# County Service Area 16 – Shandon Water Rate Analysis

**Prepared By:**

**County Public Works**

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**Water Rate Analysis County Service Area (CSA) 16 – Shandon, Water System**

## Purpose

The purpose of this report is to summarize the revenue requirements for the operations and maintenance of the CSA 16 water system and determine the appropriate water rate increase needed to generate those revenue requirements.

## Background

The CSA16 water system was formed in 1972 and operates for the purpose of furnishing potable water to the residential, commercial and public customers in the community of Shandon. CSA 16 is located in the northeast portion of San Luis Obispo County.

The CSA 16 water supply is the groundwater pumped from the Paso Robles Upper Salinas Groundwater Basin, the large basin underlying the region. Currently, CSA 16 water is supplied by two wells (identified as Wells #4 and #5) with a total pumping capacity of 800 gallons per minute (gpm). These wells are located near Clarke Park and are used to fill a 212,000 gallon water storage tank located east of Shandon. Water is distributed via gravity from the water storage tank, which regulates water pressure, through a network of four, six, eight and ten-inch pipes. A map of the CSA 16 water distribution system is included as Exhibit "A".

Water rates in Shandon have not increased in 20 years. The last increase was implemented in 1994 after CSA 16 entered into contracts for State Water.

## State Water

CSA 16 has been paying for a 100 Acre Foot per Year (AFY) allocation of State Water since the early 1990s; however, a connection to the State Water pipeline in order to deliver the allocation does not exist. A project to connect to the State Water pipeline is currently in design and is expected to be competed in 2015. Construction of this connection will allow CSA 16 to access and utilize its existing 100 AFY allocation of State Water. The project involves construction of an underground turnout facility to connect the existing Shandon (CSA 16) Water System to the State Water Project pipeline. Turnout facilities will generally include flow control and isolation valves, flow meter electrical, monitoring and controls equipment, instrumentation piping and a containment vault.

This connection will also require a treatment system upgrade from chlorine to chloramine water treatment. Construction of chloramine treatment upgrades at the existing CSA16 wells will allow for groundwater treatment to be compatible with State Water treatment and is anticipated to be completed concurrent with the connection to the State Water pipeline.

Capital cost of constructing the project has come from a combination of CSA 16 reserves and the County General Fund. The CSA 16 fund has no debt; however, reserves will be at the minimum desired level of approximately $155,000 when the project is completed.

Operating costs related to the delivery of State Water are estimated to increase by approximately $33,000 annually. This will be partially offset by a reduction in power costs related to the pumping of groundwater from the wells. Power costs are expected to be reduced by approximately $11,000 annually.

**Water Consumption**

**Table 1** shows the annual reduction in water use by the community over time. Consumption has decreased by 13% from the high point in fiscal year 2006/2007. The result of this reduction in consumption is that the revenue generated by the current rate structure is insufficient to cover the operating expenses of the system. This revenue shortfall has been slowly reducing the reserve balances in CSA 16. With the current drought conditions, it is assumed that future consumption will remain at current levels or could even reduce further with additional conservation measures. Thus, existing water use is assumed for the purpose of developing the new rate structure.

The number of water accounts in CSA 16 increased dramatically in the early 2000s with development on the east side of Shandon. Water accounts increased by approximately 100 and have held steady around the current 345 accounts since that time. This increase in water accounts is the major reason water rates have not had to be increased for such a long period of time. No additional water connections to the CSA 16 system have occurred since 2006. Additional accounts are not anticipated absent any large development and the existing number of accounts is assumed for the purpose of developing the new rate structure.

**Revenue Requirements**

**Table 2** presents a nine year actual revenue and operating expenditure history for CSA 16. This shows that the system has been running at a deficit since 2008 with the deficit reducing reserves in CSA 16. The bottom of **Table 2** presents a pro forma operating expenditure estimate which shows what expenditures would have been with the delivery of State Water. The proposed revenue requirements assume the delivery of the full allocation of State Water and the reduced power costs related to pumping less groundwater.

The proposed revenue requirements also include a 15% contingency which totals $37,500. The need for this contingency is threefold. First, it will provide funding for unanticipated expenditures of the system. This could be in the form of one time expenditures (i.e. equipment replacement) or increases in ongoing expenditures (i.e. the cost of State Water). Secondly, any unused contingency is available to fund pay as you go capital improvements. Finally, but not least important, is that the contract for State Water requires rates and charges to be set sufficiently to cover a 1.25 factor of the debt portion of the State Water bill. This works out to be approximately $15,000 annually. This is referred to as a debt coverage factor and provides bondholders of State Water bonds security that they will continue to be paid according to contract.

The proposed revenue requirements total $287,500. The amount of revenue needed from water sales equals $240,800. Current water sales generate approximately $180,000 annually. Therefore, current water rates need to be increased by 34% to provide the necessary revenue requirements.

## Water Rate Structure

The rate table below shows the impact of the 34% increase on the water rates and presents the current and proposed water rates necessary to generate the revenue requirements from water sales. The current average monthly water bill for residential customers is $43.80. The proposed rate adjustment would raise the monthly average to $58.69. The recommended changes to the Basic Bi-Monthly Charge for Water Service represent an average increase of $29.78 ($14.89 per month). The adjustment will generate additional revenues of approximately $61,000 per year. This adjustment is required to cover the cost of ongoing operations and maintenance expenditures given the reduced water consumption in the community due to the drought and conservation efforts. The increase is also needed to fund increased costs related to the delivery of State Water to Shandon. Annually thereafter, rates would increase based on increases in the Consumer Price Index. This will ensure that only non inflationary rate increases are needed in the future.

Additionally, the allowable quantities of water for tier levels 2 and 3 are being adjusted to further encourage water conservation and to bring them in line with other County operated water systems in the North County. A survey was mailed to the community to determine whether a large initial rate increase with smaller inflationary increases thereafter or a smaller phased increase over a longer period was preferable. The survey indicated the larger initial increase was the preferred option by 75% of the respondents. This option results in lower rates over the long term.

Water bills are computed on a bi-monthly basis (every other month). The charge for water is based on the amount of water used, measured in hundred cubic feet. This is abbreviated as CCF. One CCF equals 748 gallons. **Table 3** illustrates the proposed rate change to the Basic Bi-Monthly Charge for Water Service.

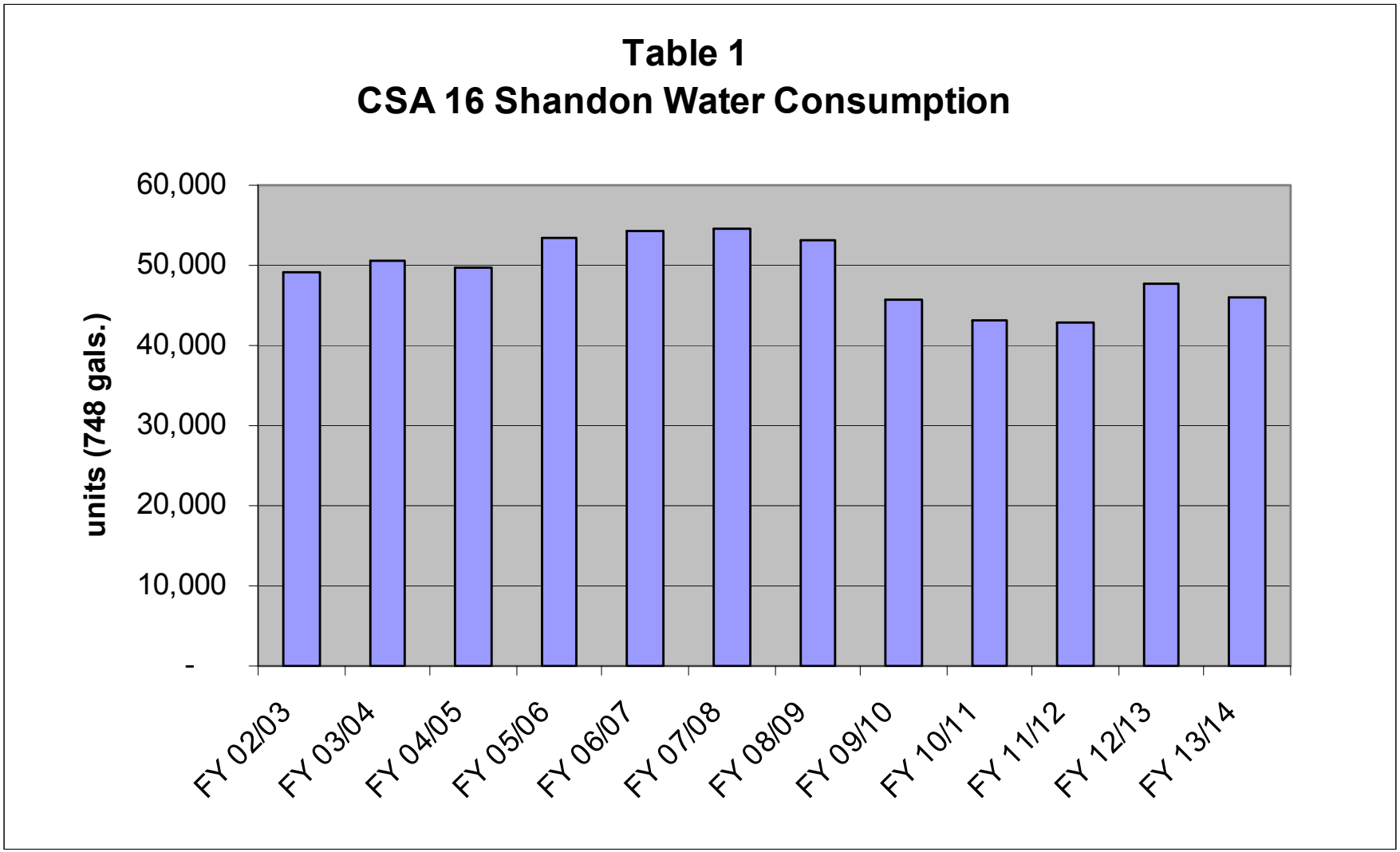
Table 1
CSA 16 Shandon Water Consumption
units (748 gals.)
60,000
50,000
40,000
30,000
20,000
10,000
-
FY 02/03
FY 03/04
FY 04/05
FY 05/06
FY 06/07
FY 07/08
FY 08/09
FY 09/10
FY 10/11
FY 11/12
FY 12/13
FY 13/14

# TABLE 2

CSA 16 Shandon Water
9yr Actual Revenues and Expenses

| Actuals Pumped AF | 157 | 163 | 160 | 158 | 146 | 135 | 144 | 150 | 142 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 | Proposed |
| Water Sales | 203,385 | 214,771 | 208,274 | 199,326 | 181,590 | 177,295 | 177,456 | 196,393 | 180,348 | 241,800 |
| System Connection Fees | 10,400 | 11,200 | - | - | - | - | - | - | - | - |
| Water Availability | 10,130 | 9,786 | 8,332 | 9,911 | 8,508 | 8,690 | 8,791 | 8,768 | 8,786 | 8,700 |
| New Service - Water | 7,567 | 11,382 | - | - | - | - | - | - | - | - |
| Interest | 16,989 | 23,753 | 18,195 | 8,204 | 2,587 | 1,336 | 1,602 | 1,370 | 964 | - |
| Other Revenues | 12,605 | 24,986 | 14,284 | 12,895 | 8,596 | 1,965 | 11,390 | (3,433) | 32,433 | 37,000 |
| **Total - Revenues** | **261,076** | **295,878** | **249,085** | **230,336** | **201,280** | **189,285** | **199,240** | **203,097** | **222,530** | **287,500** |
| O&M - Other | 153,428 | 168,667 | 172,297 | 198,587 | 190,549 | 176,945 | 167,683 | 151,705 | 150,919 | 151,000 |
| Power | 12,407 | 14,615 | 14,891 | 17,317 | 15,232 | 15,096 | 15,679 | 16,871 | 16,144 | 5,000 |
| State Water Allocation | 51,997 | 40,309 | 49,908 | 58,987 | 45,146 | 67,364 | 67,147 | 58,346 | 61,234 | 94,000 |
| Contingency 15% | - | - | - | - | - | - | - | - | - | 37,500 |
| **Total - O&M Expenses** | **217,832** | **223,591** | **237,096** | **274,890** | **250,927** | **259,405** | **250,509** | **226,922** | **228,297** | **287,500** |
| Rev minus O&M Exp | 43,244 | 72,287 | 11,989 | (44,555) | (49,647) | (70,120) | (51,269) | (23,824) | (5,767) | - |

CSA 16 Shandon Water
9yr Pro Forma Expense Estimates w/State Water Delivery of 100 AF

| | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 | Proposed |
|---|---|---|---|---|---|---|---|---|---|---|
| O&M - Other | 153,428 | 168,667 | 172,297 | 198,587 | 190,549 | 176,945 | 167,683 | 151,705 | 150,919 | 151,000 |
| Power (Pumping 100 AF less) | 4,504 | 5,649 | 5,584 | 6,357 | 4,799 | 3,914 | 4,791 | 5,624 | 4,775 | 5,000 |
| State Water Allocation | 75,730 | 65,337 | 77,473 | 85,969 | 73,326 | 93,434 | 95,041 | 92,781 | 93,848 | 94,000 |
| Contingency 15% | - | - | - | - | - | - | - | - | - | 37,500 |
| **Total - O&M Expenses** | **233,662** | **239,652** | **255,354** | **290,913** | **268,674** | **274,293** | **267,515** | **250,110** | **249,542** | **287,500** |
| Rev minus Exp | 27,414 | 56,225 | (6,269) | (60,577) | (67,394) | (85,008) | (68,275) | (47,012) | (27,012) | - |

# TABLE 3

| Basic Bi-Monthly Charge for Water Service | | | | | | |
|---|---|---|---|---|---|---|
| **Level** | **Allowable Quantity** | | **Current Rate** | | **Proposed Rate** | |
| | **Current** | **Proposed** | | | | |
| 1 | 0 CCF to 10 CCF * | | $50.00 Minimum Charge | *$25.00* *Monthly Equivalent* | $67.00 Minimum Charge | *$33.50* *Monthly Equivalent* |
| 2 | 11 CCF to 63 CCF | 11 CCF to 16 CCF | $3.00 Per CCF | | $4.02 Per CCF | |
| 3 | Greater than 63 CCF | Greater than 16 CCF | $4.00 Per CCF | | $5.36 Per CCF | |

** (CCF is Hundred Cubic Feet or 748 gallons)*

All rates above shall be adjusted annually every January 1st by the average of the percentage increases in the Consumer Price Index ("CPI") for "All Urban Wage Earners and Clerical Workers" for all items for San Francisco/Oakland/San Jose and Los Angeles/Riverside/Orange Co. categories as published by the Bureau of Labor Statistics in October of each year with the allowable water quantities remaining unchanged.

## LEGEND

- 2"
- 3"
- 4"
- 6"
- 8"
- CSA 16 Boundary
- Fire Hydrant
- Wharf Head Fire Hydrant
- Sampling Station Location
- Valve
- Well
- Blow-off Valve
- Air Relief Valve

| REVISIONS | | |
|---|---|---|
| Date | By | Comments |
| 8/30/03 | D. Rion | Installed Fire Hydrant |
| 10/23/03 | D. Rion | Pipe Repair |
| 4/23/04 | D. Rion | 4" To 6" Conn. Juan St. |
| 5/24/10 | M. Ruhnke | Abandon Loop Multiple Projects |

**SAN LUIS OBISPO COUNTY**
**PUBLIC WORKS DEPARTMENT**

WATER DISTRIBUTION SYSTEM

**COUNTY SERVICE AREA 16**
**SHANDON, CA.**

Drawn by: D. Rion
Drawing File: SHANDON_H2O_CSA16.dwg

**EXHIBIT "A"**