

Frazier Park Public Utility District – Lake of the Woods Area Annexation/Water System Consolidation Municipal Services Review

Prepared for:

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EXECUTIVE SUMMARY

This report is a water service review for the Frazier Park Public Utility District (PUD), and the Lake of the Woods Mutual Water Company (MWC) prepared for the Kern Local Agency Formation Commission (LAFCo). The communities of Frazier Park and Lake of the Woods currently receive water service from the Frazier Park PUD and the Lake of the Woods MWC. These two agencies would like to form one regional water agency. Additional connections have been assumed for the new regional system. These may include other properties within the PUD sphere of influence (SOI) that currently have their own water systems or individual non-community wells, including the Lake of the Woods Mobile Village, the El Camino Pines Lutheran Church, 17 area homes, and possible in-fill connections. It is anticipated that the Lake of the Woods MWC and the other water systems would annex into the Frazier Park PUD.

Background

The Cortese-Knox-Hertzberg (CKH) Local Government Reorganization Act of 2000 (CKH Act) requires each LAFCo to prepare a Municipal Services Review (MSR) for its cities and special districts. MSRs are required prior to and in conjunction with the update of a Sphere of Influence (SOI).

Government Code Section 56375(a) gives LAFCo the power to initiate certain types of boundary changes consistent with a service review and sphere of influence study. This review is intended to provide Kern LAFCo with the necessary and relevant information related to the Frazier Park PUD, the Lake of the Woods MWC, the El Camino Pines Lutheran Church Water System and non-community wells that would annex into the new regional water system.

Overview of Municipal Services Review and Determinations

This Municipal Service Review (MSR) report addresses major issues of water service delivery and efficiency in Frazier Park and Lake of the Woods area, including how these services are provided by special districts and other providers. The following summarizes the determinations for the Frazier Park PUD and the Lake of the Woods MWC regional water project.

Growth and Population Projections

- The County bases growth and population projections on its County General Plan.

- Besides Frazier Park and Lake of the Woods, an additional 300 connections are analyzed for the new service area, including 84 connections in the Lake of the Woods Mobile Village, the El Camino Pines Lutheran Church Water System (1 connection) and 17 area homes on individual non-community wells within the PUD SOI and possible infill connections within and between Frazier Park and Lake of the Woods.

Disadvantaged Unincorporated Communities

- A Disadvantaged Unincorporated Community (DUC) is a geographic area characterized as having a median household income of 80 percent or less of the statewide median household income.
- Kern LAFCo policy recognizes the DUCs that have been designated by the County of Kern. The County has identified Lake of the Woods, including the MWC, other water systems and properties on individual wells, as a Severely DUC. Frazier Park is also a Severely DUC.

Present and Planned Capacity of Public Facilities

- The water supply for the Frazier Park PUD comes from two (2) Active wells in the “Cuddy Canyon Valley Groundwater Basin”. Frazier Park’s wells are all located within Basin 5-082. Frazier Park has two Active wells (#5 and #6), one Standby (#4) and one inactive well (Monte Vista).
- Water for the Lake of the Woods MWC comes from five (5) wells. These wells are located in Basins 5-083 and 5-082.
- Water levels in Lake of the Woods wells declined significantly during the drought to levels that placed certain of the wells at risk of losing production had the drought continued. While the wet winter has significantly improved water levels, it has led to increases in certain of the contaminants, namely nitrates. However, Lake of the Woods can blend the several wells and create a blend that meets water quality standards.
- With proposed infrastructure improvements under the proposed FPPUD/Lake of the Woods Regional Consolidation Project, the demands created by the combination of the water systems, together with the future customer demands for service between the two communities, can be met for the next five years and there will be significant storage remaining.

Financial Ability of Agency to Provide Services

- The Frazier Park PUD prepares a comprehensive annual budget and financial statements.
- The Frazier Park PUD operates in a cost-effective manner. Income and the current rate structure are adequate to operate the water system for the current fiscal year.
- Projected income for the Fiscal Year 2023-2024 exceed projected expenses.

Opportunities for Shared Facilities

- The MSR identifies capital improvements to provide services to the Frazier Park PUD, the existing Lake of the Woods customers, and an additional 300 connections, that could include the El Camino Pines Lutheran Church Water System, the 17 homes using individual non-community wells.
- The Frazier Park PUD has secured a ‘Planning Loan’ for the Regional Consolidation Project for a total of \$1.015 million with 100% principal forgiveness from the State Water Resources Control Board, Drinking Water Safety Revolving Fund (DWSRF).
- The Frazier Park PUD will apply for construction funding to pay for the estimated \$31.23 million Regional Consolidation Project from the State DWSRF, other state funding and federal funding as needed. The State DWSRF Construction Funding Application covers 100% total project eligible costs with up to \$60,000 per connection.

Accountability for Community Service Needs

- The Frazier Park PUD is locally accountable, adheres to applicable government code sections, has open and accessible meetings, disseminates information and encourages participation.
- The Lake of the Woods MWC is a corporation composed of property owner shareholders and adheres to applicable corporate code sections and has open meetings per state requirements.
- The El Camino Pines Lutheran Church Water System is a church-owned water system supplying water only to the church.
- Local accountability and governance would be improved through a reorganization of the water service providers into one agency. The Lake of the Woods MWC, the El Camino Pines Lutheran Church Water System and the 17 homes using individual non-community wells will become part of the new regional Frazier Park PUD water system. The Lake of the Woods wells will continue to operate supplemented by the Frazier Park wells.

Currently, the Frazier Park PUD Sphere of Influence (SOI) is coterminous with the PUD formal district boundary. Upon annexation of the Lake of the Woods MWC, and the potential inclusion of the Lake of the Woods Mobile Village, El Camino Pines Lutheran Church Water System and the 17 homes using non-community wells into the Frazier Park PUD, the current SOI should be amended to include the areas that are external to the Districts new formal expanded boundary, as shown on the attached Sphere of Influence map.

Any Other Matter Relative to Service Delivery as Required by Commission Policy

- There are no other aspects of the District’s water service that are required by Commission policy to be addressed in this MSR.

CHAPTER 1 INTRODUCTION

1.1 Role and Responsibility of Local Agency Formation Commission (LAFCo)

The Local Agency Formation Commission (LAFCo) regulates boundary changes proposed by public agencies or individuals, through approval, denial, conditions and modification. It also regulates the extension of public services by cities and special districts outside their boundaries. LAFCo is empowered to initiate updates to a Sphere of Influence (SOI) and proposals involving the dissolution or consolidation of special districts, mergers, establishment of subsidiary districts, and any reorganization including such actions. Otherwise, LAFCo actions must originate as petitions or resolutions from affected voters, landowners, cities or districts.

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (CKH Act), California Government Code §56000 et seq. requires a LAFCo to prepare a municipal service review (MSR), which is a written statement of the commission’s determinations with respect to the growth and population projections for the affected area and the present and planned capacity of public facilities and adequacy of public services, financial ability to provide services, opportunities for shared facilities, and accountability for community service needs.

1.2 Kern LAFCo

Kern LAFCo was established December 10, 1963, pursuant to provisions of Chapter 1808 of the 1963 California legislature and Government Code §56000. Kern LAFCo consists of nine regular members: two members from the Kern County Board of Supervisors, two city council members, one member from the largest City in the County, two special district members, and two public members who are appointed by the other members of the Commission. There is an alternate in each category. All Commissioners are appointed to four-year terms. The Kern LAFCo meets the fourth Wednesday of each month at 5:00 P.M. at the County Administrative Center in Bakersfield, 1115 Truxtun Avenue, First Floor, Board Chambers.

Kern LAFCo follows the MSR guidelines issued by the State Office of Planning and Research. Therefore, the MSR for the Frazier Park Public Utility District (PUD), the Lake of the Woods

Mutual Water Company (MWC), and additional 300 connections, including potentially, the El Camino Pines Lutheran Church Water System and 17 homes using individual non-community wells, addresses major issues of service delivery and efficiency and includes an analysis and a written statement of conclusions, known as determinations.

1.3 Methodology and Approach

Standard analytical tools and practices were used to gather and analyze information from several sources for the Frazier Park PUD, the Lake of the Woods MWC, the other water systems and private property served by individual wells proposing to annex into the Frazier Park PUD.

Demographic and Economic Information

One source for demographic and economic information is the *County of Kern 2015-2023 Housing Element Update* prepared by the Kern County Planning Department and adopted April 26, 2016. Kern County is currently updating its housing element (2023—2031), not available at the time of writing this report.

Kern County encompasses over 5 million acres and several diverse geographies and housing markets. To better understand the housing needs of such an expansive area, the Housing Element divides the county into nine regional planning areas defined by the Kern Council of Governments, as shown in Figure 1-1. The communities of Frazier Park and Lake of the Woods analyzed in this report are in the Frazier Park Planning Area.

The Frazier Park Planning Area consists of 439 square miles in the southwestern portion of the county. It is bounded on the north by the Westside subarea, on the east by I-5, on the south by Los Angeles and Ventura counties, and on the west by San Luis Obispo County. Frazier Park is a mountainous region that contains no incorporated communities. In addition to Frazier Park and Lake of the Woods, other primary unincorporated communities in the Planning Area are Lebec, Pinon Pines and Pine Mountain Club.

Water Demand Methodology

The County of Kern Development Standards requires water demands to be calculated using a standard methodology. The methodology develops a range of water demands for metered and unmetered systems and reflects a range of minimum water demands that should be met by

**Figure 1-1
Regional Planning Areas
Kern County**

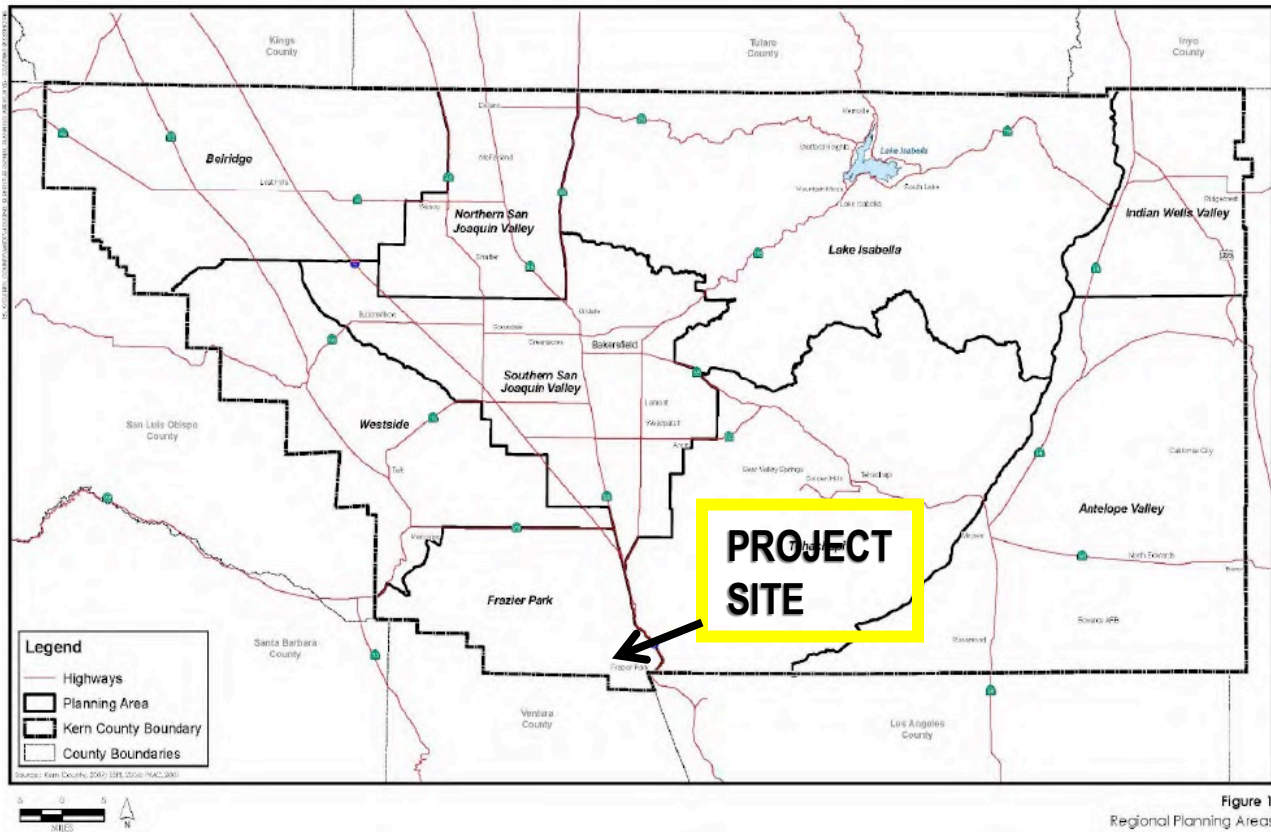


Figure 1
Regional Planning Areas

Sources: Stanley R. Hoffman Associates, Inc.
County of Kern, 2015-2023 Housing Element Update, Adopted April 26, 2016

water systems in the valley, the mountains and desert areas of the county. Local information, when available, is compared to the standards and can be used to determine demands but must consider the minimums developed by the county standards.

Production information is available for both the Frazier Park PUD and some of the Lake of the Woods area systems. Frazier Park PUD is a metered system. Lake of the Woods MWC is currently 99 percent metered with only a few remaining unmetered connections.

Water demands developed from the following sources fall within the county standard ranges:

- *Regional Water Supply Report for the Frazier Park / Lake of the Woods Portion of Cuddy Canyon, March 2023, Draft Report by Dee Jasper & Associates, Inc.*
- *Groundwater Conditions in the Frazier Park Area by Kenneth D. Schmidt & Associates, 2015*

- *Groundwater Conditions in the Frazier Park/Lebec Specific Plan Area* by Kenneth D. Schmidt & Associates – 2003
- *Regional Groundwater Assessment Report for Cuddy Canyon Groundwater Basin* by the Galli Group – 2008

CHAPTER 2 FRAZIER PARK PUD AND LAKE OF THE WOODS MWC

Frazier Park and Lake of the Woods are located in southern Kern County, three to five miles west of Interstate Highway 5 and the community of Lebec, as shown in Figure 2-1. Frazier Park is closest to Interstate Highway 5 and Lake of the Woods is about two miles west of Frazier Park.

Figure 2-1
Frazier Park and Lake of the Woods Vicinity Map
Kern County

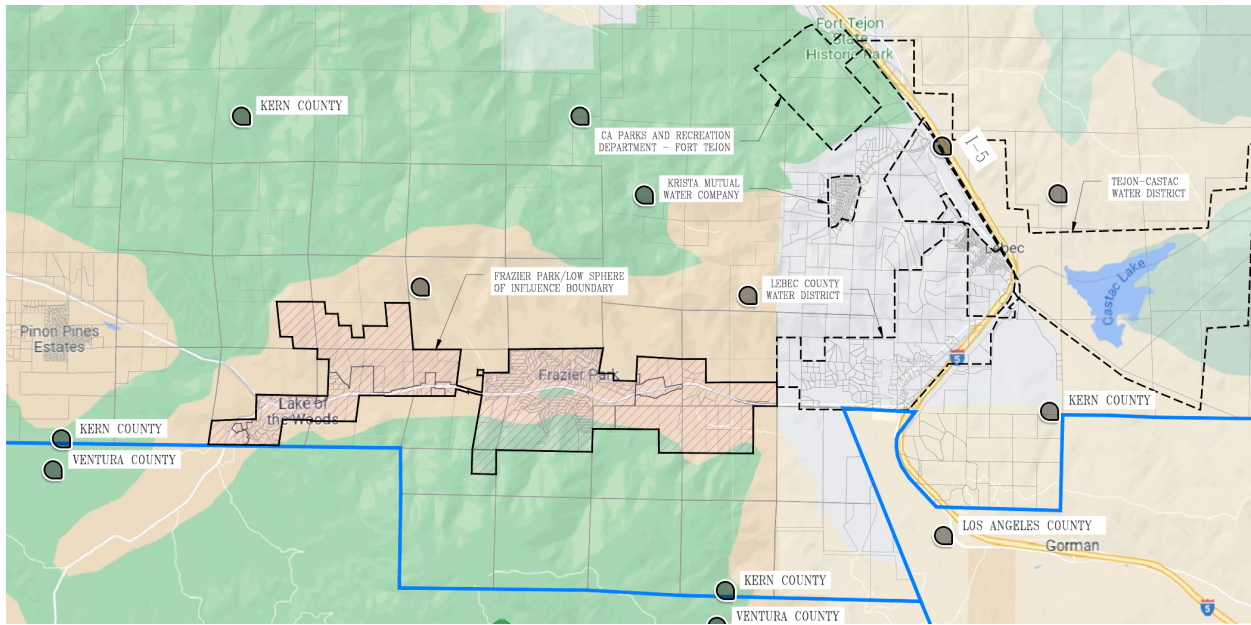


Sources: Stanley R. Hoffman Associates, Inc.
Google Earth, 2016

2.1 Overview of Water Agencies

The location of Frazier Park and Lake of the Woods (LOW) are shown in Figure 2-2, alongside the boundaries of the proposed Frazier Park/LOW consolidated public utility district (PUD) and sphere of influence (SOI).

**Figure 2-2
Lake of the Woods MWC and Frazier Park PUD
Kern County**



Sources: Stanley R. Hoffman Associates, Inc.
Dee Jasper & Associates, Inc.

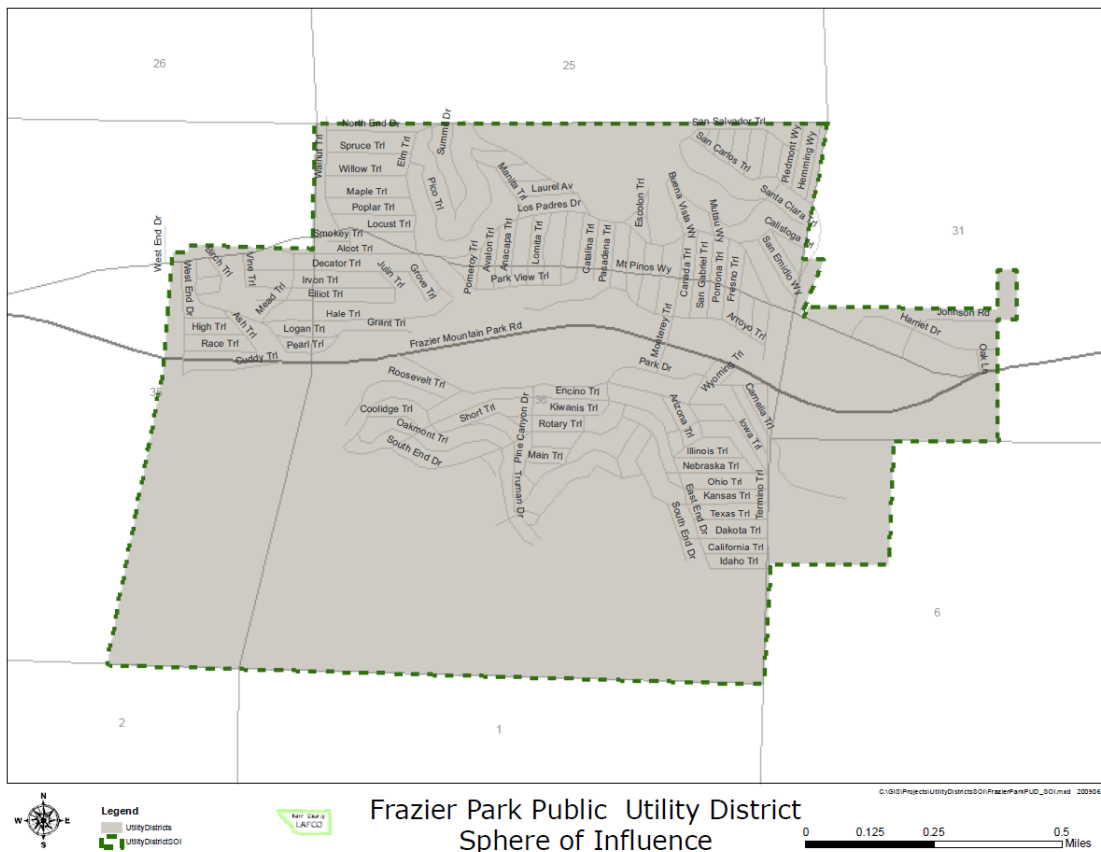
In the winter, Lake of the Woods MWC is generally able to provide water to residents from their wells. Due to the prolonged drought in the past decade, notwithstanding the recent record rainfall in early 2023, Lake of the Woods MWC has implemented strict water use limits and a moratorium on new services until the proposed Regional System is in place. The MWC has historically experienced significant water losses due to old leaking pipelines. To remedy this, the agency is implementing a pipeline replacement project over three phases, with nearly 40 percent of the total line length scheduled for completion by December 2024.

Lake of the Woods MWC has been producing enough water to sustain the community with a gradual annual drop of the aquifer levels. More recently, production has been challenged by high levels of nitrates, iron, and manganese at the wells due to heavy rains and snow in early 2023. However, a combination of “no outside watering permitted policy”, consumer conservation, customer’s having to pay metered rates, and the increasing percentage of lines replaced have helped but not solved the problem of an insufficient water supply. The assessor parcels in the Frazier Park PUD, Lake of the Woods MWC and other annexing areas are included in Appendix Figure A-1.

Sphere of Influence

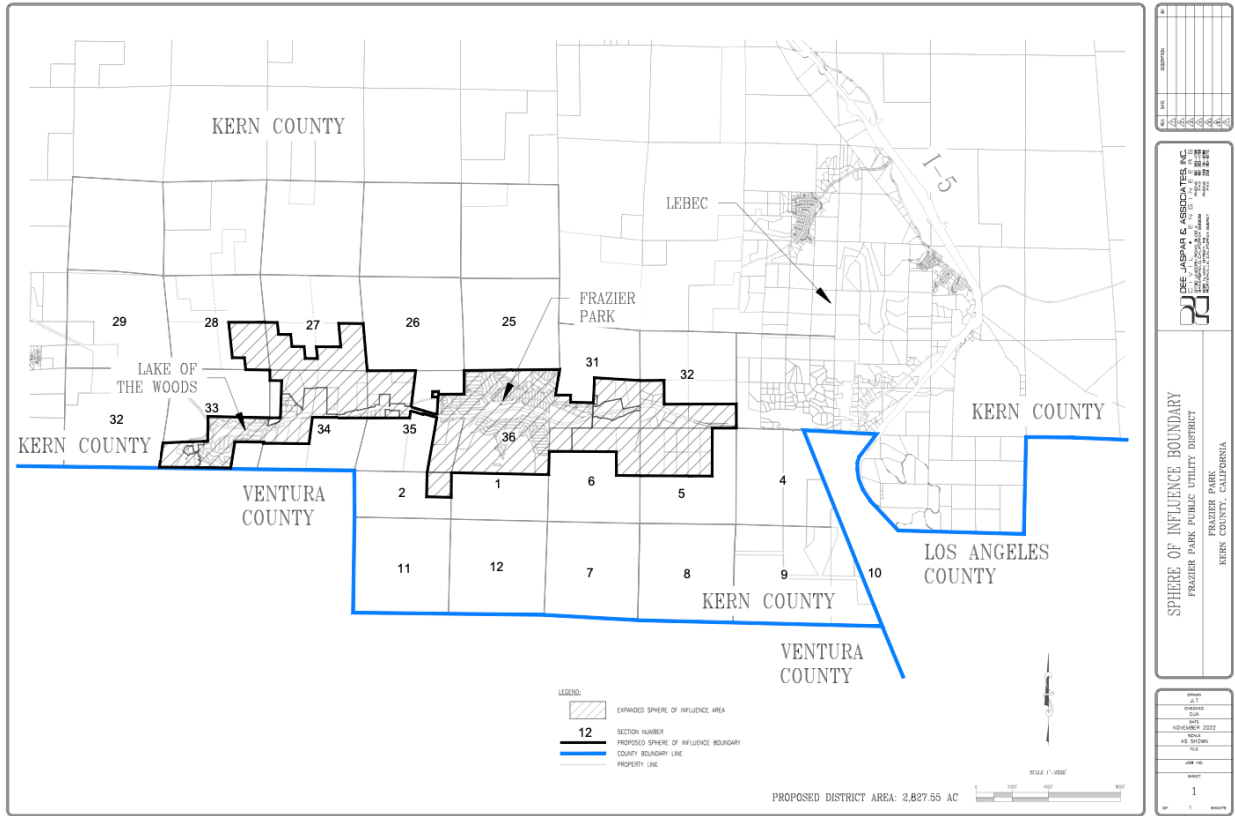
The current sphere of influence (SOI) approved for the Frazier Park PUD is coterminous with the existing District boundary, as shown in Figure 2-3. There is no SOI for Lake of the Woods MWC and the other annexing areas. Figure 2-4, shows the proposed SOI that will include the MWC and the areas containing the 300 additional connections, including the Lake of the Woods Mobile Village (84 connections), the El Camino Pines Lutheran Church Water System (1 connection) and 17 area homes on individual non-community wells, together with the area external to the proposed new district boundary - between the district boundary and the proposed SOI area - as shown in Figure 2-4.

Figure 2-3
Current Frazier Park PUD Sphere of Influence
Kern County



Sources: Stanley R. Hoffman Associates, Inc.
 Kern Local Agency Formation Commission

**Figure 2-4
Proposed Frazier Park PUD Sphere of Influence
Kern County**



Sources: Stanley R. Hoffman Associates, Inc.
Dee Jasper & Associates, Inc.

2.2 Population and Projected Growth

According to the 2020 Census, the population of the Frazier Park Census Designated Place (CDP) is about 2,592 and about 790 people are living in Lake of the Woods CDP. There are currently 1,293 water connections to the Frazier Park Public Utility District (PUD), 401 water connections to the Lake of the Woods Mutual Water Company (MWC). An estimated 300 additional connections are included in the water demand analysis in the MSR, including potentially 86 connections at the Lake of the Woods Mobile Village, one connection at the El Camino Pines

Lutheran Church Water System, 17 connections for individual home properties on single wells, and future in-fill growth.

The other water connections in the area between the two communities are served by several private wells, the Lake of Woods Mobile Homes Park and the Church of Latter Day Saints small water system, all of which have chosen not to annex to the proposed regional water system. These entities have been notified by mail multiple times and have not responded. It is possible that these systems may desire to be part of the regional water system in the future.

2.3 Disadvantaged Unincorporated Communities

As described in Chapter 1, LAFCo is required to consider the provision of public services to disadvantaged unincorporated communities (DUCs). SB 244 defines a DUC as a place that meets the following criteria:

- Contains 10 or more dwelling units in close proximity to one another where 12 or more registered voters reside. For the purpose of this analysis, “close proximity” in the Kern County analysis was based on the threshold of more than one dwelling unit per acre. Information on the exact number of dwelling units was sometimes not available; in these cases, the number of residential units was used, and an assumption was made that one unit was equivalent to approximately one dwelling unit.
- Is either within a city sphere of influence (also known as a fringe community), is an island within a city boundary (also known as an island community), or is geographically isolated and has existed for at least 50 years (also known as a legacy community).
- Only legacy communities potentially occur in the unincorporated area of Kern County. The other two types of unincorporated communities occur in city spheres of influence or in unincorporated areas surrounded by incorporated cities.
- Has a median household income that is 80 percent or less of the statewide median household income. According to the US Census Bureau, American Community Survey (ACS), the median household income for California in 2021 was \$84,907; therefore, communities with an area median income of \$67,925 or lower qualify. Kern LAFCo’s policy on DUCs and relevant data were reviewed.

Kern County is updating its housing element (2023—2031), which is not available currently. Based on the *County of Kern 2015-2023 Housing Element Update*, April 26, 2016, Lake of the Woods is designated as DUC 9. DUC 9 is the Census Designated Place (CDP) known as Lake of the Woods, which according to the 2021 ACS 5-year estimates is a cluster of 420 units in ‘close proximity’ on

about 49.6 acres, which results in an approximate density of 8.4 units per acre. The CDP’s median household income is \$51,133, which is less than the qualifying income threshold of \$67,925 for being designated as a DUC.

2.4 Water Supply

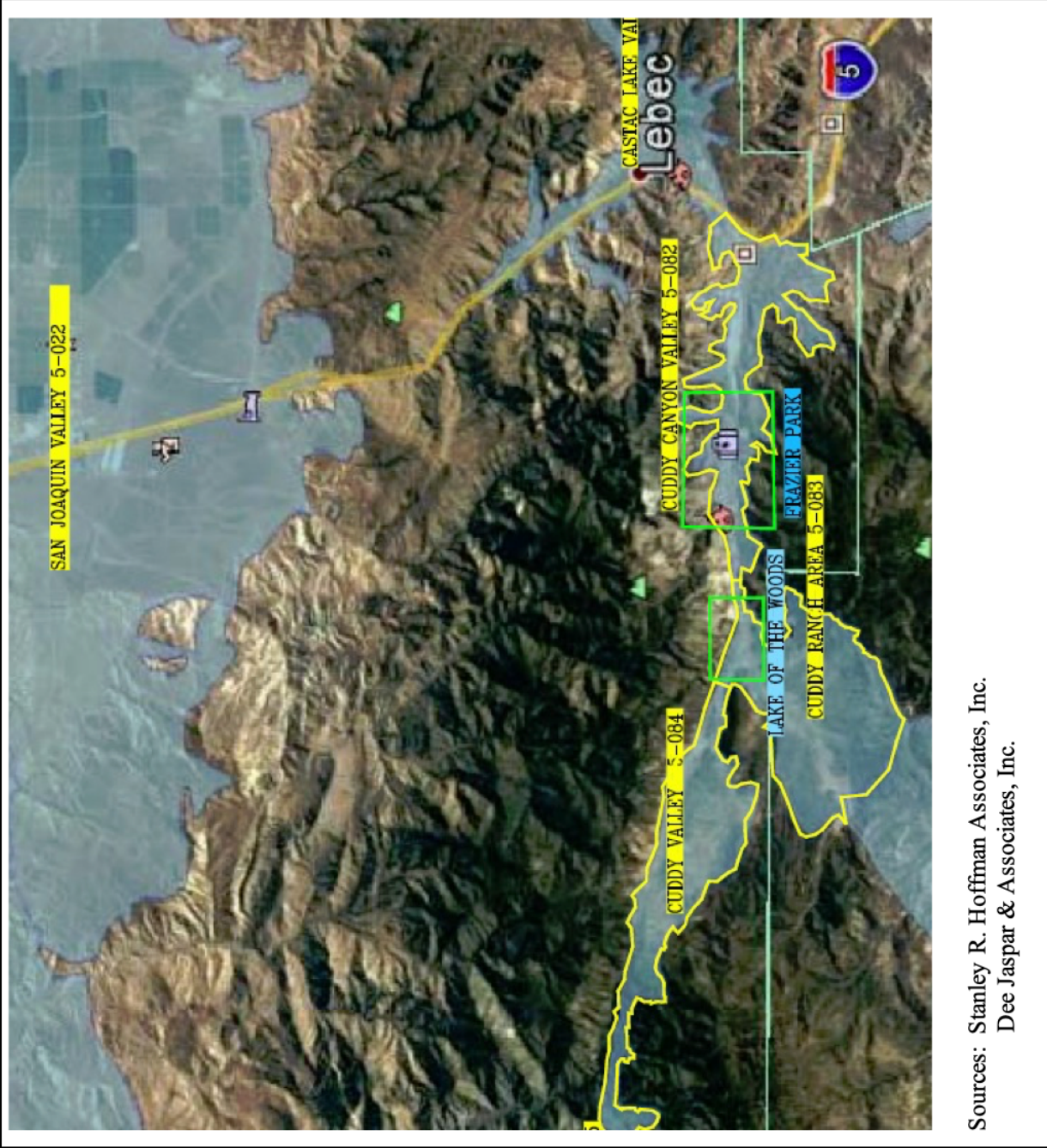
Background

The communities of Lake of the Woods and Frazier Park, along with many other communities in California have experienced the damaging effects of the drought conditions over the last decade. These conditions were alleviated to some degree due to the recent extreme wet spell in early 2023. However, it is not certain whether this wet period was an anomaly in a generally prolonged period of dry conditions.

There has been no significant streamflow in Cuddy Creek over past the decade prior to 2023. However, it has been observed that the groundwater basin reacts rapidly to the inflow of water from Cuddy Creek, even during a brief wet period, with the shallow alluvium experiencing various degrees of re-filling depending on creek flow. The recent wet conditions have improved groundwater basin recharge.

The following discusses the availability of groundwater in the Frazier Park and Lake of the Woods portion of the “Cuddy Canyon Groundwater Basin”. The “Cuddy Canyon Groundwater Basin” as defined in the Galli Group’s “Regional Groundwater Assessment Report for Cuddy Canyon Groundwater Basin” – 2008, includes a portion of the Cuddy Ranch Area Groundwater Basin and Cuddy Canyon Valley Groundwater Basin, Basins 5-083 and 5-082, respectively (see Figure 2-5). Frazier Park’s wells are all located within Basin 5-082, and water for the Lake of the Woods MWC comes from five wells located in Basins 5-083 and 5-082.

Figure 2-5
Groundwater Basins: Frazier Park and Lake of the Woods Area
Kern County



Sources: Stanley R. Hoffman Associates, Inc.
Dee Jaspas & Associates, Inc.

The current understanding of the hydrogeology of the groundwater basin and the effect of municipal water demands on groundwater storage in the basin is presented based on information in the following reports:

1. *Regional Water Supply Report for the Frazier Park / Lake of the Woods Portion of Cuddy Canyon, Draft Report by Dee Jaspar & Associates, Inc., 2023,*
2. *Gravity Survey Summary Report, Cuddy Creek Valley, Frazier Park by Subsurface Surveys & Associates, Inc., 2017 and 2020*
3. *Engineering Report by Dee Jaspar & Associates, Inc., 2018*
4. *Estimate of Water Demands for the Study Area by Dee Jaspar & Associates, Inc., 2015*
5. *Groundwater Conditions in the Frazier Park Area by Kenneth D. Schmidt & Associates, 2015*
6. *Regional Groundwater Assessment Report for Cuddy Canyon Groundwater Basin by the Galli Group, 2008*
7. *Groundwater Conditions in the Frazier Park/Lebec Specific Plan Area by Kenneth D. Schmidt & Associates, 2003*

Frazier Park PUD. The water supply for the Frazier Park PUD comes from the following two active wells.

- Well #5 located at the end of Montana Trail
- Well #6 located at 4001 Park Drive, FPPUD Headquarters
- Additionally, the PUD includes Well #4 on standby, and one inactive well (Monte Vista).

The Pine Canyon Spring and the Sam Young Spring are in isolated areas uphill from the community of Frazier Park. These two active springs are supplied by groundwater in the Cuddy Canyon Groundwater Basin – Basin 5-082 and are not contributing water to the Frazier Park PUD at this time. The District is considering designating these two springs as "Inactive" due to their unreliable production and questionable water quality.

Lake of the Woods MWC. The water supply for the Lake of the Woods MWC comes from five active wells supplied by groundwater in the Cuddy Canyon Groundwater Basin. The wells are located in a canyon surrounded by mountains and are identified as follows:

- Well #1, Well #2 and Well #7 located on Lakewood Drive
- Well #4 located by the Catholic Church
- Well #6 on the east side of Lake of the Woods

Cuddy Canyon Groundwater Basin

The Cuddy Canyon Groundwater Basin as defined by Galli begins west of Lake of the Woods and terminates at Interstate 5 in Lebec. It is approximately 36,000 feet long. As shown in Figure 2-4, the Frazier Park PUD is within Basin 5-082, the Cuddy Canyon Valley Groundwater Basin. With annexation of Lake of the Woods MWC service area, the Frazier Park PUD will also overlay Basin 5-083, the Cuddy Ranch Groundwater Basin, which begins at Lake of the Woods and ends just west of Frazier Park.

According to Dee Jaspar & Associates, Inc. (2023), prior reports, including Galli (2008), divided the Cuddy Canyon Basin into three Sub-basins, the West Sub-basin (Lake of the Woods to west of Frazier Park), the Middle Sub-basin (west of Frazier Park to east of Frazier Park), and the East Sub-basin (east of Frazier Park to I-5 at Lebec). The Jaspar 2023 report considers the West and Middle Sub-basins as coterminous with the Frazier Park SOI, as referenced in this MSR report.

The Jaspar 2023 report estimates the amount of storage volume in these two Sub-basins based on geophysical surveys undertaken in 2017 and 2020. These surveys measured the depth and breadth of production alluvium in the basin by measuring the change in gravity that occurs between alluvium and the basement complex, which is granite.

Depth to water for both Sub-basins in the “full” condition was assumed to be 30 feet below the lowest point in each cross section. Full volume for the West Sub-basin is estimated to be 3,100 acre-feet and 4,200 acre-feet for the Middle Sub-basin, totaling 7,300 acre-feet for the combination. Galli (2008) estimated a full volume at 30-foot depth of 7,800 acre-feet, which were comparable to these recent estimates.

Lake of the Woods has experienced a significant dewatering of the alluvium in the west half of the West Basin, with wells penetrating the alluvium showing water levels near the base of the alluvium. This is due to the prolonged statewide drought over the past decade.

According to Jaspar (2023), the recent extremely wet winter should rectify a somewhat dire situation in Lake of the Woods, where water levels had dropped dangerously close to the bottom of the aquifer prior to the recent precipitation. It is estimated that water storage had dropped to about 500 acre-feet in the West Sub-basin and to 2,700 acre-feet in the Middle Sub-basin, at the end of 2022.

Groundwater Recharge

Groundwater recharge occurs in several ways:

1. Cuddy Creek streamflow infiltration, which has been minimal for the last five years.
2. Tributary streams entering from the north and south sides of Cuddy Canyon.
3. Mountain front recharge (underground) from both sides of the valley.
4. Downgradient (easterly) groundwater inflow into the Cuddy Valley Groundwater Basin from the Cuddy Valley Groundwater Basin (Basin 5-084)

Moderate to very large amounts of recharge occurred during small to moderate streamflow events. This happens when rainfall values of 1 to 2 inches occur. The West and Middle Sub-basins benefit the most from these short, powerful storms. The existence of numerous springs and seeps is evidence that mountain front recharge is a significant contributor to the groundwater basin, particularly in the Frazier Park area. Mountain front recharge has been the major contributor to groundwater storage and, combined with the apparent groundwater restriction at the confluence of the Garlock Fault and the San Andreas Fault. This is the reason that groundwater levels in the Middle sub-basin remain relatively high, even in periods of drought.

Table 2-1 presents correlated annual rainfall to theoretical basin recharge using infiltration percentages. Even in years of lower-than-normal rainfall, with a day or series of days with 3–6 inches of rainfall, recharge takes place, indicating derived recharge amounts are conservative. Basin recharge lags behind the rainfall event by a certain time, depending on the configuration of the basin, character of the deposits, and the amount of rainfall. The lag time for the Cuddy Creek Sub-basin was calculated as 3 to 4 weeks after significant rainfall event. The basin therefore exhibits the effects of rainfall events relatively quickly.

The 2003 KDSA Report estimated that the average annual groundwater recharge is between 2,000 and 4,000 acre-feet (af) for the Cuddy Canyon Groundwater Basin (Lake of the Woods to Interstate 5). The recharge computed by Galli (in Table 2-1 below) of between 1,500 and 2,600 acre-feet per year compares favorably to the amounts estimated by KDSA. If the recharge amounts are proportioned by length of sub-basin, the annual average recharge for the West and Middle Sub-basins amounts to about 1,500 acre-feet per year, based on the low range of KDSA's estimate of recharge (2,000 acre-feet per year for the Cuddy Canyon Groundwater Basin).

Net demand reflects the estimated consumptive use of water pumped from the aquifer. It is estimated that household uses return about 75% of the water pumped to the underlying groundwater basin and landscape irrigation returns about 25% of the applied water to the basin. Further, it is estimated that 65% of water use in the area is household use and 35% is landscape irrigation. Therefore 58% of the water pumped or derived from springs returns to the basin.

**Table 2-1
Correlated Annual Rainfall to Basin Recharge Using Infiltration Percentages
Cuddy Valley Groundwater Basin**

Rainfall Year	Rainfall (inches/year)	Infiltration %	Computed Recharge (acre-feet/year)	Percent of Normal
Drought	0-6	0	0	0
Below Normal	7-11	2-4	350 – 1,100	35%
Normal	12-15	5-7	1,500 – 2,600	100%
Above Normal	16-20	10-15	4,000 – 7,500	280%
Extreme	20+	20+	>7,500	365%

Sources: Stanley R. Hoffman Associates, Inc.
Dee Jaspar & Associates, Inc., 2023
Gali Group, 2008

Water Budget

Updated total water budgets for the Lake of the Woods and Frazier Park are estimated by Jaspar (2023) and based on an estimated unit water use of 0.29 acre feet (af)/connection/year, which represents long-term water use in Frazier Park. This estimate was also used for Lake of the Woods, assuming its water use will match Frazier Park once the systems are combined. For the proposed combined regional system, the study assumes 1,293 connections for Frazier Park PUD, 401 connections in Lake of the Woods, and 300 additional connections. This results in a water use projection of 375 afy for Frazier Park, 116 afy for Lake of the Woods, and 87 afy for the 300 additional connections, totaling 578 afy for the combined entities. This is compared to the previous 2015 projection of 561 afy for the combined entities. A value of 580 afy is used in this section for an updated estimate of the water budget for the combined systems.

A Regional Water Supply done by Jaspar in 2015-16, prior to the geophysical work done in 2017 and 2020, used rainfall and infiltration information presented in the 2008 Galli Report, and basin reservoir volumes developed by Galli estimated by methods other than the more accurate

geophysical methods that were employed in 2017 and 2020. That study concluded that the amount of groundwater in storage in the combined West and Middle Subbasins was 7,800 acre-feet. The more recent storage estimates are a combined groundwater storage of 7,300 acre-feet, which is in good agreement. The 2008 Galli five-year study, and the 2015-16 study done by Jaspar both started with a full basin. The recent study done by Jaspar, using the same rainfall and infiltration assumptions as in 2015-16, considered a seven-year period starting with a basin that is 50% full, a more conservative approach, and reflects what the estimated storage conditions would be at the end of the 2022-2023 rainfall season. This was a more conservative approach, assuming also that the next year (2023-2024) would be normal, and the year following that year would be below normal, followed by three years of drought. The conclusion of the seven-year study indicated that there would still be 2,400 acre-feet in storage at the end of that period, as shown in Table 2-2.

Based on Jaspar (2023), Table 2-2 presents an updated seven-year water balance projection to those performed in 2016, incorporating the revised demand level of 580 afy and the recent wet weather in early 2023. This water balance starts with an assumption that the basin is 50% full, as a result of the recent storm systems that have impacted California.

Table 2-2
Demand and Supply
Seven-Year Water Balance, Combined West and Middle Basins

Rainfall Year	Description	Recharge (acre-feet)	Total Demand (acre-feet)	Net Demand (acre-feet)	Loss to East Basin (acre-feet)	Basin Storage (acre-feet)
2022	Drought	0	580	290	300	3,650
2023	Above Normal	4,310	580	290	2,200	5,470
2024	Normal	1,540	580	290	1,700	5,020
2025	Below Normal	540	580	290	1,100	4,170
2026	Drought	0	580	290	300	3,580
2027	Drought	0	580	290	300	2,990
2028	Drought	0	580	290	300	2,400

Sources: Stanley R. Hoffman Associates, Inc.
Dee Jaspar & Associates, Inc.

Summary of Findings

1. Estimated groundwater storage in the Cuddy Canyon West and Middle Sub-Basins is: West = 3,100 acre-feet; Middle = 4,200 acre-feet. This reflects “full conditions” based on the more-recent information provided by the Geophysical work done in 2017 and 2020.
2. Groundwater recharge is principally from streamflow from valley side streams, mountain-front recharge, and streamflow in Cuddy Creek.
3. Groundwater recharge for the Cuddy Canyon Groundwater Basin in a Normal year has been estimated to be between 1,500 – 2,600 acre-feet per year (afy) (Galli Group) to 2,000 – 4,000 afy (Ken Schmidt and Associates – KSDA). Annual recharge for the West and Middle Sub Basins in this study was estimated at 1,500 afy by Jaspar (2023) based on 75% of the low range of KSDA’s report of 2,000 afy. The drainage area supplying the West and Middle Sub-Basins is 75% of the total drainage area for the Cuddy Canyon area that is comprised of West, Middle and East Sub-Basins.
4. Existing water demands are 374 afy for Frazier Park, 116 afy for Lake of the Woods, and 87 afy for infill projects and for existing properties between the two entities, bringing the total demands for the West and Middle Sub-Basins to 578 afy, rounded to 580 afy.
5. The recharge value was developed by Galli for the entire basin and therefore the recharge value used for the 2023 Jaspar study was taken as a ratio of the contributing areas. 75% of total drainage area contributes to the combined West and Middle Sub-Basins. That ratio was used to determine the gross recharge amounts. This was then modified by the percentage of the precipitation that actually infiltrates into the groundwater basin.
6. In a “Normal” year there is an estimated excess of groundwater of 1,700 acre-feet that flows from the Middle Sub-Basin to the East Sub-Basin. This value varies from an estimated 300 afy in a drought year to an estimated 2,200 afy in a year of extreme rainfall.
7. The 2015-16 five-year study by Jaspar, starting with a full basin and assuming a normal year followed by two dry years, followed by three below normal years resulted in a reduction of groundwater storage of 860 acre-feet. This was assuming a constant loss of 770 afy from the Middle Sub-Basin to the East Sub-Basin. An additional look at the basins in 2015-16 began with the West Sub-Basin dry and the Middle Sub-Basin at 6,500 acre-feet, resulted in a reduction in storage of 860 acre-feet, and the basin retaining 5,640 acre-feet of storage.
8. The seven-year water balance postulated by Jaspar in 2023 started with basins 50% full, having a total amount of storage of 3,650 acre-feet, followed by an above-normal year, a normal year, and a below-normal year, followed by three drought years, resulting in a reduction of groundwater storage of 1,250 acre-feet, having a retained amount of storage of 2,400 acre-feet. The study indicates that the West Sub-Basin would be in the condition that it was at the end of 2022, and the Middle Sub-Basin would be 33% full. It is postulated that there would be ensuing water quality issues along with the reduction in basin storage. If the climate continues to dry, long-term water plans may need to include looking at a supplemental surface water supply. It may be that a joint effort between the Frazier Park Public Utility District and Lebec County Water District could result in a supplemental surface

water supply for both entities from the California Aqueduct to the east of Lebec. This is a long-term solution that needs to be included in the long-term planning efforts of the communities that depend on Cuddy Creek for their water supplies.

9. At this time, the Cuddy Canyon Groundwater Basin is sufficient to meet the demands of the combined communities of Frazier Park and Lake of the Woods.

2.5 Water Demand

Water demand analysis for Frazier Park and Lake of the Woods area is provided by Dee Jaspar & Associates, Consulting Civil Engineers (2023). Demands are developed for both communities, first as separate service areas and second, as a combined service area. The effect of an additional 300 connections (including the Lake of the Woods Mobile Village, Lutheran Church Water System, 17 individual non-system wells and future infill connections) is also developed.

The two communities are roughly two miles apart. There are approximately 790 persons living in Lake of the Woods area and 2,592 persons living in Frazier Park. There are currently 1,293 water connections to the Frazier Park Public Utility District (PUD), 401 water connections to the Lake of the Woods Mutual Water Company (MWC) and an additional 300 connections assumed for the future. These are the two areas that have expressed a desire to look into the possibility of creating a regional water agency. It is anticipated that this would involve annexation of Lake of the Woods Mutual Water Company, the El Camino Pines Lutheran Church Water System and the 17 properties served by individual wells into Frazier Park Public Utility District.

There are other water connections with existing private wells and properties that are served by their own small wells in the area between and next to the two communities, including the Lake of the Woods Mobile Village Water System. These connections have not chosen to be a part of the regional system; however, they might in the future. An estimate of 300 additional connections was included in this study to reflect both the known non-Lake of the Woods MWC connections and other future demands from Frazier Park and other possible lots in the Lake of the Woods area.

Water Demand Standards

The County of Kern Water System Standards contain procedures by which municipal water demands can be calculated in Division Two of the Kern County Development Standards. The Standards address the range of geographic areas within the county and are intended to be used as a guide. Local information, when available, can be used to develop demands specific to a

water supplier’s service area. This information must be compared to the county standard to develop a sense of the validity of the local information.

Demand Calculation – County Standards

Section 202-3 *Required Residential Supply – General*, contains the county water supply requirements. After determining the number of connections in the service area, the peak hourly demand is determined from the Water Supply Requirements Chart. From this number the maximum month daily residential flow and the average daily flow for the maximum month are calculated. This information is compared to water production information from Frazier Park and Lake of the Woods. The two systems are then combined and demands are developed for the combined systems. Further, an estimate of water demands for the combined systems included the capacity attributable to an additional 300 connections.

Frazier Park PUD is a metered system and Lake of the Woods MWC has recently converted to meters. Table 2-3 includes metered connections in both Frazier Park and Lake of the Woods. Metering would be a requirement if the systems were combined, and State law requires all services to be billed on metered rates by the year 2025. As mentioned above, the county standards present a range of demands, depending on the geographic location of the system and whether or not the system is metered. The lowest demands generally occur in the mountain communities and the highest on the valley floor.

**Table 2-3
Peak Hour Demand
Lake of the Woods MWC and Frazier Park PUD**

Community	Number of Connections	Minimum to Maximum Peak Hour Demand Metered Water Service
Frazier Park PUD	1,293	800 – 2,200 gallons per minute (gpm)
Lake of the Woods	401	320 – 800 gpm
Combined *	1,994	1,200 – 3,100 gpm

- Includes 300 additional connections, over and above Frazier Park PUD and the Lake of the Woods.

Sources: Stanley R. Hoffman Associates, Inc.
Dee Jaspar & Associates, Inc.

The Maximum Month Daily Demand is estimated in Table 2-4. This is the average daily demand for the peak water use month in the system. Usually this month is June, July or August. Very occasionally it falls outside the summer months.

**Table 2-4
Maximum Month Average Daily Demand
Lake of the Woods MWC and Frazier Park PUD**

Community	Range – Minimum to Maximum Demand Maximum Month – Average Daily Demand (Metered)
Lake of the Woods	107 - 267 gallons per minute (gpm)
Frazier Park	267 - 733 gpm
Combined	402 – 1,040 gpm

Sources: Stanley R. Hoffman Associates, Inc.
Dee Jaspar & Associates, Inc.

Estimated Demands

Frazier Park PUD. Frazier Park PUD is a metered system serving 1,293 connections. Comparison of the production records with the delivery records indicates that there is a difference between the water meters on the wells and the water metered through the individual service meters.

The average difference is about 29%. This is based on a six-year average of District records from 2015 – 2022. It is thought that the individual meters on the residences are faulty and are reading low due to their age. Losses due to pipe breaks also are a factor. Produced water, as metered at the two wellsites, is used for the development of the following water production comparisons. For a more complete treatment of the supply and demand numbers, see the appended insert taken from the Regional Water Supply Study.

Pumping records for the past three years for the Frazier Park system indicate that the maximum month daily pumping demand is approximately 360 gpm. This is within the lower 1/3 of the range of demands developed by using the Kern County Standards. The peak hour source production for Frazier Park is 1,081 gpm based on a maximum month average daily demand of 360 gpm. This is met by wells and storage. Frazier Park has 2.1 million gallons of storage. For the past three years Frazier Park has pumped and average of 49 acre-feet in the maximum month, which is 13.4 % of

its annual average production for those years (366 acre-feet). The average annual daily demand is 227 gpm. The average annual water production is 0.28 – 0.29 acre-feet per connection.

**Table 2-5
Estimated Water Demands and Water Production
Lake of the Woods MWC and Frazier Park PUD**

Community	Annual Water Production	Maximum Month Water Production	Peak Hour Demand	Average Annual Demand
Frazier Park (1,293 Connections)	321 af	49 af	1,081 gpm	227 gpm
Lake of the Woods (401 Connections)	117 af	16 af	351 gpm	73 gpm
Combined (FPPUD & LOW) (1,694 Connections)	438 af	65 af	1,447 gpm	300 gpm
Combined with 300 Additional Residences (1,994 Connections)	578 af	78 af	1,708 gpm	358 gpm

Note: Peak Hour and Average Annual Demands were estimated by addition of the two entities respective demands. The County standards would generate a slightly lower value for these combined systems, therefore the direct addition is slightly more conservative.

Sources: Stanley R. Hoffman Associates, Inc.
Dee Jaspar & Associates, Inc.

Lake of the Woods MWC. Lake of the Woods is now a metered system. Metered rates went into effect in June 2021. In 2014 no exterior watering was allowed in the service area. Annual water use declined from about 0.29 acre-feet (af)/connection that time, reducing to about 0.15 af/connection in 2023, a 48% reduction. It is assumed that the annual water use will rebound to that of Frazier Park once the systems are merged, and therefore the value of 0.29 af/connection was used to estimate the water demands going forward. Therefore, the annual water demand for Frazier Park is estimated to be 117 af/year, or 73 gpm. From this, the maximum month was estimated to be 13.4% of the annual demand – or 16 af/month. This places the peak hour demand for the peak month at 351 gpm.

Combined Systems. Combining the systems results in the demands presented in Table 2-5. For projections of future demands and additional 300 connections have been added to the existing connections, these include 84 connections associated with the Lake of the Woods Mobile Village, the El Camino Pines Lutheran Church, 17 individual non-system parcels that currently are on private wells, and infill growth within the Sphere of Influence of the new consolidated district, bringing the total number of services to 1,994. The net effect of this is to increase the estimated peak hour flow to about 1,700 gpm. A comparison to the Kern County Standards on water supply requirements is presented in Appendix B.

2.6 Water Quality

The drinking water is routinely monitored for contaminants for the Frazier Park PUD, the Lake of the Woods MWC and the El Camino Pines Lutheran Church Water System. An annual *Consumer Confidence Report* is issued by each agency. The water quality of the 17 single well properties is unknown.

Frazier Park PUD

Continuous chlorination is provided to the two wells that supply water to the Frazier Park PUD. The annual *Consumer Confidence Report* from the Frazier Park PUD is distributed to district customers, posted at www.frazierparkwater.com and posted on the Water Company Bulletin Board at Kern County Library. Based on the most recent report for 2022, as shown in Appendix Table C-1, there was no detection of coliform bacteria in 2022 and the contaminant levels detected in the samples were below concentrations requiring action by the Frazier Park PUD.

Lake of the Woods MWC

Based on the 2022 *Consumer Confidence Report* for Lake of the Woods MWC, as shown in Appendix Table C-2, there was no detection of coliform bacteria. There were nitrate and fluoride water supply compliance orders filed with the Lake of the Woods MWC, which were both corrected in 2020. The annual *Consumer Confidence Report* for Lake of the Woods MWC is distributed to company customers, and posted at www.lakeofthewoodswater.com

2.7 Current Financing

Frazier Park PUD

Revenues and Expenses. This section describes sources of revenues and expenses associated with the current Frazier Park PUD's water system. The Frazier Park PUD receives revenue from

water sales, fee income, property taxes, rental properties and periodic grants and loans. Most of these revenues are placed in the Frazier Park PUD’s Revenue/Operating Fund. Water sales are the primary financing sources for the proposed Fiscal Year (FY) July 2027-June 2028. Detailed revenues are included in Appendix Table D-1.

Frazier Park PUD expenses are primarily related to operations and maintenance, with wages and payroll representing the largest expense followed by general operations cost. Detailed expenses are included in Appendix Table D-2.

Comparing revenues to expenses provides an analysis of the overall fiscal health and serves to assess the financial ability of the Frazier Park PUD to provide water services. As shown in Panel C of Table 2-6, in FY 2022-2023 the ‘Actual’ revenues exceeded expenses by \$254,581. In the following proposed fiscal years, revenues exceed expenses by \$222,198 in 2023-24, \$153,400 in 2024-25, \$119,686 in 2025-26, \$75,654 in 2026-27 and \$30,673 in 2027-28.

**Table 2-6
Summary of Income and Expenses
Frazier Park Public Utility District**

Category	Actual	Proposed					
	July 2022 - June 2023	July 2023 - June 2024	July 2024 - June 2025	July 2025 - June 2026	July 2026 - June 2027	July 2027 - June 2028	2027-28 % of Total
A. Income Category							
Water Sales	\$1,325,875	\$1,329,863	\$1,341,700	\$1,358,000	\$1,363,000	\$1,368,000	89.2%
Fee Income	53,802	60,775	52,053	60,228	52,803	52,978	3.5%
Kern County Revenues	79,001	72,400	74,600	76,700	78,700	79,700	5.2%
Use of Money & Property	28,399	31,500	31,300	31,600	32,400	33,200	2.2%
Grants	0	0	0	0	0	0	0.0%
Total Income	\$1,487,077	\$1,494,538	\$1,499,653	\$1,526,528	\$1,526,903	\$1,533,878	100.0%
B. Expense Category							
General Operations	\$412,285	\$389,622	\$432,800	\$467,325	\$473,200	\$498,000	33.1%
Maintenance and Repairs	41,851	20,000	28,500	28,500	34,500	34,500	2.3%
Wages and Payroll Expenses	547,232	623,275	660,550	686,350	712,750	739,300	49.2%
Insurance	28,003	41,125	46,500	46,000	47,500	49,500	3.3%
Interest Expense	90,344	88,018	85,653	83,143	80,499	77,830	5.2%
Professional Services	82,309	87,000	69,000	71,000	77,000	77,000	5.1%
Telephone	12,678	10,575	10,450	11,150	11,850	12,550	0.8%
Travel	4,824	7,100	6,900	7,200	7,500	7,800	0.5%
Utilities	12,971	5,625	5,900	6,175	6,450	6,725	0.4%
Total Expenses	\$1,232,497	\$1,272,340	\$1,346,253	\$1,406,843	\$1,451,249	\$1,503,205	100.0%
C. Net Income	\$254,581	\$222,198	\$153,400	\$119,686	\$75,654	\$30,673	

Sources: Stanley R. Hoffman Associates, Inc.
Frazier Park Public Utility District, *Proposed Five Year Budget 2023-28*

Assets and Liabilities. The Frazier Park PUD owns its water system, and these capital assets are depreciated over their estimated useful lives. A summary of the district’s assets and liabilities as of January 31, 2024 is presented in Table 2-7. As shown in Panel A of Table 2-7, Frazier Park PUD assets are estimated at about \$8.76 million. The majority of these assets include fixed assets of the water transmission and distribution system. Detailed breakdown of assets is available on the district website. <https://www.frazierparkwater.com/files/245876db5/09+-+Board+Financials.pdf>

Liabilities and Equity. To finance capital expenditures, the Frazier Park PUD did encumber loans from a variety of sources. The Frazier Park PUD is currently paying off these long term debts, estimated at about \$2.61 million, as shown in Panel B of Table 2-7. Detailed liabilities and equity are available on the district website <https://www.frazierparkwater.com/files/245876db5/09+-+Board+Financials.pdf>

Table 2-7
Summary of Assets and Liabilities
Frazier Park Public Utility District

Category	January 31, 2024
A. Assets	
Current Assets	\$2,011,504
Fixed Assets	<u>6,749,830</u>
Total Assets	\$8,761,334
B. Liabilities and Equity	
Current Liabilities	\$58,466
Long Term Liabilities	2,609,557
Equity	<u>6,093,311</u>
Total Liabilities and Equity	\$8,761,334

Sources: Stanley R. Hoffman Associates, Inc.
Frazier Park Public Utility District, *Balance Sheet as of January 31, 2024*

Cost Avoidance. Ideally, proposed methods to reduce costs would not adversely affect service levels. In general, water systems have a fixed cost associated with operations and maintenance and have a variable cost related to demand. As the Frazier Park PUD staff continues to provide water services to residents, they must deal with regulatory and physical constraints which may limit the ability of the Frazier Park PUD to pursue cost avoidance practices.

Current Rates and Fees

Frazier Park PUD. Monthly service charges vary by size of meter. Table 2-8 presents the adopted January 2023 rates and fees. Residential monthly services rates are \$70.62 for ¾" meters and \$118.12 for 1" meters. Monthly service charges for business range from \$70.62 to \$2,352.17 depending on the size of the meter.

New residential connection fees for Frazier Park PUD are \$8,000 for ¾" meters and \$9,000 for 1" meters. New connection fees for business range from \$8,000 for a ¾" meter to \$14,000 for a 6" meter.

As also shown in Table 2-8, Frazier Park PUD fees include water consumption fees at \$2.36 per 100 cubic feet of water, shut off/turn on fees at \$26.91 on Monday through Thursday business hours and \$112.18 after business hours and on weekends. Other Frazier Park PUD administrative and service fees are presented in Appendix Table D-3.

Lake of the Woods MWC. The adopted January 2023 rates and fees for Lake of the Woods MWC are also shown in Table 2-8. The Lake of the Woods MWC initiated monthly billing in January 2017. Residential monthly services rates are \$64.02 for ¾" meters and \$106.91 for 1" meters. Business monthly services rates are \$64.02 for ¾" meters, \$106.91 for 1" meters and \$344.23 for 2" meters. MWC fees include water consumption fees at \$0.124 per cubic feet (or \$12.40 per 100 cubic feet) of water. Turn on fee after being disconnected is \$70, maintenance turn on/turn off fee is \$65 during regular business hours and \$150 after business hours or the weekend. There is currently a moratorium on new connections. Owner Transfer fee in the Lake of the Woods MWC is \$50, while owner-tenant directive fee is \$35.

The Lake of the Woods MWC charges an annual assessment of 50% of the shareholder's share of total shares. Other Lake of the Woods MWC fees include late charges, and non-service fees.

**Table 2-8
Current Water Service Rates
Frazier Park PUD and Lake of the Woods MWC**

Item Description	Frazier Park PUD	Lake of the Woods MWC ¹
<u>Monthly Service Charge - Residential</u>		
3/4" Meter	\$70.62	\$64.02
1" Meter	\$118.12	\$106.91
<u>Monthly Service Charge - Business</u>		
3/4" Meter	\$70.62	\$64.02
1" Meter	\$118.12	\$106.91
1 1/2" Meter	\$234.96	n/a
2" Meter	\$376.19	\$344.23
3" Meter	\$744.68	n/a
4" Meter	\$1,168.38	n/a
6" Meter	\$2,352.17	n/a
<u>New Connection Fees - Residential</u>		
3/4" Meter	\$8,000	n/a
1" Meter	\$9,000	n/a
<u>New Connection Fees - Business</u>		
3/4" Meter	\$8,000	n/a
1" Meter	\$10,000	n/a
1 1/2" Meter	\$11,000	n/a
2" Meter	\$12,000	n/a
3" Meter	\$13,000	n/a
4" Meter	\$13,000	n/a
6" Meter	\$14,000	n/a
<u>Will Serve Deposit</u>	\$200	n/a
(If entire New Connection fee is paid within six months from date of application, the deposit will be deducted from the connection fee.)		
<u>Annual Assessments</u>	n/a	50% of Shareholders' Shares
<u>Consumption Fee (per 100 cubic feet of water)</u>	\$2.36	\$12.40
<u>Reconnection Fee</u>	\$112.18	n/a
<u>Residential Service Update from 3/4" to 1" Meter</u>	\$2,955.85	n/a
<u>Turn On/Shut Off Fees</u>		
Turn On Fees (after being disconnected)	n/a	\$70.00
Turn On or Off Water During Regular Business Hours	\$26.91	\$65.00
Turn On or Off Water After Regular Business Hours or Weekends	\$112.18	\$150.00
3 Days Activation and Lock Off	\$112.18	n/a
Emergency Shut Off (to avoid damage, any time)	No Charge	n/a
<u>Late Charges (Percent of amount past due)</u>	\$0.10	\$0.10
<u>Returned Check Fee</u>	\$38.00	\$35.00
<u>Ownership Transfer Fee</u>	\$56.09	\$50.00
<u>Owner-Tenant Reconnection Fee</u>	\$112.18	n/a
<u>Owner-Tenant Directive Fee</u>	n/a	\$35.00
<u>Discontinuation Notice Posting Fee</u>	\$28.04	n/a
<u>Cutting Off Locks/Vandalism (each occurrence)</u>	\$360.10	\$200 ²
<u>NSF Charges</u>	n/a	\$35.00

Note: 1. n/a = not applicable
2. \$200 or actual cost, whichever is higher plus labor.

Sources: Stanley R. Hoffman Associates, Inc.
Frazier Park Public Utility District, *List of Rates and Fees*, Revised January 2024
Lake of the Woods, Rates Effective for January 2024 Billing, www.lakeofthewoodswater.com

2.8 Opportunities for Shared Facilities

The Lake of the Woods MWC, the El Camino Pines Lutheran Church Water System, and 17 individual properties with wells and vacant parcels are proposing to annex to the Frazier Park PUD. As shown in Table 2-9, the total water system preliminary cost estimate is about \$31.23 million. Of this total, project infrastructure costs are estimated at about \$23.92 million and the remaining costs include a 15 percent contingency; FPPUD capacity fees; mitigation; and design and inspection fee for a total of \$31.23 million.

The estimated new regional water system costs in Table 2-9 include Frazier Park PUD with the annexation of the Lake of the Woods MWC and 300 additional connections, to include the El Camino Pines Lutheran Church Water System and 17 additional individual wells. Detailed descriptions of the costs prepared by Dee Jaspar and Associates are included in Appendix Table D-4 and a diagram of the proposed water system is included in Appendix Figure A-2.

Table 2-9
Summary of Estimated New Regional Water System Costs
Frazier Park Public Utility District

Item Description	Quantity	Unit	Unit Cost	Extended Cost
Purchase Well Site Property	2	LS	\$100,000	\$200,000
Drill, Construct, and Develop New Well	2	LS	\$774,000	\$1,548,000
Equip a New Well with Pump, Motor, Piping & Electrical	2	LS	\$1,682,500	\$3,365,000
Regional Transmission Main	1	LS	\$9,850,500	\$9,850,500
Purchase Tank & Booster Plant Site Property	3	LS	\$100,000	\$300,000
Tank & Booster Pumping Plant	3	LS	\$2,410,000	\$7,230,000
Modifications at Well 5 Wellsite				<u>\$1,425,000</u>
Project Subtotal:				\$23,918,500
15% Contingency:				\$3,587,775
FPPUD Administrative Fees:				\$100,000
Engineering Design:				\$1,195,925
Environmental Mitigation:				\$100,000
Labor Compliance:				\$80,000
Permitting and Compliance:				\$100,000
Construction Staking:				\$85,000
Bid Advertisement & Legal:				\$25,000
Construction Administration:				\$597,962
Construction Inspection:				<u>\$1,435,110</u>
Total Project Estimate:				\$31,225,272

Sources: Dee Jaspar & Associates, Inc., Regional Water Supply for the Frazier Park / Lake of The Woods Portion of Cuddy Canyon.

The regional system has multiple phased components, including the proposed early drilling of one well (Well No. 8), as explained in greater detail in Jaspar (2023). The utilization of the \$31.23 million of proposed capital expenditures for the regional system will depend on the phasing of these components. Well No. 8 early drilling is estimated to cost \$4.79 million, while Well No. 9, which includes a new distribution and pumping system and piping to Lake of the Woods, is estimated at \$17.97 million.

The Frazier Park PUD can apply for funds from the State Water Resources Board, State funds from the Integrated Regional Water Management Plan, Federal funds like United States Department of Agriculture/Rural Development and Community Development Block Grant funds.

The Frazier Park PUD has secured a ‘Planning Loan’ for the Regional Consolidation Project for a total of \$1.015 million with 100% principal forgiveness from the State Water Resources Control Board, Drinking Water Safety Revolving Fund (DWSRF). This will pay for preconstruction planning costs such as a hydrological study, an engineering report, test wells, and project system design and specifications.

When the planning work is completed; the Frazier Park PUD will apply for construction funding to pay for the estimated \$31.23 million Regional Consolidation Project from the State DWSRF, other state funding and federal funding as needed. The State DWSRF Construction Funding Application covers 100% total project eligible costs with up to \$60,000 per connection.

This construction funding would pay for the \$31.23 million in Regional Project construction (wells, storage, pumps, meters, water transmission lines, water distributions lines, hydrants and valves) and related costs (District capacity fees, land, engineering, administration, etc.).

Self-Help Enterprises has provided technical assistance, application preparation and project funding consultation to both the Frazier Park PUD and the Lake of the Woods MWC. Since 2013, state and federal grant funds of about \$1.59 million have been obtained by the Frazier Park PUD for regional project formation costs and development of a new well. The Lake of the Woods MWC has received state and federal funds of about \$7.19 million to develop and connect new wells, pay for hauled water, replace water lines and install water meters.

2.9 Accountability and Efficiencies

The Frazier Park PUD and the Lake of the Woods MWC demonstrate accountability through their public meetings, transparency policies, adherence to applicable government code sections, open and accessible meetings, dissemination of information, and encouragement of public participation through the establishment of regular public comment opportunities.

Frazier Park Public Utility District (PUD)

Contact Information: P.O. Box 1525
Frazier Park, CA 93225
Office: (661) 245-3734; email: fppud1@gmail.com

Board and Staff:

Lisa Schoenberg, President, lisas.fppud@gmail.com
Gerald Garcia, Vice President, geraldg.fppud@gmail.com
Brahma Neyman, Secretary, brahman.fppud@gmail.com
Terry Kelling, Treasurer, terryk.fppud@gmail.com
Rebecca Gipson, JPIA Representative, rebeccafppud@gmail.com

Jonnie Allison, General Manager, jonniea.fppud@gmail.com
Tiffany Matte, Administrative Assistant/Clerk of the Board, tiffanym.fppud@gmail.com

The Board of Directors of the Frazier Park PUD meets the second Thursday and fourth Thursday at 4020 Park Drive in Frazier Park at 4:00 p.m.

Lake of the Woods Mutual Water Company (MWC)

Contact Information: 3534 Mt. Pinos Way, PO Box 112
Frazier Park, CA 93225
Office: (661) 245-1448 email: lowwaterco@gmail.com
Emergency: (661) 917-7317

Board and Staff:

Joan Kotnik, President,
Daryl Beckstrand, Vice President/Treasurer
Mary Dreier, Secretary
Martin Morehouse, Director
Stanley Eisman, Director

Pam Jarecki, Office Manager,
Brenda Fessia, Assistant Officer Manager
Eric Alcala, Water Operator

The Board of Directors of the Lake of the Woods MWC meets the first Thursday of each month at 3534 Mt. Pinos Way in Lake of the Woods at 6:00 p.m.

**APPENDIX A
ANNEXATION AREA AND FRAZIER PARK PUD ASSESSOR PARCELS
AND
PRELIMINARY REGIONAL SYSTEM LAYOUT**

Figure A-1 (Sheet 1)

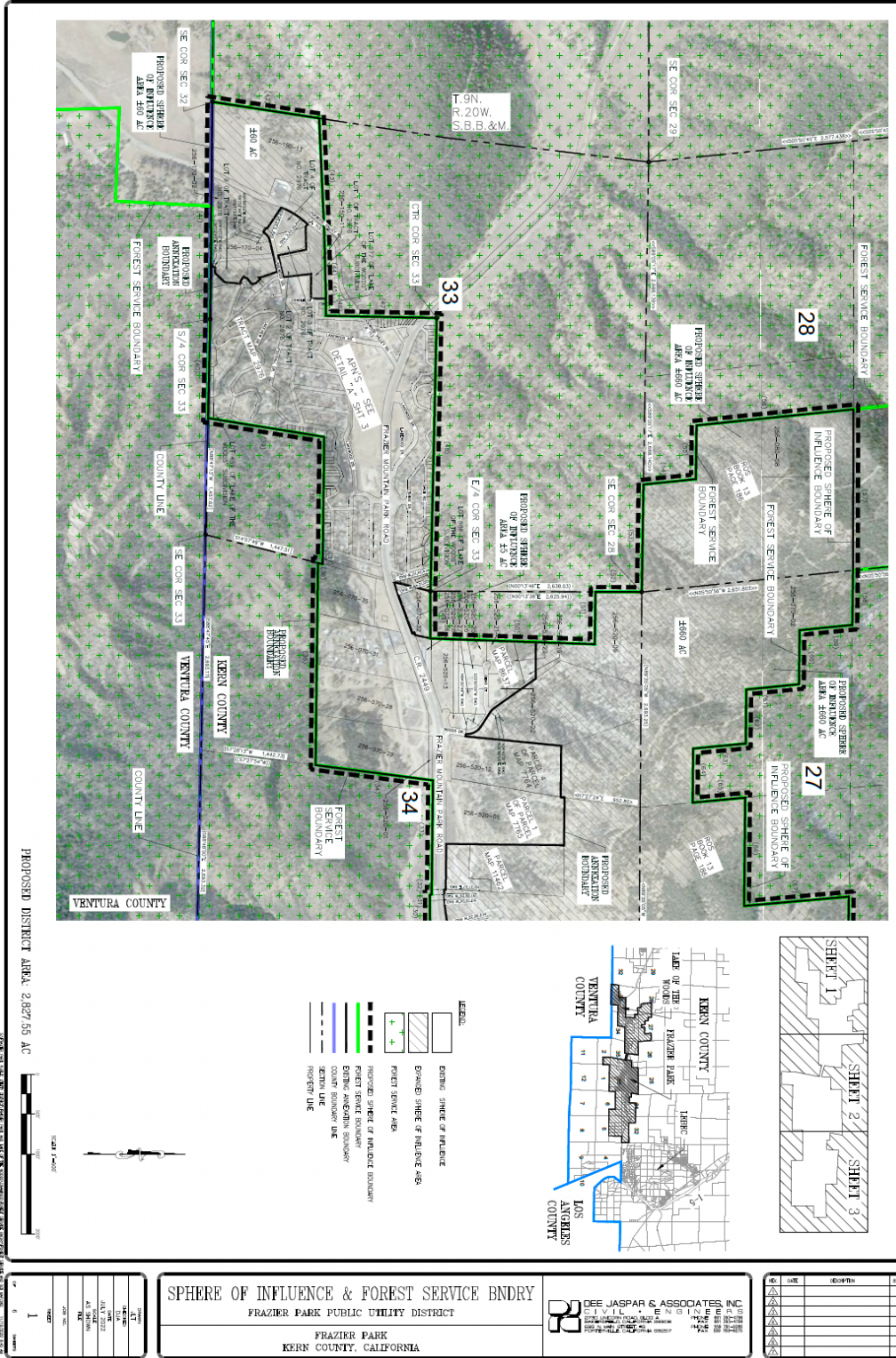


Figure A-1 (Sheet 2)

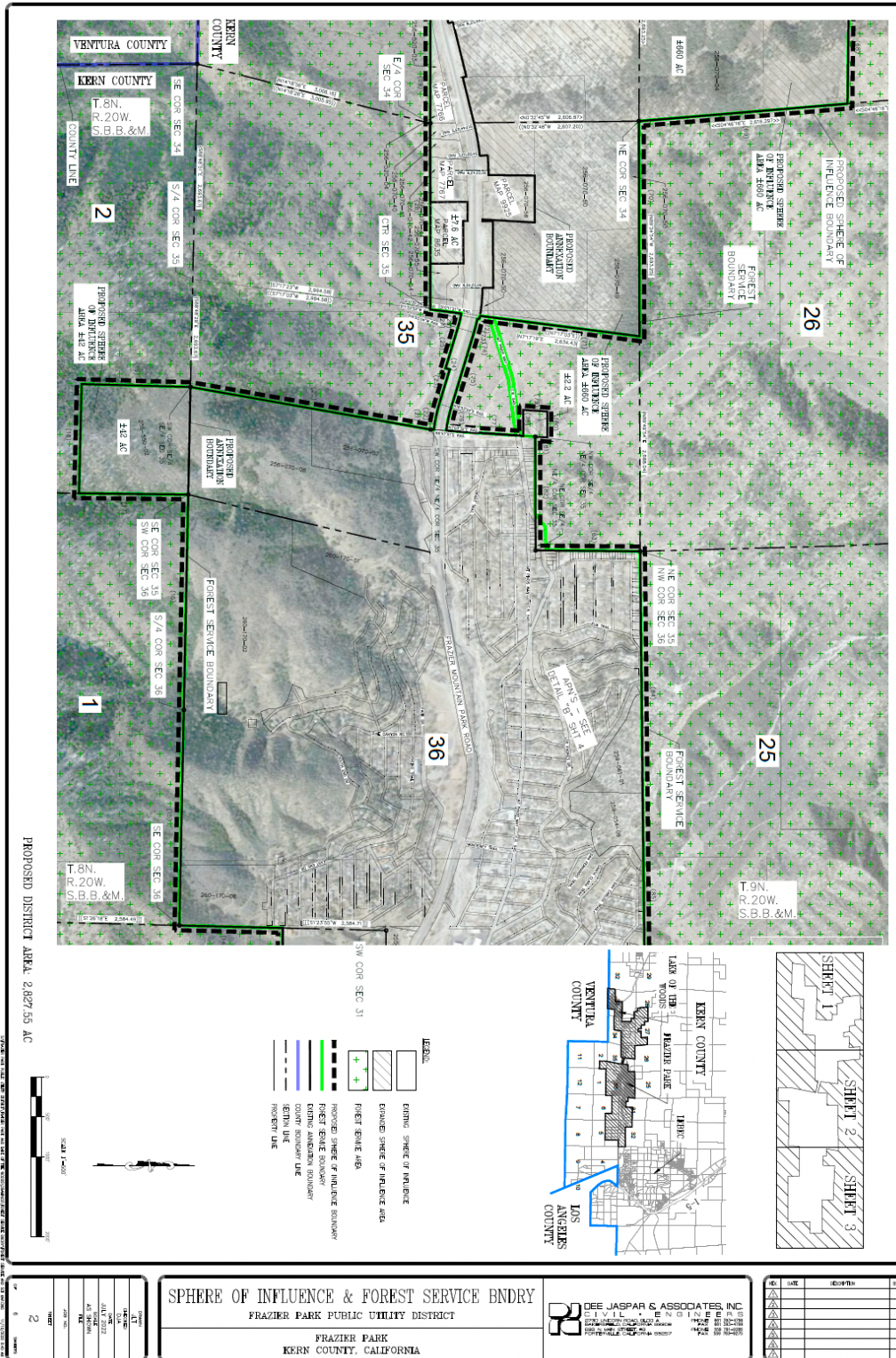
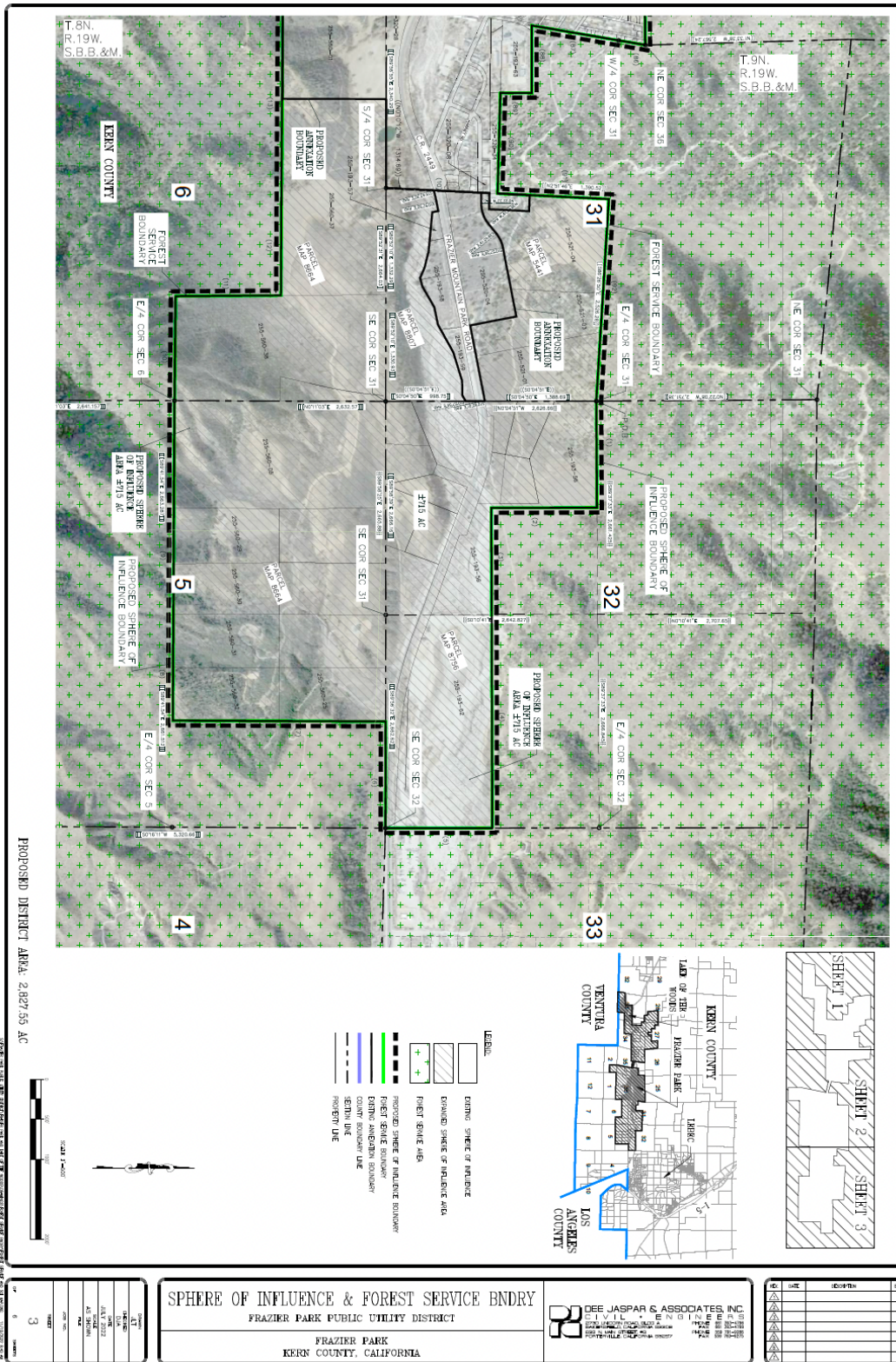
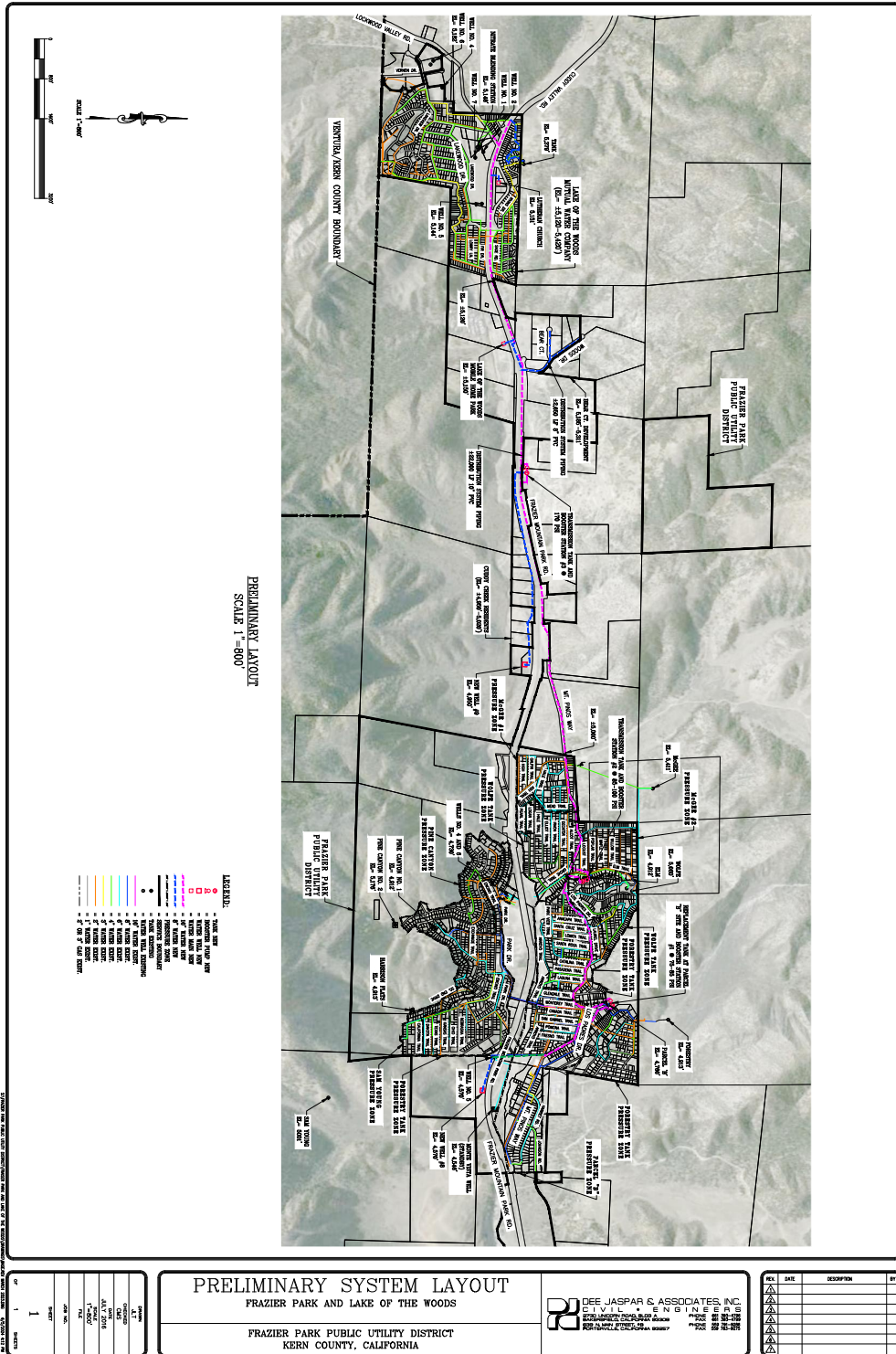


Figure A-1 (Sheet 3)



**Figure A-2
Regional System Preliminary Design**



APPENDIX B REVIEW OF KERN COUNTY WATER SUPPLY STANDARDS

The following presents the demand calculations based on the Kern County Standards, Division 2, Chapter 2, Water Supply Requirements from the ‘Regional Water Supply Study for the Frazier Park/Lake of the Woods Portion of Cuddy Canyon, March 2023’ by Dee Jasper Associates, Inc.

Section 202-3 Required Residential Supply – General contains the county water supply requirements. After determining the number of connections in the service area, the peak hourly demand is determined from the Water Supply Requirements Chart, Plate W-5. From this number the maximum month daily residential flow and the average daily flow for the maximum month are calculated. This information is compared to water production information from Frazier Park and Lake of the Woods. The two systems are then combined and demands are developed for the combined systems. Further, an estimate for the combined systems with the addition of 300 residential lots is developed. Frazier Park is a metered system. Lake of the Woods is having meters installed. The following demands reflect metered connections in both Frazier Park and Lake of the Woods. As mentioned above, the county standards present a range of demands, depending on the geographic location of the system and whether or not the system is metered. The lowest demands generally occur in the mountain communities and the highest in the communities on the valley floor.

Peak Hour Demand Based on County Standards

LOW and FPPUD Systems Combined Plus 300 Connections	Number of Connections	Range – Minimum to Maximum Peak Hour Demand Metered Water Service
Reconfigured District and the Sphere of Influence	1,994	1,200– 3,100 gpm

Inspection of Frazier Park records shows that the maximum month water demands of record occurred in June 2020. That month Frazier Park pumped 2,377,800 cubic feet. This is an average pumping demand of 412 gpm. The Peak Hour Demand generated by the county standards is three times the average day demand, resulting in a Peak Hour Demand of 1,236 gpm. This is 0.96 gpm per connection. or about 1 gpm per connection. Application of this Peak Hour Demand to the total number of connections in the reconfigured district results in a Peak Hour Demand of 1,994 gpm. The estimated Maximum Daily Demand is therefore 997 gpm and the Average Daily Demand is 665 gpm. Rounding these estimates to the nearest 100 gpm results in the following:

Peak Hour Demand = 2,000 gpm

Maximum Daily Demand =1,000 gpm

Average Daily Demand = 700 gpm.

A Peak Hour Demand of 2,000 gpm places it roughly half way between the Minimum and Maximum Peak Hour Demand generated by the county standards and appears to be a

conservative number to use for the following comparison to Chapter 2, Section 202 of the Kern County Water System Standards.

Section 202-3.01

Peak Hour Demand = 2,000 gpm
 Maximum Daily Demand = 1,000 gpm
 Average Daily Demand = 700 gpm.

Section 202-3.02

Peak Hour Demand = 2,000 gpm
 ½ Peak Hour Demand Plus Fire Flow = 2,000 gpm/2 + 1,500 gpm = 2,500 gpm
 The Peak Hourly Demand or ½ the Peak Hourly Demand plus the Fire Flow (1,500 gpm), whichever is greater, shall be met for 2 hours from a combination of sources and storage.
 Therefore 2,500 gpm must be met for 2 hours from the sources and storage.

Section 202-3.02(a) Requirement and Capacities

Item	Pumping Capacity (gpm)			Storage (gallons)		
	LOW	FP	Total	LOW	FP	Total
Pumping Capacity ¹	140	1,440	1,580	780,000	2,100,000	2,880,000
Sec 202-3.02(a) Requirement ²						300,000
Pumping Production ³						189,600
Storage Required ⁴						110,400
Storage Available (80%) ⁵						2,304,000
Excess Storage Available⁶						2,193,600

Notes

1. Estimated pumping capacity with existing wells and two new wells.
2. 2,500 gpm for 2 hours = 300,000 gallons.
3. 1,580 gpm for 2 hours = 189,600 gallons.
4. Sec 202-3.02 Fire flow plus Peak Hour Demand requirement.
5. Assume 80% of storage volume is available.
6. There is excess storage available to meet the requirement.

Additionally, with the most critical pump or well inoperative, a minimum of 2/3 of the flow of 2,500 gpm (1,670 gpm) shall be met for the 2-hour period by drawing from both wells and storage.

APPENDIX C WATER QUALITY REPORTS

Figure C-1 (page 1 of 3) Water Quality Report Frazier Park PUD

2022

FRAZIER PARK PUBLIC UTILITY DISTRICT

CONSUMER CONFIDENCE REPORT

This is the annual *Consumer Confidence Report* on the quality of water delivered to you by the Frazier Park Public Utility District (FPPUD).

The Frazier Park Public Utility District routinely monitors for contaminants in your drinking water according to Federal and State laws. The test results are shown in the following pages.



Where Does Our Water Come From?

The sources of supply for the Frazier Park Public Utility District are three active wells identified as Well #4 (currently offline), Well #6 located at 4001 Park Drive, & Well #5 located at the end of Montana Trail, and two springs known as Pine Canyon and Sam Young that are currently inactive. Continuous chlorination is provided to the water produced from each active supply source. The FPPUD water wells are located in a canyon surrounded by mountains. The springs are in isolated areas uphill from the community.

Did You Know?

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Some people maybe more vulnerable to contaminants in drinking water than the general population. Immune compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from the health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection are available from the Safe Drinking Water Hotline.

"Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien."

Figure C-1 (page 2 of 3)
Water Quality Report
Frazier Park PUD

Contaminants That May Be Present in Source Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in some source waters include:

- *Microbial contaminants*, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- *Inorganic contaminants*, such as salts and metals that can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- *Organic chemical contaminants*, including synthetics that are by-products of industrial processes and petroleum production and can also come from gas stations, urban storm water runoff, and septic systems.
- *Radioactive contaminants*, which can be naturally occurring to be the result of oil and gas production, or mining activities.

The tables on the following pages show the results of our monitoring for the period of January 1 to December 31, 2020.

Abbreviations and Definitions:

PHG or MCLG	Public Health Goal or Maximum Contaminant Level Goal, The level of a contaminant in drinking water below which there is no known or expected risk to health. The California Environmental Protection Agency sets PHGs.
MCL	Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. The United States Environmental Protection Agency (USEPA) sets MCLs. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.
AL	Action Level. The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements, which a water system must follow.
PDWS	Primary Drinking Water Standards. MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.
SDWS	Secondary Drinking Water Standards. MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do <u>not</u> affect the health at the MCL levels.
ppm	parts per million or milligrams per liter (mg/l) N/A not applicable
ppb	parts per billion or micrograms per liter (µg/L) ND not detectable at testing limit
pCi/L	pico Curies per liter (a measure of radiation) NS no standard

The Board of Directors meets the second and fourth Thursday of each month at 4020 Park Drive in Frazier Park at 6:00pm. If you have any questions please call our office at 661-245-3734

**Figure C-1 (page 3 of 3)
Water Quality Report
Frazier Park PUD**

SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA

Number of Detections in 2022	Number of Months in Violation	MCL	MCLG
0	0	5.0%	zero

DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD

	Average Level Detected	Range of Detection	MCL	MCLG/PHG	Typical Source of Contaminant
Total Trihalomethanes (ppb)	11.5	ND-14	80	NA	By-product of drinking water chlorination
Aluminum (ppb)	760	ND-760	1000	NA	Erosion of natural deposits
Arsenic (ppb)*	3.3	ND-20	10	NA	Erosion of natural deposits
Nitrate (as N) (mg/l)	6.2	ND-8.2	10	10	Leaching from septic tanks and sewage; erosion of natural deposits
Fluoride (ppm)	1.7	1.5-2.1	2	1	Erosion of natural deposits

* While your drinking water meets the current standard for arsenic, it does contain low levels of arsenic. The California Department of Health Services continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD

Constituent Detected	Average Level Detected	Range of Detection	MCL/AL	PHG/MCLG	Typical Source of Contaminant
Lead (ppb)	0.008	ND – 2.9	AL 15	2	Erosion of natural deposits
Copper (ppm)	0.1135	ND - .14	AL 1.3	0.17	Erosion of natural deposits
Turbidity (units)	0.19	0.26 – 2.6	5	N/A	Soil Runoff
Total Hardness (ppm)	480	266 – 470	NS	N/A	Erosion of natural deposits
Chloride (ppm)	4.3	3.6 – 30.7	600	N/A	Erosion of natural deposits
Iron (ppb)	2900	< ND – 2900	300	N/A	Erosion of natural deposits
Manganese (ppb)	27	< ND – 59	50	N/A	Erosion of natural deposits
Sodium (ppm)	100	21 – 120	NS	N/A	Erosion of natural deposits
Sulfate (ppm)	280	52 – 280	600	N/A	Erosion of natural deposits

DETECTION OF RADIOACTIVITY (all analysis was measured in pico Curie per liter, pCi/L)

Constituent Detected	Average Level Detected	Range of Detection	MCL	PHG/MCLG	Typical Source of Contaminant
Total Alpha	13.9	1.44 – 23.20 **	15	0	Erosion of natural deposits
Natural Uranium	17.9	1.70 – 18.8	20	0	Erosion of natural deposits
Combined Radium	0.92	ND - 1.26	5	0	Erosion of natural deposits

**Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer. The Lead & Copper Results below are from 2020. We will be taking new samples the Summer of 2023.

Constituent	No. Samples Collected	90 th Percentile	AL	MCLG/PHG	Typical Source of Contaminant
Lead (ppb)	10	0.008	15	2	Internal corrosion of household water plumbing systems;
Copper (ppm)	10	0.1135	1.3	0.17	Internal corrosion of household water plumbing systems;

Sources: Stanley R. Hoffman Associates, Inc.
Frazier Park Public Utility District

Figure C-2 (page 1 of 3) Water Quality Report Lake of the Woods MWC

2022 Consumer Confidence Report Lake of the Woods Mutual Water Company

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

We test the drinking water quality for many constituents as required by state and federal regulations. This report shows the results of our monitoring for the period of January 1 - December 31, 2022 and may include earlier monitoring data. Lake of the Woods Mutual Water Company (LOWMWC) pumps groundwater. 5 ground water wells are utilized, wells 1, 2, 4, 6 & 7. LOWMWC holds its board of director meetings on the first Thursday of every month at 6:00 PM at 3534 Mt. Pinos Way, Frazier Park. For more information, please contact Pamela Jarecki, Office Manager, at 661-245-1448 or the State Water Board at 661-335-7315.

TERMS USED IN THIS REPORT

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste and appearance of drinking water.
Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk of health. MCLGs are set by the United States Environmental Protection Agency.
Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk of health. PHGs are set by the State of California Environmental Health Agency.
Primary Drinking Water Standards (PDWS): Are MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.
Secondary Drinking Water Standards (SDWS): Are MCLs for contaminants that affect taste, odor or appearance of drinking water. Contaminants with SDWSs do not affect health at the MCL levels.
Regulatory Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
 ND: Not Detectable at testing limit NA: Not Applicable NS: No Standard
 ppm: parts per million or milligrams per liter (mg/l) ppb: parts per billion or micrograms per liter (ug/l)
 ppt: parts per trillion or nanograms per liter (ng/l) pCi/l: Picocuries per liter (a measure of radiation)

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Tables 1, 2, 3, 4, 5, and 6 list all of the drinking water contaminants that were detected during the most recent sampling for the constituent. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The State Board allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one year old. Any violation of an AL, MCL, MRDL, or TT is asterisked. Additional information regarding the violation is provided later in this report.

TABLE 1 – SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA						
Microbiological Contaminants <small>(complete if bacteria detected)</small>	Highest No. of Detections	No. of months in violation	MCL	MCLG	Frequency of Testing	Typical Source of Bacteria
Total Coliform Bacteria <small>(state Total Coliform Rule)</small>	0	0	2 positive monthly sample	0	2x Monthly	Naturally present in the environment
Fecal Coliform or <i>E. coli</i> <small>(state Total Coliform Rule)</small>	0	0	A routine sample and a repeat sample are total coliform positive, and one of these is also fecal coliform or <i>E. coli</i> positive		2x Monthly	Human and animal fecal waste
<i>E. coli</i> <small>(Federal Revised Total Coliform Rule)</small>	0	0	(a)	0	2x Monthly	Human and animal fecal waste
<small>(a) Routine and repeat samples are total coliform-positive and either is <i>E. coli</i>-positive or system fails to take repeat samples following <i>E. coli</i>-positive routine sample or system fails to analyze total coliform-positive repeat sample for <i>E. coli</i>.</small>						

TABLE 2 – SAMPLING RESULTS SHOWING THE DETECTION OF LEAD AND COPPER								
Lead and Copper <small>(Complete if lead or copper detected in the last sample set)</small>	Sample Date	No. of samples collected	90 th percentile level detected	No. sites exceeding AL	AL	PHG	Frequency of Testing	Typical Source of Contaminant
Lead (ppb)	7/30/20 & 7/31/2020	10	3.2	0	15	0.2	3 years	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm)	7/30/20 & 7/31/2020	10	0.15	0	1.3	0.3	3 Years	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Figure C-2 (page 2 of 3)
Water Quality Report
Lake of the Woods MWC

TABLE 3 – SAMPLING RESULTS FOR SODIUM AND HARDNESS							
Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Frequency of Testing	Typical Source of Contaminant
Sodium (ppm)	10/19/2022	350	107-350	none	none	3 years	Salt present in the water and is generally naturally occurring
Hardness (ppm)	10/19/2022	680	330-680	none	none	3 years	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring
TABLE 4 – DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD							
Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL [MRDL]	PHG (MCLG) [MRDLG]	Frequency of Testing	Typical Source of Contaminant
Nitrate (as nitrogen, N) (ppm)	Multiple in 2022	7.12	4.84-7.12	10	10	Monthly	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits.
Fluoride (ppm)	Multiple in 2022	1.38	1.1-1.38	2	1	Monthly	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Aluminum (ppm)	10/19/2022	0.05	0.05	2	1	3 Years	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Barium (ppm)	10/19/2022	0.151	0.03-0.151	1	2	3 Years	Discharge of oil drilling wastes and from metal refineries; erosion of natural deposits
Nickel (ppb)	10/19/2022	<10	<10	100	12	3 Years	Erosion of natural deposits; discharge from metal factories
Uranium (pCi/L)	10/19/2022	14.9	6.7-14.9	20	0.43	3 Years	Erosion of natural deposits
TABLE 5 – DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD							
Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Frequency of Testing	Typical Source of Contaminant
Chloride (ppm)	10/19/2022	230	49-230	500	None	3 Years	Runoff/leaching from natural deposits; seawater influence
Color (Units)	10/19/2022	5	<3-5	15	None	3 Years	Naturally occurring organic materials
Iron (ug/L)	10/19/2022	320	<0.100 - 320	300	None	3 Years	Leaching from natural deposits; industrial wastes
Specific Conductance (us/cm)	10/19/2022	2550*	1200 - 2550	1600	None	3 Years	Substances that form ions when in water; seawater influence
Sulfate (ppm)	10/19/2022	560	130 - 560	500	None	3 Years	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	07-19-21	1820*	815 - 1820	1000	None	3 Years	Runoff/leaching from natural deposits
Turbidity (NTU)	10/19/2022	1.1	<0.10 – 1.1	5	None	3 Years	Soil runoff
Zinc (ppb)	10/19/2022	810	<0.50 - 810	5,000	None	3 Years	Runoff/leaching from natural deposits; industrial wastes

Figure C-2 (page 3 of 3) Water Quality Report Lake of the Woods MWC

Summary Information for Corrected Violations of a MCL, MRDL, AL, TT, or Monitoring and Reporting Requirement

VIOLATION OF A MCL, MRDL, AL, TT, OR MONITORING AND REPORTING REQUIREMENT				
Violation	Explanation	Duration	Actions Taken to Correct the Violation	Health Effects Language
Nitrate	Wells produce water with concentrations above the nitrate MCL	3/14/16 – 09/30/20	The Water Company received approval from the State Water Resources Control Board, Division of Drinking Water to provide blending treatment of Well 1 and 7 with the Well 2, to help comply with the nitrate MCL. <u>THE NITRATE PROBLEM HAS BEEN CORRECTED AS OF 9/30/2020.</u>	Infants below the age of six months who drink water containing nitrate in excess of the MCL may quickly become seriously ill and, if untreated, may die because high nitrate levels can interfere with the capacity of the infant's blood to carry oxygen. Symptoms include shortness of breath and blueness of the skin. High nitrate levels may also affect the oxygen-carrying ability of the blood of pregnant women.
Fluoride	One of our wells produces water with concentrations above the fluoride MCL	5/3/17 – 1/2/20	The Water Company received approval from the State Water Resources Control Board, Division of Drinking Water to provide blending treatment of Well 1 and 7 with the Well 2, to help comply with the fluoride MCL. <u>THE FLUORIDE PROBLEM HAS BEEN CORRECTED AS OF 1/2/2020.</u>	Children who drink water containing fluoride in excess of the state MCL of 2 mg/L may get mottled teeth.

The blending treatment is supervised by a certified water treatment operator. As part of the blending treatment, water from the three wells is blended in two 10,000-gallon tanks and the blended water from the tank is supplied to the customers. Per approval by the State Water Resources Control Board, Division of Drinking Water, the tank effluent has been sampled every week (since May 2020) to verify the nitrate level in the water supplied to the customers and we will continue to collect monthly samples for nitrate after in accordance with our approved Operations Plan for the blending treatment. If we experience any problems with the nitrate blending treatment, resulting in high nitrate samples from the blended water, we will notify you.

*The highest value of a Well samples, not an average

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. Updated 03-07-2023

APPENDIX D
FINANCING SUPPORTING TABLES

Table D-1
Detailed Income Sources
Frazier Park Public Utility District

Income Category	Actual	Proposed						2027-28 % of Total
	July 2022 - June 2023	July 2023 - June 2024	July 2024 - June 2025	July 2025 - June 2026	July 2026 - June 2027	July 2027 - June 2028		
Water Sales								
Water Sales - Residential	\$1,198,202	\$1,202,000	\$1,214,000	\$1,230,000	\$1,235,000	\$1,240,000	80.8%	
Water Sales - Business	127,673	127,650	127,700	128,000	128,000	128,000	8.3%	
Water Sales - Bulk	0	213	0	0	0	0	0.0%	
<i>Total Water Sales</i>	\$1,325,875	\$1,329,863	\$1,341,700	\$1,358,000	\$1,363,000	\$1,368,000	89.2%	
Fee Revenue								
Late and Other Fees	\$27,329	\$24,347	\$24,400	\$24,450	\$24,500	\$24,550	1.6%	
Re-Connection Fees	2,211	1,800	1,825	1,850	1,875	1,900	0.1%	
Credit Card Fees Income	4,793	15,000	15,100	15,200	15,300	15,400	1.0%	
New Connection Fees	0	9,000	0	8,000	400	400	0.0%	
Administrative Fee Income	19,102	10,400	10,500	10,500	10,500	10,500	0.7%	
Returned Check Fee	368	228	228	228	228	228	0.0%	
<i>Total Fee Income</i>	\$53,802	\$60,775	\$52,053	\$60,228	\$52,803	\$52,978	3.5%	
Kern County								
Taxes KC Fund	\$65,602	\$63,000	\$65,000	\$67,000	\$69,000	\$70,000	4.6%	
Standby Assessment KC Fund	\$7,073	\$5,900	\$6,100	\$6,200	\$6,200	\$6,200	0.4%	
Delinquent Assessments KD	6,326	3,500	3,500	3,500	3,500	3,500	0.2%	
<i>Total Kern County</i>	\$79,001	\$72,400	\$74,600	\$76,700	\$78,700	\$79,700	5.2%	
Use of Money & Property								
CBT-CC Cash Back Savings	\$500	\$500	\$500	\$500	\$500	\$500	0.0%	
Interest Reserve Funds	1,534	4,000	3,000	2,500	2,500	2,500	0.2%	
Gain/Loss on Sales of Equipment	0	0	0	0	0	0	0.0%	
Property Leases/Rental Income Revenue	26,365	27,000	27,800	28,600	29,400	30,200	2.0%	
<i>Total Use of Money & Property</i>	\$28,399	\$31,500	\$31,300	\$31,600	\$32,400	\$33,200	2.2%	
Total Income	\$1,487,077	\$1,494,538	\$1,499,653	\$1,526,528	\$1,526,903	\$1,533,878	100.0%	

Sources: Stanley R. Hoffman Associates, Inc.
Frazier Park Public Utility District, *Proposed Five Year Budget 2023-28*

**Table D-2
Detailed Expenses
Frazier Park Public Utility District**

Expenses	Actual	Proposed					2027-28 % of Total
	July 2022 - June 2023	July 2023 - June 2024	July 2024 - June 2025	July 2025 - June 2026	July 2026 - June 2027	July 2027 - June 2028	
General Operations							
Proposition 218 Expenses	\$0	\$0	\$0	\$4,000	\$0	\$0	0.0%
Election - Kern County Fees	0	1,500	0	1,500	0	2,000	0.1%
Operations - Pump Power Cost	83,902	90,000	92,000	94,000	96,000	98,000	6.5%
Uniforms	3,798	3,200	3,350	3,500	3,650	3,800	0.3%
Distribution System Maintenance	167,448	134,500	150,500	166,500	182,500	198,500	13.2%
Tools Expense	3,733	2,700	2,900	3,100	3,300	3,500	0.2%
Fuel - Vehicle and Equipment	14,314	15,000	15,300	15,600	15,900	16,200	1.1%
Environmental Fees	184	225	275	325	375	425	0.0%
Testing and Lab Fees	4,872	6,000	7,000	8,000	9,000	10,000	0.7%
Equipment Rental	8,165	3,000	3,000	3,000	3,000	3,000	0.2%
Advertising	1,211	1,100	1,100	1,100	1,100	1,100	0.1%
Bank Fees	546	600	600	600	600	600	0.0%
Director's Fees	22,366	28,000	31,600	30,200	29,800	29,800	2.0%
Dues	12,915	17,700	20,000	20,000	23,000	23,000	1.5%
Education and Training	1,904	4,000	4,500	4,500	4,500	4,500	0.3%
Licenses, Fees and Permits	15,662	20,000	22,000	24,000	26,000	28,000	1.9%
Meeting Expenses	664	672	700	750	800	850	0.1%
Merchant Credit Card Fees	19,251	20,000	20,500	21,000	21,000	21,000	1.4%
Office Expense	10,952	6,000	6,500	6,500	7,000	7,000	0.5%
Office Supplies	6,382	5,000	5,500	7,000	6,000	6,500	0.4%
COVID PPE	145	150	150	150	150	150	0.0%
Postage	13,322	11,000	17,000	20,000	17,000	17,000	1.1%
Printing	4,699	3,500	12,000	15,000	5,000	5,000	0.3%
Property Taxes	91	100	100	100	100	100	0.0%
Publications	118	0	0	125	0	0	0.0%
Security Monitoring	1,080	1,100	1,100	1,100	1,200	1,200	0.1%
Customer Emergency Services	168	0	0	0	0	0	0.0%
Digital/Electronic/Computer Services	6,376	6,700	7,100	7,500	7,900	8,300	0.6%
Field Support	1,203	1,400	1,500	1,600	1,700	1,800	0.1%
Safety	6,318	6,000	6,000	6,000	6,000	6,000	0.4%
Staff Appreciation	498	475	525	575	625	675	0.0%
<i>Total General</i>	\$412,285	\$389,622	\$432,800	\$467,325	\$473,200	\$498,000	33.1%
Maintenance and Repairs							
Building and Facility Maintenance	\$6,905	\$7,000	\$15,000	\$15,000	\$20,000	\$20,000	1.3%
Computer Maintenance	1,761	1,000	1,000	1,000	1,000	1,000	0.1%
Equipment Maintenance	28,753	7,500	8,000	8,000	8,000	8,000	0.5%
Vehicle Maintenance	4,432	4,500	4,500	4,500	5,500	5,500	0.4%
<i>Total Maintenance and Repairs</i>	\$41,851	\$20,000	\$26,500	\$26,500	\$34,500	\$34,500	2.3%
Wages and Payroll Related Expense							
Wages - Administrative-Other Staff	89,657	98,315	108,000	118,000	128,000	138,000	9.2%
Wages - Operations-Manual	88,041	99,422	102,000	105,000	108,000	111,000	7.4%
Wages - Operations-Other Staff	187,383	198,891	215,400	219,650	224,000	228,500	15.2%
Payroll Tax Expense - Federal	28,335	30,951	34,000	37,000	40,500	44,000	2.9%
Payroll Tax Expense - State	1,446	1,213	1,200	1,200	1,200	1,200	0.1%
Employee Mileage Reimbursement	0	0	0	0	0	0	0.0%
Payroll Check Processing	4,843	5,000	5,100	5,200	5,300	5,400	0.4%
Payroll Clock and Software Fee	1,488	1,600	1,650	1,700	1,750	1,800	0.1%
ADP Retirement Plan Administration Fee	2,836	2,800	2,900	3,000	3,100	3,200	0.2%
Employee Hiring Expenses	500	500	500	500	500	500	0.0%
Employee Benefits - Dental Insurance	6,666	7,200	7,400	7,600	7,800	8,000	0.5%
Employee Benefits - Medical Insurance	99,813	125,000	127,000	129,000	131,000	133,000	8.8%
Employee Benefits - Vision Insurance	1,442	2,000	2,100	2,200	2,300	2,400	0.2%
Employee Benefits - Workers Compensation Insur	29,918	45,000	47,000	49,000	51,000	53,000	3.5%
Employee Benefits - Medical Expense	359	200	200	200	200	200	0.0%
Employee Benefits - CalPERS Social Security Ad	4,506	5,183	6,100	7,100	8,100	9,100	0.6%
<i>Total Wages and Payroll</i>	\$547,232	\$623,275	\$660,550	\$686,350	\$712,750	\$739,300	49.2%
Insurance							
Directors and Property Insurance	\$7,835	\$10,025	\$13,000	\$14,500	\$16,000	\$18,000	1.2%
Equipment and Liability Insurance	16,793	27,600	30,000	28,000	28,000	28,000	1.9%
Director's Bond Policy	3,375	3,500	3,500	3,500	3,500	3,500	0.2%
<i>Total Insurance</i>	\$28,003	\$41,125	\$46,500	\$46,000	\$47,500	\$49,500	3.3%
Interest Expense							
USDA 12/07/05-03	\$12,994	\$12,581	\$12,169	\$11,756	\$11,344	\$10,931	0.7%
USDA 12/07/05-04	32,725	31,875	31,025	30,069	29,068	27,944	1.9%
USDA 05/19/11-06	44,625	43,562	42,459	41,318	40,149	38,955	2.6%
<i>Total Interest Expense</i>	\$90,344	\$88,018	\$85,653	\$83,143	\$80,499	\$77,830	5.2%
Professional Services							
Accountant/Auditor	\$12,550	\$36,000	\$18,000	\$18,000	\$20,000	\$20,000	1.3%
Bookkeeper	29,650	36,000	36,000	36,000	42,000	42,000	2.8%
Engineering	32,027	5,000	5,000	5,000	5,000	5,000	0.3%
Translation	0	0	0	0	0	0	0.0%
Legal Fees	8,082	10,000	10,000	12,000	10,000	10,000	0.7%
<i>Total Professional Services</i>	\$82,309	\$87,000	\$69,000	\$71,000	\$77,000	\$77,000	5.1%
Telephone							
Answering Service	\$4,939	\$4,200	\$4,500	\$4,800	\$5,100	\$5,400	0.4%
Cell Phones	1,403	1,450	1,500	1,550	1,600	1,650	0.1%
Ipaid Internet Service	\$0	\$0	\$0	\$0	\$0	\$0	0.0%
Internet - Office Computers	2,006	2,525	1,800	1,900	2,000	2,100	0.1%
Office Land line	4,331	2,400	2,650	2,900	3,150	3,400	0.2%
<i>Total Telephone</i>	\$12,678	\$10,575	\$10,450	\$11,150	\$11,850	\$12,550	0.8%
Travel							
Lodging	\$1,416	\$2,400	\$2,000	\$2,000	\$2,000	\$2,000	0.1%
Mileage	563	600	500	500	500	500	0.0%
Meals	370	1,000	1,000	1,000	1,000	1,000	0.1%
Airlines	1,944	2,000	2,200	2,400	2,600	2,800	0.2%
Car Rental	425	900	1,000	1,100	1,200	1,300	0.1%
Parking	105	200	200	200	200	200	0.0%
Taxi, Shuttle etc.	0	0	0	0	0	0	0.0%
<i>Total Travel</i>	\$4,824	\$7,100	\$6,900	\$7,200	\$7,500	\$7,800	0.5%
Utilities							
Electricity and Other Utilities	\$3,904	\$4,000	\$4,200	\$4,400	\$4,600	\$4,800	0.3%
Gas	1,294	975	1,000	1,025	1,050	1,075	0.1%
Trash	7,772	650	700	750	800	850	0.1%
<i>Total Utilities</i>	\$12,971	\$5,625	\$5,900	\$6,175	\$6,450	\$6,725	0.4%
Total Expenses	\$1,232,497	\$1,272,340	\$1,346,253	\$1,406,843	\$1,451,249	\$1,503,205	100.0%

Sources: Stanley R. Hoffman Associates, Inc.
Frazier Park Public Utility District, Proposed Five Year Budget 2023-28

**Table D-3 (page 1 of 2)
Detailed List of Rates and Fees
Frazier Park Public Utility District**



FRAZIER PARK PUBLIC UTILITY DISTRICT



P.O. BOX 1525, FRAZIER PARK, CA 93225
TELEPHONE: 661-245-3734 FAX: 661-245-3472
www.frazierparkwater.com

List of Rates and Fees

Approved by the Board Effective 01/01/2024

<u>Monthly Base Rate Service Charge</u>	<u>New Connection Fee</u>
Residential	
¾" meter \$70.62	\$8,000
1" meter \$118.12	\$9,000
Business	
¾" meter \$70.62	\$8,000
1" meter \$118.12	\$10,000
1 ½" meter \$234.96	\$11,000
2" meter \$376.19	\$12,000
3" meter \$744.68	\$13,000
4" meter \$1,168.38	\$13,000
6" meter \$2,352.17	\$14,000

Water Consumption Fee \$2.36 per 100 Cubic Feet of water (\$3.15 per 1,000 Gallons of water)

Late Charge 10% of amount billed at first of the month

Returned Check Fee	\$38.00
Ownership Transfer Fee	\$56.09
Red Tag Notice Posting Fee	\$28.04
Owner-Tenant Reconnection Request Fee	\$112.18
Reconnect for Non-Payment Fee	\$33.65
Service Update from ¾" to 1"	\$2,955.85
In Office Credit Card Fee	\$2.00
Online Credit Card Fee	\$2.50
Automated Phone Line Credit Card Fee	\$2.50

Table D-3 (page 2 of 2)
Detailed List of Rates and Fees
Frazier Park Public Utility District



FRAZIER PARK PUBLIC UTILITY DISTRICT

P.O. BOX 1525, FRAZIER PARK, CA 93225
TELEPHONE: 661-245-3734 FAX: 661-245-3472
www.frazierparkwater.com



Additional Maintenance Fees

Convenience fee during regular business hours: 8am – 5pm, Monday – Thursday:

Turn on water \$26.91

Turn off water \$26.91

Convenience fee after hours and weekend:

Turn on water \$112.18

Turn off water \$112.18

3 Days Activation and Lock Off (locked off accounts): \$112.18

7 Year Abandonment Reconnection Fee:

¾"	\$841.34
1"	\$1,038.81
1 ½"	\$2,102.23
2"	\$2,487.02
Meter Size 3" or Greater	\$841.34 plus materials: Meter and/or shutoff valve.

Emergency Shut Off - to avoid further damage to personal property (any time) - No Charge

Will Serve Application Deposit \$200.00 (if entire New Connection Fee is paid within six months from date of application, the deposit will be deducted from the Connection Fee.)

Prior unpaid bills are attached to the address and potential buyers should check with the FPPUD District for outstanding balances.

Cutting of locks/curb stops/valves and vandalism will result in a fee of \$360.10 each occurrence (Minutes of October 12, 2004) per California Penal Code 498 (stealing water) and/or 594 (vandalism)

Stand by Fee of \$5 per parcel per year, collected via Kern County Tax Assessor's Office, for any unimproved properties without service or property with service locked off for more than 6 months.
-Per government code section 54984

Table D-4 (page 1 of 2)
Preliminary Water System Cost Estimate
Frazier Park Public Utility District

Frazier Park Public Utility District					
Regional Planning Project - Rev April 2024					
Item No.	Item Description	Quantity	Unit	Unit Cost	Extended Cost
1	Purchase Well Site Property	2	LS	\$ 100,000.00	\$ 200,000.00
2	Drill Test Water Well	2	LS	\$ -	\$ -
3	Drill, Construct, and Develop New Well	2	LS	\$ 774,000.00	\$ 1,548,000.00
	- Mobilization, Demobilization, and Cleanup	1	LS	\$ 125,000.00	\$ 125,000.00
	- Conductor Casing	50	LF	\$ 2,000.00	\$ 100,000.00
	- Drill Pilot Hole	435	LF	\$ 400.00	\$ 174,000.00
	- Zone Testing	2	EA	\$ 20,000.00	\$ 40,000.00
	- Reamed Hole	300	LF	\$ 200.00	\$ 60,000.00
	- F&I 12" Roscoe Moss Blank Casing	125	LF	\$ 220.00	\$ 27,500.00
	- F&I 12" Roscoe Moss Louvered Casing	175	LF	\$ 310.00	\$ 54,250.00
	- F&I 3" Gravel Feed Tube	75	LF	\$ 50.00	\$ 3,750.00
	- F&I 2" Sounding Tube	210	LF	\$ 80.00	\$ 16,800.00
	- F&I Gravel Pack	240	LF	\$ 120.00	\$ 28,800.00
	- F&I Cement Annular Seal	70	LF	\$ 300.00	\$ 21,000.00
	- Preliminary Well Development by Airlifting & Swabbing	60	HRS	\$ 650.00	\$ 39,000.00
	- Well Development by Pumping & Surging	60	HRS	\$ 600.00	\$ 36,000.00
	- Production Test Pumping	24	HRS	\$ 600.00	\$ 14,400.00
	- Well Video	1	EA	\$ 3,500.00	\$ 3,500.00
	- Sound Abatement	1	LS	\$ 30,000.00	\$ 30,000.00
4	Equip a New Well with Pump, Motor, Piping & Electrical	2	LS	\$ 1,682,500.00	\$ 3,365,000.00
	- Mobilization, Demobilization, and Cleanup	1	LS	\$ 50,000.00	\$ 50,000.00
	- Well Site Earthwork	1	LS	\$ 100,000.00	\$ 100,000.00
	- Concrete Pump Foundation	1	LS	\$ 20,000.00	\$ 20,000.00
	- Vertical Hollow Shaft Electric Motor	1	LS	\$ 10,000.00	\$ 10,000.00
	- Deep Well Vertical Turbine Pump Assembly	1	LS	\$ 130,000.00	\$ 130,000.00
	- Pump Discharge Piping & Appurtenances	1	LS	\$ 75,000.00	\$ 75,000.00
	- Liquid Chlorine Injection System	1	LS	\$ 20,000.00	\$ 20,000.00
	- Bladder Tank & Appurtenances	1	LS	\$ 20,000.00	\$ 20,000.00
	- Well Building Enclosure & Appurtenances	1	LS	\$ 150,000.00	\$ 150,000.00
	- Conveyance Pipeline & Appurtenances	800	LF	\$ 200.00	\$ 160,000.00
	- Painting System	1	LS	\$ 14,000.00	\$ 14,000.00
	- Class II Aggregate Base Ground Cover	1	LS	\$ 25,000.00	\$ 25,000.00
	- Site Fencing and Drive Gates	200	LF	\$ 400.00	\$ 80,000.00
	- Well Site Electrical and Controls	1	LS	\$ 450,000.00	\$ 450,000.00
	- SCE Power to Site	1	LS	\$ 100,000.00	\$ 100,000.00
	- SCADA System	1	LS	\$ 10,000.00	\$ 10,000.00
	- Start-up and Performance Testing	1	LS	\$ 20,000.00	\$ 20,000.00
	- Well Logging	1	LS	\$ 3,500.00	\$ 3,500.00
	- Intertie to Well 6 Pressure Sytem	1	LS	\$ 50,000.00	\$ 50,000.00
	- Emergency Generator	1	LS	\$ 125,000.00	\$ 125,000.00
	- Booster Replacement at Well 5 (Deliveries to Well 6)	1	LS	\$ 50,000.00	\$ 50,000.00
	- Liquid Chlorine Injection System	1	LS	\$ 20,000.00	\$ 20,000.00
5	Regional Transmission Main	1	LS	\$ 9,850,500.00	\$ 9,850,500.00
	- Mobilization, Demobilization, and Cleanup	1	LS	\$ 80,000.00	\$ 80,000.00
	- Prepare and Implement a Traffic Control Plan	1	LS	\$ 30,000.00	\$ 30,000.00
	- Potholing & Utility Locating	1	LS	\$ 100,000.00	\$ 100,000.00
	- F&I 12" C900 PVC Piping	24800	LF	\$ 230.00	\$ 5,704,000.00
	- F&I 12" Gate Valve Assemblies	30	EA	\$ 4,000.00	\$ 120,000.00
	- F&I 8" C900 PVC Piping	800	LF	\$ 150.00	\$ 120,000.00
	- F&I 8" Gate Valve Assemblies	4	EA	\$ 4,000.00	\$ 16,000.00
	- F&I 2" Air Release Valve Assemblies	14	EA	\$ 10,000.00	\$ 140,000.00
	- F&I Fire Hydrant Assemblies	25	EA	\$ 8,500.00	\$ 212,500.00
	- Road Crossing	8	EA	\$ 150,000.00	\$ 1,200,000.00
	- Cuddy Creek Crossing	1	LS	\$ 500,000.00	\$ 500,000.00
	- Asphalt Sawcutting and Demolition	50000	LF	\$ 6.00	\$ 300,000.00
	- F&I Metered Services	22	EA	\$ 4,000.00	\$ 88,000.00
	- F&I Aggregate Base	2200	CY	\$ 150.00	\$ 330,000.00

Table D-4 (page 2 of 2)
Preliminary Water System Cost Estimate
Frazier Park Public Utility District

	- F&I Asphalt Pavement Repair	2200	TON	\$ 300.00	\$ 660,000.00
	- F&I Connections to Existing System	6	LS	\$ 25,000.00	\$ 150,000.00
	- F&I Connections to Storage Tanks	3	LS	\$ 25,000.00	\$ 75,000.00
	- Pressure Testing & Disinfection	1	LS	\$ 25,000.00	\$ 25,000.00
6	Purchase Tank & Booster Plant Site Property	3	LS	\$ 100,000.00	\$ 300,000.00
7	Tank & Booster Pumping Plant	3	LS	\$ 2,410,000.00	\$ 7,230,000.00
	- Mobilization, Demobilization, and Cleanup	1	LS	\$ 150,000.00	\$ 150,000.00
	- Well Site Earthwork	1	LS	\$ 75,000.00	\$ 75,000.00
	- Tank Foundation	1	LS	\$ 75,000.00	\$ 75,000.00
	- Storage Tank	1	LS	\$ 500,000.00	\$ 500,000.00
	- Tank Fill Piping & Appurtenances	1	LS	\$ 30,000.00	\$ 30,000.00
	- Tank Overflow Piping & Appurtenances	1	LS	\$ 15,000.00	\$ 15,000.00
	- Booster Pump Station Piping & Appurtenances	1	LS	\$ 600,000.00	\$ 600,000.00
	- Liquid Chlorine Injection System	1	LS	\$ 20,000.00	\$ 20,000.00
	- Hydropneumatic Tank & Appurtenances	1	LS	\$ 90,000.00	\$ 90,000.00
	- Well Building Enclosure & Appurtenances	1	LS	\$ 150,000.00	\$ 150,000.00
	- Painting System	1	LS	\$ 20,000.00	\$ 20,000.00
	- Class II Aggregate Base Ground Cover	1	LS	\$ 25,000.00	\$ 25,000.00
	- Site Fencing and Drive Gates	200	LF	\$ 400.00	\$ 80,000.00
	- Tank Site Electrical and Controls	1	LS	\$ 450,000.00	\$ 450,000.00
	- SCE Power to Site	1	LS	\$ 100,000.00	\$ 100,000.00
	- SCADA System	1	LS	\$ 10,000.00	\$ 10,000.00
	- Start-up and Performance Testing	1	LS	\$ 20,000.00	\$ 20,000.00
8	Modifications at Well 5 Wellsite				
	- Mobilization, Demolition and Cleanup	1			\$ 1,425,000.00
	- New Booster Pumps and Motors, Piping Modifications	1	LS	\$ 750,000.00	\$ 750,000.00
	- Interconnect to Adjacent System Served by Well 6	1	LS	\$ 100,000.00	\$ 100,000.00
	- Building and Site Modifications	1	LS	\$ 300,000.00	\$ 300,000.00
	- Control and Electrical Modifications	1	LS	\$ 250,000.00	\$ 250,000.00
	- Start-up and Performance Testing	1	LS	\$ 25,000.00	\$ 25,000.00
				Project Subtotal:	\$ 23,918,500.00
				15% Contingency:	\$ 3,587,775.00
				FPUD Administrative Fees:	\$ 100,000.00
				Engineering Design:	\$ 1,195,925.00
				Environmental Mitigation:	\$ 100,000.00
				Labor Compliance:	\$ 80,000.00
				Permitting and Compliance:	\$ 100,000.00
				Construction Staking:	\$ 85,000.00
				Bid Advertisement & Legal:	\$ 25,000.00
				Construction Administration:	\$ 597,962.50
				Construction Inspection:	\$ 1,435,110.00
				Total Project Estimate:	\$ 31,225,272.50

Sources: Stanley R. Hoffman Associates, Inc.
Dee Jasper & Associates, Inc., 2024

APPENDIX E PROJECT PARTICIPANTS AND CONSULTANTS

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