



**Solano Irrigation  
District**

# Memo

**To:** Board of Directors  
**From:** Water Rates and Charges Committee Group 2 (Gibson Canyon) and District Staff  
**cc:**  
**Date:** ~~September 2, 2015~~ September 16, 2015  
**Re:** Capital Replacement Charge Recommendation for the Gibson Canyon Service

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In November 2014, the Solano Irrigation District's Board of Directors approved the "2014 Capital Replacement Charge" (CRC) study. The resulting fee, however, was not implemented. At the time, it was planned to be enacted as part of the upcoming 2015 Water Rate study so that we would only have to undergo one Prop 218 process. In April 2015, the Water Rate and CRC fees were not approved by the District's Board. Rather, the Board directed Staff to form a Stakeholder Committee and review the Water Rates (the CRC is part of the rate so, it's included) and report back in about six (6) months. This memorandum is the first report back and recommendation to the Board regarding the CRC fee.

By way of additional background, in 2013 SID implemented the Capital Replacement Charge (CRC) at \$10 per month for 3/4 inch meter service as a "placeholder" until such time the District could;

- a) develop a Long-Term CRC with updated cost estimates, and
- b) reach out to our customers to explain the proposed CRC.

In 2013, the District initiated a Study to determine the Long-Term CRC needs;

- Preparing specific 10-year Capital Improvement Programs, with costing estimates for each of the fourteen (14) Municipal and Industrial (M&I) service areas, and

- Identify potential funding options.
- Municipal Resource Group, LLC (MRG) was hired to assist Staff in preparing the CRC Financial Plan.

The CRC fee on each M&I customer's bi-monthly bill funds the "replacement" of aging capital facilities (i.e. the physical water treatment and delivery system). The Water Rates fund the maintenance and repair of assets, however, they DO NOT collect funds to "replace" infrastructure (i.e. water pipes, service pipes, water meters, etc.). The CRC, therefore, programs and funds the replacement of these aging assets.

More specifically, the CRC funds the following categories of replacements:

1. Condition Assessment: A study confirm existing assets and validate estimated remaining useful life
2. Meter Replacement
3. Service Line Replacement: Replacing pipes between the main supply pipeline and the meter
4. SCADA (Supervisory, Control and Data Acquisition): Allows for remote monitoring and control of water plants, pump stations, wells, tanks and more
5. Pumping Plant Reconstruction/Replacement/Upgrade
6. Treatment Plant – Gibson Canyon: Membrane filters, etc.
7. Pipeline Replacement
8. Filter Upgrades
9. Tank Replacement/Upgrade/Coating
10. Chlorinator Replacement

In developing and reviewing the CRC, Staff, the Consultant and the Rates and Charges Committee proceeded under the Policy Statements adopted by the District's Board. The Policy Statements are as follows:

1. Develop a funding plan for all of the District's 17 PWS & NPWS
2. Set up separate fund accounts for each system (financial safeguards)
3. Develop a fee for only what's needed for capital re-investment over the next 5 and 10 years but, only adopt the first 5 years
4. The fee will be different for each service area because its customized
5. The fee collected can ONLY be used in the service area for which it was collected
6. The fee CANNOT be used for expenses in OTHER areas
7. The PWS fee is based on rehabilitation and upgrade needs on "life cycle" basis. Not a run-to-failure strategy.
8. The NPWS fee, however, could be RTF depending on customer input.
9. The fund should generate some reserve revenue for unanticipated capital upgrades or replacements

This memorandum is specifically focused on Capital Replacement Charge recommendations for the Gibson Canyon Service Area.

It is worth noting that there are is no CRC established for the Agricultural service areas because their capital replacement is funded through the annual Rehabilitation and Betterment assessment placed on their property.

The remainder of this memorandum is focused on CRC recommendations for the Gibson Canyon service area.

## Gibson Canyon PWS

- ✓ Recommendation No. 1: Replace service lines as needed (run to failure) rather than on a 30 year schedule. Recommend funding 5 service line replacements a year starting in **2018 year 1** (the year the existing service lines are about 30 years old) to have replacement funds on hand to replace failed service lines. The District repairs an average of eleven (11) service lines per year (based on the last 6 years). Under this recommendation, the first 5 service line repairs in a year will be complete replacements funded out of the CRC program. The remaining service line issues occurring in said year will be repaired from the Maintenance budget.

Although not the most efficient method of funding and constructing a capital project, the recommended method accomplishes the District's goals and objectives of establishing a funding means of replacing failed and aging service lines. Therefore, staff supports the recommendation.

- ✓ Recommendation No. 2: Recommend moving the tank project from year 4 to year 6 of the CRC program. Also, hold the project cost estimate at \$342,000. Said recommendation has the following benefits:
  - a) Every 5 years, SID intends to update the 10-year planning period and associated CRC. Moving the project, places it in the next CRC planning period. Addressing the project in the next period gives us time to re-evaluate the following:
    - Ultimate tankage requirements/size. Also, cost impacts and timing.
    - Contractual options (i.e. Vacaville, RNVWD, SID Well or other)

Although the project is delayed 2 years, there are many un-answered questions regarding which storage strategy most efficiently meets the needs of the service area. The questions will be answered before the next 5-year CRC evaluation period. Therefore, staff supports the recommendation.

- ✓ Recommendation No. 3: With respect to seeking potable water from another source, we've been working on several options for a couple years. There has been three options considered:
  - a) Switch to Vacaville. Project is feasible and should be further evaluated. The evaluation, however, should occur outside the CRC process because it is based on contractual negotiations with Vacaville that may take several years to complete. Recommend re-evaluation in the 5-year update of the CRC.
  - b) Switch to Vacaville Water for Potable Water ONLY and Maintain Connection to SID for Non-Potable Water (dual system). Based on about an \$8m cost (about \$2m in connection fees and connection to Vacaville and \$6m in a new drinking water piping network costs), the project is too infeasible to evaluate further.
  - c) Connect to RNVWD. Continue evaluating the RNVWD as a partnering option to meet a) long-term water storage requirements and b) water supply options. Recommend re-

evaluation in the 5-year update of the CRC with the “switch to Vacaville” option discussed above.

- d) Construct an SID Dual System. Evaluate the feasibility to constructing a new drinking water pipe distribution system to be served by the existing Gibson Canyon water treatment plant. Then, convert the existing water distribution system to a non-potable water system. In the end, Gibson Canyon customers would receive drinking water in the new piping network for indoor use and non-potable water in the existing piping network for outdoor usage. The capital cost could be about \$6m as previously discussed.
- e) Expand the Gibson Canyon Treatment Plant. Evaluate the feasibility of expanding the Gibson Canyon Treatment Plant customer base.

At the request of the Gibson Canyon Committee, long-term water service options will be re-evaluated. Included with the re-evaluation is the alternative storage options discussed on Recommendation 2. At this point, however, there are many un-answered questions regarding how to most efficiently meet the needs of the service area. The questions will be answered before the next 5-year CRC evaluation period. Therefore, staff supports the recommendation.

- ✓ Recommendation No. 4: Perform a Feasibility Study addressing Recommendations 2 and 3 above. The Study should address water storage requirements and options and alternative service options including estimated capital costs and estimated water rates. Additionally, the Study should address legal issues associated with interconnecting with other county jurisdictions. The funding for the study should be limited to \$40,000.
- ✓ ~~Include expenses in year 2 of the CRC to fund Management and Engineering of the storage tank and alternative supply evaluation.~~

Staff supports the recommendation.

- ✓ Recommendation No. 5: Remove the pre-treatment project.

Staff supports the recommendation.

~~Staff has updated the Proposed CRC Fee Schedule based on the recommendations discussed in this memorandum. Table 1 on the following page shows a CRC fee increase of 10% for each of the next five (5) years but, a 0% increase for the next five (5) years. The scenario shown in Table 1 includes a ten (10) year payback period for the loan in the 5<sup>th</sup> year and the 9<sup>th</sup> year. At the end of ten (10) years, nine (9) years remain on the payback period. This scenario is not recommended.~~

Table 2-1 shows a CRC fee increase of 10% for each of the next five (5) years but, a 0% increase for the next following five (5) years. The scenario shown in Table 2-1 includes a five (5) year payback period for the loan in the 5<sup>th</sup> year and the 9<sup>th</sup> year. At the end of ten (10) years, four (4) years remain on the payback period. This scenario is recommended because it carries forward less debt into the next ten (10) year planning period.

**Table 21. Proposed CRC Fee Schedule for the Gibson Canyon PWS: Loan Payback in Year 14**

Gibson Canyon Public Water System - Flat Rate												
Capital Financing with Outside Loans; Annual Rate Increases 2015-2018 5 Year Loan Payback in Year 14 (time from last loan)												
Period/Year	Current	1	2	3	4	5	6	7	8	9	10	
<b>Beginning Balance</b>	\$269,487	\$137,280	\$103,926	\$131,499	\$72,291	\$156,440	\$326,224	\$456	\$54,720	\$127,098	\$308,138	\$269,487
<b>Source of Funds</b>												
Membrane Replacement Charge (1)	\$16,879											\$16,879
Capital Replacement Charge (inc Membrane Replacement Charge in 2015 - 2024)	\$55,077	\$79,156	\$87,071	\$95,778	\$105,356	\$115,892	\$115,892	\$115,892	\$115,892	\$115,892	\$115,892	\$1,117,789
Interest Earnings (2)	\$2,627	\$1,355	\$1,053	\$1,285	\$765	\$1,611	\$3,098	\$32	\$583	\$1,301	\$2,929	\$16,638
Loan Proceeds (3)					\$0	\$75,000		\$0	\$0	\$120,000	\$0	\$195,000
<b>Total Source of Funds</b>	\$74,583	\$80,511	\$88,124	\$97,063	\$106,121	\$192,503	\$118,990	\$115,923	\$116,475	\$237,193	\$118,821	\$1,346,306
<b>Total Funds Available</b>	\$344,070	\$217,792	\$192,050	\$228,562	\$178,412	\$348,943	\$445,214	\$116,380	\$171,195	\$364,291	\$426,958	\$1,615,793
<b>Expenditures (5)</b>												
Brazelton Pipeline Replacement				\$135,021								\$135,021
Meter Replacement							\$19,387	\$20,046	\$1,658	\$12,860		\$53,951
Service Replacement (allow run-to-failure but provide funding for 5 replacements per year)		\$19,875	\$20,551	\$21,249	\$21,972	\$22,719	\$23,491	\$24,290	\$25,116	\$25,970	\$26,853	\$232,087
Membrane Replacement	\$206,790										\$349,257	\$556,047
Pumping Plant Reconstruction		\$31,020					\$14,556					\$45,576
Storage Tank (200,000 gal) + Design Analysis			\$40,000				\$370,000					\$410,000
Pre-treatment												\$0
SCADA Controls		\$15,613										\$15,613
Condition Assessment		\$47,357										\$47,357
Loan Repayment at 5%, 5 years (4)						\$0	\$17,323	\$17,323	\$17,323	\$17,323	\$45,040	\$114,333
<b>Total Expenditures</b>	\$206,790	\$113,866	\$60,551	\$156,271	\$21,972	\$22,719	\$444,757	\$61,659	\$44,097	\$56,153	\$421,150	\$1,609,985
<b>Ending Balance</b>	\$137,280	\$103,926	\$131,499	\$72,291	\$156,440	\$326,224	\$456	\$54,720	\$127,098	\$308,138	\$5,808	\$5,808
<b>Summary of Rates</b>												
<b>Capital Replacement Charge</b>	2014	1	2	3	4	5	6	7	8	9	10	Total
Percent Annual Rate Increase		10.0%	10.0%	10.0%	10.0%	10.0%	0.0%	0.0%	0.0%	0.0%	0.0%	61.1%
Monthly Rates [156 meters]:	\$19.02	\$42.28	\$46.51	\$51.16	\$56.28	\$61.91	\$61.91	\$61.91	\$61.91	\$61.91	\$61.91	\$2.25

## Summary

Staff met with the Gibson Canyon Rates and Charges Committee during the months of July, ~~August~~ and ~~August-September~~ of 2015 to review and question the proposed Capital Replacement Charge projects. Specifically, detailed information was presented to the Committee regarding project cost estimates, project description, service, service replacement history, etc. Additionally, the Committee toured the service system facilities to see first-hand the systems represented in the proposed projects. The project cost estimates were evaluated and, where appropriate, the construction schedules revised to accommodate Committee recommendations. Some work, however, remains incomplete (i.e. tankage and alternative service options) and is planned to be complete within the next five (5) years. In summary, staff believes the Committee agrees the projects and project schedules are reasonable. Also, by extension, that the Capital Replacement Charge is reasonable.