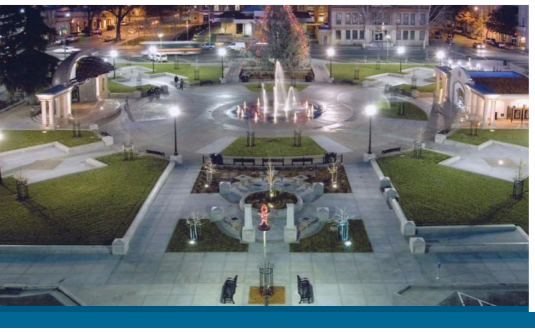
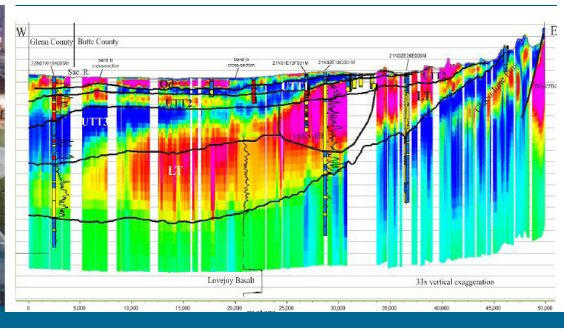
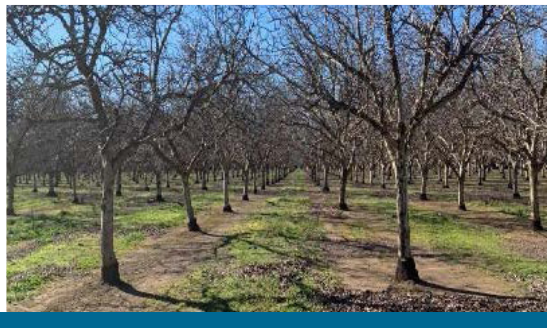
Vina Groundwater Subbasin

Groundwater Sustainability Plan

December 2021







PREPARED FOR

VINA AND ROCK CREEK RECLAMATION DISTRICT GROUNDWATER SUSTAINABILITY AGENCIES

Groundwater Sustainability Plan

Vina Groundwater Subbasin

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Note: Drafts of Section 2, Basin Setting, and portions of Section 4, Monitoring Networks, were prepared by Davids Engineering, Inc. These draft sections have been updated during GSP development as additional information became available and modified based on responses to public comment.

ACKNOWLEDGMENTS

Groundwater Sustainability Agencies

Rock Creek Reclamation District GSA

Vina GSA
Member Agencies
City of Chico, County of Butte, Durham Irrigation District

Rock Creek Adhoc Committee

Vina GSA Stakeholder Advisory Committee

Vina GSA Management Committee

Cooperating Agencies

Butte College

Consultant Teams

GSP Completion
Geosyntec Consultants

Basin Setting Project
Davids Engineering, Inc.
GEI Consultants, Inc.
Woodard and Curran

Facilitation
Consensus Building Institute

In Remembrance of Byron Alan Clark, PE
(February 4, 1976 - April 3, 2021)
With thanks for his excellent leadership and foundational work on the Basin Setting Project for the Vina Subbasin GSP

PREFACE

Development of the Vina Subbasin Groundwater Sustainability Plan (GSP), like many others throughout California, has coincided with one of the most severe and extensive droughts that has ever gripped the western United States. As of this writing in December 2021, as the final Vina Subbasin GSP is being assembled, drought conditions throughout most of California, including the Vina Subbasin (Subbasin), are classified as "exceptional", the most extreme classification defined by the U.S. Drought Monitor (USDM).[1] Historically, observed impacts during exceptional drought generally include: widespread water shortages, depleted surface water supplies, extremely low federal and state surface water deliveries, curtailment of water rights, extremely high surface water prices, increased groundwater pumping to satisfy water demands, dry groundwater wells, increased well drilling and deepening, increased pumping costs, wildfire, decreased recreational opportunities, and poor water quality, among other potential impacts reported by the USDM. All of these conditions are currently being experienced to some degree across California and, at least in part, within the Subbasin.

As of November 29, 2021, the County of Butte had received 44 reports of dry wells through the My Dry Water Supply Reporting System, and another approximately 20 from residents calling the Butte County Department of Water and Resource Conservation Department. While a number of the reported dry wells are in the foothills outside of the Subbasin, about one-quarter lie within the Vina Subbasin. Most reported dry wells are used for domestic water supply. Counts of dry wells are likely to be low because some landowners choose not to report well problems to the county.

At the State level and as a result of the unprecedented dry conditions, Governor Gavin Newsom declared a drought emergency on April 21, 2021, which was subsequently expanded on May 10 to include new drought-impacted areas including the Sacramento-San Joaquin Delta Watershed. Most recently, on October 19, Governor Newsom issued a proclamation extending the drought emergency statewide. On August 20, the State Water Resources Control Board (SWRCB) issued surface water curtailment orders to approximately 4,500 water right holders in the Sacramento-San Joaquin Delta Watershed to protect drinking water supplies, prevent salinity intrusion into fresh water supplies, and minimize impacts to fisheries and the environment. Given that these curtailment orders are in place for a period of one year, these curtailments have immediate impacts on existing surface water supplies and could impact surface water suppliers' ability to store water this coming winter, thereby potentially impacting available surface water supplies for 2022 and beyond. Given the recent curtailments and an already bleak surface water supply condition, there is an increased reliance on groundwater in the region. Currently, all of California's 58 counties have declared drought emergencies, including Butte County.

The reported numbers of dry wells discussed above, many of which were reported relatively early in the dry season raise concerns among landowners and residents, and prompted mitigation

[1] The U.S. Drought Monitor (https://droughtmonitor.unl.edu/) is produced through a partnership between the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture, and the National Oceanic and Atmospheric Center. Information for the State of California is available online at: https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?CA.

and response actions by the county. The county is tracking the well water shortage reporting to identify localized areas where wells are going dry and/or where other groundwater issues may exist. The county is also supporting the public through local and regional programs offered through the county, such as providing an emergency potable water filling station. The county has also applied for drought relief funding through DWR and other programs. At this time, prior to completion and adoption of the GSP, drought response efforts in the Subbasin are the responsibility of the county, cities, and other local agencies. At some point following adoption of the GSP, those responsibilities may shift to or be coordinated with the GSAs. A strategy for guiding potential inter-basin coordination between the GSAs is described in Section 6.7 of the GSP. Additional coordination with the county, cities, and local agencies would ensure preservation of public health and safety (the purview of the counties and cities) and groundwater sustainability for all beneficial users and uses (the purview of the GSAs).

Technical work and related public involvement processes supporting development of the Vina Subbasin GSP began in earnest in 2018 and are nearing completion as of December 2021. Development of the GSP has utilized the best available science and tools, with the most sufficient and credible information and data available for the decisions being made and the time frame available for making those decisions. Current and historical groundwater conditions and water budgets have been evaluated for the Subbasin in alignment with the GSP regulations. The technical work is based primarily on historical records of surface water and groundwater conditions from 1970 through 2018 which includes the prior drought conditions from approximately 2007 to 2015, but not the current drought in 2020 to 2021.

Unfortunately, drought conditions in 2020 and 2021 have coincided with development of the GSP, a timing that has not permitted complete evaluation and inclusion of data from these years in the GSP at this time. Due to the schedule mandated by the Sustainable Groundwater Management Act (SGMA) for completion of GSPs by January 31, 2022, it has not been possible to include conditions that have manifested due to the current drought in development of the GSP. Records of drought-related conditions in 2020 to 2021 will not be systematically compiled, quality-controlled, and made publicly available until after the Vina Subbasin GSP has been adopted. However, those conditions will be factored into the required GSP annual reports and particularly the periodic (five-year) evaluations as they become available.

Ongoing management of the Subbasin under the GSP will follow an “adaptive management” strategy that involves active monitoring of Subbasin conditions and addressing any challenges related to maintaining groundwater sustainability by scaling and implementing projects and management actions (PMAs) in a targeted and proportional manner in accordance with the needs of the Subbasin. Notwithstanding the information noted above regarding the challenges with GSP preparation and the current drought, some of the planned projects contained within this GSP could be fast tracked to address impacts associated with the current drought. GSP annual reports provide an opportunity each year to review current Subbasin conditions. Using annual reporting information, the Vina GSA and Rock Creek Reclamation District GSA Boards can assess the need for further PMAs. During the periodic five-year evaluations, the GSP will also be reviewed and revised, as needed and as more is known about the effects of current and future conditions.

The Vina GSA and Rock Creek Reclamation District GSA and the stakeholders within the Subbasin recognize that this GSP is not the finish line; it is the starting line for sustainable

management of the Subbasin. As conditions within the Subbasin change, the GSAs within the Subbasin are committed to an open, transparent, and all-inclusive adaptive management strategy aimed at tackling the important local issues that they face. At the heart of SGMA is the power for locals to solve local problems with local resources. All parties in the Subbasin are committed to doing just that.

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ACRONYMS AND ABBREVIATIONS

µS/cm	microsiemens per centimeter
AB	Assembly Bill
ACS	American Community Survey
AEM	airborne electromagnetic
AF	acre-feet
AFY	acre-feet per year
Agreement	Joint Powers Agreement
BBGM	Butte Basin Groundwater Model
BCDWRC	Butte County Department of Water and Resource Conservation
bgs	below ground surface
BMOs	Basin Management Objectives
BMPs	Best Management Practices
C&E Plan	Communication and Engagement Plan
Cal Water	California Water Service
CASGEM	California Statewide Groundwater Elevation Monitoring
CCR	California Code of Regulations
CDEC	California Data Exchange Center
CDFW	California Department of Fish and Wildlife
CECs	chemicals of emerging concern
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CNRA	California Natural Resources Agency
CSUC	California State University, Chico
CWE	Center for Water and the Environment
DACs	Disadvantaged Communities
DMS	data management system
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
GAMA	Groundwater Ambient Monitoring and Assessment
GDEs	Groundwater Dependent Ecosystems

GIS	geographical information systems
GPS	Global Positioning System
GQTMWP	Groundwater Quality Trend Monitoring Work Plan
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
HCM	Hydrogeologic Conceptual Model
ILRP	Irrigated Lands Regulatory Program
IM	interim milestone
InSAR	Interferometric Synthetic Aperture Radar
IRWM	Integrated Regional Water Management
JPL	Jet Propulsion Laboratory
MA	Management Area
MAF	million acre-feet
MHI	median household income
mm	millimeters
MO	measurable objectives
msl	mean sea level
MT	minimum thresholds
NASA	National Aeronautics and Space Administration
NAVD88	North American Vertical Datum 1988
NCCAG	Natural Communities Commonly Associated with Groundwater
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NRCS	National Resource Conservation Service
OSWCR	Online System for Well Completion Report
PAC	Interagency Task Force and Public Advisory Committee
PCE	tetrachloroethene
PG&E	Pacific Gas and Electric Company
PID	Paradise Irrigation District
PPFS	parks, public facilities, and services
PVC	polyvinyl chloride

RCRD	Rock Creek Reclamation District
RMS	representative monitoring sites
SAGBI	Soil Agricultural Groundwater Banking Index
SB	Senate Bill
SDACs	Severely Disadvantaged Communities
SGMA	Sustainable Groundwater Management Act
SHAC	Stakeholder Advisory Committee
SIs	sustainability indicators
SMC	sustainable management criteria
SMCL	Secondary Maximum Contaminant Level
SOI	Sphere of Influence
SVWQC	Sacramento Valley Water Quality Coalition
SWRCB	State Water Resources Control Board
TAF	thousand acre-feet
TAF/year	thousand acre-feet per year
TCE	trichloroethene
TNC	The Nature Conservancy
USBR	United States Bureau of Reclamation
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UTT	Upper Tuscan/Tehama
UWMP	Urban Water Management Plan
Vina Subbasin	the Vina Groundwater Subbasin
WCR	well completion report
WDL	Water Data Library
WMP	Water Master Plan