

PROJECT REPORT

FOR

ROCHELLE MUNICIPAL UTILITIES,
CITY OF ROCHELLE
OGLE COUNTY, ILLINOIS
WATER DIVISION

Water Rate Report
August 2016



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PURPOSE

The purpose of this Water Rate Report is to provide Rochelle Municipal Utilities (RMU) Water Division with the following analysis:

1. Evaluate the current expenses and revenues.
2. Develop a budget based on future Water Division needs.
3. Develop a debt service schedule for the construction of a radium reduction water treatment plant planned for Well #11. The water treatment plant will be financed with an IEPA Public Water Supplies Revolving Fund Loan.

The water rate modifications evaluated and recommended in this report will provide the Water Division the necessary revenue to be self-sufficient and not be subsidized by any utility division within RMU.

WATER DIVISION RATE SCHEDULE

The Water Division rate schedule consists of the following components:

1. Fixed Charge: Includes all contractual service administrative expenses. These services include Network Administration, Financial Administrative Services, Insurance, Customer Accounting and Collection, Administrative Expenses, laboratory services and GIS.
2. Basic User Rate: Includes all the operation and maintenance expenses of the system such as personnel salaries and benefits, purchase power, chemicals, materials and supplies, and the general fund transfer.
3. Equipment Replacement: Includes the replacement costs for the well pumps, pump VFDs, SCADA RTUs, chemical feed equipment, standby generators and the Well #11 water treatment plant equipment and media. This fund sets the money aside to draw on when the equipment or media has to be upgraded and/or replaced.
4. Non-Debt Funded Projects: The Non-Debt Funded Projects are the less expensive capital improvements that do not require bonding or loans to complete. They include the elevated water storage tank painting, water distribution main replacement, water transmission main improvements, meter, hydrant and valve replacements, and vehicle and smaller equipment replacement.
5. Capital Recovery Rate: Includes the payment of bonds and/or loans to finance large water system improvement projects.

CURRENT EXPENDITURES AND REVENUES

The Water Division had a net loss in FY 2013/14 of \$54,204. The Water Division had a net income of \$507,216 in FY 2014/15 and \$1,125,220 in FY 2015/16. The large net income in FY 2015/16 was attributed to the City receiving income from the IEPA PWSRFL program that was significantly greater than the actual expenses. The City received reimbursements for the design engineering and the construction costs associated with drilling and developing Well #12 which incurred in previous fiscal years, and the City paid the expenses with Water Division funds. These expenses were eligible for reimbursement through the IEPA PWSRFL program. The expenses for the five (5) categories have remained fairly consistent, with the exception of the Non-Debt Funded Projects. A portion of the Non-Debt Funded Projects expenses were for infrastructure improvements associated with the Well No. 12 project.

A detailed analysis of the Water Division expenditures and revenues is included in Exhibit 'A'. A summary of the expenditures and revenues is detailed in the table below.

Rochelle Municipal Utilities Water Division Expenditures and Revenues

	Fiscal Year		
	FY 2013/14	FY 2014/15	FY 2015/16
Expenditures			
Fixed Charge Expenses	\$ 269,008	\$ 290,161	\$ 252,288
Basic User Expenses	\$ 798,136	\$ 858,563	\$ 909,887
Equipment Replacement Expenses	Included in Non-Debt Funded Projects		
Non-Debt Funded Projects Expenses	\$ 877,344	\$ 715,356	\$2,605,220
Capital Recovery Expenses – Debt Service	\$ 240,000	\$ 0	\$ 0
Total Expenditures	\$2,184,488	\$1,864,080	\$3,767,395
Revenues			
Water Sales	\$2,018,314	\$2,229,420	\$2,218,864
Other Revenue	\$ 111,970	\$ 141,876	\$2,673,751
Total Revenue	\$2,130,284	\$2,371,296	\$4,892,615
Net Income/(Loss)	(\$ 54,204)	\$ 507,216	\$1,125,220

The Fixed Charge expenses include the Contractual Services expenses, which have remained steady over the past three (3) years. The Basic User Expenses include personnel salaries and benefits, purchase power, chemicals, materials & supplies, and transfer to general fund. The Basic User Expenses have increased slightly due to an increase in salaries and purchase power costs. The Non-Debt Funded Projects Expenses are infrastructure improvement projects that are not bond or loan funded. The Non-Debt Funded Projects Expenses increased significantly in FY 2015/16 due to the construction of the new Well #12 and elevated water storage tank. There is no Capital Recovery Expense until the City starts to repay the IEPA PWSRFL for the construction of the new Well #12 and elevated water storage tank.

The Water Division revenues come from the sale of water to the residential, commercial and industrial customers, and from other non-water sale revenue sources. The water sale revenues have increased slightly over the last three (3) years for all customer classifications. The major non-water sale revenue sources include the fire protection fee for customers who have a private fire protection connection to the water system and the water tower lease for allowing antennas to be placed on the towers for wireless providers.

WATER DIVISION BUDGET

A. FIXED CHARGE

The Fixed Charge includes the contractual services provided to the Water Division by City Administrative Services and RMU Customer Service. The services provided include meter reading and billing, scheduling appointments, answering and dispatching service calls, human resources, purchase order processing and payments, and invoicing customers for services. Also included is support for the network and computer software and hardware used to monitor the wells and distribution system.

The Contractor Service – Other expenses has been decrease steady over the last three (3) years. A more detailed analysis of the expenses in this category would have to be made to determine the reason for the reduction in the expenses. The remaining contractual service expenses stayed in line with previous fiscal year expenses. The recommended budget is based on past expenses and trends.

Fixed Charge - Contractual Services Expenses

	Audit Report			Recommended Budget
	FY 2013/14	FY 2014/15	FY 2015/16	FY 2017
Network Administration	\$ 27,019	\$ 22,983	\$ 22,265	\$ 24,000
Administrative Services	\$ 21,945	\$ 20,208	\$ 14,581	\$ 22,000
Telephone	\$ 2,141	\$ 2,251	\$ 3,612	\$ 3,600
Property and Liability Insurance	\$ 15,509	\$ 10,065	\$ 11,922	\$ 13,000
Engineering	\$ 17,904	\$ 2,594	\$ 0	\$ 10,000
Customer Accounting and Collection	\$ 83,717	\$ 81,365	\$ 85,617	\$ 95,000
Administration and General Expenses	\$ 23,254	\$ 20,774	\$ 15,036	\$ 0
Laboratory	\$ 9,777	\$ 7,892	\$ 10,148	\$ 10,000
Other	\$ 39,692	\$ 27,939	\$ 20,592	\$ 30,000
Transportation	\$ 18,462	\$ 24,976	\$ 19,512	\$ 22,000
Uncollectible Accounts	\$ 8,067	\$ 19,547	\$ 0	\$ 10,000
Miscellaneous Expenses	\$ 1,521	\$ 1,567	\$ 1,003	\$ 2,000
GIS	\$ 0	\$ 0	\$ 0	\$ 25,000
Water Reclamation Office/Lab Rent	\$ 0	\$ 48,000	\$ 48,000	\$ 48,000
Water Division Administration	\$ 0	\$ 0	\$ 0	\$106,100
Total Contractual Services	\$269,008	\$290,161	\$252,288	\$420,700

B. BASIC USER EXPENSES

The Basic User Expenses include all the operation and maintenance expenses of the system such as personnel expenses, purchase power, chemicals, materials and supplies and the general fund transfer.

The Water Department staff includes the equivalent of 6.4 full-time personnel. The staff includes the following positions.

Superintendent: This person is responsible for overseeing the operation of the entire Water Division. This same person is also responsible for overseeing the operation of the Water Reclamation Division. The prorated salary of the superintendent is 7.5% landfill, 40% water and 52.5% water reclamation (Personnel Equivalent: 0.4).

Assistant Superintendent: This person is responsible for assisting the Superintendent in overseeing the operation and the construction projects for the Water Division. This same person is also responsible for assisting the Superintendent in overseeing the operation and construction projects of the Water Reclamation Division. The prorated salary of the superintendent is 50% water and 50% water reclamation (Personnel Equivalent: 0.5).

Operations/Lead: Under the supervision of the Superintendent, the Lead Operator is responsible for directing the operations and maintenance of the water system. The Lead Operator oversees the field work in the distribution system and assigns and directs the work of the Water Division Operators (Personnel Equivalent: 1.0).

Operations/Maintenance B, C and D: Under the supervision of the Lead Operator, three water operators operate the water wells and distribution system and perform the maintenance required to keep the system operating efficiently (Personnel Equivalent: 3.0).

Part-Time: One permanent part-time lab technician analyzes well and distribution samples and assists in maintaining backflow records. In addition, one or two full time people are hired during the summer to assist the other staff with the operation and maintenance of the water system (Personnel Equivalent: 1.0).

Meter Reader: This person is responsible for reading the water and electrical meters for billing purposes. The prorated salary of the meter reader is 50% water and 50% water reclamation (Personnel Equivalent: 0.5).

The proposed budget has included adding an assistant superintendent and meter reader position to the Water Division and Water Reclamation Division staff. The proposed budget increase accounts for normal salary, benefits and health insurance increases for the employees. The Personnel expenses for the Superintendent and Meter Reader have been included in the Fixed Charge – Contractual Service Expenses under Water Division Administration. The Superintendent and Meter Reader positions are considered administration positions as opposed to operation and maintenance in nature.

Personnel Expenses

	Audit Report			Recommended Budget
	FY 2013/14	FY 2014/15	FY 2015/16	FY 2017
Salaries	\$256,538	\$278,242	\$322,462	\$352,200
Social Security Taxes	\$ 13,570	\$ 21,375	\$ 28,895	\$ 27,400
Retirement	\$ 37,279	\$ 33,652	\$ 34,199	\$ 42,400
Health Insurance	\$ 77,189	\$ 52,943	\$ 60,121	\$ 64,900
Other Employee Benefits	\$ 4,813	\$ 10,018	\$ 4,468	\$ 6,000
Workmen's Compensation	\$ 5,313	\$ 8,466	\$ 8,630	\$ 12,000
Total Personnel	\$394,702	\$404,696	\$458,775	\$504,900

The purchase power expense is a function of the volume of water pumped and electrical rates. The purchase power expense spiked up by \$33,027 from FY 2013/14 to FY 2014/15, but leveled off in FY 2015/16. The recommended budget anticipates that water demands and electrical rates will remain steady. The past three (3) fiscal years' expenses and the recommended budget are summarized below.

Purchase Power Expenses

	Audit Report			Recommended Budget
	FY 2013/14	FY 2014/15	FY 2015/16	FY 2017
Purchase Power	\$215,778	\$248,805	\$240,737	\$250,000

The Water Department supplies include chemicals, materials and supplies for the operation of the water system. The Chemicals cost is for the chlorine, fluoride and phosphate chemicals, which are added to the raw water prior to distribution of the water to its customers. The Material and Supplies are a variety of items that are required for the normal operation and maintenance of the system.

No significant changes in the chemical cost are anticipated. The Materials and Supplies have been trending upward over the last three (3) fiscal years'. The past three (3) fiscal years' expenses and the recommended budget are summarized below.

Supplies Expenses

	Audit Report			Recommended Budget
	FY 2013/14	FY 2014/15	FY 2015/16	FY 2017
Chemicals	\$ 54,318	\$ 52,764	\$ 47,406	\$ 52,000
Material and Supplies	\$ 48,017	\$ 62,484	\$ 66,913	\$ 66,000
Total Supplies	\$102,335	\$115,248	\$114,319	\$118,000

The transfer expenditure to the General Fund is based on Water Division revenue. The transfer amount to the General Fund is equal to 4.5% of the prior year's audited revenue. The transfer to the General Fund will remain close to the previous two (2) fiscal year expense amounts.

Transfer Expenses

	Audit Report			Recommended Budget
	FY 2013/14	FY 2014/15	FY 2015/16	FY 2017
General Fund	\$85,321	\$89,814	\$96,056	\$100,000

The Basic User Rate expenses are summarized in the table below.

Basic User Rate Expenses

	Recommended Budget
	FY 2017
Personnel	\$504,900
Purchase Power	\$250,000
Supplies	\$118,000
Transfers - General Fund	\$100,000
Total Basic User Expenses	\$972,900

C. EQUIPMENT REPLACEMENT

The Equipment Replacement expenses will include replacement of the well pumps, pump VFDs, SCADA RTUs, chemical feed equipment, the standby generators and the Well #11 filter equipment and media. The recommended budget for equipment replacement for the FY 2017 is summarized below and detailed on Exhibit 'B'.

Equipment Replacement Expenses

Equipment Items	Recommended Budget FY 2017
Well Pumps	\$51,750
Chemical Feed Equipment	\$12,500
Well #11 Filter Equipment and Media	\$10,200
Pump VFDs and SCADA RTUs	\$ 7,500
Standby Generators	\$14,667
Total Equipment Replacement	\$96,617

D. NON-DEBT FUNDED PROJECTS

The Non-Debt Funded Projects are capital improvements to the water system that do not require bonding or loans to fund. Previous rate studies developed the Non-Debt Funded Projects budget based on the capital improvement needs for various components of the water system as detailed below.

1. Elevated Water Storage Tank

RMU owns and operates three (3) – 500,000 gallon elevated water storage tanks. The three (3) – 500,000 gallon elevated water storage tanks are located next to Wells #4, #8 and #11. At this time, the paint on all three tanks is in good condition. The Well #8 (Caron Road) tower was painted in 1999, the Well #4 (Second Avenue) tower was painted in 2000 and the Well #11 (Rochelle High School) tower was painted in 2005. AWWA recommends repainting the tanks every 20 years. The water system improvements include the construction of a new 750,000 gallon elevated storage tank next to the new Well #12 (Hayes Road), which will be completed in October 2016.

The budget provides the funds for repainting the three (3) – 500,000 gallon elevated tanks and the new 750,000 gallon elevated water storage tank every 20 years.

2. Water Distribution Improvements – Watermain Replacement

RMU continues to replace undersized 4” diameter watermain and aging watermains that have a history of breaks. When the watermains are replaced, new water service lines are installed from the main to the shut-off box at the property line. The budget includes \$300,000 per year for watermain replacement.

3. Water Distribution Improvements – Transmission Mains

The water distribution transmission mains are the 12” and 16” watermains that loop the perimeter of the distribution system and connect the wells and elevated water storage tanks together. Many of the transmission mains constructed were done in conjunction with various developments and have been part of the development cost, and not a capital cost to the Water Division. However, there are several transmission main improvement projects that should be completed that are within the existing water distribution system. These transmission main improvements are shown on Exhibit ‘D’ and are summarized in the table below.

Transmission Main Improvements

Location	Cost
Well #10 Connection to 12" Transmission Line	\$ 210,000
Steam Plant Road - Caron Road to the West Side of the BNSF Railroad	\$ 130,000
20th Street Extension South to IL Route 38	\$ 700,000
IL Route 251 - Jones Street to Flagg Road and Jones Street - 9th Street to IL Route 251	\$ 740,000
Well #4 (Second Avenue) Water Transmission Line - East	\$ 450,000
Caron Road - Creston Road to Opus	\$ 275,000
Well #4 (Second Avenue) Water Transmission Line - West	\$ 585,000
Total	\$3,090,000

The budget includes \$155,000 per year for the transmission main improvements, which will be completed over a 20 year period.

4. Replacement Items

The Water Division replaces a certain number of fire hydrants, valves, service lines and customer water meters on an annual basis. The Water Division has budgeted \$110,000 per year for the replacement of these facilities, and the proposed budget maintains this funding level.

5. Vehicles and Equipment

The Water Division uses the following vehicles and equipment to make daily inspections of the water system facilities and to make water system repairs when necessary.

- Pickup Truck, 3/4 Ton – 5 Each (2003, 2004, 2009, 2011, 2016 models)
- Dump Truck – 1 Each (2006 model)
- Backhoe – 2 Each (1991 and 2006 models)
- Construction Truck – 1 Each (1988 model)
- Cargo Trailers – 2 Each (2009, 2010 models)

The proposed capital outlay budget includes \$40,000 a year for the replacement of these vehicles and equipment at the end of their service life.

The Non-Debt Funded Projects Budget is detailed in Exhibit ‘C’ and is summarized in the table below.

Non-Debt Funded Projects Budget

Item	Recommended Budget FY 2017
Elevated Water Storage Tank Painting	\$ 63,000
Water Distribution Improvement – Water Replacement	\$300,000
Water Distribution Improvements – Transmission Mains	\$155,000
Replacement Items	\$110,000
Vehicles and Equipment	\$ 40,000
Total Non-Debt Funded Projects Budget	\$668,000

E. CAPITAL RECOVERY – DEBT SERVICE

The Capital Recovery charge is for water system improvements that the City has determined are necessary and has made the decision to secure long term bonding or loan financing to complete the work needed to meet the needs of the growing community. The Capital Recovery includes a debt service expense of \$200,000 for the repayment of an IEPA Public Water Supplies Revolving Fund Loan (PWSRFL) for the construction of Well #12, the well building, connecting water transmission main and a 750,000 elevated water storage tank.

The City received a Violation Notice for exceeding the maximum contaminant level for combined radium at Well #11. An IEPA Project Plan Report was submitted for the construction of a water treatment plant for Well #11 and a water treatment plant for Well #8 for the reduction of iron. Currently Well #8 is used as an emergency well because of the elevated iron concentration in the raw water. Water treatment at Well #8 will give the City another well which they can use on a daily basis.

Additional improvements to the water system need to be made and include the following:

1. Well #11 Water Treatment Plant
2. Water transmission main construction on Twombly Road, Dement Road, Flagg Road and Caron Road
3. Replace the Well #4 well building
4. Water transmission main construction from Well #11 to Twombly Road
5. Well #8 Water Treatment Plant

The water system improvements detailed above are shown on Exhibit 'E'.

The water system improvements will be constructed in four (4) phases and will be financed with multiple IEPA PWSRFLs. The recommended FY 2017 budget includes a debt service expense of \$406,300 for the Well #12 and elevated water storage tank improvements and the Well #11 water treatment plant.

WATER RATE MODIFICATIONS

A. EXISTING USERS AND WATER USAGE

The Water Division revenues are based on the number of customers and the volume of water used, as measured through the meter. The current fixed rate charge structure is based on the same fixed charge for all customer classifications. The table below details the number of users in each customer classification.

Water Division Customers

Category/Meter Size	# of Users
Residential	2,985
General Service	524
Industrial	2
Other Categories	
Rural, 1-1/2" to 2"	1
Inter City, 5/8"	4
Inter City, 1-1/2" to 2"	6
Wastewater, 3"	2
Electric, 1"	3
Electric, 2"	1
Electric, 4"	2
RMU Admin, 1"	1
Lawn Irrigation	224
Total	3,755

The usage charges are based on the billable volume of water in each category of user. The total billable volume for the 2015/16 fiscal year was 115,869,141 cubic feet as detailed below. The two industrial customers use 64.3% of the total billable water volume.

Water Division - Billed Volume FY 2015/16

	Volume Billed (cf)	% of Total Volume Billed
Residential	18,476,556	15.9
General Service	21,645,743	18.7
Industrial	74,555,361	64.3
Other Categories	448,403	0.4
Lawn Irrigation	743,078	0.7
Total	115,869,141	100.0

B. FIXED CHARGE

The Fixed Charge component of the water rate schedule generates revenue to cover the expenditures that are not dependent upon the quantity of water a customer uses. The Fixed Charge will cover the cost for the contractual services that support the Water Division, which are projected to be \$420,700 in FY 2017. The recommended Fixed Charge will be \$10.45/User/Mo. for all customers' classes regardless of the meter size and will generate \$449,559 in revenue based on the calculation below.

Fixed Charge: \$10.45/User/Mo.	
3,529 Users x \$10.45/User/Mo. x 12 Months =	\$442,537
224 Users x \$10.45/User/Mo. x 3 Months =	<u>\$ 7,022</u>
Total Revenue	\$449,559

C. BASIC USER RATE

The Basic User Rate component of the water rate schedule generates revenue to cover the expenditures that are dependent upon the volume of water a customer uses. The Basic User Rate will cover the cost of the Personnel, Purchase Power, Supplies and Transfers to the General Fund.

Basic User Rate Expenses

	Recommended Budget FY 2017
Personnel	\$504,900
Purchase Power	\$250,000
Supplies	\$118,000
Transfers-General Fund	\$100,000
Total Basic User Expenses	\$972,000

The current basic user rate schedule is a two tier rate system. The second tier rate reduces the rate charge per cubic foot of water used once a customer exceeds a defined threshold. The first tier rate is for all usage less than 100,000 c.f. per month, which is all of the Residential, General Service and Industrial customers. The second tier is for all usage over 100,000 c.f. per month and is used by the two Industrial customers.

The Personnel expenses will be recovered by the tier rate for all usage less than 100,000 c.f. The Purchase Power, Supplies and Transfer to the General Fund is a function of all water usage, so it will be recovered equally by the first and second tier rate customers. The first and second tier Basic User Rates are calculated below.

First Tier Rate (Personnel Only)

$$\$504,900 \div 437,137 \text{ HCF} = \underline{\underline{\$1.16/\text{HCF}}}$$

First and Second Tier Rate (Purchase Power, Supplies and Transfers – General Fund)

$$\$468,000 \div 1,158,691 \text{ HCF} = \underline{\underline{\$0.40/\text{HCF}}}$$

Basic User Rate
First and Second Tier Rates

	FY 2017	
	First Tier Rate	Second Tier Rate
Personnel	\$1.16/HCF	\$0.00/HCF
Purchase Power, Supplies and Transfers – General Fund	\$0.40/HCF	\$0.40/HCF
Totals	\$1.56/HCF	\$0.40/HCF

D. EQUIPMENT REPLACEMENT

The Equipment Replacement Expenses will include replacement of the well pumps, pump VFDs, SCADA RTUs, chemical feed equipment, the standby generators and the Well #11 filter equipment and media. The recommended budget for equipment replacement is summarized below and detailed on Exhibit 'B'.

Equipment Replacement Expenses

Equipment Items	Recommended Budget FY 2017
Well Pumps	\$51,750
Chemical Feed Equipment	\$12,500
Well #11 Filter Equipment and Media	\$10,200
Pump VFDs and SCADA RTUs	\$ 7,500
Standby Generators	\$14,667
Total Equipment Replacement	\$96,617

The Equipment Replacement expense will be shared equally by the First and Second Tier Rate customers. The First and Second Tier Equipment Replacement Rate is calculated below.

First and Second Tier Rate: $\$96,617 \div 1,158,691 \text{ HCF} = \underline{\$0.09/\text{HCF}}$

E. NON-DEBT FUNDED PROJECTS

The Non-Debt Funded Projects will include elevated water storage tank painting, water distribution main replacement, water transmission main improvements, meter, hydrant and valve replacements and vehicle and equipment replacement. The Non-Debt Funded Projects are capital improvements that do not require bonding or loans to complete.

The Non-Debt Funded Projects budget is detailed in Exhibit ‘C’ and is summarized in the table below.

Non-Debt Funded Projects Budget

Item	Recommended Budget FY 2017
Elevated Water Storage Tank Painting	\$ 63,000
Water Distribution Improvement – Water Replacement	\$300,000
Water Distribution Improvements – Transmission Mains	\$155,000
Replacement Items	\$110,000
Vehicles and Equipment	\$ 40,000
Total Non-Debt Funded Projects Budget	\$668,000

The Elevated Water Storage Tank Painting expense is accounted for in the Fire Protection Fee and the Tower Rental Charge. The remaining budget items will be covered by the Non-Debt Funded Projects Rate, which will be based on usage and will be allocated to the First and Second tier rates as detailed in the table.

Non-Debt Funded Projects Budget Allocation
FY 2017

	Cost By 1 st Tier	Cost By 1 st and 2 nd Tier Based on Total Billable Volume	Cost By 1 st and 2 nd Tier Based on Peak Demand	Cost Paid By Fire Protection Fee and Tower Rental Charge
Elevated Water Storage Tank Painting				\$63,000
Water Distribution Main Improvements	\$300,000			
Water Transmission Main Improvements			\$155,000	
Replacement Items		\$110,000		
Vehicle and Equipment		\$ 40,000		
Totals	\$300,000	\$150,000	\$155,000	\$63,000

The water distribution main improvements are generally in residential and commercial neighborhoods and benefit the First Tier rate customers. All industrial customers pay the First Tier each month and are contributing to the improvements to the system.

First Tier Rate – Water Distribution Main Replacement

$$\$300,000 \div 437,137 \text{ HCF} = \underline{\underline{\$0.69/\text{HCF}}}$$

The replacement items and vehicle and equipment expenses benefit the First and Second Tier Rate customers equally and are based on the total billable volume. The First and Second Tier Rate for the replacement items and vehicle and equipment expenses is calculated below.

First and Second Tier Rate – Replacement Items and Vehicle and Equipment

$$\$150,000 \div 1,158,691 \text{ HCF} = \underline{\underline{\$0.13/\text{HCF}}}$$

The allocation of the water transmission main improvements is based on the on the peak daily demands, because the sizing of the water transmission mains are based on the peak demands of the system. The peak daily demand was calculated monthly by taking the highest daily demand and dividing it by the average daily demand for the First Tier customers and the Second Tier customers. The peak demand factor in the table below is based on 2012 water billing data. The large Industrial users have a peak daily demand that is lower than the Residential and General Service users, because their usage is typically continuous with very minor peaks. The cost to each tier is allocated based on the percentage of the peak demand.

Cost Allocation for Transmission Main Improvement Based on Peak Demand

Usage	Average Daily Demand	Peak Demand Factor	Peak Demand	% of Peak Demand	Water Transmission Main Improvements
Residential/General Service (0 - 100,000 cf/month)	113,118 cf/d	1.75	197,956 cf/d	45.7%	\$ 70,835
Industrial (Over 100,000 c.f/month)	204,261 cf/d	1.15	234,900 cf/d	54.3%	\$ 84,165
Total	317,379 cf/d		432,856 cf/d	100%	\$155,000

First Tier Rate (0 - 100,000 cf/Month)

$$\$70,835 \div 437,137 \text{ HCF} = \underline{\underline{\$0.16/\text{HCF}}}$$

Second Tier Rate (Over 100,000 cf/Month)

$$\$84,165 \div 721,553 \text{ HCF} = \underline{\underline{\$0.12/\text{HCF}}}$$

Non-Debt Funded Projects
First and Second Tier Rates

	First Tier Rate	Second Tier Rate
Elevated Water Storage Tank Painting	\$0.00/HCF	\$0.00/HCF
Water Distribution Main Replacement	\$0.69/HCF	\$0.00/HCF
Water Transmission Main Improvements	\$0.16/HCF	\$0.12/HCF
Replacement Items/Vehicle and Equipment	\$0.13/HCF	\$0.13/HCF
Totals	\$0.98/HCF	\$0.25/HCF

F. CAPITAL RECOVERY – DEBT SERVICE

The Water Division is completing the construction of the new Well #12, well building, connecting water transmission main and elevated water storage tank. The project cost is \$4,952,621, and the City is financing the project with an IEPA Public Water Supplies Revolving Fund Loan (PWSRFL). The City will be receiving \$1,290,000 in forgiveness of principal from the IEPA PWSRFL program, and the City will be using \$349,000 in local Water Division funds to finance the project. The City’s IEPA PWSRFL will be \$3,313,621 (\$4,952,621 - \$1,290,000 - \$349,000). The IEPA PWSRFL annual debt service payment is projected to be \$200,000. The approved IEPA Project Plan report for the Well #12 and elevated water storage tank project also included the replacement of the Well #4 well building and water transmission main construction, which will be completed in the future.

The City received a Violation Notice for exceeding the maximum contaminant level for combined radium for Well #11. The City submitted an IEPA Project Plan report to the IEPA for the construction of a water treatment plant for the reduction of radium for Well #11 and for the construction of a water treatment plant for Well #8 for the reduction of iron. The Well #11 water treatment plant cost is estimated to be \$3,423,000. The IEPA PWSRFL annual debt service payment is projected to be \$206,300. The Well #8 water treatment plant will be constructed in a later phase.

The City plans to obtain financing through the IEPA PWSRFL program for all the major water system improvements. The water system improvements will be constructed in five (5) phases as detailed in the table below and shown on the attached Water System Improvement map included as Exhibit ‘E’.

Water System Improvements

Project	Year	Project Cost	Annual IEPA Loan Payment
<u>Phase 1</u> Well #12 and Elevated Water Storage Tank	2015-2016	\$4,952,621	\$200,000
<u>Phase 2</u> Well #11 Water Treatment Plant	2017-2018	\$3,423,000	\$206,300
<u>Phase 3</u> Water Transmission Main Looping on Twombly Road, Flagg Road, Caron Road and Dement Road	2018-2019	\$1,971,500	\$117,000
<u>Phase 4</u> Well # Well Building Replacement Water Transmission Main Extension From Water Tower at the Rochelle High School to Twombly Road	2019-2020	\$1,100,000 <u>\$1,064,300</u> \$2,164,300	\$129,200
<u>Phase 5</u> Well #8 Water Treatment Plant	2020- 2021	\$4,331,000	\$258,600
Totals		\$16,842,421	\$911,100

The cost allocation for the water system improvements detailed above is based upon the peak daily demand of the system. The debt service cost calculations for the next four (4) fiscal years, based upon this methodology, are shown in the tables below.

FY 2017
Cost Allocation for Capital Recovery Based on Peak Demand

Usage	Average Daily Demand	Peak Demand Factor	Peak Demand	% of Peak Demand	Annual P&I Payment
Residential/General Service (0 - 100,000 cf/month)	113,118 cf/d	1.75	197,956 cf/d	45.7%	\$185,679
Industrial (Over 100,000 c.f/month)	204,261 cf/d	1.15	234,900 cf/d	54.3%	\$220,621
Total	317,379 cf/d		432,856 cf/d	100%	\$406,300

First Tier Rate (0 - 100,000 cf/Month)

$$\$185,679 \div 437,137 \text{ HCF} = \underline{\$0.43/\text{HCF}}$$

Second Tier Rate (Over 100,000 cf/Month)

$$\$220,621 \div 721,553 \text{ HCF} = \underline{\$0.30/\text{HCF}}$$

FY 2018
Cost Allocation for Capital Recovery Based on Peak Demand

Usage	Average Daily Demand	Peak Demand Factor	Peak Demand	% of Peak Demand	Annual P&I Payment
Residential/General Service (0 - 100,000 cf/month)	113,118 cf/d	1.75	197,956 cf/d	45.7%	\$239,148
Industrial (Over 100,000 c.f/month)	204,261 cf/d	1.15	234,900 cf/d	54.3%	\$284,152
Total	317,379 cf/d		432,856 cf/d	100%	\$523,300

First Tier Rate (0 - 100,000 cf/Month)

$$\$239,148 \div 437,137 \text{ HCF} = \underline{\$0.55/\text{HCF}}$$

Second Tier Rate (Over 100,000 cf/Month)

$$\$284,152 \div 721,553 \text{ HCF} = \underline{\$0.39/\text{HCF}}$$

FY 2019
Cost Allocation for Capital Recovery Based on Peak Demand

Usage	Average Daily Demand	Peak Demand Factor	Peak Demand	% of Peak Demand	Annual P&I Payment
Residential/General Service (0 - 100,000 cf/month)	113,118 cf/d	1.75	197,956 cf/d	45.7%	\$298,193
Industrial (Over 100,000 c.f/month)	204,261 cf/d	1.15	234,900 cf/d	54.3%	\$354,307
Total	317,379 cf/d		432,856 cf/d	100%	\$652,500

First Tier Rate (0 - 100,000 cf/Month)

$$\$298,193 \div 437,137 \text{ HCF} = \underline{\$0.69/\text{HCF}}$$

Second Tier Rate (Over 100,000 cf/Month)

$$\$354,307 \div 721,553 \text{ HCF} = \underline{\$0.49/\text{HCF}}$$

FY 2020
Cost Allocation for Capital Recovery Based on Peak Demand

Usage	Average Daily Demand	Peak Demand Factor	Peak Demand	% of Peak Demand	Annual P&I Payment
Residential/General Service (0 - 100,000 cf/month)	113,118 cf/d	1.75	197,956 cf/d	45.7%	\$416,373
Industrial (Over 100,000 c.f/month)	204,261 cf/d	1.15	234,900 cf/d	54.3%	\$494,727
Total	317,379 cf/d		432,856 cf/d	100%	\$911,100

First Tier Rate (0 - 100,000 cf/Month)

$$\$416,373 \div 437,137 \text{ HCF} = \underline{\$0.96/\text{HCF}}$$

Second Tier Rate (Over 100,000 cf/Month)

$$\$494,727 \div 721,553 \text{ HCF} = \underline{\$0.69/\text{HCF}}$$

The Capital Recovery Rates for each fiscal year of the water system improvements are summarized in the table below.

Capital Recovery Rate

Fiscal Year Budget	First Tier	Second Tier
2017	\$0.43/HCF	\$0.30/HCF
2018	\$0.55/HCF	\$0.39/HCF
2019	\$0.69/HCF	\$0.49/HCF
2020	\$0.96/HCF	\$0.69/HCF

G. COST IMPACT TO USERS

The current and recommended Water Division Fixed Charges are summarized in the table below.

Water Division - Fixed Charge

Meter Size	Current Rate	Recommended Rate FY 2017/18
Residential	\$10.45	\$10.45
General Service	\$10.45	\$10.45
Industrial	\$10.45	\$10.45
Lawn Irrigation	\$10.45	\$10.45
General Service Bulk Purchase	*	*

* See Water Division Rate Schedule

The current and recommended usage rates for the Water Division are summarized in the table below.

Water Division - Usage Rates

Charge	FY 2016/17		Recommended FY 2017	
	0-100,000 CF	Over 100,000 CF	0-100,000 CF	Over 100,000 CF
Basic User Rate	\$1.53/HCF	\$0.42/HCF	\$1.56/HCF	\$0.40/HCF
Equipment Replacement Rate	\$0.07/HCF	\$0.07/HCF	\$0.09/HCF	\$0.09/HCF
Non-Debt Funded Projects Rate	\$0.92/HCF	\$0.24/HCF	\$0.98/HCF	\$0.25/HCF
Capital Recovery Rate	\$0.29/HCF	\$0.23/HCF	\$0.43/HCF	\$0.30/HCF
Total	\$2.81/HCF	\$0.96/HCF	\$3.06/HCF	\$1.04/HCF

The cost impact to the customers will vary based on their water usage. The tables below summarize the current water bill amount, the water bill amount for the recommended FY 2017 water rate modification and the dollar and percentage increase for a typical residential user, a small and large general service user and the two (2) industrial users.

1. Residential User (Based on Usage of 700 c.f./month)

	Fixed Charge	Basic Usage Charge	Equipment Replacement Charge	Non-Debt Funded Project Charge	Capital Recovery Charge	Total	Cost Change
Existing Rates	\$10.45	\$10.71	\$0.49	\$6.44	\$2.03	\$30.12	
Recommended Rates	\$10.45	\$10.92	\$0.63	\$6.86	\$3.01	\$31.87	\$1.75 5.8%

2. General Service (Based on Usage of 3,500 c.f./month)

	Fixed Charge	Basic Usage Charge	Equipment Replacement Charge	Non-Debt Funded Project Charge	Capital Recovery Charge	Total	Cost Change
Existing Rates	\$10.45	\$53.55	\$2.45	\$32.20	\$10.15	\$108.80	
Recommended Rates	\$10.45	\$54.60	\$3.15	\$34.30	\$15.05	\$117.55	\$8.75 8.0%

3. General Service (Based on Usage of 40,000 c.f./month)

	Fixed Charge	Basic Usage Charge	Equipment Replacement Charge	Non-Debt Funded Project Charge	Capital Recovery Charge	Total	Cost Change
Existing Rates	\$10.45	\$612.00	\$28.00	\$368.00	\$116.00	\$1,134.45	
Recommended Rates	\$10.45	\$624.00	\$36.00	\$392.00	\$172.00	\$1,234.45	\$100.00 8.8%

4. Industrial User (Based on Usage of 1,826,000 c.f./month)

	Fixed Charge	Basic Usage Charge	Equipment Replacement Charge	Non-Debt Funded Project Charge	Capital Recovery Charge	Total	Cost Change
Existing Rates	\$10.45	\$8,779.20	\$1,278.20	\$5,062.40	\$4,259.80	\$19,390.05	
Recommended Rates	\$10.45	\$8,464.00	\$1,643.40	\$5,295.00	\$5,608.00	\$21,020.85	\$1,630.80 8.4%

5. Industrial User (Based on Usage of 4,961,000 c.f./month) and two (2) – 8" Private Fire Protection Connections)

	Fixed Charge	Basic Usage Charge	Equipment Replacement Charge	Non-Debt Funded Project Charge	Capital Recovery Charge	Fire Protection Fee	Total	Cost Change
Existing Rates	\$10.45	\$21,946.20	\$3,472.70	\$12,586.40	\$11,470.30	\$181.86	\$49,667.91	
Recommended Rates	\$10.45	\$21,004.00	\$4,464.90	\$13,132.50	\$15,013.00	\$181.86	\$53,806.71	\$4,138.80 8.3%

CONCLUSIONS AND RECOMMENDATIONS

1. Water Division Expenditures and Revenues

The Water Division’s expenditures and revenues for fiscal years 2013/14, 2014/15 and 2015/16 are summarized in the table below. The Water Division had a net loss of \$54,204 in FY2013/14. The Water Division had a net income of \$507,216 in FY 2014/15 and \$1,125,220 in FY 2015/16. The large net income in FY 2015/16 was attributed to the City receiving income from the IEPA PWSRFL program that was significantly greater than the actual expenses. The City received reimbursements for the design engineering and the construction cost associated with drilling and developing Well #12 which incurred in previous fiscal years and the City paid the expenses with Water Division funds. These expenses were eligible for reimbursement through the IEPA PWSRFL program.

Rochelle Municipal Utilities
Water Division Expenditures and Revenues

	Fiscal Year			Recommended Budget
	FY 2013/14	FY 2014/15	FY 2015/16	FY 2017
Expenditures				
Fixed Charge Expenses	\$ 269,008	\$ 290,161	\$ 252,288	\$ 420,700
Basic User Expenses	\$ 798,136	\$ 858,563	\$ 909,887	\$ 972,900
Equipment Replacement Expenses	Included in Non-Debt Funded Projects			\$ 96,617
Non-Debt Funded Projects Expenses	\$ 877,344	\$ 715,356	\$2,605,220	\$ 668,000
Capital Recovery Expenses – Debt Service	\$ 240,000	\$ 0	\$ 0	\$ 406,300
Total Expenditures	\$2,184,488	\$1,864,080	\$3,767,395	\$2,564,517
Revenues				
Water Sales	\$2,018,314	\$2,229,420	\$2,218,864	\$2,537,700
Other Revenue	\$ 111,970	\$ 141,876	\$2,673,751	\$ 139,000
Total Revenue	\$2,130,284	\$2,371,296	\$4,892,615	\$2,676,700
Net Income/(Loss)	(\$ 54,204)	\$ 507,216	\$1,125,220	\$ 112,183

2. The Water Division needs to make major improvements to the water system which will be funded with an IEPA Public Water Supplies Revolving Fund Loan. The project will be constructed in three (3) phases, and the construction cost estimates for each phase are summarized in the table below.

Water System Improvements
Construction Cost and Schedule

Phase	Year	Total Project Cost	IEPA Annual Loan Payment
1	2015 – 2016	\$ 4,952,621	\$200,000
2	2017 – 2018	\$ 3,423,000	\$206,300
3	2018 – 2019	\$ 1,971,500	\$117,000
4	2019 – 2020	\$ 2,164,300	\$129,200
5	2020 – 2021	\$ 4,331,000	\$258,600
Totals		\$16,842,421	\$911,100

The Capital Recovery Rate for each fiscal year of the water system improvements are summarized in the table below.

Capital Recovery Rate

Fiscal Year Budget	First Tier	Second Tier
2017	\$0.43/HCF	\$0.30/HCF
2018	\$0.55/HCF	\$0.39/HCF
2019	\$0.69/HCF	\$0.49/HCF
2020	\$0.96/HCF	\$0.69/HCF

3. We recommend no change to the fixed charge. The fixed charge for all customer classifications will remain at \$10.45 per user per month.
4. Based on the recommended budget, the usage charge rates for the two usage tiers are summarized in the table below.

Water Division - Usage Rates

Charge	FY 2015/16		FY 2017	
	0-100,000 CF	Over 100,000 CF	0-100,000 CF	Over 100,000 CF
Basic User Rate	\$1.53/HCF	\$0.42/HCF	\$1.56/HCF	\$0.40/HCF
Equipment Replacement Rate	\$0.07/HCF	\$0.07/HCF	\$0.09/HCF	\$0.09/HCF
Non-Debt Funded Projects Rate	\$0.92/HCF	\$0.24/HCF	\$0.98/HCF	\$0.25/HCF
Capital Recovery Rate	\$0.29/HCF	\$0.23/HCF	\$0.43/HCF	\$0.30/HCF
Total	\$2.81/HCF	\$0.96/HCF	\$3.06/HCF	\$1.04/HCF

5. No changes are being recommended to the fire protection rate. The fire protection rate will be charged to all customers that have a private connection that feeds some type of the fire protection system, and the charge will be based on the size of the fire protection main connection.
6. The bulk water rate from a fire hydrant has been increased to \$0.0082 per gallon based on the new usage rate.
7. The recommended rate increase will have the following cost impact on various users.

Cost Impact On Users

	Residential User ⁽¹⁾		General Service ⁽²⁾	
	Month Bill	% Increase	Monthly Bill	% Increase
Existing Rate	\$30.12	0%	\$108.80	0%
Recommended Rate	\$31.87	5.8%	\$117.55	8.0%

⁽¹⁾ Based on Usage of 700 c.f./month

⁽²⁾ Based on Usage of 3,500 c.f./month

Cost Impact On Users

	General Service ⁽¹⁾		Industrial ⁽²⁾	
	Monthly Bill	% Increase	Monthly Bill	% Increase
Existing Rate	\$1,134.45	0%	\$19,390.05	0%
Recommended Rate	\$1,234.45	8.8%	\$21,020.85	8.4%

⁽¹⁾ Based on Usage of 40,000 c.f./month

⁽²⁾ Based on Usage of 1,826,000 c.f./month

Cost Impact On Users

	Industrial ⁽¹⁾	
	Monthly Bill	% Increase
Existing Rate	\$49,667.91	0%
Recommended Rate	\$53,806.71	7.7%

⁽¹⁾ Based on Usage of 4,961,000 c.f./month and two (2) – 8" Private Fire Protection Connections

WATER DIVISION RATES SCHEDULE

The RMU water rates were last modified on May 1, 2016. There are five (5) water user categories for billing water. The water user categories are Residential, General Service, Industrial, Lawn Irrigation and General Service Bulk Purchase. The definition of each user category and the current and recommended rate structure are detailed below.

A. RESIDENTIAL

1. Definition

Residential rate is available to customers residing in a metered one-family dwelling unit, usually physically separate. Customers outside the Rochelle City corporate boundaries will be charged two times the charges.

2. Rate Schedule

The rate charge has a fixed charge and a variable usage charge component. The current fixed charge is the same charge regardless of customer classification or meter size and is a fixed dollar amount charge per month per user. The current and recommended fixed charges are detailed below.

Fixed Charge

Current Charge	FY 2017 Charge
\$10.45	\$10.45

The variable charge is based on the metered volume used. The current and recommended basic user charges are summarized below.

Usage Charge Rates

Charge	Current Rate	FY 2017 Rate
Basic User Rate	\$1.53/HCF	\$1.56/HCF
Equipment Replacement Rate	\$0.07/HCF	\$0.09/HCF
Non-Debt Funded Projects Rate	\$0.92/HCF	\$0.98/HCF
Capital Recovery Rate	\$0.29/HCF	\$0.43/HCF
Total	\$2.81/HCF	\$3.06/HCF

B. GENERAL SERVICE

1. Definition

General Service rate is available to customers not qualifying as Residential rate and having a monthly usage less than 500,000 cubic feet (3,740,000 gallons) during the current month or in any of the previous 11 billing months. Customers outside the Rochelle City corporate boundaries will be charged two times the charges.

2. Rate Schedule

The rate charge has a fixed charge and a variable usage charge component. The current fixed charge is the same charge regardless of customer classification or meter size and is a fixed dollar amount charge per month per user. The current and recommended fixed charges are detailed below.

Fixed Charge

Current Charge	FY 2017 Charge
\$10.45	\$10.45

The variable charge is based on the metered volume used. The current and recommended basic user charge is summarized below.

Usage Charge Rates

Charge	Current Rate		FY 2017 Rate	
	0-100,000 CF	Over 100,000 CF	0-100,000 CF	Over 100,000 CF
Basic User Rate	\$1.53/HCF	\$0.42/HCF	\$1.56/HCF	\$0.40/HCF
Equipment Replacement Rate	\$0.07/HCF	\$0.07/HCF	\$0.09/HCF	\$0.09/HCF
Non-Debt Funded Projects Rate	\$0.92/HCF	\$0.24/HCF	\$0.98/HCF	\$0.25/HCF
Capital Recovery Rate	\$0.29/HCF	\$0.23/HCF	\$0.43/HCF	\$0.30/HCF
Total	\$2.81/HCF	\$0.96/HCF	\$3.06/HCF	\$1.04/HCF

C. INDUSTRIAL

1. Definition

Industrial rate is available to Industrial water customers that have a monthly usage of 500,000 cubic feet (3,740,000 gallons) during the current billing month or in any of the previous 11 billing months. The variable charge is based on the higher of the current billing month's usage or 40% of the highest usage recorded in the previous 11 billing months. Customers outside the Rochelle City corporate boundaries will be charged two times the charges.

2. Rate Schedule

The rate charge has a fixed charge and a variable usage charge component. The current fixed charge is the same charge regardless of customer classification or meter size and is a fixed dollar amount charge per month per user. The current and recommended fixed charges are detailed below.

Fixed Charge

Current Charge	FY 2017 Charge
\$10.45	\$10.45

The variable charge is based on the metered volume used. The current and recommended basic user charges are summarized below.

Usage Charge Rates

Charge	Current Rate		FY 2017 Rate	
	0-100,000 CF	Over 100,000 CF	0-100,000 CF	Over 100,000 CF
Basic User Rate	\$1.53/HCF	\$0.42/HCF	\$1.56/HCF	\$0.40/HCF
Equipment Replacement Rate	\$0.07/HCF	\$0.07/HCF	\$0.09/HCF	\$0.09/HCF
Non-Debt Funded Projects Rate	\$0.92/HCF	\$0.24/HCF	\$0.98/HCF	\$0.25/HCF
Capital Recovery Rate	\$0.29/HCF	\$0.23/HCF	\$0.43/HCF	\$0.30/HCF
Total	\$2.81/HCF	\$0.96/HCF	\$3.06/HCF	\$1.04/HCF

D. LAWN IRRIGATION

1. Definition

Lawn Irrigation rate is available to customers who install a separate meter with a shut-off valve and check valve for the inlet side, installed by a licensed plumber and approved by the Rochelle Water Division. This rate may be used only for non-sanitary sewer related uses, i.e. lawn irrigation. The usage registered on this meter will not be subject to sewer charges. Abuse may result in the termination of application of this rate to the customer.

The Rochelle Water Division reserves the right to periodically inspect plumbing whenever it deems it necessary and appropriate to do so.

The fixed charge is applicable only to bills for meter readings on or after June 30 until and including September 30 (usage during the months of June, July and August).

Customers outside the Rochelle City corporate boundaries will be charged two times the charges.

2. Rate Schedule

The current fixed charge is based on the water meter size and is a fixed dollar amount charge per month per user. The current fixed charge is the same charge regardless of customer classification or meter size and is a fixed dollar amount charge per month per user. The current and recommended fixed charges are detailed below.

Fixed Charge

Current Charge	FY 2017 Charge
\$10.45	\$10.45

The variable charge is based on the metered volume used. The current and recommended basic user charge is summarized below.

Usage Charge Rates

Charge	Current Rate	FY 2017 Rate
Basic User Rate	\$1.53/HCF	\$1.56/HCF
Equipment Replacement Rate	\$0.07/HCF	\$0.09/HCF
Non-Debt Funded Projects Rate	\$0.92/HCF	\$0.98/HCF
Capital Recovery Rate	\$0.29/HCF	\$0.43/HCF
Total	\$2.81/HCF	\$3.06/HCF

E. GENERAL SERVICE BULK PURCHASE

1. Definition

General Service Bulk Purchase rate is available to customers for temporary or short-term purchases from the WRP or a fire hydrant meter. The customer is required to obtain a temporary meter and backflow preventer from the Water Division.

The Rochelle Water Division reserves the right to periodically inspect attachments and proper meter readings. Water misuse or bypassing the meter may result in discontinuing water service to the customer or prosecution.

2. Rate Schedule

The rate charge has a fixed charge and a variable usage charge component. The fixed charge is for all or a portion of the month.

a. Bulk Water at WRP

Usage Charge Rates

	Current Rate
First 5,000 Gallons	\$0.02/Gallon
Over 5,000 Gallons	\$0.01/Gallon

If customer wants to be billed, then there is a \$35.00 processing fee.

b. Bulk Water From Hydrant

Fixed Charges

	Current Rates
Meter Deposit	\$500.00
Meter and RPZ Deposit	\$1,000.00
Hydrant Meter Handling Fee	\$75.00
Hydrant Meter Rental Fee	\$35.00/Month
Hydrant Meter and RPZ Rental Fee	\$60.00/Month

Usage Charges

Current Rate	Recommended Rate
\$0.00644/Gallon	\$0.00820/Gallon

F. FIRE PROTECTION

1. Definition

The private fire protection connection rate was established in June 2011 and was not changed in the current revisions. A private fire protection rate is charged to all users that have a private connection that feeds a fire protection system inside a building or a fire loop around a building. The charge will be based on the size of the fire protection main connection. The user will be charged for each private fire protection line connection to the system if there is more than one connection. There is no rate charge for the volume of water used during a fire event.

2. Rate Schedule

The Private Fire Protection charge is a fixed monthly charge for any user with a fire protection connection to the water system. The fixed monthly charge is based on the size of the fire protection line connection. A Private Fire Protection user must also pay the Public Fire Protection charge above.

Private Fire Protection Charge

Fire Protection Line Connection Size	Rate
2"	\$4.27/Connection/Month
3"	\$6.89/Connection/Month
4"	\$14.69/Connection/Month
6"	\$42.67/Connection/Month
8"	\$90.93/Connection/Month
10"	\$163.52/Connection/Month

RMU Water Division
Expenses and Revenue Summary
and Recommended Budgets

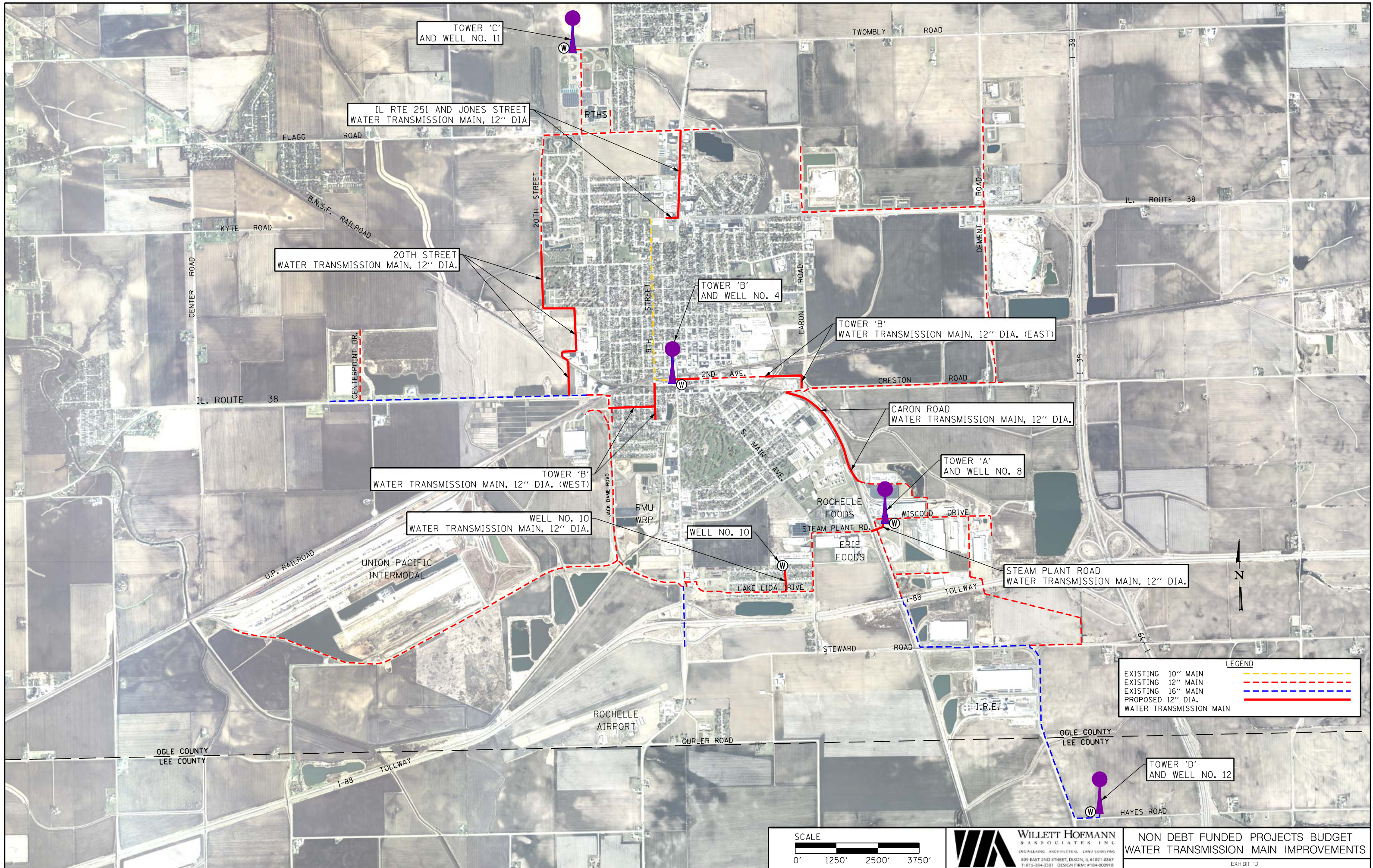
	Actual Expenses										New Budget 2017	
	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16		
FIXED CHARGE												
CONTRACTUAL SERVICES												
Network Administration	\$ 26,700	\$ 4,335	\$ 8,685	\$ 11,796	\$ 11,777	\$ 15,987	\$ 20,771	\$ 27,019	\$ 22,983	\$ 22,265	\$ 24,000	
Administrative Services	\$ 18,450	\$ 18,950	\$ 31,585	\$ 19,069	\$ 18,432	\$ 22,026	\$ 22,171	\$ 21,945	\$ 20,208	\$ 14,581	\$ 22,000	
Telephone	\$ 801	\$ 861	\$ 1,144	\$ 1,011	\$ 1,603	\$ 1,393	\$ 1,468	\$ 2,141	\$ 2,251	\$ 3,612	\$ 3,600	
Property and Liability Insurance	\$ 7,679	\$ 6,854	\$ 6,874	\$ 7,398	\$ 8,040	\$ 8,857	\$ 15,369	\$ 15,509	\$ 10,065	\$ 11,922	\$ 13,000	
Engineering	\$ 20,160	\$ 2,693	\$ -	\$ 9,676	\$ 25,942	\$ 20,426	\$ 14,032	\$ 17,904	\$ 2,594	\$ -	\$ 10,000	
Customer Accounting and Collection	\$ 81,681	\$ 64,865	\$ 73,144	\$ 75,019	\$ 85,964	\$ 81,018	\$ 77,919	\$ 83,717	\$ 81,365	\$ 85,617	\$ 95,000	
Administration and General Expenses	\$ 46,850	\$ 15,450	\$ 14,036	\$ 14,426	\$ 17,790	\$ 12,984	\$ 13,834	\$ 23,254	\$ 20,774	\$ 15,036	\$ -	
Contractual Services - Laboratory	\$ 10,808	\$ 13,375	\$ 6,578	\$ 5,420	\$ 7,640	\$ 7,938	\$ 6,166	\$ 9,777	\$ 7,892	\$ 10,148	\$ 10,000	
Contractual Services - Other	\$ 49,703	\$ 43,008	\$ 36,241	\$ 61,120	\$ 31,087	\$ 53,431	\$ 53,127	\$ 39,692	\$ 27,939	\$ 20,592	\$ 30,000	
Transportation	\$ 20,947	\$ 24,132	\$ 18,415	\$ 25,556	\$ 23,548	\$ 27,006	\$ 21,119	\$ 18,462	\$ 24,976	\$ 19,512	\$ 22,000	
GIS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 25,000	
WRD Office/Lab Rental	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 48,000	\$ 48,000	\$ 48,000	
Uncollectable Accounts	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9,753	\$ 14,898	\$ 8,067	\$ 19,547	\$ -	\$ 10,000	
Miscellaneous Expense	\$ 535	\$ 896	\$ 32,180	\$ 1,573	\$ 2,558	\$ 2,428	\$ 4,240	\$ 1,521	\$ 1,567	\$ 1,003	\$ 2,000	
Water Division Administration	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 106,100	
Total	\$ 284,314	\$ 195,419	\$ 228,882	\$ 232,064	\$ 234,381	\$ 263,247	\$ 265,114	\$ 269,008	\$ 290,161	\$ 252,288	\$ 420,700	
BASIC USER CHARGE												
PERSONNEL												
Salaries	\$ 253,747	\$ 249,571	\$ 253,777	\$ 286,352	\$ 295,483	\$ 301,190	\$ 273,089	\$ 256,538	\$ 278,242	\$ 322,462	\$ 352,200	
Social Security Taxes	\$ 18,108	\$ 20,451	\$ 23,064	\$ 22,632	\$ 24,126	\$ 26,158	\$ 16,591	\$ 13,570	\$ 21,375	\$ 28,895	\$ 27,400	
Retirement	\$ 19,094	\$ 19,615	\$ 17,860	\$ 15,446	\$ 30,684	\$ 33,869	\$ 20,568	\$ 37,279	\$ 33,652	\$ 34,199	\$ 42,400	
Health Insurance	\$ 30,733	\$ 29,767	\$ 27,600	\$ 47,173	\$ 59,445	\$ 58,171	\$ 74,362	\$ 77,189	\$ 52,943	\$ 60,121	\$ 64,900	
Other Employee Benefits	\$ 4,305	\$ 5,133	\$ 6,832	\$ 6,486	\$ 7,407	\$ 5,434	\$ 4,848	\$ 4,813	\$ 10,018	\$ 4,468	\$ 6,000	
Workmen's Compensation	\$ 4,859	\$ 5,723	\$ 6,070	\$ 6,609	\$ 8,476	\$ 7,792	\$ 8,073	\$ 5,313	\$ 8,466	\$ 8,630	\$ 12,000	
CONTRACTUAL SERVICES - Purchase Power	\$ 164,365	\$ 187,196	\$ 239,793	\$ 213,664	\$ 185,672	\$ 171,013	\$ 189,900	\$ 215,778	\$ 248,805	\$ 240,737	\$ 250,000	
SUPPLIES												
Chemicals	\$ 31,435	\$ 38,702	\$ 54,076	\$ 59,886	\$ 55,448	\$ 54,034	\$ 53,348	\$ 54,318	\$ 52,764	\$ 47,406	\$ 52,000	
Materials & Supplies	\$ 64,909	\$ 48,899	\$ 80,741	\$ 98,381	\$ 82,190	\$ 51,133	\$ 60,847	\$ 48,017	\$ 62,484	\$ 66,913	\$ 66,000	
TRANSFERS - GENERAL FUND	\$ 59,950	\$ 61,550	\$ 59,100	\$ 71,225	\$ 76,677	\$ 85,427	\$ 85,869	\$ 85,321	\$ 89,814	\$ 96,056	\$ 100,000	
Total	\$ 651,505	\$ 666,607	\$ 768,913	\$ 827,854	\$ 825,608	\$ 794,221	\$ 787,495	\$ 798,136	\$ 858,563	\$ 909,887	\$ 972,900	
EQUIPMENT REPLACEMENT												
Well Pumps											\$ 51,750	
Chemical Feed Equipment											\$ 12,500	
Well #11 filter Equipment and Media											\$ 10,200	
VFDs and SCADA RTUs											\$ 7,500	
Standby Generators											\$ 14,667	
Total											\$ 96,617	
NON-DEBT FUNDED PROJECTS												
Elevated Water Storage Tank Painting											\$ 63,000	
Water Distribution Main Replacement											\$ 300,000	
Water Transmission Main Improvements											\$ 155,000	
Replacement Items											\$ 110,000	
Vehicles and Equipment											\$ 40,000	
Total	\$ 378,674	\$ 613,817	\$ 771,009	\$ 928,322	\$ 2,120,985	\$ 1,646,611	\$ 865,893	\$ 877,344	\$ 715,356	\$ 2,605,220	\$ 668,000	
CAPITAL RECOVERY EXPENSE												
IEPA Revolving Fund Loan (Well No. 12)											\$ 200,000	
IEPA Revolving Fund Loan (Well No. 11)											\$ 206,300	
IEPA Revolving Fund Loan (Well No. 8)											\$ -	
Total	\$ 26,700	\$ 132,000	\$ 132,000	\$ 160,318	\$ 140,356	\$ 139,241	\$ 240,000	\$ 240,000	\$ -	\$ -	\$ 406,300	
TOTAL EXPENDITURES	\$ 1,341,193	\$ 1,607,843	\$ 1,900,804	\$ 2,148,558	\$ 3,321,330	\$ 2,843,320	\$ 2,158,502	\$ 2,184,488	\$ 1,864,080	\$ 3,767,395	\$ 2,564,517	
REVENUES												
WATER SALES												
Residential	\$ 554,829	\$ 633,675	\$ 698,604	\$ 733,089	\$ 728,542	\$ 748,873	\$ 755,647	\$ 785,406	\$ 853,569	\$ 881,569	\$ 969,500.00	
Commercial	\$ 410,198	\$ 444,822	\$ 455,497	\$ 501,877	\$ 506,638	\$ 513,700	\$ 550,146	\$ 587,968	\$ 593,943	\$ 639,684	\$ 728,000.00	
Industrial	\$ 275,429	\$ 430,795	\$ 464,915	\$ 567,113	\$ 552,347	\$ 517,893	\$ 540,619	\$ 644,940	\$ 781,908	\$ 697,611	\$ 824,000.00	
Interdepartmental	\$ 11,949	\$ 13,557	\$ 14,442	\$ 13,875	\$ 14,853	\$ 14,176	\$ 15,721	\$ -	\$ -	\$ -	\$ 16,200.00	
Total	\$ 1,252,405	\$ 1,522,849	\$ 1,633,458	\$ 1,815,954	\$ 1,802,380	\$ 1,794,642	\$ 1,862,133	\$ 2,018,314	\$ 2,229,420	\$ 2,218,864	\$ 2,537,700	
OTHER												
Hydrant Rental	\$ 12,000	\$ 12,000	\$ 12,000	\$ 12,000	\$ -	\$ 11,462	\$ -	\$ -	\$ -	\$ -	\$ -	
Fire Protection Fee	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 26,006	\$ 39,281	\$ 41,179	\$ 41,184	\$ 41,000.00	
Water Tower Lease	\$ 38,360	\$ 35,245	\$ 41,234	\$ 59,064	\$ 75,508	\$ 64,926	\$ 48,218	\$ 50,147	\$ 52,065	\$ 72,496	\$ 72,000.00	
Interest Income	\$ -	\$ -	\$ -	\$ 2,603	\$ 1,339	\$ 1,038	\$ 1,618	\$ 1,666	\$ 1,500	\$ 1,990	\$ 1,000.00	
Penalties	\$ -	\$ -	\$ 5,045	\$ 12,003	\$ 15,173	\$ 9,583	\$ 8,356	\$ 8,619	\$ 31,184	\$ 29,628	\$ 10,000.00	
IEPA Loan	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,503,817	\$ -	
Miscellaneous	\$ -	\$ -	\$ 11,045	\$ 146	\$ 14,706	\$ 20,921	\$ 28,257	\$ 21,119	\$ 15,948	\$ 24,636	\$ 15,000.00	
Grants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (8,862)	\$ -	\$ -	\$ -	
Contributions in Aid of Construction	\$ -	\$ -	\$ 511,465	\$ -	\$ 1,894,846	\$ 524,925	\$ -	\$ -	\$ -	\$ -	\$ -	
Total	\$ 50,360	\$ 47,245	\$ 580,789	\$ 85,816	\$ 2,001,572	\$ 632,855	\$ 112,455	\$ 111,970	\$ 141,876	\$ 2,673,751	\$ 139,000	
TOTAL REVENUES	\$ 1,302,765	\$ 1,570,094	\$ 2,214,247	\$ 1,901,770	\$ 3,803,952	\$ 2,427,497	\$ 1,974,588	\$ 2,130,284	\$ 2,371,296	\$ 4,892,615	\$ 2,676,700	
NET INCOME/LOSS	\$ (38,428)	\$ (37,749)	\$ 313,443	\$ (246,788)	\$ 482,622	\$ (415,823)	\$ (183,914)	\$ (54,204)	\$ 507,216	\$ 1,125,220	\$ 112,183	

RMU Water Division
Equipment Replacement Budget

EQUIPMENT REPLACEMENT BUDGET			
	Total Cost	Schedule	Cost Per Year
WELL PUMPS			
Well #4 (Serviced in 2015)	\$ 80,000	8 Yrs	\$ 10,000
Well #8 (Serviced in 2000)	\$ 80,000	10 Yrs	\$ 8,000
Well #10 (Serviced in 2006)	\$ 80,000	8 Yrs	\$ 10,000
Well #11 (Serviced in 2015)	\$ 110,000	8 Yrs	\$ 13,750
Well #12 (New In 2016)	\$ 80,000	8 Yrs	\$ 10,000
Total	\$ 430,000		\$ 51,750
CHEMICAL FEED EQUIPMENT			
Well #4	\$ 25,000	10 Yrs	\$ 2,500
Well #8	\$ 25,000	10 Yrs	\$ 2,500
Well #10	\$ 25,000	10 Yrs	\$ 2,500
Well #11	\$ 25,000	10 Yrs	\$ 2,500
Well #12	\$ 25,000	10 Yrs	\$ 2,500
Total			\$ 12,500
Well #11 Filter Equipment			
Media	\$ 30,000	15 Yrs	\$ 2,000
Valve and Actuators	\$ 84,000	20 Yrs	\$ 4,200
Blower and Compressor	\$ 20,000	20 Yrs	\$ 1,000
HMO Equipment	\$ 30,000	10 Yrs	\$ 3,000
Total			\$ 10,200
Soft Starters and SCADA RTUs			
Well #4 (RTU Replaced in 2012)	\$ 30,000	20 Yrs	\$ 1,500
Well #8 (RTU Replaced in 2011)	\$ 30,000	20 Yrs	\$ 1,500
Well #10 (RTU Replaced in 2012)	\$ 30,000	20 Yrs	\$ 1,500
Well #11 (RTU Replaced in 2012)	\$ 30,000	20 Yrs	\$ 1,500
Well #12	\$ 30,000	20 Yrs	\$ 1,500
Total			\$ 7,500
WELL STANDBY POWER			
Portable Generator (Wells #4, #8, #10 and #11) (Purchased in 2007)	\$ 110,000	15 Yrs	\$ 7,333
Well #12 (New In 2015)	\$ 110,000	15 Yrs	\$ 7,333
Total	\$ 220,000		\$ 14,667
TOTAL EQUIPMENT REPLACEMENT			\$ 96,617

RMU Water Division
Non-Debt Funded Projects Budget

NON-DEBT FUNDED PROJECTS			
ELEVATED WATER STORAGE TANK PAINTING			
Tower 'A' (Wiscold Drive and Caron Road); (Painted in 1999)	\$ 340,000	20 Yrs	\$ 17,000
Tower 'B' (2nd Avenue and IL Rte 251 Overpass); (Painted in 2000)	\$ 340,000	20 Yrs	\$ 17,000
Tower 'C' (Rochelle High School); (Painted in 2003)	\$ 290,000	20 Yrs	\$ 14,500
Tower 'D' (Well #12)	\$ 290,000	20 Yrs	\$ 14,500
Total			\$ 63,000
WATER DISTRIBUTION MAIN REPLACEMENT			
			\$ 300,000
WATER DISTRIBUTION TRANSMISSION MAIN IMPROVEMENTS			
Well #10 Connection to 12" Transmission Line	\$ 220,000	20 Yrs	\$ 11,000
Steam Plant Road - Caron Road to the West Side of the BNSF Railroad	\$ 130,000	20 Yrs	\$ 6,500
20th Street Extension South to IL Route 38	\$ 700,000	20 Yrs	\$ 35,000
IL Route 251-Jones Street to Flagg Road and Jones Street-9th Street to IL Route 251	\$ 740,000	20 Yrs	\$ 37,000
Tower 'B' Water Transmission Line-East	\$ 450,000	20 Yrs	\$ 22,500
Caron Road - Creston Road to Opus	\$ 275,000	20 Yrs	\$ 13,750
Tower 'B' Water Transmission Line-West	\$ 585,000	20 Yrs	\$ 29,250
Total			\$ 155,000
REPLACEMENT ITEMS			
Distribution Meters	\$ 35,000	1 Yr	\$ 35,000
Fire Hydrants	\$ 25,000	1 Yr	\$ 25,000
Services	\$ 25,000	1 Yr	\$ 25,000
Valves	\$ 25,000	1 Yr	\$ 25,000
Total			\$ 110,000
VEHICLES AND EQUIPMENT			
Pickup Trunk - 3/4 Ton (5); (Purchased in 2003, 2004, 2009, 2011, 2016)	\$ 125,000	8 Yrs	\$ 15,625
Dump Truck (1); (Purchased in 2006)	\$ 125,000	15 Yrs	\$ 8,333
Backhoe (2); (Purchased in 1991, 2006)	\$ 180,000	15 Yrs	\$ 12,000
Construction Truck (1); (Purchased in 1988)	\$ 25,000	10 Yrs	\$ 2,500
Cargo Trailer (2); (Purchased in 2009, 2010)	\$ 20,000	15 Yrs	\$ 1,333
Total			\$ 39,792
TOTAL CAPITAL IMPROVEMENTS			\$ 667,792



TOWER 'C'
AND WELL NO. 11

IL RTE 251 AND JONES STREET
WATER TRANSMISSION MAIN, 12" DIA.

20TH STREET
WATER TRANSMISSION MAIN, 12" DIA.

TOWER 'B'
AND WELL NO. 4

TOWER 'B'
WATER TRANSMISSION MAIN, 12" DIA. (EAST)

TOWER 'B'
WATER TRANSMISSION MAIN, 12" DIA. (WEST)

CARON ROAD
WATER TRANSMISSION MAIN, 12" DIA.

TOWER 'A'
AND WELL NO. 8

WELL NO. 10
WATER TRANSMISSION MAIN, 12" DIA.

WELL NO. 10

STEAM PLANT ROAD
WATER TRANSMISSION MAIN, 12" DIA.

LEGEND
 EXISTING 10" MAIN
 EXISTING 12" MAIN
 EXISTING 16" MAIN
 PROPOSED 12" DIA.
 WATER TRANSMISSION MAIN

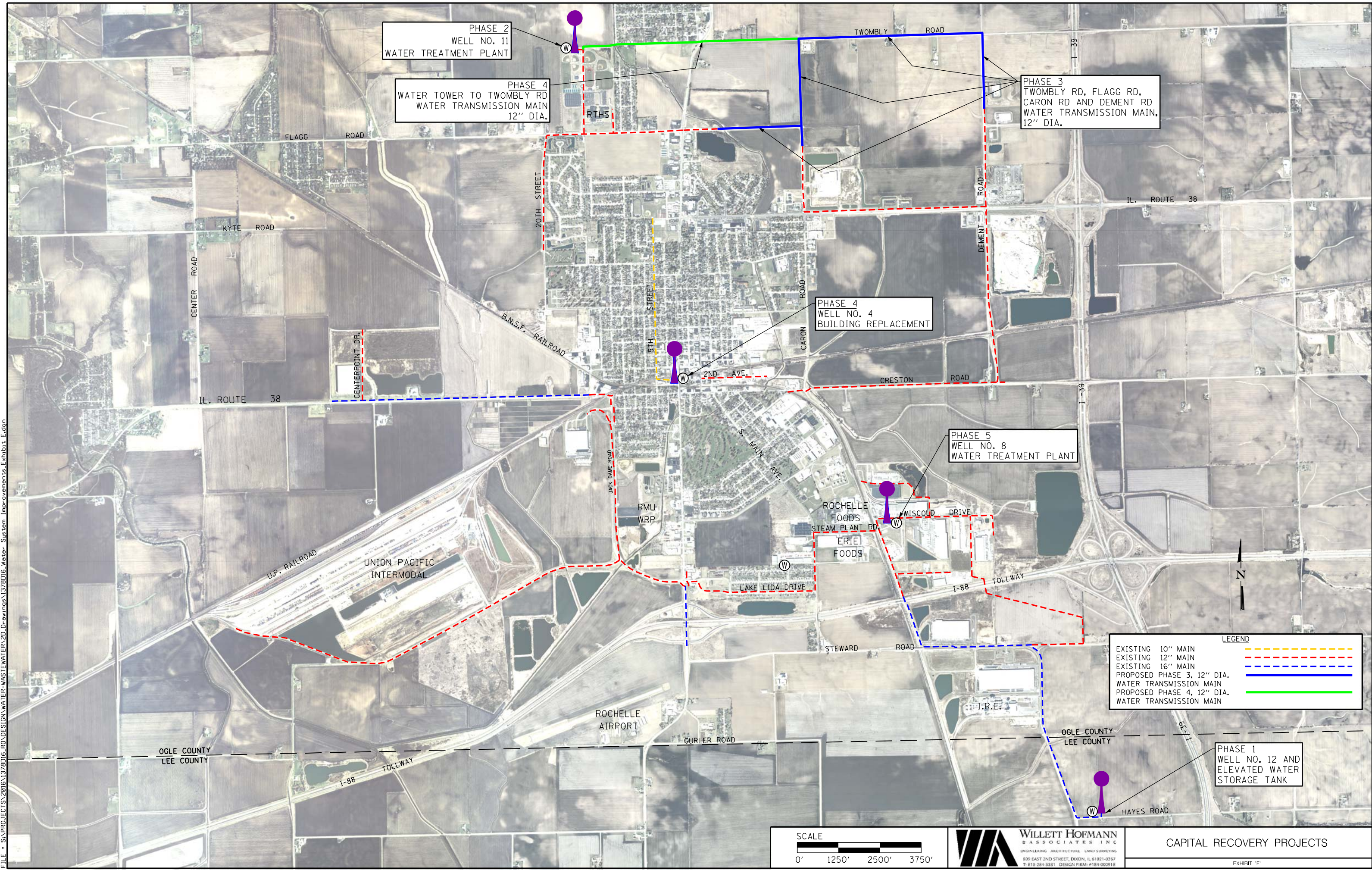
TOWER 'D'
AND WELL NO. 12

SCALE
 0' 1250' 2500' 3750'

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NON-DEBT FUNDED PROJECTS BUDGET
 WATER TRANSMISSION MAIN IMPROVEMENTS
 EXHIBIT 'D'

FILE = S:\PROJECTS\2016\1378D16_R0NDESIGN\WATER-WASTEWATER\2D_Dr-wings\1378D16_Water_System_Improvements_Exhibit_E.dgn



PHASE 2
WELL NO. 11
WATER TREATMENT PLANT

PHASE 4
WATER TOWER TO TWOMBLY RD
WATER TRANSMISSION MAIN
12" DIA.

PHASE 3
TWOMBLY RD, FLAGG RD,
CARON RD AND DEMENT RD
WATER TRANSMISSION MAIN,
12" DIA.

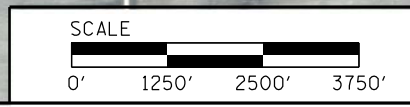
PHASE 4
WELL NO. 4
BUILDING REPLACEMENT

PHASE 5
WELL NO. 8
WATER TREATMENT PLANT

PHASE 1
WELL NO. 12 AND
ELEVATED WATER
STORAGE TANK

LEGEND

EXISTING 10" MAIN	
EXISTING 12" MAIN	
EXISTING 16" MAIN	
PROPOSED PHASE 3, 12" DIA. WATER TRANSMISSION MAIN	
PROPOSED PHASE 4, 12" DIA. WATER TRANSMISSION MAIN	



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CAPITAL RECOVERY PROJECTS

EXHIBIT 'E'

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