 658,083

6.3. Regional vs. Local Allocation of O&M Costs

The regional assets including the treatment, pumping, conveyance and storage facilities are currently operated by the City. As a result of the O&M of these assets the City incurs a significant annual expense for the water system. Routine and non-routine maintenance is essential to maintaining the ability of the system to reliably deliver high-quality water to all of its regional customers.

The projected O&M expenses from the City's 2011 budget served as the basis from which the regional (wholesale) unit rates were calculated. O&M expenses that are solely attributable to the regional assets (as described in Section 5) were allocated at 100 percent to the regional cost of service.

Other expenses which relate to the City's transmission and distribution systems were assigned to the regional category at the rate of 52.9 percent. This percentage is based on the estimated ratio of inch-miles of pipe that have been identified as regional assets. An inch-mile is the length of pipe in miles multiplied by the diameter of the pipe in inches. In total there are approximately 844 total inch miles of water mains within the City and of that, 446 inch-miles (or 52.9 percent) were determined to be regional.

Utility billing costs were allocated as regional at an estimated rate of 10 percent because only a small portion of the City's billing costs relate to wholesale services. Based on a weighted average of these allocation ratios an estimated 81.2 percent of maintenance expenses were determined to be associated with the regional assets.

Thus for the remaining insurance, reserves and other administrative costs, 81.2 percent of expenses were allocated as regional. Table 6-8 shows the City's O&M budget with the various allocation factors for wholesale service.

Table 6-8 Water System Operating and Maintenance Expense Allocation

CITY BUDGETARY EXPENSES	2011 BUDGET	REGIONAL	LOCAL	REGIONAL ALLOCATION
Unallocated Insurance	\$ 40,000	\$ 32,492	\$ 7,508	81.2%
Unallocated Salaries	\$ 6,311	\$ 5,126	\$ 1,185	81.2%
Judgments & Settlements	\$ 7,500	\$ 6,092	\$ 1,408	81.2%
Taxes on City Owned Property	\$ 4,500	\$ 3,655	\$ 845	81.2%
Contingency	\$ 50,000	\$ 40,615	\$ 9,385	81.2%
Utility Billing	\$ 102,308	\$ 10,231	\$ 92,077	10.0%
Source of Supply (Pumping Station)	\$ 293,300	\$ 293,300	\$ -	100.0%
Water Filtration	\$ 1,106,894	\$ 1,106,894	\$ -	100.0%
Transmission & Distribution	\$ 707,285	\$ 373,885	\$ 333,400	52.9%
Unemployment Insurance	\$ 5,000	\$ 4,061	\$ 939	81.2%
Transfers to Other Funds	\$ 665,000	\$ 540,179	\$ 124,821	81.2%
Capital Reserves	\$ 164,000	\$ 133,217	\$ 30,783	81.2%
Other Post-Employment Benefits (OPEB)	\$ 50,000	\$ 40,615	\$ 9,385	81.2%
Watershed Inspector	\$ 57,000	\$ 57,000	\$ -	100.0%
TOTALS	\$ 3,259,098	\$ 2,647,363	\$ 611,735	
	PERCENT ALLOCATION	81.2%	18.8%	

6.4. Water Production and Consumption

Following the allocation of the O&M and capital costs between regional and local, an equitable wholesale rate was determined. In concept, all regional costs will be equitably shared among the regional users based their volume of usage. As a result, the historic consumption of the participants was evaluated. It is noted that some of the historic consumption data was problematic due to the lack of metering, aging meters, and/or poor meter data collection practices. Table 5-9 presents estimated and projected water system production and consumption based on 2009 revenues and an assumed water loss in the City of 16 percent. For the projection years, a 1 percent annual decline in system usage was assumed due to declining population and other conservation factors.

Table 6-9 Approximate Production and Projected Water System Usage

YEAR	WATER PRODUCTION (gal)	WATER CONSUMPTION (gal)
2009	1,510,234,936	1,359,211,442
2010	1,495,282,114	1,345,753,903
2011	1,480,477,341	1,332,429,607
2012	1,465,672,568	1,319,105,311
2013	1,451,015,842	1,305,914,258
2014	1,436,505,683	1,292,855,115
2015	1,422,140,627	1,279,926,564

6.5. Regional Cost of Service and Wholesale Rate

Based on the cost of service, the proposed allocations to the regional agency, and the projected water usage, Table 6-10 summarizes the current regional cost of service and preliminary rate for service.

As Table 6-10 illustrates, the preliminary estimated Regional Wholesale Rate that would equitably allocate the costs of providing regional water service is \$1.54 per 100 cf. or \$2.06 per 1000 gallons. Conceivably this rate will be used by the new Regional Agency for all of its wholesale customers. For retail customers, the additional local O&M and capital costs can be added to the wholesale rate to determine a retail rate by each participant. It is important to note that the wholesale rate is preliminary at this time. Due to a lack of proper metering and or problematic meter data the new Agency will likely revisit this calculation once the master meters are evaluated and potentially replaced.

Table 6-11 below shows the projected wholesale rate for the next 5 years which may be used by the regional Agency as it begins to implement the capital improvements necessary for the regional infrastructure.

Table 6-10 Regional Cost of Service and Preliminary Wholesale Rate

	PROJECTED 2011 COSTS		
Total Debt Service	\$	266,021	
Total O&M Expenses	\$	3,259,098	
Total Cost of Water Service (\$)	\$	3,525,119	
Proposed Regional Debt Service	\$	239,419	
Proposed Regional O&M Expenses	\$	2,647,363	
Regional Allocation of Costs (\$)	\$	2,886,782	(A)
	Wholesale Rate Calculation		
	(1000 Gallons)	(100 cft)	
Total Water Production	1,480,477	1,978,983	(B)
Total City Usage and Losses	1,030,668	1,377,714	(C)
Total Non-City Usage	368,687	492,831	(D)
Estimated Regional System Losses	81,122	108,438	(E)
Preliminary Wholesale Rate	\$ 2.06	\$ 1.54	(F)

(A) Regional Allocation of Costs

(B) Total projected water production for 2011

(C) Metered water use for City customers + estimated unbilled water in the City that is not a regional

(D) Measured CCWSA & community consumption (at master meters).

(E) Estimated regional share of unbilled water

(F) Cost of service divided by water treated for customers (A/(C+D)) - no allowance for uncollectables

Table 6-11 Projected Wholesale Water Rates 2011 to 2015

PROJECTED COSTS	2011	2012	2013	2014	2015
Debt Service on Existing Debt	\$ 266,021	\$ 265,759	\$ 244,234	\$ 242,691	\$ 244,217
Debt Service on Capital Improvements		\$ 140,859	\$ 288,787	\$ 453,378	\$ 620,803
Total O&M Expenses	\$ 3,259,098	\$ 3,373,166	\$ 3,491,227	\$ 3,613,420	\$ 3,739,890
Total Cost of Water Service	\$ 3,525,119	\$ 3,779,785	\$ 4,024,248	\$ 4,309,489	\$ 4,604,910
Proposed Regional Debt Service - Existing	\$ 239,419	\$ 239,183	\$ 219,811	\$ 218,422	\$ 219,795
Proposed Regional Debt Service - Future Capital		\$ 99,447	\$ 203,884	\$ 320,085	\$ 438,287
Proposed Regional O&M Expenses	\$ 2,647,363	\$ 2,740,021	\$ 2,835,921	\$ 2,935,179	\$ 3,037,910
Regional Cost of Service	\$ 2,886,782	\$ 3,078,650	\$ 3,259,616	\$ 3,473,685	\$ 3,695,992
Total Water Production (gallons)	\$ 1,480,477,341	\$ 1,465,672,568	\$ 1,451,015,842	\$ 1,436,505,684	\$ 1,422,140,627
Total City Usage and Losses (gallons)	\$ 1,030,668,158	\$ 1,020,361,477	\$ 1,010,157,862	\$ 1,000,056,283	\$ 990,055,720
Total Non-City Usage (gallons)	\$ 368,686,812	\$ 364,999,944	\$ 361,349,944	\$ 357,736,445	\$ 354,159,081
Estimated Regional System Losses (gallons)	\$ 81,122,371	\$ 80,311,147	\$ 79,508,036	\$ 78,712,955	\$ 77,925,826
Preliminary Wholesale Rate (\$/100cf)	\$ 1.54	\$ 1.66	\$ 1.78	\$ 1.91	\$ 2.06
Preliminary Wholesale Rate (\$/1000gal)	\$ 2.06	\$ 2.22	\$ 2.38	\$ 2.56	\$ 2.75

7. Cost of Service and Unit Rate Calculation for Wastewater System

This section provides a detailed description of the data, assumptions and calculations pertaining to the Cost of Service Analysis and resulting unit rate for wholesale wastewater service that the new Regional Agency would charge its customers. The unit rate was developed such that sufficient revenues can be generated by the Regional Agency to cover operating and capital expenses for the next 5 years. The unit rate is based on a wholesale provider concept that can be readily adapted to include a retail component for the individual communities that wish to become retail customers of the Regional Agency. Moreover, the wholesale unit rate will serve as the fundamental basis for the new Agency to develop equitable and sustainable rates for the region.

7.1. Current Budget and Historical Wastewater Expenses

The basis of the Analysis is the historic expenses associated with the O&M of those assets that provide benefit to the entire region. Since all of the regional wastewater assets identified in Section 5.3 are currently owned and operated by the City, the associated costs are included within the City's budget. Table 7-1 summarizes the historical and budgeted expenses of the City's wastewater system. Ultimately these expenses must be allocated between regional and local costs to determine the wholesale unit rate for the new Agency.

Table 7-1 Historical and Budgeted Wastewater Expenses

CITY EXPENSES	ACTUAL 2008	ACTUAL 2009	AMENDED 2010	RECOMMENDED 2011
Unallocated Insurance	\$ 106,351	\$ 81,929	\$ 90,000	\$ 90,000
Unallocated Salaries	\$ 5,918	\$ 4,780	\$ 7,000	\$ 7,800
Judgments & Settlements	\$ -	\$ 14,153	\$ 22,814	\$ 25,000
Taxes on City Owned Property	\$ 418	\$ 424	\$ 873	\$ 750
Contingency	\$ -	\$ -	\$ 102,000	\$ 100,000
Sanitary Sewer	\$ 661,591	\$ 710,532	\$ 654,476	\$ 731,736
Sewage Treatment	\$ 2,646,507	\$ 2,846,478	\$ 3,080,027	\$ 2,925,204
Unemployment Insurance	\$ -	\$ -	\$ 1,000	\$ 5,000
Contribution to Other Funds	\$ 1,011,944	\$ 1,059,959	\$ 1,045,000	\$ 855,000
Transfers to Other Funds	\$ 45,000	\$ 50,000	\$ 55,000	\$ 50,000
Capital Reserves	\$ -	\$ -	\$ -	\$ 125,000
Debt Service	\$ 2,674,990	\$ 2,692,892	\$ 2,759,951	\$ 2,768,510
Bond Anticipation Notes	\$ 5,603	\$ 2,331	\$ 5,400	\$ 12,000
TOTALS	\$ 7,158,320	\$ 7,463,477	\$ 7,823,541	\$ 7,696,000

As the table shows, the total cost of operation and capital has increased \$540,000 or approximately 7.5 percent over the last 3 years. A majority of this increase is a result of newly budgeted capital reserves and contingency items. Together these trends show tight cost controls and a recent recognition that the regional infrastructure is aging and that additional capital investment and maintenance may soon be required to maintain service levels.

7.2. Regional vs. Local Debt Allocation

One of the primary costs associated with the regional wastewater system is existing and future debt. This important cost element was allocated between regional and local costs based on the intended purpose of the capital projects that were funded (or will be funded) by the debt.

7.2.1 Existing Debt

At the time of this Analysis, the wastewater system had eight (8) series of outstanding bonds: Series 1999, Series 2002 for EFC 1994D, Series 2002F for EFC 1995A, Series 2002 Long Term Direct, Series 2003A, Series 2006A, Series 2007 BAN, and NYPA WTP Energy Improvements 2009. Table 7-2 summarizes the outstanding debt for the wastewater system by issuance.

Table 7-2 Outstanding Debt for the Wastewater System

OUTSTANDING BONDS	ISSUED AMOUNT	OUTSTANDING BALANCE	YEAR PAID IN FULL
Series 1999	\$ 7,544,189	\$ 3,765,000	2018
Series 2002F for EFC 1994D	\$ 32,855,000	\$ 23,190,000	2024
Series 2002F for EFC 1995A	\$ 980,000	\$ 710,000	2024
Series 2002	\$ 747,000	\$ 405,015	2022
Series 2003A	\$ 395,000	\$ 264,650	2023
Series 2006A	\$ 625,000	\$ 439,000	2026
Series 2007 BAN	\$ 97,000	\$ 83,000	2022
NYPA WTP Energy Improvements 2009	\$ 290,427	\$ 274,731	2029
TOTAL	\$ 43,533,616	\$ 29,131,396	

7.2.2 Purpose of Existing Debt

After the existing wastewater system debt was identified, each bond was examined with regard to its original purpose. Table 7-3 below summarizes the outstanding debt for the wastewater system by issuance and purpose of issue. Based on the allocation of assets to the regional system, it has been determined that 98.2 percent of the outstanding water system debt is related to wholesale, or regional, service.

Table 7-3 Outstanding Debt for the Wastewater System by Purpose of Issue

DATE OF ISSUANCE	TOTAL AMOUNT ISSUED	PURPOSE OF DEBT	PROJECT AMOUNT	REGIONAL ALLOCATION	LOCAL ALLOCATION
June-02	\$ 47,079,353	Owasco Interceptor Relief Sewer Seg 1 and 2A;			
		Owasco Interceptor Replacement; North Interceptor Relief Sewer;			
		North Interceptor Storage/Release Facility; WWTP Phase I and II:	\$ 37,671,267	\$ 37,671,267	
		Engineering	\$ 5,955,000	\$ 5,955,000	
		Other	\$ 3,453,086	\$ 3,453,086	
June-02	\$ 1,325,400	CSO Seg 2B	\$ 1,000,000	\$ 1,000,000	
		Engineering	\$ 220,000	\$ 220,000	
		Other	\$ 105,400	\$ 105,400	
July-99	\$ 7,544,189	CSO Seg 3 Interceptor; CSO Seg 4 High Rate Overflow Facilities	\$ 6,350,378	\$ 6,350,378	
		Engineering	\$ 1,193,811	\$ 1,193,811	
March-03	\$ 747,000	Sewer Vac/Flush Machine	\$ 180,000	\$ 90,000	\$ 90,000
		Street Sweeper	\$ 117,000	\$ 39,000	\$ 78,000
		Increases to 6/02 Bonds	\$ 450,000	\$ 450,000	
June-03	\$ 395,000	Residential Meters	\$ 220,000		\$ 220,000
		Canoga/Aurelius Street Sewer Line	\$ 175,000		\$ 175,000
June-06	\$ 625,000	Sewer Line Inspection Van	\$ 115,000	\$ 57,500	\$ 57,500
		Replenish Sewer Lateral Repair Revolving Loan Fund	\$ 50,000		\$ 50,000
		Sewer Improvements in Conjunction with East Genesee St Reconstruction	\$ 460,000	\$ 230,000	\$ 230,000
June-08	\$ 97,000	Storm Sewer Mitigation-Elm, Metcalf, Hamden - Construction Costs	\$ 97,000		\$ 97,000
March-09	\$ 290,427	Energy Upgrades (Mechanical & Electrical) to Wastewater Filtration Plant	\$ 290,427	\$ 290,427	
June 2010 BAN	\$ 255,000	Winterization of Sludge Handling Facility	\$ 170,000	\$ 170,000	
		Backhoe	\$ 85,000	\$ 42,500	\$ 42,500
TOTALS			\$ 58,358,369	\$ 57,318,369	\$ 1,040,000
PERCENTAGE				98.2%	1.8%

7.2.3 Existing Debt Service Obligations

For each series of debt the City is obligated to make annual debt service payments until the series is retired. Table 7-4 below summarizes projected debt service from 2011 to 2015 for outstanding wastewater system debt by issuance. Based on the original purpose of each outstanding bond, 98.2 percent of the annual debt service requirements were allocated as regional.

Table 7-4 Projected Debt Service for Outstanding Wastewater System Debt

OUTSTANDING BONDS	2011	2012	2013	2014	2015
Series 1999	\$ 385,000	\$ 395,000	\$ 405,000	\$ 410,000	\$ 420,000
Series 2002F For EFC 1994D	\$ 2,159,844	\$ 2,160,998	\$ 2,164,343	\$ 2,159,623	\$ 2,161,752
Series 2002F For EFC 1995A	\$ 59,958	\$ 63,874	\$ 62,673	\$ 61,424	\$ 60,125
Series 2002 Long Term 0% Direct	\$ 20,931	\$ 21,497	\$ 22,062	\$ 22,628	\$ 23,194
Series 2002 Long Term 0% Direct	\$ 22,264	\$ 22,737	\$ 23,210	\$ 23,684	\$ 24,157
Series 2003A	\$ 29,347	\$ 32,263	\$ 30,703	\$ 27,669	\$ 28,113
Series 2006A	\$ 63,131	\$ 61,275	\$ 64,419	\$ 63,356	\$ 61,252
Series 2007 BAN	\$ 10,101	\$ 9,856	\$ 9,611	\$ 9,358	\$ 9,104
NYPA WTP Energy Imp. 2009	\$ 1,307	\$ 1,307	\$ 1,307	\$ 1,307	\$ 1,307
TOTALS	\$ 2,751,883	\$ 2,768,807	\$ 2,783,328	\$ 2,779,049	\$ 2,789,004
REGIONAL ALLOCATION (98.2%)	\$ 2,702,349	\$ 2,718,968	\$ 2,733,228	\$ 2,729,026	\$ 2,738,802

7.2.4 Projected Future Debt

For the purposes of projecting the future debt obligation of the Regional Agency, the City's wastewater system CIP for 2011 through 2015 was used. The CIP was developed as part of the 2008 high-level Master Plan for the City's wastewater system. The costs associated with each capital project were allocated between regional and local based on the specific asset or purpose of the project. The CIP is presented in Table 7-5 and shows about 85 percent of the project costs will benefit wholesale customers.

It is important to note that all of the project costs were originally estimated in 2008. Since then there has been a significant economic recession which has mitigated some inflationary impacts. However, an escalator of approximately 4 percent was added to reflect inflation and to estimate any issuance fees.

Table 7-5 Capital Improvement Plan for the Wastewater System

PROJECT	2011	2012	2013	2014	2015	TOTAL	WHOLESALE	RETAIL
Intermunicipal Metering Program	\$ 202,500					\$ 202,500	\$ 202,500	\$ -
Woodbrook Flood Control	\$ 148,500					\$ 148,500	\$ -	\$ 148,500
Replace SCADA system	\$ 100,000	\$ 1,012,500	\$ 912,500			\$ 2,025,000	\$ 2,025,000	\$ -
Stone box sewer replacement	\$ 367,200					\$ 367,200	\$ -	\$ 367,200
State Street Sewer Replacement	\$ 189,000					\$ 189,000	\$ 94,500	\$ 94,500
Elm Street 15-inch Sewer Replacement	\$ 141,075					\$ 141,075	\$ -	\$ 141,075
Metcalf Drive Sewer Replacement		\$ 137,363				\$ 137,363	\$ 137,363	\$ -
Belt Press Rehab			\$ 135,000			\$ 135,000	\$ 135,000	\$ -
Resize North Influent Line at WPCP			\$ 100,000	\$ 1,250,000		\$ 1,350,000	\$ 1,350,000	\$ -
Settled Sewage Pumping Replacement				\$ 101,250		\$ 101,250	\$ 101,250	\$ -
Overflow Retention Facility Upgrade					\$ 222,750	\$ 222,750	\$ 222,750	\$ -
Incinerator Improvements						\$ -	\$ -	\$ -
Chain & Flight replacement					\$ 1,028,700	\$ 1,028,700	\$ 1,028,700	\$ -
Allen St. Pump Station removal			\$ 270,000			\$ 270,000		\$ 270,000
Roof Replacement		\$ 102,060		\$ 102,060		\$ 204,120	\$ 204,120	\$ -
General Sewer Improvements						\$ -	\$ -	\$ -
Underwood St Manhole Replacement						\$ -	\$ -	\$ -
Columbus Street Manhole Replacement						\$ -	\$ -	\$ -
Owasco St Manhole Replacement						\$ -	\$ -	\$ -
Maintenance Garage Extension						\$ -	\$ -	\$ -
Screenings Handling						\$ -	\$ -	\$ -
Source Power Redundancy						\$ -	\$ -	\$ -
Security Improvements						\$ -	\$ -	\$ -
VFD Replacement Program		\$ 89,910		\$ 89,910		\$ 179,820	\$ 179,820	\$ -
Septage Receiving Station						\$ -	\$ -	\$ -
Final Settling Tanks Concrete Repair						\$ -	\$ -	\$ -
TOTAL (2008 Dollars)	\$ 1,148,275	\$ 1,341,833	\$ 1,417,500	\$ 1,543,220	\$ 1,251,450	\$ 6,702,278	\$ 5,681,003	\$ 1,021,275
TOTAL BONDING (2011 Dollars) & ISSUANCE FEES	\$ 1,194,206	\$ 1,395,506	\$ 1,474,200	\$ 1,604,949	\$ 1,301,508	PERCENTAGE ALLOCATION	85%	15%
REGIONAL ALLOCATION (85%)	\$ 1,015,075	\$ 1,186,180	\$ 1,253,070	\$ 1,364,206	\$ 1,106,282			

7.2.5 Projected Future Debt Service Obligations

Based on the anticipated bonding necessary to fund the CIP, future debt service obligations were projected for the next 5 years. The annual debt service was calculated based on an assumed issuance cost of 2 percent, an interest rate of 4.5 percent and a repayment term of 20 years. The percentage of debt service allocated as regional was based on the percentage of regional CIP costs.

Table 7-6 Estimated Debt Service on Future Capital Projects

YEAR	TOTAL EST. FUTURE DEBT SERVICE	2011	2012	2013	2014	2015
2011	\$ 1,194,206		\$ 93,805	\$ 93,805	\$ 93,805	\$ 93,805
2012	\$ 1,395,506			\$ 109,618	\$ 109,618	\$ 109,618
2013	\$ 1,474,200				\$ 115,799	\$ 115,799
2014	\$ 1,604,949					\$ 126,069
2015	\$ 1,301,508					
TOTALS	\$ 6,970,369	\$ -	\$ 93,805	\$ 203,423	\$ 319,222	\$ 445,292
REGIONAL ALLOCATION (85%)		\$ -	\$ 79,735	\$ 172,910	\$ 271,339	\$ 378,498

A combined summary of the projected debt service on outstanding bonds and anticipated future bonds allocated to wholesale customers from 2011 to 2015 is presented in Table 7-7 below. Debt service on outstanding and future wastewater system bonds were allocated at 98.2 percent and 85 percent to wholesale customers respectively based on the percentage of capital costs allocated to regional assets.

Table 7-7 Total Projected Debt Service for the Regional Wastewater System

TOTAL PROJECTED REGIONAL DEBT SERVICE	2011	2012	2013	2014	2015
Existing Debt Service	\$ 2,702,349	\$ 2,718,968	\$ 2,733,228	\$ 2,729,026	\$ 2,738,802
Future Est. Debt Service	\$ -	\$ 79,735	\$ 172,910	\$ 271,339	\$ 378,498
TOTALS	\$ 2,702,349	\$ 2,798,703	\$ 2,906,138	\$ 3,000,365	\$ 3,117,300

7.3. Regional vs. Local Allocation of Wastewater O&M Services

The regional wastewater assets including the treatment, pumping, conveyance, stormwater and storage facilities are currently operated by the City. As a result, the City incurs significant annual O&M expenses. Routine and non-routine maintenance is essential to maintaining the ability of the system to reliably deliver high quality service to all of its regional customers.

The projected O&M expenses from the City's 2011 budget served as the basis from which the regional (wholesale) unit rates were calculated. O&M expenses that are solely attributable to the regional assets (as described in Section 5) were allocated at 100 percent to the regional cost of service.

Other expenses which relate to the City's collection system were assigned to the regional category at the rate of 55.7 percent. This percentage is based on the estimated ratio of inch-miles of pipe that have been identified as regional assets. An inch-mile is the length of pipe in miles multiplied by the diameter of the pipe in inches. In total there are approximately 1,237 total inch-miles of wastewater mains within the City and of that, 689 inch-miles (or 55.7 percent) were determined to be regional.

Based on a weighted average of these allocation ratios an estimated 91.1 percent of O&M expenses were determined to be associated with the regional assets. Thus for the remaining insurance, reserves and other administrative costs, 91.1 percent was allocated as regional. Table 7-8 shows the City's O&M budget with the various allocation factors for wholesale service.

Table 7-8 Wastewater System Operating and Maintenance Expense Allocation

CITY BUDGETARY EXPENSES	2011 BUDGET	REGIONAL	LOCAL	REGIONAL ALLOCATION
Unallocated Insurance	\$ 90,000	\$ 82,030	\$ 7,970	91.1%
Unallocated Salaries	\$ 7,800	\$ 7,109	\$ 691	91.1%
Judgments & Settlements	\$ 25,000	\$ 22,786	\$ 2,214	91.1%
Taxes on City Owned Property	\$ 750	\$ 684	\$ 66	91.1%
Contingency	\$ 100,000	\$ 91,145	\$ 8,855	91.1%
Sanitary Sewer	\$ 731,736	\$ 407,907	\$ 323,829	55.7%
Sewage Treatment	\$ 2,925,204	\$ 2,925,204	\$ -	100.0%
Unemployment Insurance	\$ 5,000	\$ 4,557	\$ 443	91.1%
Contribution to Other Funds	\$ 855,000	\$ 779,288	\$ 75,712	91.1%
Transfers to Other Funds	\$ 50,000	\$ 45,572	\$ 4,428	91.1%
Capital Reserves	\$ 125,000	\$ 113,931	\$ 11,069	91.1%
Other Post-Employment Benefits	\$ 50,000	\$ 45,572	\$ 4,428	91.1%
TOTALS	\$ 4,965,490	\$ 4,525,787	\$ 439,703	
PERCENT ALLOCATION		91.1%	8.9%	

7.4. Wastewater Flows

Following the allocation of the O&M and capital costs between regional and local, an equitable wholesale rate was determined. In concept, all regional costs will be equitably shared among the regional users based their wastewater flows. As a result, the historic wastewater flows from each of the participants was evaluated. It is noted that some of the historic flow data was problematic due to the lack of metering, aging meters,

and/or poor meter data collection practices. Table 7-9 presents estimated and projected wastewater flows based the available data.

Table 7-9 Approximate Projected Wastewater System Flows

YEAR	WASTEWATER FLOWS (100 cf)	WASTEWATER FLOWS (gallons)	MGD
2009	3,712,714	2,777,481,343	7.6
2010	3,675,587	2,749,706,530	7.5
2011	3,638,831	2,737,500,000	7.5
2012	3,602,443	2,710,125,000	7.4
2013	3,566,418	2,683,023,750	7.4
2014	3,530,754	2,656,193,513	7.3
2015	3,495,447	2,629,631,577	7.2

7.5. Regional Cost of Service and Wholesale Rate

Based on the cost of service, the proposed allocations to the regional agency, and the projected wastewater flows, Table 7-10 summarizes the regional cost of service and preliminary wholesale rate for service.

As Table 7-10 illustrates the preliminary wholesale rate that would equitably allocate the costs of providing regional wastewater service is \$2.36 per 100 cf. or \$3.16 per 1000 gallons. Conceivably this rate will be used by the new Regional Agency for all of its wholesale customers. For retail customers, the additional local O&M and capital costs can be added to the wholesale rate to determine a retail rate by each participant. It is important to note that the wholesale rate is preliminary at this time. Due to a lack of proper metering and or problematic meter data the new Agency will likely revisit this calculation once the master meters are evaluated and potentially replaced.

Table 7-11 below shows the projected wholesale rate for the next 5 years which may be used by the regional Agency as it begins to implement the capital improvements necessary for the regional infrastructure.

Table 7-10 Regional Cost of Service and Preliminary Rate for Wastewater

	PROJECTED 2011 COSTS		
Total Debt Service	\$ 2,751,883	\$ 2,751,883	
Total O&M Expenses	\$ 4,965,490	\$ 4,965,490	
Total Cost of Wastewater Service	\$ 7,717,373	\$ 7,717,373	
Proposed Regional Debt Service	\$ 2,702,349	\$ 2,702,349	
Proposed Regional O&M Expenses	\$ 4,525,787	\$ 4,525,787	
Less: Septage/well water & other regional fees	\$ (1,335,000)	\$ -	
Regional Cost of Service	\$ 5,893,136	\$ 7,228,136	(A)
	Wholesale Rate Calculation		
	Including Well Revenues	No Well Revenues	
Total Wastewater Flows (100cft)	3,659,759	3,659,759	
Total City Wastewater and I&I Flows (100cft)	2,135,397	2,135,397	(B)
Total Tributary Flows (100cft)	359,828	359,828	(C)
Total Regional System I&I (100cft)	1,164,535	1,164,535	(D)
Preliminary Wholesale Rate (\$/100cft)	\$ 2.36	\$ 2.90	(E)
Preliminary Wholesale Rate (\$/1000gal)	\$ 3.16	\$ 3.87	

Table 7-11 Projected Wholesale Wastewater Rates 2011 to 2015

	2011	2012	2013	2014	2015
Debt Service on Existing Debt	\$ 2,751,883	\$ 2,768,807	\$ 2,783,328	\$ 2,779,049	\$ 2,789,004
Debt Service on Capital Improvements		\$ 93,805	\$ 203,423	\$ 319,222	\$ 445,292
Total O&M Expenses	\$ 4,965,490	\$ 5,139,282	\$ 5,319,157	\$ 5,505,328	\$ 5,698,014
Total Cost of Wastewater Service (\$)	\$ 7,717,373	\$ 8,001,895	\$ 8,305,908	\$ 8,603,599	\$ 8,932,310
Proposed Regional Existing Debt Service	\$ 2,702,349	\$ 2,718,968	\$ 2,733,228	\$ 2,729,026	\$ 2,738,802
Proposed Regional Future Debt Service		\$ 79,735	\$ 172,910	\$ 271,339	\$ 378,498
Proposed Regional O&M Expenses	\$ 4,525,787	\$ 4,684,189	\$ 4,848,136	\$ 5,017,821	\$ 5,193,445
Less Septage/well water & other regional fees	\$ (1,335,000)	\$ (1,335,000)	\$ (1,335,000)	\$ (1,335,000)	\$ (1,335,000)
Regional Cost of Service (\$)	\$ 5,893,136	\$ 6,147,893	\$ 6,419,274	\$ 6,683,186	\$ 6,975,744
Total Wastewater Flows (gallons)	\$ 2,737,500,000	\$ 2,710,125,000	\$ 2,683,023,750	\$ 2,656,193,513	\$ 2,629,631,577
Total City Wastewater Flows (gallons)	\$ 1,597,276,950	\$ 1,581,304,181	\$ 1,565,491,139	\$ 1,549,836,227	\$ 1,534,337,865
Total Tributary Flows (gallons)	\$ 269,151,000	\$ 266,459,490	\$ 263,794,895	\$ 261,156,946	\$ 258,545,377
Total Regional System I&I (gallons)	\$ 871,072,050	\$ 862,361,329	\$ 853,737,716	\$ 845,200,339	\$ 836,748,336
Preliminary Wholesale Rate (\$/100cft)	\$ 2.36	\$ 2.49	\$ 2.62	\$ 2.76	\$ 2.91
Preliminary Wholesale Rate (\$/1000gal)	\$ 3.16	\$ 3.33	\$ 3.51	\$ 3.69	\$ 3.89

8. Conclusions & Next Steps

Based on the progress made to date by the Participants, including this Cost of Service Analysis, the Taskforce intends to move forward towards the creation of a new regional water & sewer agency. The specific form of this agency is not yet determined but will most likely be a public authority or some other public benefit corporation. The results of this Analysis will be the foundation upon which any new Agency is created. The financial and asset based findings of this study will help establish the O&M structure, the capital responsibilities, and the financial framework for the Regional Agency.

Building on this study the Taskforce will complete five major steps during the next phase of implementation. The next phase, referred to as the “Legal & Structural Implementation Phase” will include the following steps:

- Service Delivery Structure Agreement
- Governance Structure Finalization
- Asset Transfer and Ownership Plan
- Organizational Structure
- Consolidated Rate Structure Development

8.1. Service Delivery Structure

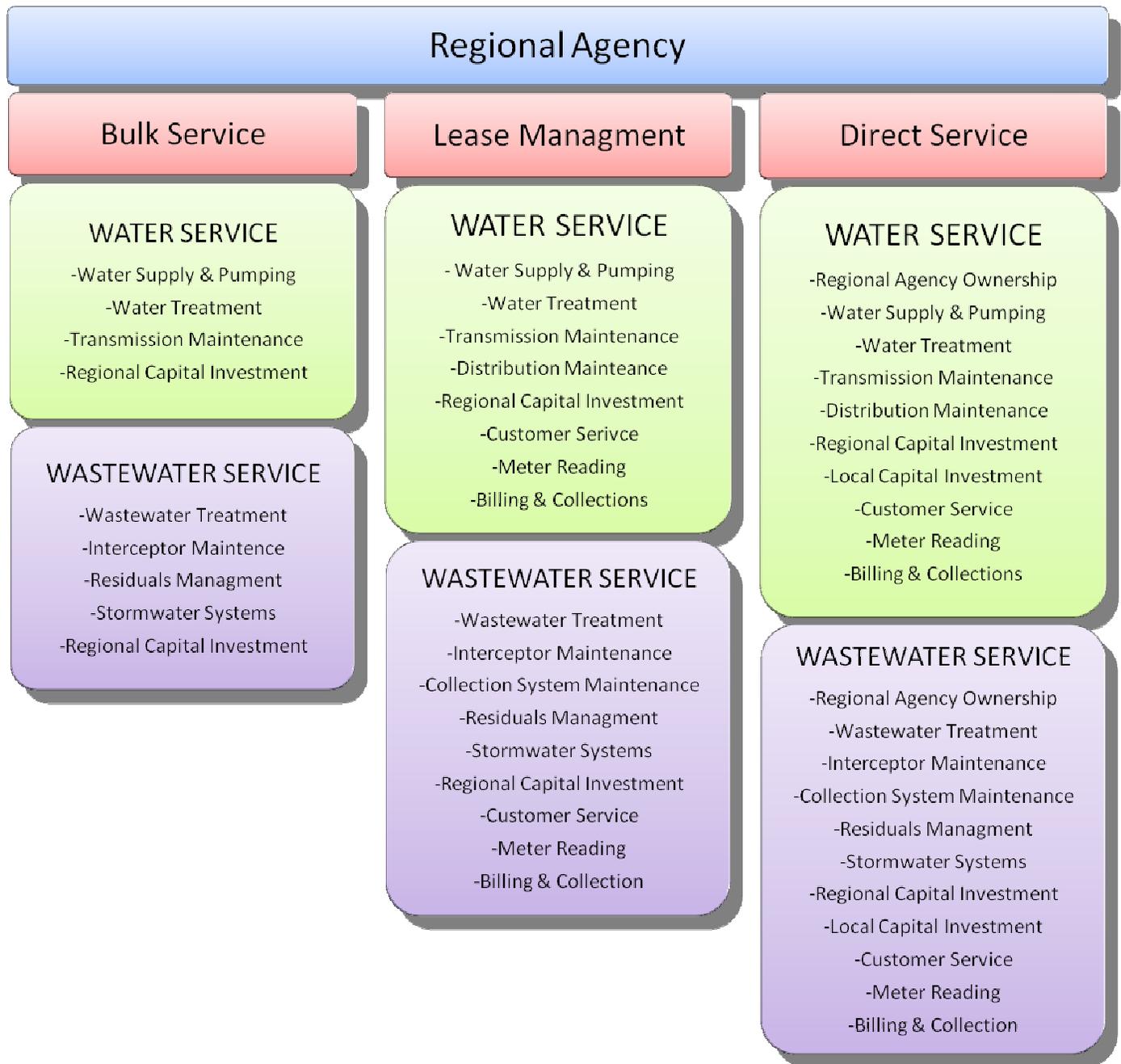
During the Analysis, a wholesale service delivery structure was developed for the proposed Regional Agency. Under this construct, a wholesale rate was developed. However, during a spring 2011 meeting with the NYS Department of State (DOS), the Taskforce was informed that the creation of a wholesale regional agency without the consolidation of other service providers would not be acceptable under the current grant funding. Ultimately the participants must reduce the number of agencies providing water and/or sewer services for the resulting Regional Agency to qualify for the remaining implementation grant funds.

At the same Taskforce meeting, the Erie County Water Authority (ECWA) outlined the service structure under which they provide services. Their structure includes 3 tiers of service which could be an applicable model for the Cayuga County Project Participants. The DOS indicated that at least 2 of the service tiers offered by the ECWA would constitute an acceptable level of service consolidation under the grant funding. Consequently, the Taskforce is considering adopting a similar service model for the proposed regional agency. This structure would build on the work and findings completed during the Analysis. The 3 service tiers that the Taskforce is considering implementing during the next project phase include:

- Direct Service - the new Agency would take ownership responsibility for all aspects of a Participant's water/wastewater system including the billing, meter reading, customer service, O&M, capital improvements and whatever is needed to provide full service. This service structure would represent a complete consolidation, with the participating community turning over its water/wastewater system to the new Regional Agency. There is significant potential that the City of Auburn would become a direct service customer of the new agency. See Figure 8-1 for the proposed service delivery structure of the Regional Agency.
- Lease Management - the new Agency would contract with individual communities for the billing, meter reading, customer service and normal O&M services. Asset ownership and capital responsibility would remain with the individual communities. This service tier would allow participating communities retain ownership of their assets and provide a mechanism for them to accommodate growth by expanding their system. The Regional Agency would lease the system assets from the owner and provide all of the day-to-day management and O&M services. There is significant potential that some or all of the participating Towns will become lease managed customers of the new Agency.
- Bulk Service - the new Agency would provide wholesale service to the individual communities based on a unit cost per volume. This service tier does not represent a sufficient level of consolidation for continued grant funding. However, since there are seven participants, all of which have differing financial and political circumstances, it may represent the only option for some communities to permit long term participation in a Regional Agency. As a result, the Taskforce will continue to evaluate this service tier along with the other two.

During the next phase the Taskforce will work with their legal counsel and engineering consultants to develop the service structure framework and any associated agreements necessary to support the framework. Figure 8-1 shows the 3-tier service structure with the various services provided under each.

Figure 8-1 Service Delivery Structure for Proposed Regional Agency



8.2. Governance Structure

One of the points of greatest difficulty among the Project Participants is the structure of the governing body. During the Feasibility Study several governing frameworks were examined. During the Cost of Service Analysis the Participants agreed to a seven member "Water Board" structure made up to include one member from each

Participant. With this understanding the Taskforce requested that the Cayuga County Legislature amend the Governing Board of the existing Cayuga County Water & Sewer Authority to accommodate the proposed structure. However, for several reasons this request was not acceptable to the County Legislature. As a result, the participating communities voted to move forward with the creation of a new Agency with a governing Board more reflective of their needs. Under the next phase of the Implementation Grant the Taskforce will work with their legal counsel and engineering consultants to develop a consolidated governance structure and any necessary supporting legal agreements/legislation.

Inherent to the operation of the ultimate governance structure is its legal framework within New York State. At this time the Taskforce intends to pursue the creation of a new Authority but recognizes that this may be difficult legislatively. Accordingly, the Taskforce will also consider the formation of a regional public benefit corporation that can function in a very similar manner to that of an Authority and thereby reduce the legislative obstacles facing the Participants.

8.3. Asset Ownership and Transfer Plan

During the Analysis a set of regional assets was identified. This group of assets was delineated because they provide benefit (or service) to multiple communities. Under the next phase of the Implementation Grant, an ownership transfer plan must be developed to move these assets to the new Regional Agency for future O&M and capital responsibility. The regional wholesale rate developed during the Analysis, is based on the generation of sufficient revenues by the new Agency to maintain the regional assets and adequate service levels well into the future.

8.4. Organizational Structure

Once the Service Structure, Governance Structure and Asset Ownership Plans are developed, the Taskforce will develop an Organizational Structure for the new Agency. This effort will include the examination of the staffing levels and competencies required under the 3 different service tiers. Furthermore, the Taskforce will examine current staffing levels and develop any necessary transition plan. Ultimately, it is the intent of the Taskforce to see no layoffs during this process but rather to restructure current the organizations under a single Agency that can be more efficient and economical.

8.5. Consolidated Rate Structure

Another item that has long troubled the participating communities is the rates charged for water and sewer service. Due to the complex service delivery structure and multiple municipal service providers, residents throughout the participating communities are subject to a broad range of rates and fees. This situation along with technical and administrative difficulties associated with the master meters has resulted in long standing mistrust between the participants. The Taskforce has been able to overcome much of the historic mistrust, but the key objective remains, which is to develop a consolidated rate structure that is transparent and equitable to all communities.

Under the next phase in the implementation grant, the Taskforce will work with its legal counsel and engineering consultants to develop a consolidated rate structure for each of the 3 tiers of service described above. The foundation for this new rate structure has already been completed during the Cost of Service Analysis. The wholesale rate already determined would be included as the base charge for each service tier. Additional charges for retail services (meter reading, billing, customer service, O&M, etc.) and capital services (capital improvement financing) would be included for the other service tiers. Table 8-1 below, shows the conceptual components of a tiered rate structure based on the wholesale rate already determined.

Table 8-1 Tiered Rate Structure Components

		Wholesale Services (determined under Cost of Service) (\$/gal)	Retail Services (\$/gal)	Capital Services (\$/gal)
Tier 1	Bulk Sale			
Tier 2	Lease Mangement			
Tier 3	Direct Service			

9. Participant Commitment to Regional Service Consolidation

As part of the progress and success of the Cayuga Regional Water & Sewer Implementation Project, the Taskforce members want express their commitment to improving the long-term efficiencies of water and wastewater service delivery in their communities. Furthermore, the participants are committed to reduce the future cost of such services by consolidating with and/or under a regional agency. As such, the participating communities agree to actively pursue the Direct Service and/or Lease Management service options with the intention of consolidating their local services and reducing the number of involved governmental agencies.

Appendix A:

Figure 5.2 - Regional Water Map

Figure 5.3 - Regional Sewer Map

Figure 5.4 - Sewershed Map

Regionally Beneficial Water System Assets

Wholesale Cost Allocation

Legend

General Overlays

- Local Roads
- Major Roads
- Railroad
- Town Boundary
- Village Boundary

Water System Infrastructure

- Regional Water
- 4" watermain
- 6" watermain
- 8" watermain
- 10" watermain
- 12" watermain
- 14" watermain
- 16" watermain
- 30" watermain
- Interconnection
- Water Treatment Plant
- Reservoir (City of Auburn)

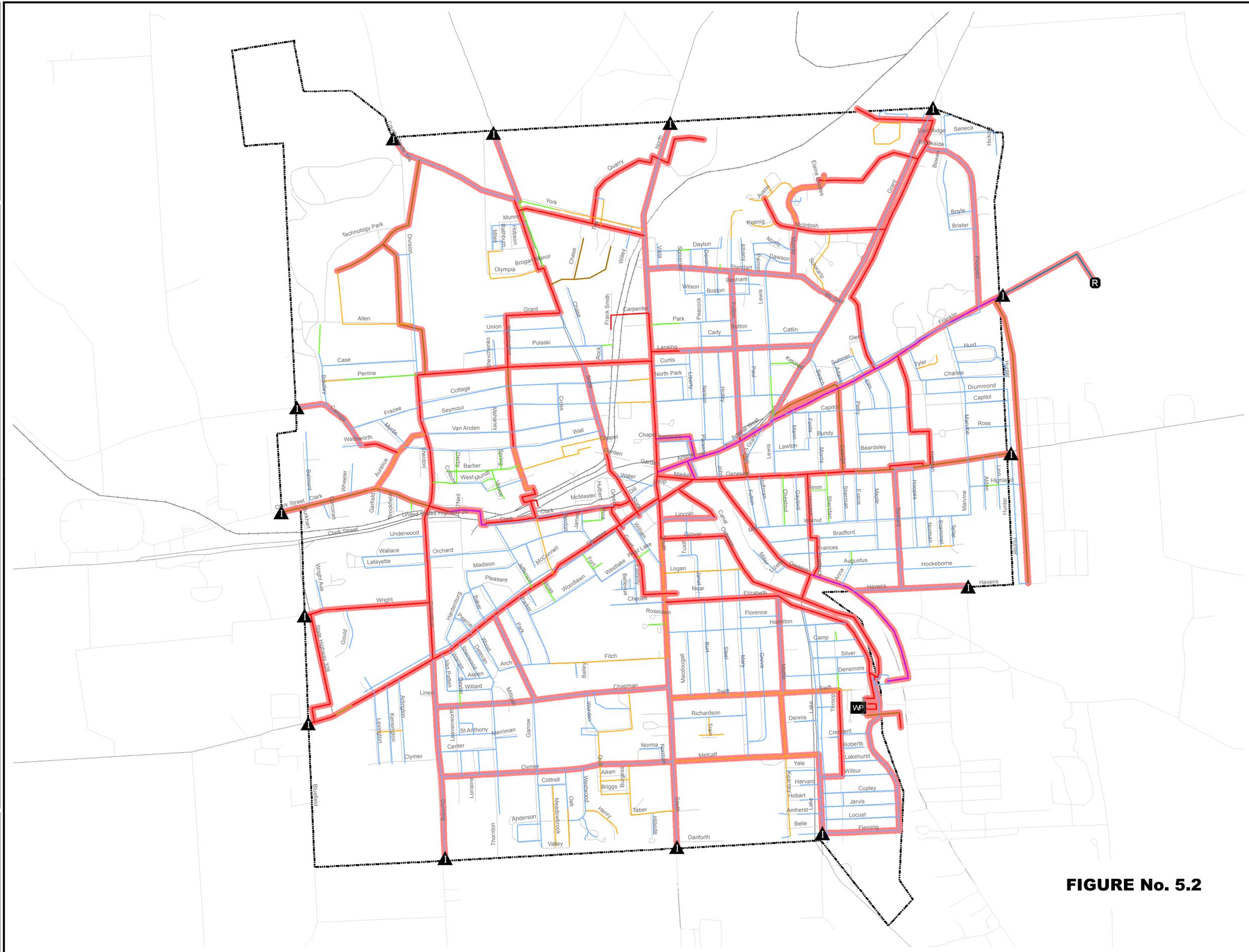


FIGURE No. 5.2



1 inch = 1,000 feet

Regionally Beneficial Sewer System Assets

Wholesale Cost Allocation

Legend

General Overlays

- Local Roads
- Major Roads
- Railroad
- Town Boundary
- Village Boundary

Sewer System Infrastructure

- Gravity Sewer Pipe**
 - 8" and Less
 - 10" to 18"
 - 19" to 36"
- Forcemain
- Regional Sewer
- Combined Sewer Drainage Areas
- Sewer Treatment Plant
- Sanitary Liftstation
- Interconnection
- CSO
- ORF
- SRF



N



1 inch = 1,000 feet

FIGURE No. 5.3

Appendix B:

1. Data Sources
2. City Calculation of Support Services
3. Policy Decisions
4. Measurement and Billing Options

1. DATA SOURCES

Data	Source
2008 - 2009 Water Consumption & 2009 - July 2010 Wastewater Flow	City of Auburn
2011 - 2015 CIP	CRA
Outstanding Bonds: Amount of Debt Service and Purpose of Borrowing	City of Auburn
Staffing Salary	City of Auburn
Contracts with Communities	City of Auburn
Payments to the City: Administrative Fee, Deferred Revenue, and PILOT	City of Auburn
2011 Budget	City of Auburn Budget
Benchmarking Data	Various industry surveys and benchmarks

2. CITY CALCULATION OF SUPPORT SERVICES

The City’s General Fund also applies other charges to the Water System and the Wastewater System that are not included here and will have to be negotiated by the parties.

Administrative Fee

		<u>Budget</u>
A1210	Mayor/Council	170,714
A1230	City Manager	317,834
A1305	Comptroller	273,456
A1315	Accounting	199,864
A1325	Treasurer	285,199
A1410	City Clerk	230,852
A1420	Corporation Counsel	331,143
A1430	Civil Service	47,976 (82,976-35,000 from School)
A1435	Human Resources	108,518
A8020	Planning	489,404 (639,404-150,000 from CD)
	Total	<u>2,454,960</u>

	<u>Budget</u>	Less: Trans to Other Funds/Equip Reserve		<u>Net</u>	<u>% of Total</u>
General	31,365,201	(5,000)		31,360,201	75.7%
Water	3,382,000	(800,000)		2,582,000	6.2%
Sewer	7,804,000	(55,000)	(1,045,000) (2,574,556)	4,129,444	10.0%
		Water	General	<u>41,452,645</u>	<u>100.0%</u>

Amount Owed to General Fund:

Water	2,454,960	x 6.2% =	152,208
Sewer	2,454,960	x 10.0% =	245,496
			<u>599,010</u>

3. POLICY DECISIONS

Longer-Term Decisions

- Recommendations of the Working Group regarding representation on the Board of the regional agency: current discussion is one person for each participating entity
- Will the regional agency acquire existing City personnel to operate and maintain the regional assets or will it contract with the City for operation and maintenance? If not, who will manage the regional system and be responsible for operation and maintenance, the implementation of capital improvements and the billing/collection of regional agency customer billings?
- As a follow-up to the preceding question, if the City wishes to retain the management of its local pipes but requests that the regional agency provide operation and maintenance and the implementation of capital improvements for the City's water and wastewater pipes, could the regional agency provide such services on a contractual basis and charge the City for such services?
- What liabilities (if any) does the regional agency take over from the City, or is the City responsible for all pre-existing liabilities, if any?
- Are there any upfront payments, payments in lieu of taxes or other considerations to be paid to the City as part of the acquisition of assets by the regional agency?
- Other policy decisions will be added to this list – the resulting decisions will help outline the potential agreements between all parties.

Confirmation of Policy Decisions with Elected Officials & Boards

- Presentations to Elected Officials & Boards of the recommendations to date of the Working Group and the review of remaining tasks.
- Request for the input of Elected Officials & Board members prior to beginning the structuring of legal documents.
- Coordination of all efforts with the Department of State to protect the grant funds.

4. MEASUREMENT AND BILLING OPTIONS

During several Taskforce meetings there seemed to be general consensus on the measurement of wastewater flows for billing purposes, the inclusion of combined sewer overflow facilities in the regional assets, and the inclusion of the associated costs. However, further discussion has been subsequently requested regarding the City’s CSO facilities and its share of stormwater related costs. These cost allocation details will be worked out during the next phase.

Figure Appendix-1 shows the various contributing wastewater flows to the Auburn treatment plant and the items around which there was general consensus during the Taskforce meetings.

Figure Appendix-1 Status of the Working Group Consensus

	Responsibility	Consensus
Flows	Dry Weather	
City Sanitary (non Combined)	City	Y
City I&I (non Combined)	City	Y
City Sanitary (Combined)	City	Y
City I&I (Combined)	City	Y
Towns Sanitary	Towns	Y
Towns I&I	Towns	Y
Regional Infrastructure I&I	Regional	Y
	Wet Weather	
City RDI&I (non Combined)	City	Y
Towns RDI&I	Towns	Y
Regional Infrastructure RDI&I	Regional	Y
City Direct Storm Water (Combined)	Regional	N

To assist the Taskforce in its consideration of stormwater billing options, the consulting team prepared the following points for its consideration:

- Dry Weather Flows (estimated to be 82 percent of the total annual volume), comprised of:
 - Sanitary Flows
 - Inflow and Infiltration (“I&I”)
- Wet Weather Flows (estimated to be 18 percent of the total annual volume), comprised of:

- Rainfall derived inflow and infiltration (“RDI&I”)
- Snow melt derived inflow and infiltration (RDI&I)
- Illegal storm connections to sanitary system
- Direct connection to sanitary system - allowable stormwater flows (City combined areas based on Clean Water Act)

With regard to wet weather impacts on flows and costs:

- There is little to no effect on debt service – debt service is 38.7 percent of the estimated cost of service.
- No effect on the number of people operating and maintaining the system – labor costs are 26.0 percent of the estimated cost of service.
- Minimal effect on the quantity of pollutant strength - the number of pounds that have to be removed and disposed of is relatively unaffected.
- Minimal effect on the quantity of solids - pounds that have to be removed and disposed of.
- Some effect on energy costs – there is more pumping required for stormwater and more aeration needed.
- Preliminary conclusion – the incremental cost of handling stormwater (over and above the cost of handling dry weather wastewater flows), is likely to be 5 percent or less of the total cost of wastewater services.
- Future regulatory requirements - may impact the required capital expenditures and/or operation and maintenance costs relating to combined sewers and/or storm sewers – a very clear definition of who is responsible for individual sewers and the accompanying costs is recommended.

In summary, based on available data, it appears that stormwater accounts for approximately 5 percent of costs but 18 percent of flows. It is likely that most of the stormwater comes from the combined sewers in the City and thus if future costs are allocated solely based on flows without an allowance for shared regional stormwater, the City may pay a higher percentage of costs than it does under the status quo.