
FLINT

Current Status Report as of June 3, 2014

Darnell Earley, Emergency Manager

Appointed October 6, 2013

Significant Actions/Issues

- Federal District Court Judge granted the Plaintiffs a TRO (six retirees challenged changes the EM made to healthcare coverage): the U.S. Court of Appeals approved the restraining order.
- New Police Chief, James Tolbert appointed September 2013.
- Water Plant placed into full time service.

Anticipated Exit: April 2015

- Eliminate City's structural deficit.
- Address City's unmet capital needs.
- Obtain a favorable decision in lawsuit challenging changes to retiree healthcare.
- Adopt a two-year budget including all contractual and employment agreements.
- Monitor completion of Karegnondi Water Authority project.

Byrne, Randall (Treasury)

From: Darnell Earley <dearley@cityofflint.com>
Sent: Wednesday, June 04, 2014 4:23 PM
To: Porubsky, Carmen (TREASURY)
Cc: Byrne, Randall (Treasury); Jason Lorenz; Howard Croft; Daugherty Johnson; Peter Bade; Elizabeth Murphy
Subject: Re: Treasurer Approval Letter

Good Afternoon Ms. Porubsky:

Thank you for the good news. It is my intent to make this information available through media release tomorrow.



Darnell Earley, ICMA-CM, MPA
Emergency Manager
Flint, MI

On Tue, Jun 3, 2014 at 4:43 PM, Porubsky, Carmen (TREASURY) <PorubskyC@michigan.gov> wrote:

Good afternoon,

The Treasurer has approved your request to sell two pipelines that are no longer of use to the City. I've attached a scanned version to this email, and will mail out the original tomorrow morning.

Please let me know if you have any questions or concerns.

Thank you,

Carmen Porubsky | Executive Secretary - Office of Fiscal Responsibility

State of Michigan | Michigan Department of Treasury

430 W. Allegan Street, 3rd Floor | Lansing, MI 48922

517.335.2439 | porubskyc@michigan.gov

Byrne, Randall (Treasury)

From: Darnell Earley <dearley@cityofflint.com>
Sent: Wednesday, June 04, 2014 5:18 PM
To: Porubsky, Carmen (TREASURY)
Cc: Byrne, Randall (Treasury)
Subject: RE: Treasurer Approval Letter

So noted. Thank you for the clarity.

DE

On Jun 4, 2014 4:54 PM, "Porubsky, Carmen (TREASURY)" <PorubskyC@michigan.gov> wrote:

Mr. Earley,

Please excuse the error in my previous email. The approval is only for the sale of one pipeline discussed in the actual letter.

Thank you,

Carmen

From: Darnell Earley [<mailto:dearley@cityofflint.com>]
Sent: Wednesday, June 04, 2014 4:23 PM
To: Porubsky, Carmen (TREASURY)
Cc: Byrne, Randall (Treasury); Jason Lorenz; Howard Croft; Daugherty Johnson; Peter Bade; Elizabeth Murphy
Subject: Re: Treasurer Approval Letter

Good Afternoon Ms. Porubsky:

Thank you for the good news. It is my intent to make this information available through media release tomorrow.



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF TREASURY

ANDY DILLON
STATE TREASURER

DATE: June 5, 2014
TO: Rick Snyder, governor
FROM: Kevin Clinton, Treasurer
SUBJECT: Status of Financially Stressed Local Governments

EMERGENCY MANAGER

Allen Park

Emergency Manager: Joyce Parker
Appointed: October 26, 2012
Anticipated Exit: September 2014

Recent Developments:

- Sale of Southfield Lease Properties to Time Equities for \$12M expected to close during June 2014
- A \$3.3M emergency loan application to pay debt service associated with Southfield Lease Property bonds and to pay outstanding MERS payment is expected to be considered by the Emergency Loan Board during June 2014

Significant Actions/Issues:

- A 10 year, 6.75 mill Public Safety Millage approved by voters on ?????
- Implemented a reduction of future OPEB liabilities in the amount of \$????
- Litigation filed by retirees challenging EM's authority to reduce OPEB (Randy court date?)

Issues to Resolve before EM Exit:

- Complete bond tender offer
- Finalize compliance settlement with SEC
- Reduce pension liabilities and transfer pension from City to MERS

Detroit

Emergency Manager: Kevyn Orr
Appointed: March 14, 2013

Anticipated Exit: September 2014

Significant Actions/Issues:

- Kevyn Orr filed for Chapter 9 bankruptcy on July 18, 2013 and Federal Judge Rhodes ruled on December 3, 2013 the City is eligible.
- Kevyn Orr submitted plan of adjustment on February 21, 2014.

Flint

Emergency Manager: Darnell Earley

Appointed: November 28, 2013

Anticipated Exit: April 2015

Recent Developments:

- FY 14-15 Budget contains a reduction of 19 fire fighters and 36 police officers
- \$1.1M FY 15 State appropriation to fund front line public safety positions
- EM proposal to City Council, pending State Treasurer approval, to impose collective bargaining agreement terms that will save the city \$336K and long term projected savings of \$4.3M
- Water plant placed into fulltime service during ??? 2014 ending contractual relationship with DWSD
- \$3.4M SAFER grant for fire fighter staffing expired during ?????

Significant Actions/Issues:

- Police Chief, James Tolbert appointed September 2013
- Federal District Court Judge granted plaintiff's a TRO (six retirees challenged modifications made by the EM to retiree healthcare coverage): the U.S. Court of Appeals approved the TRO. Annual increased cost to the city approximately \$5M. (need date of decision???)
-

Issues to Resolve before EM Exit:

- Eliminate annual structural deficit projected at \$1.7M for FY 17 and growing to \$11.9M during FY 19
- Hire an experienced professional City Administrator
- Retiree Healthcare Litigation

Hamtramck

Emergency Manager: Cathy Square

Appointed: July 1, 2013

Anticipated Exit: July 2014

Recent Developments:

- A \$2.1M emergency loan to resolve an equivalent liability to MERS is expected to be considered by the Emergency Loan Board during June 2014
- Retiree healthcare changes implemented during ? 2014

Koryzno, Edward (Treasury)

From: Elizabeth Murphy <emurphy@cityofflint.com>
Sent: Tuesday, June 10, 2014 1:49 PM
To: Byrne, Randall (Treasury); Kapp, Gene (MSP); Muchmore, Dennis (GOV); Roberts, John (DTMB); West, Samantha (GOV); Dempkowski, Angela (Treasury); Baird, Richard (GOV); Larkin, Brian (GOV); Darnell Earley; Deasy, Thomas (MSP); Koryzno, Edward (Treasury); Clement, Elizabeth (GOV); Elizabeth Murphy; Etue, Kriste (MSP); Hollins, Harvey (GOV); James Tolbert; Jerry Ambrose; Klotz, Josephine (MSP); Lee, Nichole (MSP); McGowan, Emmitt (MSP); Sands, Thomas (MSP); Sipes, Stephen (MSP); O'Neill, Stephen (MSP); Saxton, Thomas (Treasury); Workman, Wayne (TREASURY)
Subject: Flint Conference Call Agenda June 11, 2014
Attachments: Agenda for Treasury Conf. Call 061114.pdf; Audit firm recommendation.pdf

Please find attached the agenda and supporting document for the Wednesday, June 11th conference call.

--

Liz Murphy
Assistant to the Emergency Manager
City of Flint
810 237 2025

City of Flint Wednesday 9:00am Phone Conference Agenda

June 11, 2014

1) Public Safety Update – FPD, MSP, (FFD, if needed)

- a) FPD stats – homicides status
- b) FFD Vote
- c) Other update from Chief Tolbert and MSP

2) Governor’s Office Update - Rich, Baird, H. Hollins

3) Lawsuits – Status, Issues

- a) Kincaid v City of Flint – TRO has been denied.
- b) Retiree Lawsuit – Our attorneys filed a motion Friday, May 23, 2014 asking Judge Tarnow to reverse his decision on the injunction which is resulting in the additional \$5 million in expenses in the upcoming budget, offset by significant reductions in police and fire staffing. A status conference has been scheduled for mid-June.
- c) Letters were sent last week via Registered Mail to pre-65 retirees because 40% did not respond to the requirement to enroll in health insurance.

4) Financial Update

- a) Budget revisions have been completed. Preparing EM Order to adopt 6/23/14. Also, as part of FY15, the day-to-day management of the Public Works Department and the Planning & Development Department will be handled by Mayor Walling.
- b) Preparing for close of the fiscal year 6/30/14. No surprises to report.
- c) Treasury financial support for FY15.
- d) Bid for Audit Services – see attached.
- e) Treasury has draft to impose FPOA contract; COF is awaiting response. This needs to be ready to go to City Council for the June 23rd meeting. Note also, AFSME Local 1600 voted to ratify new contract; a decision point is coming on Local 1799.
- f) EM is preparing to issue an Order approving the deficit elimination plan.

- g) Treasury has been 3 weeks reviewing the EM Resolution for \$250,000 to Ginosko for public areas landscaping at Smith Village. Can we get this moving?

5) City Council Update

- a) Public hearings on the biennial budget, the street lightening assessment were held on Monday, June 9, 2014. We did not hear any comments which will cause a revision to the proposed budget.
- b) The next monthly City Council meeting is scheduled for Monday, June 23, 2014 when the Council will officially receive the two year budget.

6) Blue Ribbon Committee on Governance

- a) Dr. Scorsone is writing the first draft of the report of the Blue Ribbon Committee's findings. The committee will meet to make any changes to the report at the end of June and expects to hold a public comment session in mid-July.

7) Water Issues

- a) River processed water continues to meet all DEQ standards.
- b) Pipe line sale – COF is waiting for corrected letter from Treasury approving sale.

8) Other Items

Attachment: Audit Information

1-[REDACTED], access code [REDACTED]

Created on: 06/09/14

June 9, 2014

TO: Darnell Earley

FROM: Jerry Ambrose

RE: Recommendation for Audit Firm

The Finance Department recently gave you a recommendation to retain the firm of Yeo and Yeo to conduct the City's audit for the five year period beginning with the FY14 audit. While three firms submitted proposals, only Plante Moran and Yeo & Yeo were considered for further evaluation. The third firm, Clark Schafer Hackett, was a firm from out of state, with no Michigan references. Plante Moran and Yeo & Yeo both have offices in the State of Michigan and in the Flint area.

Both firms are reputable, experienced with municipal governments in Michigan, and have a strong understanding of the City of Flint's financial conditions.

The analysis of the proposal submitted by Yeo and Yeo concluded their services would cost \$689,000 over the five year period. The areas to be covered included the following:

City audit - \$540,000

Single audit - \$ 75,000

DDA -- \$ 37,000

EDC -- \$ 37,000

The analysis of the proposal submitted by Plante Moran concluded that their services would cost \$766,766 for the same period. This total was based on the following:

City audit - \$545,165

Single audit - \$ 39,076 (base fee)

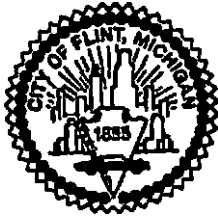
Single audit- \$ 72,000 (\$4,500 additional per major program,
(projected to be 16 programs over 5 years)

DDA - \$ 60,860

EDC - \$ 48,665

While the cost proposals from Yeo & Yeo and Plante Moran were very close for the City audit alone, the costs proposed for the Single Audit, DDA, and EDC by Plante Moran were significantly higher. In total, the Plante Moran cost proposal was \$77,766 (or 11%) higher than Yeo & Yeo.

The attached evaluation documents the reasons for the recommendation to award the contract to Yeo & Yeo.



CITY OF FLINT, MICHIGAN

Department of Finance

Darnell Earley, ICMA-CM, MPA
Emergency Manager

Gerald Ambrose
Finance Director

Dayne Walling
Mayor

City of Flint Audit Recommendation

Fiscal Years 2014 – 2018

1. Scope of Audit

The City of Flint, a municipal corporation, requested proposals from qualified firms of Certified Public Accountants to audit its financial statement from the fiscal years ending June 30, 2014 thru June 30, 2018. The engagement also included and audit of any federal single audit(s) as needed.

2. Reports

- a. **Compiled and Audited Financial Statements (CAFS):** Compiled and Audited Financial statements for the City including all funds, account groups and applicable component units. The auditor will prepare all financial statements, schedules, supplementary information and notes to the financial statements.
- b. **Management Discussion and Analysis (MD&A):** The auditor will work with the City on an acceptable format and will update all charts, graphs, tables and figures. The City will provide the narrative\explanatory information.
- c. **A stand-alone, plain language, explanatory summary of the results of the City audit (separate from the MD&A) as a tool to aid the Council and public in understanding the audit results.**
- d. **State of Michigan auditing procedures report.**
- e. **A report on the financial statements, internal control and compliance in accordance with the audit guide and standards for compliance with the Single Audit Act, as may be required.**
- f. **Any supplemental reports, schedules or other required by the State of Michigan, Federal Government, GASB or GAAP, including the F-65.**
- g. **A management report containing comments and recommendations regarding a municipality's system of internal controls: its methods of safeguarding its assets, ensuring the accuracy of its financial information, promoting efficiency and adhering to municipal policies. This letter should contain comments and recommendations for**

transition. Two partners and 2 senior managers have been assigned to the audit. It is my belief and confidence that while Plante & Moran has been an outstanding partner and knows a lot of the inner workings of the City of Flint's financial conditions, Yeo & Yeo has the experience and is willing to make the same commitment to serving the City.

- E. The proposal from Yeo & Yeo met all of the requirements and expectations in the audit RFP.

controlling any internal weaknesses discovered and shall be reviewed by the Finance Department before finalizing.

- h. Other mandatory or required reports.

3. Audit Schedule and Report Requirements

- a. The City's fiscal year ends on June 30th and the selected auditors must be able to substantially adhere to the following timeline for the audit; with the understanding that the earlier the audit can be completed, the better:
- b. Pre-Audit Meeting with commence during the month of July
- c. Field work will begin during the month of October
- d. Preliminary and field work completed by no later than November 8th
- e. Draft reports completed by no later November 15th
- f. Final reports by no later than November 26th
- g. Presentation of Audit by no later than January 12th
- h. If the proposing firm sees any problem with meeting this schedule, it should be noted in the proposal with an alternate schedule.
- i. All deadlines for the CAFS and other reports shall be adhered to. The City will deliver the final report to the State.

4. Recommendation

The Finance Department of the City of Flint recommends the selection of Yeo & Yeo CPAs & Business Consultants as our auditor for the next five years. There were other bids from Plante & Moran and Clark Schaefer Hackett. Although Clark Schaefer Hackett's bid was the lowest, there were other reasons for our recommendation to go with Yeo & Yeo.

- A. Clark Schaefer Hackett does not have a presence in the State of Michigan. The firm is located in Ohio. All the client references were Ohio based clients. It is our practice to put a premium on awarding contracts to Michigan based, especially Flint based businesses.
- B. Plante & Moran has been a partner with the City of Flint more many years. They have been a valuable resource for expertise and assistance with helping the City to meet many of the challenges it faced. However, given the state of the financial conditions of the City of Flint, they were the highest bidder. The City is estimated to save \$50,000 over the next 5 years with Yeo & Yeo's bid.
- C. Yeo & Yeo is a reputable firm with high many qualifications noted throughout the accounting industry. They have experience with governmental entities under Emergency Managers and have expressed a strong understanding of the City of Flint's financial conditions. As Plante & Moran has a local presence, so does Yeo & Yeo.
- D. I do not believe that the quality of the audit will suffer by changing auditors. Yeo & Yeo has committed to have the office most senior staff on the audit in the first year to assist with the

Byrne, Randall (Treasury)

From: Porubsky, Carmen (TREASURY)
Sent: Thursday, June 12, 2014 8:25 AM
To: Byrne, Randall (Treasury)
Subject: FW: City of Flint Pipeline Approval Letter
Attachments: Flint Pipeline Final Approval Letter.pdf

From: Porubsky, Carmen (TREASURY)
Sent: Wednesday, June 11, 2014 3:31 PM
To: Darnell Earley (dearley@cityofflint.com)
Cc: Koryzno, Edward (Treasury); Dempkowski, Angela (Treasury)
Subject: City of Flint Pipeline Approval Letter

Good afternoon,

As requested, here is the revised approval letter for the pipeline sale.

Thank you,

Carmen Porubsky | Executive Secretary - Office of Fiscal Responsibility
State of Michigan | Michigan Department of Treasury
430 W. Allegan Street, 3rd Floor | Lansing, MI 48922
517.335.2439 | porubskyc@michigan.gov

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RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF TREASURY
LANSING

R. KEVIN CLINTON
STATE TREASURER

May 30, 2014

Darnell Earley, Emergency Manager
City of Flint
1101 South Saginaw Street
Flint, MI 48502

Mr. Earley:

This letter serves as a notice of my approval to sell the 72" (inch) pipeline and appurtenances from the DWSD connection at Potter and Baxter Roads; west to the proposed 36" (inch) KWA connection at Center and Pierson Roads for \$3,987,700 to Genesee County Water & Waste.

Because the sale is referenced in the F&O Plan, no approval is necessary under Sections 12(1)(r) and 15(1) as the plan is considered adequate. However, 12(3) requires Treasurer approval for contracts over \$50,000 because the sale was not competitively bid. In addition, Section 19 requires that this sale must be submitted to the City Council to approve or deny. The Flint City Council failed to take action on the matter by the required date; therefore, the proposed action is considered to be approved.

State Treasurer Approval:

I, R. Kevin Clinton, State Treasurer for the State of Michigan, pursuant to the authority assigned by Public Act 436 of 2012, do hereby:

☒ Approve Submitted Recommendation

☐ Deny Submitted Recommendation

Sincerely,

Wayne L. Workman

Wayne Workman, Deputy Treasurer
for R. Kevin Clinton
Michigan Department of Treasury

5/30/14
Date

Byrne, Randall (Treasury)

From: Jason Lorenz <jlorenz@cityofflint.com>
Sent: Friday, June 13, 2014 5:05 PM
Subject: Fwd: PRESS RELEASE: Pipeline Sale Finalized
Attachments: Pipeline.Sale.Approved.pdf

For Immediate Release

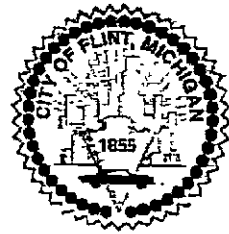
Michigan Department of Treasury Approves City of Flint's Sale of Section of 72" Pipeline to Genesee County Water & Waste, Sale Finalized This Week

Flint, Michigan – June 13, 2014 – The City of Flint's sale of a section of 72" pipeline to the Genesee County Drain Commission for \$3,987,700 has been approved by the Michigan Department of Treasury and the sale was finalized this week. The pipeline section being sold is from the connection the City of Flint formerly used to receive water from the Detroit Water & Sewerage Department, located at Potter and Baxter Roads. "The sale of this 9 mile section of water main, which no longer provides any practical function to the City of Flint, is a fortuitous one-time revenue gain from which the proceeds will be reinvested into the ongoing maintenance and operations of the Flint water system," said Emergency Manager Darnell Earley. Genesee County was the sole prospective buyer of the pipeline.

The Emergency Manager presented the pipeline sale proposal to Flint City Council in May to be approved or denied, as provided under Public Act 436. City Council voted not to accept the proposal and did not provide an alternative proposal as required under PA 436, thereby allowing the Emergency Manager's recommendation to be considered approved by Treasury.

–END–

-Jason Lorenz
Public Information Officer
City of Flint
(810) 237-2039
jlorenz@cityofflint.com



CITY OF FLINT

Water and Wastewater Rate Study

Final Report | June 19, 2014

Here it
is - it's
on the OFR
V Drive
- Rob

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1. EXECUTIVE SUMMARY

1.1 BACKGROUND OF THE STUDY

On November of 2013, the City of Flint ("City") engaged Raftelis Financial Consultants ("RFC") to perform water and wastewater utility rate studies. The scope of services included the following:

- Evaluate the adequacy of existing water and wastewater revenues to meet each utility's projected revenue requirements
- Develop comprehensive water and wastewater financial plans based on sound financial management practices for a 10 year forecast period
- Determine water and wastewater rates which adequately recover the cost of operating the water and wastewater utilities under the existing rate structures and provide alternatives based on a comprehensive cost of service study
- Analyze the impact of transitioning from the use of purchased potable water from the Detroit Water and Sewerage District ("DWSD") to the treatment of raw water from the Karegnondi Water Authority ("KWA").
- Review the City's water and wastewater operations in comparison to Best Management Practices criteria.

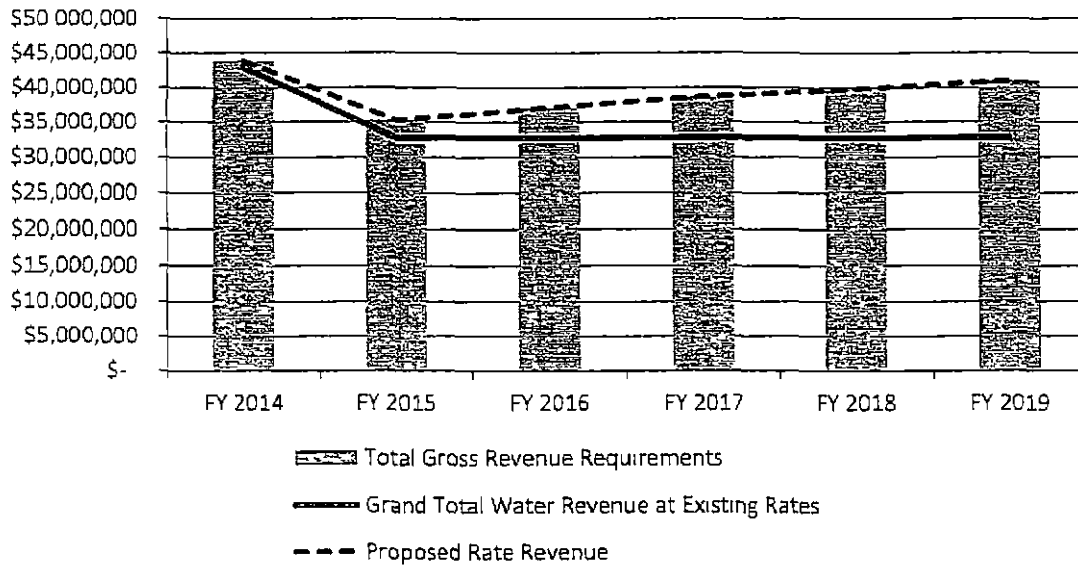
1.2 ADEQUACY OF EXISTING WATER AND WASTEWATER REVENUES

Charts ES-1 and 2 below summarize our conclusions with respect to the adequacy of water and wastewater revenue at existing rates. As the charts indicate, beginning in FY 2015, water and wastewater utility revenues are insufficient to recover each utility's revenue requirement. Key drivers of this disparity are:

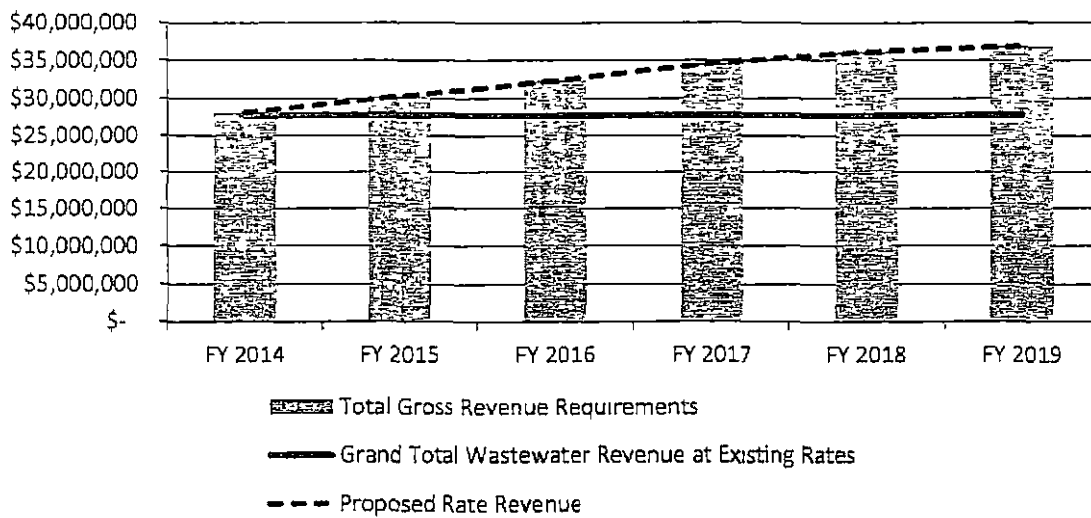
- A marked decrease in billed usage, the cause of which is currently being evaluated by RFC under a separate contract.
- A normal pattern of declining per customer usage for both utilities overall due to conservation, efficient appliances, etc.
- Increases in utility revenue requirements associated with the financial plans including operating cost inflation, capital improvements and policies which support the sound financial management of each utility in accordance with best management practices.

Consequently, the proposed increases in rate revenue are necessary to ensure each utility can adequately fund its operation and maintenance expenditures, make payments on existing debt service, provide funding for needed capital improvements and ensure adequate operating reserves.

ES-1: Water Utility Revenues at Existing Rates



ES-2: Wastewater Utility Revenues at Existing Rates



1.3 WATER AND WASTEWATER FINANCIAL PLANS

Tables ES-3 and ES-4 below summarize the proposed water and wastewater financial plans and rate revenue increases for the first 5 years of the forecast period.

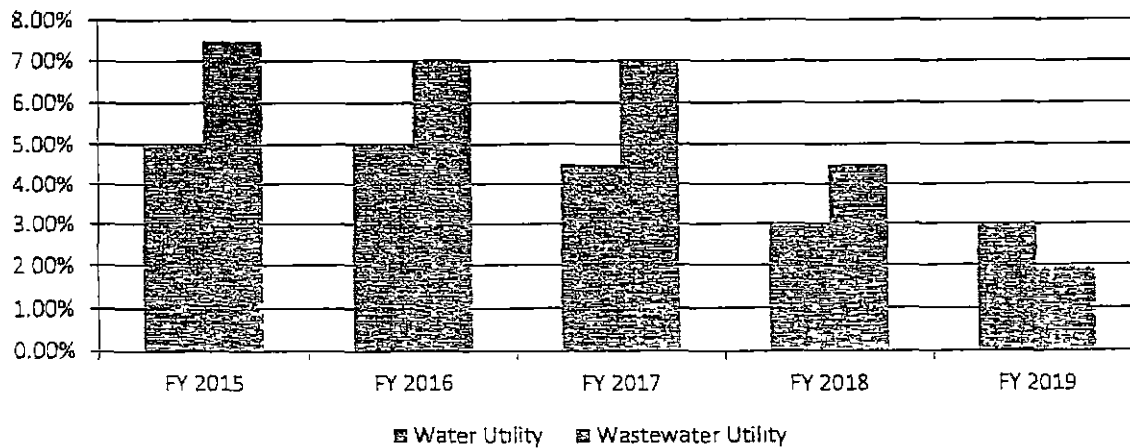
The financial plans and proposed increased in rate revenues are driven by the following factors:

- Inflationary increases in O&M expenditures for both utilities
- For the water utility:
 - Decreases in revenues associated with the cessation of service to Genesee County
 - Decreases in O&M expenditures associated with an elimination of DWSD water purchases
 - Increases in O&M expenditures associated with transitioning from back-up to primary operation of the Flint WTP
 - Increases in capital expenditures associated with improvements to the Flint WTP in preparation for the treatment of raw water from KWA
 - Increases in debt service associated with Flint's share of projected KWA debt service
- Necessary cash funded recapitalization of wastewater utility assets
- A build-up, for each utility, of operating reserves equivalent to 90 days of projected O&M expenditures and debt service payments, the minimum, according to financial management practices ("BMP").

ES-3: SUMMARY OF WATER AND WASTEWATER FINANCIAL PLANS

Water Utility	Budget Year FY 2014	Test Year FY 2016	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019
REVENUES						
Grand Total Water Revenue at Existing Rates	\$ 42,974,374	\$ 32,762,575	\$ 32,762,575	\$ 32,762,575	\$ 32,762,575	\$ 32,762,575
Additional Revenue from Rate Increases	\$ -	\$ 1,638,100	\$ 3,358,100	\$ 4,983,500	\$ 6,115,900	\$ 7,282,300
Total Non-Rate Revenues	\$ 886,000	\$ 913,314	\$ 931,844	\$ 927,686	\$ 929,503	\$ 929,131
Add Transfers In from General Fund	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Rate and Non-Rate Revenues	\$ 43,860,374	\$ 35,313,989	\$ 37,052,519	\$ 38,673,761	\$ 39,807,978	\$ 40,974,006
GROSS REVENUE REQUIREMENTS						
O&M	\$ 36,865,206	\$ 21,483,441	\$ 22,140,012	\$ 23,316,857	\$ 23,999,504	\$ 24,705,148
Capital	\$ 9,747,946	\$ 11,742,821	\$ 11,246,423	\$ 16,148,448	\$ 15,544,003	\$ 16,143,196
Transfer to Operating Reserve	\$ (2,752,778)	\$ 2,087,727	\$ 3,665,883	\$ (791,543)	\$ 163,405	\$ 125,882
Total Gross Revenue Requirements	\$ 43,860,374	\$ 35,313,989	\$ 37,052,519	\$ 38,673,761	\$ 39,807,978	\$ 40,974,006
DEFICIT (EXISTING REVENUES - REVENUE REQD)	\$ -	\$ (1,638,100)	\$ (3,358,100)	\$ (4,983,500)	\$ (6,115,900)	\$ (7,282,300)
Wastewater Utility	Budget Year FY 2014	Test Year FY 2016	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019
REVENUES						
Grand Total Wastewater Revenue at Existing Rates	\$ 27,777,374	\$ 27,777,374	\$ 27,777,374	\$ 27,777,374	\$ 27,777,374	\$ 27,777,374
Additional Revenue from Rate Increases	\$ -	\$ 2,083,300	\$ 4,173,500	\$ 6,410,100	\$ 7,948,500	\$ 8,663,000
Total Non-Rate Revenues	\$ 395,872	\$ 423,562	\$ 420,848	\$ 426,058	\$ 422,741	\$ 439,354
Add Transfers In from General Fund	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Rate and Non-Rate Revenues	\$ 28,173,246	\$ 30,284,237	\$ 32,371,823	\$ 34,613,532	\$ 36,148,615	\$ 36,879,728
GROSS REVENUE REQUIREMENTS						
O&M	\$ 24,523,827	\$ 23,053,392	\$ 23,384,671	\$ 24,091,589	\$ 24,812,101	\$ 25,557,113
Capital	\$ 5,500,000	\$ 7,000,000	\$ 9,500,000	\$ 9,500,000	\$ 12,000,000	\$ 8,000,000
Transfer to Operating Reserve	\$ (1,650,381)	\$ 230,845	\$ (522,848)	\$ 1,021,963	\$ (653,486)	\$ 3,322,615
Total Gross Revenue Requirements	\$ 28,173,246	\$ 30,284,237	\$ 32,371,823	\$ 34,613,532	\$ 36,148,615	\$ 36,879,728
DEFICIT (EXISTING REVENUES - REVENUE REQD)	\$ -	\$ (2,083,300)	\$ (4,173,500)	\$ (6,410,100)	\$ (7,948,500)	\$ (8,663,000)

ES-4: Annual % Rate Revenue Increases



As indicated in the previous section, water and wastewater utility revenues at existing rates are not adequate to recover the projected costs each utility will incur over the forecast period. Consequently additional rate revenue will be needed to ensure adequate recovery of each utility's revenue requirements.

1.4 COST OF SERVICE STUDY AND WATER AND WASTEWATER RATES

Table ES-5 below summarizes the results of the water and wastewater cost of service studies. The customer classes included are those which are recognized in the City's existing customer information system ("CIS"). While the City does not currently have either a water or wastewater rate structure which recognizes these customer classes, rates by customer class have been calculated and are included as appendices A and B to this report. The totals for each customer class represent the contribution of that class to the overall costs of each utility. This is based on the allocation processes described in sections 4 and 5 of this report.

Given the transition from KWA to DWSD the City will not be making any rate structure changes at this time. It is our opinion that the current water and wastewater rate structures are reasonable. The declining block water rates generally recognizing the fact that higher volume customers (i.e. large commercial and industrial) contribute less to peak demand, and overall water utility costs. Additionally, the relatively high proportion of fixed charge revenue recovery provides a less climatically variable revenue stream, which given that the majority of the utility's costs are fixed, is entirely appropriate.

ES-5: SUMMARY OF COST OF SERVICE STUDY RESULTS

CUSTOMER CLASS	COST OF SERVICE	
	WATER	WASTEWATER
Allocated Cost of Service		
Total Inside City Residential COS	\$ 18,345,672	\$ 16,412,799
Total Inside City Commercial/Industrial COS	\$ 15,263,704	\$ 13,378,697
Total Inside City Lawn COS	\$ 370,646	N/A
Total Inside City COS	\$ 33,980,022	\$ 29,791,496
Total Outside City Residential COS	\$ 99,483	\$ 2,382
Total Outside City Commercial/Industrial COS	\$ 321,169	\$ 66,796
Total Outside City Lawn COS	\$ -	N/A
Total Outside City COS	\$ 420,653	\$ 69,178
Total System Cost of Service	\$ 34,400,675	\$ 29,860,674

Tables ES-6 and ES-7 summarize the projected fixed and volumetric rates for the first 5 years of the forecast period, given financial plans and rate revenue increases proposed above. For every dollar of rate revenue generated by each utility approximately \$.66 is derived from volumetric charges and \$.34 is derived from fixed charges.

It is typical for water and wastewater utilities to design fixed charges which recover, at a minimum, the costs of meter reading, billing and collection and customer service. Additionally, fixed charges may also relate to fixed investment in utility assets associated with providing service which is available at all times regardless of usage levels by City customers. These costs, known as readiness to serve costs, have also been incorporated into the water and wastewater fixed charges.

Volumetric rates recover the variable costs associated with operating the water and wastewater utilities. For the water utility variable costs are associated with water treatment, transmission and distribution, pumping, and storage and are driven primarily by the design requirements associated with peak water usage. For the wastewater utility variable costs are associated with wastewater treatment, collection, and pumping, and are driven by the wastewater volume and strength.

ES-6: SUMMARY OF WATER AND WASTEWATER VOLUMETRIC RATES

Water Volumetric Rates											
CUSTOMER CLASS	BLOCK	UNITS	Block Rates	FY 2014	Test Year	Forecast	Forecast	Forecast	Forecast	Forecast	
				Existing	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019		
				Proposed	Proposed	Proposed	Proposed	Proposed	Proposed		
Annual % Increase in Rate Revenues				0.00%	5.00%	5.00%	4.50%	3.00%	3.00%		
Total Inside City All Classes											
Inside City Block 1	0-35 CCF (\$/CCF)	\$	7.52	\$	7.82	\$	8.32	\$	8.69	\$	9.22
Inside City Block 2	36-2000 CCF (\$/CCF)	\$	7.31	\$	7.62	\$	8.00	\$	8.36	\$	8.87
Inside City Block 3	above 2000 CCF (\$/CCF)	\$	5.79	\$	6.09	\$	6.40	\$	6.69	\$	7.09
Total Outside City All Classes											
Outside City Block 1	0-35 CCF (\$/CCF)	\$	11.26	\$	11.88	\$	12.48	\$	13.04	\$	13.63
Outside City Block 2	36-2000 CCF (\$/CCF)	\$	10.77	\$	11.42	\$	12.00	\$	12.54	\$	13.30
Outside City Block 3	above 2000 CCF (\$/CCF)	\$	8.68	\$	9.14	\$	9.60	\$	10.03	\$	10.64

Wastewater Volumetric Rates														
CUSTOMER CLASS	BLOCK	UNITS	Block Rates	FY 2014	Test Year	Forecast	Forecast	Forecast	Forecast	Forecast				
				Existing	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019					
				Proposed	Proposed	Proposed	Proposed	Proposed	Proposed					
Annual % Increase in Rate Revenues				0.00%	7.50%	7.00%	7.00%	4.50%	2.00%					
Total Inside City All Classes (\$/CCF)														
			\$	4.80	\$	5.17	\$	5.53	\$	5.92	\$	6.18	\$	6.31
Total Outside City All Classes (\$/CCF)														
			\$	5.29	\$	5.68	\$	6.08	\$	6.51	\$	6.80	\$	6.94

ES-7: SUMMARY OF WATER AND WASTEWATER FIXED CHARGES

CUSTOMER CLASS	WATER FIXED CHARGES				WASTEWATER FIXED CHARGES			
	2016 FY 2016 Proposed Change	2017 FY 2017 Proposed Change	2018 FY 2018 Proposed Change	2019 FY 2019 Proposed Change	2016 FY 2016 Proposed Change	2017 FY 2017 Proposed Change	2018 FY 2018 Proposed Change	2019 FY 2019 Proposed Change
Inside City Residential								
5/8"	\$ 21.78	\$ 22.90	\$ 24.05	\$ 25.13	\$ 25.88	\$ 26.88	\$ 28.08	\$ 29.28
3/4"	\$ 41.88	\$ 44.03	\$ 46.23	\$ 48.31	\$ 49.78	\$ 51.25	\$ 52.75	\$ 54.25
1"	\$ 55.28	\$ 58.15	\$ 61.05	\$ 63.80	\$ 65.72	\$ 67.68	\$ 69.68	\$ 71.68
1-1/2"	\$ 55.28	\$ 58.15	\$ 61.05	\$ 63.80	\$ 65.72	\$ 67.68	\$ 69.68	\$ 71.68
2"	\$ 55.28	\$ 58.15	\$ 61.05	\$ 63.80	\$ 65.72	\$ 67.68	\$ 69.68	\$ 71.68
Inside City Commercial								
5/8"	\$ 53.38	\$ 55.79	\$ 58.58	\$ 61.21	\$ 63.05	\$ 64.84	\$ 66.68	\$ 68.51
3/4"	\$ 81.28	\$ 84.02	\$ 87.22	\$ 90.25	\$ 92.35	\$ 94.52	\$ 96.75	\$ 99.00
1"	\$ 75.10	\$ 78.48	\$ 82.41	\$ 86.11	\$ 89.70	\$ 93.38	\$ 97.05	\$ 100.79
1-1/2"	\$ 107.78	\$ 112.80	\$ 118.23	\$ 123.58	\$ 127.26	\$ 131.08	\$ 134.95	\$ 138.87
2"	\$ 150.82	\$ 157.40	\$ 164.27	\$ 171.71	\$ 177.89	\$ 183.22	\$ 188.70	\$ 194.25
3"	\$ 237.45	\$ 246.83	\$ 256.37	\$ 266.08	\$ 275.91	\$ 285.83	\$ 295.95	\$ 306.18
4"	\$ 293.50	\$ 304.05	\$ 314.40	\$ 324.25	\$ 334.28	\$ 344.51	\$ 354.95	\$ 365.55
6"	\$ 1,028.43	\$ 1,075.75	\$ 1,126.54	\$ 1,180.37	\$ 1,235.78	\$ 1,292.25	\$ 1,350.38	\$ 1,409.65
8"	\$ 1,492.88	\$ 1,560.05	\$ 1,630.05	\$ 1,702.77	\$ 1,778.12	\$ 1,856.01	\$ 1,936.54	\$ 2,019.85
10"	\$ 2,080.75	\$ 2,153.48	\$ 2,230.10	\$ 2,309.91	\$ 2,433.80	\$ 2,561.81	\$ 2,693.95	\$ 2,830.30
12"	\$ 2,493.12	\$ 2,605.31	\$ 2,735.57	\$ 2,885.07	\$ 2,944.43	\$ 3,032.77	\$ 3,120.25	\$ 3,207.95
16"	\$ 3,102.84	\$ 3,242.25	\$ 3,404.30	\$ 3,587.58	\$ 3,684.28	\$ 3,774.21	\$ 3,868.45	\$ 3,966.15
20"	\$ 3,351.18	\$ 3,501.96	\$ 3,677.08	\$ 3,842.54	\$ 3,957.82	\$ 4,078.68	\$ 4,204.95	\$ 4,336.65
Outside City Residential								
5/8"	\$ 32.48	\$ 34.17	\$ 35.87	\$ 37.49	\$ 38.61	\$ 39.77	\$ 40.97	\$ 42.20
3/4"	\$ 62.71	\$ 65.95	\$ 69.25	\$ 72.37	\$ 74.54	\$ 76.78	\$ 79.00	\$ 81.25
1"	\$ 82.78	\$ 87.08	\$ 91.43	\$ 95.55	\$ 98.42	\$ 101.37	\$ 104.38	\$ 107.45
1-1/2"	\$ 82.78	\$ 87.08	\$ 91.43	\$ 95.55	\$ 98.42	\$ 101.37	\$ 104.38	\$ 107.45
2"	\$ 82.78	\$ 87.08	\$ 91.43	\$ 95.55	\$ 98.42	\$ 101.37	\$ 104.38	\$ 107.45
Outside City Commercial								
5/8"	\$ 80.13	\$ 83.74	\$ 87.93	\$ 91.88	\$ 94.64	\$ 97.48	\$ 100.38	\$ 103.33
3/4"	\$ 91.72	\$ 95.84	\$ 100.63	\$ 105.18	\$ 108.32	\$ 111.57	\$ 114.92	\$ 118.33
1"	\$ 112.67	\$ 117.74	\$ 123.63	\$ 129.19	\$ 133.07	\$ 137.06	\$ 141.10	\$ 145.20
1-1/2"	\$ 101.79	\$ 109.00	\$ 117.52	\$ 126.51	\$ 131.07	\$ 135.80	\$ 140.68	\$ 145.62
2"	\$ 226.08	\$ 238.26	\$ 248.07	\$ 258.24	\$ 267.01	\$ 275.02	\$ 283.28	\$ 291.78
3"	\$ 448.47	\$ 468.85	\$ 482.08	\$ 514.23	\$ 529.85	\$ 545.64	\$ 561.62	\$ 577.88
4"	\$ 785.37	\$ 820.71	\$ 861.74	\$ 900.52	\$ 927.53	\$ 955.30	\$ 983.89	\$ 1,013.25
6"	\$ 1,643.87	\$ 1,673.34	\$ 1,694.00	\$ 1,707.23	\$ 1,823.34	\$ 1,878.04	\$ 1,933.38	\$ 1,989.35
8"	\$ 2,239.47	\$ 2,340.24	\$ 2,457.28	\$ 2,587.83	\$ 2,644.87	\$ 2,724.21	\$ 2,804.92	\$ 2,886.98
10"	\$ 3,107.48	\$ 3,247.30	\$ 3,409.67	\$ 3,583.10	\$ 3,670.00	\$ 3,760.10	\$ 3,853.41	\$ 3,949.95
12"	\$ 3,739.51	\$ 3,907.77	\$ 4,103.16	\$ 4,287.80	\$ 4,416.44	\$ 4,548.93	\$ 4,685.38	\$ 4,825.78
16"	\$ 4,853.87	\$ 5,103.28	\$ 5,368.23	\$ 5,648.32	\$ 5,480.32	\$ 5,681.21	\$ 5,883.91	\$ 6,088.45
20"	\$ 5,403.82	\$ 5,709.07	\$ 6,085.10	\$ 6,484.94	\$ 6,452.89	\$ 6,846.48	\$ 7,242.81	\$ 7,651.95

1.5 TRANSITION FROM DWSD TO KWA

A key aspect of this study involved analyzing the impact of the anticipated April 1, 2014 transition from the Detroit Water and Sewerage District ("DWSD") to the Karegnondi Water Authority ("KWA"). The expectation is that the transition will strengthen the water utility's financial position going forward, by affording the City greater control over its operating and capital costs. As part of this engagement the City asked RFC to estimate the potential savings to a typical Flint customer as a result of transitioning from DWSD to the KWA.

A summary of the potential savings, based on an alternative water financial planning scenario is summarized in Table ES-8 below. For example, a City customer using 5 CCF per month would see a combined monthly bill of approximately \$122.83 under the KWA. This is based on a 5% water rate increase over existing rates. That same customer, should the City continue receiving service from DWSD, is estimated to have a bill of approximately \$127.70. This represents estimated 13% water rate increase over existing rates. Consequently, the savings to the typical City is approximately \$4.87 per month, or \$58.44 per year. Finally, note that the cumulative water rate increase over the next 5 years is estimated to be 18% under the KWA and 41% under DWSD.

ES-8: POTENTIAL RESIDENTIAL BILL SAVINGS (KWA VS. DWSD)

Cumulative Increase KWA (Water Rates)	0%	5%	10%	15%	19%	22%
Additional With DWSD (Water Rates)	0%	9%	19%	20%	21%	21%
Total Under DWSD	0%	14%	29%	35%	39%	44%

RATE IMPACT on Customer	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
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Monthly Usage (CCF)

1	\$ 66.10	\$ 70.48	\$ 74.79	\$ 79.22	\$ 82.28	\$ 84.27
2	\$ 78.41	\$ 83.57	\$ 88.64	\$ 93.83	\$ 97.41	\$ 99.80
3	\$ 90.73	\$ 96.66	\$ 102.49	\$ 108.44	\$ 112.55	\$ 115.33
4	\$ 103.05	\$ 109.74	\$ 116.33	\$ 123.05	\$ 127.68	\$ 130.85
5	\$ 115.37	\$ 122.83	\$ 130.18	\$ 137.65	\$ 142.82	\$ 146.98
6	\$ 127.69	\$ 135.92	\$ 144.03	\$ 152.26	\$ 157.95	\$ 161.91
7	\$ 140.00	\$ 149.01	\$ 157.88	\$ 166.87	\$ 173.09	\$ 177.44
8	\$ 152.32	\$ 162.10	\$ 171.72	\$ 181.48	\$ 188.23	\$ 192.97
9	\$ 164.64	\$ 175.19	\$ 185.57	\$ 196.09	\$ 203.36	\$ 208.49
10	\$ 176.96	\$ 188.28	\$ 199.42	\$ 210.70	\$ 218.50	\$ 224.02

ESTIMATED MONTHLY SAVINGS	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
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Monthly Usage (CCF)

1	\$ -	\$ (2.42)	\$ (5.37)	\$ (5.80)	\$ (5.98)	\$ (6.15)
2	\$ -	\$ (3.04)	\$ (6.74)	\$ (7.28)	\$ (7.50)	\$ (7.72)
3	\$ -	\$ (3.65)	\$ (8.11)	\$ (8.76)	\$ (9.02)	\$ (9.29)
4	\$ -	\$ (4.26)	\$ (9.47)	\$ (10.23)	\$ (10.54)	\$ (10.86)
5	\$ -	\$ (4.87)	\$ (10.84)	\$ (11.71)	\$ (12.06)	\$ (12.42)
6	\$ -	\$ (5.48)	\$ (12.21)	\$ (13.19)	\$ (13.58)	\$ (13.99)
7	\$ -	\$ (6.09)	\$ (13.58)	\$ (14.67)	\$ (15.11)	\$ (15.56)
8	\$ -	\$ (6.71)	\$ (14.94)	\$ (16.14)	\$ (16.63)	\$ (17.13)
9	\$ -	\$ (7.32)	\$ (16.31)	\$ (17.62)	\$ (18.15)	\$ (18.69)
10	\$ -	\$ (7.93)	\$ (17.68)	\$ (19.10)	\$ (19.67)	\$ (20.26)

1.6 WATER AND WASTEWATER UTILITY OPERATIONS AND BEST MANAGEMENT PRACTICES

We reviewed the City's water and wastewater utility performance in relation to Best Management Practices ("BMP") that have been published by Fitch Ratings ("Fitch"). These criteria are used by Fitch when reviewing the performance of a utility as part of the bond rating process. Table ES-9 below summarizes our assessment of the City's water and wastewater utility operations with respect to BMP. The City's operations generally comport with BMP. The City is working to improve consistency in four areas: first, as mentioned above, the financial plans build-up to the minimum recommended 90 operating reserve and should achieve this reserve, all else equal, in the next 5 years. Second, the City is working with RFC, under a separate contract, to identify sources of lost water and wastewater revenue to improve the City's revenue collections, and reduce the cost of utility service theft to paying customers. Third, the City is currently determining arrangements whereby the general fund can repay its obligations to the water and wastewater utilities, ensuring the water and wastewater funds are not subsidizing general government operations going forward. Finally, the transition to KWA will allow the City greater control over its operating and capital costs, and as mentioned above, should result in more affordable rates than the alternative.

ES-9: FITCH BEST MANAGEMENT PRACTICES

Criteria	Consistent	Improving	Inconsistent
Financial Profile			
<i>Financial Forecasting</i>	X		
<i>Debt Service Coverage and Operating Reserves</i>		X	
<i>Financial Reporting and Monitoring</i>	X		
<i>Limited Exposure to Growth Revenues</i>	X		
<i>Timely Collection of Payment and Penalty Enforcement</i>		X	
<i>Political Willingness to Adjust Rates</i>	X		
<i>Limited Exposure to General Govt. Finances</i>		X	
<i>GAAP Compliance</i>	X		
<i>Affordability</i>			X
Debt Profile			
<i>Prioritized Capital Improvement Plans</i>	X		
<i>Debt Policy</i>	X		
<i>Hedge Agreements</i>			
Operating Profile			
<i>Management Experience</i>	X		
<i>Use of Professional Engineers</i>	X		
<i>Consultation with Local/Regional Growth Planners</i>	X		

2. INTRODUCTION AND STUDY OBJECTIVES

2.1 INTRODUCTION

In November of 2013, the City of Flint ("City") engaged Raftelis Financial Consultants ("RFC") to perform water and wastewater utility rate studies. The need for engagement was precipitated by the City's transition from the use of purchased water from the Detroit Water and Sewerage District ("DWSD") to participation in the Karegnondi Water Authority ("KWA") on April 1, 2014. Following the transition, the City will treat raw water from the KWA at its existing water treatment plant, which is currently undergoing the improvements necessary to become the primary source of treated water for the City of Flint. The expectation is that the transition will strengthen the water utility's financial position going forward, affording the City greater control over its operating and capital costs as a result.

From a financial perspective, the following are a few notable aspects of the transition:

- Water Operation and Maintenance ("O&M") expenditures are projected to decrease significantly as the cost of purchasing water from DWSD ceases as of FY 2015,
- Water Capital costs are projected to increase as the City begins paying its share of the Karegnondi Water Authority's debt service and incurs the cost of the necessary water treatment plant improvements.
- Water utility revenues will decrease as the City's wholesale customer, Genesee County ("County"), will no longer be receiving water service from the City as a result of the transition
- Projected water increases under the KWA are projected to be lower than they would have been, had the City continued to purchase water from DWSD
- City of Flint residential customer water bills are projected to be lower under the KWA than if the City had continued to purchase water from DWSD (see Table 1 below).

TABLE 1: ESTIMATED RATE INCREASES (KWA VS. DWSD)

CUMULATIVE RATE REVENUE INCREASE		FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
KWA		0%	5%	10%	15%	19%	22%
DWSD		0%	14%	29%	35%	39%	44%
ESTIMATED MONTHLY SAVINGS		FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Monthly Usage (CCF)							
1		\$ -	\$ (2.42)	\$ (5.37)	\$ (5.80)	\$ (5.98)	\$ (6.15)
2		\$ -	\$ (3.04)	\$ (6.74)	\$ (7.28)	\$ (7.50)	\$ (7.72)
3		\$ -	\$ (3.65)	\$ (8.11)	\$ (8.76)	\$ (9.02)	\$ (9.29)
4		\$ -	\$ (4.26)	\$ (9.47)	\$ (10.23)	\$ (10.54)	\$ (10.86)
5		\$ -	\$ (4.87)	\$ (10.84)	\$ (11.71)	\$ (12.06)	\$ (12.42)
6		\$ -	\$ (5.48)	\$ (12.21)	\$ (13.19)	\$ (13.58)	\$ (13.99)
7		\$ -	\$ (6.09)	\$ (13.58)	\$ (14.67)	\$ (15.11)	\$ (15.56)
8		\$ -	\$ (6.71)	\$ (14.94)	\$ (16.14)	\$ (16.63)	\$ (17.13)
9		\$ -	\$ (7.32)	\$ (16.31)	\$ (17.62)	\$ (18.15)	\$ (18.69)
10		\$ -	\$ (7.93)	\$ (17.68)	\$ (19.10)	\$ (19.67)	\$ (20.26)

2.2 RATE STUDY OBJECTIVES

The objectives of this study are as follows:

- Evaluate the adequacy of existing water and wastewater revenues to meet the projected revenue requirements
- Develop comprehensive water and wastewater financial plans based on sound financial management practices for a 10 year forecast period
- Determine water and wastewater rates which adequately recover the cost of operating the water and wastewater utilities under the existing rate structures and provide alternatives based on a comprehensive cost of service study
- Evaluate the City's current financial position and adjust the comprehensive financial plans for both the mid-year transition to the KWA and going forward.

3. WATER AND WASTEWATER UTILITY FINANCIAL PLANS

3.1 THE FINANCIAL PLANNING PROCESS

The general objective of the financial planning process is to arrive at the level of water and wastewater rate revenue required to ensure the financial sustainability of each utility on a going forward basis. This revenue requirement is then distributed to each customer class as part of the cost of service study.

For this study financial plans were developed for the current fiscal year, the test year and a ten-year forecast period. The current year is typically the year in which the study occurs, in this case fiscal

year 2014 ("FY 2014"), or the year ending July 30, 2014. For the current year the financial plans represent an estimate, for each utility, of year-end financial position.

This serves as the basis for the test year financial plan. For this study, the test year is the following fiscal year, FY 2015. While the current year serves as an estimate of each utility's current financial position, the test year represents a projection of utility revenues, expenditures and operating reserve levels. The ten-year forecast period allows the City to evaluate trends over time and evaluate the impact of challenges that occur beyond the test year. For the purposes of this study separate financial plans were developed for each utility to ensure that each would be self-sustaining.

The following steps are necessary to arrive at the test year revenue requirement for each utility:

- Forecast customer units of service and revenue at existing water and wastewater rates
- Forecast operation and maintenance expenditures ("O&M") for each utility
- Forecast capital expenditures, including the payment of existing water and wastewater debt service and the financing of planned capital improvements
- Develop detailed cash flow forecasts summarizing planned O&M and capital expenditures, recommended rate revenue increases and operating reserve levels

3.2 WATER UTILITY FINANCIAL PLAN

3.2.1 Forecast Water Units of Service and Revenue at Existing Rates

Water Utility Rates

The City recovers the cost of operating the water utility via volumetric rates (rates based on the amount of water used) and fixed monthly service charges (a charge per customer bill). The City's existing water volumetric charge is a declining block rate, or a rate that decreases on a per unit basis as the amount of water consumed increases. The existing water volumetric rate structure is shown in Table 2 below:

TABLE 2: EXISTING WATER VOLUMETRIC RATES

CUSTOMER CLASS	CONSUMPTION		FY 2014	
	BLOCK	UNITS	Existing	Block Rates
Total Inside City All Classes				
Inside City Block 1	0-35 CCF	(\$/CCF)	\$	7.52
Inside City Block 2	36-2000 CCF	(\$/CCF)	\$	7.31
Inside City Block 3	above 2000 CCF	(\$/CCF)	\$	5.79
Total Outside City All Classes				
Outside City Block 1	0-35 CCF	(\$/CCF)	\$	11.26
Outside City Block 2	36-2000 CCF	(\$/CCF)	\$	10.77
Outside City Block 3	above 2000 CCF	(\$/CCF)	\$	8.68

A distinction is made between customers residing within in the City of Flint, and those who receive City water service, but do not reside within the City. As Table 2 indicates, outside city volumetric rates are approximately 150% of inside city volumetric rates. This is a common policy for municipal water utilities and recognizes inside city customers as "owners" of the utility, who should be compensated for the risk of investing in and maintaining their utility system.

In addition to the volumetric rates, the existing water rate structure includes a fixed service charge which varies by customer water meter size. The rates are charged per customer bill and are shown in Table 3 on the following page.

TABLE 3: EXISTING WATER FIXED CHARGES

CUSTOMER CLASS	2014	
	Existing	Proposed
Fixed Charge		
Inside City Residential Customers		
5/8"	\$	21.78
3/4"	\$	41.86
1"	\$	55.28
1-1/2"	\$	55.28
2"	\$	55.28
Inside City Commercial/Industrial Customers		
5/8"	\$	53.39
3/4"	\$	61.26
1"	\$	75.10
1-1/2"	\$	107.76
2"	\$	150.62
3"	\$	297.45
4"	\$	523.50
6"	\$	1,029.43
8"	\$	1,492.88
10"	\$	2,060.75
12"	\$	2,493.12
16"	\$	3,102.64
20"	\$	3,351.18
Outside City Residential Customers		
5/8"	\$	32.48
3/4"	\$	62.71
1"	\$	82.79
1-1/2"	\$	82.79
2"	\$	82.79
Outside City Commercial/Industrial Customers		
5/8"	\$	80.13
3/4"	\$	91.72
1"	\$	112.67
1-1/2"	\$	161.79
2"	\$	226.09
3"	\$	448.47
4"	\$	785.37
6"	\$	1,543.87
8"	\$	2,239.47
10"	\$	3,107.48
12"	\$	3,739.51
16"	\$	4,653.87
20"	\$	5,463.82

Most Flint residential customers have a 5/8" meter and currently pay the \$21.78 fixed monthly service charge. For the monthly fixed charge the same distinction is made between inside and outside city customers, with the outside city charge set at approximately 150% of the inside city charge. Additionally, the current fixed charge structure further distinguishes between residential commercial customers.

In addition to the retail rates discussed above, the City currently serves a wholesale water customer, Genesee County. Genesee County pays a commodity charge of \$346,863, a fixed monthly service charge of \$114,000 and a volumetric rate of \$1.30 per CCF. As mentioned above, as of April 1, 2014, the County will no longer be a customer of the City.

Forecast Water Units of Service

In order to forecast the level of revenue under existing water rates, the number of water accounts at each meter size and the level of water consumption in each consumption block must be estimated for the forecast period.

The number of accounts at each meter size was determined by dividing the number of annual bills at each meter size by the 12 monthly billing periods. The number of historical and forecast water utility customer accounts, by meter size, is indicated in Tables 4 and 5 on the following two pages. Note that the historical data appear to indicate a 14% increase in inside city accounts and a 27% increase in outside city accounts from FY 2012 to FY 2013. This increase in accounts does not appear to have been sustained into FY 2014. The City has indicated that water and wastewater billings have decreased approximately 12% from FY 2013 to FY 2014 year to date. Given this change and for the sake of developing a conservative estimate we have adjusted the forecast level of water accounts to 13% below their FY 2013 level. As no significant growth in the City's customer base is expected, no growth in water utility accounts has been projected over the forecast period.

TABLE 4: FORECAST INSIDE CITY WATER ACCOUNTS

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947	2948	2949	2950	2951	2952	2953	2954	2955	2956	2957	2958	2959	2960	2961	2962	2963	2964	2965	2966	2967	2968	2969	2970	2971	2972	2973	2974	2975	2976	2977	2978	2979	2980	2981	2982	2983	2984	2985	2986	2987	2988	2989	2990	2991	2992	2993	2994	2995	2996	2997	2998	2999	3000	3001	3002	3003	3004	3005	3006	3007	3008	3009	3010	3011	3012	3013	3014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In addition to forecasting the number of accounts by meter size, the level of water consumption in each consumption block must be estimated for the forecast period. The historical and forecast level of water consumption by customer class and block is indicated in Tables 6 and 7 on the following two pages.

Note that—consistent with the significant increase in inside city water accounts in FY 2013—inside city water consumption has increased significantly in FY 2013 (18%). Given the uncertainty surrounding the increase in billed consumption in FY 2013, and the subsequent decrease in billed revenues in FY 2014, we have forecast retail consumption at 6% below FY 2013 levels for FY 2014, FY 2015 and the remainder of the ten year forecast period.

As noted above, the City anticipates discontinuing DWSD water service as of April 1, 2014. At that point Genesee County will no longer be a wholesale customer of the City. Therefore the forecast of the County's consumption has been adjusted to account for the final 3 months of FY 2014 (i.e. April, May and June) during which the City will not be providing water service to the County

TABLE 8: FORECAST INSIDE CITY WATER CONSUMPTION

Inside City Residential											
Inside City Block 1	1,825,913	1,825,913	1,825,913	1,825,913	1,825,913	1,825,913	1,825,913	1,825,913	1,825,913	1,825,913	1,825,913
Inside City Block 2	88,699	88,699	88,699	88,699	88,699	88,699	88,699	88,699	88,699	88,699	88,699
Inside City Block 3	31,023	31,023	31,023	31,023	31,023	31,023	31,023	31,023	31,023	31,023	31,023
Total Inside City Residential	1,945,635	1,945,635	1,945,635	1,945,635	1,945,635	1,945,635	1,945,635	1,945,635	1,945,635	1,945,635	1,945,635
Inside City Commercial/Industrial											
Inside City Block 1	111,702	111,702	111,702	111,702	111,702	111,702	111,702	111,702	111,702	111,702	111,702
Inside City Block 2	860,767	860,767	860,767	860,767	860,767	860,767	860,767	860,767	860,767	860,767	860,767
Inside City Block 3	511,780	511,780	511,780	511,780	511,780	511,780	511,780	511,780	511,780	511,780	511,780
Total Inside City Commercial/Industrial	1,484,239	1,484,239	1,484,239	1,484,239	1,484,239	1,484,239	1,484,239	1,484,239	1,484,239	1,484,239	1,484,239
Inside City Lawn											
Inside City Block 1	5,604	5,604	5,604	5,604	5,604	5,604	5,604	5,604	5,604	5,604	5,604
Inside City Block 2	7,082	7,082	7,082	7,082	7,082	7,082	7,082	7,082	7,082	7,082	7,082
Inside City Block 3	5,604	5,604	5,604	5,604	5,604	5,604	5,604	5,604	5,604	5,604	5,604
Total Inside City Lawn	18,290	18,290	18,290	18,290	18,290	18,290	18,290	18,290	18,290	18,290	18,290
Total Inside City All Classes											
Inside City Block 1	1,942,117	1,942,117	1,942,117	1,942,117	1,942,117	1,942,117	1,942,117	1,942,117	1,942,117	1,942,117	1,942,117
Inside City Block 2	867,856	867,856	867,856	867,856	867,856	867,856	867,856	867,856	867,856	867,856	867,856
Inside City Block 3	574,583	574,583	574,583	574,583	574,583	574,583	574,583	574,583	574,583	574,583	574,583
Grand Total Inside City Water Consumption	4,384,556	4,384,556	4,384,556	4,384,556	4,384,556	4,384,556	4,384,556	4,384,556	4,384,556	4,384,556	4,384,556

TABLE 7: FORECAST OUTSIDE CITY WATER CONSUMPTION

[illegible]

Forecast Water Revenue at Existing Rates

Water utility revenue at existing rates is the sum of the volumetric and fixed charge revenue. Fixed charge revenue at existing rates was determined by multiplying the number of forecast accounts at each meter size, by the existing rate for that size and again by 12, for each of the monthly bills. Volumetric revenue was determined by multiplying the level of consumption in each consumption block, by the existing rate for that block. Table 8 on the following page summarizes the level of water revenue at existing water rates.

The total level of water revenue at existing rates in FY 2014 is forecast to be approximately \$43 Million. Of this, around 70% is derived from the volumetric rates and 30% is associated with the fixed monthly service charges. In FY 2015, the level of revenue at existing rates is forecast to decline to approximately \$32 Million. This change can be attributed to the loss of Flint's existing wholesale customer Genesee County, which will occur as a result of the City's discontinuing DWSD water service. On a going forward basis, the level of revenues at existing water rates would remain at 32 Million assuming consumption and account growth remain flat and the City makes no adjustments to water rates.

TABLE 8: FORECAST WATER REVENUE AT FY 2014 RATES

GRAND TOTAL SYSTEM CONSUMPTION REVENUE									
\$20,601,686	\$23,667,633	\$23,667,633	\$23,667,633	\$23,667,633	\$23,667,633	\$23,667,633	\$23,667,633	\$23,667,633	\$23,667,633
GRAND TOTAL SYSTEM FIXED CHARGE REVENUE									
\$13,322,709	\$0,174,942	\$0,174,942	\$0,174,942	\$0,174,942	\$0,174,942	\$0,174,942	\$0,174,942	\$0,174,942	\$0,174,942
GRAND TOTAL WATER REVENUE AT EXISTING RATES									
\$32,924,395	\$32,762,675	\$32,762,675	\$32,762,675	\$32,762,675	\$32,762,675	\$32,762,675	\$32,762,675	\$32,762,675	\$32,762,675
TOTAL RETAIL CONSUMPTION REVENUE									
Total Inside City Residential									
\$18,141,886	\$13,141,866	\$13,141,866	\$13,141,866	\$13,141,866	\$13,141,866	\$13,141,866	\$13,141,866	\$13,141,866	\$13,141,866
Total Inside City Commercial/Industrial									
\$10,362,630	\$10,362,630	\$10,362,630	\$10,362,630	\$10,362,630	\$10,362,630	\$10,362,630	\$10,362,630	\$10,362,630	\$10,362,630
Total Inside City Lawn									
\$9,146	\$9,146	\$9,146	\$9,146	\$9,146	\$9,146	\$9,146	\$9,146	\$9,146	\$9,146
\$28,504,622	\$22,607,633	\$22,607,633	\$22,607,633	\$22,607,633	\$22,607,633	\$22,607,633	\$22,607,633	\$22,607,633	\$22,607,633
WHOLESALE CONSUMPTION REVENUE									
Genesee County Contribution									
\$6,004,033	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-
GRAND TOTAL SYSTEM CONSUMPTION REVENUE									
\$34,508,655	\$22,607,633	\$22,607,633	\$22,607,633	\$22,607,633	\$22,607,633	\$22,607,633	\$22,607,633	\$22,607,633	\$22,607,633
TOTAL RETAIL FIXED CHARGE REVENUE									
Total Inside City Residential									
\$1,745,537	\$6,745,537	\$6,745,537	\$6,745,537	\$6,745,537	\$6,745,537	\$6,745,537	\$6,745,537	\$6,745,537	\$6,745,537
Total Inside City Commercial/Industrial									
\$2,363,266	\$2,363,266	\$2,363,266	\$2,363,266	\$2,363,266	\$2,363,266	\$2,363,266	\$2,363,266	\$2,363,266	\$2,363,266
Total Inside City Lawn									
\$36,139	\$36,139	\$36,139	\$36,139	\$36,139	\$36,139	\$36,139	\$36,139	\$36,139	\$36,139
\$4,147,972	\$9,444,942	\$9,444,942	\$9,444,942	\$9,444,942	\$9,444,942	\$9,444,942	\$9,444,942	\$9,444,942	\$9,444,942
WHOLESALE FIXED CHARGE REVENUE									
Total Genesee County Fixed Charge									
\$4,147,972	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-
GRAND TOTAL SYSTEM FIXED CHARGE REVENUE									
\$13,322,709	\$9,444,942	\$9,444,942	\$9,444,942	\$9,444,942	\$9,444,942	\$9,444,942	\$9,444,942	\$9,444,942	\$9,444,942

3.2.2 Forecast of Water Operation and Maintenance Expenditures

Water O&M Inflation Rates

The budgets provided by the City are the basis for the forecast of water utility O&M expenditures. Given that the transition from DWSD to KWA involves significant shifts in budgetary expenditures on a relatively detailed level, the City provided uninflated estimates of budgeted O&M expenditures for FY 2014 through FY 2017. To forecast the level of water utility O&M expenditures that the City would incur over the forecast period we applied the escalation rates shown in Table 9 below.

TABLE 9: WATER O&M ESCALATION RATES

Category	Budget Year FY 2014	Est. Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
Wages & Salaries	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Benefits	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Pension	0%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Medical	0%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Materials/Supplies	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
General	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Vehicle	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Pilot	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Deprec/Deple Equip Replace	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cost Alloc Plan-Expense	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Utilities	0%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Maintenance	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Capital Outlay	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Water Supply Costs	0%	0%	0%	0%	5%	5%	5%	5%	5%	5%	5%	5%
KWA Bond Payment	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
KWA Initiation Fee	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Purchase of KWA raw water	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Transfer to 101	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Transfer to 493	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

The rates shown above were developed based on discussions with City staff, and our experience with similar utilities.

Forecast Water Utility Operation and Maintenance Expenditures

Tables 10 and 11 on the following page indicate the estimated level of water utility O&M expenditures over the forecast period, both by the escalation rate categories and by department. In FY 2014, the largest O&M expenditures related to the "Water Plant-Operations" department within which the bulk water purchases from DWSD were included. Note that this amount decreases significantly in FY 2015 and going forward as the City transitions from DWSD to KWA. Excluding purchased water, the most notable expenditures are associated with personnel: Wages and Salaries, Benefits, Pension, and the City's share of retiree healthcare benefits ("Cost Alloc. Plan-Expense"). In general, water O&M expenditures are projected to decrease from around \$36 Million currently to \$21 Million in FY 2015 with inflationary increases thereafter.

TABLE 10: WATER O&M BY CATEGORY

Wages & Salaries	\$ 3,228,457	\$ 3,672,238	\$ 3,182,403	\$ 3,895,675	\$ 4,012,751	\$ 4,333,134	\$ 4,267,128	\$ 4,384,842	\$ 4,516,367	\$ 4,651,878	\$ 4,791,436	\$ 4,935,178
Benefits	\$ 1,187,924	\$ 1,223,662	\$ 1,260,258	\$ 1,298,027	\$ 1,337,019	\$ 1,377,130	\$ 1,418,443	\$ 1,460,987	\$ 1,504,871	\$ 1,549,971	\$ 1,596,471	\$ 1,644,365
Permit	\$ 1,803,098	\$ 1,893,282	\$ 1,987,916	\$ 2,087,311	\$ 2,191,878	\$ 2,301,280	\$ 2,416,323	\$ 2,537,139	\$ 2,663,066	\$ 2,797,185	\$ 2,937,056	\$ 3,083,809
Material	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Material/Supplies	\$ 1,616,500	\$ 2,503,724	\$ 2,578,836	\$ 2,328,383	\$ 2,398,234	\$ 2,470,181	\$ 2,544,287	\$ 2,620,615	\$ 2,699,234	\$ 2,780,211	\$ 2,863,517	\$ 2,949,526
General	\$ 3,311,532	\$ 3,443,290	\$ 3,546,589	\$ 3,662,585	\$ 3,782,578	\$ 3,907,463	\$ 4,031,717	\$ 4,151,469	\$ 4,274,812	\$ 4,391,857	\$ 4,507,712	\$ 4,627,494
Vehicle	\$ 650,336	\$ 682,206	\$ 702,872	\$ 721,753	\$ 746,486	\$ 767,829	\$ 790,864	\$ 814,530	\$ 839,028	\$ 864,198	\$ 890,124	\$ 916,828
Pilot	\$ 740,160	\$ 764,953	\$ 770,052	\$ 786,453	\$ 801,382	\$ 817,156	\$ 833,529	\$ 850,200	\$ 867,204	\$ 884,648	\$ 902,239	\$ 920,283
Deprec/Equip Replace	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cost Alloc Plan-Expense	\$ 4,040,000	\$ 4,511,818	\$ 4,286,873	\$ 4,416,273	\$ 4,547,731	\$ 4,684,163	\$ 4,824,688	\$ 4,969,428	\$ 5,118,511	\$ 5,272,087	\$ 5,430,228	\$ 5,593,135
Utilities	\$ 910,000	\$ 1,655,200	\$ 1,697,508	\$ 1,467,948	\$ 1,528,556	\$ 1,687,732	\$ 1,661,241	\$ 1,717,281	\$ 1,785,883	\$ 1,857,422	\$ 1,931,719	\$ 2,009,898
Maintenance	\$ 187,200	\$ 422,300	\$ 434,958	\$ 448,018	\$ 461,468	\$ 476,302	\$ 489,581	\$ 504,248	\$ 519,376	\$ 534,967	\$ 551,008	\$ 567,538
Capital Outlay	\$ 80,000	\$ 30,900	\$ 31,827	\$ 32,782	\$ 33,786	\$ 34,778	\$ 35,822	\$ 36,896	\$ 38,003	\$ 39,143	\$ 40,317	\$ 41,527
Water Supply Costs	\$ 18,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
KWVA Bond Payment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
KWVA Bond Payment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Purchase of KWVA New Water	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Transfer to 101	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000
Transfer to 433	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ 35,665,206	\$ 21,483,441	\$ 22,140,012	\$ 23,316,857	\$ 23,989,504	\$ 24,705,148	\$ 25,434,503	\$ 26,188,715	\$ 26,965,360	\$ 27,774,448	\$ 28,607,924	\$ 29,469,768

TABLE 11: WATER O&M BY DEPARTMENT

Total Dept 605 100-Utilities - Water Administration	\$ 7,482,304	\$ 7,718,511	\$ 7,645,482	\$ 8,178,187	\$ 8,419,655	\$ 8,697,940	\$ 8,923,574	\$ 9,185,495	\$ 9,467,812	\$ 9,736,686	\$ 10,024,288	\$ 10,320,648
Total Dept 605 208-Utilities - Water Cross Connection Proj	\$ 104,008	\$ 108,204	\$ 112,037	\$ 116,016	\$ 120,142	\$ 124,405	\$ 128,872	\$ 133,468	\$ 138,279	\$ 143,264	\$ 148,419	\$ 153,782
Total Dept 605 100-Water Service Center Management	\$ 1,223,240	\$ 1,244,080	\$ 1,284,278	\$ 1,324,940	\$ 1,365,825	\$ 1,410,275	\$ 1,454,037	\$ 1,501,287	\$ 1,548,985	\$ 1,598,273	\$ 1,649,172	\$ 1,701,788
Total Dept 605 600-Water - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 605 200-Water - Meter Reading - Water	\$ 730,677	\$ 633,281	\$ 351,628	\$ 870,842	\$ 680,350	\$ 610,778	\$ 531,957	\$ 653,913	\$ 616,677	\$ 700,261	\$ 724,769	\$ 700,143
Total Dept 605 202-Water - Meter Reading - Water	\$ 3,250,087	\$ 3,698,298	\$ 3,824,447	\$ 3,935,207	\$ 4,030,531	\$ 4,231,081	\$ 4,378,565	\$ 4,527,344	\$ 4,683,618	\$ 4,846,604	\$ 5,013,623	\$ 5,187,628
Total Dept 605 200-Water - Distribution Meters	\$ 21,645,189	\$ 6,420,868	\$ 5,608,034	\$ 6,300,105	\$ 5,482,080	\$ 6,870,603	\$ 6,865,822	\$ 7,068,291	\$ 7,277,976	\$ 7,496,260	\$ 7,720,402	\$ 7,953,729
Total Dept 605 201-Water Plant - Operations	\$ 1,288,821	\$ 1,629,451	\$ 1,684,138	\$ 1,740,761	\$ 1,789,381	\$ 1,860,043	\$ 1,922,875	\$ 1,987,937	\$ 2,055,313	\$ 2,128,091	\$ 2,197,362	\$ 2,272,219
Total Dept 605 202-Water Plant - Dam Operations	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 605 300-Water Plant - Dam Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 605 300-Water Plant - Capital Improvements	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000
Total Dept 605 101-Transfers out to fund 101	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GRAND TOTAL WATER UTILITY	\$ 35,665,206	\$ 21,483,441	\$ 22,140,012	\$ 23,316,857	\$ 23,989,504	\$ 24,705,148	\$ 25,434,503	\$ 26,188,715	\$ 26,965,360	\$ 27,774,448	\$ 28,607,924	\$ 29,469,768

3.2.3 Water Utility CIP and CIP Financing

Tables 12 and 13 on the following two pages indicate the water capital improvements program ("CIP") provided by the City and the CIP financing plan.

As the plan we received from the City was presented in current year dollars, we escalated the project amounts 3% per year from FY 2015 onward. The largest capital improvements in dollar terms are associated with the rehabilitation of the City's water treatment plant (i.e. Water Plant-Phase II projects). These projects are in large part associated with transitioning the City's water treatment plant from back-up status to the primary source of treated water for the City. As discussed above, the improvements to the water treatment plant will allow the City to treat raw water purchased from the KWA for distribution to City customers. In general, the level of spending in the CIP decreases from \$10 Million to \$7.5 Million as the plant improvements are completed and increases again in the out years due to planned annual recapitalization.

There are three items of note in Table 13. First, all projects are projected to be cash financed at this time. The City may seek to leverage its revenue stream in the future via use of the State of Michigan's ("State") Drinking Water Revolving Revenue Fund ("DWRRF") loan program. This would be particularly beneficial for major water capital improvements, as it would spread the financing responsibility over existing and future ratepayers who receive the benefit of the improvement throughout the asset's useful life. Second, note that the proceeds from the recently completed sale of the Flint pipeline to Genesee County have been included to offset the costs of the treatment plant improvements. Finally, note that the "uses" category includes a line for additional uses, which represent the KWA mitigation payments required of the City until it begins paying its share of KWA debt service in FY 2017.

TABLE 12: WATER CAPITAL IMPROVEMENTS PROGRAM

Project Description	Fund	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947	2948	2949	2950	2951	2952	2953	2954	2955	2956	2957	2958	2959	2960	2961	2962	2963	2964	2965	2966	2967	2968	2969	2970	2971	2972	2973	2974	2975	2976	2977	2978	2979	2980	2981	2982	2983	2984	2985	2986	2987	2988	2989	2990	2991	2992	2993	2994	2995	2996	2997	2998	2999	3000	3001	3002	3003	3004	3005	3006	3007	3008	3009	3010	3011	301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Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	

Beginning CIP Fund Balance												
Beginning Year Construction Fund Balance	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Carry-Over CIP from Previous Year	\$ 144,700	\$ 283,302	\$ 189,165	\$ 433,408	\$ 18,009	\$ 20,074	\$ 242,366	\$ 240,126	\$ 12,927	\$ 53,711	\$ 356,921	
Net Funds Available for Current CIP	\$ 144,700	\$ 283,302	\$ 189,165	\$ 433,408	\$ 18,009	\$ 20,074	\$ 242,366	\$ 240,126	\$ 12,927	\$ 53,711	\$ 356,921	
Sources of CIP Financing												
Water Revenue Bonds Issued	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Water Commercial Paper Program	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Water Rate Revenue Financing (Cash)	\$ 7,000,000	\$ 8,000,000	\$ 8,600,000	\$ 6,600,000	\$ 8,000,000	\$ 7,600,000	\$ 7,600,000	\$ 7,600,000	\$ 8,000,000	\$ 8,600,000	\$ 8,600,000	\$ -
SDC Receipts Used for CIP Financing	\$ 8,987,700	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Forfeited from Sale of Flit Wasteline	\$ 10,987,700	\$ 9,144,700	\$ 8,783,302	\$ 9,668,165	\$ 6,433,408	\$ 6,619,008	\$ 7,628,074	\$ 7,742,366	\$ 7,740,126	\$ 8,012,827	\$ 8,663,711	\$ 8,866,921
Use of CIP Funds												
Total WSC Water Fund	\$ 4,660,000	\$ 4,027,300	\$ 5,102,928	\$ 4,600,381	\$ 4,288,188	\$ 4,300,807	\$ 6,029,880	\$ 6,177,768	\$ 6,333,102	\$ 6,483,085	\$ 6,667,888	\$ 6,827,826
Total Water Plant	\$ 8,115,000	\$ 4,240,008	\$ 2,837,208	\$ 1,935,316	\$ 2,127,312	\$ 2,181,028	\$ 2,259,769	\$ 2,324,482	\$ 2,384,186	\$ 2,468,021	\$ 2,640,082	\$ 2,618,202
Additional Uses	\$ 1,185,000	\$ 684,000	\$ 684,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Current Year CIP	\$ 10,843,000	\$ 8,951,388	\$ 8,624,137	\$ 6,535,766	\$ 6,415,500	\$ 6,481,835	\$ 7,283,719	\$ 7,602,231	\$ 7,721,287	\$ 7,958,118	\$ 8,197,980	\$ 8,443,827
Bond Issuance Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Refunding of Commercial Paper	\$ 30	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
EWALAS, Ending CIP Fund Balance	\$ 144,700	\$ 283,302	\$ 189,165	\$ 433,408	\$ 18,008	\$ 20,074	\$ 242,366	\$ 240,126	\$ 12,927	\$ 53,711	\$ 356,921	\$ 411,804
Target Balance (% of Next Years CIP)	\$ 2,212,860	\$ 2,159,034	\$ 1,568,838	\$ 1,683,860	\$ 1,922,984	\$ 1,920,830	\$ 1,875,568	\$ 1,931,824	\$ 1,988,779	\$ 2,049,472	\$ 2,110,957	\$ -
Variance from Target	(\$2,068,160)	(\$1,895,732)	(\$1,389,774)	(\$1,170,441)	(\$1,804,976)	(\$1,794,856)	(\$1,653,202)	(\$1,691,700)	(\$1,878,652)	(\$1,985,762)	(\$1,756,130)	\$411,804

3.2.4 Water Cash Flow Forecast

The final step in the development of the water utility financial plan involves the preparation of a comprehensive cash flow forecast. A summary of the water cash flow forecast is presented in Table 14 on the following page. The key components of the forecast are Financial Plan Inputs, Revenues, Expenditures, and Operating Performance.

- The Financial Plan Inputs component indicates the forecast rate revenue increases. These increases were determined in consultation with City staff and are designed to:
- Ensure recovery of O&M expenditures and existing water utility debt service
- Provide cash financing for the capital projects outlined in the CIP including those necessary to transition from DWSD to the KWA
- Minimize the risk associated with operating a climate dependent enterprise via the build-up of operating reserves equivalent to 90 days of O&M and Debt Service

The Revenues component indicates the revenue at existing rates discussed previously, non-rate revenue and the additional revenue generated by the rate revenue increases shown in the inputs section. Given the forecast of water demand, O&M and capital expenditures and the 90 Day operating reserve benchmark, the “additional revenue” line represents the amount of revenue needed—above existing rate revenues --to ensure adequate recovery of the water utility’s revenue requirement in each year of the forecast.

The Expenditures component indicates the major sources of expenditures for the City’s water utility: O&M expenditures, Capital expenditures (Rate Revenue Financing and Debt Service) and Transfers to the Operating Reserve.

The Operating performance component indicates the year end position of the water utility with respect to a few key factors. Included are the estimated operating reserve balance, the target reserve balance (90 Days of O&M and Debt Service), the construction fund ending balance and the water utility’s debt service coverage ratio.

TABLE 14: WATER CASH FLOW FORECAST

ANNUAL PERCENTAGE INCREASE											
Annual % Increase in Rate Revenues											
	0.0%	5.0%	10.3%	16.2%	18.7%	22.2%	26.3%	27.8%	30.3%	33.0%	36.6%
	0.0%	5.0%	5.0%	4.6%	3.0%	3.0%	2.8%	2.0%	2.0%	2.0%	2.0%
REVENUES											
Grand Total Water Revenue at Existing Rates	\$ 42,074,374	\$ 32,782,575	\$ 32,782,575	\$ 32,782,575	\$ 32,782,575	\$ 32,782,575	\$ 32,782,575	\$ 32,782,575	\$ 32,782,575	\$ 32,782,575	\$ 32,782,575
Additional Revenue from Rate Increases	\$ -	\$ 1,038,100	\$ 3,368,100	\$ 4,993,500	\$ 6,115,900	\$ 7,282,300	\$ 8,283,400	\$ 9,104,300	\$ 9,841,800	\$ 10,706,700	\$ 11,888,900
Total Non-Rate Revenues	\$ 889,000	\$ 913,314	\$ 931,844	\$ 927,889	\$ 928,503	\$ 929,131	\$ 931,146	\$ 930,728	\$ 933,187	\$ 938,380	\$ 946,627
Add Transfers in from General Fund	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Rate and Non-Rate Revenues	\$ 43,860,374	\$ 36,313,969	\$ 37,052,318	\$ 38,673,761	\$ 39,808,978	\$ 40,974,008	\$ 41,977,120	\$ 43,797,601	\$ 43,617,362	\$ 44,484,835	\$ 45,365,002
EXPENDITURES											
Total O&M Expenditures	\$ 38,865,208	\$ 21,483,441	\$ 22,140,012	\$ 23,318,857	\$ 23,899,504	\$ 24,705,148	\$ 25,434,603	\$ 26,188,715	\$ 26,988,360	\$ 27,774,448	\$ 28,607,924
Grand Total Existing and Proposed Debt Service	\$ 2,747,946	\$ 2,742,821	\$ 2,746,423	\$ 9,848,440	\$ 9,844,008	\$ 9,843,188	\$ 9,839,827	\$ 9,192,721	\$ 8,878,874	\$ 8,086,923	\$ 8,423,748
Water Rate Revenue Financing (Cash)	\$ 7,000,000	\$ 9,000,000	\$ 8,500,000	\$ 6,500,000	\$ 6,000,000	\$ 6,500,000	\$ 7,500,000	\$ 7,500,000	\$ 7,500,000	\$ 8,000,000	\$ 8,500,000
Water Transfer to Equipment Replacement Fund	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Capital Expenditures	\$ 9,747,946	\$ 11,742,821	\$ 11,246,423	\$ 16,148,440	\$ 15,844,008	\$ 16,743,188	\$ 17,335,827	\$ 16,692,721	\$ 16,176,874	\$ 16,085,923	\$ 16,923,748
Add Net Surplus/(Deficit)	\$ (2,752,778)	\$ 2,087,727	\$ 3,645,883	\$ (791,543)	\$ 163,465	\$ 125,662	\$ (597,311)	\$ (63,835)	\$ 482,328	\$ 634,563	\$ (166,666)
OPERATING SURPLUS/DEFICIT											
O&M Capital	\$ 28,865,208	\$ 21,483,441	\$ 22,140,012	\$ 23,318,857	\$ 23,899,504	\$ 24,705,148	\$ 25,434,603	\$ 26,188,715	\$ 26,988,360	\$ 27,774,448	\$ 28,607,924
Operating Surplus/Deficit	\$ (2,752,778)	\$ 2,087,727	\$ 3,645,883	\$ (791,543)	\$ 163,465	\$ 125,662	\$ (597,311)	\$ (63,835)	\$ 482,328	\$ 634,563	\$ (166,666)
Total Gross Revenue Requirements	\$ 43,860,374	\$ 36,313,969	\$ 37,052,318	\$ 38,673,761	\$ 39,808,978	\$ 40,974,008	\$ 41,977,120	\$ 43,797,601	\$ 43,617,362	\$ 44,484,835	\$ 45,365,002
OPERATING RESERVE BALANCE											
Ending Operating Reserve Balance	\$ 3,375,088	\$ 5,482,823	\$ 8,128,708	\$ 8,337,164	\$ 8,500,629	\$ 8,826,281	\$ 9,028,881	\$ 9,945,146	\$ 9,437,474	\$ 10,072,037	\$ 9,805,369
Target Operating Reserve Balance	\$ 9,000,288	\$ 9,050,508	\$ 9,221,809	\$ 9,241,320	\$ 9,410,878	\$ 9,587,080	\$ 9,768,508	\$ 9,945,389	\$ 9,911,258	\$ 9,885,018	\$ 9,267,918
Variance From Target	\$ (5,625,199)	\$ (3,567,685)	\$ (1,093,101)	\$ (904,156)	\$ (909,249)	\$ (760,799)	\$ (739,627)	\$ (999,243)	\$ (473,784)	\$ (812,981)	\$ (1,462,549)
Contributed Fund Ending Balance	\$ 144,700	\$ 253,302	\$ 188,185	\$ 433,409	\$ 18,009	\$ 26,074	\$ 242,355	\$ 240,135	\$ 12,827	\$ 53,711	\$ 358,821
Stand Alone DSCR	2.55	5.04	5.43	1.59	1.64	1.69	1.72	1.81	1.92	2.07	1.99
											2.43

3.3 WASTEWATER UTILITY FINANCIAL PLAN

3.3.1 Forecast Wastewater Units of Service and Revenues at Existing Rates

Wastewater Utility Rates

The City recovers the cost of operating the wastewater utility via volumetric rates (i.e. rates based on the amount of wastewater discharged) and fixed monthly service charges (a charge per customer bill). The City's existing wastewater volumetric charge is a uniform rate, or a rate that does not vary (on a per unit basis) as the amount of wastewater discharged varies. The existing wastewater volumetric rate structure is indicated in Table 15 below. Similar to the water utility volumetric rate structure a distinction is made between inside and outside city customers, with the outside city rate set at approximately 110% of the inside city rate.

TABLE 15: EXISTING WASTEWATER VOLUMETRIC RATES

CUSTOMER CLASS		Test Year FY 2014 Existing Rates
Total Inside City All Classes	(\$/CCF)	\$ 4.80
Total Outside City All Classes	(\$/CCF)	\$ 5.29

The existing wastewater rate structure includes a fixed service charge which varies by customer water meter size. The rates are shown in Table 16 on the following page. Most Flint residential customers have a 5/8" meter and currently pay the \$32.00 fixed monthly service charge. Similar to the wastewater volumetric rate, the wastewater fixed charges include an inside outside city differential (120%).

In addition to the retail wastewater rates, the City currently serves a wholesale wastewater customer, Beecher Metropolitan District ("District"). The District currently pays \$1.34 per CCF of wastewater discharged, an amount that was negotiated in the 1995 Contract between the City and the District.

TABLE 16: EXISTING WASTEWATER FIXED CHARGES

CUSTOMER CLASS	2019 Year FY 2019 Existing Rates
Inside City Residential Customers	
5/8"	\$ 32.00
3/4"	\$ 46.92
1"	\$ 65.34
1-1/2"	\$ 65.34
2"	\$ 65.34
Inside City Commercial/Industrial Customers	
5/8"	\$ 51.92
3/4"	\$ 64.43
1"	\$ 84.71
1-1/2"	\$ 137.84
2"	\$ 196.16
3"	\$ 438.06
4"	\$ 721.84
6"	\$ 1,459.95
8"	\$ 2,148.21
10"	\$ 2,918.39
12"	\$ 3,426.23
16"	\$ 4,523.95
20"	\$ 5,326.87
Outside City Residential Customers	
5/8"	\$ 41.01
3/4"	\$ 56.01
1"	\$ 76.99
1-1/2"	\$ 76.99
2"	\$ 76.99
Outside City Commercial/Industrial Customers	
5/8"	\$ 58.12
3/4"	\$ 73.62
1"	\$ 98.05
1-1/2"	\$ 164.80
2"	\$ 232.43
3"	\$ 522.87
4"	\$ 886.01
6"	\$ 1,770.13
8"	\$ 2,646.52
10"	\$ 3,522.54
12"	\$ 4,132.57
16"	\$ 5,497.91
20"	\$ 6,532.02

Forecast Wastewater Units of Service

In order to forecast the level of revenue expected under existing wastewater fixed and volumetric rates, the number of wastewater accounts and the level of wastewater usage must be estimated for the forecast period. The number of historical and forecast wastewater utility accounts is indicated in Tables 17 and 18 on the following two pages.

Note that the raw billing data appear to indicate a 14% increase in inside city accounts and an 18% increase in outside city accounts from FY 2012 to FY 2013. This increase in accounts does not appear to have been sustained into FY 2014. The City has indicated that wastewater billings have decreased approximately 12% from FY 2013. Given this change we have adjusted the forecast level of wastewater accounts to be around 13% less than their FY 2013 level. As no significant growth the City's customer base is expected, no customer growth has been forecast on a going forward basis.

TABLE 17: FORECAST INSIDE CITY WASTEWATER ACCOUNTS

	FY 2016											
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Inside City Residential												
0	24,760	24,760	24,760	24,760	24,760	24,760	24,760	24,760	24,760	24,760	24,760	24,760
5/8"	293	293	293	293	293	293	293	293	293	293	293	293
3/4"	29	29	29	29	29	29	29	29	29	29	29	29
1"	9	9	9	9	9	9	9	9	9	9	9	9
1-1/2"	-	-	-	-	-	-	-	-	-	-	-	-
2"	-	-	-	-	-	-	-	-	-	-	-	-
Unmetered	-	-	-	-	-	-	-	-	-	-	-	-
Total Inside City Residential Remote	25,091	25,091	25,091	25,091	25,091	25,091	25,091	25,091	25,091	25,091	25,091	25,091
Inside City Commercial/Industrial												
0	350	350	350	350	350	350	350	350	350	350	350	350
5/8"	238	238	238	238	238	238	238	238	238	238	238	238
3/4"	229	229	229	229	229	229	229	229	229	229	229	229
1"	238	238	238	238	238	238	238	238	238	238	238	238
1-1/2"	77	77	77	77	77	77	77	77	77	77	77	77
2"	53	53	53	53	53	53	53	53	53	53	53	53
3"	36	36	36	36	36	36	36	36	36	36	36	36
4"	3	3	3	3	3	3	3	3	3	3	3	3
8"	-	-	-	-	-	-	-	-	-	-	-	-
10"	-	-	-	-	-	-	-	-	-	-	-	-
12"	-	-	-	-	-	-	-	-	-	-	-	-
16"	-	-	-	-	-	-	-	-	-	-	-	-
20"	-	-	-	-	-	-	-	-	-	-	-	-
Unmetered	-	-	-	-	-	-	-	-	-	-	-	-
Total Inside City Commercial/Industrial	1,221	1,221	1,221	1,221	1,221	1,221	1,221	1,221	1,221	1,221	1,221	1,221
Total Inside City Accounts	26,312	26,312	26,312	26,312	26,312	26,312	26,312	26,312	26,312	26,312	26,312	26,312
	-13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

TABLE 18: FORECAST OUTSIDE CITY WASTEWATER ACCOUNTS

Outside City Accounts	Budget FY 2012	Budget FY 2013	Budget FY 2014	Budget FY 2015	Budget FY 2016	Budget FY 2017	Budget FY 2018	Budget FY 2019	Budget FY 2020	Budget FY 2021	Budget FY 2022	Budget FY 2023	Budget FY 2024	Budget FY 2025
Outside City Residential														
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5/8"	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3/4"	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1"	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-1/2"	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2"	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unmetered	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Outside City Residential Remote	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Outside City Commercial/Industrial														
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5/8"	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3/4"	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1"	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-1/2"	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2"	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3"	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4"	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6"	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8"	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10"	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12"	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18"	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20"	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unmetered	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Outside City Commercial/Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Outside City Accounts	0	0	0	0	0	0	0	0	0	0	0	0	0	0

In addition to forecasting the number of accounts by meter size and customer class, the level of wastewater usage must also be estimated for the forecast period. The historical and forecast level of wastewater usage by customer class can be on Table 19 on the following page.

Note that—consistent with the significant increase in inside city water accounts in FY 2013—inside city wastewater usage has increased significantly in FY 2013 (18%). Given the uncertainty surrounding this most recent upswing in billed wastewater usage, and the subsequent decrease in billed wastewater revenues, retail usage has been forecast at 15% below FY 2013 levels for FY 2014, FY 2015 and the remainder of the ten year forecast period.

TABLE 19: FORECAST WASTEWATER USAGE

INSIDE CITY		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Inside City Metered Wastewater Rates																		
Total Inside City Residential	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866
Total Inside City Commercial/Industrial	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721
Total Inside City All Classes	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587
OUTSIDE CITY																		
Outside City Metered Wastewater Rates																		
Total Outside City Residential	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866	1,576,866
Total Outside City Commercial/Industrial	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721
Total Outside City All Classes	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587	2,975,587
TOTAL RETAIL																		
Total Residential	1,348,830	1,348,830	1,348,830	1,348,830	1,348,830	1,348,830	1,348,830	1,348,830	1,348,830	1,348,830	1,348,830	1,348,830	1,348,830	1,348,830	1,348,830	1,348,830	1,348,830	1,348,830
Total Commercial/Industrial	1,404,449	1,404,449	1,404,449	1,404,449	1,404,449	1,404,449	1,404,449	1,404,449	1,404,449	1,404,449	1,404,449	1,404,449	1,404,449	1,404,449	1,404,449	1,404,449	1,404,449	1,404,449
Total Wholesale	2,754,278	2,754,278	2,754,278	2,754,278	2,754,278	2,754,278	2,754,278	2,754,278	2,754,278	2,754,278	2,754,278	2,754,278	2,754,278	2,754,278	2,754,278	2,754,278	2,754,278	2,754,278
WHOLESALE																		
Bechtel Meter Wholesale Rates																		
Bechtel Meter Wholesale Rate	513,673	513,673	513,673	513,673	513,673	513,673	513,673	513,673	513,673	513,673	513,673	513,673	513,673	513,673	513,673	513,673	513,673	513,673
GRAND TOTAL WASTEWATER USAGE																		
	3,274,672	3,274,672	3,274,672	3,274,672	3,274,672	3,274,672	3,274,672	3,274,672	3,274,672	3,274,672	3,274,672	3,274,672	3,274,672	3,274,672	3,274,672	3,274,672	3,274,672	3,274,672

Forecast Wastewater Revenue at Existing Rates

Wastewater utility revenue at existing rates is the sum of wastewater volumetric and fixed charge revenue. Fixed charge revenue at existing rates was determined by multiplying the number of forecast accounts at each meter size, by the existing rate for that size and again by 12 for each of the monthly bills. Volumetric revenue was determined by multiplying the level of consumption by customer class, by the existing volumetric rates. Table 20 on the following page indicates the level of wastewater revenue at existing rates.

Total wastewater revenue at existing rates in FY 2014 is forecast to be approximately \$27 Million. Of this, approximately 54% is derived from the volumetric rates and 46% is associated with the fixed monthly service charges. On a going forward basis, the level of revenues at existing wastewater rates would remain at \$27 Million assuming consumption remains flat and the City makes no adjustments to wastewater rates.

TABLE 20: FORECAST WASTEWATER REVENUE AT FY 2014 RATES

SUMMARY OF FORECAST WASTEWATER RATES REVENUE AT EXISTING RATES									
	2013	2014	2015	2016	2017	2018	2019	2020	2021
GRAND TOTAL SYSTEM USAGE REVENUE	\$16,006,764	\$16,006,764	\$16,006,764	\$16,006,764	\$16,006,764	\$16,006,764	\$16,006,764	\$16,006,764	\$16,006,764
GRAND TOTAL SYSTEM FIXED CHARGE REVENUE	\$12,771,621	\$12,771,621	\$12,771,621	\$12,771,621	\$12,771,621	\$12,771,621	\$12,771,621	\$12,771,621	\$12,771,621
GRAND TOTAL WASTEWATER REVENUE AT EXISTING RATES	\$28,778,385	\$28,778,385	\$28,778,385	\$28,778,385	\$28,778,385	\$28,778,385	\$28,778,385	\$28,778,385	\$28,778,385
SUMMARY OF FORECAST WASTEWATER RATES REVENUE AT FY 2014 RATES									
	2013	2014	2015	2016	2017	2018	2019	2020	2021
TOTAL RETAIL USAGE REVENUE									
Total Inside City Residential	\$7,660,083	\$7,660,083	\$7,660,083	\$7,660,083	\$7,660,083	\$7,660,083	\$7,660,083	\$7,660,083	\$7,660,083
Total Inside City Commercial/Industrial	\$6,700,917	\$6,700,917	\$6,700,917	\$6,700,917	\$6,700,917	\$6,700,917	\$6,700,917	\$6,700,917	\$6,700,917
WHOLESALE USAGE REVENUE									
Beecher Metro Wholesale Rate	\$865,763	\$865,763	\$865,763	\$865,763	\$865,763	\$865,763	\$865,763	\$865,763	\$865,763
GRAND TOTAL SYSTEM USAGE REVENUE	\$15,006,764	\$15,006,764	\$15,006,764	\$15,006,764	\$15,006,764	\$15,006,764	\$15,006,764	\$15,006,764	\$15,006,764
TOTAL RETAIL FIXED CHARGE REVENUE									
Total Inside City Residential	\$9,771,131	\$9,771,131	\$9,771,131	\$9,771,131	\$9,771,131	\$9,771,131	\$9,771,131	\$9,771,131	\$9,771,131
Total Inside City Commercial/Industrial	\$2,972,974	\$2,972,974	\$2,972,974	\$2,972,974	\$2,972,974	\$2,972,974	\$2,972,974	\$2,972,974	\$2,972,974
WHOLESALE FIXED CHARGE REVENUE									
Beecher Metro Fixed Charge	\$27,516	\$27,516	\$27,516	\$27,516	\$27,516	\$27,516	\$27,516	\$27,516	\$27,516
GRAND TOTAL SYSTEM FIXED CHARGE REVENUE	\$12,771,621	\$12,771,621	\$12,771,621	\$12,771,621	\$12,771,621	\$12,771,621	\$12,771,621	\$12,771,621	\$12,771,621

3.3.2 Forecast Wastewater Utility Operation and Maintenance Expenditures

Wastewater O&M Inflation Rates

The budgets provided by the City are the basis for the forecast of wastewater utility O&M expenditures. To forecast the level of wastewater utility O&M expenditures that the City is projected to incur over the forecast period we applied escalation rates shown in Table 21 below.

TABLE 21: WASTEWATER O&M ESCALATION RATES

Category	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
Wages & Salaries	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Benefits	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Pension	0%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Medical	0%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Materials/Supplies	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
General	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Vehicle	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Pilot	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Deprec/Deple Equip Replace	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cost Alloc Plan-Expense	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Utilities	0%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Maintenance	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Capital Outlay	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Water Supply Costs	0%	0%	0%	0%	5%	5%	5%	5%	5%	5%	5%	5%
KWA Bond Payment	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
KWA Initiation Fee	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Purchase of KWA raw water	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Transfer to 101	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Transfer to 493	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Forecast Wastewater Operation and Maintenance Expenditures

Tables 22 and 23 on the following page indicate level of wastewater O&M expenditures over the forecast period, by the escalation rate categories and by department.

Unlike the water utility there is no single large cost driver. The most notable expenditures are associated with personnel: Wages and Salaries, Benefits, Pension, and the City's share of retiree healthcare benefits ("Cost Alloc. Plan-Expense"). In general, wastewater O&M expenditures are projected to decrease from 24 Million in FY 2014 to 23 Million in FY 2015 with inflationary increases thereafter.

TABLE 22: WASTEWATER O&M BY CATEGORY

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Wages & Salaries	\$ 4,289,808	\$ 4,321,275	\$ 4,450,813	\$ 4,584,240	\$ 4,721,973	\$ 4,863,633	\$ 5,009,942	\$ 5,164,823	\$ 5,334,961	\$ 5,510,000	\$ 5,690,263	\$ 5,874,800
Benefits	\$ 1,584,593	\$ 1,636,181	\$ 1,693,036	\$ 1,752,327	\$ 1,813,997	\$ 1,876,390	\$ 1,940,252	\$ 2,005,728	\$ 2,072,871	\$ 2,141,604	\$ 2,211,948	\$ 2,283,780
Pension	\$ 2,047,927	\$ 2,091,618	\$ 2,136,159	\$ 2,182,039	\$ 2,229,309	\$ 2,277,064	\$ 2,325,204	\$ 2,373,728	\$ 2,422,637	\$ 2,471,931	\$ 2,521,609	\$ 2,571,670
Medical	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Materials/Supplies	\$ 1,491,050	\$ 1,535,782	\$ 1,581,856	\$ 1,629,311	\$ 1,678,150	\$ 1,728,436	\$ 1,780,192	\$ 1,833,803	\$ 1,888,818	\$ 1,945,482	\$ 2,003,847	\$ 2,063,962
General	\$ 3,391,203	\$ 3,472,239	\$ 3,554,806	\$ 3,638,900	\$ 3,724,539	\$ 3,811,719	\$ 3,900,438	\$ 3,990,691	\$ 4,082,484	\$ 4,175,824	\$ 4,270,717	\$ 4,367,163
Vehicle	\$ 780,902	\$ 793,827	\$ 807,136	\$ 821,349	\$ 836,280	\$ 851,979	\$ 868,438	\$ 885,691	\$ 903,762	\$ 922,675	\$ 942,466	\$ 963,129
Pilot	\$ 1,216,300	\$ 1,242,655	\$ 1,269,519	\$ 1,296,877	\$ 1,324,727	\$ 1,353,072	\$ 1,381,914	\$ 1,411,254	\$ 1,441,091	\$ 1,471,424	\$ 1,502,254	\$ 1,533,581
Depreciation/Equip Replace	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cost Alloc Plant Expense	\$ 5,039,744	\$ 5,189,805	\$ 5,345,804	\$ 5,507,972	\$ 5,676,151	\$ 5,850,341	\$ 6,030,552	\$ 6,216,784	\$ 6,409,044	\$ 6,607,324	\$ 6,811,624	\$ 7,021,944
Utilities	\$ 2,283,000	\$ 2,318,320	\$ 2,354,941	\$ 2,392,859	\$ 2,432,084	\$ 2,472,614	\$ 2,514,549	\$ 2,557,889	\$ 2,602,634	\$ 2,648,784	\$ 2,696,339	\$ 2,745,299
Maintenance	\$ 401,500	\$ 413,648	\$ 426,057	\$ 438,839	\$ 452,004	\$ 465,564	\$ 479,531	\$ 493,917	\$ 508,736	\$ 523,997	\$ 539,717	\$ 555,894
Capital Outlay	\$ 46,700	\$ 48,131	\$ 49,596	\$ 51,096	\$ 52,631	\$ 54,199	\$ 55,800	\$ 57,434	\$ 59,102	\$ 60,805	\$ 62,544	\$ 64,319
Water Supply Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
KWA Bond Payment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Purchase of KWA raw water	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Principal	\$ 1,860,000	\$ 1,860,000	\$ 1,860,000	\$ 1,860,000	\$ 1,860,000	\$ 1,860,000	\$ 1,860,000	\$ 1,860,000	\$ 1,860,000	\$ 1,860,000	\$ 1,860,000	\$ 1,860,000
Transfer to 101	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Transfer to 493	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ 24,323,627	\$ 24,653,392	\$ 25,001,671	\$ 25,361,569	\$ 25,734,101	\$ 26,117,113	\$ 26,510,481	\$ 26,914,215	\$ 27,328,316	\$ 27,752,784	\$ 28,187,619	\$ 28,632,770

TABLE 23: WASTEWATER O&M BY DEPARTMENT

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Total Dept 638 101-Utilities - Sewer Administration	\$ 7,442,428	\$ 7,553,942	\$ 7,871,578	\$ 8,095,618	\$ 8,325,945	\$ 8,562,001	\$ 8,807,033	\$ 9,059,091	\$ 9,316,436	\$ 9,582,281	\$ 9,855,847	\$ 10,137,362
Total Dept 640 100-Water Service Center Management	\$ 2,713,445	\$ 2,773,445	\$ 2,834,478	\$ 2,896,548	\$ 2,959,658	\$ 3,023,808	\$ 3,088,998	\$ 3,155,228	\$ 3,222,508	\$ 3,290,838	\$ 3,359,218	\$ 3,428,648
Total Dept 640 200-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 640 201-WSC-Meter Reading - Sewer	\$ 700,818	\$ 738,419	\$ 782,919	\$ 788,273	\$ 814,510	\$ 841,583	\$ 868,769	\$ 898,959	\$ 928,970	\$ 960,143	\$ 992,417	\$ 1,026,832
Total Dept 640 202-WSC-Sewer Repair/Construction	\$ 2,012,627	\$ 2,065,717	\$ 2,086,717	\$ 2,087,922	\$ 2,102,837	\$ 2,121,292	\$ 2,142,726	\$ 2,164,478	\$ 2,185,984	\$ 2,207,468	\$ 2,228,949	\$ 2,250,427
Total Dept 650 100-WSC-Operations	\$ 5,116,142	\$ 5,165,158	\$ 5,307,112	\$ 5,557,929	\$ 5,965,178	\$ 5,360,028	\$ 6,172,400	\$ 6,352,768	\$ 6,871,266	\$ 6,856,238	\$ 7,104,049	\$ 7,393,124
Total Dept 650 200-WSC-Third Ave Pump Station	\$ 909,813	\$ 732,282	\$ 789,305	\$ 817,034	\$ 817,034	\$ 817,034	\$ 878,119	\$ 809,960	\$ 942,990	\$ 977,287	\$ 1,012,807	\$ 1,049,880
Total Dept 650 202-WSC-Maintenance Expenses	\$ 2,817,599	\$ 2,912,411	\$ 3,008,177	\$ 3,108,314	\$ 3,212,560	\$ 3,320,211	\$ 3,431,235	\$ 3,546,160	\$ 3,665,132	\$ 3,789,303	\$ 3,915,629	\$ 4,047,876
Total Dept 650 300-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 400-WSC - Capital Improvements	\$ 1,860,000	\$ 1,860,000	\$ 1,860,000	\$ 1,860,000	\$ 1,860,000	\$ 1,860,000	\$ 1,860,000	\$ 1,860,000	\$ 1,860,000	\$ 1,860,000	\$ 1,860,000	\$ 1,860,000
Total Dept 650 401-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 402-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 403-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 404-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 405-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 406-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 407-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 408-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 409-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 410-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 411-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 412-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 413-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 414-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 415-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 416-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 417-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 418-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 419-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 420-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 421-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 422-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 423-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 424-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 425-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 426-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 427-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 428-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 429-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 430-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 431-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 432-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 433-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 434-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 435-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 436-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 437-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 438-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 439-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 440-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 441-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 442-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 443-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 444-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 445-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 446-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 447-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 448-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 449-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 450-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 451-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 452-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 453-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 454-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 455-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 456-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 457-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 458-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 459-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 460-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 461-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 462-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 463-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 464-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 465-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 466-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 467-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 468-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 469-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 470-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 471-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 472-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 473-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 474-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 475-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 476-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 477-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 478-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 479-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 480-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 481-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 482-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 483-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 484-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 485-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 486-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 487-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 488-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 489-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 490-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 491-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 492-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 493-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 494-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 495-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 496-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 497-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 498-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 499-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650 500-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GRAND TOTAL: WATER UTILITY	\$ 24,323,627	\$ 23,063,382	\$ 21,394,671	\$ 24,081,689	\$ 24,812,101	\$ 25,667,113	\$ 26,327,481	\$ 27,124,116	\$ 27,947,597	\$ 28,800,000	\$ 29,681,261	\$ 30,592,770

3.3.3 Wastewater Utility CIP and CIP Financing

Tables 24 and 25 on the following two pages indicate the wastewater capital improvements program ("CIP") provided by the City and the CIP financing plan. As the plan we received from the City was presented in current year dollars, we escalated the project amounts 3% per year from FY 2015 onward. The largest capital projects relate to rehabilitation of the City's wastewater treatment plant and pumping stations. In general, the level of spending in the CIP peaks at from \$12 Million in FY 2018 and returns to an average level of around \$8 Million going forward.

Table 25 summarizes the wastewater utility CIP financing plan. While the CIP financing plan used for this report only incorporates cash financing, the City may seek to leverage its revenue stream in the future via the issuance of revenue bonds or other alternative financing instruments. This would be particularly beneficial for major wastewater capital improvements, as it would spread the financing responsibility over existing and future ratepayers who receive the benefit of the improvement throughout the asset's useful life.

TABLE 25: WASTEWATER CIP FINANCING PLAN

Beginning CIP Fund Balance											
Beginning Year Construction Fund Balance											
Carry-Over CIP from Previous Year											
Net Funds Available for Current CIP											
Sources of CIP Financing											
Wastewater Revenue Bonds Issued											
Wastewater Commercial Paper Program											
Wastewater Rate Revenue Financing (Cash)											
SDC Receipts Used for CIP Financing											
Other Sources of CIP Financing											
Uses of CIP Funds											
Total WBC Sewer Fund											
Total Water Pollution Control											
Additional Uses											
Total Current Year CIP											
Bond Issuance Costs											
Refunding of Commercial Paper											
EQUALS - Ending CIP Fund Balance											
Target Balance (% of Next Years CIP)											
Variance from Target											

3.3.4 Wastewater Cash Flow Forecast

The final step in the development of the wastewater utility financial plan involves the preparation of a comprehensive cash flow forecast. A summary of the wastewater cash flow forecast is presented in Table 26 on the following page. The key components of the forecast are Financial Plan Inputs, Revenues, Expenditures, and Operating Performance.

The Financial Plan Inputs component indicates the forecast rate revenue increases. These increases were determined in consultation with City staff and are designed to:

- Ensure recovery of wastewater utility O&M expenditures
- Provide cash financing for the wastewater capital projects outlined in the CIP
- Minimize risk via the build-up of operating reserves equivalent to 90 days of O&M and Debt Service

The Revenues component indicates the revenue at existing rates discussed previously, non-rate revenue and the additional revenue generated by the rate revenue increases shown in the inputs section. Given the forecast of wastewater demand, O&M and capital expenditures and the 90 Day operating benchmark, the "additional revenue" line represents the amount of revenue needed—above existing rate revenues—to ensure adequate recovery of the wastewater utility's revenue requirement going forward.

The Expenditures component indicates the major sources of expenditures for the City's wastewater utility: O&M expenditures, Capital expenditures (Rate Revenue Financing and Debt Service) and Transfers to the Operating Reserve.

The Operating performance section indicates the year end position of the wastewater utility with respect to a few key factors. Included are the estimated operating reserve balance, the target reserve balance (90 Days of O&M and Debt Service), and the construction fund ending balance.

TABLE 26: WASTEWATER CASH FLOW FORECAST

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Annual % Increase in Rate Revenues	0.0%	7.5%	7.0%	18.0%	23.1%	4.6%	2.0%	3.1%	33.6%	38.6%	2.0%	42.0%	44.8%	2.0%	41.7%
Annual % Increase in Rate Revenues	0.0%	7.5%	7.0%	18.0%	23.1%	4.6%	2.0%	3.1%	33.6%	38.6%	2.0%	42.0%	44.8%	2.0%	41.7%
Grand Total Wastewater Revenue at Existing Rates	\$ 27,777,974	\$ 27,777,974	\$ 27,777,974	\$ 27,777,974	\$ 27,777,974	\$ 27,777,974	\$ 27,777,974	\$ 27,777,974	\$ 27,777,974	\$ 27,777,974	\$ 27,777,974	\$ 27,777,974	\$ 27,777,974	\$ 27,777,974	\$ 27,777,974
Additional Revenue from Rate Increases	\$ -	\$ 2,083,300	\$ 4,173,500	\$ 6,410,100	\$ 7,948,000	\$ 8,693,000	\$ 9,981,800	\$ 10,138,200	\$ 10,803,800	\$ 11,668,900	\$ 12,446,800	\$ 13,260,500	\$ 14,118,900	\$ 14,983,000	\$ 15,847,100
Total Non-Rate Revenues	\$ 886,872	\$ 429,662	\$ 420,848	\$ 428,098	\$ 422,741	\$ 430,364	\$ 438,000	\$ 445,636	\$ 453,272	\$ 460,908	\$ 468,544	\$ 476,180	\$ 483,816	\$ 491,452	\$ 499,088
Add Transfers In From General Fund	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Rate and Non-Rate Revenues	\$ 28,171,246	\$ 30,284,237	\$ 32,371,823	\$ 34,613,632	\$ 36,148,616	\$ 36,642,338	\$ 37,657,774	\$ 38,237,810	\$ 38,642,776	\$ 39,209,882	\$ 39,916,516	\$ 40,744,656	\$ 41,602,796	\$ 42,460,936	\$ 43,319,076
Grand Total Wastewater Revenue	\$ 28,171,246	\$ 30,284,237	\$ 32,371,823	\$ 34,613,632	\$ 36,148,616	\$ 36,642,338	\$ 37,657,774	\$ 38,237,810	\$ 38,642,776	\$ 39,209,882	\$ 39,916,516	\$ 40,744,656	\$ 41,602,796	\$ 42,460,936	\$ 43,319,076
Total O&M Expenditures	\$ 24,323,827	\$ 23,080,392	\$ 23,394,871	\$ 24,097,896	\$ 24,812,101	\$ 25,557,113	\$ 26,327,461	\$ 27,124,116	\$ 27,947,861	\$ 28,800,000	\$ 29,689,251	\$ 30,613,900	\$ 31,574,450	\$ 32,570,400	\$ 33,601,250
Grand Total Existing and Proposed Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wastewater Rate Revenue Financing (Cash)	\$ 6,000,000	\$ 7,000,000	\$ 9,600,000	\$ 9,600,000	\$ 12,000,000	\$ 8,000,000	\$ 8,000,000	\$ 7,000,000	\$ 8,000,000	\$ 8,000,000	\$ 8,000,000	\$ 8,000,000	\$ 8,000,000	\$ 8,000,000	\$ 8,000,000
Wastewater Transfer to Equipment Replacement Fund	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Capital Expenditures	\$ 6,000,000	\$ 7,000,000	\$ 9,600,000	\$ 9,600,000	\$ 12,000,000	\$ 8,000,000	\$ 8,000,000	\$ 7,000,000	\$ 8,000,000	\$ 8,000,000	\$ 8,000,000	\$ 8,000,000	\$ 8,000,000	\$ 8,000,000	\$ 8,000,000
Net Surplus/Deficit	\$ 1,847,419	\$ 2,203,845	\$ 1,976,952	\$ 1,015,736	\$ 1,036,516	\$ 1,045,225	\$ 1,050,313	\$ 1,055,704	\$ 1,061,415	\$ 1,067,482	\$ 1,073,765	\$ 1,080,266	\$ 1,086,986	\$ 1,093,816	\$ 1,100,756
Q&M Capital	\$ 24,323,827	\$ 23,080,392	\$ 23,394,871	\$ 24,097,896	\$ 24,812,101	\$ 25,557,113	\$ 26,327,461	\$ 27,124,116	\$ 27,947,861	\$ 28,800,000	\$ 29,689,251	\$ 30,613,900	\$ 31,574,450	\$ 32,570,400	\$ 33,601,250
Operating Surplus/Deficit	\$ 1,847,419	\$ 2,203,845	\$ 1,976,952	\$ 1,015,736	\$ 1,036,516	\$ 1,045,225	\$ 1,050,313	\$ 1,055,704	\$ 1,061,415	\$ 1,067,482	\$ 1,073,765	\$ 1,080,266	\$ 1,086,986	\$ 1,093,816	\$ 1,100,756
Total Gross Revenue Requirements	\$ 28,171,246	\$ 30,284,237	\$ 32,371,823	\$ 34,613,632	\$ 36,148,616	\$ 36,642,338	\$ 37,657,774	\$ 38,237,810	\$ 38,642,776	\$ 39,209,882	\$ 39,916,516	\$ 40,744,656	\$ 41,602,796	\$ 42,460,936	\$ 43,319,076
Ending Operating Reserve Balance	\$ 6,307,262	\$ 6,639,067	\$ 6,016,249	\$ 6,037,212	\$ 6,373,728	\$ 17,806,341	\$ 21,080,102	\$ 24,847,672	\$ 28,108,991	\$ 31,310,608	\$ 34,463,569	\$ 37,567,290	\$ 40,621,801	\$ 43,627,312	\$ 46,582,823
Target Operating Reserve Balance	\$ 6,980,907	\$ 7,253,348	\$ 7,525,789	\$ 7,808,230	\$ 8,090,671	\$ 8,373,112	\$ 8,655,553	\$ 8,937,994	\$ 9,220,435	\$ 9,502,876	\$ 9,785,317	\$ 10,067,758	\$ 10,350,199	\$ 10,632,640	\$ 10,915,081
Variance From Target	\$ (673,645)	\$ (620,301)	\$ (509,540)	\$ (771,018)	\$ (797,959)	\$ (1,066,771)	\$ (1,335,249)	\$ (1,608,722)	\$ (1,887,444)	\$ (2,166,166)	\$ (2,444,888)	\$ (2,723,610)	\$ (3,002,332)	\$ (3,281,054)	\$ (3,559,776)
Contribution Fund Ending Balance	\$ 284,324	\$ 74,024	\$ 307,788	\$ 16,573	\$ 284,047	\$ 91,185	\$ 183,717	\$ 8,693	\$ 286,367	\$ 272,002	\$ 6,918	\$ -	\$ -	\$ -	\$ -
Band Alone DSCR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

4. WATER UTILITY COST OF SERVICE STUDY

Following the determination of the water utility financial plan, the next steps are to summarize the water utilities total rate revenue requirement, determine the proportion of that requirement which is attributable to each customer class, and calculate the volumetric and fixed rates.

4.1 WATER REVENUE REQUIREMENT FROM RATES

Table 27 below indicates the level of water utility expenditures which must be recovered from rates in the FY 2015 test year and each year of the forecast period. It is comprised of the forecast water utility O&M and capital expenditures, and is offset by non-rate revenues the water utility is anticipated to receive over the forecast period. The total test year revenue requirement is approximately \$34 Million.

TABLE 27: WATER REVENUE REQUIREMENTS

OPERATION AND MAINTENANCE REQUIREMENTS									
Total Dept 638 100-Utilities - Water Administration	\$ 7,492,304	\$ 7,718,511	\$ 7,945,462	\$ 8,179,197	\$ 8,419,055	\$ 8,667,840	\$ 8,923,374	\$ 9,186,486	\$ 9,457,512
Total Dept 639 200-Utilities - Water Cross Connection P	\$ 104,600	\$ 108,204	\$ 112,037	\$ 116,015	\$ 120,142	\$ 124,426	\$ 128,872	\$ 133,488	\$ 138,264
Total Dept 640 100-Water Service Gender Management	\$ 1,223,240	\$ 1,244,890	\$ 1,264,276	\$ 1,324,840	\$ 1,385,025	\$ 1,410,276	\$ 1,466,037	\$ 1,501,207	\$ 1,548,985
Total Dept 640 300-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 640 300-WSC - Meter Reading - Water	\$ 730,677	\$ 658,261	\$ 581,828	\$ 510,842	\$ 450,350	\$ 391,779	\$ 331,957	\$ 276,677	\$ 224,704
Total Dept 640 200-WSC - Meter Reading - Water	\$ 3,230,667	\$ 3,608,236	\$ 3,924,447	\$ 4,185,207	\$ 4,390,891	\$ 4,541,081	\$ 4,646,866	\$ 4,718,344	\$ 4,766,804
Total Dept 646 200-Water Plant - Operations	\$ 21,645,158	\$ 21,420,858	\$ 21,108,034	\$ 20,700,105	\$ 20,202,020	\$ 19,618,803	\$ 18,956,922	\$ 18,228,201	\$ 17,445,260
Total Dept 646 200-Water Plant - Operations	\$ 1,288,921	\$ 1,889,451	\$ 1,584,136	\$ 1,740,711	\$ 1,799,381	\$ 1,860,043	\$ 1,922,875	\$ 1,987,837	\$ 2,055,313
Total Dept 646 201-Water Plant Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 646 202-Water Plant - Dam Operations	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 646 203-Water Plant - Dam Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 646 500-Water Plant - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 646 500-Water Plant - Capital Improvements	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000
Total Dept 646 501-Transfers out to Kind 101	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Operation and Maintenance Expenditures	\$ 38,885,205	\$ 21,483,441	\$ 22,140,612	\$ 23,316,957	\$ 23,995,404	\$ 24,705,148	\$ 25,434,603	\$ 26,188,716	\$ 27,774,448
DEBT SERVICE REQUIREMENTS									
Grand Total Existing and Proposed Debt Service	\$ 2,747,848	\$ 2,742,821	\$ 2,748,423	\$ 2,748,423	\$ 2,748,423	\$ 2,748,423	\$ 2,748,423	\$ 2,748,423	\$ 2,748,423
Water Rate Revenue Financing (Cash)	\$ 7,000,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Add Net Operating Surplus/Deficit	\$ (2,782,778)	\$ 2,087,727	\$ 3,665,883	\$ (791,543)	\$ 153,465	\$ 126,862	\$ (567,311)	\$ (83,835)	\$ 402,328
Add Water Transfers to Equipment Replacement Fu	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Capital Expenditures	\$ 6,985,188	\$ 13,830,548	\$ 14,812,305	\$ 15,305,903	\$ 15,807,474	\$ 16,268,856	\$ 16,642,517	\$ 16,938,806	\$ 17,270,187
Net Revenue Requirement from Rates	\$ 3,967,928	\$ 14,838,817	\$ 17,167,613	\$ 18,359,329	\$ 19,190,929	\$ 19,777,381	\$ 20,172,819	\$ 20,483,891	\$ 20,782,268
NON-RATE REVENUE REQUIREMENTS									
Total Non-Rate Revenues	\$ 886,000	\$ 818,314	\$ 831,644	\$ 827,885	\$ 828,503	\$ 829,131	\$ 831,145	\$ 833,187	\$ 835,227
Net Revenue Requirement from Rates	\$ 3,081,928	\$ 14,020,503	\$ 16,335,969	\$ 17,531,444	\$ 18,362,426	\$ 18,948,250	\$ 19,341,674	\$ 19,650,704	\$ 19,947,041

4.2 WATER REVENUE REQUIREMENTS BY CUSTOMER CLASS

Following the development of the total test year revenue requirement, the proportion of the total revenue requirement allocable to each customer class must be determined. This allocation represents the level of revenues that must be recovered from each customer class, given the operational demands that class places on the water utility system. This allocation is performed via the multi-step process described below.

4.2.1 *O&M Allocation to Function Categories*

The first step in determining revenue requirements by customer class is to allocate the test year O&M revenue requirement to functional categories. These categories are functions that the water utility must perform in order to deliver water service to City customers. For the water utility they are: Administrative and General, Customer Service, Source of Supply, Pumping, Treatment, Storage, Transmission Mains, Distribution Mains, Meters and Services and Hydrants.

The O&M allocations, by department, are shown in Table 28 on the following page.

TABLE 28: WATER O&M ALLOCATION TO FUNCTIONAL CATEGORIES

Account	Water	Electricity	Gas	Telephone	Internet	Administrative and Capital	Customer Service	Supply	Pumping	Treatment	Average	Water	Waste	Utilities
Total Dept 636 100-Utilities - Water Administration	\$ 7,718,511	\$ -	\$ -	\$ -	\$ -	\$ 7,718,511	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 638 206-Utilities - Water Cross Connection P	\$ 108,204	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 108,204	\$ -	\$ -
Total Dept 640 100-Water Service Center Management	\$ 1,244,800	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,244,800	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 640 300-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 640 200-Wac-Meter Reading - Water	\$ 533,281	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 833,281	\$ -
Total Dept 640 202-Wac-Water Distribution Meters	\$ 3,698,236	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,698,236	\$ -	\$ -
Total Dept 646 200-Water Plant - Operations	\$ 6,420,868	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,420,868	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 646 203-Water Plant Maintenance	\$ 1,629,431	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,629,431	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 646 202-Water Plant - Dam Operations	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 646 203-Water Plant - Dam Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 646 300-Water Plant - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 988 101-Transfers out to fund 101	\$ 1,130,000	\$ 1,130,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GRAND TOTAL WATER UTILITY	\$ 21,483,441	\$ 8,645,611	\$ 1,244,800	\$ -	\$ -	\$ 7,050,319	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,906,440	\$ 633,281	\$ -

4.2.2 O&M Allocation to Cost Components

Once O&M costs have been allocated to functional categories, the total O&M revenue requirement allocated to each functional category must be further allocated based on the operational need that function is designed to fulfill. For this allocation RFC has utilized the "Base Extra Capacity" method described in the American Water Works Association ("AWWA") publication, "Manual of Water Supply Practices M1, Principles of Rates, Fees and Charges [M1]."

The cost components utilized in this study are: base demand, or water demand under average conditions; maximum day and hour demand, or water demand under peak load conditions; customer service, for functions related to customer billing and service; and fire protection, for functions pertaining to the use of public hydrants and private fire lines. Table 29 below indicates the classification of water O&M expenditures to the cost components described above.

TABLE 29: WATER O&M ALLOCATION TO COST COMPONENTS

FUNCTIONAL CLASSIFICATION	Total \$ Allocation	\$ Allocation								
		Base Demand	Max/Day Extra Capacity	Max/Hour Extra Capacity	Customer Units & Services	Equivalent Meters - Bills	Fire Protection - Private Fire Equivalent Connections - Bills	Public Fire Hydrants		
Administrative and General	\$ 8,848,511	\$ 2,791,751	\$ 4,451,013	\$ 360,456	\$ 1,245,291	\$ -	\$ -	\$ -	\$ -	\$ -
Customer Service	\$ 1,244,690	\$ -	\$ -	\$ -	\$ 1,244,690	\$ -	\$ -	\$ -	\$ -	\$ -
Source of Supply	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Pumping	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Treatment	\$ 7,050,319	\$ 2,717,572	\$ 4,332,747	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Storage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Transmission Mains	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Distribution Mains	\$ 3,806,440	\$ 1,268,813	\$ 2,022,526	\$ 514,701	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Meters and Services	\$ 533,281	\$ -	\$ -	\$ -	\$ 533,281	\$ -	\$ -	\$ -	\$ -	\$ -
Hydrants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ 21,483,441	\$ 6,778,137	\$ 10,806,686	\$ 875,157	\$ 3,023,462	\$ -	\$ -	\$ -	\$ -	\$ -

4.2.3 Capital Cost Allocation to Functional Components

Similar to the allocation of the O&M revenue requirement described in the previous section, the capital revenue requirement must be allocated to functional categories. Table 30 on the following page indicates the functional allocation of capital costs.

The basis for the allocation of capital costs was the existing level of water utility investment in fixed assets. The existing net book value of each major asset class was allocated to the functional categories. The total capital revenue requirement, approximately 14 Million in the test year, was then allocated according to the proportion of existing investment in each functional category. As indicated, a large proportion of investment in fixed assets pertains to upgrades to the City's water treatment plant. As such, the majority of the capital revenue requirement (68%) has been allocated to the treatment function.

TABLE 30: WATER CAPITAL ALLOCATION TO FUNCTIONAL CATEGORIES

Functional Category	100%	0.21%	0.00%	8.83%	0.48%	58.38%	0.00%	0.00%	19.26%	2.08%	0.04%
Breakdown of Fixed Assets by Functional Category	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Total Capital Expenditures	13,330,648	28,611	-	1,317,508	66,010	9,466,193	-	-	2,883,837	289,276	5,613
01 Land	724,317	73,898	-	603,947	8,388	34,933	-	-	5,050	-	-
02 Construction-in-Progress	755,691	1,618	-	71,962	3,607	516,782	-	-	145,648	15,828	307
20 Land Improvement	190,608	425	-	18,929	849	135,875	-	-	38,268	4,161	61
21 Building Improvements	3,461,802	7,418	-	330,084	18,637	2,388,448	-	-	867,339	72,670	1,408
23 O&M Plant - Hydrants	119,458	-	-	-	-	-	-	-	-	-	-
24 O&M Plant - Water mains	7,175,835	-	-	-	-	-	-	-	7,175,835	-	10,488
25 O&M Plant - Meters	148,348	-	-	-	-	-	-	-	-	-	-
26 O&M Plant - Structures	629,590	-	-	-	-	-	-	-	629,590	-	-
27 Lab Equip	-	-	-	-	-	-	-	-	-	-	-
28 Office Equip & Furn	12,823	12,823	-	-	-	-	-	-	-	-	-
29 Power operated equip	6,000	13	-	672	29	4,103	-	-	1,158	128	2
31 Pump Plant (Electric Pump Equip)	120,581	-	-	-	120,581	-	-	-	-	-	-
32 Pump Plant - Struc & Imp	60,574	-	-	-	60,574	-	-	-	-	-	-
33 Source of Supplies - Main (Pipe Line)	2,476,415	-	-	2,476,415	-	-	-	-	-	-	-
34 Source of Water Supplies - Structure	783,912	-	-	-	-	-	-	-	-	-	-
35 Tools, Cars, & Garage Eq	283	7	-	283	15	2,107	-	-	593	65	1
36 Vehicle	3,080	747	-	33,225	1,865	238,499	-	-	87,172	7,305	142
37 Treatment - Struc & Impr	84,545	-	-	-	-	394,546	-	-	-	-	-
38 Treatment Plant Equip	11,832	-	-	-	-	116,892	-	-	-	-	-
DWRLF Phase 1/Seg 1 Total	8,976,630	-	-	-	-	3,976,630	-	-	-	-	-
DWRLF Phase 1/Seg 2 Total	4,338,011	-	-	-	-	4,338,011	-	-	-	-	-
DWRLF Phase 1/Seg 3 Total	4,388,568	-	-	-	-	4,388,568	-	-	-	-	-
DWRLF Phase 1/Seg 4 Total	7,579,468	-	-	-	-	7,579,468	-	-	-	-	-
DWRLF Phase 1/Seg 5 Total	6,893,686	-	-	-	-	6,893,686	-	-	-	-	-
Total Water Fixed assets	45,326,750	97,049	-	4,318,369	216,343	30,888,634	-	-	8,730,657	848,401	18,387
% Breakdown	100.00%	0.21%	0.00%	9.53%	0.48%	68.38%	0.00%	0.00%	19.26%	2.08%	0.04%

4.2.4 Capital Cost Allocation to Cost Components

As with the allocation of the O&M revenue requirement described above, the functionally allocated capital revenue requirement must also be allocated according to the operational need for which each function is designed to fulfill.

The "Base Extra Capacity" method described in AWWA M1 is also used to allocate the capital revenue requirement to cost components. Table 31 below summarizes this allocation.

TABLE 31. WATER CAPITAL ALLOCATION TO COST COMPONENTS

FUNCTIONAL CLASSIFICATION	\$ Allocation						
	Total \$ Allocation	Base Demand	Max Day Extra Capacity	Max Hour Extra Capacity	Customer Units & Services	Fire Protection Equivalent Connections	Public Fire Hydrants
Administrative and General	29,611	-	-	-	29,611	-	-
Customer Service	-	-	-	-	-	-	-
Source of Supply	1,317,605	1,317,605	-	-	-	-	-
Pumping	66,010	25,444	40,566	-	-	-	-
Treatment	9,459,193	3,645,697	5,812,497	-	-	-	-
Storage	-	-	-	-	-	-	-
Transmission Mains	-	-	-	-	-	-	-
Distribution Mains	2,663,837	887,946	1,415,691	360,200	-	-	-
Meters and Services	289,678	-	-	-	289,678	-	-
Hydrants	5,613	5,613	-	-	-	-	-
Total Capital Expenditures	13,830,548	5,882,305	7,268,754	360,200	318,289	-	-

4.2.5 Non-Rate Revenue Allocation to Cost Components

Non-rate revenue must be excluded from the O&M and Capital revenue requirements as these amounts are an offset to the revenue requirement which will be recovered from rates. Consequently, non-rate revenues are allocated to the cost components so that they can be removed from the total revenue requirement. In this case, non-rate revenues were allocated proportionally according to the total O&M revenue requirement allocation and can be seen in Table 32 on the below.

TABLE 32: WATER NON-RATE REVENUE ALLOCATION TO COST COMPONENTS

Account Code	Description	Revenue Allocation	Allocation				Allocation			
			Base Demand	Max Day Capacity	Max Hour Capacity	Customer Utility	Equivalent Meters	Photo Fee	Equivalent Connections	Public Fee
591-536-100-615.000	Fees - Utilities - Blind Regn	-	-	-	-	-	-	-	-	-
591-536-100-642.000	Charges For Sale	-	-	-	-	-	-	-	-	-
591-536-100-642.000	Scrap Sales	5,000	1,576	2,515	204	704	-	-	-	-
591-536-100-657.000	Fees - Turn-On Fees - Utilities	120,000	37,661	60,363	4,888	16,888	-	-	-	-
591-536-100-657.100	Forfeited Discount - Utilities	350,000	110,427	176,058	14,258	49,257	-	-	-	-
591-536-100-659.000	Interest Earned On Bank Cdp &	27,314	8,618	13,740	1,113	3,844	-	-	-	-
591-536-100-670.000	Rental - City Property	-	-	-	-	-	-	-	-	-
591-536-100-673.400	Sale Of Fixed Assets	25,000	7,888	12,576	1,018	3,518	-	-	-	-
591-536-100-698.000	Discounts Earned	-	-	-	-	-	-	-	-	-
591-536-100-698.999	Prior Year Revenue	-	-	-	-	-	-	-	-	-
591-540-100-643.000	Water Water Sales	-	-	-	-	-	-	-	-	-
591-540-100-643.000	Scrap Sales	-	-	-	-	-	-	-	-	-
591-540-100-670.000	Rental - City Property	-	-	-	-	-	-	-	-	-
591-540-100-677.000	Reimbursements	-	-	-	-	-	-	-	-	-
591-540-208-601.000	Mitochond & Job Charge Service	150,000	47,328	75,454	6,110	21,110	-	-	-	-
591-540-204-642.000	Charges For Sale	-	-	-	-	-	-	-	-	-
591-540-208-601.900	Mitochond & Job Charge Service	226,000	74,459	118,714	9,614	32,213	-	-	-	-
591-545-200-615.000	Fees - Water testing - Utilities	-	-	-	-	-	-	-	-	-
591-545-200-642.000	Charges For Sale	-	-	-	-	-	-	-	-	-
591-545-200-643.000	Scrap Sales	-	-	-	-	-	-	-	-	-
591-545-200-671.300	Other Income	-	-	-	-	-	-	-	-	-
591-545-200-677.000	Reimbursements	-	-	-	-	-	-	-	-	-
591-545-203-698.000	Discounts Earned	-	-	-	-	-	-	-	-	-
Add Transfers in from General Fund		-	-	-	-	-	-	-	-	-
Total Non-Rate Revenues		913,314	288,195	459,419	37,205	128,538	-	-	-	-

4.2.6 Determination of Maximum Day and Hour Peaking Factors

Once each component of the revenue requirements has been determined, maximum day and hour peaking factors for each customer class are estimated. These are the basis upon which the maximum day and hour cost allocations, determined in the previous step, are allocated to each customer class. In general, the guidelines for determining maximum day and hour peaking factors outlined in AWWA M1 were the basis for this component of the analysis.

The maximum day demand for each customer class is estimated as the average usage per day in the highest usage month, divided by the annual average usage per day, weighted by the ratio of maximum day demand to the average demand in the maximum month for the entire water system. In other words:

- System Max Day to Average Day in Max Month=(System Max Day Demand)/(System Max Month/30)
- Class Maximum Day=[(Class Max Month/30)/(Class Annual Total)/365]*[System Max Day to Average Day in Max Month]

The weighting occurs because the exact maximum day, by customer class is not known, but is assumed to have the same relationship to the average day in the maximum month as the entire system. As the exact customer class maximum hour is not known, a similar weighting process occurs to determine the customer class maximum hour demands:

- System Max Hour to Average Day in Max Month=(System Max Hour)/(System Max Month/30)
- Class Maximum Hour=Class Max Day*System Max Hour to Average Day in Max Month

The determination of customer class peaking factors is shown in Table 33 on the below.

TABLE 33: WATER PEAKING FACTOR CALCULATIONS

System Production Metrics											
	Annual Total	Annual Average Day	System Max Month	System Average Day in Max Month	System Max Day	System Max Hour	System Max Hour Peak	System Max Hour Peak Factor	System Max Hour Peak Factor	System Max Hour Peak Factor	System Max Hour Peak Factor
Total System	3,485,892	9,550	426,416	14,214	2,537	2.93	1.74	3.00	28,651	3.00	2.02
Determination of Customer Class Peaking Factors											
Customer Class	Annual Total	Annual Average Day	System Max Month	System Average Day in Max Month	System Max Day	System Max Hour	System Max Hour Peak	System Max Hour Peak Factor	System Max Hour Peak Factor	System Max Hour Peak Factor	System Max Hour Peak Factor
INSIDE CITY RETAIL											
Total Inside City Residential	1,856,952	220,002	7,333	5,088	1.44	1.75	2.52	1.95	4.92		
Total Inside City Commercial/Industrial	1,578,978	185,367	6,646	4,326	1.54	1.75	2.69	1.95	5.24		
Total Inside City Lawn	13,389	5,105	170	37	4.64	1.75	8.12	1.95	15.83		
Total Inside City	3,449,319	424,474	14,149	9,450	1.50	1.75	2.62	1.95	5.11		
OUTSIDE CITY RETAIL											
Total Outside City Residential	8,530	1,216	41	24	1.71	1.75	3.00	1.95	5.85		
Total Outside City Commercial/Industrial	27,943	4,257	142	77	1.85	1.75	3.24	1.95	6.33		
Total Outside City Lawn	-	-	-	-	-	1.75	-	1.95	-		
Total Outside City	36,573	4,864	162	100	1.62	1.75	2.83	1.95	5.52		
Total System	3,485,892	9,550	426,416	14,214	1.49						

4.2.7 Calculation of Units of Service

The next step in the cost allocation process is to summarize the units of service, which are the basis for the allocation of the total revenue requirement to each of the customer classes. The units are Base units, Maximum Day Extra Capacity units, Maximum Hour Extra Capacity units, Customer units and Direct Fire Protection Units and are indicated in Table 34 on the following page.

Base units are the annual usage for each customer class. Maximum Day Extra Capacity units represent the water demand in excess of that which is used on an average day for that customer class, and is a function of the average daily usage and the customer class peaking factor determined in the prior step.

As an example, the residential class is forecast to use 1.7 Million CCF on an annual basis in the test year. This equates to 4,700 CCF/day on an average day. Based on the maximum day peaking factor determined in the previous step, Residential customers, on their highest usage day of the year, typically use 1.7 times their average day usage, or around 8,200 CCF. The difference between the maximum day and average day, around 3,500 CCF, represents the Maximum Day Extra Capacity units.

A similar calculation is used to determine the Maximum Hour Extra Capacity Units, which are simply the usage forecast in the highest hour of the test year, less the maximum day demand.

Customer Units are equivalent meters, and customer monthly bills. The number of bills for each customer class was ascertained via an examination of the billing data from the City's Customer Information System ("CIS"). The equivalent meters are the number of customer meters at each meter size weighted by the potential water demand each meter can place on the water system.

Private fire connections and hydrants were not included as the City does not currently bill separately for public or private fire protection.

TABLE 34: WATER UNITS OF SERVICE

INSIDE CITY RETAIL CONSUMPTION REVENUE														
Total Inside City Residential	1 716 535	4 782	2 252	12 083	7 281	23 524	11 480	25 521	301 317					
Total Inside City Commercial/Industrial	1 484 239	4 068	2 159	10 332	6 866	21 317	10 385	8 993	15 210					
Total Inside City Lawn	12 658	34	6 12	280	245	545	285	17	565					
Total Inside City	3 213 430	8 883	4 423	22 695	14 392	45 387	22 112	34 569	317 082					
OUTSIDE CITY RETAIL CONSUMPTION REVENUE														
Total Outside City Residential	8 112	27	1 00	87	44	130	63	120	1 603					
Total Outside City Commercial/Industrial	26 265	72	3 24	233	161	466	222	168	4 17					
Total Outside City Lawn		0	1 00											
Total Outside City	34 379	94	2 00	300	206	596	286	286	1 920					
Grand Total System Units of Service	3 276 718	8 977	6 423	23 576	14 538	46 972	22 397	34 854	319 002					

4.2.8 Unit Cost of Service

Following the allocation of the water revenue requirements to each of the cost components and the calculation of the units of service, a unit cost of service for each cost component can be determined. These unit costs are basis by which the revenue requirements by customer class are determined. The unit cost of service is the revenue requirement, as allocated to the cost components, divided by the units of service attributable to that component and is shown in Table 35 below.

TABLE 35 WATER UNIT COST OF SERVICE

Water Units of Service										
Cost Component		Base Demand	Max Day Demand	Max Hour Demand	Service Units	Customer Units		Direct Fire Protection		
		Units	Capacity	Capacity	Units	Units	Units	Equivalent Connections	Private Fire Hydrants	Public Fire Hydrants
Total Inside City		3,242,360	14,392	22,712	34,669	317,082				
Total Outside City		34,379	306	285	285	1,920				
Grand Total System Units of Service		3,276,738	14,698	22,997	34,954	319,002				

Water Supply Revenue Requirements										
Revenue Requirement	Total	Base Demand	Max Day Demand	Max Hour Demand	Service Units	Customer Units		Direct Fire Protection		
		Units	Capacity	Capacity	Units	Units	Units	Equivalent Connections	Private Fire Hydrants	Public Fire Hydrants
Total Operation and Maintenance Expenditures	\$ 21,483,441	\$ 6,778,137	\$ 10,806,886	\$ 879,157	\$ 3,023,462	\$ -	\$ -	\$ -	\$ -	\$ -
Unit Cost		\$ 2.07	\$ 740.28	\$ 39.06	\$ 85.47	\$ -	\$ -	\$ -	\$ -	\$ -
Total Capital Expenditures	\$ 10,630,548	\$ 5,082,305	\$ 7,258,784	\$ 560,200	\$ 319,289	\$ -	\$ -	\$ -	\$ -	\$ -
Unit Cost		\$ 1.80	\$ 497.93	\$ 24.00	\$ 9.13	\$ -	\$ -	\$ -	\$ -	\$ -
Total Non-Rate Revenues	\$ (913,514)	\$ (288,165)	\$ (409,410)	\$ (57,203)	\$ (129,535)	\$ -	\$ -	\$ -	\$ -	\$ -
Unit Cost		\$ (0.09)	\$ (31.47)	\$ (1.86)	\$ (3.88)	\$ -	\$ -	\$ -	\$ -	\$ -
Total System Revenue Requirements	\$ 34,420,675	\$ 12,372,286	\$ 17,516,021	\$ 1,198,152	\$ 3,214,216	\$ -	\$ -	\$ -	\$ -	\$ -
Total System Unit COS		\$ 3.78	\$ 1,204.74	\$ 53.90	\$ 91.33	\$ -	\$ -	\$ -	\$ -	\$ -

For example, total base demand units are 3.2 Million CCF. This means that the O&M, Capital and Non-Rate Revenue Requirements cost \$2.07, \$1.80 and \$(.09) per unit of base water demand. The total unit cost to serve base water demand is \$3.78/CCF. The calculation is repeated for each cost component to determine the overall unit cost to serve base demand, extra capacity demand (max day and hour) and provide customer service.

4.2.9 Revenue Requirements by Customer Class

The customer class revenue requirements are the basis for establishing alternative rates by customer class. The City's existing rate structure does not include distinct rates by customer class. At this time the City will not be implementing any rate structure changes. However, the distinct class revenue requirements are shown in Table 36 below and are the basis for the alternative rates by customer class presented as Appendix A.

TABLE 36: WATER REVENUE REQUIREMENTS BY CUSTOMER CLASS

CUSTOMER CLASS	Demand Units	Demand Capacity	Max Capacity	Max Capacity	Customer Units		Customer Units		Customer Units	
					Water	Sanitary	Water	Sanitary	Water	Sanitary
Total System Revenue Requirements	\$34,400,875	\$12,372,286	\$17,618,021	\$1,198,152	\$	\$	3,214,218	\$	\$	\$
Total System Unit COS		\$ 3.78	\$ 1,206.74	\$ 53.50	\$	\$	91.93	\$	\$	\$
Units of Service										
Total Inside City Residential	1,745,535	7,281	11,400	25,621	301,317	-	-	-	-	-
Total Inside City Commercial/Industrial	1,484,235	6,888	10,385	8,909	15,210	-	-	-	-	-
Total Inside City Lawn	12,596	245	285	138	555	-	-	-	-	-
Total Inside City	3,242,366	14,392	22,112	34,669	317,082	-	-	-	-	-
Total Outside City Residential	6,112	44	63	129	1,503	-	-	-	-	-
Total Outside City Commercial/Industrial	26,268	181	222	166	417	-	-	-	-	-
Total Outside City Lawn	-	-	-	-	-	-	-	-	-	-
Total Outside City	34,379	206	285	295	1,920	-	-	-	-	-
Total System Units of Service	3,276,738	14,598	22,397	34,964	319,002	-	-	-	-	-
Allocated Cost of Service										
Total Inside City Residential COS	\$18,345,872	\$ 8,500,778	\$ 8,788,440	\$ 613,089	\$	\$	2,355,365	\$	\$	\$
Total Inside City Commercial/Industrial COS	\$15,263,704	\$ 5,804,180	\$ 8,284,911	\$ 555,585	\$	\$	819,028	\$	\$	\$
Total Inside City Lawn COS	\$ 370,646	\$ 47,521	\$ 298,185	\$ 14,226	\$	\$	12,714	\$	\$	\$
Total Inside City COS	\$33,980,222	\$12,242,479	\$17,367,536	\$1,182,900	\$	\$	3,187,107	\$	\$	\$
Total Outside City Residential COS	\$ 99,463	\$ 30,630	\$ 53,842	\$ 3,389	\$	\$	11,823	\$	\$	\$
Total Outside City Commercial/Industrial COS	\$ 321,189	\$ 99,177	\$ 184,843	\$ 11,863	\$	\$	15,286	\$	\$	\$
Total Outside City Lawn COS	\$ -	\$ -	\$ -	\$ -	\$	\$	-	\$	\$	\$
Total Outside City COS	\$ 420,653	\$ 129,807	\$ 248,685	\$ 15,252	\$	\$	27,109	\$	\$	\$
Total System Cost of Service	\$34,400,875	\$12,372,286	\$17,618,021	\$1,198,152	\$	\$	3,214,218	\$	\$	\$
Check on Total System COS (Should be 30)	\$ -									

As Table 36 indicates, the revenue requirement for each customer class is the total unit cost of service determined previously, multiplied by the units of service for each customer class. The total allocation is based on each customer class's contribution to the water utility's overall operating and capital costs, as represented by their units of service.

4.3 WATER RATE DESIGN

As mentioned previously, the water rates have been calculated under the City's existing rate structure. The rate calculation under existing rates will be presented here, with the alternative rates by customer class presented as Appendix A for informational purposes.

4.3.1 Volumetric Rate Calculations

As mentioned above, the City did not indicate a desire to significantly modify its water rate structure at this time. Therefore RFC maintained various components of the existing water volumetric rates including:

- The existing inside/outside city differential (i.e. outside=150% of inside)
- The existing steepness or difference between the highest, middle and lowest block rates
- The existing structure which charges the same volumetric rates for all customer classes
- The existing shift of some volumetric costs to the fixed service charge (i.e. a readiness to serve adjustment)

The calculation of the water volumetric rates involves the following steps

- Determine total composite volumetric revenue requirement
 - Adjust the test-year volumetric revenue requirement (i.e. Base, Max Day and Max Hour costs) by the readiness to serve amount
 - Allocate the adjusted volumetric revenue requirement to the three consumption blocks
 - Add the block allocation for inside and outside city customers to determine a composite volumetric revenue requirement for all customer classes
- Determine the composite water volumetric units:
 - Multiply the consumption, by block, for inside and outside city customers, by their respective differentials (Outside=150% of Inside).
 - Add those units together.
- Calculate Inside and Outside City Volumetric Rates:
 - Determine a composite rate, for each block, for all customer classes:
 - Multiply the composite consumption for each block by the proposed steepness for that block and sum the result
 - For the lowest block divide the total composite revenue requirement by the total determined above.
 - For Blocks 2 and 3 multiply the Block 1 rate by the proposed steepness for Blocks 2 and 3.
 - Multiply the composite rates, by block determined above, by the outside and inside city differentials to determine the block rates for inside and outside city customers.

A summary of the water volumetric rate calculations are indicated in Table 37 below.

4.3.2 Fixed Charge Calculations

As noted above, the City did not express a desire to change rate structures at this time. Consequently, the following aspects of the existing rate structure have been maintained including

- The existing inside/outside city differential (i.e. outside=150% of inside)
- The existing shift of some volumetric costs to the fixed service charge (i.e. a readiness to serve adjustment)
- The flow equivalencies for the various meter sizes

The calculation of the water fixed charges involves the following steps

- Determine total composite fixed charge revenue requirement by summing the fixed charge revenue requirements (i.e. those allocated to the customer service related cost components) and the readiness to serve revenue requirement
- Determine the composite fixed charge water units.
 - Multiply the number of inside and outside city equivalent accounts by the existing I/O differential (Outside=150% of Inside)
 - Add those units together to determine the composite number of equivalent customer accounts
- Calculate Inside and Outside City Volumetric Rates.
 - Determine an annual composite rate for all customer classes by dividing the total composite revenue requirement determined above, by the total composite water equivalent accounts
 - Determine a monthly rate for the 5/8" equivalent account by dividing the annual rate by 12.
 - Multiply the composite fixed charges by the Inside and Outside City differentials (100% for Inside City and 150% for Outside City) to determine the monthly fixed charge per 5/8" equivalent account for inside and outside city customer classes.
 - Multiply the monthly fixed charge for a 5/8" equivalent account by the meter equivalencies for each meter size to determine the monthly fixed charge for the remaining meter sizes

The fixed charge calculations are shown in Table 38 on the following page.

TABLE 38: WATER FIXED CHARGE CALCULATIONS

CHARGE	Total Revenue Requirements	Composite Revenue Requirements	Equivalent Accounts	Inside City	Outside City	Adjusted	Composite	Monthly
	By Charge	Requirements	Accounts	Inside City	Outside City	Adjusted	Composite	Equivalent
Total Inside City Residential	\$ 7,059,524	\$ 7,054,959	26,521	26,521		26,521	26,514	\$ 22.90
Total Inside City Commercial/Industrial	\$ 2,492,905	\$ 2,538,722	9,048	9,048		9,048	9,297	\$ 22.76
	\$ 9,552,429	\$ 9,593,681	34,669	34,669		34,669	35,811	
Total Outside City Residential	\$ 36,435		129		129	193		\$ 34.36
Total Outside City Commercial/Industrial	\$ 45,817		165		165	249		\$ 34.13
	81,252		296		296	442		

Customer Class	Inside City	Outside City	Proposed	Existing	Distance	Proposed	Existing	Difference
	Water	Water	Fixed Charge	Fixed Charge		Fixed Charge	Fixed Charge	
CUSTOMER CLASS	Equivalent	Equivalent	INSIDE CITY	INSIDE CITY	Distance	OUTSIDE CITY	OUTSIDE CITY	Difference
Residential Customers								
5/8"	1.00	0.89	\$ 22.80	\$ 21.78	5%	\$ 34.17	\$ 32.48	5%
3/4"	1.92	1.92	\$ 44.03	\$ 41.86	5%	\$ 65.95	\$ 62.71	5%
1"	2.54	2.53	\$ 58.16	\$ 55.26	5%	\$ 87.08	\$ 82.79	5%
1-1/2"	2.54	2.53	\$ 58.16	\$ 55.26	5%	\$ 87.08	\$ 82.79	5%
2"	2.54	2.53	\$ 58.16	\$ 55.26	5%	\$ 87.08	\$ 82.79	5%
Commercial/Industrial Customers								
5/8"	2.45	2.45	\$ 55.79	\$ 53.385	4%	\$ 83.74	\$ 80.13	4%
3/4"	2.81	2.81	\$ 64.02	\$ 61.263	4%	\$ 95.84	\$ 91.72	4%
1"	3.45	3.45	\$ 78.48	\$ 75.103	4%	\$ 117.74	\$ 112.67	4%
1-1/2"	4.95	4.95	\$ 112.50	\$ 107.756	4%	\$ 169.06	\$ 161.79	4%
2"	6.92	6.92	\$ 157.40	\$ 150.622	4%	\$ 236.26	\$ 226.09	4%
3"	13.66	13.73	\$ 310.83	\$ 297.448	4%	\$ 458.85	\$ 448.47	4%
4"	24.04	24.04	\$ 547.05	\$ 523.455	4%	\$ 820.71	\$ 788.37	4%
6"	47.27	47.27	\$ 1,075.75	\$ 1,029.429	4%	\$ 1,613.34	\$ 1,543.87	4%
8"	68.56	68.56	\$ 1,560.05	\$ 1,492.875	4%	\$ 2,340.24	\$ 2,229.47	4%
10"	94.63	95.13	\$ 2,153.48	\$ 2,060.754	4%	\$ 3,247.30	\$ 3,107.48	4%
12"	114.49	114.48	\$ 2,605.31	\$ 2,493.124	4%	\$ 3,907.77	\$ 3,739.51	4%
16"	142.48	142.48	\$ 3,242.25	\$ 3,102.636	4%	\$ 4,863.28	\$ 4,653.87	4%
20"	153.89	167.27	\$ 3,501.98	\$ 3,351.183	4%	\$ 5,709.67	\$ 5,463.82	4%

4.3.3 Summary of Existing and Forecast Water Rates

Based on the calculations from the previous two sections, the existing and proposed rates for the forecast period are shown on Tables 39 and 40 on the following two pages. Note that while the test year rates have been calculated within the cost of service study, the rates for FY 2016 and beyond are based on the overall rate revenue increase from the water utility financial plan.

TABLE 39: SUMMARY OF EXISTING AND FORECAST VOLUMETRIC WATER RATES

[illegible]

TABLE 40: SUMMARY OF EXISTING AND FORECAST WATER FIXED CHARGES

Water Service	Rate	Year																					
		2017	2018	2019	2020	2021	2022	2023	2024	2025	2026												
Inside City Residential Customers												Fixed Charge	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change
6"	\$	2178	\$	2290	\$	2405	\$	2513	\$	2668	\$	2733	\$	2788	\$	2843	\$	2900	\$	2958	\$	3017	
3/4"	\$	4188	\$	4403	\$	4623	\$	4831	\$	5036	\$	5243	\$	5469	\$	5687	\$	5916	\$	6147	\$	6380	
1"	\$	5528	\$	5815	\$	6105	\$	6380	\$	6672	\$	6938	\$	7218	\$	7503	\$	7793	\$	8087	\$	8384	
1-1/2"	\$	5528	\$	5815	\$	6105	\$	6380	\$	6672	\$	6938	\$	7218	\$	7503	\$	7793	\$	8087	\$	8384	
2"	\$	5528	\$	5815	\$	6105	\$	6380	\$	6672	\$	6938	\$	7218	\$	7503	\$	7793	\$	8087	\$	8384	
Inside City Commercial/Industrial Customers												Fixed Charge	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change
6"	\$	5339	\$	5579	\$	5822	\$	6068	\$	6316	\$	6566	\$	6790	\$	6926	\$	7064	\$	7205	\$	7349	
3/4"	\$	6126	\$	6402	\$	6682	\$	6964	\$	7248	\$	7534	\$	7791	\$	7947	\$	8106	\$	8268	\$	8434	
1"	\$	7610	\$	7948	\$	8290	\$	8636	\$	8986	\$	9338	\$	9562	\$	9743	\$	9937	\$	10136	\$	10338	
1-1/2"	\$	10778	\$	11260	\$	11745	\$	12233	\$	12724	\$	13217	\$	13704	\$	14193	\$	14688	\$	15183	\$	15674	
2"	\$	15062	\$	15740	\$	16423	\$	17110	\$	17801	\$	18495	\$	19192	\$	19892	\$	20594	\$	21298	\$	22004	
3"	\$	29745	\$	31083	\$	32423	\$	33765	\$	35109	\$	36455	\$	37802	\$	39150	\$	40499	\$	41850	\$	43202	
4"	\$	52350	\$	54705	\$	57060	\$	59415	\$	61770	\$	64125	\$	66480	\$	68835	\$	71190	\$	73545	\$	75900	
6"	\$	102943	\$	107675	\$	112406	\$	117137	\$	121868	\$	126599	\$	131330	\$	136061	\$	140792	\$	145523	\$	150254	
8"	\$	149280	\$	156005	\$	162730	\$	169455	\$	176180	\$	182905	\$	189630	\$	196355	\$	203080	\$	209805	\$	216530	
10"	\$	208076	\$	216348	\$	224620	\$	232892	\$	241164	\$	249436	\$	257708	\$	265980	\$	274252	\$	282524	\$	290796	
12"	\$	249312	\$	260531	\$	271750	\$	282969	\$	294188	\$	305407	\$	316626	\$	327845	\$	339064	\$	350283	\$	361502	
16"	\$	310264	\$	324225	\$	338186	\$	352147	\$	366108	\$	380069	\$	394030	\$	407991	\$	421952	\$	435913	\$	449874	
20"	\$	335118	\$	350198	\$	365278	\$	380358	\$	395438	\$	410518	\$	425598	\$	440678	\$	455758	\$	470838	\$	485918	
Outside City Residential Customers												Fixed Charge	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change
6"	\$	3248	\$	3417	\$	3587	\$	3757	\$	3927	\$	4097	\$	4158	\$	4241	\$	4328	\$	4413	\$	4501	
3/4"	\$	6271	\$	6586	\$	6901	\$	7216	\$	7531	\$	7846	\$	8027	\$	8187	\$	8361	\$	8539	\$	8699	
1"	\$	8279	\$	8708	\$	9137	\$	9566	\$	9995	\$	10424	\$	10598	\$	10810	\$	11026	\$	11247	\$	11472	
1-1/2"	\$	8279	\$	8708	\$	9137	\$	9566	\$	9995	\$	10424	\$	10598	\$	10810	\$	11026	\$	11247	\$	11472	
2"	\$	8279	\$	8708	\$	9137	\$	9566	\$	9995	\$	10424	\$	10598	\$	10810	\$	11026	\$	11247	\$	11472	
Outside City Commercial/Industrial Customers												Fixed Charge	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change	Rate Change
6"	\$	8013	\$	8374	\$	8735	\$	9096	\$	9457	\$	9818	\$	10191	\$	10396	\$	10503	\$	10816	\$	11032	
3/4"	\$	8172	\$	8584	\$	9000	\$	9416	\$	9832	\$	10248	\$	10664	\$	11080	\$	12136	\$	12278	\$	12628	
1"	\$	11267	\$	11774	\$	12281	\$	12788	\$	13295	\$	13802	\$	14309	\$	14816	\$	14809	\$	15214	\$	15611	
1-1/2"	\$	18178	\$	18906	\$	19634	\$	20362	\$	21090	\$	21818	\$	22546	\$	23274	\$	24002	\$	24730	\$	25458	
2"	\$	22809	\$	23826	\$	24843	\$	25860	\$	26877	\$	27894	\$	28911	\$	29928	\$	30945	\$	31962	\$	33124	
3"	\$	44847	\$	46866	\$	48885	\$	50904	\$	52923	\$	54942	\$	56961	\$	58177	\$	59341	\$	60527	\$	61738	
4"	\$	78637	\$	82071	\$	85505	\$	88939	\$	92373	\$	95807	\$	99241	\$	10191	\$	10318	\$	10597	\$	10817	
6"	\$	154387	\$	161334	\$	168281	\$	175228	\$	182175	\$	189122	\$	196069	\$	203016	\$	208367	\$	212636	\$	216897	
8"	\$	223947	\$	234021	\$	244095	\$	254169	\$	264243	\$	274317	\$	284391	\$	294465	\$	298378	\$	302367	\$	306296	
10"	\$	310748	\$	324730	\$	338712	\$	352694	\$	366676	\$	380658	\$	394640	\$	408622	\$	411178	\$	419389	\$	427187	
12"	\$	373951	\$	390777	\$	407603	\$	424429	\$	441255	\$	458081	\$	474907	\$	488406	\$	498406	\$	508406	\$	514786	
16"	\$	465387	\$	486328	\$	507269	\$	528210	\$	549151	\$	570092	\$	591033	\$	601717	\$	615791	\$	628107	\$	640899	
20"	\$	548382	\$	570867	\$	593352	\$	615837	\$	638322	\$	660807	\$	683292	\$	705777	\$	722633	\$	737422	\$	752170	

4.3.4 Projected Residential Water Bills

Table 41 below indicates projected water bills for Residential Inside City customers with a 5/8" meter. Also included are estimates of the bills, which residential customer may have seen, had the City continued to purchase water from DWSD. For example, had the City continued to purchase water from DWSD, a typical Flint customer using 5 CCF per month would have an estimated water bill in FY 2015 of \$67.38. Given the shift to KWA, that same customer would see a bill of \$62.51, a savings of \$4.87 per month, or \$58.44 per year

TABLE 41: PROJECTED RESIDENTIAL WATER BILLS

ESTIMATED MONTHLY SAVINGS (DWSD vs. KWA) -	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Monthly Usage (CCF)												
1	\$ -	\$ (2.42)	\$ (5.37)	\$ (5.80)	\$ (5.98)	\$ (6.15)	\$ (6.31)	\$ (6.65)	\$ (7.00)	\$ (7.37)	\$ (7.76)	\$ (7.90)
2	\$ -	\$ (3.04)	\$ (6.74)	\$ (7.28)	\$ (7.50)	\$ (7.72)	\$ (7.91)	\$ (8.34)	\$ (8.78)	\$ (9.25)	\$ (9.73)	\$ (9.92)
3	\$ -	\$ (3.65)	\$ (8.11)	\$ (8.78)	\$ (9.02)	\$ (9.29)	\$ (9.52)	\$ (10.04)	\$ (10.57)	\$ (11.13)	\$ (11.70)	\$ (11.93)
4	\$ -	\$ (4.26)	\$ (9.47)	\$ (10.23)	\$ (10.54)	\$ (10.86)	\$ (11.13)	\$ (11.73)	\$ (12.36)	\$ (13.01)	\$ (13.68)	\$ (13.95)
5	\$ -	\$ (4.87)	\$ (10.84)	\$ (11.71)	\$ (12.06)	\$ (12.42)	\$ (12.74)	\$ (13.43)	\$ (14.14)	\$ (14.88)	\$ (15.66)	\$ (15.96)
6	\$ -	\$ (5.48)	\$ (12.21)	\$ (13.19)	\$ (13.58)	\$ (13.99)	\$ (14.34)	\$ (15.12)	\$ (15.83)	\$ (16.76)	\$ (17.63)	\$ (17.98)
7	\$ -	\$ (6.09)	\$ (13.58)	\$ (14.67)	\$ (15.11)	\$ (15.56)	\$ (15.95)	\$ (16.81)	\$ (17.71)	\$ (18.64)	\$ (19.60)	\$ (19.99)
8	\$ -	\$ (6.71)	\$ (14.94)	\$ (16.14)	\$ (16.63)	\$ (17.13)	\$ (17.56)	\$ (18.51)	\$ (19.50)	\$ (20.52)	\$ (21.58)	\$ (22.01)
9	\$ -	\$ (7.32)	\$ (16.31)	\$ (17.62)	\$ (18.16)	\$ (18.69)	\$ (19.16)	\$ (20.20)	\$ (21.28)	\$ (22.40)	\$ (23.55)	\$ (24.03)
10	\$ -	\$ (7.93)	\$ (17.68)	\$ (19.10)	\$ (19.67)	\$ (20.26)	\$ (20.77)	\$ (21.90)	\$ (23.07)	\$ (24.28)	\$ (25.53)	\$ (26.04)

RATE IMPACT \$/CCF Customer (KWA Version) -	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Monthly Usage (CCF)												
1	\$ 29.29	\$ 30.83	\$ 32.37	\$ 33.82	\$ 34.84	\$ 35.88	\$ 36.78	\$ 37.52	\$ 38.27	\$ 39.03	\$ 39.81	\$ 40.61
2	\$ 36.81	\$ 38.75	\$ 40.68	\$ 42.51	\$ 43.79	\$ 45.10	\$ 46.23	\$ 47.18	\$ 48.10	\$ 49.06	\$ 50.04	\$ 51.04
3	\$ 44.33	\$ 46.67	\$ 49.00	\$ 51.21	\$ 52.74	\$ 54.32	\$ 55.68	\$ 56.80	\$ 57.93	\$ 59.08	\$ 60.27	\$ 61.48
4	\$ 51.85	\$ 54.59	\$ 57.32	\$ 59.90	\$ 61.89	\$ 63.55	\$ 65.13	\$ 66.44	\$ 67.77	\$ 69.12	\$ 70.50	\$ 71.91
5	\$ 59.37	\$ 62.51	\$ 65.64	\$ 68.69	\$ 70.65	\$ 72.77	\$ 74.59	\$ 76.08	\$ 77.60	\$ 79.15	\$ 80.73	\$ 82.35
6	\$ 66.88	\$ 70.43	\$ 73.95	\$ 77.28	\$ 79.80	\$ 81.99	\$ 84.04	\$ 85.72	\$ 87.43	\$ 89.18	\$ 90.96	\$ 92.78
7	\$ 74.40	\$ 78.35	\$ 82.27	\$ 85.97	\$ 88.55	\$ 91.21	\$ 93.48	\$ 95.36	\$ 97.27	\$ 99.21	\$ 101.20	\$ 103.22
8	\$ 81.92	\$ 86.27	\$ 90.59	\$ 94.68	\$ 97.50	\$ 100.43	\$ 102.94	\$ 105.00	\$ 107.10	\$ 109.24	\$ 111.43	\$ 113.65
9	\$ 89.44	\$ 94.20	\$ 98.91	\$ 103.36	\$ 106.46	\$ 109.65	\$ 112.39	\$ 114.64	\$ 116.83	\$ 119.27	\$ 121.85	\$ 124.08
10	\$ 96.96	\$ 102.12	\$ 107.22	\$ 112.05	\$ 115.41	\$ 118.87	\$ 121.84	\$ 124.28	\$ 126.77	\$ 129.30	\$ 131.89	\$ 134.52

RATE IMPACT \$/CCF Customer (DWSD Version) -	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Monthly Usage (CCF)												
1	\$ 29.29	\$ 33.25	\$ 37.74	\$ 39.62	\$ 40.81	\$ 42.04	\$ 43.09	\$ 44.17	\$ 45.27	\$ 46.40	\$ 47.56	\$ 48.51
2	\$ 36.81	\$ 41.78	\$ 47.42	\$ 49.79	\$ 51.29	\$ 52.83	\$ 54.15	\$ 55.50	\$ 56.89	\$ 58.31	\$ 59.77	\$ 60.98
3	\$ 44.33	\$ 50.31	\$ 57.11	\$ 59.98	\$ 61.76	\$ 63.61	\$ 65.20	\$ 66.83	\$ 68.51	\$ 70.22	\$ 71.97	\$ 73.41
4	\$ 51.85	\$ 58.85	\$ 66.79	\$ 70.13	\$ 72.24	\$ 74.40	\$ 76.28	\$ 78.17	\$ 80.12	\$ 82.13	\$ 84.18	\$ 85.86
5	\$ 59.37	\$ 67.38	\$ 76.48	\$ 80.30	\$ 82.71	\$ 85.19	\$ 87.32	\$ 89.50	\$ 91.74	\$ 94.03	\$ 96.39	\$ 98.31
6	\$ 66.88	\$ 76.91	\$ 86.16	\$ 90.47	\$ 93.18	\$ 95.98	\$ 98.38	\$ 100.84	\$ 103.36	\$ 105.94	\$ 108.69	\$ 110.76
7	\$ 74.40	\$ 84.45	\$ 95.85	\$ 100.84	\$ 103.66	\$ 106.77	\$ 109.44	\$ 112.17	\$ 114.98	\$ 117.85	\$ 120.80	\$ 123.21
8	\$ 81.92	\$ 92.98	\$ 105.53	\$ 110.81	\$ 114.13	\$ 117.56	\$ 120.50	\$ 123.51	\$ 126.60	\$ 129.76	\$ 133.00	\$ 135.66
9	\$ 89.44	\$ 101.51	\$ 115.22	\$ 120.98	\$ 124.61	\$ 128.34	\$ 131.55	\$ 134.84	\$ 138.21	\$ 141.87	\$ 145.21	\$ 148.11
10	\$ 96.96	\$ 110.05	\$ 124.30	\$ 131.15	\$ 135.08	\$ 139.13	\$ 142.61	\$ 146.18	\$ 149.83	\$ 153.58	\$ 157.42	\$ 160.56

5. WASTEWATER UTILITY COST OF SERVICE STUDY

Following the development of the wastewater utility financial plans the next step is to determine the level of rate revenues required to adequately recover the cost of providing wastewater service. This is typically performed for a test year, which—as mentioned previously—is the year ending June 30, 2014 (FY 2015).

5.1 WASTEWATER REVENUE REQUIREMENT FROM RATES

Table 42 below indicates the level of wastewater utility expenditures which must be recovered from rates in the FY 2015 test year. As the table indicates, the total test year revenue requirement is approximately \$29 Million.

TABLE 42: WASTEWATER REVENUE REQUIREMENTS

OPERATION AND MAINTENANCE EXPENDITURES									
	2016	2017	2018	2019	2020	2021	2022	2023	2024
Total Dept 660-101-WWTP - Sewer Administration	\$ 7,442,428	\$ 7,653,945	\$ 7,893,942	\$ 7,693,942	\$ 7,871,978	\$ 8,092,919	\$ 8,306,918	\$ 8,693,051	\$ 9,818,489
Total Dept 640-100-Water Service Center Management	\$ 2,713,446	\$ 639,478	\$ 639,478	\$ 639,478	\$ 658,357	\$ 894,148	\$ 622,849	\$ 982,402	\$ 1,047,513
Total Dept 640-100-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 640-207-WSC-Water Reading - Sewer	\$ 700,618	\$ 738,410	\$ 738,410	\$ 738,410	\$ 752,919	\$ 758,273	\$ 814,610	\$ 841,953	\$ 928,970
Total Dept 640-208-WSC-Sewer Main/Construction	\$ 2,703,183	\$ 2,787,686	\$ 2,787,686	\$ 2,787,686	\$ 2,898,717	\$ 2,997,382	\$ 3,102,837	\$ 3,212,232	\$ 3,325,726
Total Dept 600-100-WP-C Operations	\$ 6,176,142	\$ 6,166,166	\$ 6,166,166	\$ 6,166,166	\$ 6,357,112	\$ 6,557,626	\$ 6,765,178	\$ 6,980,028	\$ 7,202,450
Total Dept 650-200-WP-C Third Ave Pump Station	\$ 608,913	\$ 733,282	\$ 733,282	\$ 733,282	\$ 761,801	\$ 789,834	\$ 817,834	\$ 847,426	\$ 878,110
Total Dept 650-202-WP-C Maintenance Expense	\$ 2,817,859	\$ 2,812,411	\$ 2,812,411	\$ 2,812,411	\$ 3,008,177	\$ 3,105,314	\$ 3,212,960	\$ 3,320,211	\$ 3,431,236
Total Dept 650-300-WP-C Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 650-800-Non-Dep. Exp-Portion	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 655-101-Transfers out to Fund 101	\$ 1,650,000	\$ 1,650,000	\$ 1,650,000	\$ 1,650,000	\$ 1,650,000	\$ 1,650,000	\$ 1,650,000	\$ 1,650,000	\$ 1,650,000
Total Operation and Maintenance Expenditures	\$ 24,323,627	\$ 23,053,382	\$ 22,720,852	\$ 22,720,852	\$ 23,384,671	\$ 24,081,868	\$ 24,872,101	\$ 25,887,713	\$ 27,324,115
REVENUE REQUIREMENTS									
Grand Total Existing and Proposed Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wastewater Rate Revenue Financing (Cash)	\$ 8,600,000	\$ 8,600,000	\$ 8,600,000	\$ 8,600,000	\$ 8,600,000	\$ 8,600,000	\$ 8,600,000	\$ 8,600,000	\$ 8,600,000
Add Net Operating Surplus (Deficit)	\$ (2,691,391)	\$ 1,464,161	\$ (1,091,396)	\$ 817,000	\$ (1,398,371)	\$ 880,363	\$ 3,141,640	\$ 8,624,149	\$ 3,049,005
Add Wastewater Transfers to Equipment Replacement Fund	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Capital Expenditures	\$ 9,849,610	\$ 8,954,161	\$ 8,408,604	\$ 10,317,000	\$ 11,038,629	\$ 11,008,363	\$ 11,441,640	\$ 11,032,644	\$ 11,049,055
REVENUE REQUIREMENTS	\$ 9,849,610	\$ 8,954,161	\$ 8,408,604	\$ 10,317,000	\$ 11,038,629	\$ 11,008,363	\$ 11,441,640	\$ 11,032,644	\$ 11,049,055
NON-REVENUE REVENUES									
Total Non-Rate Revenues	\$ 966,872	\$ 424,678	\$ 410,222	\$ 423,308	\$ 416,326	\$ 434,337	\$ 405,057	\$ 613,187	\$ 643,898
NET REVENUE REQUIREMENTS	\$ 9,849,610	\$ 8,954,161	\$ 8,408,604	\$ 10,317,000	\$ 11,038,629	\$ 11,008,363	\$ 11,441,640	\$ 11,032,644	\$ 11,049,055

5.2 WASTEWATER REVENUE REQUIREMENTS BY CUSTOMER CLASS

Following the development of the total test year revenue requirement, the proportion of that revenue requirement attributable to each customer class must be determined. This allocation is performed via the multi-step process described below.

5.2.1 O&M Allocation to Function Categories

The first step in determining revenue requirements by customer class is to allocate the test year O&M revenue requirement to functional categories. These categories are functions that the wastewater utility must perform in order to deliver wastewater service to City customers. For the wastewater utility they are: Administrative and General, Customer Service, Collection, Pumping, and Treatment.

The O&M allocations, by department, are shown in Table 43 below:

TABLE 43: WASTEWATER O&M ALLOCATION TO FUNCTIONAL CATEGORIES

DEPARTMENT	Total \$ Allocation	Administrative and General	Customer Service	Collection System	Lift Stations and Pumping	Wastewater Treatment
Total Dept 536 101-Utilities - Sewer Administration	\$ 7,853,942	\$ 7,853,942	\$ -	\$ -	\$ -	\$ -
Total Dept 540 100-Water Service Center Management	\$ 839,476	\$ -	\$ 839,476	\$ -	\$ -	\$ -
Total Dept 540 300-WSC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 540 207-Wsc-Meter Reading - Sewer	\$ 738,419	\$ -	\$ 738,419	\$ -	\$ -	\$ -
Total Dept 540 208-Wsc-Sewer Maint./Construction	\$ 2,797,696	\$ -	\$ -	\$ 2,797,696	\$ -	\$ -
Total Dept 550 100-Wpc Operations	\$ 5,516,166	\$ -	\$ -	\$ -	\$ -	\$ 5,516,166
Total Dept 550 200-Wpc-Third Ave Pump Station	\$ 735,282	\$ -	\$ -	\$ -	\$ 735,282	\$ -
Total Dept 550 202-Wpc-Maintenance Expense	\$ 2,912,411	\$ -	\$ -	\$ -	\$ -	\$ 2,912,411
Total Dept 550 300-WPC - Capital Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 550 800-Non_dep_Exp-Sewer Portion	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Dept 966 101-Transfers out to Fund 101	\$ 1,860,000	\$ 1,860,000	\$ -	\$ -	\$ -	\$ -
GRAND TOTAL WASTEWATER UTILITY	\$ 23,053,392	\$ 8,513,942	\$ 1,577,894	\$ 2,797,696	\$ 735,282	\$ 8,428,576

5.2.2 O&M Allocation to Cost Components

Once O&M costs have been allocated to functional categories, the total O&M revenue requirement allocated to each functional category must be further allocated based on the operational need which they are designed to fulfill. For this allocation RFC has generally utilized the cost allocation methodology described in the Water Environment Federation's Manual of Practice No. 27, "Financing and Charges for Wastewater Systems."

The costs components utilized in this study are: volume or wastewater utility costs which are incurred on the basis of the quantity of wastewater discharged into the system, strength measures such as Biochemical Oxygen Demand ("BOD"), Total Suspended Solids ("TSS") and Phosphorus; and customer measures such as equivalent meters and monthly bills. A summary of the allocation of the wastewater O&M revenue requirement is included in Table 44 on the following page.

TABLE 44: WASTEWATER O&M ALLOCATION TO COST COMPONENTS

FUNCTIONAL CLASSIFICATION	Total \$ Allocation	Personnel Allocation	Sewerage			Customer	
			Allocation to BOD	Allocation to TSS	Allocation to Phosphorus	Customer Meters	Customer BRLs
Administrative and General	\$ 9,513,942	\$ 2,482,564	\$ 1,974,206	\$ 1,974,206	\$ 1,974,206	\$ 1,106,760	\$ -
Customer Service	\$ 1,577,894	\$ -	\$ -	\$ -	\$ -	\$ 1,577,894	\$ -
Collection System	\$ 2,797,696	\$ 2,797,696	\$ -	\$ -	\$ -	\$ -	\$ -
Lift Stations and Pumping	\$ 735,282	\$ 735,282	\$ -	\$ -	\$ -	\$ -	\$ -
Wastewater Treatment	\$ 8,428,578	\$ -	\$ 2,809,526	\$ 2,809,526	\$ 2,809,526	\$ -	\$ -
	\$ 23,053,392	\$ 6,015,542	\$ 4,783,732	\$ 4,783,732	\$ 4,783,732	\$ 2,686,654	\$ -

5.2.3 Capital Cost Allocation to Functional Components

Similar to the allocation of the O&M revenue requirement described in the previous section, the capital revenue requirement must be allocated to functional categories. Table 45 below indicates the allocation of capital costs.

TABLE 45: WASTEWATER CAPITAL ALLOCATION TO FUNCTIONAL CATEGORIES

Allocation of Capital Costs to Functional Categories						
	Total	Administrative and General	Customer Service	Collection System	Lift Stations and	Wastewater Treatment
Breakdown of Fixed Assets by Function	100%	0.32%	0.00%	82.79%	4.31%	12.58%
Total Capital Expenditures	\$ 7,230,846	\$ 22,823.92	\$ -	\$ 5,986,709	\$ 311,745	\$ 909,567
Allocation of Water Fixed Assets to Functional Categories						
FIXED ASSET CATEGORY	Net Book Value	Administrative and General	Customer Service	Collection System	Lift Stations and	Wastewater Treatment
01 Land	\$ 38,077	\$ 120	\$ -	\$ 31,526	\$ 1,642	\$ 4,790
02 Construction-in-progress	\$ 527,286	\$ 1,664	\$ -	\$ 436,561	\$ 22,733	\$ 66,327
11 Land Improvements	\$ 3,480,377	\$ 10,986	\$ -	\$ 2,881,545	\$ 150,050	\$ 437,796
12 Building Improvements	\$ 752,952	\$ 2,377	\$ -	\$ 623,399	\$ 32,462	\$ 94,714
13 Sewage disposal plant & equipment	\$ 6,581,444	\$ -	\$ -	\$ -	\$ -	\$ 6,581,444
14 Vehicle	\$ 456,125	\$ -	\$ -	\$ 456,125	\$ -	\$ -
15 Sewage Pumping Station	\$ 2,255,719	\$ -	\$ -	\$ -	\$ 2,255,719	\$ -
16 Office & Other Equipment	\$ 28,892	\$ 28,892	\$ -	\$ -	\$ -	\$ -
17 Sewer SSR	\$ 42,852,474	\$ -	\$ -	\$ 42,852,474	\$ -	\$ -
18 Sanitary Sewers (Engg only)	\$ 136,257	\$ 136,257	\$ -	\$ -	\$ -	\$ -
Total Water Fixed assets	\$ 57,119,603	\$ 180,296	\$ -	\$ 47,291,630	\$ 2,462,606	\$ 7,185,071
% Breakdown	100.00%	0.32%	0.00%	82.79%	4.31%	12.58%

As the table above indicates, the basis for the allocation of capital costs was the existing level of wastewater utility investment in fixed assets. The existing net book value of each major asset class was allocated to the functional categories. The total capital revenue requirement, approximately 7 Million in the test year, was then allocated according to the proportion of existing investment in each functional category. For example, a large proportion of investment in wastewater fixed assets relates to the rehabilitation of the City's collection system ("Sewer SSR"). As such, the majority of the capital revenue requirement (82%) has been allocated to the collection system function.

5.2.4 Capital Cost Allocation to Cost Components

As with the allocation of the O&M revenue requirement described above, the functionally allocated capital revenue requirement must also be further allocated according to the operational need that each function is designed to fulfill.

Table 46 below summarizes this allocation.

TABLE 46: WASTEWATER CAPITAL ALLOCATION TO COST COMPONENTS

FUNCTIONAL CLASSIFICATION	Total \$ Allocation	Volume Allocation	Strength			Customer	
			Allocation To BOD	Allocation to TSS	Allocation to Phosphorous	Customer Meters	Customer Bills
Administrative and General	22,824	19,944	960	960	960	-	-
Customer Service	-	-	-	-	-	-	-
Collection System	5,986,709	5,986,709	-	-	-	-	-
Lift Stations and Pumping	311,745	311,745	-	-	-	-	-
Wastewater Treatment	909,567	-	303,189	303,189	303,189	-	-
Total Capital Expenditures	7,230,845	6,318,397	304,149	304,149	304,149	-	-

5.2.5 Non-Rate Revenue Allocation to Cost Components

Non-rate revenue must be excluded from the O&M and Capital revenue requirements as these amounts are an offset to the revenue requirement which will be recovered from rates. Consequently, non-rate revenues are allocated to the cost components so that they can be removed from the total revenue requirement. In this case, non-rate revenues were allocated proportionally according to the total O&M revenue requirement allocation and can be seen in Table 47 below.

TABLE 47: WASTEWATER NON-RATE REVENUE ALLOCATION TO COST COMPONENTS

ACCOUNT CODE DESCRIPTION	Total \$ Allocation	Volume Allocation	Strength			Customer	
			Allocation To BOD	Allocation to TSS	Allocation to Phosphorous	Customer Meters	Customer Bills
590-538,101-455 000 Bus Licences & Permits - Utilities	21,872	5,707	4,539	4,539	4,539	2,549	-
590-538,101-530 000 Federal Grants	-	-	-	-	-	-	-
590-538,101-539 000 State Grants	-	-	-	-	-	-	-
590-538,101-657 000 Fines - Turn-On Fees - Utilities	-	-	-	-	-	-	-
590-538,101-657 100 Forfeited Discount - Utilities	350,000	91,329	72,627	72,627	72,627	40,789	-
590-538,101-898 000 Self Insurance recoveries	-	-	-	-	-	-	-
590-538,101-899 998 Due From Fund Balance	-	-	-	-	-	-	-
590-538,101-899 999 Prior Year Revenue	-	-	-	-	-	-	-
590-540,100-877 000 Reimbursements	-	-	-	-	-	-	-
590-540,208-826 000 Charges For Services Rendered	-	-	-	-	-	-	-
590-540,208-826,900 Charges For Services Rendered - Intensity	-	-	-	-	-	-	-
590-540,208-877 000 Reimbursements	-	-	-	-	-	-	-
590-540,208-877 500 Reimbursements -proprietary funds	-	-	-	-	-	-	-
590-550,100-849 000 Scrap Sales	20,000	5,219	4,150	4,150	4,150	2,331	-
590-550,100-849 000 Auction Rev - Forfeited & Others	-	-	-	-	-	-	-
590-550,100-657,000 Fines - Turn-On Fees - Utilities	-	-	-	-	-	-	-
590-550,100-677,000 Reimbursements	-	-	-	-	-	-	-
590-550,100-899,998 Due From Fund Balance	-	-	-	-	-	-	-
590-550,200-690,000 Discounts Earned	2,000	522	415	415	415	233	-
590-550,201-455,000 Bus Licences & Permits - Utilities	2,000	522	415	415	415	233	-
590-550,202-699,998 Due From Fund Balance	-	-	-	-	-	-	-
590-550,600-694,100 Interest Earned	27,690	7,226	5,746	5,746	5,746	3,227	-
Add Transfers in from General Fund	-	-	-	-	-	-	-
Total Non-Rate Revenues	423,562	110,524	87,892	87,892	87,892	49,382	-

5.2.6 Plant Balance Analysis

Once each component of the revenue requirements has been determined, wastewater strength units, by customer class must be estimated. These are the basis upon which the strength costs, determined in the previous step, are allocated to each customer class.

This allocation is performed via a proportional distribution of each measure of strength to each customer class, based on the contribution of that class to overall billed wastewater volumes. This calculation is shown in Table 48 below.

TABLE 48 WASTEWATER PLANT BALANCE ANALYSIS CALCULATIONS

CUSTOMER CLASS	Test Year		Biochemical Oxygen Demand		Total Suspended Solids		Phosphorus		Test Year
	Volume (CCF)		mgd	Pounds	mgd	Pounds	mgd	Pounds	Combined Pounds
Treatment Plant Volume	3,668,016		94.5	1,935,331.27	78.5	1,797,911.30	4.225	98,768.56	3,830,009
Less:									
Total Inside City Residential	1,570,868	100		989,080	93	916,437	2	17,177	1,922,694
Total Inside City Commercial/Industrial	1,338,721	100		877,451	93	813,007	2	15,238	1,705,696
Total Outside City Residential	208	100		129	93	120	2	2	251
Total Outside City Commercial/Industrial	7,012	100		4,399	93	4,078	2	75	8,530
Total System Billed Volumes	2,982,604	100		1,871,059	93	1,733,639	2	32,494	3,637,192
Total Infiltration and Inflow	685,412	15		94,272.49	15	94,272.49	15	94,272.49	192,817
Balance	-			0		0		0	-
Gallons per CCF	748								
Milligrams per Pound	453,592								
Lbs per Gallon	8.325441								
% Infiltration and Inflow	23%								

As an example, consider Biochemical Oxygen Demand. The proportion of BOD contributed to the wastewater system by each class, is function of the overall volume contributed by that class. Therefore the BOD units are allocated to each customer class based on their proportion of total billed volumes. Inside City Residential customers, for example, are forecasted to contribute 1.5 Million CCF in billed wastewater volumes in the test year, or 53% of total billed volumes. Consequently, they are assigned 53% of total forecast BOD. The same calculations are performed for the remaining strength units, TSS and Phosphorous.

The result is a total level of strength units for each customer class, which is then used to determine unit costs by customer class and allocate the test year revenue requirement.

5.2.7 Calculation of Units of Service

The next step in the cost allocation process is to summarize the units of service, which are used as the basis for the allocation of the total revenue requirement to each of the customer classes. The units pertain to each of the cost components mentioned above (i.e. strength, volume and customer units). In the following step, the units will be used to determine a unit cost for each cost component.

The wastewater units of service are shown in Table 49 below.

TABLE 49: WASTEWATER UNITS OF SERVICE

WASTEWATER UNITS OF SERVICE	Total System (C.C.F.)	Residential		Commercial/Industrial	
		Total Inside City Residential	Total Outside City Residential	Total Inside City Commercial/Industrial	Total Outside City Commercial/Industrial
Volume Units					
% Breakdown		52.9%	0.0%	46.9%	0.2%
Total System Billed Volumes	2,982,604	1,576,666	206	1,398,721	7,012
Total Infiltration and Inflow	686,412	362,852	47	321,900	1,614
Total Volume	3,669,016	1,939,517	253	1,720,620	8,625
Strength Units					
BOD	1,871,059	969,080	129	877,451	4,399
TSS	1,739,639	916,437	120	813,007	4,076
Phosphorous	32,494	17,177	2	15,238	76
Total Wastewater Strength (Pounds)	3,637,192	1,822,694	251	1,705,696	8,550
Customer Units					
Meters	33,177	25,436	6	7,699	35
Bills	315,952	301,096	71	14,546	137

As mentioned above the units determined for each customer class are volume (the total forecast wastewater contribution) strength (the proportion of wastewater strength units determined in the plant balance analysis) and customer (equivalent meters and customer bills as in the water cost of service study).

5.2.8 Unit Cost of Service

Following the allocation of the wastewater revenue requirements to each of the cost components and the calculation of the units of service, a unit cost of service for each cost component can be determined. These unit costs are the basis by which the revenue requirements by customer class are determined.

The unit cost of service is the total revenue requirement, as allocated to the cost components, divided by the units of service attributable to each component and is shown in Table 50 on the following page.

TABLE 50: WASTEWATER UNIT COST OF SERVICE

Wastewater Units of Service		Strength					Customer	
		Volume Allocation	Allocation to BOD	Allocation to TSS	Allocation to Phosphorous		Customer Meters	Customer Billed
CUSTOMER CLASS		Volume Allocation	BOD	TSS	Phosphorous		Meters	Billed
Total Inside City Residential		1,939,517	989,080	916,437	17,177		25,436	301,096
Total Outside City Residential		253	129	120	2		6	71
Total Inside City Commercial/Industrial		1,720,620	877,451	813,007	16,238		7,889	14,846
Total Outside City Commercial/Industrial		8,625	4,399	4,076	78		35	137
Grand Total System Units of Service		3,669,016	1,871,059	1,733,639	32,494		33,177	516,852

Wastewater Cash Basis Revenue Requirements		Strength					Customer	
		Volume Allocation	Allocation to BOD	Allocation to TSS	Allocation to Phosphorous		Customer Meters	Customer Billed
REVENUE REQUIREMENT		Volume Allocation	BOD	TSS	Phosphorous		Meters	Billed
Total Operation and Maintenance Expenditures	\$ 23,053,392	\$ 8,015,542	\$ 4,783,732	\$ 4,783,732	\$ 4,783,732	\$ 2,686,854	\$ -	\$ -
Unit Cost		\$ 1.64	\$ 2.58	\$ 2.76	\$ 147.22	\$ 80.98	\$ -	\$ -
Total Capital Expenditures	\$ 7,230,845	\$ 6,318,397	\$ 304,149	\$ 304,149	\$ 304,149	\$ -	\$ -	\$ -
Unit Cost		\$ 1.72	\$ 0.16	\$ 0.18	\$ 9.36	\$ -	\$ -	\$ -
Total Non-Rate Revenues	\$ (423,562)	\$ (110,524)	\$ (87,892)	\$ (87,892)	\$ (87,892)	\$ (49,352)	\$ -	\$ -
Unit Cost		\$ (0.03)	\$ (0.05)	\$ (0.05)	\$ (2.70)	\$ (1.49)	\$ -	\$ -
Total System Revenue Requirements	\$ 29,860,674	\$ 12,223,415	\$ 4,999,989	\$ 4,999,989	\$ 4,999,989	\$ 2,637,292	\$ -	\$ -
Total System Unit COS	\$ -	\$ 3.33	\$ 2.67	\$ 2.88	\$ 153.87	\$ 79.49	\$ -	\$ -

For example, the total volume units are 3.6 Million CCF. This means that the O&M, Capital and Non-Rate Revenue Requirements cost \$1.64, \$1.72 and \$(.03) per unit of wastewater volume. The total unit cost associated with wastewater volume is \$3.33/CCF. The calculation is repeated for each cost component to determine the overall unit cost associated with wastewater volume, strength (BOD, TSS and Phosphorous) and customer service

5.2.9 Revenue Requirements by Customer Class

The customer class revenue requirements are the basis for establishing alternative rates by customer class. The City's existing wastewater rate structure does not include distinct rates by customer class. At this time the City does not wish to make major rate structure changes. However, the revenue requirements by customer class are shown in Table 51 on the following page and are the basis for the alternative wastewater rates presented as appendix B to this report.

TABLE 51: WASTEWATER REVENUE REQUIREMENTS BY CUSTOMER CLASS

Wastewater Units of Service		Volume Allocation		Strength		Allocation		Customer	
COSTUMER CLASS		To		To		To		To	
		BCD		BSS		Phosphorous		Meters	
Total System Revenue Requirements	\$ 29,860,674	\$ 12,223,415	\$ 4,999,989	\$ 4,999,989	\$ 4,999,989	\$ 2,637,292	\$ -		
Total System Unit COS	\$	\$ 3.33	\$ 2.67	\$ 2.88	\$ 153.87	\$ 79.49	\$ -		
Units of Service									
Total Inside City Residential		1,938,517	989,080	916,437	17,177	25,436	301,096		
Total Inside City Commercial/Industrial		1,720,620	877,451	813,007	15,238	7,699	14,846		
		3,660,138	1,866,531	1,729,444	32,415	33,136	315,743		
Total Outside City Residential		253	129	120	2	6	71		
Total Outside City Commercial/Industrial		8,625	4,399	4,076	76	36	137		
		8,878	4,528	4,196	79	42	209		
Total System Units of Service		3,669,016	1,871,059	1,733,639	32,494	33,177	315,952		
Allocated Cost of Service									
Total Inside City Residential COS	\$ 16,412,799	\$ 6,461,549	\$ 2,643,097	\$ 2,643,097	\$ 2,643,097	\$ 2,021,969	\$ -		
Total Inside City Commercial/Industrial COS	\$ 13,378,697	\$ 5,732,288	\$ 2,344,793	\$ 2,344,793	\$ 2,344,793	\$ 612,030	\$ -		
Total Inside City All Classes	\$ 29,791,496	\$ 12,193,837	\$ 4,987,890	\$ 4,987,890	\$ 4,987,890	\$ 2,633,999	\$ -		
Total Outside City Residential COS	\$ 2,382.16	\$ 843	\$ 345	\$ 345	\$ 345	\$ 505	\$ -		
Total Outside City Commercial/Industrial COS	\$ 66,796.05	\$ 28,735	\$ 11,754	\$ 11,754	\$ 11,754	\$ 2,798	\$ -		
Total Outside City All Classes	\$ 69,178	\$ 29,578	\$ 12,099	\$ 12,099	\$ 12,099	\$ 3,303	\$ -		
Total System Cost of Service	\$ 29,860,674	\$ 12,223,415	\$ 4,999,989	\$ 4,999,989	\$ 4,999,989	\$ 2,637,292	\$ -		
Check on Total System COS (Should be \$0)	\$ -								

The revenue requirement for each customer class is the total unit cost of service determined previously, multiplied by the units of service for each customer class. The result is a total allocation to each customer class made up of each of the cost components discussed previously. The allocation is based on each customer class's contribution to the wastewater utility's overall operating and capital costs, as represented by their units of service.

5.3 WASTEWATER RATE DESIGN

The wastewater rates have been calculated under the existing rate structure and under a new structure which recognizes the customer classes present in the City's CIS. The rate calculation under existing rates will be presented here, with the alternative rates by customer class presented as an appendix B.

5.3.1 Volumetric Rate Calculations

As mentioned above, the City did not indicate a desire to significantly modify the existing wastewater rate structure. Therefore RFC maintained various components of the existing water volumetric rates including:

- The existing inside/outside city differential (i.e. outside=110% of inside)
- The existing structure which charges the same volumetric rates for all customer classes
- The existing shift of some volumetric costs to the fixed service charge (i.e. a readiness to serve adjustment)

The calculation of the wastewater volumetric rates involves the following steps

- Determine total composite volumetric revenue requirement:
 - Adjust the test-year revenue requirement allocated to the volume cost component by the readiness to serve amount
 - Add the wastewater strength related cost components (BOD, TSS and Phosphorous)
 - Remove Beecher Metro Revenue
 - Add the *inside and outside city* revenue requirements to determine a composite revenue requirement for all customer classes
- Determine the composite wastewater units:
 - Multiply the units of inside and outside city customers by the existing I/O differential (Outside=110% of Inside)
 - Add those units together.
- Calculate Inside and Outside City Volumetric Rates:
 - Determine a composite rate for all customer classes by dividing the total composite revenue requirement determined above, by the total composite wastewater units
 - Multiply the composite rates by the Inside and Outside City differentials (100% for Inside City and 110% for Outside City) to determine the rates for each customer class.

The above calculations are summarized in Table 52 on the following page.

5.3.2 Fixed Charge Calculations

As noted above, the City did not express a desire to change rate structures at this time. Consequently, the following aspects of the existing rate structure have been maintained including:

- The existing inside/outside city differential (i.e. outside=120% of inside)
- The existing shift of some volumetric costs to the fixed service charge (i.e. a readiness to serve adjustment)
- The flow equivalencies for the various meter sizes

The calculation of the wastewater fixed charges involves the following steps:

- Determine total composite fixed charge revenue requirement by summing the fixed charge revenue requirements (i.e. those allocated to the customer service related cost components) and the readiness to serve revenue requirement.
- Determine the composite fixed charge wastewater units:
 - Multiply the number of inside and outside city equivalent accounts by the existing I/O differential (Outside=120% of Inside)
 - Add those units together to determine the composite number of equivalent customer accounts
- Calculate Inside and Outside City Volumetric Rates by:
 - Determine an annual composite rate for all customer classes by dividing the total composite revenue requirement determined above, by the total composite wastewater equivalent accounts
 - Determine a monthly rate for the 5/8" equivalent account by dividing the annual rate by 12.
 - Multiply the composite fixed charges by the Inside and Outside City differentials (100% for Inside City and 110% for Outside City) to determine the monthly fixed charge per 5/8" equivalent account for inside and outside city customer classes.
 - Multiply the monthly fixed charge for a 5/8" equivalent account by the meter equivalencies for each meter size to determine the monthly fixed charge for the remaining meter sizes.

The calculations described in the narrative above are summarized in Table 53 on the following page.

TABLE 53: WASTEWATER FIXED CHARGE CALCULATIONS

CUSTOMER CLASS	Readiness to Serve Adjusted		Base Fixed	
	Fixed Charge Revenue Requirement	Adjustment	Readiness to Serve Revenue Req.	RR Allocated on Customer Services
Total Inside City Residential COS	\$ 2,021,959	420.6%	\$ 8,504,168	\$ 2,021,959
Total Outside City Residential COS	\$ 505	420.6%	\$ 2,123	\$ 506
Total Inside City Commercial/Industrial COS	\$ 612,030	420.6%	\$ 2,574,140	\$ 612,030
Total Outside City Commercial/Industrial COS	\$ 2,798	420.6%	\$ 11,768	\$ 2,798
Total Inside City Residential COS Adjustment	\$ 2,021,959	\$ 8,504,168		
Total Outside City Residential COS Adjustment	\$ 505	\$ 2,123		
Total Inside City Commercial/Industrial COS Adjustment	\$ 612,030	\$ 2,574,140		
Total Outside City Commercial/Industrial COS Adjustment	\$ 2,798	\$ 11,768		

CHARGE	Total Revenue Requirements	Composite Revenue Requirements	Equivalent Accounts	Test Year Domestic Equivalent Inside City	Test Year Adjusted Equivalent Accounts	Test Year Composite Equivalent Accounts	Monthly Fixed Charge Per-Side
	By Charge	By Charge	By Charge	By Charge	By Charge	By Charge	By Charge
Total Inside City Residential	\$ 10,526,127	\$ 10,528,755	25,436	1.00	25,436	25,444	\$ 34.48
Total Inside City Commercial/Industrial	\$ 3,186,170	\$ 3,200,736	7,699	1.00	7,699	7,742	\$ 34.45
	\$ 13,712,298	\$ 13,729,491	33,136		33,136	33,186	
Total Outside City Residential	\$ 2,627	\$ 8	5	1.2	8		\$ 41.38
Total Outside City Commercial/Industrial	\$ 14,566	\$ 35	35	1.2	42		\$ 41.34
	17,193		42		50		

CUSTOMER CLASS	Inside City Meter	Inside City Meter	Proposed Fixed Charge	Existing Fixed Charge	Difference	Proposed Fixed Charge	Existing Fixed Charge	Difference
	Equivalency	Equivalency	INSIDE CITY	INSIDE CITY	Difference	OUTSIDE CITY	OUTSIDE CITY	Difference
Residential Customers								
5/8"	1.00	1.07	\$ 34.48	\$ 32.00	8%	\$ 44.19	\$ 41.01	8%
3/4"	1.47	1.46	\$ 50.56	\$ 46.92	8%	\$ 60.35	\$ 56.01	8%
1"	2.04	2.00	\$ 70.41	\$ 65.34	8%	\$ 82.96	\$ 76.99	8%
1-1/2"	2.04	2.00	\$ 70.41	\$ 65.34	8%	\$ 82.96	\$ 76.99	8%
2"	2.04	2.00	\$ 70.41	\$ 65.34	8%	\$ 82.96	\$ 76.99	8%
Commercial/Industrial Customers								
5/8"	1.52	1.51	\$ 56.90	\$ 51.919	8%	\$ 62.57	\$ 58.12	8%
3/4"	2.01	1.92	\$ 69.37	\$ 64.434	8%	\$ 79.26	\$ 73.62	8%
1"	2.65	2.58	\$ 91.20	\$ 84.708	8%	\$ 105.56	\$ 98.06	8%
1-1/2"	4.31	4.29	\$ 148.40	\$ 137.843	8%	\$ 177.43	\$ 164.80	8%
2"	6.13	6.05	\$ 211.19	\$ 196.163	8%	\$ 250.24	\$ 232.43	8%
3"	13.69	13.62	\$ 471.62	\$ 438.063	8%	\$ 552.93	\$ 522.87	8%
4"	22.56	23.07	\$ 777.14	\$ 721.842	8%	\$ 953.89	\$ 886.01	8%
6"	45.61	46.09	\$ 1,571.80	\$ 1,459.948	8%	\$ 1,806.74	\$ 1,770.13	8%
8"	67.13	68.52	\$ 2,312.79	\$ 2,145.213	8%	\$ 2,849.27	\$ 2,646.52	8%
10"	91.19	91.73	\$ 3,141.37	\$ 2,918.392	8%	\$ 3,792.41	\$ 3,522.54	8%
12"	107.06	107.61	\$ 3,688.72	\$ 3,426.233	8%	\$ 4,449.17	\$ 4,132.57	8%
16"	141.36	143.17	\$ 4,870.63	\$ 4,523.945	8%	\$ 5,919.11	\$ 5,497.91	8%
20"	166.45	170.09	\$ 5,734.96	\$ 5,326.865	8%	\$ 7,032.44	\$ 6,532.02	8%

5.3.3 Summary of Existing and Forecast Wastewater Rates

Based on the calculations from the previous two sections, the existing and proposed rates for the forecast period are shown in Tables 54 and 55 on the following page.

Note that while the test year FY 2015 rates have been calculated within the cost of service study, the rates for FY 2016 and beyond are based on the overall rate revenue increase from the wastewater utility financial plan.

TABLE 54: SUMMARY OF EXISTING AND FORECAST VOLUMETRIC WASTEWATER RATES

		FY 2016		FY 2017		FY 2018		FY 2019		FY 2020		FY 2021		FY 2022		FY 2023		FY 2024		FY 2025	
		Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed
VOLUMETRIC WASTEWATER RATES																					
Total Inside City All Classes	(\$/CCF)	\$	4.80	\$	5.17	\$	5.53	\$	5.92	\$	6.18	\$	6.31	\$	6.43	\$	6.56	\$	6.69	\$	6.83
Total Outside City All Classes	(\$/CCF)	\$	5.29	\$	5.68	\$	6.08	\$	6.51	\$	6.80	\$	6.94	\$	7.06	\$	7.22	\$	7.38	\$	7.51

TABLE 55. SUMMARY OF EXISTING AND FORECAST WASTEWATER FIXED CHARGES

Customer Class	FY 2014		FY 2015		FY 2016		FY 2017		FY 2018		FY 2019		FY 2020		FY 2021		FY 2022		FY 2023		FY 2024	
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed
Inside City Residential Customers																						
5/8"	\$ 32.00	\$ 34.40	\$ 36.96	\$ 39.48	\$ 41.26	\$ 42.08	\$ 42.92	\$ 43.78	\$ 44.68	\$ 45.55	\$ 46.46	\$ 47.38										
3/4"	\$ 45.92	\$ 50.56	\$ 64.10	\$ 67.99	\$ 69.49	\$ 71.70	\$ 72.94	\$ 74.19	\$ 75.45	\$ 76.79	\$ 78.12	\$ 79.49										
1"	\$ 65.34	\$ 70.41	\$ 76.33	\$ 80.81	\$ 84.24	\$ 85.82	\$ 87.54	\$ 89.39	\$ 91.19	\$ 93.00	\$ 94.85	\$ 96.76										
1-1/2"	\$ 85.34	\$ 90.41	\$ 96.33	\$ 100.81	\$ 104.24	\$ 105.82	\$ 107.54	\$ 109.39	\$ 111.19	\$ 113.00	\$ 114.85	\$ 116.76										
2"	\$ 105.34	\$ 110.41	\$ 116.33	\$ 120.81	\$ 124.24	\$ 125.82	\$ 127.54	\$ 129.39	\$ 131.19	\$ 133.00	\$ 134.85	\$ 136.76										
Inside City Commercial/Industrial Customers																						
5/8"	\$ 51.92	\$ 55.90	\$ 59.81	\$ 64.00	\$ 68.88	\$ 68.21	\$ 69.58	\$ 70.97	\$ 72.38	\$ 73.84	\$ 75.31	\$ 76.82										
3/4"	\$ 64.43	\$ 69.37	\$ 74.22	\$ 79.42	\$ 83.90	\$ 84.88	\$ 86.35	\$ 87.88	\$ 89.44	\$ 91.03	\$ 92.67	\$ 94.34										
1"	\$ 84.71	\$ 91.26	\$ 97.58	\$ 104.41	\$ 109.11	\$ 111.29	\$ 113.52	\$ 115.79	\$ 118.10	\$ 120.47	\$ 122.88	\$ 125.33										
1-1/2"	\$ 137.84	\$ 148.40	\$ 158.79	\$ 169.91	\$ 177.55	\$ 181.10	\$ 184.73	\$ 188.42	\$ 192.19	\$ 196.03	\$ 199.85	\$ 203.66										
2"	\$ 188.18	\$ 211.19	\$ 225.87	\$ 241.79	\$ 252.67	\$ 257.33	\$ 262.09	\$ 266.14	\$ 270.52	\$ 275.87	\$ 280.45	\$ 285.24										
3"	\$ 438.06	\$ 471.62	\$ 504.84	\$ 539.96	\$ 564.28	\$ 575.55	\$ 587.08	\$ 598.80	\$ 610.77	\$ 622.89	\$ 635.45	\$ 648.18										
4"	\$ 721.94	\$ 777.14	\$ 831.54	\$ 889.75	\$ 929.70	\$ 948.39	\$ 967.35	\$ 986.70	\$ 1,006.43	\$ 1,026.56	\$ 1,047.08	\$ 1,068.04										
6"	\$ 1,458.95	\$ 1,571.90	\$ 1,681.82	\$ 1,799.55	\$ 1,880.53	\$ 1,918.14	\$ 1,956.50	\$ 1,995.63	\$ 2,035.43	\$ 2,075.98	\$ 2,117.29	\$ 2,159.14										
8"	\$ 2,148.21	\$ 2,312.79	\$ 2,474.60	\$ 2,647.91	\$ 2,767.07	\$ 2,822.41	\$ 2,878.86	\$ 2,936.44	\$ 2,995.16	\$ 3,055.07	\$ 3,115.17	\$ 3,176.49										
10"	\$ 2,918.39	\$ 3,141.97	\$ 3,361.91	\$ 3,597.24	\$ 3,769.12	\$ 3,834.30	\$ 3,910.69	\$ 3,988.21	\$ 4,066.99	\$ 4,146.99	\$ 4,228.30	\$ 4,310.06										
12"	\$ 3,426.23	\$ 3,698.72	\$ 3,948.83	\$ 4,223.22	\$ 4,413.28	\$ 4,501.52	\$ 4,591.59	\$ 4,683.39	\$ 4,777.05	\$ 4,872.60	\$ 4,970.05	\$ 5,069.45										
16"	\$ 4,523.95	\$ 4,870.53	\$ 5,211.47	\$ 5,576.27	\$ 5,827.20	\$ 5,943.74	\$ 6,062.62	\$ 6,183.87	\$ 6,307.55	\$ 6,433.70	\$ 6,562.37	\$ 6,693.62										
20"	\$ 5,326.87	\$ 5,754.98	\$ 6,136.41	\$ 6,585.96	\$ 6,881.42	\$ 6,990.65	\$ 7,128.65	\$ 7,281.40	\$ 7,427.83	\$ 7,576.97	\$ 7,727.09	\$ 7,881.62										
Outside City Residential Customers																						
5/8"	\$ 41.81	\$ 44.19	\$ 47.29	\$ 50.69	\$ 52.87	\$ 53.93	\$ 55.01	\$ 56.11	\$ 57.23	\$ 58.37	\$ 59.54	\$ 60.73										
3/4"	\$ 56.01	\$ 60.35	\$ 64.57	\$ 69.09	\$ 72.20	\$ 73.54	\$ 75.12	\$ 76.82	\$ 78.16	\$ 79.72	\$ 81.31	\$ 82.94										
1"	\$ 75.99	\$ 82.96	\$ 88.76	\$ 94.98	\$ 99.23	\$ 101.23	\$ 103.28	\$ 105.32	\$ 107.43	\$ 109.58	\$ 111.77	\$ 114.01										
1-1/2"	\$ 95.99	\$ 102.96	\$ 108.76	\$ 114.98	\$ 119.23	\$ 121.23	\$ 123.28	\$ 125.32	\$ 127.43	\$ 129.58	\$ 131.77	\$ 134.01										
2"	\$ 115.99	\$ 122.96	\$ 128.76	\$ 134.98	\$ 139.23	\$ 141.23	\$ 143.28	\$ 145.32	\$ 147.43	\$ 149.58	\$ 151.77	\$ 154.01										
Outside City Commercial/Industrial Customers																						
5/8"	\$ 58.12	\$ 62.57	\$ 66.95	\$ 71.64	\$ 74.88	\$ 76.35	\$ 77.89	\$ 79.44	\$ 81.03	\$ 82.65	\$ 84.31	\$ 85.99										
3/4"	\$ 73.62	\$ 79.28	\$ 84.81	\$ 90.73	\$ 94.83	\$ 96.73	\$ 98.68	\$ 100.64	\$ 102.65	\$ 104.70	\$ 106.80	\$ 108.93										
1"	\$ 98.05	\$ 105.58	\$ 112.95	\$ 120.88	\$ 126.30	\$ 128.82	\$ 131.40	\$ 134.03	\$ 136.71	\$ 139.44	\$ 142.23	\$ 145.09										
1-1/2"	\$ 154.80	\$ 177.43	\$ 189.85	\$ 203.14	\$ 212.28	\$ 216.52	\$ 220.86	\$ 225.27	\$ 229.79	\$ 234.37	\$ 238.98	\$ 243.64										
2"	\$ 232.43	\$ 256.24	\$ 267.76	\$ 286.50	\$ 298.38	\$ 305.38	\$ 311.49	\$ 317.72	\$ 324.07	\$ 330.55	\$ 337.17	\$ 343.91										
3"	\$ 323.87	\$ 362.93	\$ 382.39	\$ 414.49	\$ 433.50	\$ 444.97	\$ 457.36	\$ 470.36	\$ 483.81	\$ 497.69	\$ 511.93	\$ 526.53										
4"	\$ 688.01	\$ 853.80	\$ 1,020.85	\$ 1,192.18	\$ 1,141.25	\$ 1,164.07	\$ 1,187.36	\$ 1,211.10	\$ 1,235.32	\$ 1,259.93	\$ 1,285.03	\$ 1,310.64										
6"	\$ 1,778.13	\$ 1,905.74	\$ 2,039.14	\$ 2,181.89	\$ 2,280.07	\$ 2,325.57	\$ 2,372.16	\$ 2,419.62	\$ 2,468.02	\$ 2,517.39	\$ 2,567.72	\$ 2,619.08										
8"	\$ 2,948.62	\$ 3,148.27	\$ 3,348.72	\$ 3,552.13	\$ 3,408.93	\$ 3,477.11	\$ 3,546.65	\$ 3,617.59	\$ 3,688.93	\$ 3,761.73	\$ 3,835.01	\$ 3,908.78										
10"	\$ 3,322.54	\$ 3,782.41	\$ 4,067.68	\$ 4,341.93	\$ 4,557.31	\$ 4,628.06	\$ 4,720.62	\$ 4,815.03	\$ 4,911.33	\$ 5,009.58	\$ 5,109.76	\$ 5,211.86										
12"	\$ 4,132.57	\$ 4,648.17	\$ 4,760.82	\$ 5,033.06	\$ 5,323.09	\$ 5,429.54	\$ 5,538.14	\$ 5,648.90	\$ 5,761.84	\$ 5,877.11	\$ 5,994.68	\$ 6,114.55										
16"	\$ 5,487.91	\$ 5,918.11	\$ 6,333.45	\$ 6,776.79	\$ 7,081.76	\$ 7,223.38	\$ 7,367.65	\$ 7,514.61	\$ 7,663.51	\$ 7,813.62	\$ 7,965.29	\$ 8,119.70										
20"	\$ 8,532.92	\$ 9,032.44	\$ 9,524.72	\$ 10,011.45	\$ 10,413.76	\$ 10,562.04	\$ 1,738.68	\$ 1,828.75	\$ 1,919.33	\$ 1,929.47	\$ 1,975.28	\$ 2,024.70										

5.3.4 Projected Residential Wastewater Bills

Table 56 below indicates projected wastewater bills for Residential Inside City customers with a 5/8" meter.

TABLE 56: PROJECTED RESIDENTIAL WASTEWATER BILLS

RATE IMPACT BY Customer	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Monthly Usage (CCF)												
1	\$ 36.80	\$ 39.65	\$ 42.43	\$ 45.40	\$ 47.44	\$ 48.39	\$ 49.36	\$ 50.34	\$ 51.35	\$ 52.38	\$ 53.42	\$ 54.48
2	\$ 41.60	\$ 44.82	\$ 47.98	\$ 51.31	\$ 53.62	\$ 54.70	\$ 55.79	\$ 56.90	\$ 58.04	\$ 59.20	\$ 60.39	\$ 61.60
3	\$ 46.40	\$ 49.89	\$ 53.49	\$ 57.23	\$ 59.81	\$ 61.00	\$ 62.22	\$ 63.47	\$ 64.74	\$ 66.03	\$ 67.35	\$ 68.70
4	\$ 51.20	\$ 55.16	\$ 59.02	\$ 63.15	\$ 65.99	\$ 67.31	\$ 68.66	\$ 70.03	\$ 71.43	\$ 72.86	\$ 74.31	\$ 75.80
5	\$ 56.00	\$ 60.32	\$ 64.55	\$ 69.06	\$ 72.17	\$ 73.62	\$ 75.09	\$ 76.59	\$ 78.12	\$ 79.68	\$ 81.28	\$ 82.90
6	\$ 60.80	\$ 65.49	\$ 70.08	\$ 74.98	\$ 78.36	\$ 79.92	\$ 81.52	\$ 83.15	\$ 84.81	\$ 86.51	\$ 88.24	\$ 90.01
7	\$ 65.60	\$ 70.66	\$ 75.61	\$ 80.90	\$ 84.54	\$ 86.23	\$ 87.95	\$ 89.71	\$ 91.51	\$ 93.34	\$ 95.20	\$ 97.11
8	\$ 70.40	\$ 75.83	\$ 81.14	\$ 86.81	\$ 90.72	\$ 92.54	\$ 94.39	\$ 96.27	\$ 98.20	\$ 100.16	\$ 102.17	\$ 104.21
9	\$ 75.20	\$ 81.00	\$ 86.67	\$ 92.73	\$ 96.90	\$ 98.84	\$ 100.82	\$ 102.84	\$ 104.89	\$ 106.99	\$ 109.13	\$ 111.31
10	\$ 80.00	\$ 86.16	\$ 92.20	\$ 98.65	\$ 103.09	\$ 105.15	\$ 107.25	\$ 109.40	\$ 111.59	\$ 113.82	\$ 116.09	\$ 118.42

6. DISCUSSION OF BEST MANAGEMENT PRACTICES (BMP)

We reviewed the City's water and wastewater utility performance in relation to Best Management Practices that have been published by Fitch Ratings ("Fitch"). These criteria are used by Fitch when reviewing the performance of a utility as part of the bond rating process.

6.1 FINANCIAL PROFILE

"Long term integrated financial forecasting that considers future demand, expected rate increases, regulations, and infrastructure renovation and renewal needs."

In general, the City's practices are consistent with this BMP. This report includes ten year comprehensive financial plans for both the water and wastewater utilities. These were developed in collaboration with City staff and reflect the rate revenue increases necessary to adequately fund operation and maintenance expenditures, make necessary capital improvements and ensure fiscal sustainability for each utility on a going forward basis. In addition to these general objectives, the water utility financial plans reflect the transition from DWSD to the KWA, which is expected to lower the level of future rate increases and afford the City greater control over the water utility's operating costs.

"Policies ensure appropriate financial margins, including debt service coverage and operating liquidity levels."

In general the City is taking steps to improve consistency with this BMP. The aforementioned water and wastewater utility financial plans move the City towards an operating reserve target of 90 days

of O&M and debt service. These reserves are critical to mitigate the risk inherent in operating a seasonal enterprise. That said, it is also importance to recognize the sensitivity of ratepayers to further increases, especially given the relatively high level of existing rates. Consequently, the City has decided to work up to the 90 day target over the next few fiscal years to mitigate the potential rate impact.

Coverage of existing water utility debt service is quite strong. This stems primarily from the fact that, given the City's past financial difficulties, it has limited access to capital markets for the purpose of funding its capital improvements. At this time, all major capital improvements are forecast to be made out of current rate revenues. If this policy is maintained throughout the forecast period, water utility debt service coverage will likely continue to improve. In the future the City may choose to leverage its water revenues via the Michigan Drinking Water Revolving Revenue Fund, which would spread the rate impact of the forecast capital improvements. Currently, the City does not have any outstanding wastewater debt.

"Regular financial reporting and monitoring systems enable policymaker's access to timely information on fiscal performance relative to the budget."

It is our understanding that the City's reporting systems are consistent with this BMP.

"Limited exposure to growth sensitive revenues, such as tap, connection, or impact fees."

The City's practices are consistent with this BMP. The City currently receives little to no revenue from growth related fees, mostly due to the fact that customer account growth has largely been negative or flat in recent years. Consequently the City is not overly reliant on such fees. However, if customer account growth becomes positive in the future, the City should consider implementing growth related fees to ensure that new customers are adequately compensating existing customers for their investment in the water and wastewater systems.

"Collection policies that regularly track the rate of timely payment receipts and enforce penalties against late payers or terminate service for non-payment."

The City has taken steps to improve consistency with this BMP. In recent years, account delinquency and non-payment has become a significant problem for the City. In addition, City staff has cited issues regarding potential water theft. Given these challenges, the City has engaged a consulting firm to aid in the analysis of their customer information system data, in an effort to recover the lost revenue associated with these issues. This is a critical in that it ensures paying customers are not bearing the burden of water theft going forward.

"Willingness of political leaders to adjust rates when necessary."

The City's practices are consistent with this BMP. Emergency Manager Darnell Early has the authority to raise rates as necessary to ensure the ongoing financial sustainability of the water and wastewater utilities. It is our understanding however, that input from political stakeholders will continue to be part of that City's rate adjustment process going forward.

"Limited exposure to financial operations of the general government, so that system revenues can be relied upon for use to operate and improve the utility. For transfers to the general fund policies that specifically limit their scope and growth are favorable."

The City is taking steps to improve consistency with this BMP. It is our understanding that approximately \$10 million is due from the City's general fund to the water and wastewater utilities. A potential course of action would be to reduce the amount of administrative fees the water and wastewater utilities pay each year to the general fund, until the amount owed is paid back in full. Regardless of the method, the City has indicated that, as a worst case scenario, the general fund would repay the amount owed to the water and wastewater utilities by FY 2019.

"Compliance with industry accounting practices and establishment of appropriate internal controls."

It is our understanding that the City's accounting practices adhere to the generally accepted accounting practices ("GAAP") set forth by the Governmental Accounting Standards Board ("GASB").

"Rate affordability guidelines that consider absolute levels of rates and their affordability relative to income levels."

The City is working to improve consistency with this BMP. Affordability is a critical consideration for the City especially given the relatively high level of existing rates. As mentioned above, a key component of this study involved analyzing the impact of transitioning from DWSD to the KWA, a policy which should generate savings to ratepayers in lieu of what would have happened had the City continued to purchase water from DWSD.

6.2 DEBT PROFILE RELATED

"Prioritized capital improvement plans that cover at least five years and consider capacity, supply, regulatory and replacement and renewal needs."

The City's practices are consistent with this BMP. The City has provided five year capital improvements plans for the water and wastewater utilities as well as guidance for forecasting beyond that period, both of which have been incorporated into the water and wastewater financial plans. Based on our experience with utility operations and an examination of the provided plans, it is our opinion that the City is working to address capacity, supply and regulatory issues.

"Debt issuance policies including types, terms, and suitability under specific conditions, as well as the amount of variable-rate debt deemed appropriate."

Currently the City's wastewater utility has no debt and the level of water utility relatively modest. Though the debt associated with the joining KWA will increase this amount in the coming years, it will not reach unsustainable levels.

"Development of comprehensive policies on the use of hedge agreements and their disclosure prior to entering into any such agreements."

The water and wastewater utilities are not currently party to any such agreements and there are no plans to utilize such agreements in the future.

6.3 OPERATING PROFILE RELATED

"Key management industry experience and active participation in organizations that keep pace with sector issues, regulatory mandates and technological advances."

The City's practices are consistent with BMP in this regard

"Use of professional engineers, either within the utility or outside of it, to prepare objective reviews of system performance and needs on regular basis and provide periodic revisions to construction cost estimates."

The City's practices are consistent with BMP in this regard.

"Regular consultation with regional and local growth planners, community development officials, and demographers to predict and, if possible, limit infrastructure needs related to population and business growth."

The City has been very active in such activities in recent years, as evidenced by their participation in the KWA effort to secure a more economical source of water to better meet the City's needs in the future.

APPENDICES

[illegible]

APPENDIX B: ALTERNATIVE WASTEWATER VOLUMETRIC RATES

Composite Revenue Requirement	Last Year (2016)		Last Year (2016)		Last Year (2016)		Last Year (2016)		Last Year (2016)		Last Year (2016)	
	Volume	% Breakdown	Volume	% Breakdown	Volume	% Breakdown	Volume	% Breakdown	Volume	% Breakdown	Volume	% Breakdown
RATE DESIGN BY CUSTOMER CLASS												
Total Inside City Residential COS												
Total Inside City Residential COS Adjustment												
Total Inside City Residential	\$ 5,578,328	1,576,668	52.86%	1,000	1,576,668	1,576,668	\$ 3.48	4.6	\$ (1.31)	-27%		
Total Outside City Residential COS												
Total Outside City Residential COS Adjustment												
Total Outside City Residential		268	0.01%	1,100	226		\$ 3.84	5.285	\$ (1.44)	-27%		
Total Inside City Commercial/Industrial COS												
Total Inside City Commercial/Industrial COS Adjustment												
Total Inside City Commercial/Industrial	\$ 9,908,586	1,368,721	46.90%	1,000	1,368,721	1,408,434	\$ 7.05	4.6	\$ 2.25	47%		
Total Outside City Commercial/Industrial COS												
Total Outside City Commercial/Industrial COS Adjustment												
Total Outside City Commercial/Industrial		7,012	0.24%	1,100	7,713		\$ 7.75	5.285	\$ 2.46	47%		

