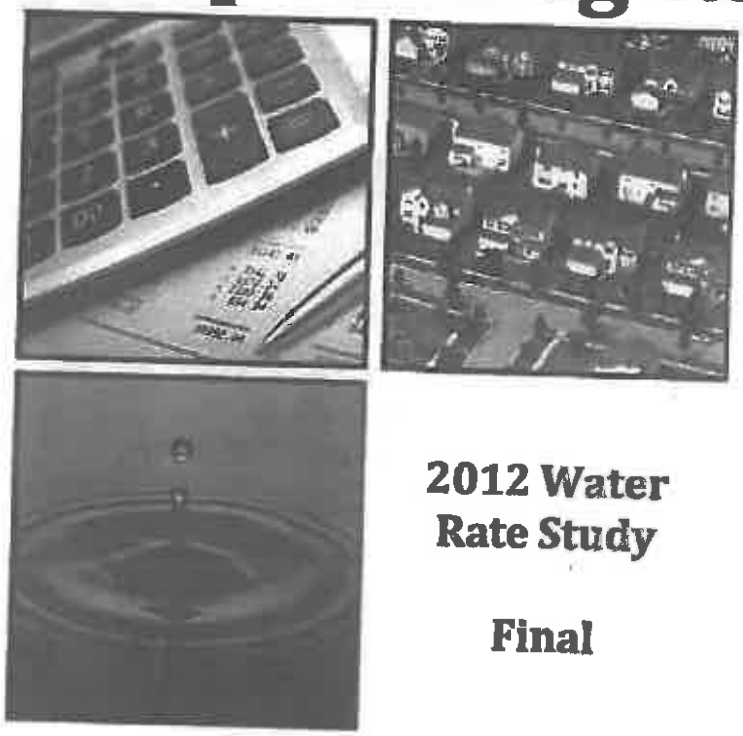
City of

Prospect Heights



2012 Water Rate Study

Final

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City of Prospect Heights, Illinois
Water Rate Study – Final Draft

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EXECUTIVE SUMMARY

Introduction

This report was prepared to document the work performed by Baxter & Woodman, Inc. during the Water Rate Study authorized by the City of Prospect Heights (the City). The City purchases water from the Illinois-American Water Company (IAWC) and distributes water to City residents who are connected to the City water system. The City owns and operates a supply connection with the IAWC, which consists of a 6" and a 12" directly piped connections, plus a pump station and two (2), underground storage tanks. This pump station and reservoir discharges to a City owned water distribution system, serving about 2,700 residents via approximately 1,076 water billing accounts. This large network of piping, pumps and storage facilities require diligent maintenance and constant investment in order to function reliably. The City has undertaken this water rate study in order to ensure the systems are funded properly, with these key goals:

- **Financial Stability:** Maintain positive cash flow and reserve balances.
- **Fairness:** Rates must not place a disproportionate burden on any one segment of the customer base.
- **Full Cost Pricing:** Structure rates to cover the full cost of service, including operations, debt service and capital projects.
- **Infrastructure Renewal:** Provide funding for the City's short- and long-term capital improvement needs.
- **Justifiable Rates:** Set rates in accordance with best practices from the American Water Works Association (AWWA).

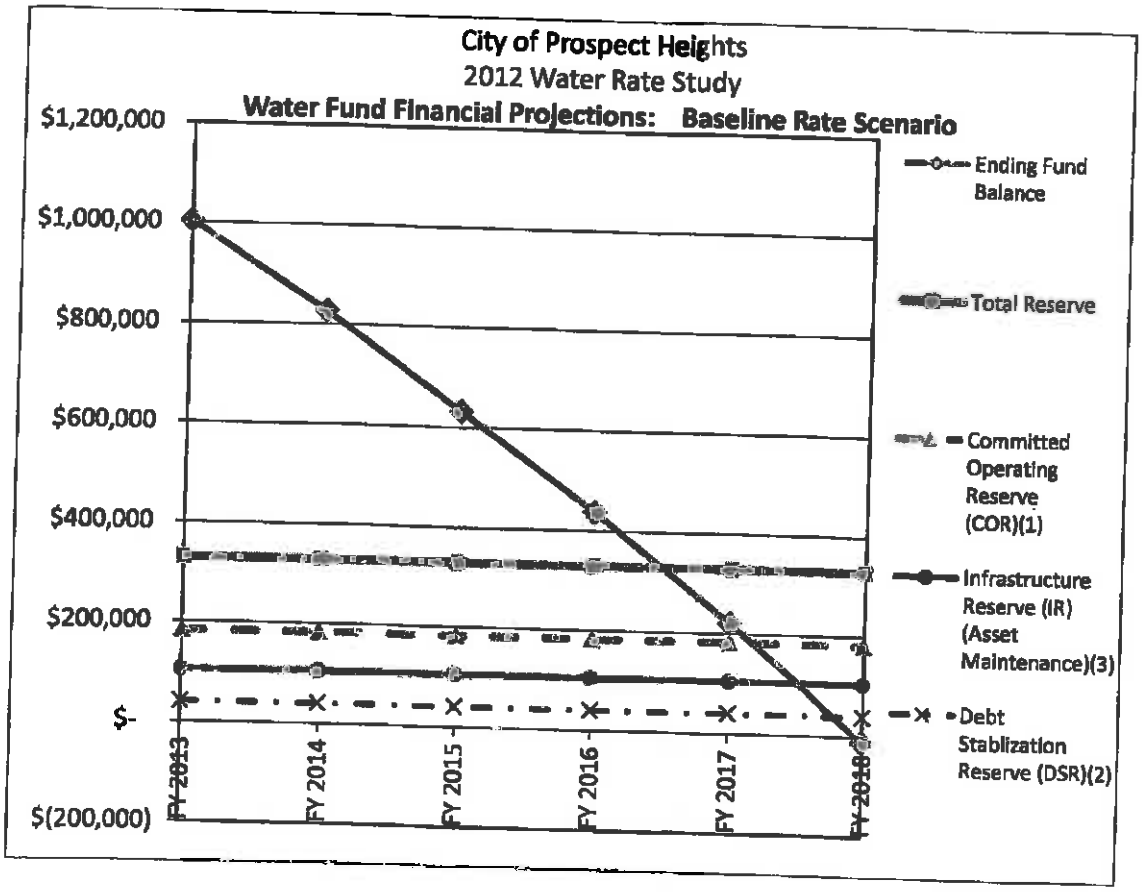
Findings

The City's existing water rates are not sufficient to fully cover all budgeted expenses in the Water Fund for the fiscal year ending April 30, 2013 (FY 2013). Water billing volume has remained fairly constant since 2011 and rates were actually decreased in FY 2012. Meanwhile, operating costs have been increasing. The net result is that water rates are insufficient to fully cover budgeted operating expenses.

Additionally, there is not a comprehensive Capital Improvements Program (CIP) for the Water Fund and capital spending appears to be stagnant. Although a newer (less than 40 years old) water system, annual capital funding is recommended to keep the infrastructure in good working order as well as build up asset reserves for major infrastructure renewal projects, such as water main replacement. Annual capital funding targets have been recommended for the City Water Fund based on industry standards.

Per the Government Accounting Standards Board (GASB) 54, the City has three established reserve funds: Operating, Debt Service Stabilization and Infrastructure Maintenance. These funds, created in 2012, have cash reserves allocated towards the unforeseen costs for operating emergencies, ensuring debt payments and emergency asset replacement, respectively. Per GASB 54, the annual Water Fund cash balance may not drain these reserves without a City Council approval and a plan to refund the reserves minimums within two years.

Currently, the Water Fund has a cash surplus, partially due to a 2010 revenue bond which wasn't fully utilized for capital improvements. Thus, the situation is not an immediate threat to the Water Fund's financial capability, although failure to raise water rates in the future would cause the Water Fund to drop below the required fund reserves by FY 2017 (see figure below).



Conclusions

The City's water rates should be increased annually in FY 2014 through FY 2018 in order to meet projected expenses during the five-year study period. In addition to raising rates to cover its own costs, the City will need to review and match increases in water rates adopted by the IAWC when they occur. Water purchase is the single largest cost to the Water Fund and has the potential to significantly affect cash flow and the City's ability to fund critical water main replacement projects. Fortunately, the latest water rate change by the IAWC (October 2012) is negligible and will not affect revenue projections.

Rate increases are needed to provide for *infrastructure renewal.* This term refers to rehabilitating or replacing existing system components such as water storage tanks, pumps, water mains, valves, hydrants and water services when they reach the end of their useful service life. Water utilities are capital-intensive enterprises that require continuous investment in order to maintain their integrity.

The need to provide a dedicated annual source of funding for infrastructure renewal is a key driver of the rate increases in Prospect Heights, as in many communities in this area. The alternative of failing to fund critical infrastructure projects is gradual deterioration of infrastructure, which over time, will make service issues such as water main breaks, service outages and property damage more prevalent.

Recommendations - Rate Structure

The City has an uniform block rate structure for water rates, in which all customers are charged the same usage and fixed rates per monthly billing period regardless of customer type or usage volume. Considering over 98 percent of Prospect Heights' customers are residential and use less than 3,000 gallons per month on average, the current rate structure is based on the actual cost of service and equitably distributes both fixed and variable costs among all rate payers.

If development or redevelopment occurs within Prospect Heights which substantially increases the commercial or industrial water customer base, the concept of allocated more specific costs to higher water users should be revisited.

Distinguishing between the IAWC water rate and Prospect Heights' water rate in public information (City newsletter/web site) and on utility bills may help customers to better understand the drivers of water rate increases over the course of each year. The

City's rate ordinance can reinforce this distinction and should be modified to automatically pass through any future rate increases from IAWC, as this is the largest single expenditure in the Water Fund and delays in passing along these increases could have a significant impact on cash flow.

Recommendations - Water Rates

The recommended schedule of water rates takes into account projected operating expenses, capital improvement costs and debt service. Proposed rate increases are designed to cover these expenses while preventing excessive impacts on the reserve assets in the Water Fund. In particular, the rate increases will allow the City to increase funding for its annual infrastructure renewal program. This program allows the City to be proactive in addressing deficiencies in aging infrastructure, which is an important step toward sustainable, long-term asset management.

The recommended five-year rate schedule is outlined in the following table. The City's current water rates are listed for FY 2013. Rate increases would take effect May 1 of each year, with the next rate increase recommended for May 2013 (FY 2014). The rate increases include funding for annual water main replacement/rehabilitation.

Recommended Water Rates – Rate Scenario 1

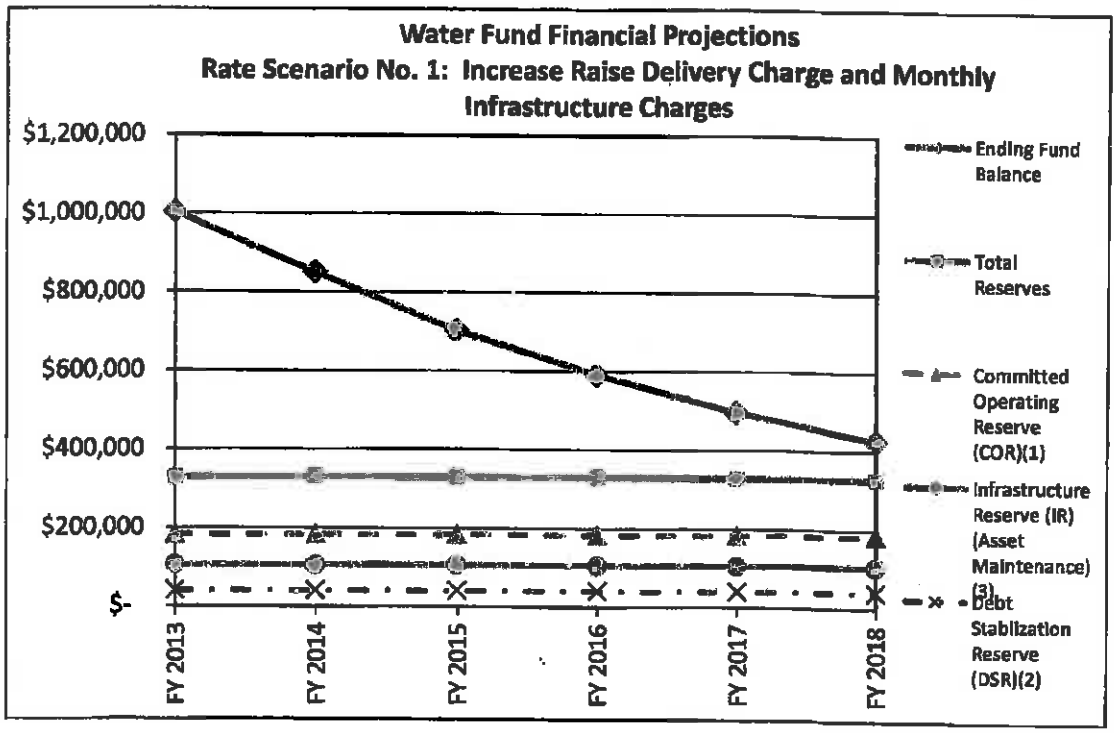
	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Prospect Heights Usage Rate, per 1,000 gallons	$6.08	$6.08	$6.08	$6.29	$6.51	$6.74
Monthly Debt Service Charge	$5.97	$5.97	$5.97	$5.97	$5.97	$5.97
Monthly Infrastructure Maintenance Charge	$8.99	$9.44	$9.91	$10.41	$10.93	$11.47
Monthly Delivery Charge	$18.98	$20.31	$21.73	$23.25	$24.88	$26.62

The following table outlines how typical monthly water bills will increase each year throughout the study period under Scenario 1. Rate increases are phased in as gradually as possible over five years to minimize the year-to-year burden on customers while avoiding excessive drawdown of restricted asset reserves in the Water Fund. Bills calculated at current rates are listed in the FY 2013 column. Each subsequent year includes rate increases each May.

Projected Monthly Water Bills – Scenario No. 1

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Scenario 1	$52.18	$53.96	$55.85	$58.51	$61.32	$64.29

With these proposed rate increases, the new financial projections are shown in the figure below.



The Water Fund cash rate of decline reduces and begins to flatten out in FY 2018.

1. PURPOSE OF STUDY

The primary purpose of this rate study is to allow the City to confirm that its water utilities are *self-sustaining*, meaning that recommended rates will not only provide consistent annual funding for critical infrastructure projects, but also maintain sufficient cash flow for routine operations and maintenance (O&M) and debt service. (See Appendix A for a full listing of terms used in this report.) To this end, the study includes an in-depth evaluation of present and projected revenues and expenses of the water utilities. A cash flow analysis, along with water billing projections, is used to determine the rates necessary to make these utilities fully self-supporting.

This study also evaluates the rate structure to ensure that rates are equitable and defensible in accordance with AWWA guidelines. This part of the study considers such factors as financial impacts on various customer classes and overhead costs to the water utilities.

Finally, this study includes an evaluation of current and projected spending for infrastructure renewal projects. This includes projects needed to maintain existing equipment and piping systems in good working condition, such as water main replacement, reservoir maintenance and rehabilitation, water service upgrades and water pump station rehabilitation. Evaluating these future needs is crucial because proper system maintenance will allow the City to maintain a high level of service and minimize extra operating costs such as lost water, property restoration, and the labor, materials and contractual services associated with continual repairs of failing equipment and infrastructure.

2. PRESENT CONDITIONS

2.1 Overview

The City of Prospect Heights is a community of 16,327 residents, located approximately 25 miles northwest of Chicago in Cook County. Land use is predominantly residential with some commercial areas. Even though the City is fully developed, a significant amount of properties (> 60%) are on private well water (non-City-owned or maintained). At present, there are no major plans for converting additional residents to City water within the next five years. There are some proposed new and redevelopment plans being contemplated, however these developments are not expected to significantly increase future water usage within the next five years.

The City-owned water system receives Lake Michigan water at its water receiving station from IAWC and distributes the water to its customers. The water receiving station has approximately 550,000 gallons of water storage in two (2) underground, concrete reservoirs. The receiving station has a pump station with four pumps for maintaining system pressure. The City's distribution system consists of approximately 9 miles of water main ranging from 6" to 16" diameter, 155 fire hydrants, approximately 4,800-ft of water services and over 474 water meters.

2.2 Water Rates

The City has a uniform water rate structure in which the volume charges vary depending on how much water a customer uses. This volume charge equates to the cost of metered purchased water from the IAWC. Additionally, monthly charges are assessed on each account for delivery charges assessed as part of the City's costs to operate the water system, for debt service on past infrastructure projects and for infrastructure asset maintenance (annual infrastructure replacement).

The existing rate structure, which was established in 2011, is summarized in Table 1.

TABLE 1

Existing Water Rates

Description	Per 1,000 gallons	Per Month
Water Rates		
Prospect Heights Usage Rate	$6.08	
Debt Service		$ 5.97
Infrastructure Maintenance Charge		$ 8.99
Delivery Charge		$18.98

Table 2 shows the typical monthly water bill for a Prospect Heights resident compared to equivalent monthly water costs for residents in other nearby communities. Costs for all communities include water supply and distribution. Water bills in Table 2 are calculated for a residential customer with a 1.5-inch or smaller water meter using 3,000 gallons monthly (in some communities, charges differ based on water meter size, so a specific meter size must be assumed for an equivalent comparison).

TABLE 2

Regional Water Cost Comparison

Community	Equivalent Usage Rate per 1,000 gallons	Equivalent Monthly Water Bill (3,000 gal)	Approximate Served Residential Population
Glencoe	$2.71	$19.48	8,723
Roselle	7.10	21.30	23,115
Rolling Meadows	7.40	24.20	25,000
Palatine (Incorporated)	5.10	25.50	65,000
Des Plaines (Incorporated)	5.45	26.53	28,720
Glenview (Incorporated)	4.55	20.20	41,847
Mount Prospect	5.98	47.94	54,167
Kenilworth	3.81	51.00	2,513
Highwood	3.93	51.10	4,143
Prospect Heights	**6.08**	**52.18**	**2,700**
Des Plaines: (Unincorporated)	10.90	53.06	28,720
Palatine (Unincorporated)	12.26	61.30	65,000
Averages	$6.27	$37.82	

The City's water bill for average residential usage is above the average for communities in the surrounding area. This is most likely due to the fact that the City's served population is quite small compared to other communities and does not benefit from economies of scale. While this provides a general indicator of water affordability in the area, comparison with other communities' rates should not be the sole method for determining the fairness and affordability of the City's water rates. This is especially important because each community has different financial situations, revenue requirements and cost allocation methods. Furthermore, infrastructure replacement and rehabilitation spending, which is becoming an ever larger portion of total expenses for many municipal utilities, can vary widely between communities based on system age and condition.

2.3 Water Usage

Over 98 percent of water accounts are residential customers (includes single-family and multi-family dwellings). The remaining accounts consist of commercial and municipal (park district) facilities.

Table 3 includes a more detailed breakdown of existing accounts by water meter size. Of the customers with water meters sized 1½-inch and smaller, the majority are residential.

TABLE 3

Water Customer Breakdown

Meter Size	Number of Accounts	% of Total Accounts
≤ 1"	427	90.30%
1½"	42	8.86%
2"	3	0.63%
3"	1	0.21%
Total	**473**	**100%**

Table 4 summarizes the City's total volume of water pumped and total volume billed to customers in FY 2010, FY 2011 and FY 2012.

TABLE 4

Water Pumpage and Billing Summary

	C.P.H. Water Pumpage (gallons)	Water Billed to Customers (gallons)	Billed Water Use as % of Water Pumpage
FY 2010 actual	59,441,000	45,331,000	76%
FY 2011 actual	55,303,000	47,863,000	87%
FY 2012 actual	49,005,397	45,334,000	93%

It is important to note the difference between *unbilled* water use and *unaccounted for* water use. Unbilled water use is the portion of water pumped that is

not captured as metered water consumption by individual customers' water meters. Using the data from Table 4, water loss, as a function of unbilled water use, has ranged from 76 percent to 93 percent.

The portion of water pumpage that is not accounted for as water billed to customers can still be accounted for in other ways. Unbillable municipal uses such as fire-fighting, water main flushing, street cleaning, sewer cleaning and usage at municipal facilities make up some of the difference. There is also some water lost as leakage from pipe joints, which is normal and can be estimated based on pipe age using a formula provided by the State of Illinois (older pipes typically leak much more than newer pipes).

The remainder of unbillable water use that cannot be accounted for, such as water lost during water main breaks and unrecorded usage from older water meters, must be limited to no more than eight percent of total water pumpage. This is a requirement from the Illinois Department of Natural Resources (IDNR) that all Illinois communities using Lake Michigan water must meet. Prospect Heights exceeded the eight percent threshold in 2010, 2011 and 2012. The City's reports to IDNR cited new water main construction flushing, water main breaks and leaks from older water mains as contributing factors to these excursions. It should be noted that the City only averages 2-3 main breaks per year, which is below the average of 5 main breaks per year industry average.

In response, the City conducted a leak survey in 2011 and estimated a leak rate of about 31,000 gallons per day. The City has repaired some of the leaks; funds are recommended and budgeted to fix the remaining leaks in FY 2013 and FY 2014.

To further reduce water loss, water services and meters over 20 years old should be replaced each year. A proposed program to retrofit existing water meters with automated reading interfaces, to consistently and accurately capture water usage from all customers, should help to further reduce unaccounted for water and bring the City below IDNR's unaccounted for water threshold.

2.4 Capital Improvement Plan

From FY 2008 through FY 2011, the City has not invested significant funds into water main replacement, as the current system is relatively new (less than 40 years old) and recent funds were spent on system supply improvements. For comparison, the typical life of a water main installed in the post-WWII era is about 75 years (AWWA).

The City issued an $800,000 G.O. bond in 2010 for installation of a second supply connection with IAWC, although it seems the actual installation costs were covered by infrastructure grants obtained by the City. This second supply connection is located along Camp McDonald Road, from Mandel Lane to the City-owned pumping station at the northeast corner of the Rob Roy development. The purpose of this project was to extend the water main to increase the water delivery capacity and reliability from IAWC. All rate scenarios in this rate study include the annual debt service payments on this bond.

3. FUTURE CONDITIONS

3.1 Water Usage

No appreciable changes are anticipated in the Prospect Heights water usage for the next five years. Projected purchased (pumpage) and billing totals for the next five years are as follows:

- Prospect Heights Water Purchased: 49,010,000 gallons per year (rounded up from FY 2012 total of 49,005,397 gallons).
- Prospect Heights Water Billing: 46,000,0000 gallons per year (matches FY 2012 total).

These projections should be reviewed annually, so if a major redevelopment project occurs that will have significant impacts on water usage, or if declining water consumption trends are observed, the usage projections can be revised accordingly.

3.2 Revenue Projections

Several resources provided by the City were used to project future revenues for the Water Funds. These include:

- Account reserves recommended by GASB 54.
- Audited revenues for FY 2011 and FY 2012.
- Water pumpage and billing records from January 2010 through May 2012.
- Estimated 2013 budget and budget amendments.

This information was used to create *baseline* five-year revenue projections for the Water Fund. The term "baseline" refers to existing revenue sources only and does

not include increases to Prospect Heights' water rates. The baseline revenue forecasts are summarized in Table 5, with details provided in Appendix B and Appendix E.

TABLE 5

Water Fund - Baseline Revenue Projections

	FY 2013	FY 2014 through 2018
Prospect Heights Usage Rates	$279,700	$279,680
Delivery Charge	243,100	245,070
Infrastructure Reserve	115,200	116,079
Retirement (Debt) Charge	76,500	77,085
Miscellaneous Income	500	0
Interest Income	3,000	1,250
Total Revenues	**$718,000**	**$719,164**

The revenue categories listed in Table 5 are allocated for the following general fund expenses (Expense projections are more fully described in the next section):

1. *Prospect Heights Usage Rates*: This volume based revenue is largely a pass-through cost for purchasing water from IAWC.

2. *Delivery Charge*: Fixed fee is intended to cover the water fund operating expenses (not including capital or debt service).

3. *Infrastructure Reserve*: Fixed fee for capital infrastructure projects, such as new water mains, valves, services, etc. Not intended for day-to-day operations costs.

4. *Debt Retirement Charge*: Fixed fee dedicated to repayment of the debt service on the existing G.O. Bond.

The only significant growth in revenues expected to occur over the next five years is the result of passing on water rate increases from IAWC. Without increases to Prospect Heights' own water rates, usage revenues are expected to remain fairly consistent over the next five years.

3.3 Expense Projections

Several resources provided by the City were used to project future expenses for the Water Funds. These include:

- Audited expenses for FY 2011 through FY 2012 and budgeted expenses for FY 2013.
- Input from City staff on inflation factors for operating expenses, especially health care insurance and liability insurance.
- Five-year water capital improvement plan.
- Repayment schedules for existing debt.
- Projected transfers to the General Fund for administrative costs.

The projected water rate increase recently indicated from IAWC is also utilized. Beyond FY 2014, it is assumed that IAWC will increase water rates by an inflationary measure only (estimated at two percent per year).

Expense projections are separated into three categories: routine O&M, capital improvement projects and non-operating (includes debt service and inter-fund transfers). These expense categories are discussed in the following subsections, with additional detail provided in Appendix B.

3.3.1 Operations and Maintenance - Routine O&M expenses include the day-to-day costs of keeping the water systems in operation. These include administrative and overhead costs; salaries and benefits for operations and maintenance staff; commodities such as chemicals and fuel; utilities such as electric and gas; and contractual services. These expenses typically increase at regular intervals due to inflation, but can sometimes increase or decrease significantly due to situations such as increasing or reducing staffing levels, or making a major operational change.

O&M expenses from previous years and those budgeted in FY 2013 were compared to assess inflation trends. These observed trends and City staff input on future conditions were used to develop individual inflation rates for each operating expense line item. This information was used to create detailed five-year expense projections for the Water Funds. These projections are summarized by budget division in Table 6, with details provided in Appendix B. Each of the rate scenarios discussed later in this report includes these O&M expense projections.

TABLE 6

Water Fund - O&M Expense Projections

Expense Description	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
IAWC Water Purchase[1]	$280,000	$285,600	$291,310	$297,140	$303,080	$309,140
Administration	333,260	294,910	301,880	309,100	316,700	324,691
Water Distribution	60,750	57,810	59,510	61,240	63,010	64,810
Totals	**$674,010**	**$638,320**	**$652,700**	**$667,480**	**$682,790**	**$698,641**
% Increase	48.1%	-10.5%	2.6%	2.5%	2.4%	2.7%

IAWC water rates account for approximately 45 percent of the projected Water Fund O&M costs. This is the single largest cost to the Water Fund and, therefore, has a significant impact on the City's O&M costs. Most other O&M expenses are projected to increase annually due to inflation and cost of living increases.

3.3.2 Capital Improvement Projects - At present, there is not a comprehensive CIP for the Water Fund. Although the City's water system is on the newer side (less than 40 years old), annual capital funding is recommended to keep the infrastructure in

[1] Purchase of water from IAWC constitutes 45% of Water Fund O&M expenses. Water purchase costs are estimated based on annual pumpage of 49,010,000 gallons and anticipate a 2% IAWC water rate increase annually.

good working order, as well as build up asset reserves for major infrastructure renewal projects, such as water main replacement. Based on a review of past capital projects, it seems capital infrastructure funding was directed towards specific system improvements (such as a high capacity water supply connection with IAWC), rather than overall renewal.

The consequences of water pipe failure can be serious: service outages, damage to public and private property, water boil orders, street closures, insufficient fire flows and business disruption are just a few. Water main breaks also increase water purchase costs through lost water and can entail significant emergency repair and overtime costs. Therefore, it is recommended that the City annually evaluate available funding for water main replacement and increase funding if possible on a year-by-year basis.

Annual capital funding targets have been recommended for the City Water Fund based on AWWA and industry standards. A detailed inventory of the City's water system was prepared to determine the recommended system renewal costs. The total estimated costs for replacement of water mains (in 2012 dollars) are outlined in Table 7. Additional detail on existing projected system renewal costs is provided in Appendix C.

TABLE 7

Water System Inventory

System Component	Description and Quantity	Estimated System Renewal Cost
Water Main Replacement	9 miles of water main, ranging from 6-inch to 16-inch diameter	$8,500,000

Table 8 summarizes target annual spending levels for long-term renewal of water mains. These values were calculated by dividing the total renewal costs from Table 6 by an industry average renewal cycle of 75 years. This represents a long-term **average** annual investment; annual spending may be slightly higher or lower depending on specific project needs.

TABLE 8

Target Funding Levels for Long-Term System Renewal

System Component	Target Renewal Cycle*	Target Annual Spending
Water Main Replacement	75 years	$115,000

* Based on AWWA recommended planning cycles and typical life cycles observed in the Chicago region.

The City's recommended five-year CIP includes annual renewal programs for replacement of water valves, hydrants and water services as well as an annual capital allocation for water main replacement. The proposed CIP also includes inspection of the City's underground water storage tank and upgrading obsolete equipment in the water receiving pump station. Table 9 summarizes the five-year CIP.

TABLE 9

Five-Year Capital Improvement Plan

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Water System						
Equipment	$25,000	$0	$0	$0	$0	$0
Valve Replacement	0	4,000	4,000	4,000	4,000	4,000
Meter Replacement	0	7,500	7,500	7,500	7,500	7,500
Service Replacement	0	19,500	19,500	19,500	19,500	19,500
Hydrant Replacement	0	10,000	10,000	10,000	10,000	10,000
Water Main Replacement	0	115,000	115,000	115,000	115,000	115,000
Pump Station Rehabilitation	0	9,000	9,000	9,000	9,000	9,000
Leak Detection	0	0	5,000	0	0	0
Leak Repairs	0	0	0	0	0	0
Reservoir Rehabilitation	0	10,000	10,000	0	0	0
Grand Total	**$25,000**	**$175,000**	**$180,000**	**$165,000**	**$165,000**	**$165,000**

These capital costs are largely focused upon steady, annual capital renewal. Capital expenses not expended during the FY should be placed within the Asset Maintenance Reserve in order to build that fund. This will lessen the requirements for bond or loan funding for major capital improvements in the future. Table 9 summarizes the baseline five-year CIP.

3.3.3 Non-Operating - Non-operating expenses include debt service, infrastructure maintenance and inter-fund transfers. The Water Fund currently has one outstanding bond, for $800,000, which was issued in 2010 to fund water system improvements. However, due to the City concurrently obtaining infrastructure grant

funding, none of the bond funds were actually utilized towards design and construction costs. As a result, those bond proceeds became a cash reserve in the Water Fund. These expenses are summarized in Table 10.

TABLE 10

Water Fund - Non-Operating Expense Projections

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Debt Service Interest	$33,510	$31,510	$29,510	$27,510	$25,510	$23,310
Debt Service Principle	50,000	50,000	50,000	50,000	55,000	55,000
Totals	**$83,510**	**$81,510**	**$79,510**	**$77,510**	**$80,510**	**$78,310**
% Increase	**-**	**-2%**	**-2%**	**-3%**	**4%**	**-3%**

The baseline non-operating expense projections in Table 10 are common to all rate scenarios in this study.

4. BASELINE CASH FLOW ANALYSIS

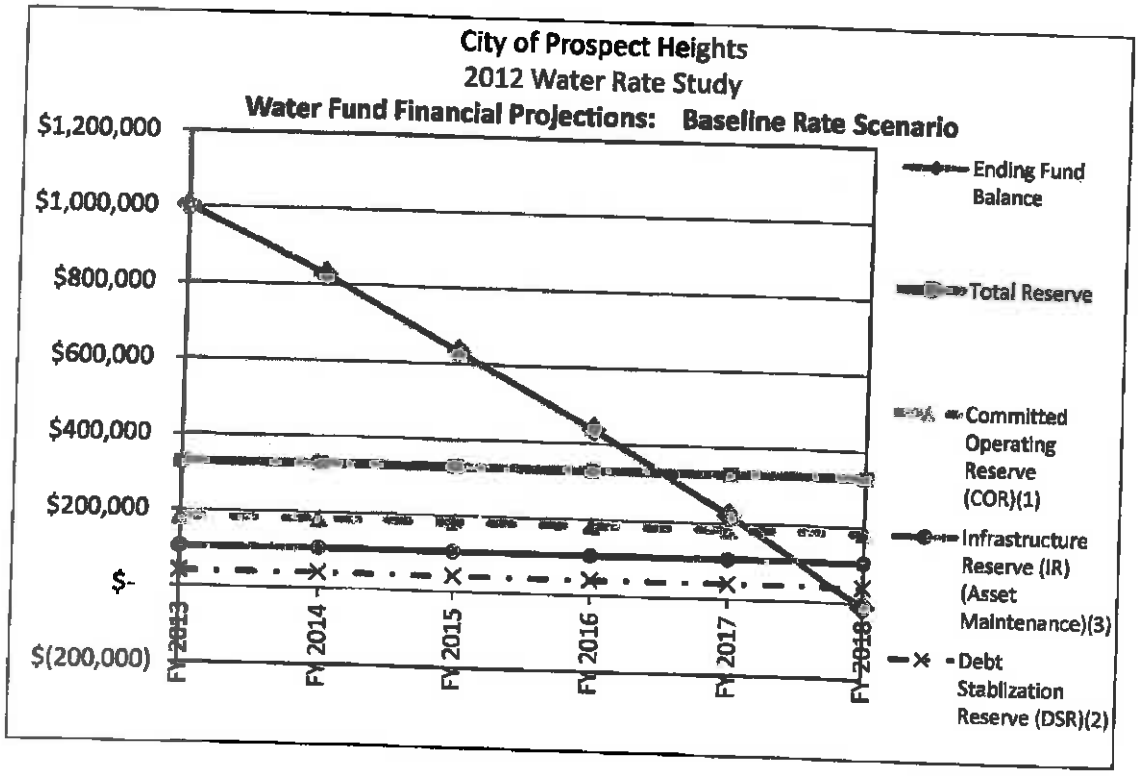
The City's existing water rates are not sufficient to fully cover all budgeted Water Fund expenses for FY 2013. Currently, the Water Fund has a cash surplus, partially due to a 2010 revenue bond which wasn't fully utilized for capital improvements. Thus, the situation is not an immediate threat to the Water Fund's financial capability, although failure to raise water rates in the future would cause the Water Fund to drop below the required asset fund reserves by FY 2017.

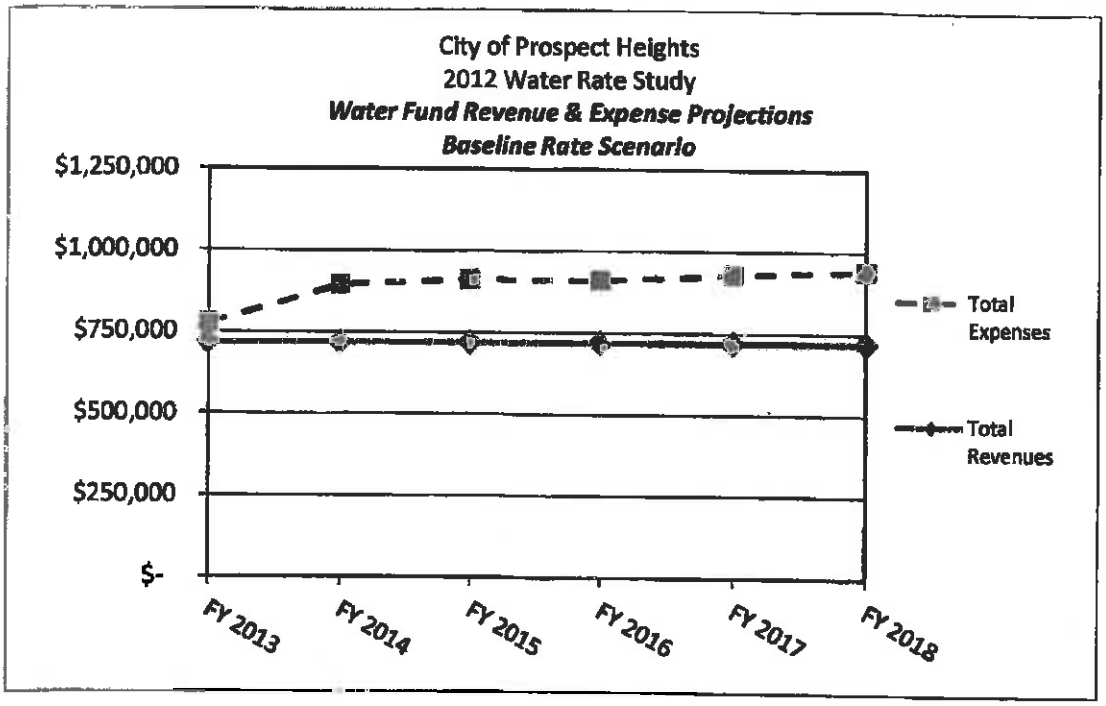
Figure 1 illustrates projected cash flow as compared to maintaining a target total asset reserve in a baseline financial scenario:

- Pass through IAWC water rate increases.
- Maintain existing operating spending levels (plus inflation).
- Implement the recommended CIP projects and programs.
- No increases to Prospect Heights' water rates or fixed charges over the next five years.

FIGURE 1

Water Fund Cumulative Financial Projections





Assessment of the revenue versus expense projections yields the following (reference Appendix B and E):

1. The current Prospect Heights usage (volume based) revenues seem sufficient to cover the IAWC water sales, although increases to the IAWC will necessitate increases to this usage rate.

2. The current Debt Service Retirement Charge seems sufficient to cover the annual repayment costs.

3. There is a deficit in the operating and capital expenses that are not fully covered by the current Delivery Charge and Infrastructure Reserve revenue.

Per the GASB 54, the City has three established reserve funds: Operating, Debt Service Stabilization and Asset Maintenance. These funds, created in 2011, have cash reserves allocated towards the unforeseen costs for operating emergencies, ensuring debt payments and emergency asset replacement, respectively. Table 11 shows a description of each reserve and the actual balance as of FY 2013. Per GASB 54, the

annual Water Fund cash balance may not reduce these reserves without City Council approval and a plan to refund the reserve's minimums within two years. Appendix D outlines the City's GASB 54 reserve balance policy in greater detail.

TABLE 11

Water Fund Reserves

Asset Reserve	Description	FY 2013 Reserve Balance	Actual Reserve %
Operating Reserve	15% of total revenues averaged over last 5 years.	$182,575	25%
Debt Service Stabilization	50% of total debt service payments averaged for the next five years	40,255	50%
Asset Maintenance	2% of total assets	105,272	2%
Total Reserve		**$328,102**	

AWWA recommends the maintenance of an operating reserve fund equaling 25 percent of the annual operating costs, instead of annual total revenue. Based on the City's FY 2013 total operating expenses of $674,010, this would be equivalent reserve of $168,500. As the Operating Reserve currently exceeds this amount, the City has sufficient operating reserves based on both GASB 54 and AWWA.

The need for increased investment in infrastructure renewal has made it necessary to revise rates to fully reflect the actual cost of service. Sections 5 through 7 of this report outline various alternatives for increasing rates to reverse the projected cash flow deficits in the Water Funds.

5. RATE STRUCTURE ANALYSIS

Rate structures were reviewed in advance of preparing the detailed rate scenarios.

5.1 Water Usage Rate Distribution

Water purchases from IAWC are one of the single, largest costs to the Water Fund, and changes in the IAWC's water rate can have a significant impact on Water Fund financials. Therefore, it is recommended that the City automatically pass through any rate increase from the IAWC, effective May 1 each year, to coincide with the start of the fiscal year. This will prevent excessive cash flow deficits by ensuring the City keeps pace with increases in its largest utility cost center.

It is also recommended that the City's portion of the water usage rate be listed separately in the rate ordinance from IAWC's portion, with clarification that this rate is intended only to cover the costs of operating and maintaining the City's water distribution system. The IAWC component of the water usage rate should be listed separately with clarification that it is set by IAWC. Any change in IAWC's rates would then automatically be reflected in the City's water bills the following May.

The rate scenarios evaluated in Sections 6 and 7 of this report assume that the water rate is apportioned between IAWC and the City as described above.

5.2 Usage Rate Structure

The usage rate (volume charge) structure for the water utility is a uniform rate structure, meaning that customers pay the same rate ($6.08 per 1,000 gallons)

regardless of their level of water usage. In contrast, a water utility could use a tiered rate structure, in which the rate per 1,000 gallons varies based on the amount of water used during a monthly billing cycle.

Tiered rate structures are typically used for one of two reasons: (1) documented difference in costs for certain levels of usage; and (2) to send price signals to customers with higher water usage (i.e. to encourage conservation).

The City's water system is not overly complex in that:

- Has no treatment facilities;
- Serves mostly residential customers;
- Majority of the meters are 1½-inch or smaller; and
- Operates on a single pressure zone.

As such, it is difficult to document specific cost differences for different levels of usage. Furthermore, the City's annual water use audit forms indicate that water billing is fairly stable over the last few years. Therefore, a more complicated rate structure is not necessarily needed at this time.

In recognition of these existing conditions, it is recommended that the City keep using the uniform rate structure for the water utility.

5.3 Fixed Charges

The City's existing rate structure mostly generates revenues from the monthly fixed charges rather than usage (volume-based) rates for every 1,000 gallons of metered water consumption. This structure generates a steady revenue cash flow, which is not then sensitive to changes in water usage, i.e. the City is dependent on maintaining a certain level of usage in order to generate most revenues.

As described in Section 3, the current structure segregates the rates based on the type of expenses they cover, being:

1. *Prospect Heights Usage Rates*: This volume based revenue is largely a pass-through cost for purchasing water from IAWC.

2. *Delivery Charge*: Fixed fee is intended to cover the water fund operating expenses (not including capital or debt service).

3. *Infrastructure Reserve*: Fixed fee for capital infrastructure projects, such as new water mains, valves, services, etc. Not intended for day-to-day operations costs.

4. *Debt Retirement Charge*: Fixed fee dedicated to repayment of the debt service on the existing G.O. Bond.

Unless there is significant development or expansion of the existing water system in the next five years, the current rate structure is sufficient for the City's purposes.

6. RATE SCENARIO 1

6.1 Rate Structure

Scenario 1 utilizes the existing rate structure with the projected O&M, existing debt service cost and recommended CIP outlays outlined in Section 3 of this report.

6.2 Scenario 1

This scenario retains the existing rate structure and Scenario 1 utilizes the existing rate structure with the projected O&M, existing debt service cost and recommended CIP outlays outlined in Section 3 of this report.

Due to the segregates nature of the existing rate structure, rate increases can easily be directed to where funding is needed and are recommended as follows:

1. **Prospect Heights Usage (Volume Charge):** No increases until FY2016. The current volume usage per 1,000 gallons is sufficient to cover the current IAWC water purchase costs for the next few years.

   However, it is anticipated that the IAWC will increase the water purchase costs annually (estimated at two percent inflation trend). Therefore, it is anticipated that the City will need to increase their usage charges accordingly (starting in FY 2016, estimated at 3.5 percent annually).

   As mentioned, one method of avoiding any negative cash flow from increased water purchasing costs is to automatically increase the usage charge based on any new rate increases by IAWC.

2. **Debt Service Retirement Charge:** No increase in the debt service monthly fee of $5.97. Revenues are sufficient to cover the current debt service payment schedule. This charge would need to be reevaluated if new debt is issued.

3. **Infrastructure Charge:** Propose to increase the Infrastructure Charge by 5 percent annually, starting in FY 2014, to provide adequate capital funding for the recommended CIP.

4. **Delivery Charge**: Propose to increase the Delivery Charge by 7 percent annually, starting in FY 2014. These increases will reduce the O&M deficit that currently exists in the fund.

Moderate rate increases are applied year-to-year to reduce the impacts on customers as much as possible. Table 12 provides a five-year schedule of water rates needed to meet projected expenses, including the recommended CIP. Existing rates are listed in the FY 2013 column. A two percent IAWC water rate increase is assumed in FY 2015.

TABLE 12

Scenario 1 – Projected Water Rates

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Prospect Heights Usage Rate, per 1,000 gallons	$ 6.08	$ 6.08	$ 6.08	$ 6.29	$ 6.51	$ 6.74
Monthly Debt Service Charge	$ 5.97	$ 5.97	$ 5.97	$ 5.97	$ 5.97	$ 5.97
Monthly Infrastructure Maintenance Charge	$ 8.99	$ 9.44	$ 9.91	$10.41	$10.93	$11.47
Monthly Delivery Charge	$18.98	$20.31	$21.73	$23.25	$24.88	$26.62

6.3 Monthly Bills

Scenario 1 results in a gradual increase in monthly bills. With no changes to the rate structure, Scenario 1 basically exhibits a linear cost increase pattern over the next five years.

Table 13 shows the revised monthly water bills for the City's average residential usage (3,000 gallons). Bills calculated at existing rates are listed in the FY 2013 column. Each subsequent year includes increases to the City's rates each May.

TABLE 13

Scenario 1 - Monthly Bills for Average Residential Usage (3,000 gallons or 4 CCF)

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Scenario 1	$52.18	$53.96	$55.85	$58.51	$61.32	$64.29

6.4 Cash Flow Projections

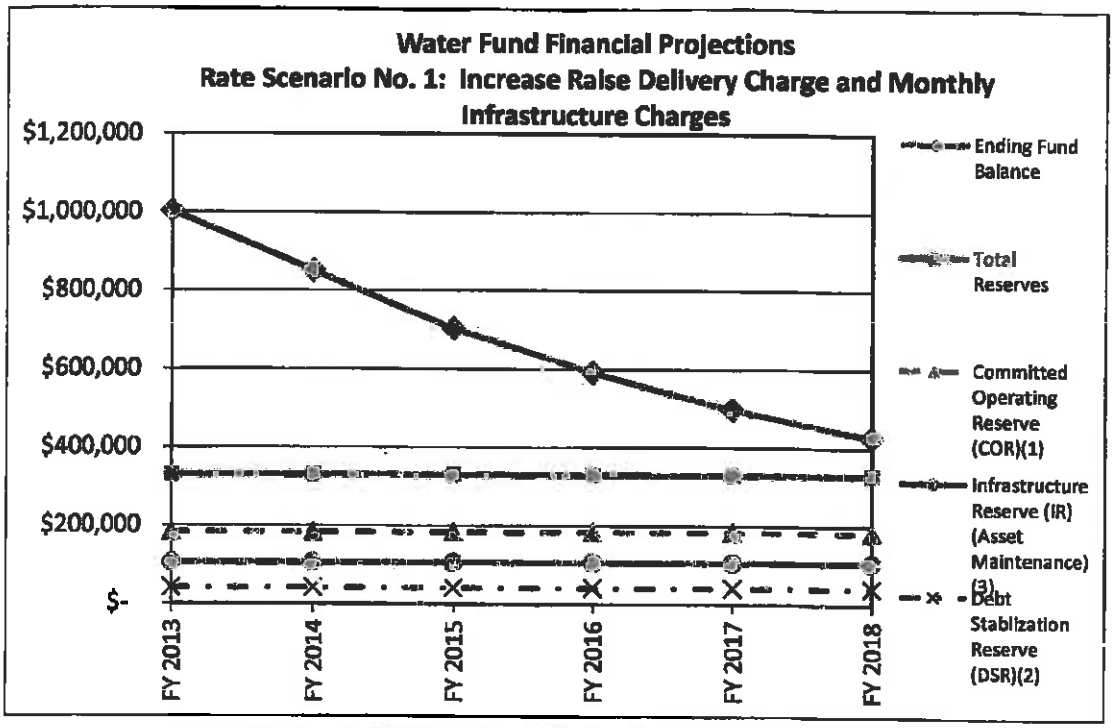
Figure 2 demonstrates how the Water Fund balance is expected to change over the next five years as rates are increased. See Appendix F and G for detailed revenue and expense projections for the rate scenario.

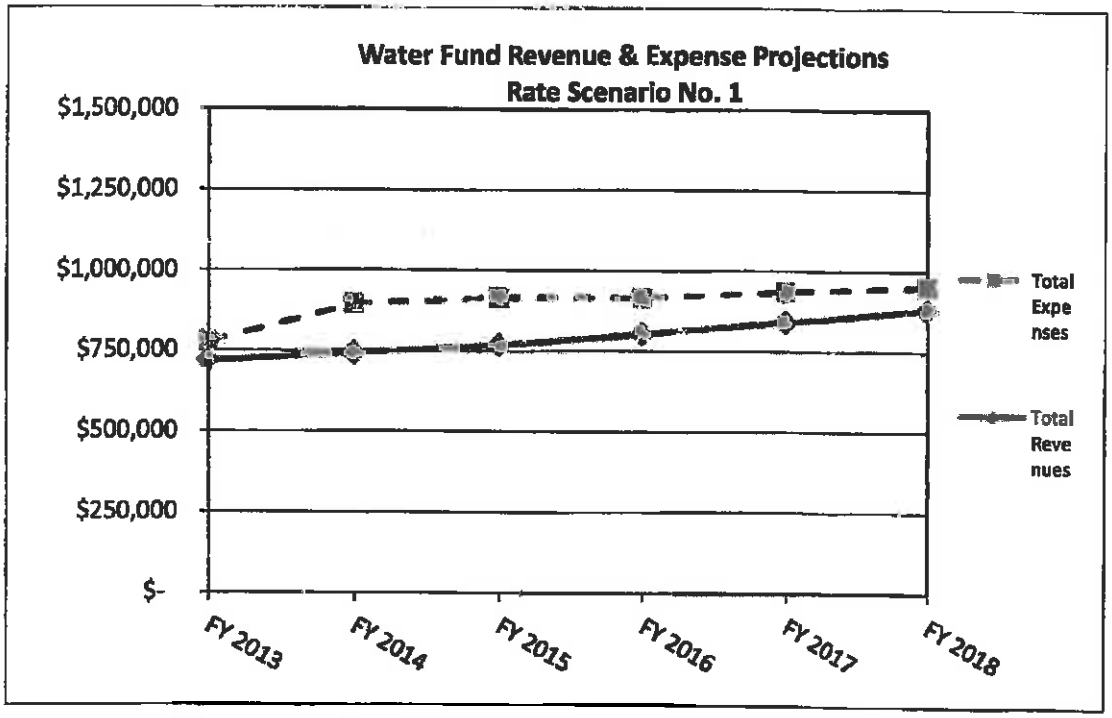
In this scenario, the existing Water Fund cash assets are utilized to supplement revenues over the next five years to mitigate rate increases as much as possible. The goal is that, by year five, the rates will be fully capable of supporting planned levels of annual infrastructure renewal and cash flow will be stabilized.

Scenario 1, which provides additional, dedicated revenue streams from Delivery Charge and Infrastructure Maintenance fixed charges, reduces the projected decline in Water Fund balance and allows for a measured, gradual drawdown over five years to supplement revenues while rates are being increased (Figure 2).

FIGURE 2

Scenario 1 Water Fund – Projected Cash Flow





7. CONCLUSION AND RECOMMENDATIONS

7.1 Recommended Rate Scenario

Though the existing water rates are sufficient to recover the IAWC water purchase costs and repay the existing debt service on the Water Fund G.O. bond, there will be a projected deficit for O&M expenses. Additionally, there does not appear to be a consistent CIP program for the Water Fund, which is required to continually update infrastructure and keep the system in good working order.

When the baseline projections are coupled with a proposed CIP program based on annual capital allocations for infrastructure renewal, the Water Fund shows a sharp decline in asset value and goes below the GASB 54 recommended asset reserves by FY 2017.

It is recommended to implement Scenario 1, which will increase only the monthly fixed rates for the Delivery Charge and the Infrastructure Maintenance Charge, which will direct funding for both the operating expenses and recommended CIP. These changes will allow the City to be more proactive about long-term infrastructure renewal and avoid large swings in capital requirements and/or debt issuance.

7.2 Implementation Plan

The recommended rate increases should be adopted with new rates set to become effective for all usage on and after May 1, 2014, to coincide with the start of FY 2014-2015. The rate ordinance should also be modified to stipulate that water rate

increases from IAWC will be passed through each year in May without the need for Council action.

An annual review of revenues, expenses and rates is recommended to keep annual rate increases in line with revenue needs. The rate model, which was built using Excel® spreadsheets, will be turned over to City staff at the conclusion of this project for use in updating the rates annually as part of the budgeting process, or at any other time should unique circumstances arise.

CITY OF PROSPECT HEIGHTS, ILLINOIS
WATER RATE STUDY

APPENDIX A: GLOSSARY OF TERMS AND ACRONYMS

Term	Definition
AWWA	The acronym for the American Water Works Association. AWWA is a recognized authority on water rate setting and water infrastructure operation, maintenance, and replacement.
Baseline Analysis	The current and projected revenues and expenses based on the current rates and rate structure.
Capital Improvement Program (CIP)	A long-term schedule of construction projects intended to prioritize water system improvements for funding.
Cash Flow Analysis	Study of the cycle of cash inflows and outflows, with the purpose of maintaining an adequate cash flow to cover expenses as they occur, and maintain a specified cash reserve balance.
Connection Fees	Fees charged by the City to cover the costs of connecting new customers to water mains and inspecting the completed connections.
Debt Service Charge	Monthly fixed charge revenue obtained for the purpose of funding payment of the existing capital project debt service expenses.
Debt Service Expenses	Payments made to repay a loan or bond.
Debt Stabilization Fund	GABS 54 recommended fund to provide assets for repayment of current debt service payments. Recommended rate is 50% of next five years of debt service payments.
Delivery Charge	Monthly fixed charge revenue obtained for the purpose of funding the Village's day to day operating cost of operating the water system, including utility billing, admin and operating staff, supplies and commodities such as electricity. natural gas, etc
Enterprise Fund (Water Fund)	In governmental accounting, a fund that provides goods or services to the public for a fee that makes the fund self-supporting. The City's Water Fund is an enterprise fund, and the City's water rates are set to cover expenses payable from this fund.
Fixed Charges Delivery Charge Debt Service Charge Infrastructure Maintenance	Charged to each customer with every bill to recover the basic overhead and administrative costs to operate and maintain the water systems. Because these costs typically do not vary with usage, fixed charges do not include a usage component (i.e. all usage is billed on top of the fixed charges).

CITY OF PROSPECT HEIGHTS, ILLINOIS
WATER RATE STUDY

APPENDIX A: GLOSSARY OF TERMS AND ACRONYMS

Term	Definition
Infrastructure Maintenance Charge	Monthly, fixed charge revenue obtained for the purpose of adding and renewing capital projects; replacing and improvement aging, water infrastructure such as water mains, valves, hydrants, water reservors, pumping stations, etc.
NSMJAWA	The acronym for the Northwest Suburban Municipal Joint Action Water Agency. This agency obtains drinking water from Chicago an distributes it to several communities in the northwest suburbs.
NWWC	The acronym for the Northwest Water Commission. This agency obtains drinking water from Evanston an distributes it to several communities in the northwest suburbs.
Operating Reserve	A reserve cash balance held in the Water Fund. The purpose of this reserve is to supplement revenues in situations such as unexpected decreases in water usage, relocation of a large water user to another community, or uneven cash flow. The City's particular reserve is established based on 15% of the total annual revenues for the last five years.
Operations and Maintenance (O&M) Expenses	The costs of day-to-day operations. These expenses include salaries, benefits, commodities, contractual services, and routine maintenance of infrastructure and equipment.
Overhead Expenses	These expenses are not affected based on the level of water usage. Examples include administrative salaries and benefits, meter reading and billing, postage, office supplies, and annual transfers to the General Fund. These costs are a subset of Operations and Maintenance expenses.
Replacement and Rehabilitation Projects (R&R)	Investments in the water system to replace or rehabilitate major equipment and infrastructure. This includes such projects as water main replacement, pump replacement, water services, etc.
Unaccounted-for Water Loss	Treated water that is pumped to the distribution system, but is not recorded as billable water consumption. Further, this water typically **cannot** be directly measured or even reliably estimated. Causes include water main breaks, service leaks, and under-reading by water meters.

CITY OF PROSPECT HEIGHTS, ILLINOIS
WATER RATE STUDY

APPENDIX A: GLOSSARY OF TERMS AND ACRONYMS

Term	Definition
Unbilled Water Use	Water that is pumped from IAWA, but not recorded as billable water consumption. This water typically can be accounted for by direct measurement or estimation. Unbilled water uses include consumption at municipal facilities, irrigation of public property, hydrant flushing, street cleaning, and sanitary sewer flushing.
Uniform Rate Structure	The structure that currently applies to the City's usage rates, in which rates are the same for all standard customers, i.e. rates do not vary based on water meter size or level of water consumption.
Usage Rates	The rates charged by the City to recover the costs of purchasing its water from Illinois American Water Company (IAWC). These are volume-based rates charged for every 1,000 gallons of usage.
Water Distribution System	The City's system of water mains, fire hydrants, isolation valves, and water storage facilities that delivers water to residents and businesses in sufficient quantities and at sufficient pressures.

CITY OF PROSPECT HEIGHTS
APPENDIX B

City of Prospect Heights Illinois
Water Rate Study

Created by: CFB
Updated: 11/26/2012

WATER FUND: BASELINE REVENUE AND EXPENSE PROJECTIONS

Controlling Assumptions: No rate increases or change in usage, operating expenses increase with inflation, recommended CIP annual allocation included.

WATER FUND	Inflation Factor	FY 2012-2013 Budget	FY 2013-2014 Projected	FY 2014-2015 Projected	FY 2015-2016 Projected	FY 2016-2017 Projected	FY 2017-2018 Projected
REVENUES							
Operating Revenues							
Sales Revenue							
Metered Water Sales		$279,700	$ 279,680	$ 279,680	$ 279,680	$ 279,680	$ 279,680
Delivery Charge		$243,100	$ 245,070	$ 245,070	$ 245,070	$ 245,070	$ 245,070
Infrastructure Reserve		$115,200	$116,079	$116,079	$116,079	$116,079	$116,079
Debt Retirement Charge		$76,500	$ 77,085	$ 77,085	$ 77,085	$ 77,085	$ 77,085
Subtotal Sales Revenue		**$714,500**	**$ 717,913**	**$ 717,913**	**$ 717,913**	**$ 717,913**	**$ 717,913**
Other Fees/Penalties		$0	$0.00	$0.00	$0.00	$0.00	$0.00
Other Water Sales		$0	$0.00	$0.00	$0.00	$0.00	$0.00
Total Operating Revenues		**$714,500**	**$717,913**	**$717,913**	**$717,913**	**$717,913**	**$717,913**
Non-Operating Revenues							
Grant Revenue		$0	$0	$0	$0	$0	$0
ILAWC Water Main Payments		$0	$0	$0	$0	$0	$0
Debt Issuance Revenue		$0	$0	$0	$0	$0	$0
Miscellaneous Income		$500	$0	$0	$0	$0	$0
Interest Income		$3,000	$1,250	$1,250	$1,250	$1,250	$1,250
Total Non-Operating Revenues		$3,500	$1,250	$1,250	$1,250	$1,250	$1,250
TOTAL REVENUES		**$718,000.00**	**$719,163.28**	**$719,163.28**	**$719,163.28**	**$719,163.28**	**$719,163.28**

City of Prospect Heights Illinois
Water Rate Study

CITY OF PROSPECT HEIGHTS
APPENDIX B

Created by: CFB
Updated: 11/26/2012

WATER FUND: BASELINE REVENUE AND EXPENSE PROJECTIONS

Controlling Assumptions: No rate increases or change in usage, operating expenses increase with inflation, recommended CIP annual allocation included.

WATER FUND	Inflation Factor	FY 2012-2013 Budget	FY 2013-2014 Projected	FY 2014-2015 Projected	FY 2015-2016 Projected	FY 2016-2017 Projected	FY 2017-2018 Projected
EXPENSES							
Operating Expenses							
Water Purchase	2%	$280,000	$285,600	$291,310	$297,140	$303,080	$309,140
Transfer to General Fund	2%	$150,000	$105,000	$105,000	$105,000	$105,000	$105,000
Personnel							
Wages	2%	$67,572	$68,900	$70,300	$71,700	$73,100	$74,600
Wages Overtime	2%	$4,500	$4,590	$4,680	$4,770	$4,870	$4,970
Health Insurance	10%	$21,251	$23,380	$25,720	$28,290	$31,120	$34,230
Life	0%	$139	$140	$140	$140	$140	$140
Social Security	5%	$5,478	$5,800	$6,100	$6,400	$6,700	$7,000
Medicare	5%	$1,281	$1,300	$1,400	$1,500	$1,600	$1,700
IMRF	2%	$11,103	$11,330	$11,560	$11,790	$12,030	$12,270
Other Benefits		$0	$0	$0	$0	$0	$1
Dues, Memberships, Subscriptions	3%	$1,000	$1,030	$1,060	$1,090	$1,120	$1,150
Training	3%	$6,500	$6,700	$6,900	$7,110	$7,320	$7,540

City of Prospect Heights Illinois
Water Rate Study

Created by: CFB
Updated: 11/26/2012

WATER FUND: BASELINE REVENUE AND EXPENSE PROJECTIONS

Controlling Assumptions: No rate increases or change in usage, operating expenses increase with inflation, recommended CIP annual allocation included.

WATER FUND	Inflation Factor	FY 2012-2013 Budget	FY 2013-2014 Projected	FY 2014-2015 Projected	FY 2015-2016 Projected	FY 2016-2017 Projected	FY 2017-2018 Projected
Postage	3%	$4,190	$4,300	$4,400	$4,500	$4,600	$4,700
Publications	3%	$1,210	$1,250	$1,290	$1,330	$1,370	$1,410
Printing	3%	$700	$720	$740	$760	$780	$800
Legal Notices	3%	$1,200	$1,240	$1,280	$1,320	$1,360	$1,400
Audit	3%	$2,750	$2,830	$2,910	$3,000	$3,090	$3,180
Professional Services	3%	$25,000	$25,800	$26,600	$27,400	$28,200	$29,000
Building Maintenance	3%	$550	$570	$590	$610	$630	$650
System Maintenance	3%	$13,200	$13,600	$14,000	$14,400	$14,800	$15,200
Radio	0%	$5,700	$600	$600	$600	$600	$600
Software	0%	$0	$500	$500	$500	$500	$500
Commodities							
Supplies	3%	$4,750	$4,890	$5,040	$5,190	$5,350	$5,510
Gasoline	3%	$1,300	$1,340	$1,380	$1,420	$1,460	$1,500
Chemicals	3%	$2,500	$2,580	$2,660	$2,740	$2,820	$2,900
Utilities	3%	$30,000	$30,900	$31,830	$32,780	$33,760	$34,770
Meters	3%	$2,750	$2,830	$2,910	$3,000	$3,090	$3,180

City of Prospect Heights Illinois
Water Rate Study

Created by: CFB
Updated: 11/26/2012

WATER FUND: BASELINE REVENUE AND EXPENSE PROJECTIONS

Controlling Assumptions: No rate increases or change in usage, operating expenses increase with inflation, recommended CIP annual allocation included.

WATER FUND	Inflation Factor	FY 2012-2013 Budget	FY 2013-2014 Projected	FY 2014-2015 Projected	FY 2015-2016 Projected	FY 2016-2017 Projected	FY 2017-2018 Projected
Other Expenses							
Liability Insurance	4%	$19,280	$20,100	$20,900	$21,700	$22,600	$23,500
Insurance Deductable	3%	$2,500	$2,580	$2,660	$2,740	$2,820	$2,900
Workers Compensation Insurance	4%	$6,606	$6,900	$7,200	$7,500	$7,800	$8,100
Bank Fees	2%	$1,000	$1,020	$1,040	$1,060	$1,080	$1,100
Total Operating Expenses	**3%**	**$674,010**	**$638,320**	**$652,700**	**$667,480**	**$682,790**	**$698,641**
		$394,010	$352,720	$361,390	$370,340	$379,710	$389,501
Capital Outlay							
Equipment	0%	$25,000	$0	$0	$0	$0	$0
Annual Valve Replacement		$0	$4,000	$4,000	$4,000	$4,000	$4,000
Annual Meter Replacement		$0	$7,500	$7,500	$7,500	$7,500	$7,500
Annual Service Replacement		$0	$19,500	$19,500	$19,500	$19,500	$19,500
Annual Hydrant Replacement		$0	$10,000	$10,000	$10,000	$10,000	$10,000
Annual Water Main Replacement		$0	$115,000	$115,000	$115,000	$115,000	$115,000
Pump Station Rehabilitation		$0	$9,000	$9,000	$9,000	$9,000	$9,000
Leak Detection		$0	$0	$5,000	$0	$0	$0
Leak Repairs		$0	$0	$0	$0	$0	$0
Reservior Rehabilitation		$0	$10,000	$10,000	$0	$0	$0

CITY OF PROSPECT HEIGHTS
APPENDIX B

City of Prospect Heights Illinois
Water Rate Study

Created by: CFB
Updated: 11/26/2012

WATER FUND: BASELINE REVENUE AND EXPENSE PROJECTIONS

Controlling Assumptions: No rate increases or change in usage, operating expenses increase with inflation, recommended CIP annual allocation included.

WATER FUND	Inflation Factor	FY 2012-2013 Budget	FY 2013-2014 Projected	FY 2014-2015 Projected	FY 2015-2016 Projected	FY 2016-2017 Projected	FY 2017-2018 Projected
Total Capital		$25,000	$175,000	$180,000	$165,000	$165,000	$165,000
Non-Operating Expenses							
Debt Service - Principle		$50,000	$50,000	$50,000	$50,000	$55,000	$55,000
Debt Service - Interest		$33,510	$31,510	$29,510	$27,510	$25,510	$23,310
Total Non-Operating Expenses		$83,510	$81,510	$79,510	$77,510	$80,510	$78,310
TOTAL EXPENSES		$776,820	$894,830	$912,210	$909,990	$928,300	$941,951

YEAR-END SUMMARY	FY 2013 Budget	FY 2014 Estimated	FY 2015 Estimate	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate
Beginning Fund Balance	$ 943,938	$ 1,002,758	$ 827,091	$ 634,045	$ 443,218	$ 234,081
Total Revenues	$ 718,000	$ 719,163	$ 719,163	$ 719,163	$ 719,163	$ 719,163
Total Expenses	$ 776,820	$ 894,830	$ 912,210	$ 909,990	$ 928,300	$ 941,951
Surplus (Deficit)	$ (58,820)	$ (175,667)	$ (193,047)	$ (190,827)	$ (209,137)	$ (222,788)
Ending Subtotal	$ 1,002,758	$ 827,091	$ 634,045	$ 443,218	$ 234,081	$ 11,294
Cash Transfer to COR	$0	$0	$0	$0	$0	$0
Cash Transfer to DSR	$0	$0	$0	$0	$0	$0
Cash Transfers to IR	$0	$0	$0	$0	$0	$0
Ending Fund Balance	$ 1,002,758	$ 827,091	$ 634,045	$ 443,218	$ 234,081	$ 11,294

City of Prospect Heights Illinois
Water Rate Study

Created by: CFB
Updated: 11/26/2012

WATER FUND: BASELINE REVENUE AND EXPENSE PROJECTIONS

Controlling Assumptions: No rate increases or change in usage, operating expenses increase with inflation, recommended CIP annual allocation included.

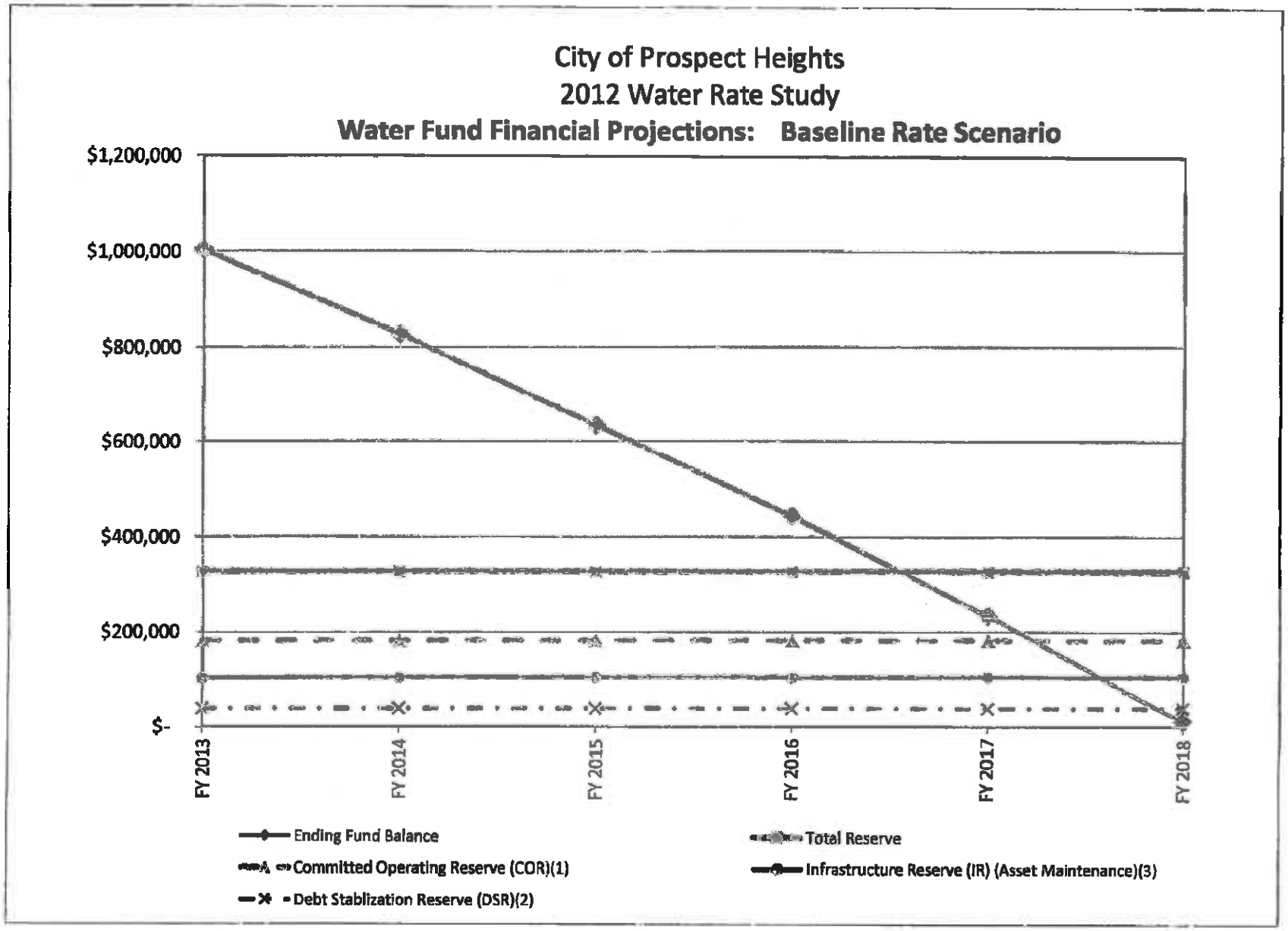
WATER FUND	Inflation Factor	FY 2012-2013 Budget	FY 2013-2014 Projected	FY 2014-2015 Projected	FY 2015-2016 Projected	FY 2016-2017 Projected	FY 2017-2018 Projected
Asset Reserves		FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Committed Operating Reserve (COR)(1)		$ 182,575	$ 182,575	$ 182,575	$ 182,575	$ 182,575	$ 182,575
	%	25%	25%	25%	25%	25%	25%
Operating Expense Reserve (25% of Operating Expenses Per AWWA) (1)		$ 168,503	$ 159,580	$ 163,175	$ 166,870	$ 170,698	$ 174,660
Debt Stablization Reserve (DSR)(2)		$ 40,255	$ 40,255	$ 40,255	$ 40,255	$ 40,255	$ 40,255
	%	50%	51%	51%	51%	51%	51%
Infrastructure Reserve (IR) (Asset Maintenance)(3)		$ 105,272	$ 105,272	$ 105,272	$ 105,272	$ 105,272	$ 105,272
	%	2%	2%	2%	2%	2%	2%
Total Reserves		$ 328,102	$ 328,102	$ 328,102	$ 328,102	$ 328,102	$ 328,102

Notes:

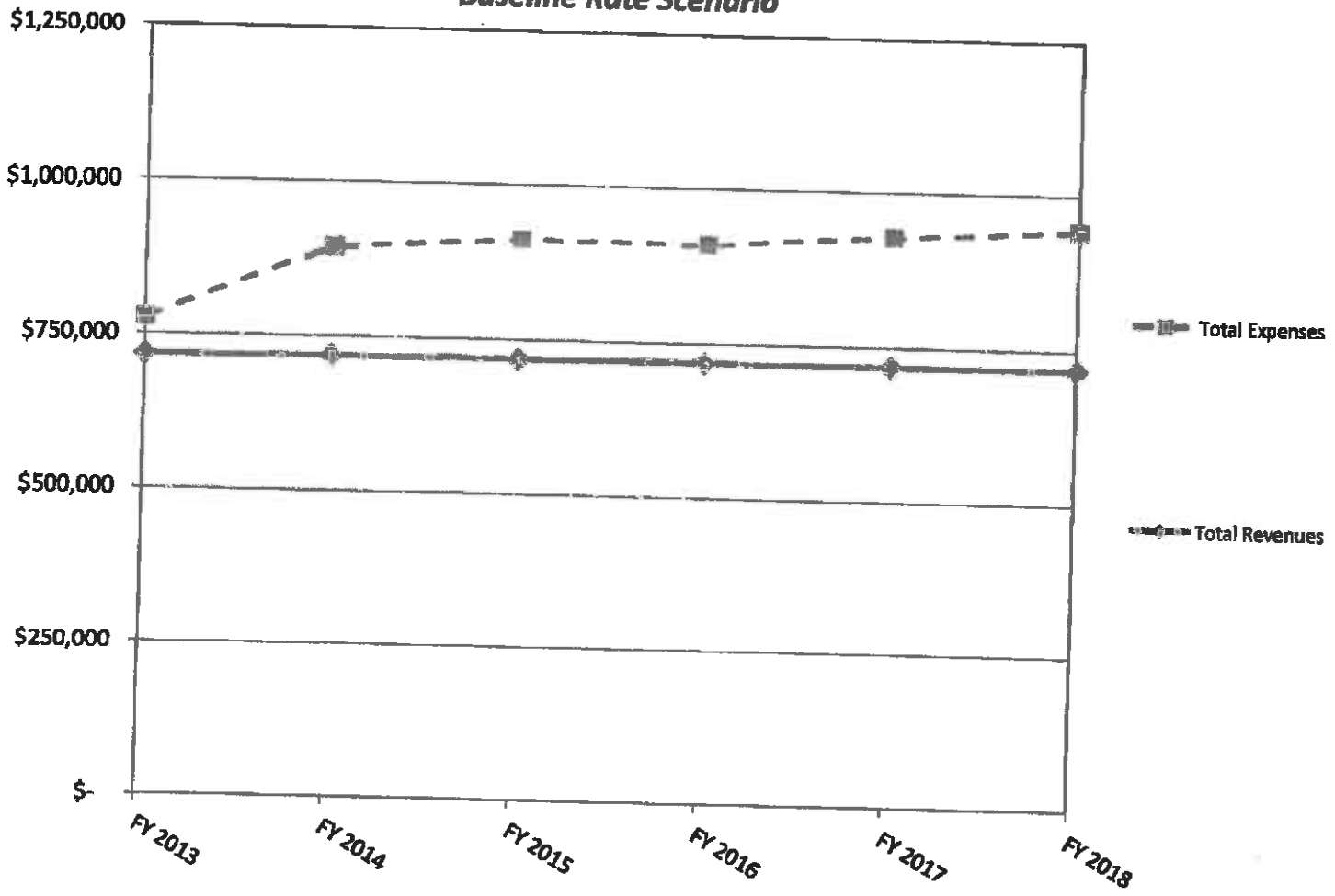
1) COR = Per GASB 54; **15% of total annual revenues.** AWWA recommends 25% of total annual expenses. Currently, the COR exceeds the AWWA, so acceptable.

2) DRS = Per GASB 54; Additional security to insure City's ability to meet debt service obligations. Goal of 50% of the maximum annual average debt service payment in the following five years

3) IR = Goal of 2% of the enterprise fund infrastructure assets


City of Prospect Heights
2012 Water Rate Study
Water Fund Financial Projections: Baseline Rate Scenario
$1,200,000
$1,000,000
$800,000
$600,000
$400,000
$200,000
$-
FY 2013
FY 2014
FY 2015
FY 2016
FY 2017
FY 2018
Ending Fund Balance
Total Reserve
Committed Operating Reserve (COR)(1)
Infrastructure Reserve (IR) (Asset Maintenance)(3)
Debt Stablization Reserve (DSR)(2)

City of Prospect Heights
2012 Water Rate Study
Water Fund Revenue & Expense Projections
Baseline Rate Scenario



CITY OF PROSPECT HEIGHTS, ILLINOIS
2012 WATER RATE STUDY

APPENDIX C: CIP AND ASSET INVENTORY

WATER CAPITAL IMPROVEMENT PLAN (CIP)

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Water System Improvements						
Equipment	$0	$0	$0	$0	$0	$0
Annual Valve Replacement	$0	$4,000	$4,000	$4,000	$4,000	$4,000
Annual Meter Replacement	$0	$7,500	$7,500	$7,500	$7,500	$7,500
Annual Service Replacement	$0	$19,500	$19,500	$19,500	$19,500	$19,500
Annual Hydrant Replacement	$0	$10,000	$10,000	$10,000	$10,000	$10,000
Annual Water Main Replacement	$0	$115,000	$115,000	$115,000	$115,000	$115,000
Pump Station Rehabilitation	$0	$9,000	$9,000	$9,000	$9,000	$9,000
Leak Detection	$0	$0	$5,000	$0	$0	$0
Leak Repairs	$0	$0	$0	$0	$0	$0
Reservior Rehabilitation	$0	$10,000	$10,000	$0	$0	$0
Total Annual Capital Improvement Costs	**$0**	**$175,000**	**$180,000**	**$165,000**	**$165,000**	**$165,000**

Village of Prospect Heights, Illinois
Water Rate Study

Created by: CFB
Updated: 11/5/2012

APPENDIX C: CIP AND ASSET INVENTORY

WATER SYSTEM ASSET INVENTORY

Water Supply, Storage and Pumping	Capital Cost	Service Life (years)	Annual Allocation	NOTES:
Pump No. 1 - replace (including valves)	$10,000	20	$500	Variable speed, 150 gpm, 10 hp
Pump No. 2 - replace (including valves)	$12,000	20	$600	Variable speed, 350 gpm, 20 hp
Pump No. 3 - replace	$35,000	20	$1,800	Constant speed, 2000 gpm, 100 hp
Pump No. 4 - replace	$35,000	20	$1,800	Constant speed, 2000 gpm, 100 hp
Valves and Piping	$18,000	20	$900	
Re-chlorination System - replace	$15,000	15	$1,000	
Standby Generator - replace	$20,000	20	$1,000	
Electrical and Instrumentation - update	$17,000	20	$900	
Building Improvements - replace A/C	$20,000	50	$400	Building recently re-sided, good condition.
Pump Station Renovation Subtotal	**$202,000**		**$9,000**	
Underground Storage Tank (East) - Inspection and Minor Repairs	$10,000	10	$0	250,000 gallon concrete, costs allocated to one year
Underground Storage Tank (West) - Inspection and Minor Repairs	$10,000	10	$0	350,000 gallon concrete, costs allocated to one year
Totals for Water Supply, Storage and Pumping	**$222,000**		**$9,000**	

Village of Prospect Heights, Illinois
Water Rate Study

Created by: CFB
Updated: 11/5/2012

APPENDIX C: CIP AND ASSET INVENTORY

WATER SYSTEM ASSET INVENTORY

Water Distribution	Capital Cost	Service Life (years)	Annual Allocation	NOTES:
Water Meters - replace 472 meters ranging from 5/8" to 3" (takes into account current $2,500 spent annual on "meters"	$180,000	20	$7,500	See "Meters" detail sheet
Water Services replace 4,730 lf of water service	$389,450	20	$19,500	See "Dist. System" detail sheet
Water Main - replace 9 miles ranging from 6" to 16" diameter	$8,490,000	75	$115,000	See "Dist. System" detail sheet
Water Valves	$193,200	50	$4,000	See "Valves" detail sheet
Hydrants	$620,000	50	$10,000	See "Hydrants" detail sheet
Totals for Water Distribution	**$9,872,650**		**$156,000**	
TOTAL SUPPLY, STORAGE, PUMPING AND DISTRIBUTION	**$10,094,650**		**$165,000**	

Village of Prospect Heights, Illinois
Water Rate Study

Created by: CFB
Updated: 11/5/2012

APPENDIX C: CIP AND ASSET INVENTORY

WATER DISTRIBUTION SYSTEM INVENTORY: WATER MAINS

Diameter (inches)	Length (feet)	Install Cost (per foot)	Totals
6	9858	$160	$1,577,280
8	20759	$170	$3,529,030
10	4,417	$180	$795,060
12	12,744	$200	$2,548,800
16	170	$250	$42,500
Totals	**47,778**		**$8,492,670**
75-year cycle			**$113,236**

Notes:

1. Water main replacement costs include design engineering, construction observation, and replacement of all hydrants and valves connected to water main.
2. The City averages 2 main breaks per year, which is the equivalent of 16 breaks per 100 miles per year.

APPENDIX C: CIP AND ASSET INVENTORY

WATER DISTRIBUTION SYSTEM INVENTORY: VALVES

Diameter (Inches)	No. of Valves	Install Cost	Totals
6	36	$1,200	$7,200
8	67	$1,250	$10,000
10	12	$2,000	$20,000
12	42	$5,000	$60,000
16	2	$6,000	$96,000
Totals	**159**		**$193,200**
50-year cycle			**$3,864**

Notes:

1. Water valve replacement costs include valve box. are considered in-house costs, and do not include design engineering, construction observation
2. Water valve replacement costs are considered in-house projects, and do not include design engineering or construction observation
3. 12" and 16" valves are considered to be within valve vaults.

Village of Prospect Heights, Illinois
Water Rate Study

Created by: CFB
Updated: 10/30/2012

APPENDIX C: CIP AND ASSET INVENTORY

WATER METER INVENTORY

Meter Size	Number Installed	Meter Cost	Reading Device Cost	Total Cost
5/8"	1	$150	$100	$250
3/4"	0	$147	$100	$0
1"	427	$200	$100	$128,100
1 1/2"	42	$366	$100	$19,551
2"	3	$499	$100	$1,797
3"	1	$1,600	$100	$1,700
Collectors	3			$21,000
Reader Server	1			$10,000
Totals	**474**			**$182,398**

Village of Prospect Heights, Illinois CFB
Water Rate Study 11/5/2012

APPENDIX C: CIP AND ASSET INVENTORY

HYDRANT INVENTORY

Number Installed	Unit Cost	Total Cost
155	$4,000	$620,000

ORDINANCE NO. _____

AN ORDINANCE ESTABLISHING FUND BALANCE POLICIES TO COMPLY WITH GOVERNMENTAL ACCOUNTING STANDARDS BOARD STATEMENT NO. 54 (GASB 54)

WHEREAS, the City of Prospect Heights is an Illinois municipal corporation organized and operating pursuant to the Illinois Municipal Code, 65 ILCS 5/1-1-1 et seq. (the "Code"), and the laws of the State of Illinois.

WHEREAS, the Governmental Accounting Standards Board (GASB) has issued Statement 54, Fund Balance Reporting and Governmental Fund Type Definitions (GASB 54). which provides a new standard for governmental fund balance reporting and governmental fund type definitions that became effective in governmental fiscal years after June 15, 2010; and

WHEREAS, the City wishes to comply with GASB 54. beginning with the current fiscal year of May 1, 2011 through April 30, 2012

NOW, THEREFORE, BE IT ORDAINED by the Mayor and the City Council of the City of Prospect Heights, Cook County Illinois as follows:

SECTION ONE: The statements and findings contained in the preamble to this Ordinance are found to be true and correct, and are hereby adopted as part of this ordinance.

SECTION TWO: Chapter 11, Section 8 to Title 1 of the City Code is hereby amended to read as follows:

Chapter 11
City Finances

1-11-8: ~~CITY EMERGENCY RESERVES:~~ Entire section deleted and replaced with the following:

1-11-8: FUND BALANCE POLICY

PURPOSE

The Governmental Accounting and Financial Standards Board (GASB) has issued Statement No. 54, *Fund Balance Reporting and Governmental Fund Type Definitions (GASB 54).* This Policy shall be adopted by the City as of the fiscal year ended April 30, 2012. In the fund financial statements, governmental funds shall be composed of non-spendable, restricted, committed, assigned and unassigned amounts.

RATIONALE

The Fund Balance Policy is intended to provide guidelines during the preparation and execution of the annual budget to ensure that sufficient reserves are maintained for unanticipated expenditures or revenue shortfalls. It also is intended to preserve flexibility throughout the fiscal year to make adjustments in funding for programs approved in connection with the annual budget.

The Fund Balance Policy should be established based upon a long-term perspective recognizing that stated thresholds are considered minimum balances. The main objective of establishing and maintaining a Fund Balance Policy is for the City to be in a strong fiscal position that will allow for better position to weather negative economic trends.

POLICY STATEMENT

The Fund Balance is the difference between assets and liabilities reported in a governmental fund. Fund balance measures the net current financial resources available to finance expenditures of future periods. Fund balance reporting will be in accordance with the recent authoritative pronouncements and may include the following categories:

- **Non-spendable Fund Balance** consists of funds that cannot be spent due to their form (e.g. inventories and prepaids) or funds that legally or contractually must be maintained intact.
- **Restricted Fund Balance** consists of funds that are mandated for a specific purpose by external parties, constitutional provisions or enabling legislation. Special revenue funds are by definition restricted or committed for those specified purposes. Additionally, this would include but not limited to, bond capital project funds and debt service funds.
- **Committed Fund Balance** consists of funds that are set aside for a specific purpose by the City's highest level of decision making authority (City Council). The City Council commits fund balances by passing an ordinance or resolution. The same formal action must be taken to remove or change the limitations placed on the funds.
- **Assigned Fund Balance** consists of funds that are set aside with the intent to be used for a specific purpose by the City Council. The City Council authorizes the City Administrator or Finance Director to determine the assigned fund balance(s) on an annual basis. Assigned funds cannot cause a deficit in unassigned fund balance.
- **Unassigned Fund Balance** consists of excess funds that have not been classified in the previous four categories. All funds in this category are considered spendable resources. This category also provides the resources necessary to meet unexpected expenditures and revenue shortfalls.

<u>Non-spendable and Restricted Funds</u>

Non-spendable funds are those funds that cannot be spent because they are either:

1) Not in spendable form (e.g. inventories and prepaids)
2) Legally or contractually required to be maintained intact

It is the responsibility of the Finance Director to report all Non-spendable Funds appropriately in the City's Financial Statements.

Restricted funds are those funds that have constraints placed on their use either:

1) Externally by creditors, grantors, contributors, or laws or regulations or other governments
2) By law through constitutional provisions or enabling legislation.

It is the responsibility of the Finance Director to report all Restricted Funds appropriately in the City's Financial Statements.

Classifying Fund Balance Amounts
When both restricted and unrestricted funds are available for expenditure, restricted funds should be spent first unless legal requirements disallow it. When committed, assigned and unassigned funds are available for expenditure, committed funds should be spent first, assigned funds second, and unassigned funds last; unless the City Council has provided otherwise in its commitment or assignment actions.

Authority to Commit Funds
The City Council has the authority to set aside funds for a specific purpose. Any funds set aside as Committed Fund Balance requires the passage of an ordinance or resolution. The passage of an ordinance or resolution must take place prior to April 30th of the applicable fiscal year. If the actual amount of the commitment is not available by April 30th, the ordinance or resolution must state the process or formula necessary to calculate the actual amount as soon as information is available.

Authority to Assign Funds
Upon passage of the Fund Balance Policy, direction is given to the City's Administrator or Finance Director to assign funds for specific purposes. Any funds set aside as Assigned Fund Balance must be reported to the City Council at their next regular meeting. The governing board has the authority to remove or change the assignment of the funds with a simple majority vote.

The City Council has the authority to set aside funds for the intended use of a specific purpose. Any funds set aside as Assigned Fund Balance requires a simple majority vote and must be recorded in the minutes. The same action is required to change or remove the assignment.

Unassigned Fund Balance
Unassigned Fund Balance is the residual amount of Fund Balance in the General Fund. It represents the resources available for future spending. An appropriate level of Unassigned Fund Balance should be maintained in the General Fund in order to cover unexpected expenditures and revenue shortfalls.

Unassigned Fund Balance may be accessed in the event of unexpected expenditures up to the minimum established level upon approval of a budget revision by the City Council.

In the event of projected revenue shortfalls, it is the responsibility of the City Treasurer to report the projections to the City Council on a quarterly basis and shall be recorded in the minutes.

Any budget revision that will result in the Unassigned Fund Balance dropping below the minimum level will require the approval of 2/3 vote of the City Council

TARGET FUND BALANCE POLICIES

Emergency Reserve

Maintaining an Emergency Reserve is a necessity for sound financial management and fiscal accountability. The City Council has the authority to establish an Emergency Reserve that will be a Committed Fund Balance. An Emergency Reserve is established for the purpose of providing funds for an urgent event that affects the health and safety residents (e.g. floods. fires, storm damage, etc.).The minimum level for the Emergency Reserve is 10% of General Fund expenditures. The recognition of an urgent event must be established by the City Council or their designee (e.g. City Administrator). If established by the governing board's designee, the specific urgent event must be reported to the City Council at their next meeting. A budget revision must be approved by the City Council. In the event that the balance drops below the established minimum level, the City Council will develop a plan to replenish the Emergency Reserve balance to the established minimum level within two years.

Operating Reserve

The city will maintain an additional General Fund "Operating Reserve" with an upper goal of an additional fifteen percent (15%) of the actual annual average General Fund revenues for the preceding five fiscal years. The Operating Reserve is intended to be a reserve for unexpected events whose impact exceeds $500,000 such as failure of the State to remit revenues to the city, unexpected mandates, unexpected loss of State Shared revenues, continuance of critical city services due to unanticipated events, or to offset the unexpected loss of a significant funding source for the remainder of the fiscal year.

Any use of the Operating Reserve funds must be approved by the City Council and include a repayment plan that projects to restore the Operating Reserve to the fifteen percent (15%) level within two fiscal years following the fiscal year in which the event occurred.

Enterprise Water Operating Reserve

The City of Prospect Heights's Enterprise Operating Fund working capital will be maintained to provide the city with a comfortable margin of safety to address emergencies and unexpected declines in revenue without borrowing. The cash reserve balance (working capital) goal for the water enterprise operating funds will be at least twenty-five percent (25%) of the actual operating expenditures for the fiscal year.

Enterprise Water Debt Stabilization Reserve

The city will maintain a "Debt Stabilization Fund" with an upper goal of approximately fifty percent (50%) of the maximum annual average debt service payment in the following five years. The Debt Stabilization Fund is intended to provide additional security to insure the city's ability to meet debt service obligations. In the event the Debt Stabilization Fund is used, the city shall strive to restore the fund to the defined level within the next three fiscal years following the fiscal year in which the fund was used.

Asset Maintenance Fund

The city will maintain an additional "Asset Maintenance Fund" with an upper goal equal to two percent (2%) of the enterprise fund infrastructure assets. The Asset Maintenance Fund may be

used to provide funding for the repair and maintenance of critical infrastructure. In the event the Asset Maintenance Fund is used, the city shall strive to restore the fund to the defined level within the next three fiscal years following the fiscal year in which the fund was used.

Solid Waste Operating Reserve
The working capital goal for the residential and commercial solid waste enterprise funds is twenty percent (20%) of the actual operating expenditures for the current fiscal year.

This Ordinance shall be in full force and effect on upon passage, according to law.

PASSED AND APPROVED this ___day of _____, 2012.

_____
NICHOLAS J. HELMER, MAYOR

ATTEST:

_____
CITY CLERK

AYES:
NAYS:
ABSENT:

CITY OF PROSPECT HEIGHTS, ILLINOIS
2012 WATER RATE STUDY

APPENDIX E: FIXED CHARGE ANALYSIS

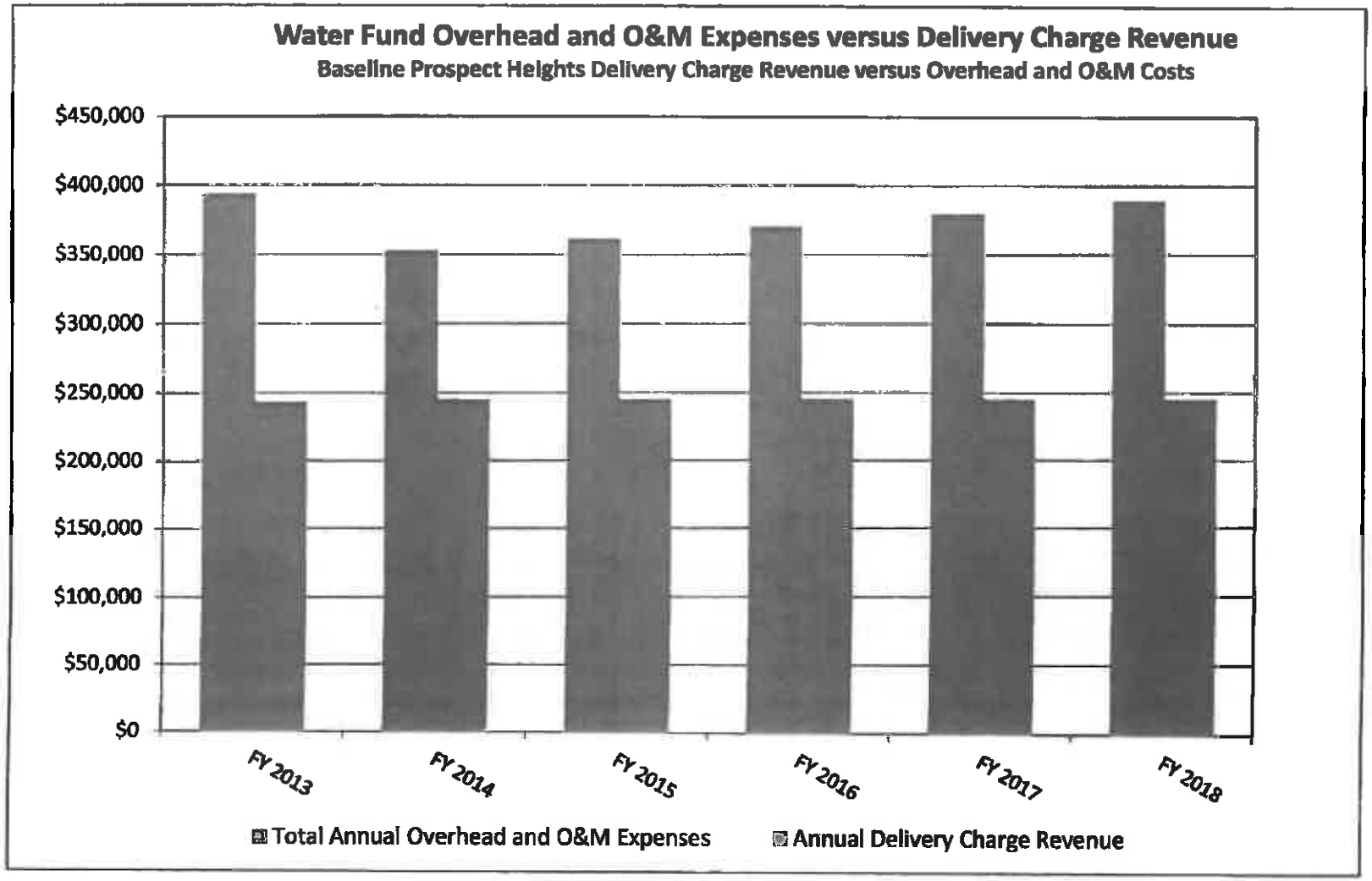
WATER FUND FIXED COSTS: BASELINE, NO RATE INCREASES

Annual Overhead & Administrative Costs	FY 2013 Budget	FY 2014 Estimate	FY 2015 Estimate	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate
Administrative and Operations Salaries and Benefits	$118,824	$123,170	$127,860	$132,790	$138,000	$143,601
Postage, Publications, Legal Notices, Audit	$10,050	$10,340	$10,620	$10,910	$11,200	$11,490
Bank Fees	$1,000	$1,020	$1,040	$1,060	$1,080	$1,100
Professional Services	$25,000	$25,800	$26,600	$27,400	$28,200	$29,000
Liability Insurance	$19,280	$20,100	$20,900	$21,700	$22,600	$23,500
Insurance Deductible	$2,500	$2,580	$2,660	$2,740	$2,820	$2,900
Workmans Compensation	$6,606	$6,900	$7,200	$7,500	$7,800	$8,100
Transfer Out - Overhead	$150,000	$105,000	$105,000	$105,000	$105,000	$105,000
Total Annual Overhead Costs	**$333,260**	**$294,910**	**$301,880**	**$309,100**	**$316,700**	**$324,691**
Water System Annual O&M Expenses						
Building Maintenance	$550	$570	$590	$610	$630	$650
System Maintenance	$13,200	$13,600	$14,000	$14,400	$14,800	$15,200
Radio	$5,700	$600	$600	$600	$600	$600
Software	$0	$500	$500	$500	$500	$500
Supplies	$4,750	$4,890	$5,040	$5,190	$5,350	$5,510
Gasoline	$1,300	$1,340	$1,380	$1,420	$1,460	$1,500
Chemicals	$2,500	$2,580	$2,660	$2,740	$2,820	$2,900
Utilities	$30,000	$30,900	$31,830	$32,780	$33,760	$34,770
Meters	$2,750	$2,830	$2,910	$3,000	$3,090	$3,180
Total Annual O&M Expenses	**$60,750**	**$57,810**	**$59,510**	**$61,240**	**$63,010**	**$64,810**
Total Annual Overhead and O&M Expenses	**$394,010**	**$352,720**	**$361,390**	**$370,340**	**$379,710**	**$389,501**

CITY OF PROSPECT HEIGHTS, ILLINOIS
2012 WATER RATE STUDY

APPENDIX E: FIXED CHARGE ANALYSIS

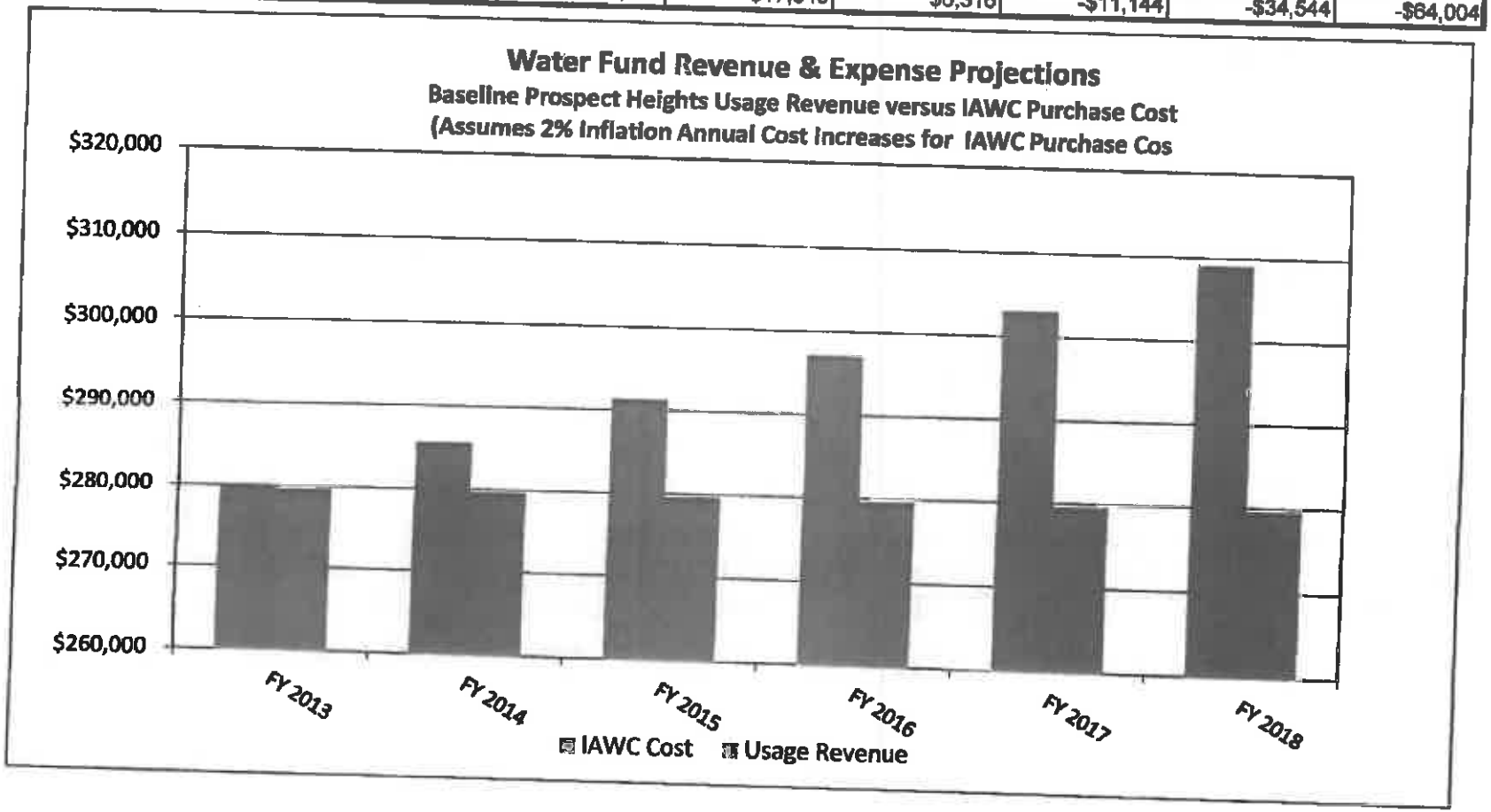
Number of Customers	1076	1076	1076	1076	1076	1076
Monthly Overhead Cost per Customer	$30.50	$27.30	$28.00	$28.70	$29.40	$30.20
Average Annual Increase	48.1%	-10.5%	2.6%	2.5%	2.4%	2.7%
Annual Delivery Charge Revenue	**$243,100**	**$245,070**	**$245,070**	**$245,070**	**$245,070**	**$245,070**
Differences Surplus/ (Deficit)	($150,910)	($107,650)	($116,320)	($125,270)	($134,640)	($144,431)
Cumulative Difference	-$173,476	-$281,126	-$397,446	-$522,717	-$657,357	-$801,788


Water Fund Overhead and O&M Expenses versus Delivery Charge Revenue
Baseline Prospect Heights Delivery Charge Revenue versus Overhead and O&M Costs
$450,000
$400,000
$350,000
$300,000
$250,000
$200,000
$150,000
$100,000
$50,000
$0
FY 2013
FY 2014
FY 2015
FY 2016
FY 2017
FY 2018
Total Annual Overhead and O&M Expenses
Annual Delivery Charge Revenue

CITY OF PROSPECT HEIGHTS, ILLINOIS
2012 WATER RATE STUDY

APPENDIX E: FIXED CHARGE ANALYSIS

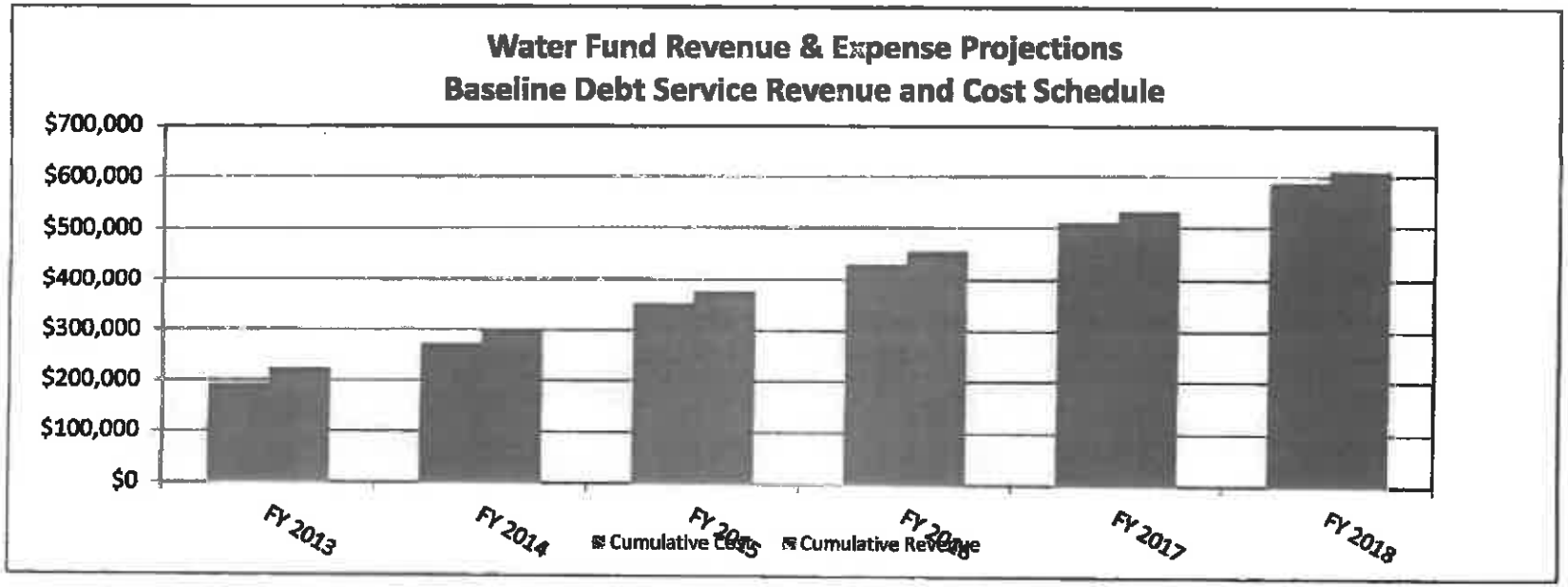
BASELINE WATER SALES REVENUE AND PURCHASE COSTS	FY 2013 Budget	FY 2014 Estimate	FY 2015 Estimate	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate
IAWC Cost	$280,000	$285,600	$291,310	$297,140	$303,080	$309,140
Usage Revenue	$279,700	$279,680	$279,680	$279,680	$279,680	$279,680
Differences Surplus/ (Deficit)	($300)	($5,920)	($11,630)	($17,460)	($23,400)	($29,460)
Cumulative Difference	$23,866	$17,946	$6,316	-$11,144	-$34,544	-$64,004



CITY OF PROSPECT HEIGHTS, ILLINOIS
2012 WATER RATE STUDY

APPENDIX E: FIXED CHARGE ANALYSIS

DEBT SERVICE COST AND REVENUE	2012 Actual	FY 2013 Budget	FY 2014 Estimate	FY 2015 Estimate	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate
Principle	$0	$50,000	$50,000	$50,000	$50,000	$55,000	$55,000
Interest	$13,730	$33,510	$31,510	$29,510	$27,510	$25,510	$23,310
Debt Service Cost	$24,950	$0	$0	$0	$0	$0	$0
Total Debt Service Cost	**$38,680**	**$83,510**	**$81,510**	**$79,510**	**$77,510**	**$80,510**	**$78,310**
		20%	-2%	-2%	-3%	4%	-3%
Revenue	**$69,518**	**$77,085**	**$77,085**	**$77,085**	**$77,085**	**$77,085**	**$77,085**
Differences Surplus/ (Deficit)	$30,838	-$6,425	-$4,425	-$2,425	-$425	-$3,425	-$1,225
Cumulative Difference	$30,838	$32,125	$27,700	$25,275	$24,849	$21,424	$20,199
Cumulative Cost	$38,680	$191,562	$273,072	$352,582	$430,092	$510,602	$588,912
Cumulative Revenue	$69,518	$223,688	$300,772	$377,857	$454,941	$532,026	$609,111

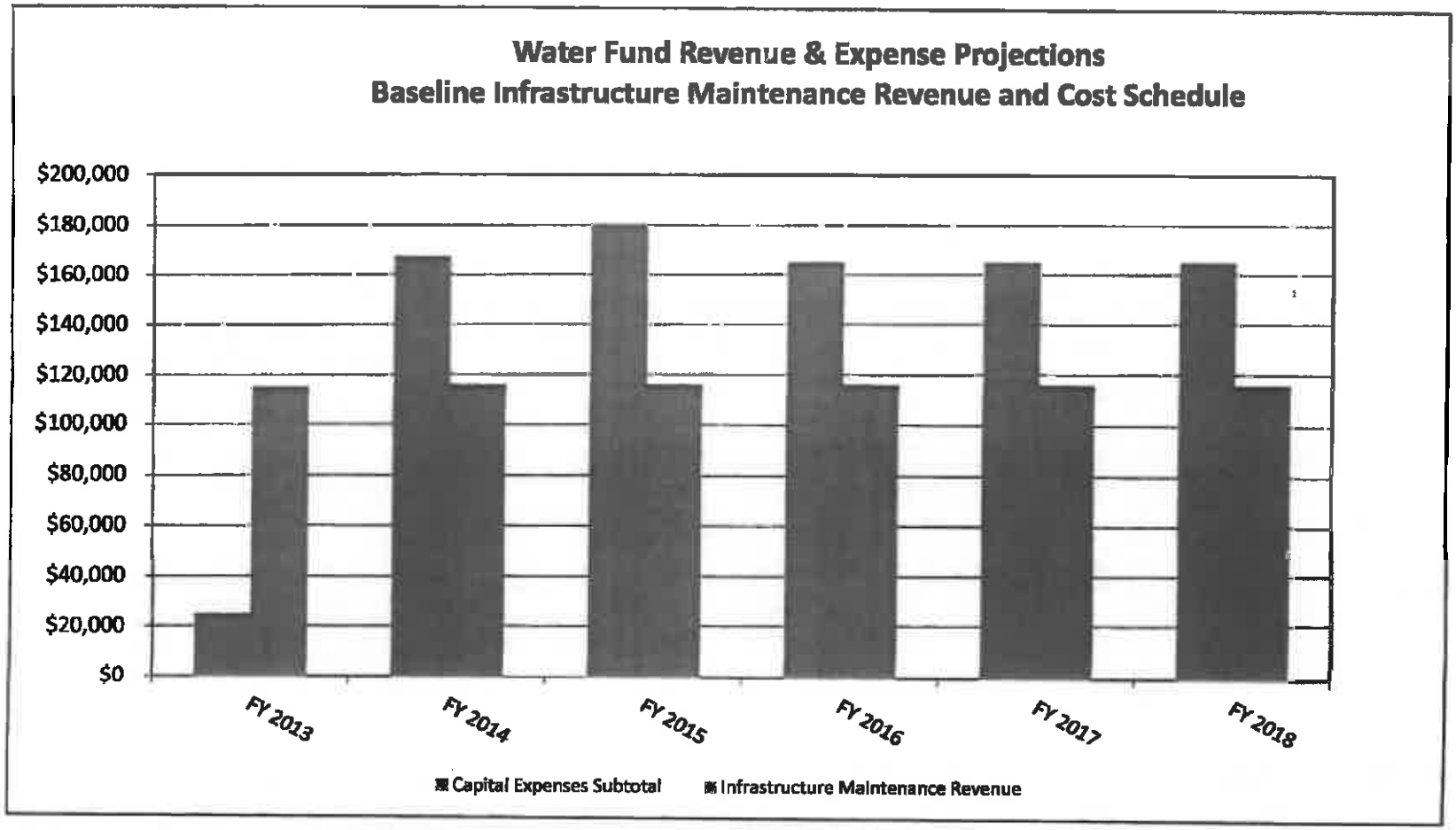


CITY OF PROSPECT HEIGHTS, ILLINOIS
2012 WATER RATE STUDY

APPENDIX E: FIXED CHARGE ANALYSIS

DESCRIPTION	FY 2013 Budget	FY 2014 Estimate	FY 2015 Estimate	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate
Infrastructure Capital Outlay						
Equipment	$25,000	$0	$0	$0	$0	$0
Annual Valve Replacement	$0	$4,000	$4,000	$4,000	$4,000	$4,000
Annual Meter Replacement	$0		$7,500	$7,500	$7,500	$7,500
Annual Service Replacement	$0	$19,500	$19,500	$19,500	$19,500	$19,500
Annual Hydrant Replacement	$0	$10,000	$10,000	$10,000	$10,000	$10,000
Annual Water Main Replacement	$0	$115,000	$115,000	$115,000	$115,000	$115,000
Pump Station Rehabilitation	$0	$9,000	$9,000	$9,000	$9,000	$9,000
Leak Detection	$0	$0	$5,000	$0	$0	$0
Leak Repairs	$0	$0	$0	$0	$0	$0
Reservior Rehabilitation	$0	$10,000	$10,000	$0	$0	$0
Capital Expenses Subtotal	**$25,000**	**$167,500**	**$180,000**	**$165,000**	**$165,000**	**$165,000**
Infrastructure Maintenance Revenue	**$115,200**	**$116,079**	**$116,079**	**$116,079**	**$116,079**	**$116,079**
Differences Surplus/ (Deficit)	$90,200.00	-$51,421.12	-$63,921.12	-$48,921.12	-$48,921.12	-$48,921.12
Cumulative	$204,992.00	$153,570.88	$89,649.76	$40,728.64	-$8,192.48	-$57,113.60

APPENDIX E: FIXED CHARGE ANALYSIS



CITY OF PROSPECT HEIGHTS
APPENDIX F: SCENARIO 1 DETAILED

City of Prospect Heights Illinois
Water Rate Study

Created by: CFB
Updated: 11/26/2012

WATER FUND: SCENARIO 1: REVENUE AND EXPENSE PROJECTIONS

Controlling Assumptions: Operating expenses increase with inflation, CIP annual allocation added.

1) Delivery Fee Increased
2) Infrastructure Maintenance Charge Increased

WATER FUND	Inflation Factor	FY 2012-2013 Budget	FY 2013-2014 Projected	FY 2014-2015 Estimated	FY 2015-2016 Estimated	FY 2016-2017 Estimated	FY 2017-2018 Estimated
REVENUES							
Operating Revenues							
Sales Revenue							
Metered Water Sales		$279,700	$ 279,680	$ 279,680	$ 289,469	$ 299,600	$ 310,086
Delivery Charge		$243,100	$ 262,225	$ 280,580	$ 300,221	$ 321,236	$ 343,723
Infrastructure Reserve		$115,200	$121,883	$127,977	$134,376	$141,095	$148,149
Debt Retirement Charge		$76,500	$ 77,085	$ 77,085	$ 77,085	$ 77,085	$ 77,085
Subtotal Sales Revenue		**$714,500**	**$ 740,872**	**$ 765,322**	**$ 801,150**	**$ 839,016**	**$ 879,043**
Other Fees/Penalties		$0	$0.00	$0.00	$0.00	$0.00	$0.00
Other Water Sales		$0	$0.00	$0.00	$0.00	$0.00	$0.00
Total Operating Revenues		**$714,500**	**$740,872**	**$765,322**	**$801,150**	**$839,016**	**$879,043**
Non-Operating Revenues							
Grant Revenue		$0	$0	$0	$0	$0	$0
ILAWC Water Main Payments		$0	$0	$0	$0	$0	$0
Debt Issuance Revenue		$0	$0	$0	$0	$0	$0
Miscellaneous Income		$500	$0	$0	$0	$0	$0
Interest Income		$3,000	$1,250	$1,250	$1,250	$1,250	$1,250
Total Non-Operating Revenues		$3,500	$1,250	$1,250	$1,250	$1,250	$1,250
TOTAL REVENUES		**$718,000**	**$742,122.11**	**$766,571.97**	**$802,400.25**	**$840,265.92**	**$880,293.21**

CITY OF PROSPECT HEIGHTS
APPENDIX F: SCENARIO 1 DETAILED

City of Prospect Heights Illinois
Water Rate Study

Created by: CFB
Updated: 11/26/2012

WATER FUND: SCENARIO 1: REVENUE AND EXPENSE PROJECTIONS

Controlling Assumptions: Operating expenses increase with inflation, CIP annual allocation added.

1) Delivery Fee Increased

2) Infrastructure Maintenance Charge Increased

WATER FUND	Inflation Factor	FY 2012-2013 Budget	FY 2013-2014 Projected	FY 2014-2015 Estimated	FY 2015-2016 Estimated	FY 2016-2017 Estimated	FY 2017-2018 Estimated
EXPENSES							
Operating Expenses							
Water Purchase	2%	$280,000	$285,600	$291,310	$297,140	$303,080	$309,140
Transfer to General Fund	2%	$150,000	$105,000	$107,100	$109,240	$111,420	$113,650
Personnel							
Wages	2%	$67,572	$68,900	$70,300	$71,700	$73,100	$74,600
Wages Overtime	2%	$4,500	$4,590	$4,680	$4,770	$4,870	$4,970
Health Insurance	10%	$21,251	$23,380	$25,720	$28,290	$31,120	$34,230
Life	0%	$139	$140	$140	$140	$140	$140
Social Security	5%	$5,478	$5,800	$6,100	$6,400	$6,700	$7,000
Medicare	5%	$1,281	$1,300	$1,400	$1,500	$1,600	$1,700
IMRF	2%	$11,103	$11,330	$11,560	$11,790	$12,030	$12,270
Other Benefits		$0	$0	$0	$0	$0	$1
Dues, Memberships, Subscriptions	3%	$1,000	$1,030	$1,060	$1,090	$1,120	$1,150
Training	3%	$6,500	$6,700	$6,900	$7,110	$7,320	$7,540

CITY OF PROSPECT HEIGHTS
APPENDIX F: SCENARIO 1 DETAILED

City of Prospect Heights Illinois
Water Rate Study

Created by: CFB
Updated: 11/26/2012

WATER FUND: SCENARIO 1: REVENUE AND EXPENSE PROJECTIONS

Controlling Assumptions: Operating expenses increase with inflation, CIP annual allocation added.

1) Delivery Fee Increased

2) Infrastructure Maintenance Charge Increased

WATER FUND	Inflation Factor	FY 2012-2013 Budget	FY 2013-2014 Projected	FY 2014-2015 Estimated	FY 2015-2016 Estimated	FY 2016-2017 Estimated	FY 2017-2018 Estimated
Postage	3%	$4,190	$4,300	$4,400	$4,500	$4,600	$4,700
Publications	3%	$1,210	$1,250	$1,290	$1,330	$1,370	$1,410
Printing	3%	$700	$720	$740	$760	$780	$800
Legal Notices	3%	$1,200	$1,240	$1,280	$1,320	$1,360	$1,400
Audit	3%	$2,750	$2,830	$2,910	$3,000	$3,090	$3,180
Professional Services	3%	$25,000	$25,800	$26,600	$27,400	$28,200	$29,000
Building Maintenance	3%	$550	$570	$590	$610	$630	$650
System Maintenance	3%	$13,200	$13,600	$14,000	$14,400	$14,800	$15,200
Radio	0%	$5,700	$600	$600	$600	$600	$600
Software	0%	$0	$500	$500	$500	$500	$500
Commodities							
Supplies	3%	$4,750	$4,890	$5,040	$5,190	$5,350	$5,510
Gasoline	3%	$1,300	$1,340	$1,380	$1,420	$1,460	$1,500
Chemicals	3%	$2,500	$2,580	$2,660	$2,740	$2,820	$2,900
Utilities	3%	$30,000	$30,900	$31,830	$32,780	$33,760	$34,770
Meters	3%	$2,750	$2,830	$2,910	$3,000	$3,090	$3,180
Other Expenses							
Liability Insurance	4%	$19,280	$20,100	$20,900	$21,700	$22,600	$23,500
Insurance Deductable	3%	$2,500	$2,580	$2,660	$2,740	$2,820	$2,900
Workers Compensation Insurance	4%	$6,606	$6,900	$7,200	$7,500	$7,800	$8,100
Bank Fees	2%	$1,000	$1,020	$1,040	$1,060	$1,080	$1,100

City of Prospect Heights Illinois
Water Rate Study

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WATER FUND: SCENARIO 1: REVENUE AND EXPENSE PROJECTIONS

Controlling Assumptions: Operating expenses increase with inflation, CIP annual allocation added

1) Delivery Fee Increased
2) Infrastructure Maintenance Charge Increased

WATER FUND	Inflation Factor	FY 2012-2013 Budget	FY 2013-2014 Projected	FY 2014-2015 Estimated	FY 2015-2016 Estimated	FY 2016-2017 Estimated	FY 2017-2018 Estimated
Total Operating Expenses	3%	$674,010	$638,320	$654,800	$671,720	$689,210	$707,291
Capital Outlay							
Equipment	0%	$25,000					
Annual Valve Replacement		$0	$4,000	$4,000	$4,000	$4,000	$4,000
Annual Meter Replacement		$0	$7,500	$7,500	$7,500	$7,500	$7,500
Annual Service Replacement		$0	$19,500	$19,500	$19,500	$19,500	$19,500
Annual Hydrant Replacement		$0	$10,000	$10,000	$10,000	$10,000	$10,000
Annual Water Main Replacement		$0	$115,000	$115,000	$115,000	$115,000	$115,000
Pump Station Rehabilitation		$0	$9,000	$9,000	$9,000	$9,000	$9,000
Leak Detection		$0	$0	$5,000	$0	$0	$0
Leak Repairs		$0	$0	$0	$0	$0	$0
Reservior Rehabilitation		$0	$10,000	$10,000	$0	$0	$0
Total Capital		$25,000	$175,000	$180,000	$165,000	$165,000	$165,000
Non-Operating Expenses							
Debt Service - Principle		$50,000	$50,000	$50,000	$50,000	$55,000	$55,000
Debt Service - Interest		$33,510	$31,510	$29,510	$27,510	$25,510	$23,310
Total Non-Operating Expenses		$83,510	$81,510	$79,510	$77,510	$80,510	$78,310
TOTAL EXPENSES		$776,820	$894,830	$914,310	$914,230	$934,720	$950,601

City of Prospect Heights Illinois
Water Rate Study

Created by: CFB
Updated: 11/26/2012

WATER FUND: SCENARIO 1: REVENUE AND EXPENSE PROJECTIONS

Controlling Assumptions: Operating expenses increase with inflation, CIP annual allocation added.

1) Delivery Fee increased
2) Infrastructure Maintenance Charge increased

WATER FUND	Inflation Factor	FY 2012-2013 Budget	FY 2013-2014 Projected	FY 2014-2015 Estimated	FY 2015-2016 Estimated	FY 2016-2017 Estimated	FY 2017-2018 Estimated
YEAR-END SUMMARY		FY 2013 Budget	FY 2014 Projected	FY 2015 Estimate	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate
Beginning Fund Balance		$ 943,938	$ 1,002,758	$ 850,050	$ 702,312	$ 590,482	$ 496,028
Total Revenues		$ 718,000	$ 742,122	$ 766,572	$ 802,400	$ 840,266	$ 880,293
Total Expenses		$ 776,820	$ 894,830	$ 914,310	$ 914,230	$ 934,720	$ 950,601
Surplus (Deficit)		$ (58,820)	$ (152,708)	$ (147,738)	$ (111,830)	$ (94,454)	$ (70,308)
Ending Subtotal		$ 1,002,758	$ 850,050	$ 702,312	$ 590,482	$ 496,028	$ 425,721
Cash Transfer to COR		$0	$0	$0	$0	$0	$0
Cash Transfer to DSR		$0	$0	$0	$0	$0	$0
Cash Transfers to IR		$0	$0	$0	$0	$0	$0
Ending Fund Balance		$ 1,002,758	$ 850,050	$ 702,312	$ 590,482	$ 496,028	$ 425,721

City of Prospect Heights Illinois
Water Rate Study

Created by: CFB
Updated: 11/26/2012

WATER FUND: SCENARIO 1: REVENUE AND EXPENSE PROJECTIONS

Controlling Assumptions: Operating expenses increase with inflation, CIP annual allocation added.

1) Delivery Fee Increased
2) Infrastructure Maintenance Charge Increased

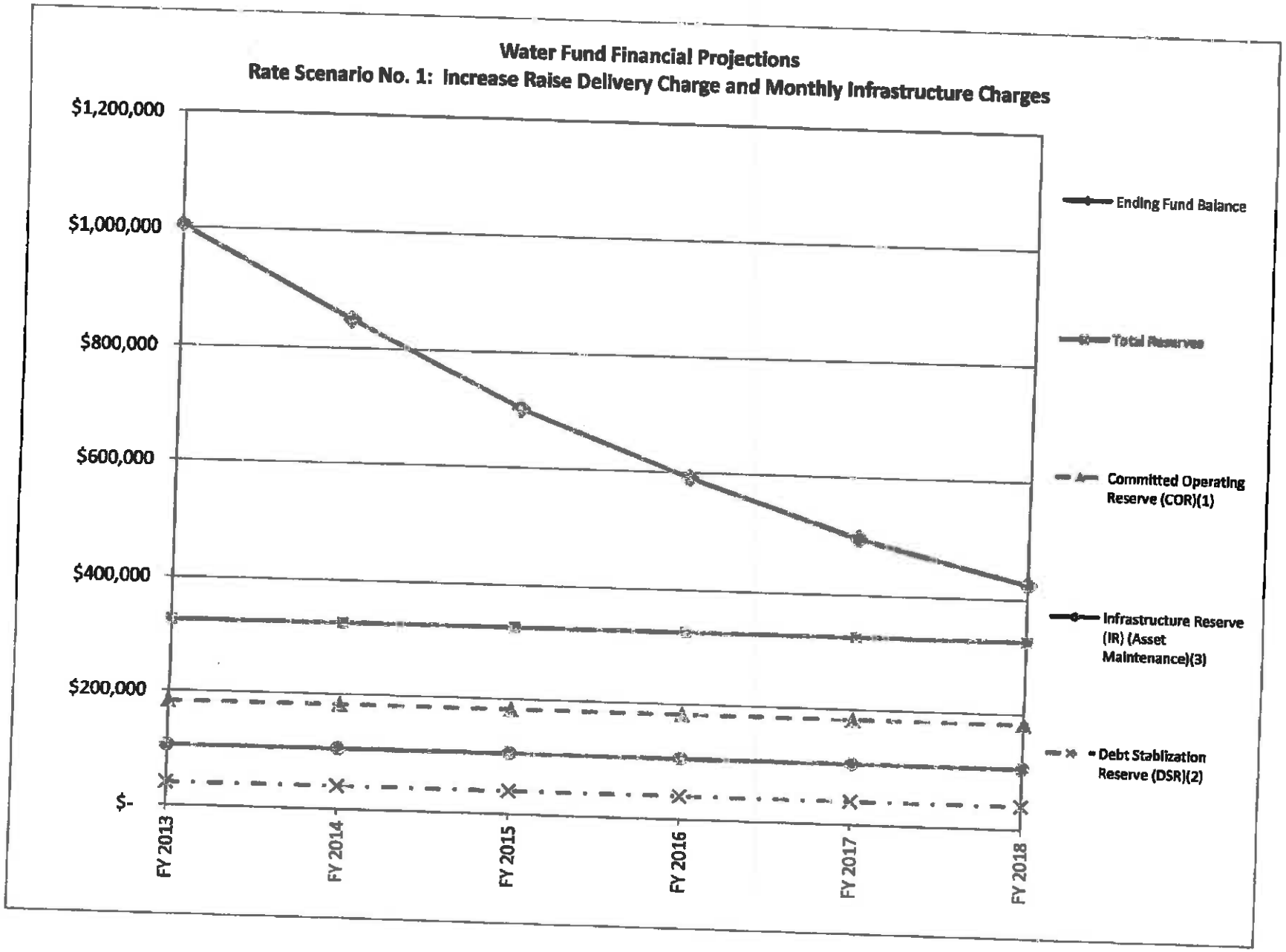
WATER FUND	Inflation Factor	FY 2012-2013 Budget	FY 2013-2014 Projected	FY 2014-2015 Estimated	FY 2015-2016 Estimated	FY 2016-2017 Estimated	FY 2017-2018 Estimated
Reserves		FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Committed Operating Reserve (COR)(1)		$ 182,575	$ 182,575	$ 182,575	$ 182,575	$ 182,575	$ 182,575
	%	25%	25%	24%	23%	22%	21%
Operating Expense Reserve (25% of Operating Expenses Per AWWA) (1)			$ 159,580	$ 163,700	$ 167,930	$ 172,303	$ 176,823
Debt Stablization Reserve (DSR)(2)		$ 40,255	$ 40,255	$ 40,255	$ 40,255	$ 40,255	$ 40,255
	%	50%	51%	51%	51%	51%	51%
Infrastructure Reserve (IR) (Asset Maintenance)(3)		$ 105,272	$ 105,272	$ 105,272	$ 105,272	$ 105,272	$ 105,272
Total Reserves		**$ 328,102**	**$ 328,102**	**$ 328,102**	**$ 328,102**	**$ 328,102**	**$ 328,102**

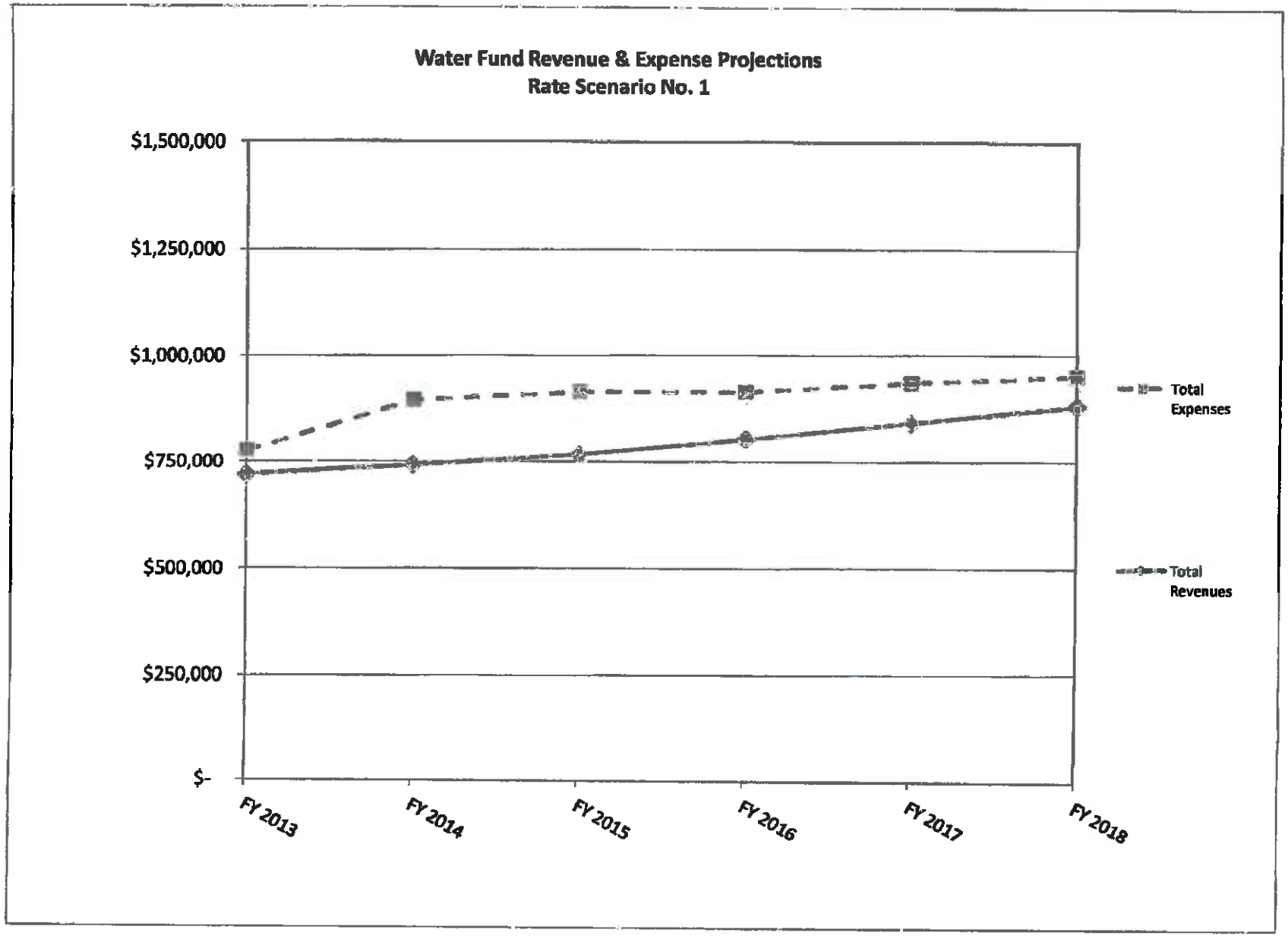
Notes:

1) COR = Per GASB 54; 15% of total annual revenues. AWWA recommends 25% of total annual expenses. Currently, the COR exceeds the AWWA, so acceptable.

2) DRS = Per GASB 54; Additional security to insure City's ability to meet debt service obligations. Goal of 50% of the maximum annual average debt service payment in the following five years.

3) IR = Goal of 2% of the enterprise fund infrastructure assets


Water Fund Financial Projections
Rate Scenario No. 1: Increase Raise Delivery Charge and Monthly Infrastructure Charges
$1,200,000
$1,000,000
$800,000
$600,000
$400,000
$200,000
$-
FY 2013
FY 2014
FY 2015
FY 2016
FY 2017
FY 2018
Ending Fund Balance
Total Reserves
Committed Operating Reserve (COR)(1)
Infrastructure Reserve (IR) (Asset Maintenance)(3)
Debt Stablization Reserve (DSR)(2)


Water Fund Revenue & Expense Projections
Rate Scenario No. 1
$1,500,000
$1,250,000
$1,000,000
$750,000
$500,000
$250,000
$-
FY 2013
FY 2014
FY 2015
FY 2016
FY 2017
FY 2018
Total Expenses
Total Revenues

CITY OF PROSPECT HEIGHTS, ILLINOIS
2012 WATER RATE STUDY

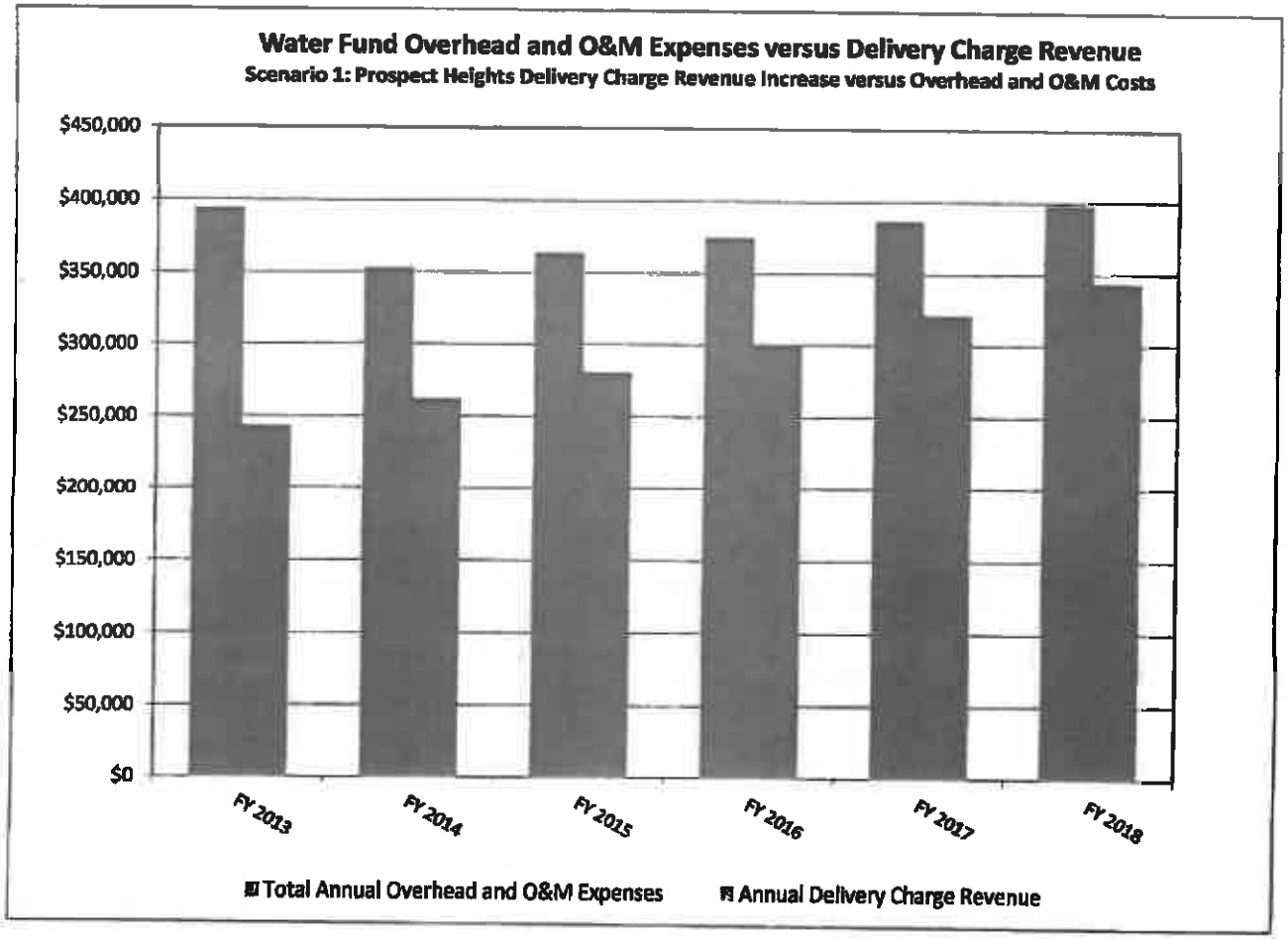
APPENDIX G: SCENARIO 1 RATE INCREASE FIXED CHARGE ANALYSIS

WATER FUND FIXED COSTS: SCENARIO 1 RATE INCREASES

Annual Overhead & Administrative Costs	FY 2013 Budget	FY 2014 Estimate	FY 2015 Estimate	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate
Administrative and Operations Salaries and Benefits	$118,824	$123,170	$127,860	$132,790	$138,000	$143,601
Postage, Publications, Legal Notices, Audit	$10,050	$10,340	$10,620	$10,910	$11,200	$11,490
Bank Fees	$1,000	$1,020	$1,040	$1,060	$1,080	$1,100
Professional Services	$25,000	$25,800	$26,600	$27,400	$28,200	$29,000
Liability Insurance	$19,280	$20,100	$20,900	$21,700	$22,600	$23,500
Insurance Deductible	$2,500	$2,580	$2,660	$2,740	$2,820	$2,900
Workmans Compensation	$6,606	$6,900	$7,200	$7,500	$7,800	$8,100
Transfer Out - Overhead	$150,000	$105,000	$107,100	$109,240	$111,420	$113,650
Total Annual Overhead Costs	**$333,260**	**$294,910**	**$303,980**	**$313,340**	**$323,120**	**$333,341**
Water System Annual O&M Expenses						
Building Maintenance	$550	$570	$590	$610	$630	$650
System Maintenance	$13,200	$13,600	$14,000	$14,400	$14,800	$15,200
Radio	$5,700	$600	$600	$600	$600	$600
Software	$0	$500	$500	$500	$500	$500
Supplies	$4,750	$4,890	$5,040	$5,190	$5,350	$5,510
Gasoline	$1,300	$1,340	$1,380	$1,420	$1,460	$1,500
Chemicals	$2,500	$2,580	$2,660	$2,740	$2,820	$2,900
Utilities	$30,000	$30,900	$31,830	$32,780	$33,760	$34,770
Meters	$2,750	$2,830	$2,910	$3,000	$3,090	$3,180
Total Annual O&M Expenses	**$60,750**	**$57,810**	**$59,510**	**$61,240**	**$63,010**	**$64,810**
Total Annual Overhead and O&M Expenses	**$394,010**	**$352,720**	**$363,490**	**$374,580**	**$386,130**	**$398,151**
Number of Customers	1076	1076	1076	1076	1076	1076
Monthly Overhead Cost per Customer	$30.52	$27.32	$28.15	$29.01	$29.90	$30.84
Average Annual Increase	48.1%	-10.5%	3.1%	3.1%	3.1%	3.1%
Annual Delivery Charge Revenue	**$243,100**	**$262,225**	**$280,880**	**$300,221**	**$321,236**	**$343,723**
Monthly Overhead Revenue per Customer	$18.83	$20.31	$21.73	$23.25	$24.88	$26.62
Differences Surplus/ (Deficit)	($150,910)	($90,495)	($82,910)	($74,359)	($64,894)	($54,428)
Cumulative Difference	-$173,476	-$263,971	-$346,881	-$421,240	-$486,134	-$540,561

CITY OF PROSPECT HEIGHTS, ILLINOIS
2012 WATER RATE STUDY

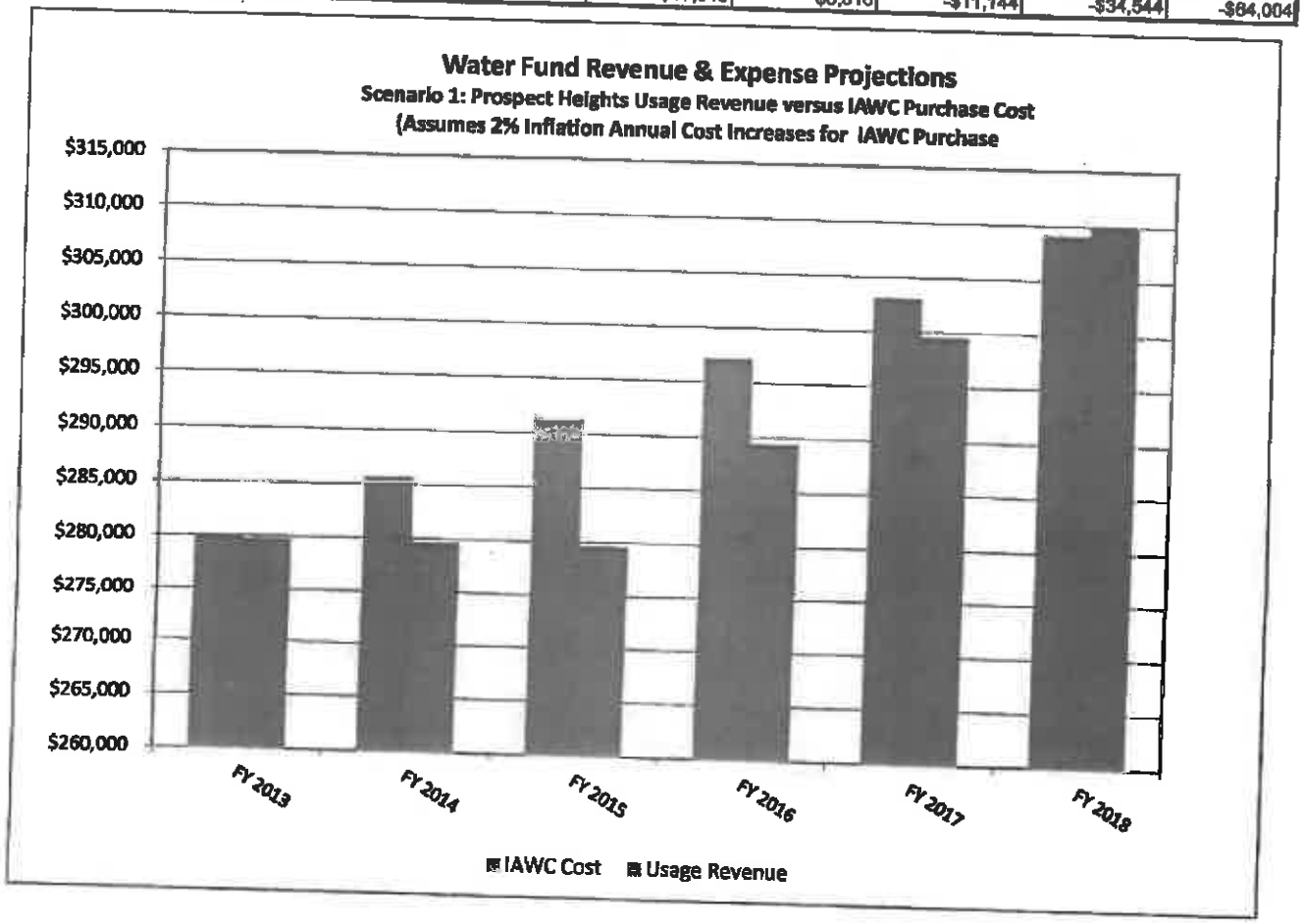
APPENDIX G: SCENARIO 1 RATE INCREASE FIXED CHARGE ANALYSIS



CITY OF PROSPECT HEIGHTS, ILLINOIS
2012 WATER RATE STUDY

APPENDIX G: SCENARIO 1 RATE INCREASE FIXED CHARGE ANALYSIS

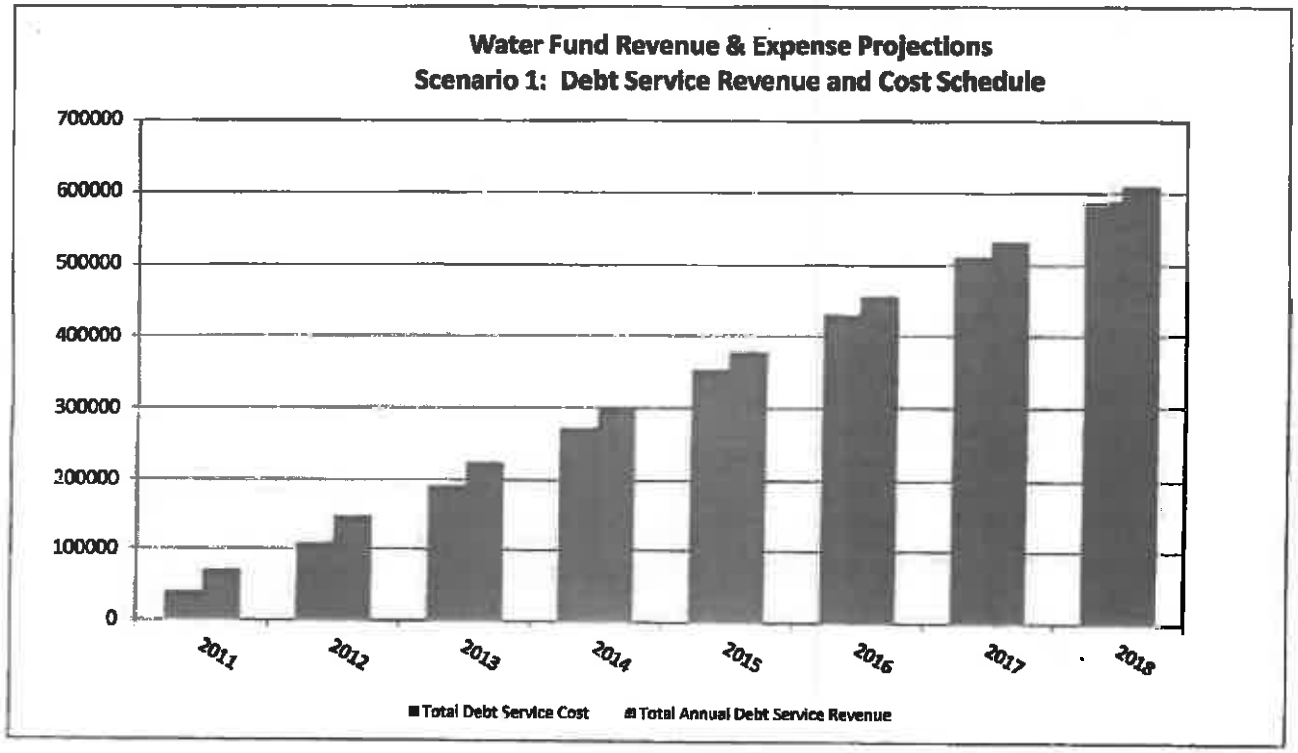
SCENARIO 1 WATER SALES REVENUE AND PURCHASE COSTS	FY 2013 Budget	FY 2014 Estimate	FY 2015 Estimate	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate
IAWC Cost	$280,000	$285,600	$291,310	$297,140	$303,080	$309,140
Usage Revenue	$279,700	$279,680	$279,680	$289,469	$299,600	$310,086
Differences Surplus/ (Deficit)	($300)	($5,920)	($11,630)	($17,460)	($23,400)	($29,460)
Cumulative Difference	$23,866	$17,946	$6,316	-$11,144	-$34,544	-$64,004



CITY OF PROSPECT HEIGHTS, ILLINOIS
2012 WATER RATE STUDY

APPENDIX G: SCENARIO 1 RATE INCREASE FIXED CHARGE ANALYSIS

DEBT SERVICE COST AND REVENUE	2011 Actual	FY 2013 Budget	FY 2014 Estimate	FY 2015 Estimate	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate
Principle	$0	$50,000	$50,000	$50,000	$50,000	$55,000	$55,000
Interest	$13,730	$33,510	$31,510	$29,510	$27,510	$25,510	$23,310
Debt Service Cost	$24,950	$0	$0	$0	$0	$0	$0
Total Debt Service Cost	$38,680	$83,510	$81,510	$79,510	$77,510	$80,510	$78,310
		20%	-2%	-2%	-3%	4%	-3%
Revenue	$76,500	$76,500	$77,085	$77,085	$77,085	$77,085	$77,085
Differences Surplus/ (Deficit)	$30,838	-$6,425	-$4,425	-$2,425	-$425	-$3,425	-$1,225
Cumulative Difference	$30,838	$32,125	$27,700	$25,275	$24,849	$21,424	$20,199
Cumulative Cost	$38,680	$191,562	$273,072	$352,582	$430,092	$510,602	$588,912
Cumulative Revenue	$69,518	$223,688	$300,772	$377,857	$454,941	$532,026	$609,111



CITY OF PROSPECT HEIGHTS, ILLINOIS
2012 WATER RATE STUDY

APPENDIX G: SCENARIO 1 RATE INCREASE FIXED CHARGE ANALYSIS

DESCRIPTION	FY 2013 Budget	FY 2014 Estimate	FY 2015 Estimate	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate
Infrastructure Capital Outlay						
Equipment	$25,000	$0	$0	$0	$0	$0
Annual Valve Replacement	$0	$4,000	$4,000	$4,000	$4,000	$4,000
Annual Meter Replacement	$0	$7,500	$7,500	$7,500	$7,500	$7,500
Annual Service Replacement	$0	$19,500	$19,500	$19,500	$19,500	$19,500
Annual Hydrant Replacement	$0	$10,000	$10,000	$10,000	$10,000	$10,000
Annual Water Main Replacement	$0	$115,000	$115,000	$115,000	$115,000	$115,000
Pump Station Rehabilitation	$0	$9,000	$9,000	$9,000	$9,000	$9,000
Leak Detection	$0	$0	$5,000	$0	$0	$0
Leak Repairs	$0	$0	$0	$0	$0	$0
Reservior Rehabilitation	$0	$10,000	$10,000	$0	$0	$0
Capital Expenses Subtotal	**$25,000**	**$175,000**	**$180,000**	**$165,000**	**$165,000**	**$165,000**
Infrastructure Maintenance Revenue	**$115,200**	**$121,883**	**$127,977**	**$134,376**	**$141,095**	**$148,149**
Differences Surplus/ (Deficit)	$90,200.00	-$53,117.18	-$52,023.03	-$30,624.19	-$23,905.40	-$16,850.67
Cumulative	$204,992.00	$151,874.82	$99,851.79	$69,227.60	$45,322.21	$28,471.54