CITY OF FOWLER
WATER RATE STUDY
ENGINEERING REPORT

This report was prepared by the following person

David Peters
City Engineer

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Date
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EXECUTIVE SUMMARY

The City of Fowler is responsible for providing water service to its customers in its city limits and beyond. The City is faced with many important issues, ranging from fire flow, water quality, water pressure, drought related issues, groundwater recharge, maintaining growth within the community, and most importantly, adequate financing.

In order to address current and projected circumstances and expenses, Fowler determined to undertake a rate study to analyze the revenue requirements of operating Fowler’s water operations. The objective of the study is to evaluate and recommend sufficient stable revenues to properly operate and maintain the water system, to ensure a safe and reliable supply to accommodate current and future customers.

In November 1996, the California voters approved Proposition 218, the “Right to Vote on Taxes Act”, which added Article XIII D to the California Constitution. Proposition 218 imposes certain requirements relative to the imposition of certain assessments, fees and charges by local agencies.

As detailed in the report, the increase in annual operating costs as well as the cost of needed repairs and expansion of the existing system cannot be accomplished with the current revenues collected from customers.

Additionally, in 2014, the City entered into an agreement with Consolidated Irrigation District (CID) to fund groundwater recharge programs that would benefit the City of Fowler. The CID agreement sets forth specific City funding to construct groundwater recharge projects that will benefit the City of Fowler. The estimated annual groundwater recharge contribution costs will be as much as $200,605 in the next 8 years, and such costs are not currently covered by the existing water rates.

As with any municipal water system, annual improvements are needed to provide the high level of service that residents have become accustomed to. The system is experiencing new challenges in the form of additional water demands, increasing regulation and maintenance of an aging system. The City has identified approximately $2,000,000 of capital improvement projects over a ten year period to upgrade the system to maintain current levels of service.

Two previous rate increases were a base rate increase in 2003 and an overage rate increase in 2009. During the years since the previous increases, operating costs have increased such that current revenue does not cover current costs. Reserve funds have been used to make up the short fall of revenue. Thus, it is necessary to increase the revenue to cover the current operating and maintenance costs, to begin adequately funding a capital improvements and replacement program, and to restore appropriate reserves.
As described in this report, it is recommended that the rates be increased and phased in over an eight (8) year period. Based on an existing rate of $16.24 per user for the first 10,000 gallons and $1.62 per additional thousand gallons thereafter, the proposed water rates are as follows:

<table>
<thead>
<tr>
<th>Fiscal Yr</th>
<th>15/16</th>
<th>16/17</th>
<th>17/18</th>
<th>18/19</th>
<th>19/20</th>
<th>20/21</th>
<th>21/22</th>
<th>22/23</th>
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<tr>
<td>Per Add 1K Gal</td>
<td>$1.72</td>
<td>$1.82</td>
<td>$1.92</td>
<td>$2.02</td>
<td>$2.12</td>
<td>$2.22</td>
<td>$2.32</td>
<td>$2.42</td>
</tr>
</tbody>
</table>

Under the recommended rates, a median single-family customer using 14,000 gallons per month would see their monthly water bill rise from the current $22.72 to $33.92 by the end of the eight-year phase-in period. Actual increases in individual water bills based on amount of water used by each customer.

The rates recommended in this report were based on the best information available at the time. Regular updates of the financing and rate projections should be performed as accurate and more complete information becomes available.
INTRODUCTION

The City of Fowler is responsible for providing water service to its customers in its city limits and beyond. The City of Fowler strives to maintain a reliable and quality water system. However, with operating costs escalating and the existing system aging, incremental replacement and upgrades will be needed to maintain an appropriate level of service. Each of these issues contributes to the complications of adequately providing customer service at the lowest cost possible.

The City is faced with many important issues, ranging from fire flow, water quality, water pressure, drought related issues, groundwater recharge, maintaining growth within the community, and most importantly, adequate financing. Continued regulation and emphasis on water quality will place financial burdens on all water agencies. The scarcity of water will add to this burden. In order to provide a reliable and quality water supply for its service area, Fowler has completed and is planning future projects to pump, store, and distribute water within the community.

One of the duties of operating a municipal water system includes developing rates that are balanced between potentially conflicting objectives, the desires of the users and requirements of the law, in a manner that suits a particular community. The unique nature of a community and its customers must be considered when selecting a rate structure.

The two previous rate increases were a base rate increase in 2003 and an overage rate increase in 2009. During the years since then, operating costs have increased such that current revenue does not cover current costs. Reserve funds have been used to make up the short fall of revenue. Thus, it is necessary to increase the revenue to cover current operating and maintenance costs, to begin adequately funding capital improvements and replacement program, and to restore appropriate reserves.

In order to address the revenue shortfall, Fowler determined to undertake a rate study to analyze the revenue requirements of Fowler’s water operations. The objective of the study is to develop sufficient stable revenues to properly operate and maintain the water system, and to ensure a safe and reliable supply to accommodate current and future customers.

PROPOSITION 218

In November 1996, the California voters approved Proposition 218, the “Right to Vote on Taxes Act”, which added Article XIII D to the California Constitution. Proposition 218 imposes certain requirements relative to the imposition of certain assessments, fees and charges by local agencies. The City has also made the decision to follow the provisions of Proposition 218 in part
because its procedures act to fully inform the City’s residents while simultaneously giving them a direct say in the matter.

In general, before a local agency can levy new or increased water rates, the following procedures are required:

1. Preparation of a rate justification study, prepared by a qualified individual or firm, and the study must justify the proposed rate increase.

2. The record owner of each parcel subject to the proposed increase must be given a written notice of the proposed increase.

3. Notice to the record owner must specify the time, date, and location of the public hearing at which the proposed increased fee will be considered.

4. A public hearing shall be conducted, held not less than 45 days after mailing the notice, to consider protests to the proposed increased fee.

5. The increased fee can be approved if a majority of the property owners do not file written protests against the proposed increase.

Prior to the passage of Propositions 218, rates and charges could be established under more general guidelines. However, this is very difficult to achieve while complying with the legal requirement of these propositions that the charge must reflect the “reasonable cost” to provide the service.

California voters have enacted constitutional amendments that require public agencies to clearly identify and separately account for funds collected for the construction and development of new infrastructure. The law also requires that fees and charges be based on a clearly defined statement of actual needs and costs that have been presented to the public. Further, water service charges likewise have to be accounted for separately in order to charge the “reasonable” cost of providing the service.

CURRENT WATER SYSTEM

The City of Fowler’s water supply is produced from groundwater wells located throughout the City. Table 1 shows the location of the wells and their current operational status. Each of the wells in operation supply water to a distribution system located in City streets, Caltrans Right of Way, and alleys. The sizes of these pipes range from 6” to 12”, and are made of Asbestos Concrete, PVC C-900, Ductile Iron, Cast Iron, SDR-35 PVC, and Steel. A copy of the existing water distribution map is included in the appendix. A copy of the Annual Water Quality Report and Consumer Confidence Reports can be obtained from Fowler City Hall, located at 128 South 5th Street, Fowler, CA 93625.
Table 1 – City Water Wells

<table>
<thead>
<tr>
<th>Well No.</th>
<th>Location</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5th Street between Main Street and Fresno Street</td>
<td>Abandoned in 2006</td>
</tr>
<tr>
<td>2</td>
<td>Southeast Corner of Modesto Street and 5th Street</td>
<td>Online</td>
</tr>
<tr>
<td>3</td>
<td>9th Street between Tuolumne Street and Merced Street</td>
<td>Standby</td>
</tr>
<tr>
<td>4</td>
<td>Adams Avenue east of Main Street adjacent to Fowler High School</td>
<td>Online</td>
</tr>
<tr>
<td>5A</td>
<td>Parlier Avenue east of Golden State Boulevard</td>
<td>Online</td>
</tr>
<tr>
<td>6</td>
<td>Southeast Corner of Golden State Boulevard &amp; Temperance Avenue</td>
<td>Online</td>
</tr>
<tr>
<td>7</td>
<td>Temperance Avenue between Adams Avenue and Walter Avenue</td>
<td>Online</td>
</tr>
<tr>
<td>8A</td>
<td>Southeast Corner of Sunnyside Avenue and Sumner Avenue</td>
<td>Online</td>
</tr>
</tbody>
</table>

Water consumption has been increasing over the past decade which has resulted in increased costs of pumping and delivery of the water to consumers. Table 2 presents annual water usage by year for a 20-year period beginning in 1993 and ending in 2013.

![Usage by Gallons](image)

The City is continuing to operate the City’s water system under increasingly demanding regulations and mandates and is contending with challenges such as drought conditions and groundwater sustainability.

Maintenance of the existing production and distribution system is now more significant than in past years. The pipelines, wells, tanks, and other system appurtenances are increasing in age and approaching the end of their useful lifespan. In order to continue the level of service historically expected by customers, the system must undertake maintenance and replacement projects on its current system. These activities may include valve and pipeline replacements, tank painting and
coating, well servicing and repair, as well as reinvestment in tools and equipment for maintenance workers to ensure sufficient and efficient repairs are realized.

Additionally, the City is continuing to expand and grow. In order to have the ability to meet new demands system expansions must occur. These projects may include new pipelines, wells, storage facilities, telemetry upgrades, and other expansion type projects. These activities will allow the City to provide additional water for expansion of existing facilities as well as meet the demand of new development within the City.

The increase in annual operating costs as well as the need to repair and expand the existing system is difficult to accomplish under the current revenues collected from customers and is contributing towards the need to increase water rates.

CONSOLIDATED IRRIGATION DISTRICT AGREEMENT

In 2014, the City entered into an agreement with Consolidated Irrigation District (CID) to fund groundwater recharge programs that will benefit the City of Fowler. The need for this agreement was to address the sustainability of the groundwater aquifer, which serves as the primary source of water for the City of Fowler. The agreement also addresses the newly passed Sustainable Groundwater Management Act of 2014, which requires local agencies to manage groundwater basins in a sustainable manner of a long term horizon.

The CID agreement sets forth specific City funding to construct groundwater recharge projects that will benefit the City of Fowler. Funding under the CID agreement is ramped up incrementally over 8 years. After year 8, the estimated annual groundwater recharge contribution costs are projected to be at least $200,605. Current revenues will not cover the projected costs of the CID agreement. As such, the City must generate revenue through a water rate increase to fund these projects and meet the terms of the agreement.

PROPOSED CAPITAL PROJECTS

As with any municipal water system, annual improvements are needed to provide the high level service that residents have become accustomed to. The system is experiences new challenges in the form of additional water demands, increasing regulation and maintenance of an aging system. The following projects have been identified as being necessary to maintain the consistent level of service to the City’s water customers as in years past:

A. STORAGE

1 Million Gallon Water Storage Tank at Well 6 Site
This project would construct a 1 million gallon at grade water storage tank on property owned by the City of Fowler adjacent and connected to Well 6. The tank would be bolted steel, and would
require additional site improvements consisting of a chlorine storage facility, diesel generator, onsite piping and pumping facilities, fencing, and a drivable surface, such as baserock or asphalt pavement.

The City of Fowler does not currently have a water storage facility. An elevated tank exists at the City’s corporation yard on 5th Street between Main Street and Fresno Street. This tank was filled with water from Well 1, which was abandoned in 2006. The tank is currently offline and would need significant repair before being reintroduced to the system. Additionally, the existing tank is only 60,000 gallons, which may not meet the storage needs for the community.

Recently, the City purchased land directly adjacent to Well 6, located at Golden State Boulevard and Temperance Avenue. This location was thought to be ideal to locate a future tank, given its south central location and proximity to a majority of the industrial properties located along Golden State Boulevard. Additionally, Well 6 is currently run by a “hard start” motor. This type of starting mechanism is beneficial for a well that fills a tank. Well 6 would connect directly to the proposed tank and be used primarily for tank filling purposes.

B. DISTRIBUTION

12” Water Main Construction
This proposed project would construct a 12” water main in Golden State Boulevard from Temperance Avenue to South Avenue, and in South Avenue from Golden State Boulevard to South Fowler Avenue. The project would include a bore under Freeway 99, connecting the east and west side of the City.

Currently, there are three crossings of Freeway 99 connecting east and west sides. The first is a 6” Cast Iron pipe located in Merced Street as it crosses under Freeway 99. This pipe was installed in the mid 1900’s. The second is a 6” Cast Iron Pipe in the Tuolumne Street Alignment under Freeway 99, connecting near the Sumner Avenue right of way. This pipe was installed under the freeway in 1977 and connected into the Sumner Avenue pipeline in 2006. The third is an 8” Cast Iron pipe located in the Fresno Street Alignment under Freeway 99, connecting near the Fowler Avenue and Fresno Street Intersection west of the freeway. The pipe was connected to the west side pipe system in 1977.

The City has one operational well west of the Freeway, Well 8A. This well was constructed when new subdivisions were constructed west of the freeway in 2005. While there is not a current water model for the City’s water system, it is prudent to assume that most of the west side of Freeway 99 is fed from this well. Based on the existing pipe sizes, the location of Well 8A, and the mostly residential uses west of Freeway 99, it can be assumed that there is not a significant amount of water that moves back and forth through the three crossings. City Staff currently must coordinate any maintenance for Well 8A with low demand time periods on the
system, so as not to create low pressure issues, specifically for the west side of Freeway 99. The construction of the proposed 12” water main would significantly increase flow between the east and west sides of Freeway 99, and allow City Staff to operate the system west of the freeway without as much dependence on Well 8A. With development of a hydraulic model described in Section D below, Public Works Staff will be able to identify the effects of the proposed 12” pipeline on the system and prioritize the need for this improvement against other projects.

**Fire Hydrant Updates (City Wide)**

The City of Fowler provides flow to hundreds of fire hydrants within the existing distribution system. Of these fire hydrants, approximately 40% do not have a shut-off valve at the connection of the fire hydrant service line and the main line. This shut-off valve is an important part of the system, as it allows the Public Works Department to shut off water to the fire hydrant if the fire hydrant is damaged or leaking. Also, there are several fire hydrants that are currently wharf hydrants that need to be changed to City Standard fire hydrants. Finally, there are several fire hydrants that are in need of replacement due to their age. Some of the hydrants in the City have not been replaced or updated since the mid 1900’s. Firefighting equipment has become more efficient and effective since their installation, and updating the existing fire hydrants to more recent models would accommodate higher flows and increased accessibility. During development of a hydraulic model described in Section D, Public Works Staff will be able to calculate the anticipated flow at each fire hydrant and identify if proper fire flow is available at each hydrant.

**Water Valve Replacement (City Wide)**

The City of Fowler’s distribution system includes hundreds of water valves, varying in sizes that included 6”, 8”, 10”, and 12”. These water valves, when spaced at appropriate intervals and in working order, allow Public Works Staff the ability to isolate certain portions of the water distribution system without significantly affecting users. However, several valves are now stuck in their current position, either open or closed. Replacement of these valves will give greater flexibility to Public Works Staff when maintenance is needed for the distribution system. Through the development of a system inventory described in Section D below, Public Works Staff will be able to determine the number of water valves that need to be replaced, and prioritize the timing of the various replacements.

**Water Service Upgrades (City Wide)**

The City of Fowler continues to maintain existing copper and polyethylene water services. Some of these services have not been replaced since their installation. Public Works Staff is concerned that some of these services, if not replaced soon, may cause water loss due to leaks and possibly contaminate the distribution system. Through the development of a system inventory described in Section D below, Public Works Staff will be able to determine the number of services that will need to be replaced and give priority to when they will be replaced.
C. WELL RESTORATION/IMPROVEMENTS

Well 5 Improvements
The City of Fowler’s Well 5A, located on Parlier Avenue east of Golden State Boulevard, is currently activated by a pressure, or “hard start” switch. The well sensor reads the pressure on the system, and when the pressure drops either below the low setting or above the high setting, the well pump is started. While this gives the well pump an instant impact on the system, starting and stopping of the pump can cause pressure fluctuations within the distribution system. In turn these fluctuations cause the pump to go through several start and stop functions as the system attenuates. These “hard starts” are very energy inefficient, and can cause the pump motor increased stress, which could shorten the life of the pump.

The installation of a “soft-start”, variable frequency drive (VFD) would allow the well pump to monitor the pressure of the distribution system and make smaller, more efficient adjustments to the system pressure by not pumping a full output to the system. This sort of self-monitoring, while forcing the pump to run longer, actually helps the pump provide its maximum efficiency, which will equate to a longer life span.

Well 7 Improvements
The City of Fowler’s Well 7, located on the east side of Temperance Avenue between Adams Avenue and Walter Avenue, was initially constructed in 2003, with the construction of the surrounding subdivision. Well 7 is approximately four hundred (400) feet deep, and has a current output of 1,000 GPM. While the output for this well is consistent with other wells in the City, the depth is relatively shallow for a municipal water well. Due to this shallow depth, Well 7 is susceptible to potential contamination from pesticides. The shallow depth may also eventually impact the well’s output, as groundwater levels in the Central Valley have historically decreased.

There are two upgrade options available to mitigate the potential issues with Well 7. The first option is to remove the existing pump and casing infrastructure and re-drill the well to a lower depth. After the re-drill, a new well casing and pump would be installed. The re-drill to a lower depth would potentially alleviate concerns regarding future well output. The new well casing could be designed to address concerns of contamination. The casing could be designed as a solid casing with no perforations down to a design depth below the contaminant area.

The second option, which could be used in conjunction with the first, if necessary, would be to construct a Granulated Active Carbon (GAC) filter system at Well 7. The installation of this filter system would allow for treatment of contaminants, such as DBCP and other pesticides, prior to connection into the distribution system. The GAC filter system would consist of two large above ground tanks filled with carbon filters. Water would be pumped from the ground...
and through an onsite piping system, through the GAC filters, and then to the mainline pipe. This type of filter system has been successfully used in other communities in the Central Valley in meeting testing requirements as monitored by the Regional Water Quality Control Board and the California Department of Public Health.

Prior to implementing either of the above options, the City Staff would need to hire a hydro geologist to study the conditions at Well 7 and assist in implementing a maintenance and operations plan that will be most efficient and cost effective for the City. This study will be included in the Modeling and Inventory section below.

D. MODELING AND INVENTORY

**City-Wide Water Modeling and Inventory Program**

The City of Fowler does not currently have a hydraulic water model for its water distribution system. The benefit of a water model is that it will simulate and indicate the performance of the existing distribution system. This will assist in analysis of where fire hydrants and valves need to be replaced, as described above. A secondary benefit is that the water model can assist in predicting how additional infrastructure, such as water main and wells, will affect the existing system. City staff will use this tool for analysis of the proposed 12” water main project, and the proposed 1 MG Water Tank identified above. Finally, it will have the ability to predict how the distribution system will respond to added (or subtracted) uses. As new commercial, industrial, and residential developers build out the City’s General Plan, this water model will assist in verifying what infrastructure will be needed to mitigate those impacts.

To properly prepare the water model, an inventory of the distribution system will need to be completed. This inventory will identify the number and size of pipes and valves on the mainline system. It will also catalogue the amount and sizing of the water meters and services in the community. Using the proposed Geographic Information System (GIS) identified below, the City will have an accurate map of the distribution system and service locations. This map, along with water well logs and pumping information will be the information used to prepare the water model. The City will hire a water engineering consultant with experience in creating water models for communities similar in size and infrastructure type as Fowler.

**Geographic Information System (GIS) Cataloging of Water System**

In order to create an accurate and useful water model for the City of Fowler, the information on the existing distribution system will need to be carefully compiled and input. The most effective, and lasting way to accomplish this is through the use of a GIS survey. This survey will log each of the valve, fire hydrant, blow-off, and water meter location. The City’s current distribution map can be used as an initial basis for this survey, and provide for pipe sizing. Once the objects are surveyed, they can be identified on a map and can be tagged with important information that can be sorted and catalogued for City Staff and Water Engineering Consultant use. A computer
aided drafting (CAD) file will be created from this survey, and will be used in the water model to measure pipe lengths.

**Well 7 Hydrogeology study**

The proposed improvements to Well 7 identified above will need to be studied by a hydrogeologist prior to implementation. The hydrogeologist will be selected based on qualifications, and will be required to prepare a report with conclusions and recommendations for needed maintenance and improvements to Well 7.

**E. PROPOSED PROJECT COSTS**

Table 3 presents estimated costs for the improvement projects described in this section.

<table>
<thead>
<tr>
<th>Proposed Project</th>
<th>Estimated Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 MG Water Storage Tank</td>
<td>$2,500,000</td>
</tr>
<tr>
<td>Construct 12-inch water main (S. Fowler – GSB &amp; BSG to Well 6)</td>
<td>$1,250,000</td>
</tr>
<tr>
<td>Fire Hydrant Upgrades (40 each)</td>
<td>$200,000</td>
</tr>
<tr>
<td>Existing Water Valve Replacements (50 each)</td>
<td>$150,000</td>
</tr>
<tr>
<td>Upgrade existing water services (200 ea)</td>
<td>$400,000</td>
</tr>
<tr>
<td>Install Variable Frequency Drive on Well 5</td>
<td>$250,000</td>
</tr>
<tr>
<td>Deepen Well 7 Casing</td>
<td>$750,000</td>
</tr>
<tr>
<td>Install Granular Activated Carbon treatment on Well 7</td>
<td>$1,500,000</td>
</tr>
<tr>
<td>Develop GIS database for Water system</td>
<td>$50,000</td>
</tr>
<tr>
<td>Prepare water system hydraulic model</td>
<td>$50,000</td>
</tr>
<tr>
<td><strong>Total System Capital Projects Costs</strong></td>
<td><strong>$7,100,000</strong></td>
</tr>
</tbody>
</table>

Staff recognizes that undertaking each of the projects in the short term is not feasible. As such, the City reasonably intends to implement or complete approximately $2,000,000 of the proposed improvement projects over a ten year period. Both the GIS database and hydraulic model are proposed to be undertaken immediately with the remaining $1,900,000 of projects being determined based on the results of these two efforts and development of a strategic capital improvement program by staff. That program will be prepared and validated through the City Council prior to the initiation of activities to implement the projects.
WATER RATE ANALYSIS

Rate Policies
Multiple factors must be considered when evaluating existing water rates and considering potential rate increases. Some of the factors to consider in developing a rate policy are:

Revenue stability – A rate that provides relatively consistent revenue throughout the year is desirable in cash flow planning.

Complexity – Complex rate structures are an attempt to create rate equity; However, they may overly complicate rate administration.

Equity – Fowler seeks equity and proportionality in the rate setting process. However, it also recognizes that the cost of achieving “perfect” equity may outweigh the advantages.

Public Understanding – This is an extremely important issue. The public has to be shown that the rates are fair and equitable. A complex rate structure may result in confusion and an appearance of inequity.

Affordability – This is a difficult objective, in that sufficient revenue must be raised to meet expenses. Thus, there is little flexibility in addressing this policy other than to forego needed capital improvements to keep expenses lower.

Economic Development – Developing a rate structure that complies with the law may result in charges for industrial users being appreciably higher than those for residential users.

Water Conservation – A structure that takes into account water conservation complements potable water rates that encourage water conservation. Less water use results in less discharge to the sewer.

Municipal Demands – The City of Fowler’s water system provides water for City municipal facilities, including City government offices and maintenance areas, City parks, City maintained landscape areas and planter areas in the downtown business district.

Current Rate Structure
The City of Fowler currently charges customers receiving City water service on a metered rate. The current rate is $16.24 per user for the first 10,000 gallons and $1.62 per additional thousand gallons thereafter. For the 2013-14 FY, the activities of which consisted of routine operation and maintenance, the revenues were $1,053,204 and the expenditures were $1,186,728. The deficit in expenses versus revenues demonstrates that the current rates are not sufficient to even
maintain the existing system. Additional revenues are required to meet the groundwater recharge and system upgrades required to maintain appropriate levels of service to the customers.

**Proposed Rate Structure**
The proposed rate structure would increase water rates proportionately with usage for residential and commercial users. The basis for the increase is providing adequate funding to meet the obligations of the CID agreement as well as provide the capital investment necessary to construct the various improvement projects described in this report. A calculation of the proposed increase is as follows:

### Table 4

<table>
<thead>
<tr>
<th>Learning Rate Fee Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water System Repairs / Upgrades</td>
</tr>
<tr>
<td>Groundwater Recharge Costs</td>
</tr>
<tr>
<td>Total Additional System Costs</td>
</tr>
<tr>
<td>Cost / MG Pumped</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Avg Water Usage (MG)</th>
<th>Total Additional Fee /Month</th>
<th>Annual Additional Fund Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF Residential</td>
<td>0.1861</td>
<td>$ 11.03 per home</td>
</tr>
<tr>
<td>MF Residential (12 Units /Site)</td>
<td>1.6295</td>
<td>$ 8.05 per unit</td>
</tr>
<tr>
<td>Commercial/Institutional</td>
<td>0.5230</td>
<td>$ 31.00 per site per meter</td>
</tr>
<tr>
<td>Industrial</td>
<td>6.9990</td>
<td>$414.90 per site per meter</td>
</tr>
<tr>
<td>Landscape Irrigation</td>
<td>0.3210</td>
<td>$ 19.03 per meter</td>
</tr>
</tbody>
</table>

**Avg Usage Per Home (Gal)** 14,459

**Additional Cost per 10,000 Gal**
- SF Residential $ 7.63
- MF Residential (12 Units /Site) $ 8.00
- Commercial/Institutional $ 0.76
- Industrial $ 0.80
- Landscape Irrigation $ 0.80

**Avg Water Usage (MG)** 0.1861

**Annual Additional Fund Revenue** 400,605.34
IMPLEMENTATION OF RATES

The rate increase will be phased in over an eight (8) year period. Based on an existing rate of $16.24 per user for the first 10,000 gallons and $1.62 per additional thousand gallons thereafter, the proposed water rates are as follows:

Table 5 – Proposed Rate Structure

<table>
<thead>
<tr>
<th>Fiscal Yr</th>
<th>15/16</th>
<th>16/17</th>
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<th>18/19</th>
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<td>$2.12</td>
<td>$2.22</td>
<td>$2.32</td>
<td>$2.42</td>
</tr>
</tbody>
</table>

CONCLUSION

The final water rate recommendations contained in this report are a result of an extensive, public process with input received from many sources including City staff, the public and the City Council. The recommended rates are designed to produce revenues adequate to fund groundwater recharge efforts, new capital improvement projects, and all other water system costs. Rate increases are proposed to be phased in over an eight-year period to reduce impacts to ratepayers. The recommended rates are shown on Table 5.

Under the recommended rates, a median single-family customer using 14,000 gallons per month would see their monthly water bill increase from the current $22.72 to $24.12 in the first year (6% increase), and increase to $33.92 by the end of the eight-year phase-in period (a 6% increase each year). Actual increases in individual water bills will vary based on the amount of water used by each customer.

The rates recommended in this report are based on the best information available at the time. Regular review and evaluation of the financing and rate projections should be performed as accurate and more complete information becomes available. The rates should be reviewed annually to take into account the results of local project construction bids, conservation patterns, actual O&M costs, and the actual financing received for the projects, and adjustment to the rates may be considered, as necessary.

APPENDIX

- Proposed Project Exhibit
- Existing Water Distribution Map 1
- Existing Water Distribution Map 2