

## I. Executive Summary

The unincorporated community of West Goshen is located west of Visalia in Tulare County. It is located west of Highway 99 and north of Highway 198. The portion of the community that is included in this evaluation is bounded by Avenue 304 and Avenue 308 on the south, 1<sup>st</sup> Avenue or Fairfax Avenue on the west, Road 60 on the east, and the railroad tracks on the north, see Figure 1 herein.

There are approximately 30 parcels in the West Goshen area that still rely on private drinking water wells. Many of these wells have gone dry or frequently have trouble pumping water or have water quality contaminants such as nitrate, uranium, and 1,2,3-Trichloropropane (1,2,3-TCP) that exceed their respective maximum contaminant levels (MCL).

The community does not have a reliable drinking water supply as many of these wells are shallow (less than 250 feet deep), which makes them susceptible to drought and regional over-pumping. In addition, many of these wells are contaminated with constituents like nitrate, uranium, and 1,2,3-TCP which makes the water unsafe to drink. The situation is not helped by the fact that many of the wells have shallow cement annular seals (20 to 80 feet). The community does not have the resources to drill deeper wells or install and maintain treatment systems and even for those that do, there is no guarantee that those types of solutions will solve the problem in the long term.

This study evaluated three alternatives for developing a long-term solution to the water supply and water quality issues facing the West Goshen parcels that still rely on private drinking water wells. The alternatives include:

- ***Alternative No. 1 - Repairing, Replacing, & Addressing the Existing Wells***
- ***Alternative No. 2 - Consolidation with a Larger Water System (Cal Water Visalia)***
- ***Alternative No. 3 - Formation of a New Community Water System (CWS)***

Capital cost estimates in accordance with AACE International Class 4 (1% to 15% project definition) were developed for each of these alternatives.

The estimated capital costs for each alternative are listed below:

| <u>Alternative</u>                                | <u>Capital Cost</u> |
|---|---------------------|
| ● Alternative No. 1: Addressing Existing Wells    | \$3,368,250         |
| ● Alternative No. 2: Consolidation with Cal Water | \$3,501,740         |
| ● Alternative No. 3: New Community Water System   | \$13,147,900        |
| ○ Alternative No. 3a: New CWS with GAC Treatment  | \$15,272,900        |
| ○ Alternative No. 3b: New CWS with RO Treatment   | \$16,147,900        |
| ○ Alternative No. 3c: New CWS with RO & GAC       | \$18,272,900        |

Alternative No. 1 and No. 2 are very similar in capital cost, however Alternative No. 2 is clearly the most economical from an operations and maintenance standpoint as seen in the estimated per-household monthly costs, shown below.

| <u>Alternative</u>                                | <u>Monthly Cost (per household)</u> |
|---|-------------------------------------|
| ● Alternative No. 1: Addressing Existing Wells    | \$324                               |
| ● Alternative No. 2: Consolidation with Cal Water | \$40                                |
| ● Alternative No. 3: New Community Water System   | \$451                               |

The above monthly cost for Alternative No. 2 is based on a ¾-inch meter and a typical monthly consumption of 17 ccf per household. The above monthly costs for Alternatives No. 1 and No. 3 do not include treatment for new or replacement water supply wells. If treatment becomes necessary, the estimated per-household monthly costs increase to the amounts shown below.

| <u>Alternative</u>                                 | <u>Monthly Cost (per household)</u> |
|--|-------------------------------------|
| ● Alternative No. 1: Addressing Ex. Wells with GAC | \$999                               |
| ● Alternative No. 3a: New CWS with GAC Treatment   | \$598                               |
| ● Alternative No. 3b: New CWS with RO Treatment    | \$929                               |
| ● Alternative No. 3c: New CWS with RO & GAC        | \$1,068                             |

A net present value analysis was performed. Tabulations are attached in Appendices D, E, and F. The net present value takes into consideration the capital costs, the replacement costs, and the monthly costs over a 50-year duration. Alternative No. 2 – Consolidation with Cal Water Visalia has the lowest net present value.

| <u>Alternative</u>                                | <u>50-year Net Present Value</u> |
|---|----------------------------------|
| ● Alternative No. 1: Addressing Existing Wells    | \$5,235,871                      |
| ● Alternative No. 2: Consolidation with Cal Water | \$4,394,969 <sup>1</sup>         |
| ● Alternative No. 3: New Community Water System   | \$19,621,290                     |

<sup>1</sup> O&M cost for Alternative No. 2 based on estimated average monthly water consumption of 17 ccf per month per household.

|  |              |
|--|--------------|
| ○ Alternative No. 3a: New CWS with GAC Treatment | \$24,152,812 |
| ○ Alternative No. 3b: New CWS with RO Treatment  | \$31,336,497 |
| ○ Alternative No. 3c: New CWS with RO & GAC      | \$35,711,769 |

In addition to having the lowest net present value, other significant benefits of Alternative No. 2 include:

- Provides residents with a safe, clean, and reliable water supply
- Provides residents with a robust fire protection system
- Provides water to the community with the least overall burden on residents
- Provides the best water supply with respect to long-term sustainability
- Is eligible for state grant funding

Based on requirements and guidance in Senate Bill 1263<sup>2</sup> and the State Water Board's 2021-22 Intended Use Plan,<sup>3</sup> Alternatives No. 1 and No. 3 are likely not eligible for state grant funding given the close proximity of Cal Water Visalia and the feasibility of consolidation.

As part of this project, CWC has engaged with residents and property owners in the project area to solicit their questions about the project and their feedback on the alternatives being considered. The West Goshen community is extremely concerned about the contamination and ongoing drought conditions that impact their only water supply. Residents have generally expressed strong support for the alternative to consolidate with Cal Water Visalia.

Therefore, based on the above and the feedback of the community, the recommended alternative is Alternative No. 2 – Consolidation with Cal Water Visalia.

A summary of alternatives is provided below.

---

<sup>2</sup>California State Senate, “SB-1263 Public water system: permits.” [last visited Apr. 2022]  
[http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=201520160SB1263](http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB1263)

<sup>3</sup> SWRCB, “State of California Drinking Water State Revolving Fund Intended Use Plan”, 3/30/22, pp. 23, [last visited Apr. 2022]  
[https://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/docs/dwsrf\\_iup\\_sfy2021\\_22\\_final2.pdf](https://www.waterboards.ca.gov/water_issues/programs/grants_loans/docs/dwsrf_iup_sfy2021_22_final2.pdf)

**Table 1**  
**Summary of Alternatives**

| West Goshen Planning-Level Feasibility Study |   |                           |              |   |   |   |  |                            |
|--|---|---------------------------|--------------|---|---|---|--|----------------------------|
| Alternatives Analysis Summary                |   |                           |              |   |   |   |  |                            |
| Alternative No.                              | Alternative Description                                   | 50-year Net Present Value | Capital Cost | Monthly O&M per Household                             | Advantages  | Disadvantages   | Long Term Sustainability   | Eligible for State Funding |
| 1  | Repairing/Replacing/Addressing Existing Wells             | \$5,235,871               | \$3,368,250  | \$24 to \$999 depending on treatment                  | <ul style="list-style-type: none"> <li>-Provides residents with autonomy over their own water supply.</li> <li>-Even if wells are constructed deeper and have water quality that meets all Title 22 drinking water standards, there is no guarantee that the wells will not be impacted in the future by severe drought or changing water quality.</li> </ul> | <ul style="list-style-type: none"> <li>-Resident is solely responsible for any issues that arise with respect to the water supply system.</li> <li>-Even if wells are constructed deeper and have water quality that meets all Title 22 drinking water standards, there is no guarantee that the wells will not be impacted in the future by severe drought or changing water quality.</li> </ul> | <ul style="list-style-type: none"> <li>It does not have long-term sustainability because it will always be vulnerable to severe droughts, regional over-pumping, and changing water quality or regulations.</li> </ul> | Unlikely                   |
| 2  | Consolidation with Cal Water Visalia                      | \$4,394,969               | \$3,501,740  | \$40 varies based on meter size and water consumption | <ul style="list-style-type: none"> <li>-Provides residents with a safe, clean, and reliable water supply.</li> <li>-Provides residents better fire protection.</li> <li>-Provides water with the least overall burden on the residents and the community.</li> </ul>  | <ul style="list-style-type: none"> <li>-Monthly cost for water might be greater than residents are accustomed to paying.</li> </ul>   | Best alternative for long-term sustainability.   | Yes                        |
| 3  | New Community Water System without Wellhead Treatment     | \$19,621,290              | \$13,147,900 | \$451 per household                                   | <ul style="list-style-type: none"> <li>-Provides residents with water system redundancy and fire protection.</li> <li>-Provides residents with some level of autonomy over the water system while sharing the costs throughout the community.</li> </ul>  | <ul style="list-style-type: none"> <li>-The SWB is reluctant to form new community water systems.</li> <li>-The O&amp;M costs are significant, especially if wellhead treatment would also be required.</li> <li>-Places a heavy burden on the community to govern, manage, and operate the water system.</li> </ul>  | <ul style="list-style-type: none"> <li>It does not have long-term sustainability because it will always be vulnerable to severe droughts, regional over-pumping, and changing water quality or regulations.</li> </ul> | Unlikely                   |
| 3a   | New Community Water System with GAC Treatment             | \$24,152,612              | \$15,272,900 | \$598 per household                                   |   |   |  |                            |
| 3b   | New Community Water System with RO Treatment              | \$31,336,497              | \$16,147,900 | \$929 per household                                   |   |   |  |                            |
| 3c   | New Community Water System with both RO and GAC Treatment | \$35,711,769              | \$18,272,900 | \$1,068 per household                                 |   |   |  |                            |

## Next Steps

In July 2022, CWC and Dee Jasper & Associates met with technical stakeholders, including the County of Tulare, the State Water Board, and Cal Water Visalia, to conclude the Alternatives Analysis and to identify the next steps that need to be completed to implement the community's selected alternative, i.e., consolidation with Cal Water Visalia. The group also reached consensus on the lead roles needed to move the project forward. In summary, technical stakeholders outlined the following strategy assuming that the community will continue to seek State Water Board funding through the completion of the construction project:

- The Community Water Center will continue to support the West Goshen community as a technical assistance provider facilitating the completion of the Preliminary Engineering Report, the Drinking Water State Revolving Fund Construction Financing Application, and the 30% design and specifications.
- The Tulare County Resource Management Agency will be construction funding applicant and the CEQA lead agency responsible for the environmental review work.
- Following the approval of the construction grant application, the Tulare County Resources Management Agency will lead as the construction grant applicant taking the project to completion.
- Cal Water will be responsible for completing both the 30% and 100% design and specifications.
- The Community Water Center will directly contract topographical survey work according to Cal Water's required specifications.

To be responsive to the community's urgent drinking water needs, this strategy was developed with some steps occurring concurrently in an effort to shorten the overall project timeline. It is anticipated that the construction project would be completed at earliest in February 2024 but could likely take up to November 2024 or later.

CWC and Dee Jasper and Associates presented the above strategy to the community in September 2022 and came out of that discussion with two key takeaways:

1. Even with the steps taken to expedite the completion of the construction project, the overall project timeline does not align with the community's urgent drinking water needs that are at serious risk of worsening during the current ongoing drought conditions.
2. The most significant barrier to a timely implementation of the community's selected solution is the time required by the State Water Board to review and approve the construction grant application, which could take an estimated 9-12 months alone.

With many households in the West Goshen area relying on private wells that have contaminants exceeding their respective MCLs and/or in some cases have gone dry, the drinking water needs in the community are urgent. Given this urgency, Community Water Center discussed with the Department of Water Resources (DWR) staff whether the Small Community Drought Relief Program (SCDRP), which provides financial and technical assistance to small drought impacted communities, might be an alternative and more expedited funding path for this project. Community Water Center understands that this program is near its funding limit and that the last round of

applications this year will be reviewed in November 2022. Community Water Center also understands that additional funding to support communities in the upcoming year is not guaranteed at this time, and that, should additional funding become available, it would not be until after July 1, 2023. Since there are no minimum engineering requirements for this program, the Tulare County Resource Management Agency, in partnership with Community Water Center, submitted an application in October 2022. On November 28, 2022, DWR notified the County of Tulare that the proposed West Goshen project will be funded through DWR's Small Community Drought Relief Program.