City of Reedley

Evaluation of the Financial/Rate Status of the Water Division

November 2006

Prepared by
HDR Engineering, Inc.

November 9, 2006

Mr. Lewis R. Becker
Johnson Controls, Inc.
5770 Warland Drive
Cypress, California 90630

Dear Mr. Becker:

HDR Engineering, Inc. (HDR) was retained by Johnson Controls, Inc. to provide a cursory review of the financial planning and rate status of the City of Reedley's Water Division. The objective of this review was to determine the adequacy of current funding for the Water Division and adherence to "generally accepted" financial and rate setting principles.

Our report was prepared from the City's data and information supplied to HDR by Johnson Controls. In providing our review, HDR has utilized "generally accepted" rate setting principles and financial planning criteria to reach our findings and conclusions. This report has also considered the water industry's best management practices along with the specific and unique circumstances of the Water Division.

I appreciate your contributions and assistance, along with that of the City management team and staff in the development of this report. Thank you for the opportunity to provide this technical assistance.

Sincerely,

HDR ENGINEERING, INC.

Thomas E. Gould
Vice President

TEG:smn
Enclosure

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Review of the Financial Planning and Rate Status of the City of Reedley's Water Division

Introduction

HDR Engineering, Inc. (HDR) was retained by Johnson Controls, Inc. to provide a cursory review of the financial planning and rate status of the City of Reedley's Water Division (the "Water Division"). The objective of this review was to determine the adequacy of current funding for the Water Division and their adherence to "generally accepted" financial and rate setting principles. In providing this review, HDR was provided with data and records from the City and the Water Division. HDR utilized this data and information and compared it against "generally accepted" financial planning and rate setting criteria.

"The intent of this review is to determine the overall adequacy of funding for the Water Division. A major challenge for the water utility industry is the need for adequate funding to maintain existing infrastructure."

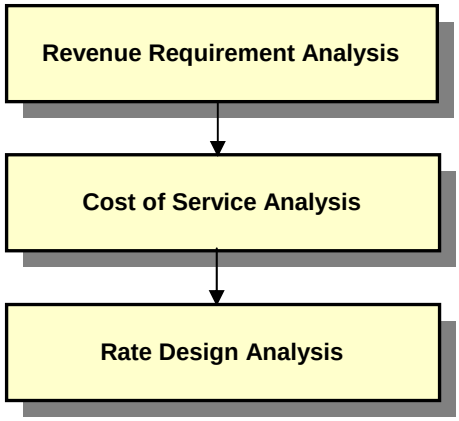
The intent of this review is to determine the overall adequacy of funding for the Water Division. A major challenge for the water utility industry is the need for adequate funding to maintain existing infrastructure. The water utility industry is faced with a significant level of deferred maintenance and replacements. Given that, the first step of addressing this issue is simply determining the adequacy of existing rates and funding sources. From our review, the Water Division and the City should be able to make informed decisions concerning their next steps or those additional measures that need to be undertaken.

At the same time, California Assembly Bill 514 (AB 514) legally mandates that the Water Division install water meters on all water services and charge a metered rate to all customers by 2013. This requirement creates significant technical, engineering, financial and public outreach challenges for the Water Division and the City. This report will explore the potential financial/rate impacts of AB 514 on the Water Division.

Overview of the Comprehensive Rate Study Process

To properly analyze water rates in a complete manner, a comprehensive water rate study is typically undertaken. A comprehensive water rate study utilizes three interrelated analyses to address the adequacy and equity of a utility's rates. These three analyses are a revenue requirement analysis, a cost of service analysis, and a rate design analysis. Table 1 provides an overview of these analyses.

Table 1
Overview of the Comprehensive Rate Study



	Compares the sources of funds (revenues) to the expenses of the utility to determine the overall rate adiustment
	Allocates the revenue requirements to the various customer classes of service in a "fair and equitable" manner
	Considers both the level and structure of the rate design to collect the target level of revenues

While this review is not a comprehensive rate study, it utilizes elements of the comprehensive rate study process to provide the analytical framework needed to review the Water Division's rate setting process and the adequacy of its rates.

Executive Summary of Findings, Conclusions and Recommendations

HDR provided a cursory review of the financial planning and rate status of the City of Reedley's Water Division. Provided below is an executive summary of the findings, conclusions and recommendations from the study.

- The Water Division, at the present time, does not have written financial/rate setting policies for establishing their water rates. Written financial/rate setting policies provides management with clear policy direction on financial and rate setting parameters.
- In reviewing the Water Division's rates, the "cash basis" methodology was used to review the revenue requirements of the Water Division. The "cash basis" revenue requirement methodology sums O&M expenses, taxes, debt service and capital improvements funded from rates.
- Prudent financial planning suggests that the component "capital improvements funded from rates" should be set roughly equal to or greater than annual depreciation expense. This component of the rates is necessary to properly maintain the existing infrastructure and fund renewal and replacement capital projects. At the present time, the Water Division is significantly under-funding this component of their rates.
- The Water Division's revenue requirements for FY 2005/06, estimated FY 2005/06 and adopted budget FY 2006/07 were reviewed. These three periods were reviewed and compared side-by-side to assure that a single fiscal year or time period did not contain an anomaly which may lead to incorrect or inappropriate conclusions.

- The results of each fiscal year were fairly similar with FY 2005/06 indicating the need for a 46% rate increase and FY 2006/07 showing the need for a 29% rate increase to simply balance the budget. Capital improvement funding is the component used by the Water Division to balance the budget. When the budget is balanced (revenues = expenses), the Water Division is funding approximately $120,000/year in capital improvements.
- A scenario was developed that assumed that capital improvement funding from rates was set approximately equal to annual depreciation expense. The Water Division's annual depreciation expense is approximately $2.011 million. If the Water Division were to properly and adequately fund capital improvements from rates, their rates would need to increase 196.7%. The present average residential monthly bill is $12.85. This level of increase would be $25.27/month and produce an average bill of $38.12.
- From the above analysis, HDR concluded that the Water Division's rates are simply set too low and do not include a funding component to properly or adequately maintain existing infrastructure.
- HDR developed two scenarios to consider the potential rate impacts of the metering program. The two scenarios included a "high" and "low" scenario. Both scenarios assumed a total capital investment of $8.258 million. The annual debt service on this level of capital investment is approximately $738,834. The "low" scenario assumed potential operational and other savings from metering to produce a net debt service payment of $559,345 per year for 15 years. In contrast to this, the "high" scenario assumed the annual debt service payment of $738,834 per year for 15 years, and for financial planning purposes, excluding the estimated operational and other savings. For both scenarios, it was assumed that the Water Division would issue long-term debt (municipal lease).
- Under the "low" scenario, and assuming full funding of capital improvements funded from rates, the rate impact is estimated to be approximately 252%. This would be an increase of $32.35/month over the present residential bill of $12.85/month, to produce a total bill of $45.20/month. The annual debt service payments under this scenario are assumed to be $559,345 per year.
- Under the "high" scenario, and assuming full funding of capital improvements funded from rates, the rate impact is estimated to be approximately 268%. This would be an increase of $34.40/month over the present residential bill of $12.85/month, to produce a total bill of $47.25/month. The annual debt service payments under this scenario are estimated at $738,834 per year.
- Table 8 within the report provides a summary of the financial and rate scenarios developed. It would appear that the City and Water Division will need to find an appropriate balance between funding the metering program and the capital improvement project (renewal and replacement) funding.

A summary of the recommendations from the study are provided below:

- The City should immediately consider adjusting their water rates to more appropriate levels. This study has demonstrated that the City and Water Division will need to significantly increase their water rates over the next few years.

- Develop a water capital improvement or water comprehensive plan, with a focus on renewal and replacement capital projects. This water comprehensive plan will provide a clear plan of needed improvements and justification for more appropriate funding levels.
- Develop written financial/rate setting policies, to aid the Water Division's management team and City Council in determining adequate funding levels and establishing cost-based and defensible water rates.
- As the metering project moves forward and there is a clearer understanding of the potential costs associated with the program, conduct a comprehensive water rate study to determine the appropriate and adequate funding levels. A comprehensive water rate study will create a financial plan, along with cost-based and cost-justified water rates. As a part of the comprehensive water rate study, a rate transition plan should be developed to gradually transition the Water Division's rates over time.

The above discussion is the summary of the findings, conclusions and recommendations of the Water Division's study. Provided below is the detailed discussion of the analysis undertaken for the Water Division.

Defining "Generally Accepted" Rate Setting Techniques

In providing this review, HDR has relied upon "generally accepted" water rate setting principles and techniques to help reach our findings and conclusions. In defining "generally accepted" rate setting principles and techniques, the most commonly cited reference is the American Water Works Association M-1 rate setting manual.[1] The AWWA M-1 manual has been used as a foundation for this review, along with HDR's vast knowledge and experience in establishing water rates for hundreds of municipal utilities.

Global Principles Around Which Rates Should Be Set

As a practical matter, there should be a general set of principles around which rates will be set. These guiding principles may be items such as setting rates that are cost-based, easy to understand, etc. These types of principles may be referred to as "global principles" since they should be utilized by all utilities (e.g. water, wastewater, solid waste, etc.) in the development of their rates.

Provided below is a brief listing of the global principles around which the Water Division and the City should consider setting its utility rates:

- Rates should be cost-based and equitable, and set at a level such that they meet the full revenue requirements of the utility.
- Rates should be easy to understand and administer.
- Rates and the process of allocating costs should conform to "generally accepted" rate setting techniques.
- Rates should be stable, in their ability to provide adequate revenues to meet the utility's financial, operational, and regulatory requirements.

[1] The American Water Works Association M1 Manual, *Principles of Water Rates, Fees and Charges*, is the most widely recognized source for "generally accepted" rate setting principles.

- From the customer's perception, rates should be stable from year to year.

These global rate setting principles provide the foundation that the vast majority of municipal utilities use to establish water rates that are cost-based and equitable.

Developing Financial/Rate Policies to Aid in Setting Rates

Development and adoption of a set of financial policies around which rates will be consistently established is an important policy tool. Financial policies build the foundation and guidelines around which rates are established. In essence, they establish the "rules" around which the City Council desires to review rates. In this process of establishing these policies, there are a number of benefits to the City Council and Water Division management. Among these benefits are the following:

"The outside financial community views written financial policies as a strong indicator of the City's dedication to managing the utility in a financially prudent and sound manner."

- Provides management with clear policy direction on financial and rate setting parameters
- Provides consistent and logical financial/rate (business) decisions
- Provides future City Council's with the basis or reasoning behind past decisions (documentation)
- Helps Reedley's customers better understand the City Council's financial/rate setting philosophy
- Provides a strong message to the outside financial and banking community (bond ratings)

The last benefit noted above is a significant point. The outside financial and banking community (i.e. rating agencies) views written financial policies as a strong indicator of the City's dedication and commitment to managing the City's utilities in a financially prudent and sound manner. Improved bond ratings may translate into lower interest rates and cost savings for any future revenue bond issues. As will be seen later in this report, it is likely that the Water Division will need to issue a significant amount of long-term debt to finance the installation of the water meters on residential customers.

All cities and utilities have certain written policies already in place (e.g. investment policies, personnel policies, accounting policies, etc.). However, it is unusual for utilities to have written financial/rate setting policies. To the best of HDR's knowledge, the City does not currently have a set of written policies to aid in establishing the Water Division's rates and fees. The establishment of written financial/rate setting policies are not intended to replace the City's existing financial policies, but rather, complement and enhance the existing policies, particularly as they relate to the development and establishment of the Water Division's rates.

The foundation of the policy statement process are the "global policy" statements. It is around these global policy statements that general and specific policies are established. Provided below is an example of the type of global policy statements that the Water Division and the City should consider developing in more detail and adopting for future use.

GLOBAL POLICY STATEMENT 1 - RATES SHOULD BE ESTABLISHED UTILIZING A "GENERALLY ACCEPTED" RATE SETTING METHODOLOGY.

The importance of the first global policy is that it provides for the development of rates that are legally defendable and should protect against legal challenges to the Water Division's water rates. More importantly, using a "generally accepted" rate setting methodology should provide for consistency of the analysis over time. "Generally accepted" rate setting methodologies imply conducting a revenue requirement, cost of service and rate design analysis, and that the methodologies used conform to the AWWA M-1 Manual.

GLOBAL POLICY STATEMENT 2 – THE WATER DIVISION SHOULD CONTINUE TO BE MANAGED TO MAINTAIN FINANCIAL STABILITY OVER TIME.

The Water Division, like any other business, should strive for financial stability over time. Simply stated, this is a logical and prudent financial goal. However, at the same time, this policy can also help to minimize costs over the long-term by providing sufficient financial resources to properly operate the City's utilities, while minimizing the need for any short-term borrowing due to financial instability. Finally, the other advantage of this policy is that it provides Reedley's customers and the financial community with the confidence of knowing a strong, consistent management team is managing the City's utilities. As a part of this type of policy, the City would establish target or minimum levels for liquidity, cash-flow, debt service coverage, etc.

GLOBAL POLICY STATEMENT 3 – THE WATER DIVISION SHOULD ESTABLISH, DEDICATE AND MAINTAIN RESERVES TO ADEQUATELY MEET KNOWN AND ESTIMATED FUTURE OBLIGATIONS.

Utilities are capital intensive businesses, requiring sufficient reserves to be able to handle day-to-day cash flow requirements, along with the need to fund major infrastructure projects. Establishing minimum reserve levels for operating, capital, rate stabilization, bond and catastrophe/emergency reserves is a positive step towards assuring the ability to adequately meet current and future obligations. Adequate reserves also minimize the need for short-term borrowing, thereby helping to minimize overall costs to customers. Maintenance of minimum reserve levels should not, on its own, trigger the need for a rate adjustment. The policy should provide the specific method for establishing minimum reserve levels (e.g. operating reserve shall be $\geq$ 45 days of operations and maintenance expenses).

GLOBAL POLICY STATEMENT 4 – RATES SHOULD BE STABLE OVER TIME

The previous policies have focused on financial stability. Financial stability should equate to rate stability. By achieving rate stability, the Water Division and the City reinforces to their customers and the financial community that the Water Division's revenues and costs are being managed and controlled. Finally, given stable rates, the Water Division will gain the customer's confidence in the City Council and the management team's credibility. Policies that aid in stabilizing rates over time include annual reviews of the rates, small annual rate adjustments, establishment of rate transition plans and outside third-party expert review of the Water Division's rates.

GLOBAL POLICY STATEMENT 5 – THE WATER DIVISION WILL MAINTAIN ITS UTILITY FACILITIES AT A LEVEL THAT WILL PROVIDE FOR THE PUBLIC WELL BEING AND SAFETY OF RESIDENTS

One of the major financial challenges of the water utility industry is the need to properly maintain utility facilities. Across the U.S., the water utility industry is seeing more systems that are deteriorating and are inadequately funded. Therefore, this policy is designed to properly

fund a renewal and replacement program that will help to assure system reliability and efficiency. A well thought out and fully funded maintenance program will extend the life of the Water Division's system and in turn reduce infrastructure costs over the long-term. Specific policies under this category include the requirement to develop a 5-year capital or master plan and establishing minimum funding levels from rates for capital infrastructure (renewal and replacement).

GLOBAL POLICY STATEMENT 6 – THE CITY WILL ANALYZE AND DETERMINE COST-BASED DEVELOPMENT IMPACT FEES (DIFS) AND ATTEMPT TO SHELTER EXISTING CUSTOMERS. AS MUCH AS REASONABLY POSSIBLE, FROM THE FINANCIAL/RATE IMPACTS OF GROWTH

The impacts of growth on systems can have significant impacts to existing customers and rates. Given that, development impact fees[2] (DIFs) are a mechanism to help "growth pay for growth." The revenues derived from DIFs can be used to help off-set the cost of growth and minimize impacts to existing customers. They should be properly developed and proceeds used in accordance with the 'Mitigation Fee Act', which is codified as California Government Code 66000.

GLOBAL POLICY STATEMENT 7 – THE WATER DIVISION'S RATES WILL BE EASY TO UNDERSTAND AND ADMINISTER, AND THE WATER DIVISION WILL CONSIDER THE IMPACTS OF RATES ON THEIR CUSTOMERS AND FINANCIAL AND OPERATING NEEDS WILL BE BALANCED AGAINST RATES AND FINANCIAL IMPACTS In the end, any financial policy must be balanced against the potential rate impacts to customers. The purpose of this particular written policy is to provide to the Reedley City Council the understanding that these financial policies must consider or be balanced against the direct rate impacts to customers. The Water Division's primary communication with their customers is via their water bill. Given that, achieving financial and rate stability, along with the adoption of Reedley's water rates, is still a City Council policy decision that must balance of number of different needs and considerations. This policy provides the City Council with the needed flexibility to balance these competing needs, while being mindful of the previous six written financial policies.

"In the end, any financial policy must be balanced against the potential rate impacts to customers."

GLOBAL POLICY STATEMENT 8 – THE CITY WILL COLLECT BILLING DATA THAT TRACKS THE CURRENT RATE STRUCTURE The ability of the City to collect data in a manner that is useful for data analysis and rate setting purposes is important. As the City moves toward metered rates for residential customers, collection of this data becomes even more paramount. The collection of this data will allow the City to better reconcile water production data and track system losses. At the same time, it will provide for better tracking of actual rate revenues received to the budgeted revenues of the utility.

The above discussion has provided an overview of the typical proposed financial/rate setting policies that are useful to municipal utilities[3]. As noted earlier, by developing and formally

[2] May also be called system development charges (SDC's), impact fees, capacity fees, connection fees, etc.

[3] For example, during the last comprehensive water rate study conducted by the City of Folsom, financial/rate setting policies similar to those outlined about were utilized within the rate study and adopted for use by the Water Commission

adopting these types of policies, the Water Division should review and develop their rates on a more consistent and cost-based basis.

Analytical Framework for Establishing Cost-Based Rates

Utilities are generally divided into two types - public and private utilities. Public utilities are usually owned by a city, county or special district, and theoretically operated at zero profit. A public utility is in essence "locally owned" since its customers are also its owners. In contrast to this, a private utility is a "for profit" enterprise and is owned by a private company and/or stockholders. A private utility is capitalized by issuing stock to the general public. As such, the shareholders are, in essence, the owners of the private utility. Therefore, the "owners" of a private utility may not be customers or local citizens, but rather numerous individuals or shareholders spread across the United States. As a point of reference, the City of Reedley Water Division is a "public" utility.

". . . the "owners" of a private utility may not be customers or local citizens, but rather numerous individuals or shareholders spread across the United States."

Given these two vastly different forms of utility ownership, their financial operations and rate setting considerations also vary significantly. Public utilities are capitalized or financed by issuing debt and soliciting funds from customers through direct capital contributions or user rates. These public or municipal utilities are exempt from state and federal income taxes. In addition, a publicly elected city council or board of directors usually regulates public utilities. In contrast, private utilities are taxable entities. Given their "for profit" status, their rates and operational affairs are generally regulated by a state public utility commission or other regulatory body.

By virtue of these two entity's vastly different administrative and financial characteristics, their revenue requirements are based upon different elements. Most private utilities utilize what is known as a "utility basis" approach for setting rates. This convention calculates a utility's annual revenue requirement by summing the utility's operation and maintenance (O&M) expenses, taxes, depreciation expense and a "fair" return on investment. The inclusion of depreciation expense is a means of recouping the cost of capital facilities over their useful lives and generating internal cash. The return portion of this type of revenue requirement pays for the private utility's interest expense on indebtedness, provides funds for a return to the utilities' shareholders in the form of dividends, and leaves a balance for retained earnings and cash-flow purposes.

In contrast to this, the approach used by most public utilities to establish their revenue requirements is called the "cash basis" approach. As the name implies, a public utility aggregates its cash expenditures for a period of time to determine its required revenues from user rates. This methodology conforms nicely to most public utility budgetary requirements, and is a very straightforward and easily understood calculation. Operation and maintenance expenses are added to any applicable taxes or transfer payments[4] to determine total operating expenses. Capital costs are calculated by adding debt service payments (principal and interest) to capital

[4] An example of a transfer payment is an in-lieu-of payment to a City's general fund.

improvements financed with operating rate revenues. Annual depreciation expense is sometimes included in lieu of this latter item to stabilize annual revenue requirements. Under the "cash basis" approach, the sum of the capital and operating expense equals the utility's revenue requirement during any period of time. It should be noted that the two portions of the capital expense component (debt service and capital improvements financed from rates) are necessary under the cash basis approach because utilities generally cannot finance all of their capital facilities with long-term debt.

Table 2 may be helpful in summarizing and comparing the "cash basis" and "utility basis" methodologies.

Table 2
Cash vs. Utility Basis Comparison

Cash Basis	Utility (Accrual) Basis
+ O&M Expenses	+ O&M Expenses
+ Taxes	+ Taxes
+ Capital Additions Financed with Rate Revenues (≥ Annual Deprec. Exp)	+ Annual Depreciation Expense
+ Debt Service (P+I)	+ Return on Investment (Rate Base)
= Revenue Requirement	= Revenue Requirement

Given a summary of the revenue requirements, the utility can determine from the analysis the overall level of rate adjustment needed in order for the utility to meet its overall expenditure needs. In this particular case, the "cash basis" approach was utilized to review the adequacy of the City of Reedley's water rates.

Overview of the City's Revenue Requirement Methodology

The above discussion provided a basic framework for reviewing the Water Division's revenue requirements. As a part of this review, HDR utilized the "cash basis" methodology to review the adequacy of the Water Division's existing water rates. As a part of that process, the basic framework discussed above is tailored or customized to the Water Division's unique system of accounts and cost structure. However, in general, even with these modifications, the Water Division's revenue requirements still contain the four basic cost components of a "cash basis" methodology. Table 3 provides a detailed summary of the "cash basis" approach that was used to review the adequacy of the Water Division's rates.

Table 3
Overview of the City's "Cash Basis" Water Revenue Requirements

+	Operation and Maintenance (O&M) Expenses
	✓ Personnel Costs
	✓ Maintenance and Operation
+	Transfer Payments – Finance
+	Net Capital Improvements Funded From Rates [1]
+	Debt Service (P+I) Existing and Future
=	Total Water Revenue Requirements

[1] Net Capital Improvements Funded From Rates

+	Total Capital Improvement Projects
–	Funding Sources Other Than Rates
	✓ Capital Reserves
	✓ Development Impact Fees (DIFs)
	✓ Bonds (Long-Term Debt)
	✓ Grants
=	Net Capital Improvements Funded From Rates (≥ Depreciation Expense)

In developing the Water Division's revenue requirement analysis, the initial focus was simply on making a determination as to the adequacy of the current rates and the sufficient funding of capital improvements from rates (renewal and replacement funding).

Review of the Water Division's Revenue Requirements

The initial step in reviewing the adequacy of the Water Division's water rates was to review three recent time periods. In this particular case, the City's budget document was the source for reviewing budget FY 2005/06, estimated FY 2005/06 and the adopted budget for FY 2006/07. These three periods were reviewed and compared side-by-side to assure that a single fiscal year or time period did not contain an anomaly which may lead to incorrect or inappropriate conclusions. Table 4 provides a summary of the financial/rate data for each period as it appears within the City's budget.

Table 4
Overview of the City's Current Revenue Requirements

Revenue/Cost Components	Budget 2005/06	Estimated 2005/06	Adopted Budget 2006/07
Sources of Funds –-			
Water Sales (Rate Revenues)	$1,078,229	$1,102,613	$1,124,666
Proposed Rate Increase (By City)	0	0	0
Total Water Rate Revenues	$1,078,229	$1,102,613	$1,124,666
Miscellaneous Revenues	67,750	59,860	61,000
Total Sources of Funds	**$1,145,979**	**$1,162,473**	**$1,185,666**
Applications of Funds –			
O&M Expenses –			
– Personnel Costs	$446,559	$436,858	$387,937
– Maintenance & Operation Costs	600,442	635,158	650,283
Total Oper. & Maintenance Exp.	$1,047,001	$1,072,016	$1,038,220
Transfer Payments - Finance	336,042	328,108	348,483
Debt Service (Existing and New)	0	0	0
Capital Improvements Funded From Rates	260,400	172,647	120,856
Total Revenue Requirements	**$1,643,443**	**$1,572,771**	**$1,507,559**
Balance/(Deficiency) of Funds	($497,464)	($410,298)	($321,893)
Deficiency as a % of Water Rate Revenues	–46.1%	–37.2%	–28.6%

As can be seen above in Table 4, the Water Division has a limited amount of revenue and expenses. The total budgeted (projected) revenue in FY 2005/06 was approximately $1.1 million. In contrast to this, the total expenses were approximately $1.6 million, or a deficiency of roughly $497,000. This indicated the need for a 46% adjustment in rates to balance to the budgeted expense. The middle column is the estimated FY 2005/06 expenses. The revenues and expenses projected for the time period are, as expected, very similar to the budget for that time period.

The adopted budget for FY 2006/07 initially appeared more positive. Included within their budget documents was an assumed rate adjustment of 30%. However, at this time, the assumed adjustment has not been adopted. Therefore, for purposes of this study, the revenue requirements have been projected from the existing rate (revenue) levels for the FY 2006/07 time period. For this period, there is still a deficiency, but it has decreased substantially from the FY 2005/06 level. An important aspect of the revenue requirements for FY 2006/07 that should be pointed out is that the capital improvement funding from rates has declined significantly in this budget period. In FY 2005/06, the Water Division funded approximately $260,000 in capital improvement funding. In contrast to this, in FY 2006/07, the Water Division has reduced their funding of this component and only funded $120,856. This is a reduction of approximately $140,000 over previous funding levels, and that accounts for the reduction in the level of deficiency for the Water Division.

One of the major financial issues facing water utilities today is the lack of adequate and proper funding to support the renewal and replacement of existing facilities (assets). The water utility industry currently has billions of dollars of deferred infrastructure maintenance (renewal and replacement capital projects). This has primarily been a result of utilities not adequately funding for renewal and replacement capital projects within their rates (i.e. their rates are set too low or below cost).

As with any utility, the Water Division has an on-going capital improvement program. Within this program, the Water Division typically undertakes projects that are of two categories or types. These two categories are renewal and replacement capital projects and growth-related projects (facilities). Renewal and replacement capital projects are typically the replacement of worn out or fully depreciated facilities. In contrast, growth-related capital expenditures are those projects related to system expansion, capacity and serving new growth and customers. As a general rule, utilities tend to fund renewal and replacement capital projects from rate revenues and growth-related facilities from a combination of rates, capital contributions (DIFs) or extension fees, and long-term debt. A simple financial guideline that can be used as a means to determine a reasonable dollar amount to fund for renewal and replacement capital projects is to consider the level of annual depreciation expense for the utility. Depreciation expense is used as a reasonable "yardstick" or "surrogate" for the prudent or reasonable level of funding that should be taking place. At a minimum, utilities should be funding an amount from rates, for renewal and replacement capital projects, that is equal to or greater than annual depreciation expense. In using this financial guideline, it is recognized that annual depreciation expense is not the same as replacement cost, and depreciation expense reflects an item that was placed in service, on average, approximately 15 years ago (assuming an average 30 year useful life). Given that, actual replacement cost for an item may be 1.5 to 2.0 times higher than the depreciation expense. Therefore, it may be reasonable to fund an amount from rates that is 1.5 to 2.0 times greater than the annual depreciation expense to reflect the replacement cost consideration.

Given a method of determining a reasonable or prudent level

Understanding the Relationship Between Depreciation and Rates

ACCOUNTING TERMINOLOGY OF DEPRECIATION

Example: A utility purchases a piece of equipment (e.g. a service truck) for $10,000 and assumes a 10 year life for accounting purposes

Annual Depreciation Expense– The annual depreciation expense for income statement purposes would be $1,000 ($10,000 ÷ 10 years = $1,000/year of depreciation expense)

Accumulated Depreciation – The sum of the annual depreciation expenses since the equipment item was placed in service. Using the above example, after four (4) years, the accumulated depreciation would be $4,000 ($1,000 x 4 years). Accumulated depreciation is a balance sheet item and not a rate item.

DEPRECIATION, CAPITAL IMPROVEMENT FUNDING AND RATES

As a general financial guideline, a utility should fund, at a minimum, an amount within their rates an amount equal to or greater than annual depreciation expense for renewal and replacement capital projects (capital improvements funded from rates). In the above example, this would imply funding within rates, $1,000 per year, for the eventual replacement of the truck.

of funding for renewal and replacement capital projects (capital improvements funded from rates), HDR reviewed the current level of capital improvement funding from rates used by the Water Division to establish their rates. From this amount, a "prudent" level of funding was considered and the potential rate impacts noted. A summary of this analysis is shown below in Table 5.

Table 5
Impact of Adequately Funding For Renewal and Replacement Capital Improvements

Revenue/Cost Components	Adopted Budget 2006/07	Adjustments	Adopted Budget 2006/07
Sources of Funds –-			
Total Water Rate Revenues [1]	$1,124,666	$0	$1,124,666
Miscellaneous Revenues	61,000	0	61,000
Total Sources of Funds	**$1,185,666**	**$0**	**$1,185,666**
Applications of Funds –			
O&M Expenses –			
– Personnel Costs	$387,937	$0	$387,937
– Maintenance & Operation Costs	650,283	0	650,283
Total Oper. & Maintenance Exp.	$1,038,220	$0	$1,038,220
Transfer Payments - Finance	348,483	0	348,483
Debt Service (Existing and New)	0	0	0
Balance Available for Capital Improv.	($201,037)	$0	$0
City's Planned Capital Improvements	$120,856	$1,890,144	$2,011,000
Total Revenue Requirement			$3,397,703
Balance/(Deficiency) of Funds	($321,893		($2,212,037)
Deficiency as a % of Water Rate Revenues	–28.6%		–196.7%
Average Residential Bill - $/Month			
Present Bill - $/Month	$12.85		$12.85
Potential Bill - $/Month			$38.12
$/Month Difference			$25.27

[1] – Note: Revenue level shown does not include the proposed adjustment shown in the Water Division's budget document

As can be seen in Table 5, it has been assumed that the Water Division should be funding within their rates an amount equal to their annual depreciation expense for capital improvements funded from rates (City's Planned Capital Improvements). Based upon information from the City, the Water Division's current annual depreciation expense is roughly $2,011,000. The Water Division is currently funding only $120,856. This is approximately only 6% is the amount that would be considered minimum funding for this component of the Water Division's rates.

It should also be pointed out that the deficiency shown in Table 5 (196.7%) excludes the assumed rate adjustment included within the FY 2006/07 budget. At the time of the development of this report, the proposed rate adjustment had not been adopted by the City.

In the opinion of HDR, the Water Division's rates are simply set too low and do not include a funding component to properly or adequately maintain the existing infrastructure. Even with the magnitude of the increase shown, the average residential rate would still be less than $39.00 per month for a flat rate residential customer. As will be seen later, the City will need to adjust their rates upward to support the legally mandated metering program. In order to issue long-term debt to support the metering program, the Water Division's rates will need to be set at a level to support the needed long-term borrowing and potentially meet the other rate covenants associated with the long-term debt.

"In the opinion of HDR, the Water Division's rates are simply set too low and do not include a funding component to properly or adequately maintain the existing infrastructure."

Rate Impacts of the Metering Program

California Assembly Bill 514 (AB 514) legally mandates that the Water Division install water meters on all water services and charge a metered rate to all customers by 2013. To better understand the potential rate impacts of this legislation, HDR utilized the financial/rate analyses shown above and considered two different scenarios to potentially frame the "high" and "low" financial/rate impacts of the Water Division's planned metering program. These two scenarios were as follows:

- An annual debt service obligation of $559,345, which assumes a total debt obligation of $738,834, with potential operational and other savings of approximately $180,000/year, to produce a "net" debt service payment of $559,345.
- An annual debt service obligation of $738,834.

These scenarios assume that the Water Division will require a capital investment of approximately $8.259 million. This will be funded through a municipal lease (long-term debt) assuming a term of 15 years and an interest rate of 4.5%.[5] In developing the business case analysis, Johnson Controls, Inc. (JCI) estimated the potential benefits and savings associated with the metering program. In doing so, JCI provided a "net" annual debt service obligation for the City equal to $559,345 for a period of 15 years. The use of this level of debt obligation produced the "low" scenario. However, it is important for the City to understand that technically they are legally responsible for an annual debt service payment of $738,834. While JCI has estimated a significant level of potential savings, if those savings are less than projected, or worse yet, do not materialize at all, the City is still obligated to have in place rates sufficient to support a debt payment of $738,834. For that reason alone, the high scenario has been developed to provide the City with a better understanding of the potential risk associated with the estimated savings.

In issuing long-term (revenue-backed) debt, there are often certain rate covenants associated with them. Rate covenants are legal (contractual) requirements for the City to maintain their water rates at a sufficient level to assure repayment of the debt. A debt service coverage (DSC) ratio is typically used as the financial measure to assure that the City has adequate rates to meet

[5] Details of the estimated capital investment required, terms and conditions of the municipal lease (borrowing), and potential savings provided by Johnson Controls, Inc.

the debt obligations on the outstanding debt service. Typically, the legally acceptable minimum DSC ratio for a municipal utility will be equal to or greater than 1.30.[6] Simply stated, the 1.30 DSC means that after paying all operations and maintenance expenses and taxes, the City should have an amount available for debt service that is 30% greater than the amount of debt service to be paid. For example, if the City had $1.0 million of annual debt service payments, then it would need at least $1.3 million available for the debt service payment to meet the minimum 1.30 DSC requirement.

Provided below in Table 6 is a summary of the potential financial/rate impacts from the "low" scenario. Under this scenario, the City will have $559,345 of "net" debt service payments.

Table 6
Impact of Adequately Funding For Renewal and Replacement
Assumed Savings to Produce the "Net" Debt Service Payment

Revenue/Cost Components	Adopted Budget 2006/07	Adjustments	Revised Budget 2006/07
Sources of Funds –-			
Total Water Rate Revenues	$1,124,666	$0	$1,124,666
Miscellaneous Revenues	61,000	0	61,000
Total Sources of Funds	**$1,185,666**	**$0**	**$1,185,666**
Applications of Funds –			
O&M Expenses –			
– Personnel Costs [1]	$387,937	$43,560	$431,497
– Maintenance & Operation Costs [2]	650,283	16,500	666,783
Total Oper. & Maintenance Exp.	$1,038,220	$60,060	$1,098,280
Transfer Payments – Finance	348,483	0	348,483
Debt Service (Existing and New) [3]	0	559,345	559,345
Capital Improv. Funded From Rates [4]	120,856	1,890,144	2,011,000
Total Revenue Requirements	**$1,507,559**		**$4,017,108**
Balance/(Deficiency) of Funds	($321,893)		($2,831,442)
Deficiency as a % of Water Rate Revenues	–28.6%		–251.8%
Debt Service Coverage Ratio – (Min. ≥ 1.30)			
Before Rate Adjustment			(0.47
After Rate Adjustment			4.60
Average Residential Bill - $/Month			
Present Bill - $/Month	$12.85		$12.85
Potential Bill - $/Month			$45.20
$/Month Difference			$32.35

[1] – Assumes one additional maintenance worker - $33,000/year + benefits @ 32% (Est. by City)
[2] – Additional new meter maintenance cost (Est. by City)
[3] – Assumes $8.258 million of capital investment – Financed at 4.5%; 15 years; net of savings estimated by JCI
[4] – Rate funded capital set equal to depreciation expense. Note: Depreciation expense = $2.011 million

[6] "Legally" as used herein, refers to the contractual agreement between bondholders and the City's utility to assure repayment of the bonds, and to financially operate the utility in such a manner as to maintain the utility's debt service coverage ratio above a specified minimum. This minimum debt service coverage ratio is a specified covenant of the bond ordinance or bond resolution.

There are a number of items to note in the above table. First, there are assumed additional O&M expenses associated with the City's metering program. These expenses are assumed to be reoccurring annual expenses, as opposed to a one-time extraordinary expense. Next, the assumed annual debt service payment on the $8.258 million capital investment will be $738,834. However, with the potential savings estimated by JCI, the "net" debt service payment is assumed to be $559,345. The Water Division currently does not have any outstanding debt service, so the net payment of $559,345 represents the assumed entire debt service obligations of the Division.[7] Finally, as with the discussion above, this scenario has assumed the adequate and proper funding of capital improvements from rates. In this scenario, this amount has been established in relation to the current annual depreciation expense ($2.011 million).

In summary, it appears that the Water Division's rates will be deficient by roughly 252% under this scenario. The average residential rate will increase to approximately $45.20/month or a change of $32.35 per month. This level of adjustment, as discussed above, would fully fund the CIP from rates (depreciation expense) and as a point of reference, this would clearly be a policy decision of the City.

A critical component of Table 6 is the issue of debt service coverage ratios. As can be seen in the table, before a rate adjustment, the City's rates would not be able to support the debt service payment. A debt service coverage ratio of less than 1.0 indicates that sufficient funds are not available to even meet the debt service payment, let alone the coverage requirement over and above the debt service payment. Simply stated, the City would not be able to borrow (issue) a traditional long-term revenue bond until their rates were increased to an adequate level that meets the debt service coverage ratio requirement.

Isolating the components of the overall deficiency, the impact of the debt service on the City is approximately a 50% adjustment. Technically, if the City adjusted their rates by 50% over their current rates, the Water Division would not meet a 1.30 debt service coverage ratio. To meet the minimum 1.30 debt service coverage, the City would need to adjust their rates by approximately 88% over current levels. Even with that level of adjustment, it would likely still not address the concerns of bond rating agencies or the issue of the City adequately maintaining their infrastructure. If required, the bond rating agencies will not give the Water Division a favorable bond rating when their debt service coverage ratio is just barely meeting the minimum requirements and there is no clear plan to adequately and properly fund the maintenance of the Water Division's facilities. It is not unusual for bond covenants to contain statements similar to the following:

> *"The utility has covenanted under the Ordinances to maintain the System in good repair and working order and to maintain all needed and proper repairs, replacements, additions and betterments so that the System may at all times be operated properly and advantageously and so that the value and efficiency of the System shall at all times be maintained."*

[7] Technically, the entire debt obligation of the City would be $738,834 per year.

For the above reasons, the analysis has included a component for the adequate funding of renewal and replacement capital projects (capital improvements funded from rates). As a matter of policy, the City Council will need to make a policy decision as to their long-term approach to assure adequate and proper funding of infrastructure for the Water Division.

The second scenario developed for the Water Division assumed the full debt obligation of the metering program, with no savings incorporated into the debt service. A summary of this scenario is shown below in Table 7.

Table 7
Impact of Adequately Funding For Renewal and Replacement
Assumes the Full Debt Service Obligation (Payment)

Revenue/Cost Components	Adopted Budget 2006/07	Adjustments	Revised Budget 2006/07
Sources of Funds –-			
Total Water Rate Revenues	$1,124,666	$0	$1,124,666
Miscellaneous Revenues	61,000	0	61,000
Total Sources of Funds	**$1,185,666**	**$0**	**$1,185,666**
Applications of Funds –			
O&M Expenses –			
– Personnel Costs [1]	$387,937	$43,560	$431,497
– Maintenance & Operation Costs [2]	650,283	16,500	666,783
Total Oper. & Maintenance Exp.	$1,038,220	$60,060	$1,098,280
Transfer Payments – Finance	348,483	0	348,483
Debt Service (Existing and New) [3]	0	738,834	738,834
Capital Improv. Funded From Rates [4]	120,856	1,890,144	2,011,000
Total Revenue Requirements	**$1,507,559**		**$4,196,597**
Balance/(Deficiency) of Funds	($321,893)		($3,010,931)
Deficiency as a % of Water Rate Revenues	–28.6%		–267.7%
Debt Service Coverage Ratio – (Min. ≥ 1.30)			
Before Rate Adjustment			(0.35)
After Rate Adjustment			3.72
Average Residential Bill - $/Month			
Present Bill - $/Month	$12.85		$12.85
Potential Bill - $/Month			$47.25
$/Month Difference			$34.40

[1] – Assumes one additional maintenance worker - $33,000/year + benefits @ 32% (Est. by City)
[2] – Additional new meter maintenance cost (Est. by City)
[3] – Assumes $8.258 million of capital investment – Financed at 4.5%; 15 years; payment details provided by JCI
[4] – Rate funded capital set equal to depreciation expense. Note: Depreciation expense = $2.011 million

As can be seen in Table 7, the major change under this scenario is the increased annual debt service payments. Under this scenario, the annual debt service payments are set equal to the total obligation of the City and no assumed savings are "netted" against the debt payment. Technically, the City will be responsible for this amount annually, and as such, their rates should plan around the ability to meet this level of debt obligation. Any savings that actually do occur

can be applied to increase the funding of renewal and replacement capital. Under the prior scenario, any shortfall produced by a lack of realized savings would likely be funded by reducing the amount of renewal and replacement capital funding and applying that amount to debt service.

Under this scenario, debt service coverage will be even more important. With a $739,000 annual debt service payment, the Water Division will need a minimum of $960,000 available for debt service, after O&M and taxes are paid. In rough terms, to simply meet the absolute minimum debt service coverage ratio under this scenario (i.e. a 1.30 DSC), the Water Division will need to adjust their rates by approximately 109%. As noted under the previous scenario, this level of adjustment would likely not be adequate in the eyes of the bond rating agency. To meet a 1.50 DSC under this scenario, an estimated 122% adjustment would be needed.

Summary Findings and Conclusions

This engagement required HDR Engineering Inc. to provide a cursory review of the financial planning and rate status of the City of Reedley Water Division. In summary form, before any discussion of the potential impacts of a metering program, it was noted that Reedley is significantly under-funding their Water Division. With the addition of a metering program, Reedley will clearly need to adjust their water rates. A summary of the various scenarios developed and the range of potential impacts is provided below in Table 8.

Table 8
Summary of the Financial/Rate Scenarios

Assumptions and Scenario	Base Case	Scenario 1	Scenario 2
Key Assumptions -			
Metering Program Cost/L.T. Borrowing	$0	$8,259,690	$8,259,690
Annual Debt Service [1]	$0	$559,345	$738,834
Additional O&M	$0	$60,060	$60,060
Adjustment Needed to Meet a 1.30 DSC -			
Total Revenue Requirement	$1,507,559	$2,173,964	$2,407,247
Total Deficiency in Rates	$0	$988,298	$1,221,581
% Change Needed in Rates	0%	87.9%	108.6%
Potential Residential Bill - $/Month [1]	$12.85	$24.14	$26.81
Potential $ Change in Residential Bills	$0.00	$11.29	$13.96
Adjustment Needed to Meet a 1.50 DSC -			
Total Revenue Requirement	$1,507,559	$2,285,964	$2,555,014
Total Deficiency in Rates	$0	$1,100,298	$1,369,348
% Change Needed in Rates	0%	97.8%	121.8%
Potential Residential Bill - $/Month	$12.85	$25.42	$28.50
Potential $ Change in Residential Bills	$0.00	$12.57	$15.65
Adjustment Needed to Meet" Full Funding"[2]			
Total Revenue Requirement	$3,397,703	$4,017,108	$4,196,597
Total Deficiency in Rates	$2,212,037	$2,831,442	$3,010,931
% Change Needed in Rates	196.7%	251.8%	267.7%
Potential Residential Bill - $/Month	$38.12	$45.20	$47.25
Potential $ Change in Residential Bills	$25.27	$32.35	$34.40

[1] – Difference in debt service payments is a function of netting out potential savings
[2] – Full funding is defined as fully funding capital improvements from rates equal to annual depreciation expense ($2.011 M).

It would appear that the City and Water Division will need to find an appropriate balance between funding the metering program and the capital improvement project (renewal and replacement) funding. The calculated debt service coverage ratio is a function of both the level of debt service and the capital improvements funded from rates. As the Water Division increases their capital improvements funded from rates, the corresponding debt service coverage ratio will also increase. Therefore, in the end, as the Water Division issues long-term debt, they will also be moving forward in the area of increased renewal and replacement funding.

In viewing Table 8 and comparing the results, for planning purposes, the Water Division should plan on at least a 1.50 debt service coverage. Meeting a debt service coverage ratio less than 1.50 may not be prudent or acceptable to the bond rating community for current or future bonding purposes. Preferably, the Water Division would initially target a debt service coverage in the range of 1.50 to 1.75, using the scenario with the full debt service obligation. This would translate into a monthly rate in the range of $28.50 to $33.00 per month.

From this study, HDR would make the following recommendations to the City and the Water Division:

- The City should immediately consider adjusting their water rates to more appropriate levels. This study has demonstrated that the City and Water Division will need to significantly increase their water rates over the next few years.
- Develop a water capital improvement or water comprehensive plan, with a focus on renewal and replacement capital projects. The plan should project needed capital projects for at least five years and consider renewal and replacement projects, along with capital improvements driven by regulatory requirement and growth-related impacts. This water comprehensive plan will provide a clear plan of needed improvements and justification for more appropriate funding levels.
- Develop written financial/rate setting policies, as described and discussed within this report, to aid the Water Division's management team and City Council in determining adequate funding levels and establishing cost-based and defensible water rates.
- As the metering project moves forward and there is a clearer understanding of the potential costs associated with the program, conduct a comprehensive water rate study to determine the appropriate and adequate funding levels. A comprehensive water rate study will create a financial plan, along with cost-based and cost-justified water rates. As a part of the comprehensive water rate study, a rate transition plan should be developed to gradually transition the Water Division's rates over time. These rates will need to be adopted by the City prior to the issuance of any long-term revenue bonds.