**CITY COUNCIL MEETING**
**OF THE CITY OF CEDAR HILLS**
**Tuesday, March 15, 2016 7:00 p.m.**

Notice is hereby given that the City Council of the City of Cedar Hills, Utah, will hold a **City Council Meeting on Tuesday, March 15, 2016, beginning at 7:00 p.m.** at the Community Recreation Center, 10640 N Clubhouse Drive, Cedar Hills, Utah. This is a public meeting and anyone is invited to attend.

**COUNCIL MEETING**

1. Call to Order, Invocation given by C. Zappala and Pledge led by Chandler Goodwin
2. Approval of Meeting's Agenda
3. Public Comment: Time has been set aside for the public to express their ideas, concerns and comments (comments limited to 3 minutes per person with a total of 30 minutes for this item)

CONSENT AGENDA (Consent items are only those which require no further discussion or are routine in nature. All items on the Consent Agenda are adopted by a single motion)

4. Minutes from the February 16, 2016 City Council Meeting

CITY REPORTS AND BUSINESS

5. City Manager
6. Mayor and Council

SCHEDULED ITEMS

7. Discussion on FY 2017 Water & Sewer Fund, and the Excise Tax Debt Service Fund
8. Discussion on Temporary Zoning Ordinance and Completion of Timeline for General Plan Amendments to the Guidelines for the Design and Review of the Planned Commercial Development Projects, and Municipal Land Use Ordinances

ADJOURNMENT

9. Adjourn

Posted this 11th day of March, 2016 /s/ Colleen A. Mulvey, City Recorder

- Supporting documentation for this agenda is posted on the city's website at www.cedarhills.org.
- In accordance with the Americans with Disabilities Act, the City of Cedar Hills will make reasonable accommodations to participate in the meeting. Requests for assistance can be made by contacting the City Recorder at 801-785-9668 at least 48 hours in advance of the meeting.
- An Executive Session may be called to order pursuant to Utah State Code 54-4-204 & 54-4-205.
- The order of agenda items may change to accommodate the needs of the City Council, the staff, and the public.
- This meeting may be held electronically via telephone to permit one or more of the council members to participate.

# CITY OF CEDAR HILLS

| | |
|---|---|
| **TO:** | Mayor Gygi & City Council |
| **FROM:** | David Bunker, City Manager |
| **DATE:** | 3/15/2016 |

City Council
Memorandum

| | |
|---|---|
| **SUBJECT:** | FY 2016-2017 Budget Presentation |
| **APPLICANT PRESENTATION:** | |
| **STAFF PRESENTATION:** | Charl Louw, Finance Director |

**BACKGROUND AND FINDINGS:**

Presentation of the budget for FY 2016-2017 Water & Sewer fund, the Bowen Collins Utility Rate update, Excise Tax Bond Debt Service fund, and Governmental Immunity special revenue fund

**PREVIOUS LEGISLATIVE ACTION:**

**FISCAL IMPACT:**

**SUPPORTING DOCUMENTS:**

Preliminary budgets for the Water & Sewer fund, the Excise Tax Bond Debt Service fund, Governmental Immunity special revenue fund, the Bowen Collins utility rate study/update, and the related PowerPoint presentations.

**RECOMMENDATION:**

To review and comment on the preliminary budgets for FY2016-2017 Water & Sewer fund, the new Excise Tax Bond Debt Service fund, and new Governmental Immunity special revenue fund.

**MOTION:**

No motion necessary. This is a discussion item only.

Review Water & Sewer Fund Highlights

Bowen & Collins Utility Rate Update

Excise Tax Bond Debt Service Fund

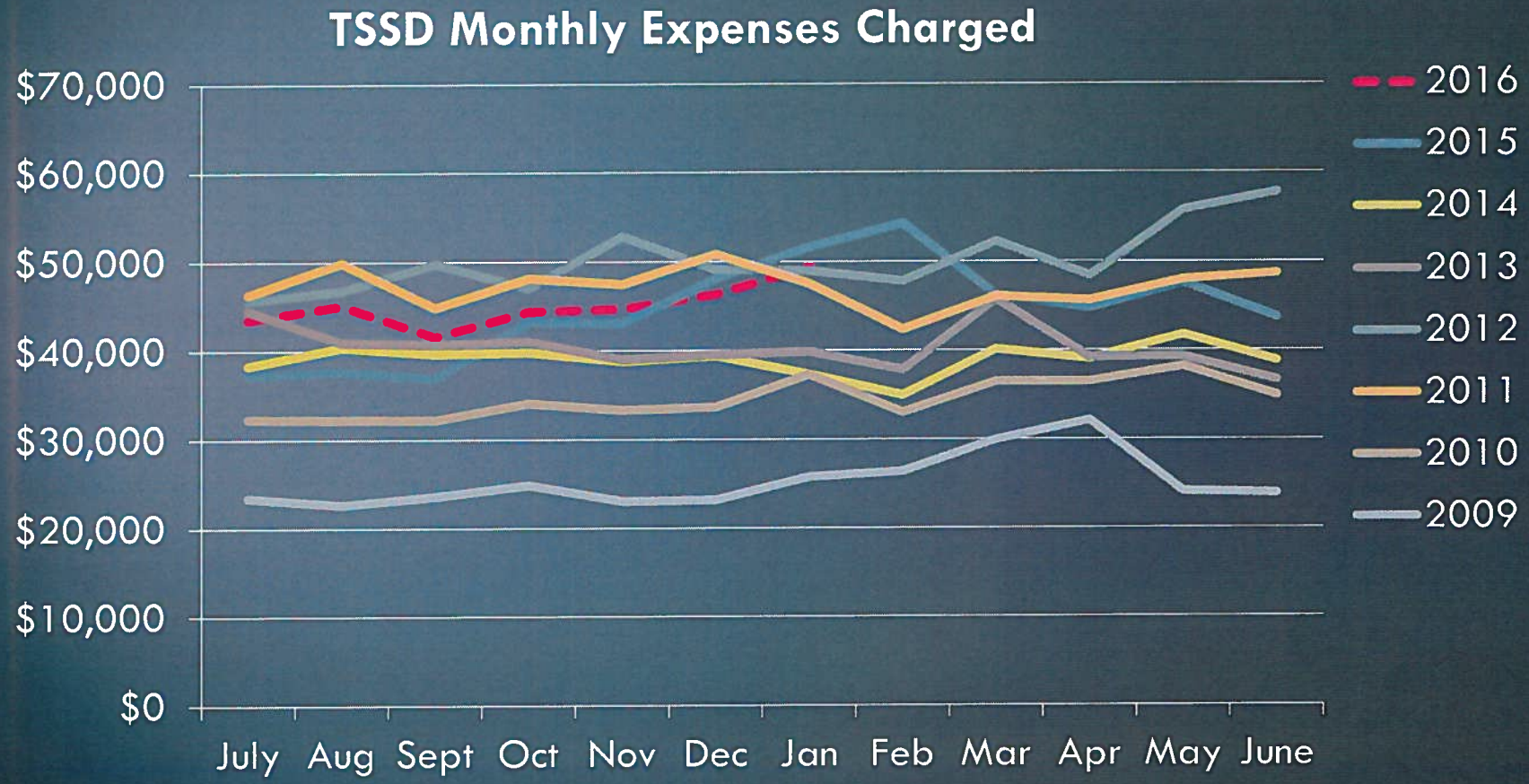
Governmental Immunity Fund

# FISCAL YEAR 2016-2017 Budget Presentation

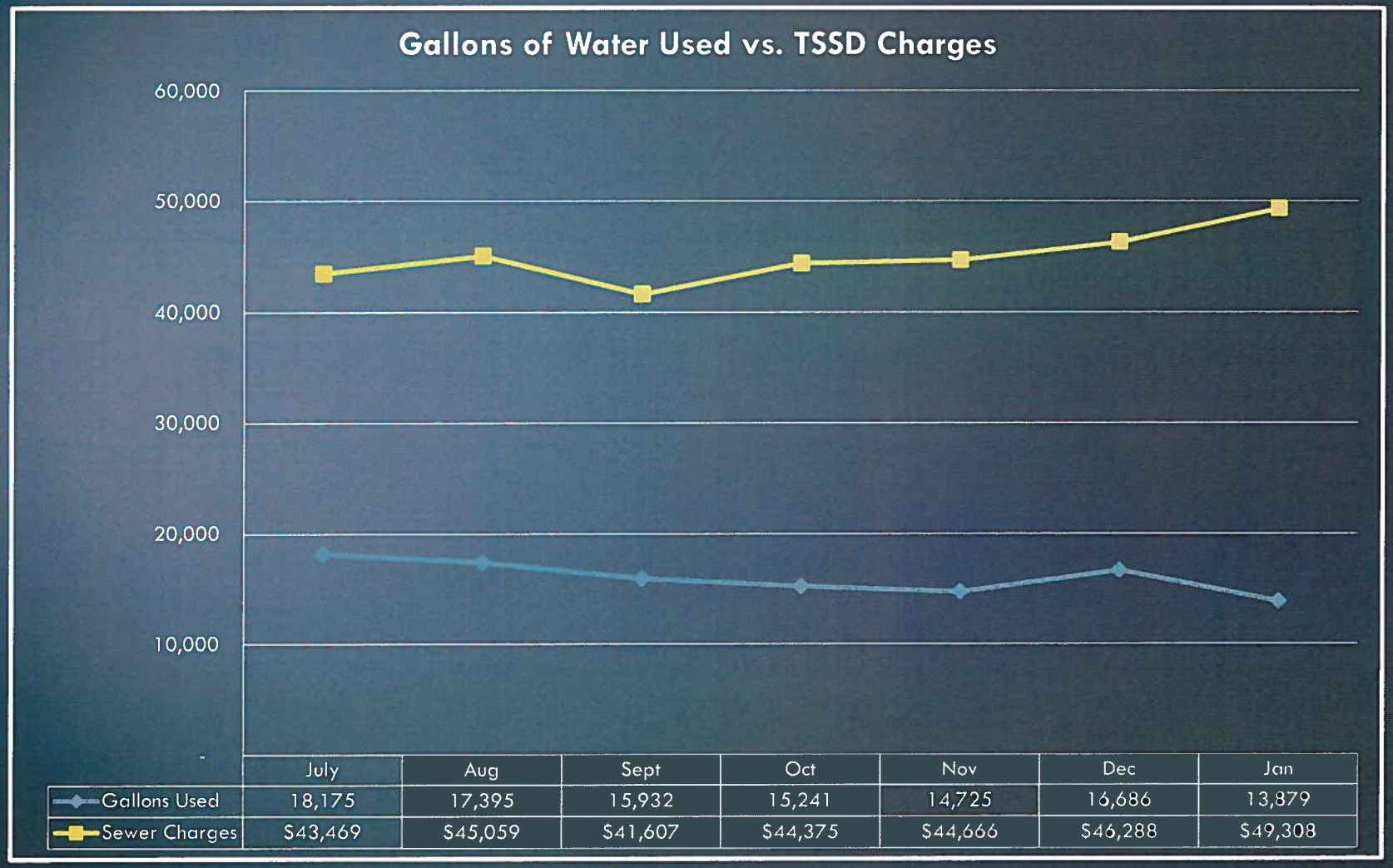
## Highlights for the Water & Sewer Fund's $3.1 Million Expenditures, Fiscal Year Ending June 30, 2015

- $711,032 wages and benefits
- $534,038 Timpanogos Special Service District (Sewer Charges)
- $399,000 principal payments on debt service
  - Extra principal payment of $22,000 on 2009 Utility Revenue Bonds
- $225,512 interest and trustee payments on debt service
- 2006 Utility Revenue Bonds refunded with issuance of 2014 Utility Revenue Bonds for a $402,777.04 net present value benefit
- $294,037 Rocky Mountain Power electrical costs
- $202,349 water purchases—Central Utah Water Conservancy District, Pleasant Grove Irrigation Company, American Fork
- $78,856 excise tax bonds debt service allocation (Public Works building)
- $68,376 motor pool charges
- $68,103 storm drain maintenance
- $66,075 professional services for well rehab, utility rate study, and financial software
- $59,140 meter installation and maintenance--Bridgestone

# 2009-2016 Monthly Sewer Expenses— Timpanogos Special Service District invoices



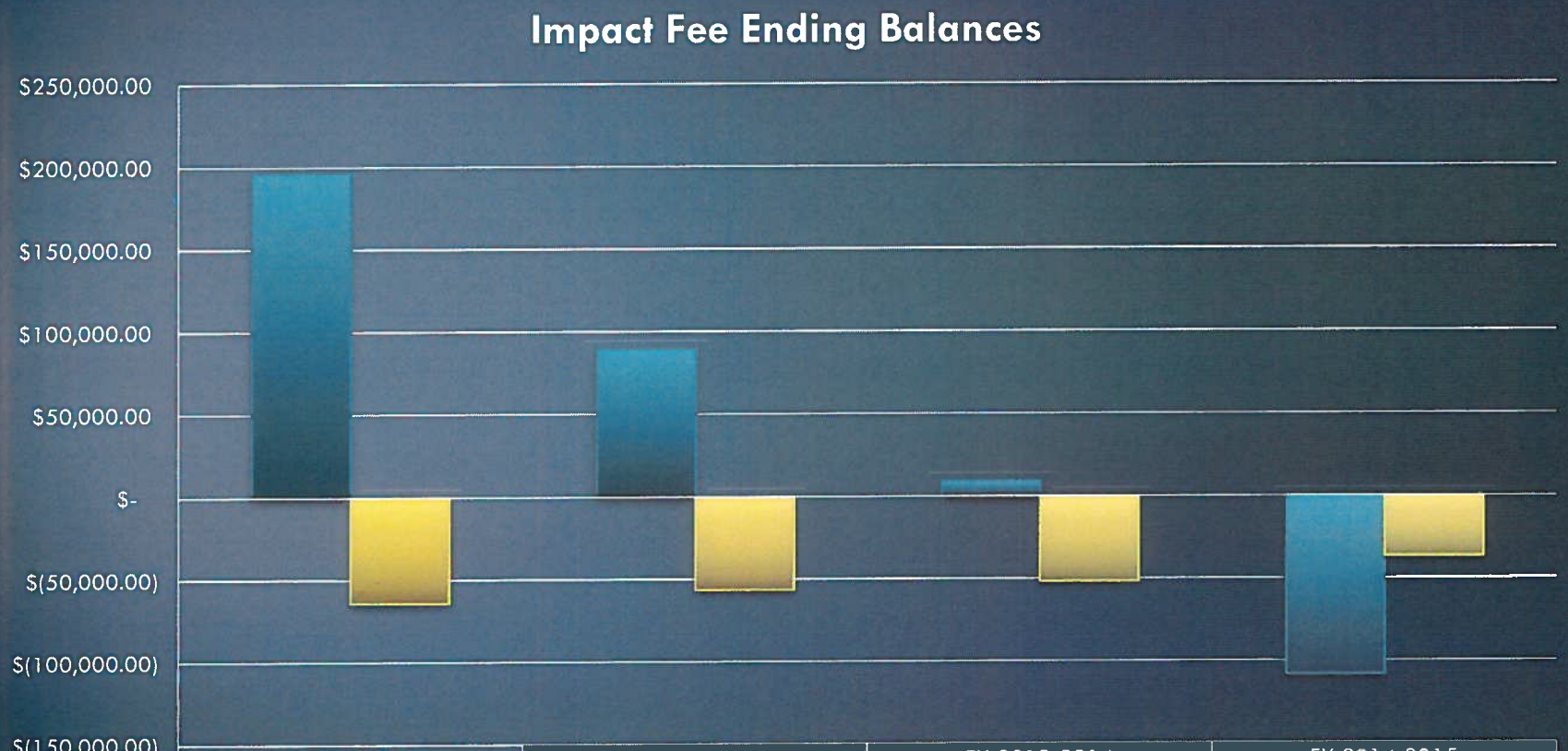
# FY 2015-2016 City Water Usage vs. Sewer Charges




| | July | Aug | Sept | Oct | Nov | Dec | Jan |
|---|---|---|---|---|---|---|---|
| Gallons Used | 18,175 | 17,395 | 15,932 | 15,241 | 14,725 | 16,686 | 13,879 |
| Sewer Charges | $43,469 | $45,059 | $41,607 | $44,375 | $44,666 | $46,288 | $49,308 |

# Fiscal Year 2014-2015
# Water & Sewer Impact Fee Collections

# Water & Sewer Impact Fee Trends




| | FY 2011-2012 | FY 2012-2013 | FY 2013-2014 | FY 2014-2015 |
|---|---|---|---|---|
| Water | $196,386.90 | $89,642.99 | $9,354.90 | $(107,916.37) |
| Sewer | $(63,720.34) | $(56,055.83) | $(51,211.16) | $(36,350.36) |

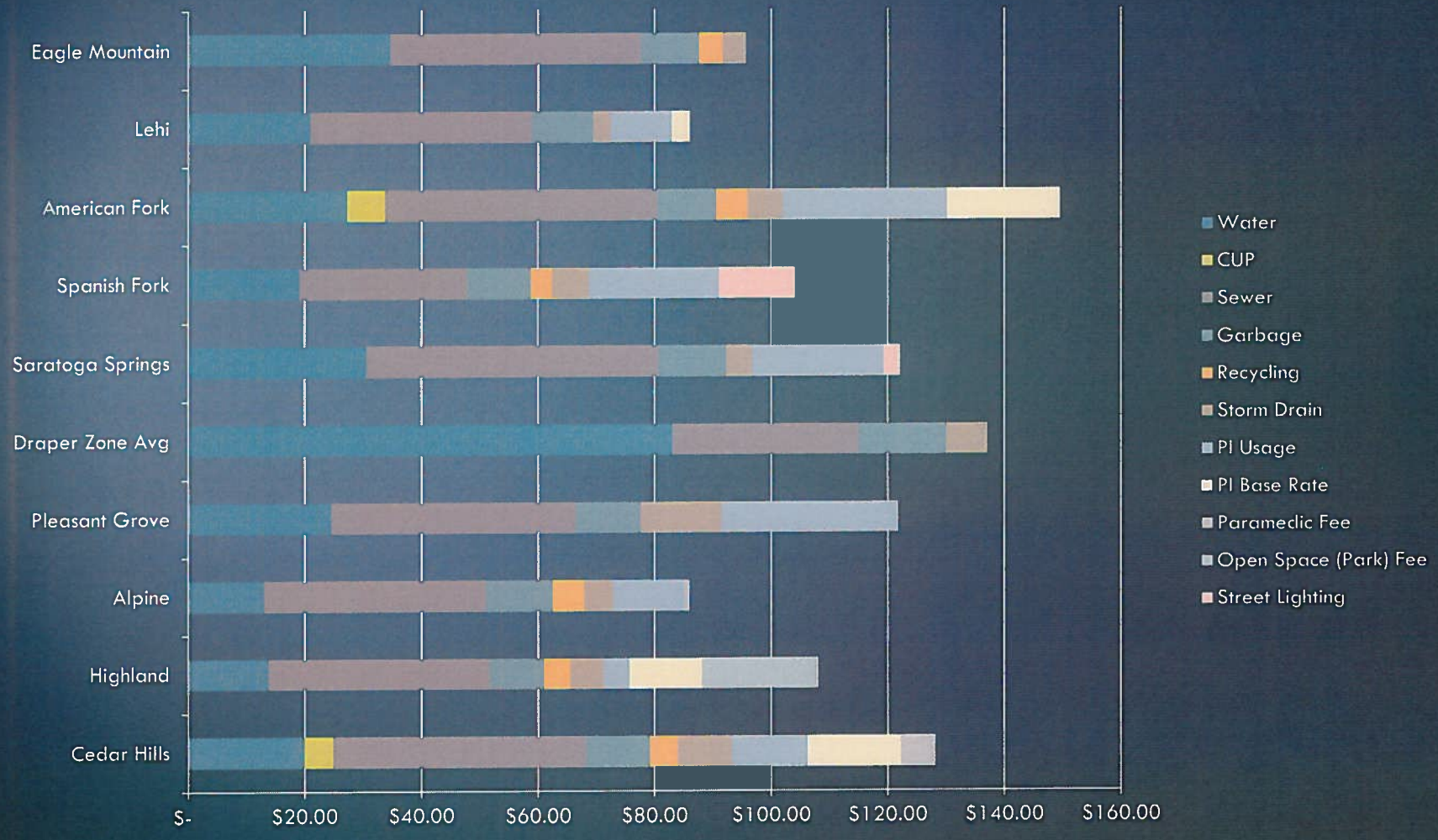
# Utilities

| Utility Rate Comparison | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2015-2016 rates | Cedar Hills | Highland | Alpine | Pleasant Grove | Draper Zone Avg | Saratoga Springs | Spanish Fork | American Fork | Lehi | Eagle Mountain |
| Water | $ 19.93 | $ 13.80 | $ 13.00 | $ 24.56 | $ 83.07 | $ 30.60 | 19.12 | $ 27.28 | $ 20.97 | $ 34.67 |
| CUP | $ 4.95 | $ - | | $ - | $ - | $ - | | $ 6.50 | $ - | $ - |
| Sewer | $ 43.42 | $ 37.88 | $ 38.04 | $ 41.88 | $ 32.00 | $ 50.08 | 28.75 | $ 46.75 | $ 38.00 | $ 43.00 |
| Garbage | $ 10.92 | $ 9.35 | $ 11.50 | $ 11.14 | $ 15.00 | $ 11.69 | 10.87 | $ 10.00 | $ 10.50 | $ 10.00 |
| Recycling | $ 4.79 | $ 4.45 | $ 5.35 | $ - | $ - | $ - | 3.61 | $ 5.40 | $ - | $ 4.00 |
| Storm Drain | $ 9.27 | $ 5.73 | $ 5.00 | $ 13.88 | $ 7.00 | $ 4.45 | 6.42 | $ 6.00 | $ 3.00 | $ 4.00 |
| PI Usage | $ 12.98 | $ 4.46 | $ 12.11 | $ 30.34 | $ - | $ 22.48 | 22.24 | $ 28.21 | $ 10.47 | $ - |
| PI Base Rate | $ 15.95 | $ 12.42 | | $ - | $ - | $ - | | $ 19.41 | $ 3.14 | $ - |
| Paramedic Fee | $ 5.95 | $ - | $ 1.00 | $ - | $ - | $ - | | $ - | $ - | $ - |
| Open Space (Park) Fee | $ - | $ 20.00 | | $ - | $ - | $ - | | $ - | $ - | |
| Street Lighting | $ - | $ - | | $ - | $ - | $ 2.83 | 13.1 | $ - | $ - | |
| | | | | | | $ - | | | | |
| TOTAL | $ 128.16 | $ 108.09 | $ 86.00 | $ 121.80 | $ 137.07 | $ 122.13 | $ 104.11 | $ 149.55 | $ 86.08 | $ 95.67 |

8,000 gallons monthly culinary

31,000 gallons 4 months pressurized irrigation

# Utility Bill Comparison



# Water & Sewer Fund Revenue & Expense Highlights

- Bowen Collins adjustments are necessary for the following reasons:
  - Pay as you go for necessary capital maintenance and improvements
  - Offset very low impact fees
  - Cover higher debt service than most municipalities in the area
- $36,475 51-37-110 Water fee increase
- $18,028 51-35-110 Storm drain increase
- $57,039 51-38-110 Sewer increase
- $30,588 51-XX-110, 111 wages and 51-XX-150 benefits new public works tech assistant
- Debt service coverage ratio is budgeted at approximately 1.52, and our bond covenants require a ratio of 1.25

# Recent Water Activities and Trends

- Culinary and secondary water's high demand on current wells and pumps continues to cause the system to wear down prematurely
- Hansen, Allen, Luce Inc. PI capacity study performed
- Water conservation committee recommendations presented at a town hall meeting
- Education of residents on water conservation committee findings through Facebook, e-mails, newsletters, city's website and signs
- Watering day restrictions with fines
- Harvey well rehabilitation required April 2015-February 2016
- Cottonwood well motor replacement February 2016-in process
- Bowen, Collins utility rate update proposes two alternatives in addition to status quo

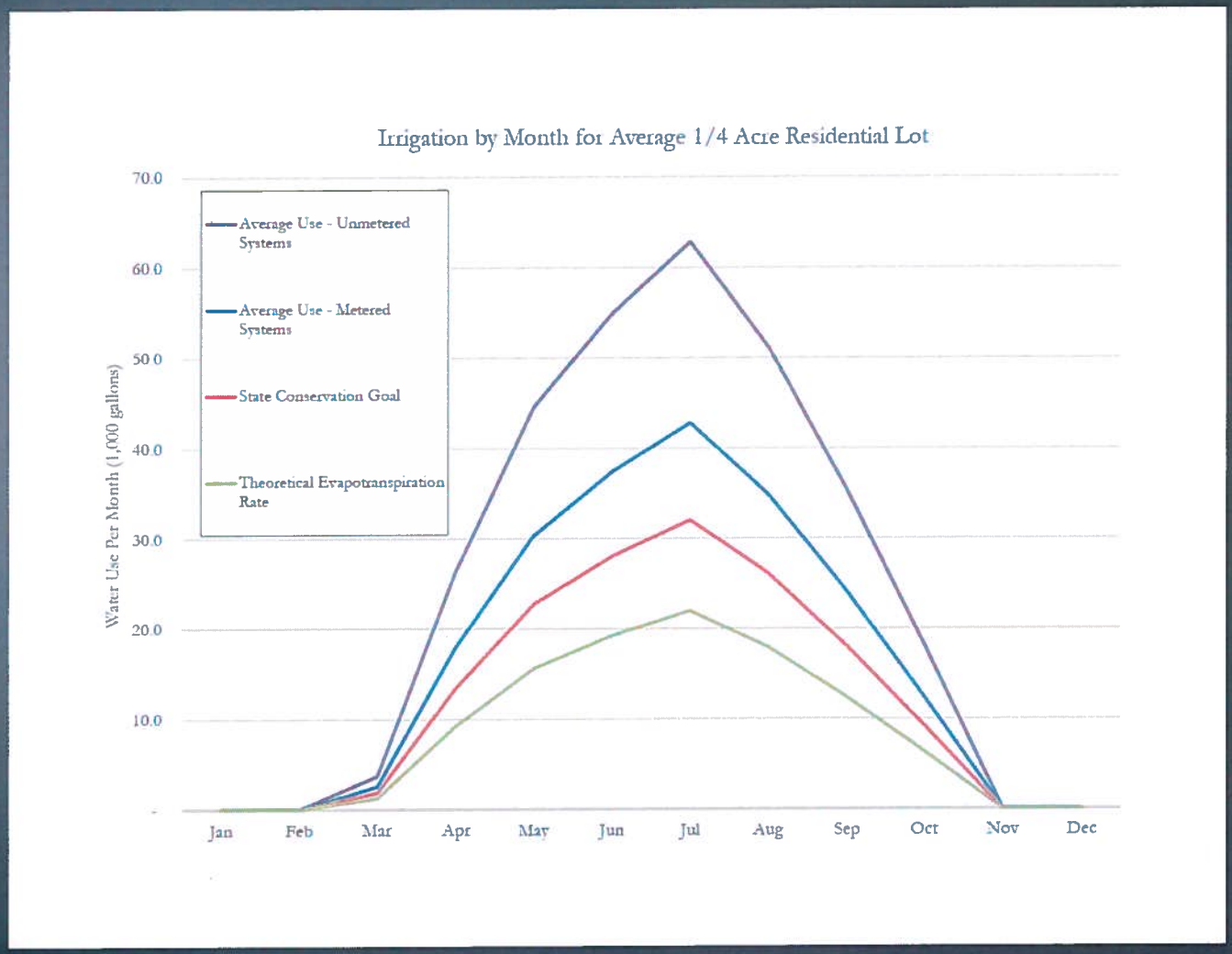
# Bowen, Collins, Associates Utility Rate Update

- In 2012 study, gradual rate increases were proposed from 2013-2018 to cover estimated operating & maintenance costs for rehabilitation or replacement of system components, plus capital improvements, and debt service
  - Culinary water rates increase 6.4% a year
  - Pressurized irrigation (PI) rates remain flat
  - Sewer rates increase 5.5% a year
  - Storm drain rates increase 6.5% a year
  - Total utility increase 3.7%-4.3%

# Bowen, Collins, Associates Utility Rate May 2015 Memo Draft

- Source for water savings--Bowen Collins Weber Basin Study, April 2011
- Unmetered secondary irrigation vs systems with metered culinary irrigation
- Unmetered system used 47% more water than metered or the inverse is a metered system used 32% less than unmetered
- 20% decrease on those lots metered, not charged, and customer receives a report of water use

# Monthly Water Usage Info for Typical Resident per Bowen, Collins & Associates



# Bowen, Collins, Associates Utility Rate May 2015 Memo Draft continued

- $1.5 million projected as current cost for secondary meters
- Assumptions
  - $300,000 starting FYE 2019 every 5 years in repairs without meters
  - $150,000 starting FYE 2019 every 10 years in repairs with meters
- Cost of Meters (3 funding options) or No Meters
- Alternative 1 No PI Meters--$1.2 million
- Alternative 2 Install PI Meters Immediately, Pay with 5-year bond--$581,340
- Alternative 3 install PI Meters Immediately, Pay with 10-year bond--$705,425
- Install PI Meters in Future, Pay with Cash Reserves--$1.6 Million

## CONCLUSIONS

Figure 1 shows the net cumulative costs associated with debt service, capital improvements, and O&M costs for each of the four alternatives evaluated in this memorandum.

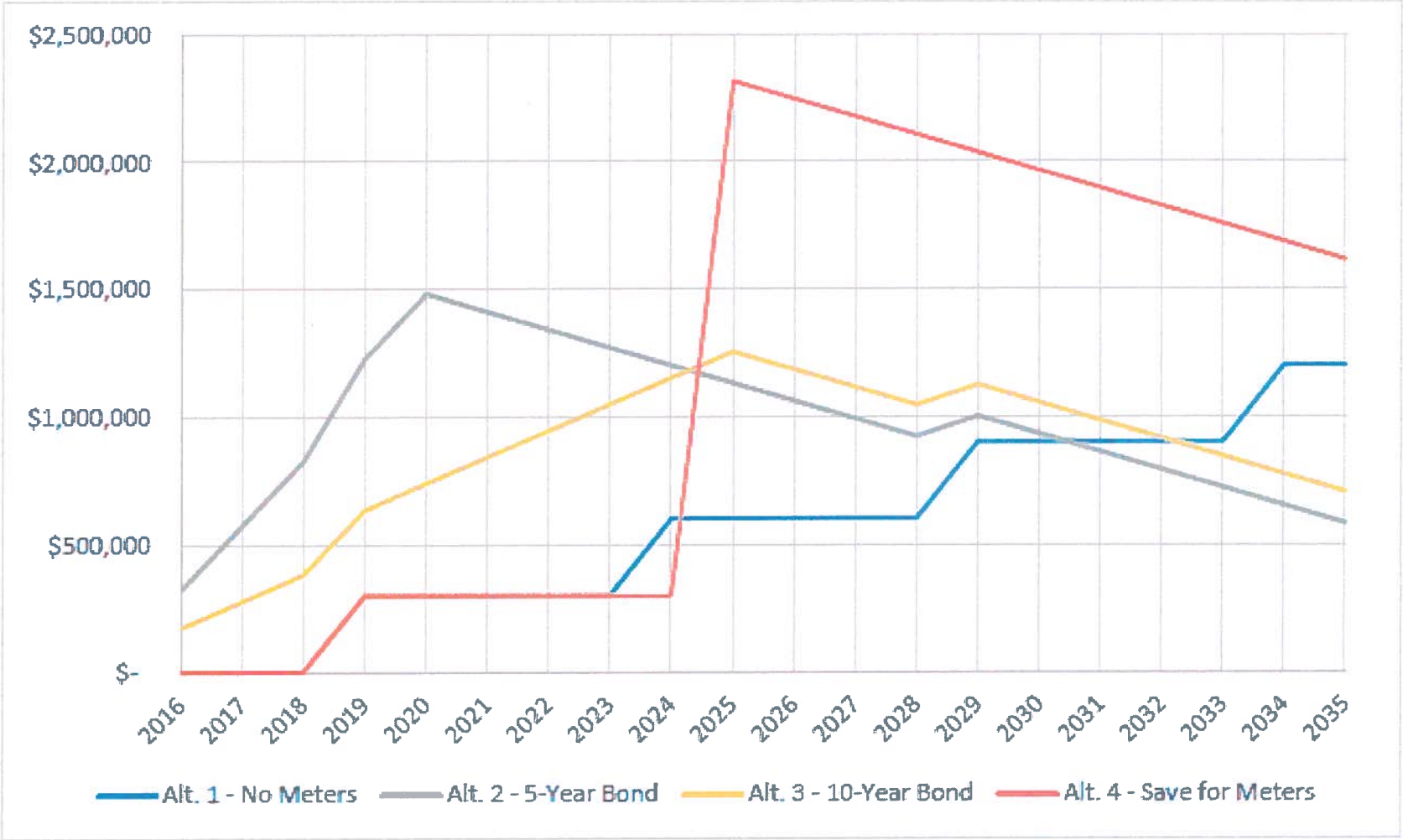



***Figure 1***
***Net Cost of PI Metering Project Alternatives***

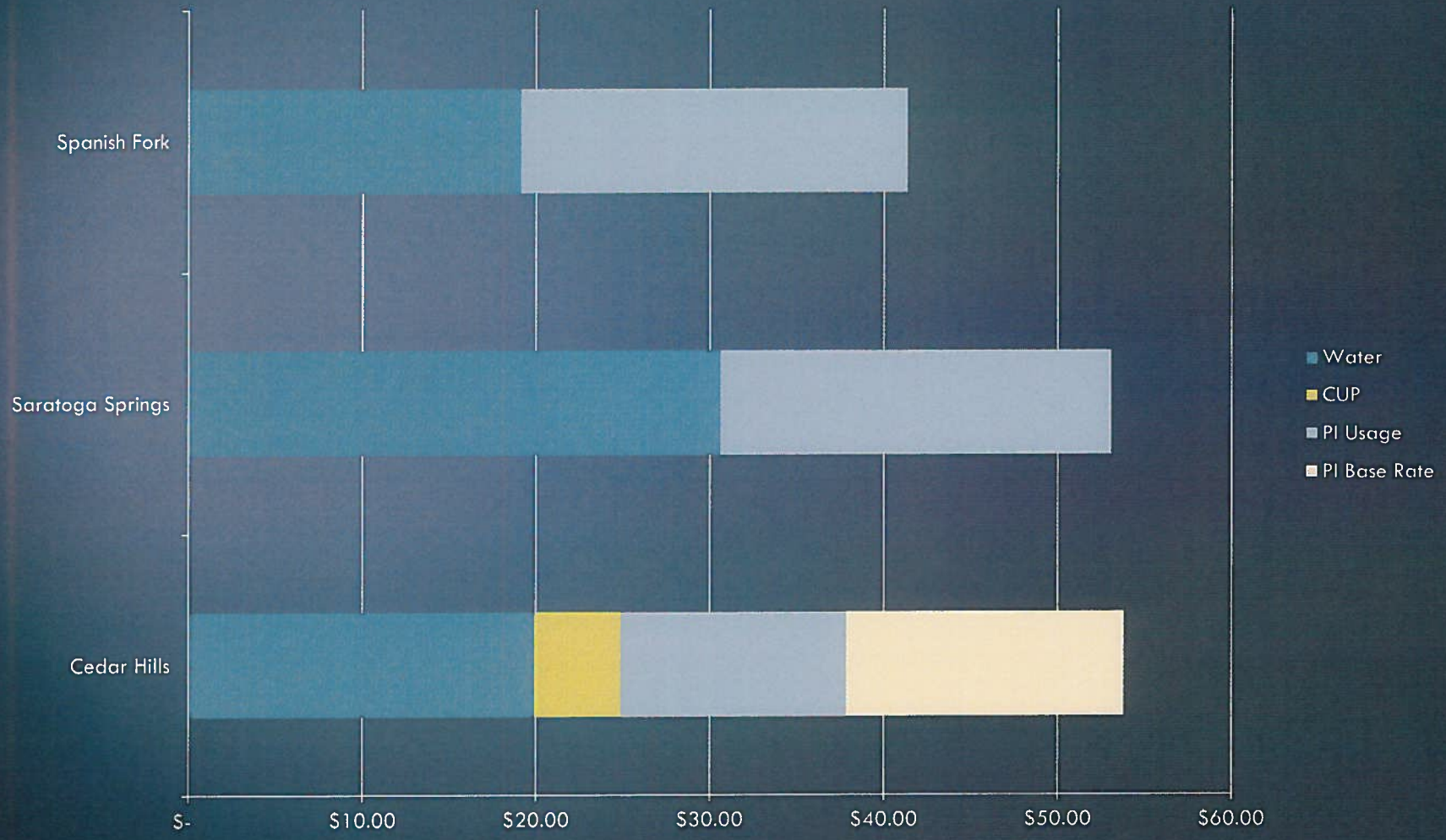
## Table 1
## Fiscal Total (P+I)

| Fiscal Year Ending | 5-Year Bond (2.0%) | 10-Year Bond (2.5%) |
|---|---|---|
| 2016 | $322,380 | $173,975 |
| 2017 | $322,540 | $173,575 |
| 2018 | $321,580 | $174,100 |
| 2019 | $322,520 | $173,525 |
| 2020 | $322,320 | $173,875 |
| 2021 | - | $173,125 |
| 2022 | - | $173,300 |
| 2023 | - | $173,375 |
| 2024 | - | $173,350 |
| 2025 | - | $173,225 |

# Bowen, Collins, Associates Utility Rate Technical Memorandum 1-20-2016

- Recommended storm rate increases decline from 6.5% to 6.0% 2022-2025
- Recommended sewer rate increases stays at 5.5% through 2025
- Recommended pressurized irrigation rate stays flat through 2025
- Recommended water rate update depends on alternative chosen
  - Alternative 1—Status quo, no secondary meters and no additional wells
    - Water fee increases 6.4% annually through 2025
  - Alternative 2—New secondary meters $1.5 million w/five-year bonds at 2%
    - $900,000 used from unrestricted net position and $600,000 from bonds
    - Water fee increase the same until year 5 8.0% decrease
    - Costs city approximately $230,000 less than alternative 3 annually
      - 33% less demand
      - $70,000 in power savings per year
      - $45,000 in pump and equipment cost savings per year
  - Alternative 3—Additional well and updates to pumps, pipelines $3.5 million
    - Water fee increase additional 8.0% first year, and 5.8 % second year

# Water Utility Rates Comparison For Metered Cities



# Bowen, Collins, Associates Utility Rate Technical Memorandum 1-20-2016 continued

- Timing Changes
  - Old Town retention project moved from FYE 2016 to FYE 2020 $400,000, PG irrigation may change timing and scope
  - Canyon road sewer moved from FYE 2014 to FYE 2021 $400,000
  - 4000 West sewer moved from FYE 2016 to FYE 2020 $250,000
  - 4600 West sewer moved from FYE 2018 to FYE 2020 $400,000*
    - *Projects may be adjusted based on timing of road projects
  - Migratory meter read project to continue through FYE 2017

# Bowen, Collins, Associates Utility Rate Update continued

- Other projects
  - Harvey well chlorination station FYE 2020 $80,000
  - Cottonwood well chlorination station FYE 2020 $60,000
  - Cedar Hills drive sewer upgrade FYE 2020 $400,000
  - Sewer outfall line extension FYE 2021 $500,000**
    - **Following the SECAP study, sewer projects timing will be refined
- Additional capital improvements from 2012
  - New Jet/Vacuum truck for FYE 2018 $300,000
  - Storm drain improvements for golf maintenance building for FYE 2016 $100,000
  - Irrigation pumps at Pond 10 and 12 will be adjusted, if necessary
  - Harvey well replacement FYE 2025

# Purpose of General fund and Special Revenue Funds GASB Statement 54, paragraphs 29-30

- The **general fund** should be used to account for and report all financial resources not accounted for and reported in another fund.
- **Special revenue funds** are used to account for and report the proceeds of specific revenue sources that are restricted or committed to expenditure for specified purposes **other than debt service or capital projects.**

## Purpose of Capital Projects and Debt Service Funds GASB Statement 54, paragraphs 33-34

- **Capital projects funds** are used to account for and report financial resources that are restricted, committed, or assigned to expenditure for capital outlays, including the acquisition or construction of capital facilities and other capital assets. Capital projects funds exclude those types of capital-related outflows financed by proprietary funds.
- **Debt service funds** are used to account for and report financial resources that are restricted, committed, or assigned to expenditure for principal and interest. Debt service funds should be used to report resources if legally mandated. Financial resources that are being accumulated for principal and interest maturing in future years also should be reported in debt service funds.

# Move Debt Service from the Capital Projects Fund

- Excise Tax Debt Service Fund
  - Move debt service related to Public Works building from the capital projects fund to a debt service fund for budget purposes
  - Combine debt service fund with general fund for financial reporting purposes

# Budgeting for High Litigation Costs

- Alternative for budgeting volatile transactions like litigation and tort claims, which may allow the general fund to have more consistent legal expenses year to year
- Governmental Immunity Special Revenue Fund
  - Create a risk insurance fund that funds and tracks litigation and tort claims
  - Maximum tax levy rate allowed is .0001 or $42,982 in the current fiscal year
  - May require truth-in-taxation, if combined aggregate rate exceeds certified tax rate
- Budget as a special revenue fund to manage and combine with general fund for reporting purposes
- Only increase property taxes if significant litigation expenditures are expected the next fiscal year, and/or current year litigation drains general fund reserves

# Property Tax Rates and Categories Allowed by Cities if Conditions are Met

- General Purposes 10-6-133
  - 010 0.007000 $3,008,745
- Interest & Sinking 11-1-1
  - 020 Sufficient
- City Library 9-7-401
  - 030 0.001000 $429,821
- Tort Liability/Governmental Immunity 63G-7-704(2)(c)
  - 050 0.000100 $42,982

Bowen Collins
& Associates, Inc.
CONSULTING ENGINEERS

# TECHNICAL MEMORANDUM

| | |
|---|---|
| **TO:** | Cedar Hills City |
| **COPIES:** | File |
| **FROM:** | Keith Larson |
| **DATE:** | January 20, 2016 |
| **SUBJECT:** | 2016 Utility Rate Review |
| **JOB NO.:** | 127-15-02 |

## INTRODUCTION

The City of Cedar Hills (City) has retained Bowen Collins & Associates (BC&A) to perform an update to the Utility Rate Study that was completed in 2012 for the City's water, pressurized irrigation, sewer, and storm drain utilities. The objective of the rate study update is to update the City's existing rate models that were developed in 2012 to reflect historic data gathered over the past four years. This will then allow recommended utility rates to be calculated in accordance with accepted industry standards. Prior to performing any detailed calculation of rates, the City requested a cursory review of the overall status of each utility fund. The purpose of this memorandum is to summarize the results of this review.

## UTILITY FUND STATUS

Historic and projected expenditures for the City utility funds are shown in Figures 1 through 3 as follows:

- Figure 1 – Sewer
- Figure 2 – Storm Drain
- Figure 3 – Water, Alternative 1 – Current Status

Tables containing the values used to generate these figures are contained in Appendix A. It will be noted that the figure for water includes both culinary water and pressure irrigation, consistent with the City's current budgeting practice. It will also be noted that the figure for water is labeled "Alternative 1 – Current Status". This represents conditions in the water system as they exist today. Additional alternatives for the water system will be discussed later in this memorandum.

Included in the figures are projected expenditures and revenues for each of the utilities.

### Expenditures

Future expenditures are shown as stacked bars in the figures. Expenditures can be grouped into three categories:

- **Operation and Maintenance Expenditures –** These are the annual costs of running the system. They include items such as salary and benefit costs for City staff, equipment and supplies, power costs, and all other costs associated with doing business throughout the year.

Operation and maintenance (O&M) costs are relatively constant from year to year and tend to follow the rate of inflation. Some of the largest O&M costs are utility costs, supplementary water purchase costs for the secondary irrigation system, and sewage treatment costs from the Timpanogos Special Services District (TSSD).

- **Debt Service Expenditures –** These are the costs paid toward bonds taken out by the City in previous years. These costs are easily predictable because they are tied to set payment schedules for each bond. The City issued two bonds to fund the recently implemented pressurized irrigation system. These PI bonds constitute the largest debt service expenditures for the City.
- **Capital Improvement Expenditures –** These are costs for constructing new facilities within the City. This can include completely new facilities or replacement of existing facilities. Capital improvement expenditures are usually the most volatile of expenditure categories. Because O&M and debt service costs are basically fixed, budgets are usually balanced by increasing or decreasing capital improvement expenditures as necessary. While some fluctuation in the funding of capital improvements is acceptable from year to year, the overall health of each utility will depend on adequately funding this portion of the budget over the long term.

### Revenues

In addition to historic and projected expenditures, each figure also includes information regarding revenue associated with each utility. Three different types of revenue information are provided:

1. **Projected revenue based on recommendations contained in the 2012 Utility Rate Study –** In the 2012 Utility Rate Study, BC&A identified recommended rate increases for each of the City's utilities. Recommended increases by utility are as summarized in Table 1.

**Table 1**
**Recommended Annual Rate Increases from the 2012 Utility Rate Study**

| Year | Culinary Water Percent Increase | Sewer Percent Increase | Storm Drain Percent Increase | Total Utility Increase |
|---|---|---|---|---|
| 2013 | 6.4% | 5.5% | 6.5% | 3.7% |
| 2014 | 6.4% | 5.5% | 6.5% | 3.7% |
| 2015 | 6.4% | 5.5% | 6.5% | 3.8% |
| 2016 | 6.4% | 5.5% | 6.5% | 3.9% |
| 2017 | 6.4% | 5.5% | 6.5% | 4.0% |
| 2018 | 6.4% | 5.5% | 6.5% | 4.1% |
| 2019 | 6.4% | 5.5% | 6.5% | 4.1% |
| 2020 | 6.4% | 5.5% | 6.5% | 4.2% |
| 2021 | 6.4% | 5.5% | 6.5% | 4.3% |
| 2022 | 6.4% | 5.5% | 6.5% | 4.3% |

*Note: No increase recommended for pressurized irrigation

Each figure includes an estimate of projected revenue based on the recommendations above. Because this analysis has been extended to 2025, it has been assumed that increases in 2023, 2024, and 2025 will continue at the same rates recommended for 2022 (6.4%, 5.5%, and

6.5% for water, sewer, and storm, respectively, with no increase for pressure irrigation). It should be noted that these rate increases do not necessarily represent BC&A's current recommendation for future rate increases. They only represent the 2012 recommendation as a starting point for discussion purposes.

2. **Actual income based on historical records** – For the years 2012 through 2015, actual income as recorded in the City's past financial statements has been shown. This has been done as a check of the accuracy of the 2012 rate models. In general, it appears that the 2012 rate models are accurately projecting revenues. Storm drain projections are almost exactly equal to actual income values. Water and sewer projections are also quite close to actual income values in most years. In 2015, actual income appears to be slightly greater than projected revenues for both water and sewer. This appears to be the result of slightly higher than average water use during the winter months.
3. **Recommended level of funding based on long-term system needs** – As with most things, each component of a water, sewer, and storm drain system has a finite service life. As such, it is necessary to continually budget money for the rehabilitation or replacement of these system components. If adequate funds are not set aside for regular system renewal, the system will fall into disrepair and be incapable of providing the level of service customers in the City expect. To maintain the utility in good operating condition, it is recommended that the City's annual investment into the system (including debt service costs and capital improvements) be approximately equal to the replacement value of the system divided by its estimated service life[1]. Based on this approach, a recommended system investment budget was calculated for each utility and was added to the City's projected O&M costs to estimate a recommended long-term level of funding based on system needs. As can been seen in the figures, the City's historic level of investment in its utilities is about right for water, but falls significantly short of recommended levels for storm drain and sewer. Increases as identified in the 2012 Utility Rate Study were designed to keep water investment at a healthy level while closing the gap in storm drain and sewer.

### Changes from 2012

Each of the figures presented have been updated from the information contained in the 2012 Utility Rate Study to reflect new information received over the last several years. Significant changes from the previous report include the following:

- **New Jet/Vac Truck** – City operations personnel have identified the need for a new jet/vac truck in the next few years. A new truck has been budgeted for FYE 2018 with costs assigned 40%, 40%, and 20% to storm drain, sewer, and water respectively.
- **Project Timing** – Several changes have been made to projects in the capital facilities plan based on new information collected by City personnel. This includes:
    - Old Town Retention Project delayed from FYE 2016 to FYE 2020.
    - Storm Drain Maintenance Building accelerated from outside the planning window to FYE 2016
    - Canyon Road Sewer delayed from FYE 2014 to FYE 2021
    - 4000 West Sewer delayed from FYE 2016 to FYE 2020
    - 4600 West Sewer delayed from FYE 2018 to FYE 2020

[1] For additional discussion of system investment, see the 2012 Utility Rate Study.

  - Irrigation Pumps at Pond 10 and 12 accelerated from outside the planning window to FYE 2019
  - Migratory Meter Read Project delayed from FYE 2016 to FYE 2017
  - Harvey Well Replacement accelerated from outside the planning window to FYE 2025
- **Misc. Maintenance Budget Modifications** – A few other minor modifications were made to maintenance budgets to reflect actual recent expenditures.

## CONCLUSIONS AND RECOMMENDATIONS – SEWER AND STORM DRAIN

Several conclusions can be made from Figures 1 and 2:

- Even with the increases recommended in the 2012 Utility Rate Study, storm drain revenues will fall short of projected expenditures for the next several years. Fortunately, the shortfall is modest in most years and can likely be covered from the City's existing reserve fund. Surplus funds in later years can then be used to replenish the reserve fund.
- With the increases recommended in the 2012 Utility Rate Study, sewer revenues will be more than projected expenditures over the next several years. However, surplus revenue in these years will be needed to cover deficits projected for FYE 2020 through 2022.
- Both storm drain and sewer revenues are appreciably below recommended long-term funding levels.
- With the increases recommended in the 2012 Utility Rate Study, sewer revenues will nearly reach recommended long-term funding levels by the end of the 10-year planning window. Storm drain revenues will actually slightly exceed the long-term funding levels at the end of the 10-year planning window.

Based on these observations, it is recommended that the City continue to gradually increase storm and sewer rates as summarized in Table 2. This schedule basically follows the plan originally identified in the 2012 study, with a small modification to the storm drain numbers in later years.

**Table 1**
**Recommended Rate Increases –Sewer and Storm Drain**

| Year | Sewer Percent Increase | Storm Drain Percent Increase |
|---|---|---|
| 2017 | 5.5% | 6.5% |
| 2018 | 5.5% | 6.5% |
| 2019 | 5.5% | 6.5% |
| 2020 | 5.5% | 6.5% |
| 2021 | 5.5% | 6.5% |
| 2022 | 5.5% | 6.0% |
| 2023 | 5.5% | 6.0% |
| 2024 | 5.5% | 6.0% |
| 2025 | 5.5% | 6.0% |

## CONCLUSIONS AND RECOMMENDATIONS – WATER

Several conclusions can be made from Figure 3:

- With the increases recommended in the 2012 Utility Rate Study, water revenues will closely follow the recommended level of long-term funding throughout the 10-year planning window.
- Expected revenues in the water system will be both above and below projected expenditures. Over the length of the full planning window, however, revenue and expenditures are expected to be about equal.

Based on these observations, it appears that the City can stick with the 2012 Utility Rate Study recommendations and meet its financial needs. Before making this decision, however, it is important to consider a few other issues regarding water system reliability.

As has been identified in previous analyses, the City's secondary water system is vulnerable to disruption during periods of peak demand. Despite the City's best efforts to educate and encourage its residents regarding the prudent use of irrigation water, summertime water use is still significantly higher than required to meet the actual water needs of landscape in the City. The result of this high water use is a secondary system that is running at the very edge of its limits. While City staff have been able to successfully manage these demands for the past several years, running the system at the edge of capacity has several negative effects:

- **Decreased System Performance** – For the most part, the City has been able to deliver secondary water over the last several years at adequate pressures to meet customer needs. However, many pipelines are already operating at velocities above recommended levels. Even though future growth in the City is modest, any growth in the system has the potential to result in low pressure problems in some parts of the City's system.
- **Increased System Wear** – Another negative effect of operating the system at the edge of its capacity is increased system wear. Wear on pump bearings is proportional to the square of pump speed. This means doubling the pump speed results in four times the wear on the pump bearings. Operating at higher velocities can also erode pipeline linings and weaken pipe walls. Use of this system in this manner is analogous to operating a vehicle at maximum speed. Although it may be able to withstand the higher speed for a period of time, operation at the edge of capacity will result in more frequent and costly system maintenance.
- **Potential Source Failure** – The City has successfully met demands for the past several years through heavy use of its Cottonwood Well. This is a dual purpose well that can provide water to both the City's culinary and secondary systems. If this well were to fail during the peak summer months (or if the City's other major culinary source, the Harvey Well, were to fail), the City would be faced with a major supply shortage. While some well failure issues can be resolved in a short period of time, other major failures could take weeks or months to resolve. During this period, the City would be able to meet culinary demands, but would face severe secondary water restrictions. It is expected that widespread damage to existing landscapes could result from such an event.

With these issues in mind, BC&A considered two additional alternatives for funding of the water system.

### Alternative 2, New Secondary Meters

The most straight forward way to avoid operating the system at the edge of capacity is to decrease system demand. This was the topic of a previous memorandum prepared by BC&A dated May 8, 2015. In that memo, BC&A looked at a number of alternatives for funding construction of pressure irrigation meters and potential cost savings associated with construction of the meters. Major highlights from the memo are as follows:

- The estimated cost of installing meters is $1.5 million.
- The most cost effective method for funding installation of these meters would be to use available reserves on hand (approximately $900,000) and then bond for the remaining amount in a 5-year bond.
- Installation of secondary water meters is expected to reduce system demands by at least 33%. This becomes saved water that can be made available and used for other purposes.
- Reduced demand is expected to have significant cost savings for the City. Expected savings include $70,000/year in power costs and $45,000/year in pump and equipment replacement costs.

Funding of the water system under this alternative is shown in Figure 4. Based on the figure, it appears that this alternative can be accomplished using the same rate increases identified for Alternative 1 (Current Status) for the next five years. After the bond on the meters is paid off, the City would be able to reduce its secondary rates by 8% in association with the costs savings associated with the reduced demand.

### Alternative 3, New Secondary Facilities

The other obvious approach to avoid operating the system at the edge of capacity is to build additional redundancy and capacity into the existing system. Under this alternative, demands would not be decreased through the use of meters but new facilities would be constructed to meet the existing level of demand. The goal of these improvements would be to provide approximately the same level of system performance and reliability as would be obtained in Alternative 2. Required improvements associated with this alternative would include:

- Installation of an additional redundant well at a cost of $1.5 million.
- Replacement of undersized pipelines and pump stations in the system at a total cost of $2,000,000. This includes replacement of about 3 miles of pipeline at various locations throughout the City.

Funding of the water system under this alternative is shown in Figure 5. Based on the figure, it is clear that some additional rate increases will be required to accomplish the desired improvements. Even with bonding and pulling from available cash reserves, this alternative would require an immediate increase in secondary rates of 8% and another increase of 5.8% the following year. These increases would need to remain in place moving forward.

### Summary of Recommended Water Increases

Based on the analysis above, recommended increases for water system rates are as follows.

**Table 2**
**Recommended Rate Increases – Water and Pressure Irrigation**

| Year | Water Percent Increase (All Alts.) | PI Percent Increase (Alt. 1) | PI Percent Increase (Alt. 2) | PI Percent Increase (Alt. 3) |
|---|---|---|---|---|
| 2017 | 6.4% | 0% | 0% | 8.0% |
| 2018 | 6.4% | 0% | 0% | 5.8% |
| 2019 | 6.4% | 0% | 0% | 0% |
| 2020 | 6.4% | 0% | 0% | 0% |
| 2021 | 6.4% | 0% | -8.0% | 0% |
| 2022 | 6.4% | 0% | 0% | 0% |
| 2023 | 6.4% | 0% | 0% | 0% |
| 2024 | 6.4% | 0% | 0% | 0% |
| 2025 | 6.4% | 0% | 0% | 0% |

## FINAL RECOMMENDATIONS

Based on this analysis, BC&A would offer the following final recommendations:

- Continue to gradually increase sewer and storm drain rates as identified in the 2012 Rate Study and as summarized in Table 1.
- Independent of the City's decision of pressure irrigation alternatives, it is recommended that the City continue to gradually increase culinary water rates as identified in the 2012 Rate Study and as summarized in Table 2.
- Because of the consequences associated with a possible system failure during the summer months, BC&A would not recommend Alternative 1. It is strongly recommended that the City pursue one of the other two alternatives to increase system performance and reliability.
- From a cost perspective, Alternative 2 – New Secondary Meters is the most cost effective approach. At the end of the 10-year planning window, it will cost the City approximately $230,000 less per year than Alternative 3. This equates to a savings of approximately $87/year for the average customer.
- Another advantage of Alternative 2 is that it provides for the most efficient use of the City's water resources. While the City has adequate water to meet projected needs, unforeseen issues could affect its supply in the future (groundwater contamination, increased drought, etc.). Reducing demand will allow for the most flexible use of the City's water into the future.
- Alternative 2 may also have an advantage in terms of potential future regulatory requirements. A recent report released by the State of Utah's Auditor General regarding Utah's water needs recommends that the State Legislature consider requiring metering of secondary water as a policy that will encourage efficient water use. Many states in the region already have this requirement. Although text of the bill is not yet available for review, there are reports that a bill regarding metering of water use will actually be discussed in this year's legislative session.
- Although it has the disadvantages highlighted above, Alternative 3 is a feasible alternative for meeting the future secondary water needs of the City's customers and could be selected if the

City does not wish to meter its secondary system (and assuming metering does not become a legal requirement).

- Whichever alternative it decides to pursue, it is recommended that the City proceed with one of these alternatives as soon as possible to minimize its exposure to the consequences of potential system failure under current conditions.

**Figure 1**
**10-Year Revenue and Expenditures - Sewer**

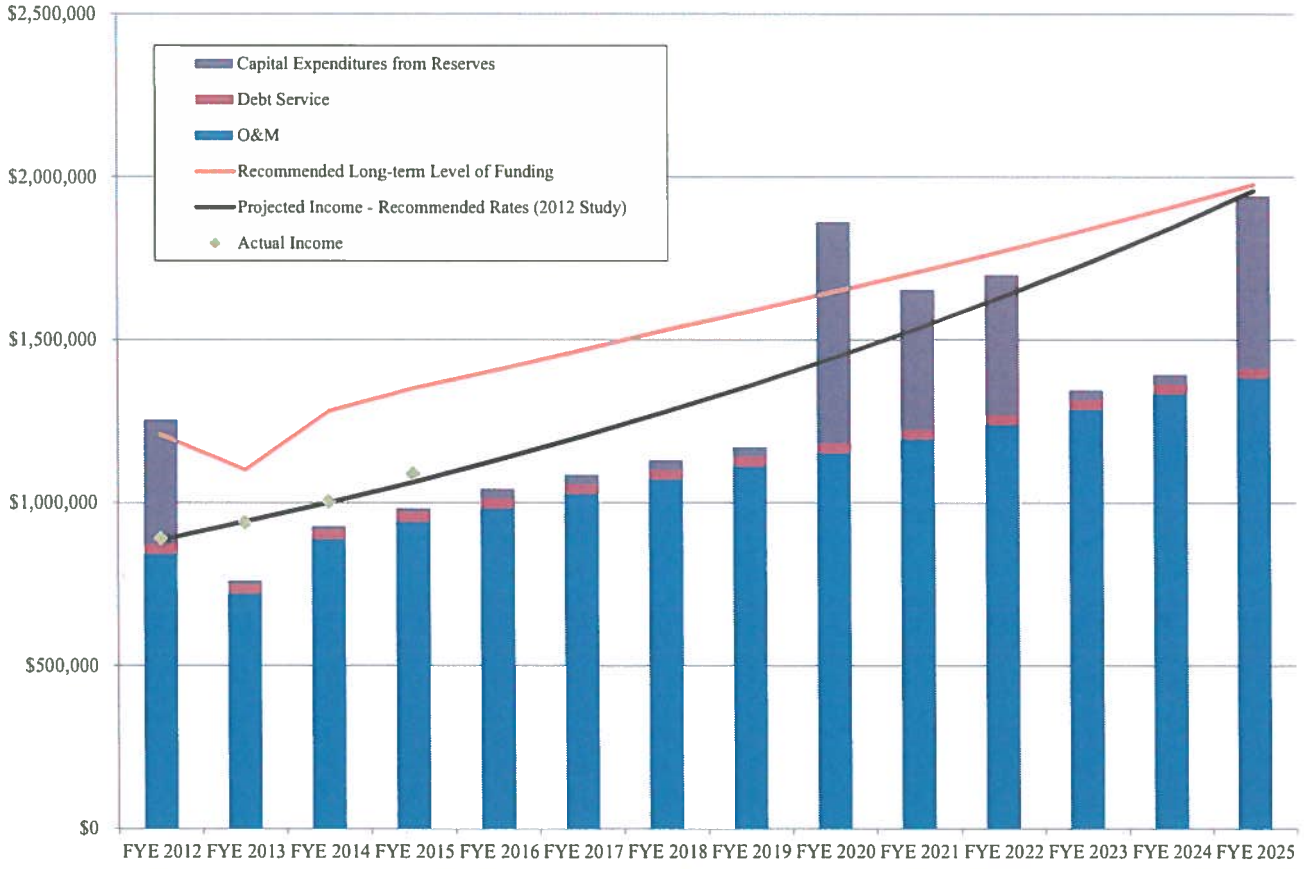


**Figure 2**
**10-Year Revenue and Expenditures - Storm Drain**

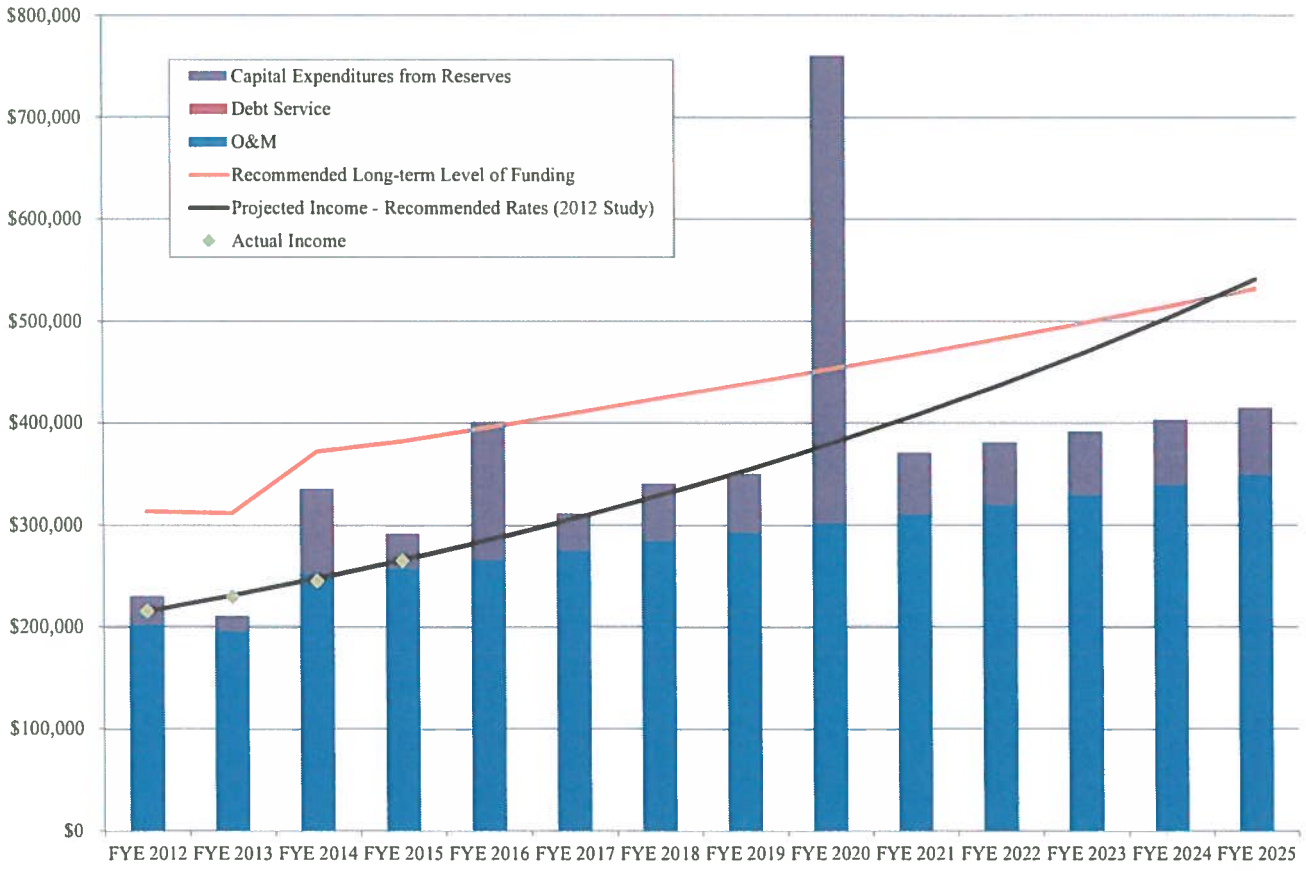


**Figure 3**
**10-Year Revenue and Expenditures - Water & Pressurized Irrigation, Alternative 1: Current Status**

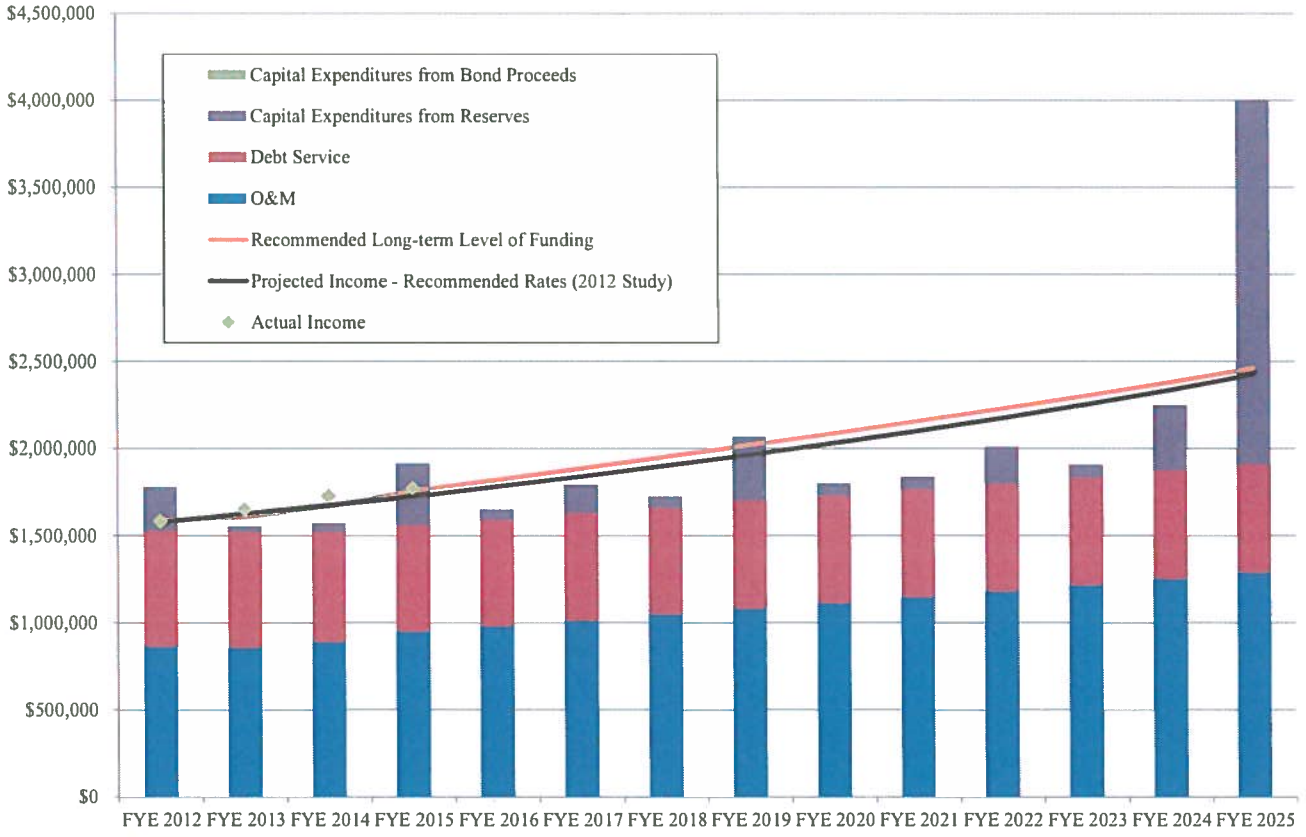


**Figure 4**
**10-Year Revenue and Expenditures - Water & Pressurized Irrigation, Alternative 2: New Secondary Meters**

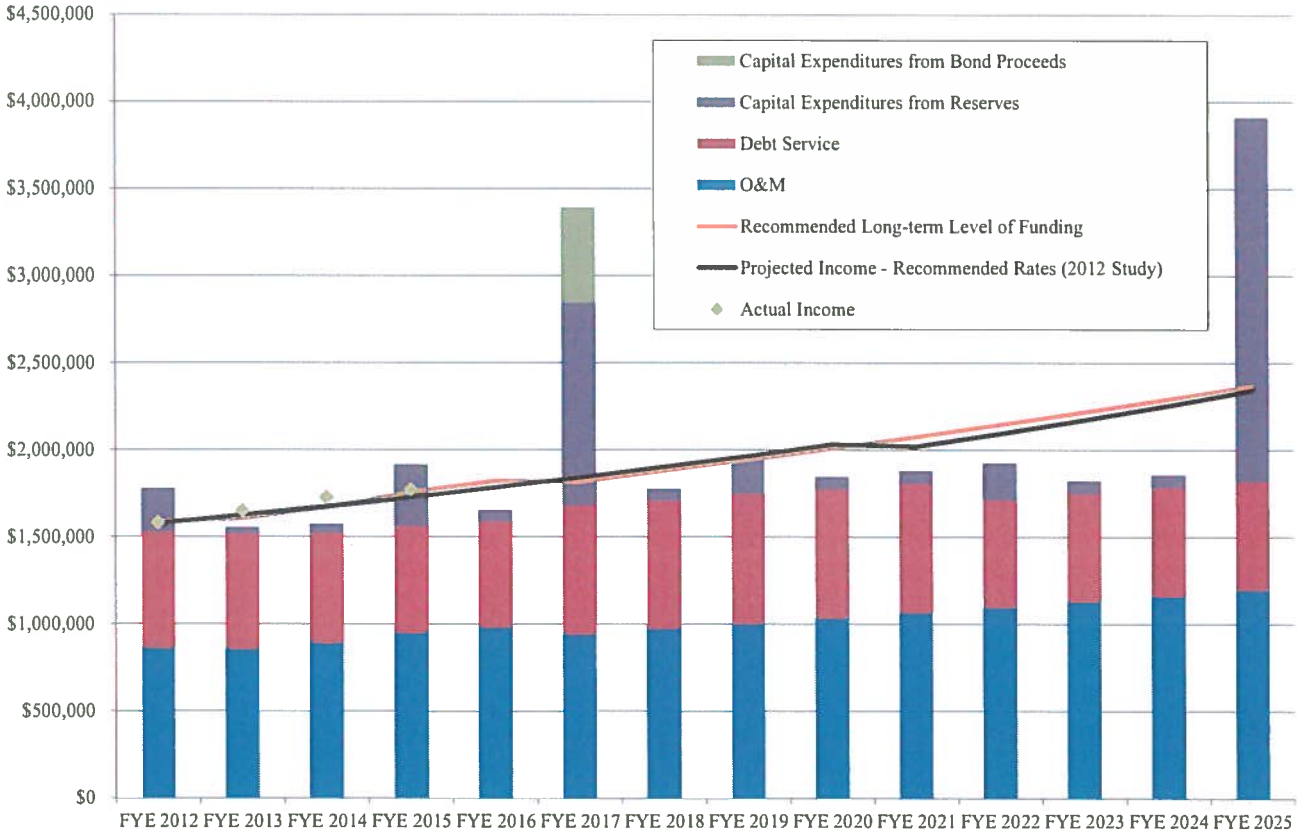
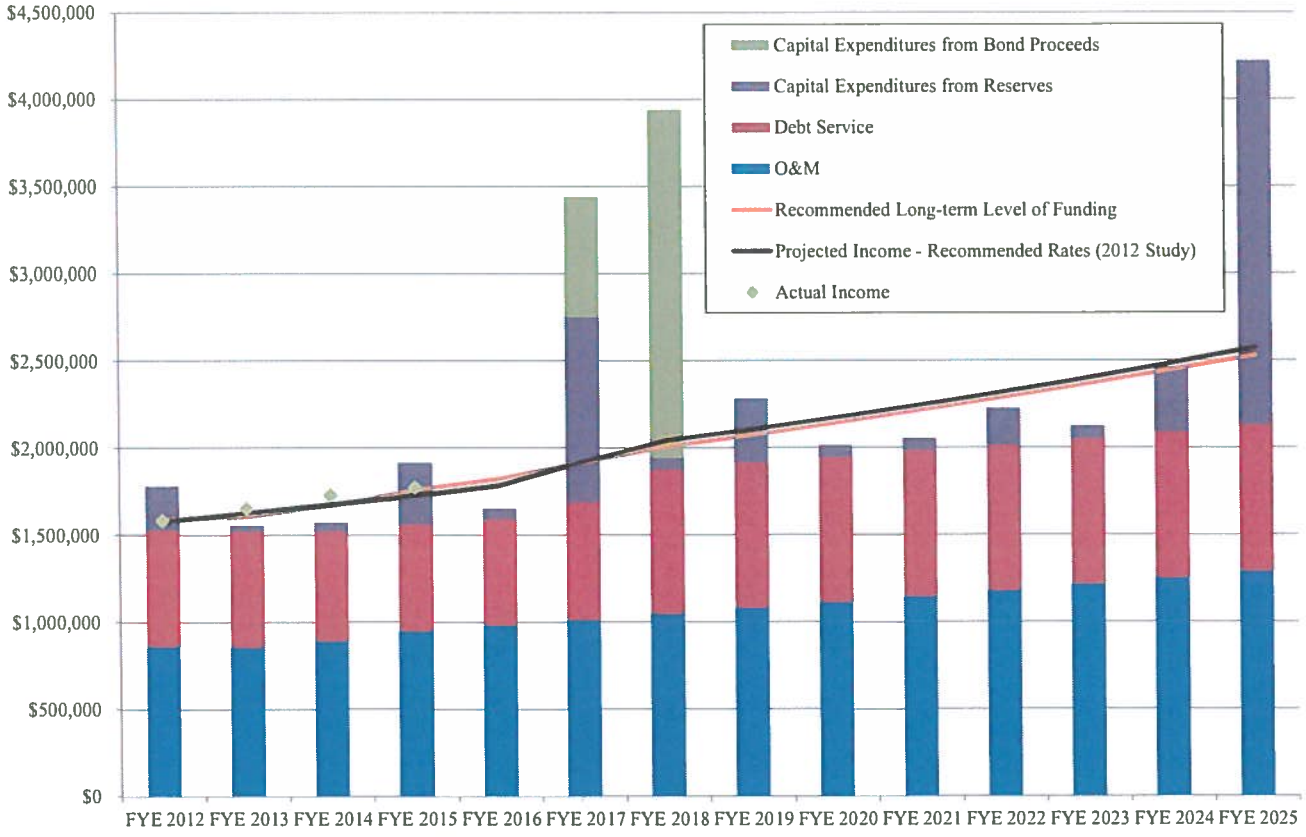


**Figure 5**
**10-Year Revenue and Expenditures - Water & Pressurized Irrigation, Alternative 3: New Secondary Facilities**



**Cedar Hills - Sewer Rate Study**
**Revenue Requirements**
**Cash Basis**

| Item | % Growth | Actual FYE 2012 | Actual FYE 2013 | Actual FYE 2014 | Estimated FYE 2015 | Projected FYE 2016 | Projected FYE 2017 | Projected FYE 2018 | Projected FYE 2019 | Projected FYE 2020 | Projected FYE 2021 | Projected FYE 2022 | Projected FYE 2023 | Projected FYE 2024 | Projected FYE 2025 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *O&M* | | | | | | | | | | | | | | | |
| Salary & Wages (Full-Time) | | $136,393 | $140,940 | $140,448 | $156,441 | $161,784 | $167,309 | $173,006 | $178,196 | $183,542 | $189,048 | $194,719 | $200,561 | $206,578 | $212,775 |
| Overtime | | $755 | $761 | $2,234 | $2,320 | $2,399 | $2,481 | $2,566 | $2,643 | $2,722 | $2,804 | $2,888 | $2,974 | $3,064 | $3,156 |
| Salary & Wages (Part-Time) | | $3,844 | $6,109 | $10,000 | $8,783 | $9,083 | $9,393 | $9,713 | $10,005 | $10,305 | $10,614 | $10,932 | $11,260 | $11,598 | $11,946 |
| Employee Benefits | | $70,837 | $77,318 | $81,921 | $88,330 | $91,346 | $94,466 | $97,682 | $100,613 | $103,631 | $106,740 | $109,942 | $113,241 | $116,638 | $120,137 |
| Sewer Supplies | | $346 | $527 | $1,000 | $1,105 | $1,143 | $1,182 | $1,222 | $1,258 | $1,296 | $1,335 | $1,375 | $1,416 | $1,459 | $1,503 |
| Education & Training | | $110 | $120 | $1,500 | $1,657 | $1,714 | $1,772 | $1,833 | $1,888 | $1,944 | $2,003 | $2,063 | $2,125 | $2,188 | $2,254 |
| Computer Expenses | | $0 | $849 | $1,800 | $1,989 | $2,057 | $2,127 | $2,199 | $2,265 | $2,333 | $2,403 | $2,475 | $2,550 | $2,626 | $2,705 |
| Tools & Equipment | | $804 | $246 | $1,000 | $1,105 | $1,143 | $1,182 | $1,222 | $1,258 | $1,296 | $1,335 | $1,375 | $1,416 | $1,459 | $1,503 |
| Utilities | | $136 | $270 | $500 | $2,210 | $2,285 | $2,363 | $2,444 | $2,517 | $2,592 | $2,670 | $2,750 | $2,833 | $2,918 | $3,005 |
| Postage | | $0 | $460 | $1,500 | $1,657 | $1,714 | $1,772 | $1,833 | $1,888 | $1,944 | $2,003 | $2,063 | $2,125 | $2,188 | $2,254 |
| Blue Stakes | | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Communications & Telephone | | $827 | $1,653 | $1,500 | $1,657 | $1,714 | $1,772 | $1,833 | $1,888 | $1,944 | $2,003 | $2,063 | $2,125 | $2,188 | $2,254 |
| Professional & Technical | | $3,540 | $1,674 | $27,000 | $2,210 | $2,285 | $2,363 | $2,444 | $2,517 | $2,592 | $2,670 | $2,750 | $2,833 | $2,918 | $3,005 |
| Engineering Services | | $0 | $0 | $1,000 | $1,105 | $1,143 | $1,182 | $1,222 | $1,258 | $1,296 | $1,335 | $1,375 | $1,416 | $1,459 | $1,503 |
| TSSD Fees | | $607,726 | $483,998 | $602,350 | $659,846 | $691,717 | $725,127 | $760,005 | $790,406 | $822,022 | $854,903 | $889,099 | $924,663 | $961,649 | $1,000,115 |
| Sewer Fee - AF | | $0 | $1,439 | $1,000 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Sewer Television Expenses | | $10,144 | $0 | $2,000 | $2,210 | $2,285 | $2,363 | $2,444 | $2,517 | $2,592 | $2,670 | $2,750 | $2,833 | $2,918 | $3,005 |
| Insurance | | $6,412 | $3,403 | $9,500 | $8,286 | $8,569 | $8,862 | $9,163 | $9,438 | $9,721 | $10,013 | $10,314 | $10,623 | $10,942 | $11,270 |
| **Total O&M** | | **$841,874** | **$719,767** | **$886,253** | **$940,911** | **$982,379** | **$1,025,716** | **$1,070,829** | **$1,110,554** | **$1,151,775** | **$1,194,548** | **$1,238,934** | **$1,284,993** | **$1,332,789** | **$1,382,389** |
| *Debt Service* | | | | | | | | | | | | | | | |
| 2006 Excise Tax Bond - PWB (40% of 1/2) | | $30,853 | $30,333 | $30,793 | $31,213 | $30,613 | $30,993 | $30,333 | $30,631 | $30,888 | $30,123 | $30,336 | $30,495 | $30,598 | $30,658 |
| **Total Debt Service** | | **$30,853** | **$30,333** | **$30,793** | **$31,213** | **$30,613** | **$30,993** | **$30,333** | **$30,631** | **$30,888** | **$30,123** | **$30,336** | **$30,495** | **$30,598** | **$30,658** |
| *Capital Outlays* | | **2012** | **FYE 2013** | **FYE 2014** | **FYE 2015** | **FYE 2016** | **FYE 2017** | **FYE 2018** | **FYE 2019** | **FYE 2020** | **FYE 2021** | **FYE 2022** | **FYE 2023** | **FYE 2024** | **FYE 2025** |
| Sewer Construction Projects | | $ 10,000 | $10,076 | $10,153 | $10,229 | $10,314 | $10,399 | $10,483 | $10,483 | $10,483 | $10,483 | $10,483 | $10,483 | $10,483 | $10,483 |
| 4800 West Sewer Improvement | | $ 72,500 | | | | | | | | | | | | | |
| American Fork Sewer Upgrades | | $ 300,000 | | | | | | | | | | | | | |
| Canyon Road Sewer Improvements | | | | | | | | | | | $ 400,000 | | | | |
| 4000 West Sewer Improvements | | | | | | | | | | $ 250,000 | | | | | |
| 4600 West Sewer Upgrade | | | | | | | | | | $ 400,000 | | | | | |
| Cedar Hills Drive Sewer Upgrade | | | | | | | | | | | | $ 400,000 | | | |
| Sewer Outfall Line Extension | | | | | | | | | | | | | | | $ 500,000 |
| Jet/Vac Truck (40%) | | | | | | $ 18,774 | $ 18,774 | $ 18,774 | $ 18,774 | $ 18,774 | $ 18,774 | $ 18,774 | $ 18,774 | $ 18,774 | $ 18,774 |
| Transfer to/(from) Reserve Fund | | $ (370,327) | $ 181,319 | $ 73,105 | $ 80,476 | $ 89,315 | $ 116,779 | $ 148,239 | $ 188,319 | $ (418,019) | $ (119,535) | $ (67,953) | $ 388,058 | $ 448,815 | $ 14,644 |
| **Total Annual Capital Outlay Budget** | | **$ 12,173** | **$191,395** | **$83,257** | **$90,705** | **$118,403** | **$145,953** | **$177,497** | **$217,577** | **$261,239** | **$309,722** | **$361,305** | **$417,316** | **$478,072** | **$543,901** |
| **Total Revenue Requirements** | | **$ 884,900** | **$941,495** | **$1,000,303** | **$1,062,828** | **$1,131,395** | **$1,202,661** | **$1,278,659** | **$1,358,762** | **$1,443,901** | **$1,534,393** | **$1,630,574** | **$1,732,803** | **$1,841,460** | **$1,956,948** |
| LESS: | | | | | | | | | | | | | | | |
| Operations Non-Rate Revenue | | $975 | $1,500 | $2,700 | $1,173 | $1,218 | $1,264 | $1,313 | $1,352 | $1,393 | $1,434 | $1,477 | $1,522 | $1,567 | $1,614 |
| Expansion Non-Rate Revenue | | $1,690 | $7,400 | $17,804 | $4,826 | $5,631 | $5,363 | $5,363 | $5,403 | $5,443 | $5,484 | $5,525 | $5,567 | $5,609 | $5,651 |
| **Net Revenue Requirements** | | **$ 882,235** | **$ 932,595** | **$ 979,799** | **$ 1,056,829** | **$ 1,124,546** | **$ 1,196,034** | **$ 1,271,983** | **$ 1,352,007** | **$ 1,437,065** | **$ 1,527,475** | **$ 1,623,572** | **$ 1,725,715** | **$ 1,834,284** | **$ 1,949,683** |

**Cedar Hills - Storm Drain Rate Study**
**Revenue Requirements**
**Cash Basis**

| Item | % Growth | Actual FYE 2012 | Actual FYE 2013 | Actual FYE 2014 | Estimated FYE 2015 | Projected FYE 2016 | Projected FYE 2017 | Projected FYE 2018 | Projected FYE 2019 | Projected FYE 2020 | Projected FYE 2021 | Projected FYE 2022 | Projected FYE 2023 | Projected FYE 2024 | Projected FYE 2025 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *O&M* | | | | | | | | | | | | | | | |
| Salary & Wages (Full-Time) | | $123,388 | $112,156 | $137,948 | $144,565 | $149,502 | $154,607 | $159,871 | $164,668 | $169,608 | $174,696 | $179,937 | $185,335 | $190,895 | $196,622 |
| Overtime | | $960 | $726 | $2,234 | $2,762 | $2,856 | $2,954 | $3,054 | $3,146 | $3,240 | $3,338 | $3,438 | $3,541 | $3,647 | $3,757 |
| Salary & Wages (Part-Time) | | $2,524 | $5,499 | $10,000 | $6,353 | $6,570 | $6,794 | $7,025 | $7,236 | $7,453 | $7,677 | $7,907 | $8,144 | $8,389 | $8,640 |
| Employee Benefits | | $65,200 | $67,782 | $81,171 | $84,187 | $87,062 | $90,035 | $93,101 | $95,894 | $98,770 | $101,733 | $104,785 | $107,929 | $111,167 | $114,502 |
| Storm Drain Supplies | | $321 | $209 | $3,000 | $3,314 | $3,428 | $3,545 | $3,665 | $3,775 | $3,889 | $4,005 | $4,125 | $4,249 | $4,377 | $4,508 |
| Dues & Subscriptions | | $1,060 | $1,560 | $2,000 | $2,210 | $2,285 | $2,363 | $2,444 | $2,517 | $2,592 | $2,670 | $2,750 | $2,833 | $2,918 | $3,005 |
| Education & Training | | $24 | $163 | $1,000 | $1,105 | $1,143 | $1,182 | $1,222 | $1,258 | $1,296 | $1,335 | $1,375 | $1,416 | $1,459 | $1,503 |
| Computer Expenses | | $0 | $739 | $1,200 | $1,326 | $1,371 | $1,418 | $1,466 | $1,510 | $1,555 | $1,602 | $1,650 | $1,700 | $1,751 | $1,803 |
| Tools & Equipment | | $1,179 | $410 | $3,000 | $2,210 | $2,285 | $2,363 | $2,444 | $2,517 | $2,592 | $2,670 | $2,750 | $2,833 | $2,918 | $3,005 |
| Communications & Telephone | | $888 | $1,606 | $1,500 | $1,657 | $1,714 | $1,772 | $1,833 | $1,888 | $1,944 | $2,003 | $2,063 | $2,125 | $2,188 | $2,254 |
| Professional & Technical | | $1,586 | $2,140 | $1,550 | $1,105 | $1,143 | $1,182 | $1,222 | $1,258 | $1,296 | $1,335 | $1,375 | $1,416 | $1,459 | $1,503 |
| Testing | | $0 | $0 | $200 | $221 | $229 | $236 | $244 | $252 | $259 | $267 | $275 | $283 | $292 | $301 |
| Insurance | | $4,275 | $2,260 | $6,310 | $5,524 | $5,713 | $5,908 | $6,109 | $6,292 | $6,481 | $6,675 | $6,876 | $7,082 | $7,294 | $7,513 |
| **Total O&M** | | **$201,425** | **$195,250** | **$251,113** | **$256,537** | **$265,298** | **$274,358** | **$283,700** | **$292,211** | **$300,977** | **$310,007** | **$319,307** | **$328,886** | **$338,753** | **$348,915** |
| *Debt Service* | | | | | | | | | | | | | | | |
| **Total Debt Service** | | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** |

| *Capital Outlays* | | FYE 2012 | FYE 2013 | FYE 2014 | FYE 2015 | FYE 2016 | FYE 2017 | FYE 2018 | FYE 2019 | FYE 2020 | FYE 2021 | FYE 2022 | FYE 2023 | FYE 2024 | FYE 2025 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Old Town Storm Drain Retention Project | | | | | | | | | | $ 400,000 | | | | | |
| Maintenance Shed | | | | | | $ 100,000 | | | | | | | | | |
| Jet/Vac Truck (40%) | | | | | | | | $ 18,774 | $ 18,774 | $ 18,774 | $ 18,774 | $ 18,774 | $ 18,774 | $ 18,774 | $ 18,774 |
| Rehabilitation and Replacement Budget | | $ 28,450 | $ 15,009 | $ 84,500 | $ 35,000 | $ 36,050 | $ 37,132 | $ 38,245 | $ 39,393 | $ 40,575 | $ 41,792 | $ 43,046 | $ 44,337 | $ 45,667 | $ 47,037 |
| Transfer to/(from) Reserve Fund | | $ (14,875) | $ 20,459 | $ (88,043) | $ (25,898) | $ (116,104) | $ (5,213) | $ (11,882) | $ 2,682 | $ (381,258) | $ 36,418 | $ 55,844 | $ 77,161 | $ 100,524 | $ 126,096 |
| **Total Annual Capital Outlay Budget** | | **$ 13,575** | **$35,468** | **($3,543)** | **$9,102** | **$19,946** | **$31,918** | **$45,138** | **$60,849** | **$78,090** | **$96,984** | **$117,663** | **$140,272** | **$164,965** | **$191,907** |
| **Total Revenue Requirements** | | **$ 215,000** | **$230,718** | **$247,570** | **$265,639** | **$285,245** | **$306,277** | **$328,838** | **$353,060** | **$379,068** | **$406,991** | **$436,970** | **$469,158** | **$503,718** | **$540,822** |
| LESS: | | | | | | | | | | | | | | | |
| Operations Non-Rate Revenue | | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Expansion Non-Rate Revenue | | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| **Net Revenue Requirements** | | **$ 215,000** | **$ 230,718** | **$ 247,570** | **$ 265,639** | **$ 285,245** | **$ 306,277** | **$ 328,838** | **$ 353,060** | **$ 379,068** | **$ 406,991** | **$ 436,970** | **$ 469,158** | **$ 503,718** | **$ 540,822** |

**Cedar Hills - Water Rate Study**
**Revenue Requirements**
**Cash Basis**

| Item | Actual FYE 2012 | Actual FYE 2013 | Actual FYE 2014 | Estimated FYE 2015 | Projected FYE 2016 | Projected FYE 2017 | Projected FYE 2018 | Projected 2019 | Projected 2020 | Projected 2021 | Projected 2022 | Projected 2023 | Projected 2024 | Projected 2025 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *O&M* | | | | | | | | | | | | | | |
| Salary & Wages (Full-Time) | $128,488 | $117,869 | $118,171 | $143,449 | $148,348 | $153,414 | $158,637 | $163,397 | $168,298 | $173,347 | $178,548 | $183,904 | $189,421 | $195,104 |
| Overtime | $725 | $542 | $1,877 | $2,221 | $2,297 | $2,375 | $2,456 | $2,529 | $2,605 | $2,684 | $2,764 | $2,847 | $2,932 | $3,020 |
| Salary & Wages (Part-Time) | $2,771 | $4,855 | $6,000 | $6,728 | $6,958 | $7,196 | $7,441 | $7,664 | $7,894 | $8,131 | $8,375 | $8,626 | $8,885 | $9,151 |
| Employee Benefits | $69,004 | $64,723 | $68,558 | $82,728 | $85,554 | $88,475 | $91,488 | $94,232 | $97,059 | $99,971 | $102,970 | $106,059 | $109,241 | $112,518 |
| Dues & Subscriptions | $765 | $870 | $1,200 | $1,326 | $1,371 | $1,418 | $1,466 | $1,510 | $1,555 | $1,602 | $1,650 | $1,700 | $1,751 | $1,803 |
| Education & Training | $889 | $1,636 | $2,100 | $2,320 | $2,399 | $2,481 | $2,566 | $2,643 | $2,722 | $2,804 | $2,888 | $2,974 | $3,064 | $3,156 |
| Computer Expenses | $0 | $929 | $1,800 | $1,989 | $2,057 | $2,127 | $2,199 | $2,265 | $2,333 | $2,403 | $2,475 | $2,550 | $2,626 | $2,705 |
| Office Equipment | $359 | $308 | $600 | $663 | $686 | $709 | $733 | $755 | $778 | $801 | $825 | $850 | $875 | $902 |
| Tools & Equipment | $1,886 | $7,178 | $8,100 | $2,983 | $3,085 | $3,190 | $3,299 | $3,398 | $3,500 | $3,605 | $3,713 | $3,824 | $3,939 | $4,057 |
| Utilities | $175,703 | $190,007 | $177,000 | $178,980 | $185,092 | $191,413 | $197,930 | $203,868 | $209,984 | $216,284 | $222,772 | $229,455 | $236,339 | $243,429 |
| Blue Stakes | $547 | $341 | $600 | $994 | $1,028 | $1,063 | $1,100 | $1,133 | $1,167 | $1,202 | $1,238 | $1,275 | $1,313 | $1,352 |
| Communications & Telephone | $743 | $1,391 | $1,200 | $1,326 | $1,371 | $1,418 | $1,466 | $1,510 | $1,555 | $1,602 | $1,650 | $1,700 | $1,751 | $1,803 |
| Engineering Services | $0 | $0 | $600 | $663 | $686 | $709 | $733 | $755 | $778 | $801 | $825 | $850 | $875 | $902 |
| Professional & Technical | $15,535 | $3,968 | $12,000 | $3,977 | $4,113 | $4,254 | $4,398 | $4,530 | $4,666 | $4,806 | $4,950 | $5,099 | $5,252 | $5,410 |
| Insurance | $10,448 | $3,389 | $9,462 | $8,286 | $8,569 | $8,862 | $9,163 | $9,438 | $9,721 | $10,013 | $10,314 | $10,623 | $10,942 | $11,270 |
| Credit Card Fees | $7,295 | $8,668 | $7,800 | $7,955 | $8,226 | $8,507 | $8,797 | $9,061 | $9,333 | $9,613 | $9,901 | $10,198 | $10,504 | $10,819 |
| Trustee Fees | $2,820 | $3,120 | $2,820 | $3,116 | $3,222 | $3,332 | $3,445 | $3,549 | $3,655 | $3,765 | $3,878 | $3,994 | $4,114 | $4,237 |
| Water Supplies | $446 | $3,020 | $3,500 | $3,867 | $3,999 | $4,135 | $4,276 | $4,405 | $4,537 | $4,673 | $4,813 | $4,957 | $5,106 | $5,259 |
| Meter Installation & Maintenance | $31,277 | $34,845 | $37,000 | $33,144 | $34,276 | $35,447 | $36,654 | $37,753 | $38,886 | $40,053 | $41,254 | $42,492 | $43,766 | $45,079 |
| Water Testing | $2,398 | $3,907 | $6,500 | $7,181 | $7,427 | $7,680 | $7,942 | $8,180 | $8,425 | $8,678 | $8,938 | $9,207 | $9,483 | $9,767 |
| **Total O&M** | **$452,098** | **$451,567** | **$466,887** | **$493,895** | **$510,762** | **$528,204** | **$546,190** | **$562,575** | **$579,453** | **$596,836** | **$614,741** | **$633,184** | **$652,179** | **$671,745** |
| *Debt Service* | | | | | | | | | | | | | | |
| 2006 Excise Tax Bond - PWB (60% of 1/2) | $46,279 | $45,499 | $46,189 | $46,819 | $45,919 | $46,489 | $45,499 | $45,947 | $46,331 | $45,184 | $45,504 | $45,743 | $45,897 | $45,986 |
| 2007 Utility Revenue Bond - Well | $136,945 | $136,588 | $137,176 | $136,683 | $137,135 | $136,506 | $136,824 | $137,059 | $136,214 | $136,314 | $136,333 | $136,271 | $137,127 | $136,875 |
| **Total Debt Service** | **$183,224** | **$182,086** | **$183,364** | **$183,501** | **$183,054** | **$182,995** | **$182,322** | **$183,006** | **$182,545** | **$181,498** | **$181,837** | **$182,013** | **$183,025** | **$182,862** |
| *Capital Outlays* | | | | | | | | | | | | | | |
| Water Construction Projects | $8,691 | $18,018 | $35,300 | $36,624 | $38,026 | $39,483 | $40,987 | $42,217 | $43,483 | $44,788 | $46,131 | $47,515 | $48,941 | $50,409 |
| Well Purchase/Construction | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Migratory Meter Read Project | $0 | $0 | $0 | $0 | $0 | $100,000 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| 4800 West Water Main Installation | $81,300 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| 4500 West Sewer Relocation* | $147,000 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Manilla Water Upgrades (estimate) | | $0 | $0 | $300,000 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Harvey Well Chlorination Station | | $0 | $0 | $0 | $0 | $0 | $0 | $0 | | $0 | $80,000 | $0 | $0 | $0 |
| Cottonwood Well Chlorination Station | | $0 | $0 | $0 | $0 | $0 | $0 | $0 | | $0 | $60,000 | $0 | $0 | $0 |
| Jet/Vac Truck (20%) | | $0 | $0 | $0 | $ 9,387 | $ 9,387 | $ 9,387 | $ 9,387 | $ 9,387 | $ 9,387 | $ 9,387 | $ 9,387 | $ 9,387 | $ 9,387 |
| Harvey Well Replacement | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $2,015,875 |
| Transfer to (from) Reserve Fund | ($378,113) | ($120,402) | ($119,226) | ($410,184) | ($93,405) | ($168,727) | ($40,954) | ($9,808) | $25,453 | $64,507 | ($34,367) | $150,651 | $198,593 | ($1,763,573) |
| **Total Annual Capital Outlay Budget** | **$ (141,122)** | **-$102,384** | **-$83,926** | **-$73,560** | **-$45,991** | **-$19,857** | **$9,420** | **$41,796** | **$78,324** | **$118,682** | **$161,151** | **$207,553** | **$256,921** | **$312,098** |
| **Total Revenue Requirements** | **$ 494,200** | **$531,269** | **$566,326** | **$603,837** | **$647,825** | **$691,343** | **$737,933** | **$787,377** | **$840,322** | **$897,017** | **$957,730** | **$1,022,750** | **$1,092,125** | **$1,166,704** |
| LESS: | | | | | | | | | | | | | | |
| Operations Non-Rate Revenue | $11,848 | $8,754 | $13,600 | $22,451 | $23,311 | $24,204 | $25,126 | $25,880 | $26,657 | $27,456 | $28,280 | $29,128 | $30,002 | $30,902 |
| Expansion Non-Rate Revenue | $35,178 | $44,192 | $81,400 | $39,282 | $42,946 | $43,277 | $43,619 | $44,142 | $44,674 | $45,217 | $45,771 | $46,336 | $46,651 | $47,236 |
| **Net Revenue Requirements** | **$ 447,174** | **$ 478,323** | **$ 471,326** | **$ 542,104** | **$ 581,567** | **$ 623,862** | **$ 669,188** | **$ 717,356** | **$ 768,991** | **$ 824,343** | **$ 883,679** | **$ 947,286** | **$ 1,015,472** | **$ 1,088,566** |

**Pressurized Irrigation, Alternative 1 - Current Status**
**Revenue Requirements**
**Cash Basis**

| Item | % Growth | Actual FYE 2012 | Actual FYE 2013 | Actual FYE 2014 | Estimated FYE 2015 | Projected FYE 2016 | Projected FYE 2017 | Projected FYE 2018 | Projected FYE 2019 | Projected FYE 2020 | Projected FYE 2021 | Projected FYE 2022 | Projected FYE 2023 | Projected FYE 2024 | Projected FYE 2025 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *O&M* | | | | | | | | | | | | | | | |
| Salary & Wages (Full-Time) | | $85,658 | $78,579 | $78,780 | $95,633 | $98,898 | $102,276 | $105,758 | $108,931 | $112,199 | $115,565 | $119,032 | $122,603 | $126,281 | $130,069 |
| Overtime | | $483 | $362 | $1,251 | $1,480 | $1,531 | $1,583 | $1,637 | $1,686 | $1,737 | $1,789 | $1,843 | $1,898 | $1,955 | $2,014 |
| Salary & Wages (Part-Time) | | $1,847 | $3,236 | $4,000 | $4,486 | $4,639 | $4,797 | $4,960 | $5,109 | $5,263 | $5,420 | $5,583 | $5,751 | $5,923 | $6,101 |
| Employee Benefits | | $46,002 | $43,149 | $45,705 | $55,152 | $57,036 | $58,983 | $60,992 | $62,822 | $64,706 | $66,647 | $68,647 | $70,706 | $72,827 | $75,012 |
| Dues & Subscriptions | | $510 | $580 | $800 | $884 | $914 | $945 | $977 | $1,007 | $1,037 | $1,068 | $1,100 | $1,133 | $1,167 | $1,202 |
| Education & Training | | $593 | $1,091 | $1,400 | $1,547 | $1,600 | $1,654 | $1,711 | $1,762 | $1,815 | $1,869 | $1,925 | $1,983 | $2,042 | $2,104 |
| Computer Expenses | | $0 | $619 | $1,200 | $1,326 | $1,371 | $1,418 | $1,466 | $1,510 | $1,555 | $1,602 | $1,650 | $1,700 | $1,751 | $1,803 |
| Office Equipment | | $239 | $205 | $400 | $442 | $457 | $473 | $489 | $503 | $518 | $534 | $550 | $567 | $584 | $601 |
| Tools & Equipment | | $1,258 | $4,786 | $5,400 | $1,969 | $2,057 | $2,127 | $2,199 | $2,265 | $2,333 | $2,403 | $2,475 | $2,550 | $2,626 | $2,705 |
| Utilities | | $117,135 | $126,672 | $118,000 | $119,320 | $123,395 | $127,608 | $131,954 | $135,912 | $139,989 | $144,189 | $148,515 | $152,970 | $157,559 | $162,286 |
| Blue Stakes | | $365 | $227 | $400 | $663 | $686 | $709 | $733 | $755 | $778 | $801 | $825 | $850 | $875 | $902 |
| Communications & Telephone | | $495 | $928 | $800 | $884 | $914 | $945 | $977 | $1,007 | $1,037 | $1,068 | $1,100 | $1,133 | $1,167 | $1,202 |
| Engineering Services | | $0 | $0 | $400 | $442 | $457 | $473 | $489 | $503 | $518 | $534 | $550 | $567 | $584 | $601 |
| Professional & Technical | | $10,356 | $2,645 | $8,000 | $2,652 | $2,742 | $2,836 | $2,932 | $3,020 | $3,111 | $3,204 | $3,300 | $3,399 | $3,501 | $3,606 |
| Insurance | | $6,966 | $2,259 | $6,308 | $5,524 | $5,713 | $5,908 | $6,109 | $6,292 | $6,481 | $6,675 | $6,876 | $7,082 | $7,294 | $7,513 |
| Credit Card Fees | | $4,863 | $5,779 | $5,200 | $5,303 | $5,484 | $5,671 | $5,865 | $6,041 | $6,222 | $6,408 | $6,601 | $6,799 | $7,003 | $7,213 |
| Trustee Fees | | $1,880 | $2,080 | $1,880 | $2,077 | $2,148 | $2,221 | $2,297 | $2,366 | $2,437 | $2,510 | $2,585 | $2,663 | $2,743 | $2,825 |
| Water Purchases - American Fork | | $0 | $1,380 | $1,427 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Water Purchases - Pleasant Grove Irrigation | | $17,723 | $17,723 | $18,000 | $19,555 | $20,223 | $20,914 | $21,626 | $22,274 | $22,943 | $23,631 | $24,340 | $25,070 | $25,822 | $26,597 |
| Supplementary Water | | $109,856 | $109,396 | $120,000 | $132,577 | $137,105 | $141,787 | $146,615 | $151,013 | $155,544 | $160,210 | $165,016 | $169,967 | $175,066 | $180,318 |
| **Total O&M** | | **$406,230** | **$401,695** | **$419,351** | **$451,935** | **$467,368** | **$483,329** | **$499,786** | **$514,780** | **$530,323** | **$546,130** | **$562,514** | **$579,389** | **$596,771** | **$614,674** |

| *Debt Service* | | FYE 2012 | FYE 2013 | FYE 2014 | FYE 2015 | FYE 2016 | FYE 2017 | FYE 2018 | FYE 2019 | FYE 2020 | FYE 2021 | FYE 2022 | FYE 2023 | FYE 2024 | FYE 2025 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2006 Utility Revenue Bond | | $404,525 | $402,963 | $401,213 | $374,375 | $371,468 | $374,396 | $370,642 | $376,808 | $376,626 | $376,256 | $374,698 | $372,980 | $376,100 | $372,926 |
| 2009/2013 Utility Revenue Bond | | $82,413 | $80,616 | $51,536 | $58,707 | $57,650 | $61,539 | $60,385 | $64,177 | $62,818 | $66,459 | $64,949 | $68,439 | $66,778 | $70,117 |
| **Total Debt Service** | | **$486,938** | **$483,579** | **$452,749** | **$433,082** | **$429,118** | **$435,935** | **$431,027** | **$440,985** | **$439,444** | **$442,715** | **$439,647** | **$441,419** | **$442,878** | **$443,043** |

| *Expansion and Replacement* | | FYE 2012 | FYE 2013 | FYE 2014 | FYE 2015 | FYE 2016 | FYE 2017 | FYE 2018 | FYE 2019 | FYE 2020 | FYE 2021 | FYE 2022 | FYE 2023 | FYE 2024 | FYE 2025 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pressurized Irrigation Projects | | $13,473 | $16,561 | $15,200 | $15,314 | $15,441 | $15,569 | $15,695 | $15,695 | $15,695 | $15,695 | $15,695 | $15,695 | $15,695 | $15,695 |
| Irrigation Pump Pond 12 | | | | | | | | | $ 100,000 | | | | | $ 100,000 | |
| Irrigation Pump Pond 10 | | | | | | | | | $ 200,000 | | | | | $ 200,000 | |
| Transfer to/(from) Reserve Fund | | $175,859 | $193,221 | $220,519 | $220,843 | $223,735 | $215,169 | $218,049 | ($94,020) | $205,182 | $199,335 | $199,581 | $194,734 | ($110,064) | $186,162 |
| **Total Capital Outlays** | | **$189,332** | **$209,782** | **$235,719** | **$236,157** | **$239,176** | **$230,739** | **$233,744** | **$221,676** | **$220,878** | **$215,030** | **$215,276** | **$210,430** | **$205,632** | **$201,857** |
| | | | | | | | | | | | | | | | |
| **Total Revenue Requirements** | | **$1,082,500** | **$1,095,056** | **$1,107,820** | **$1,121,174** | **$1,135,662** | **$1,150,002** | **$1,164,558** | **$1,177,440** | **$1,190,544** | **$1,203,875** | **$1,217,437** | **$1,231,237** | **$1,245,281** | **$1,259,574** |
| LESS: | | | | | | | | | | | | | | | |
| Operations Non-Rate Revenue | | $148,118 | $142,493 | $142,000 | $164,756 | $171,066 | $177,618 | $184,385 | $189,916 | $195,614 | $201,482 | $207,527 | $213,752 | $220,165 | $226,770 |
| Expansion Non-Rate Revenue | | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| | | | | | | | | | | | | | | | |
| **Net Revenue Requirements** | | **$934,382** | **$952,563** | **$965,820** | **$956,418** | **$964,596** | **$972,384** | **$980,173** | **$987,524** | **$994,931** | **$1,002,393** | **$1,009,910** | **$1,017,485** | **$1,025,116** | **$1,032,804** |

**Pressurized Irrigation, Alternative 2 - New Secondary Meters**
**Revenue Requirements**
**Cash Basis**

| Item | % Growth | Actual FYE 2012 | Actual FYE 2013 | Estimated FYE 2014 | Projected FYE 2015 | Projected FYE 2016 | Projected FYE 2017 | Projected FYE 2018 | Projected FYE 2019 | Projected FYE 2020 | Projected FYE 2021 | Projected FYE 2022 | Projected FYE 2023 | Projected FYE 2024 | Projected FYE 2025 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *O&M* | | | | | | | | | | | | | | | |
| Salary & Wages (Full-Time) | | $85,658 | $78,579 | $78,780 | $95,633 | $98,898 | $102,276 | $105,758 | $108,931 | $112,199 | $115,565 | $119,032 | $122,603 | $126,281 | $130,069 |
| Overtime | | $483 | $362 | $1,251 | $1,480 | $1,531 | $1,583 | $1,637 | $1,686 | $1,737 | $1,789 | $1,843 | $1,898 | $1,955 | $2,014 |
| Salary & Wages (Part-Time) | | $1,847 | $3,236 | $4,000 | $4,456 | $4,639 | $4,797 | $4,960 | $5,109 | $5,263 | $5,420 | $5,583 | $5,751 | $5,923 | $6,101 |
| Employee Benefits | | $46,002 | $43,149 | $45,705 | $55,152 | $57,076 | $58,983 | $60,992 | $62,822 | $64,706 | $66,647 | $68,647 | $70,706 | $72,827 | $75,012 |
| Dues & Subscriptions | | $510 | $580 | $800 | $884 | $914 | $945 | $977 | $1,007 | $1,037 | $1,068 | $1,100 | $1,133 | $1,167 | $1,202 |
| Education & Training | | $593 | $1,091 | $1,400 | $1,547 | $1,600 | $1,654 | $1,711 | $1,762 | $1,815 | $1,869 | $1,925 | $1,983 | $2,042 | $2,104 |
| Computer Expenses | | $0 | $619 | $1,200 | $1,326 | $1,371 | $1,418 | $1,466 | $1,510 | $1,555 | $1,602 | $1,650 | $1,700 | $1,751 | $1,803 |
| Office Equipment | | $239 | $205 | $400 | $442 | $457 | $473 | $489 | $503 | $518 | $534 | $550 | $567 | $584 | $601 |
| Tools & Equipment | | $1,258 | $4,786 | $5,400 | $1,989 | $2,057 | $2,127 | $2,199 | $2,265 | $2,333 | $2,403 | $2,475 | $2,550 | $2,626 | $2,705 |
| Utilities | | $117,135 | $126,672 | $118,000 | $119,320 | $123,395 | $55,508 | $57,399 | $59,120 | $60,894 | $62,721 | $64,603 | $66,541 | $68,537 | $70,593 |
| Blue Stakes | | $365 | $227 | $400 | $663 | $686 | $709 | $733 | $755 | $778 | $801 | $825 | $850 | $875 | $902 |
| Communications & Telephone | | $495 | $928 | $800 | $884 | $914 | $945 | $977 | $1,007 | $1,037 | $1,068 | $1,100 | $1,133 | $1,167 | $1,202 |
| Engineering Services | | $0 | $0 | $400 | $442 | $457 | $473 | $489 | $503 | $518 | $534 | $550 | $567 | $584 | $601 |
| Professional & Technical | | $10,356 | $2,615 | $8,000 | $2,652 | $2,742 | $2,836 | $2,932 | $3,020 | $3,111 | $3,204 | $3,300 | $3,399 | $3,501 | $3,606 |
| Insurance | | $6,966 | $2,259 | $6,308 | $5,524 | $5,713 | $5,908 | $6,109 | $6,292 | $6,481 | $6,675 | $6,876 | $7,082 | $7,294 | $7,513 |
| Credit Card Fees | | $4,863 | $5,779 | $5,200 | $5,303 | $5,484 | $5,671 | $5,865 | $6,041 | $6,222 | $6,408 | $6,601 | $6,799 | $7,003 | $7,213 |
| Trustee Fees | | $1,880 | $2,080 | $1,880 | $2,077 | $2,148 | $2,221 | $2,297 | $2,366 | $2,437 | $2,510 | $2,585 | $2,663 | $2,743 | $2,825 |
| Water Purchases - American Fork | | $0 | $1,380 | $1,427 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Water Purchases - Pleasant Grove Irrigation | | $17,723 | $17,723 | $18,000 | $19,555 | $20,223 | $20,914 | $21,626 | $22,274 | $22,943 | $23,631 | $24,340 | $25,070 | $25,822 | $26,597 |
| Supplementary Water | | $109,856 | $109,396 | $120,000 | $132,577 | $137,105 | $141,787 | $146,615 | $151,013 | $155,544 | $160,210 | $165,016 | $169,967 | $175,066 | $180,318 |
| **Total O&M** | | **$406,230** | **$401,695** | **$419,351** | **$451,935** | **$467,368** | **$411,229** | **$425,231** | **$437,988** | **$451,128** | **$464,662** | **$478,601** | **$492,959** | **$507,748** | **$522,981** |

| *Debt Service* | | FYE 2012 | FYE 2013 | FYE 2014 | FYE 2015 | FYE 2016 | FYE 2017 | FYE 2018 | FYE 2019 | FYE 2020 | FYE 2021 | FYE 2022 | FYE 2023 | FYE 2024 | FYE 2025 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2006 Utility Revenue Bond | | $404,525 | $402,963 | $401,213 | $374,375 | $371,468 | $374,396 | $370,642 | $376,808 | $376,626 | $376,256 | $374,698 | $372,980 | $376,100 | $372,926 |
| 2009/2013 Utility Revenue Bond | | $82,413 | $80,616 | $51,536 | $58,707 | $57,650 | $61,539 | $60,385 | $64,177 | $62,818 | $66,459 | $64,949 | $68,439 | $66,778 | $70,117 |
| New PI Meters Bond | | | | | | | $123,763 | $123,763 | $123,763 | $123,763 | $123,763 | | | | |
| **Total Debt Service** | | **$486,938** | **$483,579** | **$452,749** | **$433,082** | **$429,118** | **$559,698** | **$554,790** | **$564,748** | **$563,207** | **$566,478** | **$439,647** | **$441,419** | **$442,878** | **$443,043** |

| *Expansion and Replacement* | | FYE 2012 | FYE 2013 | FYE 2014 | FYE 2015 | FYE 2016 | FYE 2017 | FYE 2018 | FYE 2019 | FYE 2020 | FYE 2021 | FYE 2022 | FYE 2023 | FYE 2024 | FYE 2025 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pressurized Irrigation Projects | | $13,473 | $16,561 | $15,200 | $15,314 | $15,441 | $15,569 | $15,695 | $15,695 | $15,695 | $15,695 | $15,695 | $15,695 | $15,695 | $15,695 |
| PI Meters (BOND) | | | | | | | $545,000 | | | | | | | | |
| Irrigation Pump Pond 12 | | | | | | | | | $ 50,000 | | | | | | |
| Irrigation Pump Pond 10 | | | | | | | | | $ 100,000 | | | | | | |
| PI Meters (Cash Reserves) | | | | | | | $ 1,000,000 | | | | | | | | |
| New PI Meters Bond | | | | | | | $ (545,000) | | | | | | | | |
| Transfer to/(from) Reserve Fund | | $175,859 | $193,221 | $220,519 | $220,843 | $223,735 | ($836,494) | $168,841 | $9,009 | $160,514 | $76,848 | $202,701 | $199,765 | $196,950 | $195,231 |
| **Total Capital Outlays** | | **$ 189,332** | **$209,782** | **$235,719** | **$236,157** | **$239,176** | **$179,075** | **$184,536** | **$174,704** | **$176,210** | **$92,544** | **$218,396** | **$215,460** | **$212,645** | **$210,926** |
| | | | | | | | | | | | | | | | |
| **Total Revenue Requirements** | | **$1,082,500** | **$1,095,056** | **$1,107,820** | **$1,121,174** | **$1,135,662** | **$1,150,002** | **$1,164,558** | **$1,177,440** | **$1,190,544** | **$1,123,683** | **$1,136,644** | **$1,149,838** | **$1,163,272** | **$1,176,950** |
| LESS | | | | | | | | | | | | | | | |
| Operations Non-Rate Revenue | | $148,118 | $142,493 | $142,000 | $164,756 | $171,066 | $177,618 | $184,385 | $189,916 | $195,614 | $201,482 | $207,527 | $213,752 | $220,165 | $226,770 |
| Expansion Non-Rate Revenue | | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| | | | | | | | | | | | | | | | |
| **Net Revenue Requirements** | | **$934,382** | **$952,563** | **$965,820** | **$956,418** | **$964,596** | **$972,384** | **$980,173** | **$987,524** | **$994,931** | **$922,201** | **$929,118** | **$936,086** | **$943,107** | **$950,180** |

**Pressurized Irrigation, Alternative 3 - New Secondary Facilities**
**Revenue Requirements**
**Cash Basis**

| Item | % Growth | Actual FYE 2012 | Actual FYE 2013 | Actual FYE 2014 | Estimated FYE 2015 | Projected FYE 2016 | Projected FYE 2017 | Projected FYE 2018 | Projected FYE 2019 | Projected FYE 2020 | Projected FYE 2021 | Projected FYE 2022 | Projected FYE 2023 | Projected FYE 2024 | Projected FYE 2025 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *O&M* | | | | | | | | | | | | | | | |
| Salary & Wages (Full-Time) | | $85,658 | $78,579 | $78,780 | $95,633 | $98,898 | $102,276 | $105,758 | $108,931 | $112,199 | $115,565 | $119,032 | $122,603 | $126,281 | $130,069 |
| Overtime | | $483 | $362 | $1,251 | $1,480 | $1,531 | $1,583 | $1,637 | $1,686 | $1,737 | $1,789 | $1,843 | $1,898 | $1,955 | $2,014 |
| Salary & Wages (Part-Time) | | $1,847 | $3,236 | $4,000 | $4,486 | $4,639 | $4,797 | $4,960 | $5,109 | $5,263 | $5,420 | $5,583 | $5,751 | $5,923 | $6,101 |
| Employee Benefits | | $46,002 | $43,149 | $45,705 | $55,152 | $57,036 | $58,983 | $60,992 | $62,822 | $64,706 | $66,647 | $68,647 | $70,706 | $72,827 | $75,012 |
| Dues & Subscriptions | | $510 | $580 | $800 | $884 | $914 | $945 | $977 | $1,007 | $1,037 | $1,068 | $1,100 | $1,133 | $1,167 | $1,202 |
| Education & Training | | $591 | $1,091 | $1,400 | $1,547 | $1,600 | $1,654 | $1,711 | $1,762 | $1,815 | $1,869 | $1,925 | $1,983 | $2,042 | $2,104 |
| Computer Expenses | | $0 | $619 | $1,200 | $1,326 | $1,371 | $1,418 | $1,466 | $1,510 | $1,555 | $1,602 | $1,650 | $1,700 | $1,751 | $1,803 |
| Office Equipment | | $239 | $205 | $400 | $442 | $457 | $473 | $489 | $503 | $518 | $534 | $550 | $567 | $584 | $601 |
| Tools & Equipment | | $1,258 | $4,786 | $5,400 | $1,989 | $2,057 | $2,127 | $2,199 | $2,265 | $2,333 | $2,403 | $2,475 | $2,550 | $2,626 | $2,705 |
| Utilities | | $117,135 | $126,672 | $118,000 | $119,320 | $123,395 | $127,608 | $131,954 | $135,912 | $139,989 | $144,189 | $148,515 | $152,970 | $157,559 | $162,286 |
| Blue Stakes | | $365 | $227 | $400 | $663 | $686 | $709 | $733 | $755 | $778 | $801 | $825 | $850 | $875 | $902 |
| Communications & Telephone | | $495 | $928 | $800 | $884 | $914 | $945 | $977 | $1,007 | $1,037 | $1,068 | $1,100 | $1,133 | $1,167 | $1,202 |
| Engineering Services | | $0 | $0 | $400 | $442 | $457 | $473 | $489 | $503 | $518 | $534 | $550 | $567 | $584 | $601 |
| Professional & Technical | | $10,356 | $2,645 | $8,000 | $2,652 | $2,742 | $2,836 | $2,932 | $3,020 | $3,111 | $3,204 | $3,300 | $3,399 | $3,501 | $3,606 |
| Insurance | | $6,966 | $2,259 | $6,308 | $5,524 | $5,713 | $5,908 | $6,109 | $6,292 | $6,481 | $6,675 | $6,876 | $7,082 | $7,294 | $7,513 |
| Credit Card Fees | | $4,863 | $5,779 | $5,200 | $5,303 | $5,484 | $5,671 | $5,865 | $6,041 | $6,222 | $6,408 | $6,601 | $6,799 | $7,003 | $7,213 |
| Trustee Fees | | $1,880 | $2,080 | $1,880 | $2,077 | $2,148 | $2,221 | $2,297 | $2,366 | $2,437 | $2,510 | $2,585 | $2,663 | $2,743 | $2,825 |
| Water Purchases - American Fork | | $0 | $1,380 | $1,427 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Water Purchases - Pleasant Grove Irrigation | | $17,723 | $17,723 | $18,000 | $19,555 | $20,223 | $20,914 | $21,626 | $22,274 | $22,943 | $23,631 | $24,340 | $25,070 | $25,822 | $26,597 |
| Supplementary Water | | $109,856 | $109,396 | $120,000 | $132,577 | $137,105 | $141,787 | $146,615 | $151,013 | $155,544 | $160,210 | $165,016 | $169,967 | $175,066 | $180,318 |
| **Total O&M** | | **$406,330** | **$401,695** | **$419,351** | **$451,935** | **$467,368** | **$483,329** | **$499,786** | **$514,780** | **$530,223** | **$546,130** | **$562,514** | **$579,389** | **$596,771** | **$614,674** |

| *Debt Service* | | FYE 2012 | FYE 2013 | FYE 2014 | FYE 2015 | FYE 2016 | FYE 2017 | FYE 2018 | FYE 2019 | FYE 2020 | FYE 2021 | FYE 2022 | FYE 2023 | FYE 2024 | FYE 2025 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2006 Utility Revenue Bond | | $404,525 | $402,963 | $401,213 | $374,375 | $371,468 | $374,396 | $370,642 | $376,808 | $376,626 | $376,256 | $374,698 | $372,980 | $376,100 | $372,926 |
| 2009/2013 Utility Revenue Bond | | $82,413 | $80,616 | $51,536 | $58,707 | $57,650 | $61,539 | $60,385 | $64,177 | $62,818 | $66,459 | $64,949 | $68,439 | $66,778 | $70,117 |
| New Well Bond | | | | | | | $55,274 | $55,274 | $55,274 | $55,274 | $55,274 | $55,274 | $55,274 | $55,274 | $55,274 |
| New PI Bond | | | | | | | | $159,902 | $159,902 | $159,902 | $159,902 | $159,902 | $159,902 | $159,902 | $159,902 |
| **Total Debt Service** | | **$486,938** | **$483,579** | **$452,749** | **$433,082** | **$429,118** | **$491,209** | **$646,204** | **$656,162** | **$654,620** | **$657,891** | **$654,824** | **$656,595** | **$658,055** | **$658,220** |

| *Expansion and Replacement* | | FYE 2012 | FYE 2013 | FYE 2014 | FYE 2015 | FYE 2016 | FYE 2017 | FYE 2018 | FYE 2019 | FYE 2020 | FYE 2021 | FYE 2022 | FYE 2023 | FYE 2024 | FYE 2025 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pressurized Irrigation Projects | | $13,473 | $16,561 | $15,200 | $15,314 | $15,441 | $15,569 | $15,695 | $15,695 | $15,695 | $15,695 | $15,695 | $15,695 | $15,695 | $15,695 |
| Irrigation Pump Pond 12 | | | | | | | | | $ 100,000 | | | | | $ 100,000 | |
| Irrigation Pump Pond 10 | | | | | | | | | $ 200,000 | | | | | $ 200,000 | |
| Third Well | | | | | | | $ 1,591,350 | | | | | | | | |
| Secondary Pipeline Improvements | | | | | | | | $ 2,000,000 | | | | | | | |
| Bond | | | | | | | $ (691,350) | | | | | | | | |
| Bond | | | | | | | | $ (2,000,000) | | | | | | | |
| Transfer to/(from) Reserve Fund | | $175,859 | $193,221 | $220,519 | $220,843 | $223,735 | ($662,314) | $142,684 | ($168,336) | $131,923 | $127,140 | $128,458 | $124,692 | ($179,018) | $118,304 |
| **Total Capital Outlays** | | **$189,332** | **$209,782** | **$235,719** | **$236,157** | **$239,176** | **$253,255** | **$158,380** | **$147,360** | **$147,618** | **$142,835** | **$144,153** | **$140,387** | **$136,678** | **$134,000** |
| | | | | | | | | | | | | | | | |
| **Total Revenue Requirements** | | **$1,082,600** | **$1,095,056** | **$1,107,820** | **$1,121,174** | **$1,135,662** | **$1,227,793** | **$1,304,369** | **$1,318,301** | **$1,332,461** | **$1,346,856** | **$1,361,491** | **$1,376,371** | **$1,391,504** | **$1,406,893** |
| LESS: | | | | | | | | | | | | | | | |
| Operations Non-Rate Revenue | | $148,118 | $142,493 | $142,000 | $164,756 | $171,066 | $177,618 | $184,385 | $189,916 | $195,614 | $201,482 | $207,527 | $213,752 | $220,165 | $226,770 |
| Expansion Non-Rate Revenue | | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| | | | | | | | | | | | | | | | |
| **Net Revenue Requirements** | | **$934,382** | **$952,563** | **$965,820** | **$956,418** | **$964,596** | **$1,050,175** | **$1,119,985** | **$1,128,385** | **$1,136,847** | **$1,145,374** | **$1,153,964** | **$1,162,619** | **$1,171,339** | **$1,180,124** |

Bowen Collins & Associates, Inc.
CONSULTING ENGINEERS

DRAFT

# TECHNICAL MEMORANDUM

| | |
|---|---|
| **TO:** | Cedar Hills City |
| **COPIES:** | File |
| **FROM:** | Keith Larson, Devin Stoker |
| **DATE:** | May 8, 2015 |
| **SUBJECT:** | Alternatives for Metered Pressurized Irrigation |
| **JOB NO.:** | 127-15-02 |

## INTRODUCTION

The City of Cedar Hills (City) has retained Bowen Collins & Associates (BC&A) to perform an update to the Utility Rate Study that was completed in 2012 for the City's water, pressurized irrigation, sewer, and storm drain utilities. The objective of the rate study update is to update the City's existing rate models that were developed in 2012 to reflect historic data gathered over the past three years. This will then allow recommended utility rates to be calculated in accordance with accepted industry standards.

As a part of this project, the City has requested that BC&A assist in developing an approach for potential implementation of pressurized irrigation (PI) rates with meters. Currently, secondary water is not metered in the City. There is some concern within the City regarding overconsumption of water since the PI system was originally installed. During the summer months, the City has had to supplement the PI system with culinary water from Cottonwood Well. High demands also have a negative impact on the longevity of the system's infrastructure. Current drought conditions have drawn even more attention to these issues.

Because of the costs required to implement PI meters city-wide (current planning-level cost estimate is $1.5 million), the timing of the project will have a significant impact on the City's capital improvement plans and water fund. The purpose of this memorandum is to identify various approaches to the potential implementation of PI meters and provide recommendations based on the City's financial needs and projected utility rates.

## ALTERNATIVES

In meeting with City staff to kick off the rate study update, BC&A identified four potential scenarios for implementation of PI meters. A brief description of each scenario follows.

### Alternative 1 – No PI Meters

Our understanding is that the City has not made any final decisions with regards to installing PI meters in the City. For comparison purposes, the option to maintain the PI system without metering secondary use is included in this analysis.

### Alternative 2 – Install PI Meters Immediately, Pay with 5-year Bond

The City could reasonably plan for the design and installation of PI meters City-wide within the next calendar year and finance the project with a 5-year bond. This alternative uses a preliminary 5-year

amortization schedule provided to the City by Lewis Young Robertson & Burningham (LYRB). Debt service payments would begin in either fiscal year ending (FYE) 2016 or 2017 and last for 5 years.

### Alternative 3 – Install PI Meters Immediately, Pay with 10-year Bond

The City could also potentially finance the project with a 10-year bond. This alternative uses a preliminary 10-year amortization schedule provided to the City by LYRB. Debt service payments would begin in either fiscal year ending (FYE) 2016 or 2017 and last for 10 years.

### Alternative 4 – Install PI Meters in Future, Pay with Cash Reserves

The final alternative would not require the City to take on any more debt, but would delay the timeline of the project substantially. Because current revenues from pressurized irrigation rates exceed the costs of paying for the PI system (including O&M, existing debt service, and other capital improvements), the City could deposit the excess revenues into reserves and pay cash for the $1.5 million metering project at some point in the future. While estimates will vary somewhat based on water needs, other capital improvements, growth (or lack thereof) within the City, and the current balance of cash on hand, BC&A has determined that this alternative would push the implementation of the PI metering project into the future approximately 10 years[1] (FYE 2025) using the updated PI rate model.

## COSTS

### Debt Service

For Alternatives 2 and 3, principal and interest payments for the period of the bond(s) would be paid back immediately following the implementation of the project. Table 1 shows the total principal and interest payments that would be required per fiscal year for Alternatives 2 (5-year bond) and 3 (10-year bond).

**Table 1**
**Fiscal Total (P+I)**

| Fiscal Year Ending | 5-Year Bond (2.0%) | 10-Year Bond (2.5%) |
|---|---|---|
| 2016 | $322,380 | $173,975 |
| 2017 | $322,540 | $173,575 |
| 2018 | $321,580 | $174,100 |
| 2019 | $322,520 | $173,525 |
| 2020 | $322,320 | $173,875 |
| 2021 | - | $173,125 |
| 2022 | - | $173,300 |
| 2023 | - | $173,375 |
| 2024 | - | $173,350 |
| 2025 | - | $173,225 |

[1] 3.0% annual inflation has been assumed for the $1.5 million project costs. For other estimates in this memorandum, it has been assumed that inflation will approximately offset the time value of money.

### Capital

Aside from smaller miscellaneous PI projects that would be required, the City anticipates the need for repair and replacement of several irrigation pumps over the planning window. Due to the additional wear and tear on the PI system from overconsumption, it has been assumed that approximately $300,000 of capital improvements[2] would be required approximately every 5 years, beginning in FYE 2019 if meters are delayed or not installed.

If PI meters are installed, capital costs for irrigation pump replacement will decrease substantially. It has been assumed that once PI meters are installed, approximately $150,000 (one half of $300,000) of capital improvements would be required approximately every 10 years, also beginning in FYE 2019.

### O&M

There are also likely to be significant O&M savings that must be considered in the case that PI meters are installed. BC&A has estimated that approximately $70,000 in utility costs can be saved per year once PI meters are installed, due to decreased pumping demand in the system[3]. Over the estimated 20-year life cycle of the PI meters, these annual savings will total approximately $1.4 million.

## CONCLUSIONS

Figure 1 shows the net cumulative costs associated with debt service, capital improvements, and O&M costs for each of the four alternatives evaluated in this memorandum.

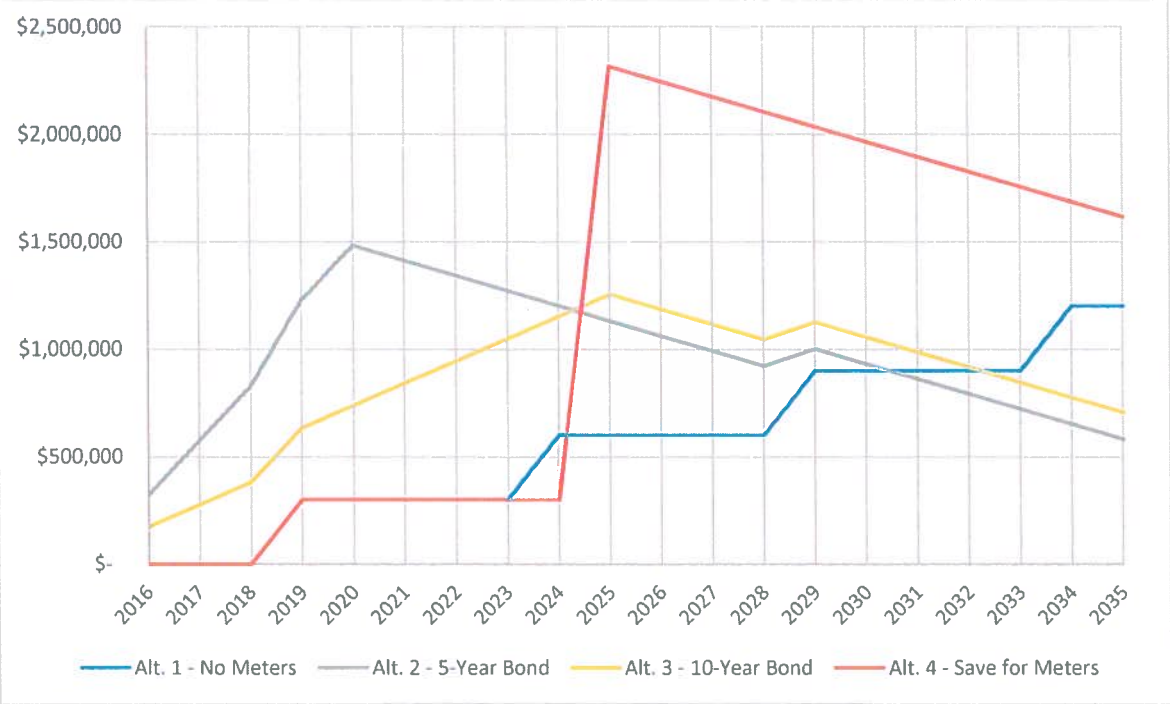



***Figure 1***
***Net Cost of PI Metering Project Alternatives***

[2] Includes $100,000 for Irrigation Pump Pond 12 and $200,000 for Irrigation Pump Pond 10 projects.

[3] Based on estimated 33% reduction in irrigation water use after implementation of meters and approximate groundwater production cost of $94/acre-ft.

Considering only the costs discussed in this memorandum, the net costs of each alternative are as follows:

- Alternative 1 - $1.2 million
- Alternative 2 – $581,340
- Alternative 3 – $705,425
- Alternative 4 - $1.6 million

In the short term, Alternatives 1 and 4 have less of an impact on the City's cash flow into and out of the water fund. As expected, implementing PI meters immediately (Alternatives 2 and 3) will have an impact on the City's short term cash flow, but due to O&M savings over time, have a net cost lower than the other alternatives.[4] From a financial perspective, Alternative 2 is the most attractive option over the long term, and by about FYE 2030 is the least expensive option.

## RECOMMENDATIONS

BC&A recommends that the City consider Alternative 2 if it continues forward with plans to implement metering on the PI system. Metering the secondary water system is expected to create multiple benefits for the City, including: improved PI system performance and longevity, preservation of water that can be made available and used for other purposes, and more resiliency during periods of drought. Eliminating overconsumption of water is a responsible use of the resource. Additionally a recent report released by the State of Utah's Auditor General regarding Utah's water needs recommends that the State Legislature consider requiring metering of secondary water as a policy that will encourage efficient water use.

From a financial standpoint, as mentioned previously, the immediate addition of debt payments will likely cut into the City's current cash reserves to some extent. Overall debt service coverage must also be considered. For these reasons, a minimal increase to PI rates may be necessary in the short term but will be more than offset through longer term savings. However, Alternative 2 remains the most attractive option over the long term.

[4] It should be noted that the assumed 20-year life cycle of the meters would extend to FYE 2045 for Alternative 4 because of the delayed implementation. Due to continued O&M savings, net costs for Alternative 4 in FYE 2045 are approximately $900,000.

## WATER, SEWER, & STORM DRAIN REVENUES

| WATER REVENUE | | FY 2013 ACTUAL | FY 2014 ACTUAL | FY 2015 ACTUAL | FY 2016 BUDGET | FY 2017 BUDGET | CHANGE |
|---|---|---|---|---|---|---|---|
| 51-37-110 | Water Fees - Residents | $473,141 | $529,435 | $557,980 | $569,922 | $606,397 | $36,475 |
| 51-37-111 | Water Fees - American Fork | $1,135 | $6,475 | $606 | $10,000 | $10,000 | $0 |
| 51-37-112 | Water Fees - Contractor | $7,619 | $5,725 | $2,550 | $3,600 | $3,600 | $0 |
| 51-37-113 | PI Fees - Usage | $493,538 | $499,174 | $502,095 | $492,150 | $492,150 | $0 |
| 51-37-114 | PI Fees - Base Rate | $487,398 | $496,316 | $496,797 | $493,800 | $493,800 | $0 |
| 51-37-115 | CUP | $142,493 | $142,936 | $145,014 | $143,000 | $143,000 | $0 |
| 51-37-116 | Water Fees from City departments | $0 | $37,128 | $37,750 | $37,750 | $37,750 | $0 |
| 51-37-160 | Water Lateral Inspections | $1,500 | $2,850 | $1,275 | $1,600 | $1,600 | $0 |
| 51-37-190 | Water Meters | $13,586 | $21,850 | $9,775 | $5,175 | $5,175 | $0 |
| 51-37-350 | Water Impact Fees | $29,106 | $64,320 | $19,300 | $13,700 | $13,700 | $0 |
| | | **$1,649,515** | **$1,806,209** | **$1,773,143** | **$1,770,697** | **$1,807,172** | **$36,475** |

| STORM DRAIN REVENUE | | FY 2013 ACTUAL | FY 2014 ACTUAL | FY 2015 ACTUAL | FY 2016 BUDGET | FY 2017 BUDGET | CHANGE |
|---|---|---|---|---|---|---|---|
| 51-35-110 | Storm Drain - Residents | $229,607 | $245,241 | $264,755 | $277,354 | $295,382 | $18,028 |
| | | **$229,607** | **$245,241** | **$264,755** | **$277,354** | **$295,382** | **$18,028** |

| SEWER REVENUE | | FY 2013 ACTUAL | FY 2014 ACTUAL | FY 2015 ACTUAL | FY 2016 BUDGET | FY 2017 BUDGET | CHANGE |
|---|---|---|---|---|---|---|---|
| 51-38-110 | Sewer Fees - Residents | $929,748 | $986,275 | $996,340 | $1,037,065 | $1,094,104 | $57,039 |
| 51-38-111 | Sewer Fees from City departments | $0 | $1,674 | $1,750 | $1,750 | $1,750 | $0 |
| 51-38-115 | Sewer Fees - Nonresidents | $11,452 | $35,472 | $35,472 | $41,637 | $41,637 | $0 |
| 51-38-160 | Sewer Lateral Inspections | $1,500 | $2,925 | $1,275 | $1,100 | $1,100 | $0 |
| 51-38-660 | Sewer Impact Fees - 80 Rod | $368 | $460 | $0 | $0 | $0 | $0 |
| 51-38-665 | Sewer Impact Fees | $0 | $2,786 | $14,861 | $9,400 | $9,400 | $0 |
| 51-38-670 | Sewer Impact Fees - S Aqueduct | $7,032 | $17,580 | $0 | $0 | $0 | $0 |
| 51-38-680 | Sewer Impact Fees -TSSD | $0 | $0 | $39,688 | $0 | $0 | $0 |
| | | **$950,100** | **$1,047,172** | **$1,089,386** | **$1,090,952** | **$1,147,991** | **$57,039** |

| MISCELLANEOUS REVENUE | | FY 2013 ACTUAL | FY 2014 ACTUAL | FY 2015 ACTUAL | FY 2016 BUDGET | FY 2017 BUDGET | CHANGE |
|---|---|---|---|---|---|---|---|
| 51-39-200 | Penalty Fees | $51,029 | $51,110 | $48,585 | $51,000 | $51,000 | $0 |
| 51-39-410 | Interest Income | $9,600 | $7,461 | $9,351 | $8,000 | $8,000 | $0 |
| 51-39-600 | Utility Setup Fees | $11,505 | $12,750 | $13,900 | $12,000 | $12,000 | $0 |
| 51-39-900 | Other Income | $43 | $5 | $201 | $750 | $750 | $0 |
| 51-39-950 | Contribution Income | $7,600 | $0 | $0 | $5,000 | $5,000 | $0 |
| | | **$79,777** | **$71,325** | **$72,037** | **$76,750** | **$76,750** | **$0** |

| GRAND TOTALS | | | | | | |
|---|---|---|---|---|---|---|
| **$2,908,999** | **$3,169,948** | **$3,199,320** | **$3,215,753** | **$3,327,294** | **$111,542** |

## WATER, SEWER, & STORM DRAIN EXPENDITURES

| WATER EXPENDITURES | | FY 2013 ACTUAL | FY 2014 ACTUAL | FY 2015 ACTUAL | FY 2016 BUDGET | FY 2017 BUDGET | CHANGE |
|---|---|---|---|---|---|---|---|
| 51-73-110 | Salary & Wages (FT) | $196,448 | $185,613 | $191,837 | $202,261 | $216,211 | $13,949 |
| 51-73-111 | Overtime | $904 | $445 | $506 | $3,290 | $3,643 | $354 |
| 51-73-120 | Salary & Wages (PT) | $8,091 | $9,274 | $7,399 | $4,242 | $7,916 | $3,674 |
| 51-73-150 | Employee Benefits | $107,872 | $105,635 | $107,017 | $122,535 | $134,727 | $12,193 |
| 51-73-160 | GASB 68 Pension Expense | $0 | $0 | $13,092 | $0 | $0 | $0 |
| 51-73-200 | Water Supplies | $3,020 | $398 | $1,008 | $3,500 | $3,500 | $0 |
| 51-73-210 | Dues & Subscriptions | $1,450 | $1,550 | $1,500 | $2,000 | $2,000 | $0 |
| 51-73-211 | Education & Training | $2,727 | $3,054 | $1,842 | $6,000 | $6,000 | $0 |
| 51-73-240 | Computer Expenses | $1,548 | $1,681 | $3,000 | $3,000 | $3,000 | $0 |
| 51-73-260 | Office Equipment | $513 | $0 | $766 | $1,000 | $1,000 | $0 |
| 51-73-265 | Tools & Equipment | $11,964 | $4,240 | $12,947 | $13,500 | $13,500 | $0 |
| 51-73-275 | Motor Pool Charges | $0 | $0 | $68,376 | $65,782 | $62,656 | ($3,126) |
| 51-73-280 | Utilities | $316,679 | $317,810 | $293,905 | $320,000 | $320,000 | $0 |
| 51-73-282 | Blue Stakes | $568 | $745 | $689 | $1,000 | $1,000 | $0 |
| 51-73-290 | Communications/Telephone | $2,319 | $2,104 | $1,846 | $2,000 | $2,000 | $0 |
| 51-73-310 | Engineering Services | $0 | $0 | $0 | $1,000 | $1,000 | $0 |
| 51-73-330 | Professional/Technical | $6,613 | $22,119 | $66,075 | $48,850 | $48,850 | $0 |
| 51-73-360 | Meter Installation & Maintenance | $34,845 | $36,824 | $59,140 | $42,000 | $42,000 | $0 |
| 51-73-470 | Water Purchases - AF | $1,380 | $0 | $64,680 | $0 | $0 | $0 |
| 51-73-471 | Water Purchases - PG | $17,723 | $17,723 | $18,004 | $18,500 | $18,500 | $0 |
| 51-73-472 | Water Testing | $3,907 | $2,125 | $4,753 | $6,500 | $6,500 | $0 |
| 51-73-510 | Insurance | $5,648 | $10,082 | $13,334 | $15,770 | $15,770 | $0 |
| 51-73-751 | Water Construction Projects/Repair | $18,018 | $32,059 | $24,938 | $45,000 | $45,000 | $0 |
| 51-73-800 | Supplementary Water | $109,396 | $118,292 | $119,665 | $132,000 | $132,000 | $0 |
| 51-73-801 | PI Expenses | $16,561 | $14,846 | $29,467 | $45,200 | $45,200 | $0 |
| 51-73-900 | Credit Card Fees | $14,447 | $17,458 | $18,762 | $19,000 | $19,000 | $0 |
| 51-73-950 | Trustee Fees | $5,200 | $4,900 | $4,950 | $6,600 | $6,600 | $0 |
| 51-73-955 | Bond Interest | $309,397 | $285,185 | $193,743 | $193,347 | $175,951 | ($17,395) |
| 51-73-960 | Depreciation - Water | $406,224 | $408,661 | $410,024 | $415,000 | $420,000 | $5,000 |
| 51-73-965 | Deferred Amortization Costs | $7,710 | $1,382 | $25,616 | $47,527 | $29,782 | ($17,745) |
| 51-73-975 | Bad Debt | $18,290 | $4,215 | $1,396 | $10,000 | $10,000 | $0 |
| 51-73-980 | Resident Claims | $0 | $5,863 | $29 | $0 | $0 | $0 |
| | | **$1,629,463** | **$1,614,282** | **$1,734,119** | **$1,796,403** | **$1,793,306** | **($3,097)** |

| STORM DRAIN EXPENDITURES | | FY 2013 ACTUAL | FY 2014 ACTUAL | FY 2015 ACTUAL | FY 2016 BUDGET | FY 2017 BUDGET | CHANGE |
|---|---|---|---|---|---|---|---|
| 51-72-110 | Salary & Wages (FT) | $112,156 | $115,758 | $114,589 | $144,702 | $154,176 | $9,475 |
| 51-72-111 | Overtime | $726 | $286 | $329 | $2,407 | $2,651 | $244 |
| 51-72-120 | Salary & Wages (PT) | $5,499 | $5,923 | $4,614 | $4,242 | $6,209 | $1,967 |
| 51-72-150 | Employee Benefits | $67,782 | $68,112 | $65,583 | $87,699 | $96,588 | $8,889 |
| 51-72-160 | GASB 68 Pension Expense | $0 | $0 | $7,838 | $0 | $0 | $0 |
| 51-72-200 | Storm Drain Supplies | $209 | $303 | $1,495 | $3,000 | $3,000 | $0 |
| 51-72-210 | Dues & Subscriptions | $1,560 | $1,860 | $1,864 | $2,000 | $2,000 | $0 |
| 51-72-211 | Education & Training | $163 | $98 | $42 | $750 | $750 | $0 |
| 51-72-240 | Computer Expenses | $739 | $905 | $1,200 | $1,200 | $1,200 | $0 |
| 51-72-265 | Tools & Equipment | $410 | $1,051 | $1,032 | $3,000 | $3,000 | $0 |
| 51-72-290 | Communications/Telephone | $1,606 | $1,415 | $1,194 | $1,500 | $1,500 | $0 |
| 51-72-330 | Professional/Technical | $2,140 | $1,120 | $1,129 | $1,550 | $1,550 | $0 |
| 51-72-470 | Testing | $0 | $0 | $0 | $200 | $200 | $0 |
| 51-72-510 | Insurance | $2,260 | $4,040 | $5,335 | $6,310 | $6,310 | $0 |
| 51-72-751 | Storm Drain Maintenance | $15,009 | $66,145 | $68,103 | $85,500 | $85,500 | $0 |
| 51-72-960 | Depreciation - Storm Drain | $62,786 | $62,786 | $63,142 | $68,000 | $68,000 | $0 |
| 51-72-975 | Bad Debt | $1,384 | $614 | $215 | $750 | $750 | $0 |
| | | **$274,429** | **$330,417** | **$322,027** | **$412,810** | **$433,385** | **$20,575** |

| SEWER EXPENDITURES | | FY 2013 ACTUAL | FY 2014 ACTUAL | FY 2015 ACTUAL | FY 2016 BUDGET | FY 2017 BUDGET | CHANGE |
|---|---|---|---|---|---|---|---|
| 51-74-110 | Salary & Wages (FT) | $140,940 | $132,834 | $137,001 | $144,702 | $154,176 | $9,475 |
| 51-74-111 | Overtime | $761 | $299 | $344 | $2,407 | $2,651 | $244 |
| 51-74-120 | Salary & Wages (PT) | $6,109 | $6,553 | $5,436 | $4,242 | $6,209 | $1,967 |
| 51-74-150 | Employee Benefits | $77,318 | $74,916 | $76,376 | $87,699 | $96,588 | $8,889 |
| 51-74-160 | GASB 68 Pension Expense | $0 | $0 | $9,360 | $0 | $0 | $0 |
| 51-74-200 | Sewer Supplies | $527 | $55 | $124 | $1,000 | $1,000 | $0 |
| 51-74-211 | Education & Training | $120 | $0 | $630 | $1,050 | $1,050 | $0 |
| 51-74-240 | Computer Expenses | $849 | $1,325 | $1,800 | $1,800 | $1,800 | $0 |
| 51-74-265 | Tools & Equipment | $246 | $959 | $691 | $1,000 | $1,000 | $0 |
| 51-74-280 | Utilities | $270 | $131 | $132 | $200 | $200 | $0 |
| 51-74-281 | Postage | $460 | $940 | $1,485 | $1,500 | $1,500 | $0 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 51-74-282 | Blue Stakes | $0 | $0 | $0 | $0 | $0 | $0 |
| 51-74-290 | Communications/Telephone | $1,653 | $1,542 | $1,322 | $1,500 | $1,500 | $0 |
| 51-74-310 | Engineering Services | $0 | $0 | $0 | $1,000 | $1,000 | $0 |
| 51-74-330 | Professional/Technical | $1,674 | $17,662 | $1,693 | $2,500 | $2,500 | $0 |
| 51-74-470 | TSSD Billiing | $483,998 | $468,056 | $534,038 | $600,000 | $600,000 | $0 |
| 51-74-471 | TSSD Impact Fees | $0 | $0 | $39,688 | $0 | $0 | $0 |
| 51-74-472 | Sewer Television Expenses | $0 | $0 | $0 | $2,000 | $2,000 | $0 |
| 51-74-473 | Sewer Fee - AF | $1,439 | $0 | $0 | $1,000 | $1,000 | $0 |
| 51-74-510 | Insurance | $3,403 | $6,082 | $8,033 | $9,500 | $9,500 | $0 |
| 51-74-751 | Sewer Maintenance | $16,244 | $1,385 | $802 | $3,000 | $3,000 | $0 |
| 51-74-752 | Sewer Construction Projects | $398 | $0 | $8,100 | $1,000 | $1,000 | $0 |
| 51-74-960 | Depreciation - Sewer | $136,509 | $136,509 | $136,509 | $145,000 | $145,000 | $0 |
| 51-74-975 | Bad Debt | $5,603 | $2,471 | $806 | $3,000 | $3,000 | $0 |
| | | **$878,521** | **$851,722** | **$945,652** | **$1,015,100** | **$1,035,675** | **$20,575** |

| **NON-OPERATING EXPENDITURES** | | **FY 2013 ACTUAL** | **FY 2014 ACTUAL** | **FY 2015 ACTUAL** | **FY 2016 BUDGET** | **FY 2017 BUDGET** | **CHANGE** |
|---|---|---|---|---|---|---|---|
| 51-75-815 | Transfer to General Fund | $0 | $8,280 | $8,500 | $8,500 | $8,500 | $0 |
| 51-75-820 | Transfer to Capital Projects | $75,850 | $89,732 | $78,856 | $76,532 | $0 | ($76,532) |
| 51-75-900 | Transfer to Excise Tax Debt Service | $0 | $0 | $0 | $0 | $78,113 | $78,113 |
| 51-75-910 | Transfer to Golf Fund | $0 | $30,521 | $31,000 | $31,000 | $31,000 | $0 |
| 51-75-911 | Transfer to Motor Pool Fund | $43,000 | $37,045 | $0 | $0 | $0 | $0 |
| | | **$118,850** | **$165,579** | **$118,356** | **$116,032** | **$117,613** | **$1,581** |
| **GRAND TOTALS** | | **$2,901,263** | **$2,961,999** | **$3,120,154** | **$3,340,345** | **$3,379,978** | **$39,633** |
| **NET TOTALS** | | **$7,736** | **$207,948** | **$79,166** | **$124,592** | **$52,684** | **$71,908** |

***Water, Sewer, & Storm Drain Fund Cash Flow Analysis***

| | | | |
|---|---|---|---|
| **TOTAL BUDGETED LOSS** | **($124,592)** | **($52,684)** | |
| Less Debt Service | | | |
| 2006 PI Bond Principal | ($200,000) | $0 | Partially refunde |
| 2007 Well Bond Principal | ($97,000) | ($99,000) | |
| 2009 PI2 Bond Principal | ($57,000) | ($61,000) | Includes $21,000 |
| 2014 PI Bond Principal | ($40,000) | ($252,000) | |
| Less Capital Projects | | | |
| Water Stock | ($5,000) | ($5,000) | |
| Maintenance Shed site work | ($100,000) | ($100,000) | |
| Plus Non-Cash Items | | | |
| Depreciation - Storm Drain | $68,000 | $68,000 | |
| Depreciation - Water | $415,000 | $420,000 | |
| Depreciation - Sewer | $145,000 | $145,000 | |
| Amortization - Bond Costs | $47,527 | $29,782 | |
| Accrued Interest Adjustment | ($3,550) | ($4,000) | |
| **TOTAL CASH INFLOW** | **$48,385** | **$89,098** | |

## EXCISE TAX BOND DEBT SERVICE FUND REVENUES

| | | FY 2013 ACTUAL | FY 2014 ACTUAL | FY 2015 ACTUAL | FY 2015 BUDGET | FY 2016 BUDGET | FY 2017 BUDGET | CHANGE |
|---|---|---|---|---|---|---|---|---|
| 31-30-600 | Interest Income | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| 31-30-801 | Transfers in from General Fund | $0 | $0 | $0 | $0 | $0 | $78,113 | $78,113 |
| 31-30-802 | Transfers in from W&S Fund | $0 | $0 | $0 | $0 | $0 | $78,113 | $78,113 |
| | | $0 | $0 | $0 | $0 | $0 | $156,226 | $156,226 |

## EXCISE TAX BOND DEBT SERVICE FUND EXPENDITURES

| DEBT SERVICE | | FY 2013 ACTUAL | FY 2014 ACTUAL | FY 2015 ACTUAL | FY 2015 BUDGET | FY 2016 BUDGET | FY 2017 BUDGET | CHANGE |
|---|---|---|---|---|---|---|---|---|
| 31-98-105 | Interest Expense | $0 | $0 | $0 | $0 | $0 | $37,576 | $37,576 |
| 31-98-200 | 2015 Excise Revenue Bonds - PWB | $0 | $0 | $0 | $0 | $0 | $117,000 | $117,000 |
| 31-98-795 | Trustee Fees | $0 | $0 | $0 | $0 | $0 | $1,650 | $1,650 |
| | | $0 | $0 | $0 | $0 | $0 | $156,226 | $156,226 |
| | | | | | | | | |
| NET TOTALS | | $0 | $0 | $0 | $0 | $0 | $0 | $0 |

## GOVERNMENTAL IMMUNITY SPECIAL REVENUE FUND REVENUES

| | | FY 2013 ACTUAL | FY 2014 ACTUAL | FY 2015 ACTUAL | FY 2015 BUDGET | FY 2016 BUDGET | FY 2017 BUDGET | CHANGE |
|---|---|---|---|---|---|---|---|---|
| 21-30-101 | Property Tax--Governmental Immunity | $0 | $0 | $0 | $0 | $0 | $42,000 | $42,000 |
| 21-30-600 | Interest Income | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| 21-30-801 | Transfers in from General Fund | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| 21-30-802 | Transfers in from W&S Fund | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| | | $0 | $0 | $0 | $0 | $0 | $42,000 | $42,000 |

## GOVERNMENTAL IMMUNITY SPECIAL REVENUE FUND EXPENDITURES

| | | FY 2013 ACTUAL | FY 2014 ACTUAL | FY 2015 ACTUAL | FY 2015 BUDGET | FY 2016 BUDGET | FY 2017 BUDGET | CHANGE |
|---|---|---|---|---|---|---|---|---|
| 21-XX-XXX | Tort claims and litigation costs | $0 | $0 | $0 | $0 | $0 | $42,000 | $42,000 |
| | | $0 | $0 | $0 | $0 | $0 | $42,000 | $42,000 |
| NET TOTALS | | $0 | $0 | $0 | $0 | $0 | $0 | $0 |