Tule Subbasin
Sustainable Groundwater Management Act

July 27, 2022

California Department of Water Resources
715 P Street
Sacramento, CA 95814

ATTN: Mr. Paul Gosselin, Deputy Director Statewide Groundwater Management

RE: Response to Tule Subbasin GSPs Incomplete Determination

Dear Mr. Gosselin:

The Department of Water Resources (DWR) provided a determination of the Tule Subbasin's six (6) Groundwater Sustainability Plans (GSPs) dated 28 January 2022, which found the six (6) GSPs and Tule Subbasin Coordination Agreement (TSCA), collectively referred to as the Plan for the Subbasin, incomplete. Within the determination letter, DWR staff identified recommendations and corrective actions to be addressed by the Tule Subbasin Groundwater Sustainability Agencies (GSAs) by 27 July 2022.

A summary of the three deficiencies outlined in Section 3 - Plan Evaluation of DWRs determination letter include:

> ***DEFICIENCY 1.*** *The GSPS do not define undesirable results or set minimum thresholds and measurable objectives for groundwater levels in a manner consistent with the GSP Regulations.*
>
> ***DEFICIENCY 2.*** *The GSPS do not define undesirable results or set minimum thresholds and measurable objectives for land subsidence in a manner consistent with the GSP Regulations.*
>
> ***DEFICIENCY 3.*** *The GSPS do not provide sufficient information to justify the proposed sustainable management criteria for degraded water quality.*

In response, the Tule Subbasin GSA's have collectively revised the Coordination Agreement and individually revised their GSPs to respond to the required corrective actions based on DWR's determination letter. During this process of revising the documents, the Tule Subbasin representatives met with DWR staff twice to discuss and clarify the comments received and present the proposed approach to the response. Further, each GSA individually held meetings to discuss the revisions with their landowners and Boards for final approval. The location of where the responses to the deficiencies are addressed in the Tule Subbasin Coordination Agreement are included in **Exhibit A – Summary Revisions to the Tule Subbasin Coordination Agreement**. Further, each of the six (6) Tule Subbasin GSAs have also revised their individual GSPs to be consistent with revisions to the TSCA along with other revisions each GSA determined to be pertinent for DWR to consider as part of their review.

A digital copy of the Tule Subbasin Coordination Agreement and the individual GSPs within the Tule Subbasin have been submitted via upload to the SGMA Portal on 27 July 2022.

Tule Subbasin
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If there are any questions regarding the Tule Subbasin revisions to the Coordination Agreement or GSPs, please contact me at 559-802-3052 or via email at davidd@4-creeks.com.

Sincerely,

David De Groot
Tule Subbasin Plan Manager

Cc: Rogelio Caudillo, Eastern Tule GSA
Eric Limas, Lower Tule River and Pixley Irrigation District GSAs
Eric Quinley, Delano Earlimart Irrigation District GSA
Bruce Howarth, Alpaugh GSA
Deanna Jackson, TriCounty GSA
Denise England, Tulare County GSA

Encl: Exhibit A: Summary Revision to the Tule Subbasin Coordination Agreement

EXHIBIT A

Summary of Responses to DWR Comments to the Tule Subbasin Groundwater Sustainability Plans

DWR Identified Deficiency	DWR Comment	Coordination Agreement Sections	Summary of Revisions
Chronic Lowering of Groundwater Levels	The GSPs do not describe, with information specific to the Subbasin, the groundwater level conditions that are considered significant and unreasonable and would result in undesirable results.	4.3 4.3.1.2 Attachment 4 Attachment 7	The groundwater conditions that are considered significant and unreasonable for agricultural, municipal, and industrial uses are continued chronic lowering of groundwater levels after 2040. Lowered groundwater levels during the transition period from 2020 – 2040 may impact shallow wells as quantified in the Well Impact Analysis Technical Memo (Appendix A, Attachment 4). Well impacts will be addressed through the Tule Subbasin Mitigation Framework (Appendix A, Attachment 7).
	The GSPs do not explain or justify how the quantitative definition of undesirable results is consistent with avoiding effects the GSAs have identified as undesirable results.	4.3.1.3 Attachment 7	The potential effects of lowering groundwater levels during the transition period were found to be acceptable for a majority of the beneficial uses and users. For those well users that may be impaceted, mitigation is addressed through the Tule Subbasin Mitigation Framework (Appendix A, Attachment 7).
	The GSPs do not demonstrate that the established sustainable management criteria are based on a commensurate level of understanding of the basin setting or whether the interests of beneficial uses and users have been considered.	4.3 4.3.1.2 4.3.1.3 4.4.1.1 Attachment 2 Attachment 4 Attachment 7	The relationship of lowered groundwater levels, minimum thresholds, and impacts to beneficial uses are addressed in more detail in Section 2.4.2 of Subbasin Setting. Interests of agricultural, municipal, industrial, and domestic supply uses are all addressed in these sections of the Coordination Agreement (Appendix A), Subbasin Setting (Appendix A, Attachment 2), Well Impact Analysis Technical Memo (Appendix A, Attachment 4), Tule Subbasin Mitigation Framework (Appendix A, Attachment 7).
Land Subsidence	In areas adjacent to the Friant-Kern Canal, the GSPs do not identify, through analysis, the total amount of subsidence that can be tolerated by the Friant-Kern Canal during implementation of the GSPs in order to maintain the ability to reasonably operate to meet contracted for water supply deliveries.	4.3.4.2 Attachment 6 ETGSA LSMP	Along the portion of the FKC that occurs in the Tule Subbasin, the maximum amount of land subsidence allowed during the transition period from 2020 to 2040 is three feet. SMC established for RMS benchmarks throughout the Subbasin were developed in coordinated manner to be consistent with the minimum thresholds set within the ETGSA to be protective of the FKC operations based on a Settlement Agreement with the FWA.
	The GSPs do not explain how implementation of projects and management actions is consistent both with achieving the long-term avoidance or minimization of subsidence and with not exceeding the tolerable amount of cumulative subsidence adjacent to the Canal.	4.3.4.3	Land subsidence in the vicinity of the FKC is being monitored and managed under Eastern Tule Groundwater Sustainability Agency's Land Subsidence Monitoring and Management Plans, which includes a Monitoring Committee made of technical representatives of the multiple stakeholders.
	The GSPs do not explain how the criteria defining when undesirable results occur in the Subbasin was established, the rationale behind the approach, and why it is consistent with avoiding the significant and unreasonable effects identified by the GSAs.	4.3.4.2 4.4.4.1 Attachment 6 Attachment 7	Except for the ETGSA Land Subsidence Management Area, Minimum Thresholds for land subsidence were established throughout the Tule Subbasin based on the maximum amount of land subsidence forecast during the transition period from 2020 to 2040 using the calibrated groundwater flow model and best available data.
	The GSPs do not identify land uses and property interests, apart from the Friant-Kern Canal, susceptible to impacts from land subsidence, explain how they were considered, and describe the rationale for establishing minimum thresholds for land subsidence in consideration of uses and interests, or provide reasonable and convincing evidence that the other areas of the basin are not susceptible to impacts from land subsidence.	4.3.4.3 4.4.4.4 Attachment 6 Attachment 7	Potentially impacted land uses in the Tule Subbasin have been divided into high priority land uses and low priority land uses as described in these sections of the Coordination Agreement (Appendix A). This is also supported by Land Subsidence Technical Memo (Appendix A, Attachment 6) and Mitigation Framework (Appendix A, Attachment 7).
	The GSPs' current minimum thresholds and measurable objectives for land subsidence are not consistent with the intent of SGMA that subsidence be avoided or minimized once sustainability is achieved in the Subbasin.	4.3.4.2	"Any land subsidence occurring after 2040 that is not attributable to recoverable compaction is considered an undesirable result. It is acknowledged that residual land subsidence resulting from historical groundwater conditions may occur after 2040. Additional studies and data are needed to assess the rate and extent of residual land subsidence that could occur after 2040 and the potential for this subsidence to cause undesirable results"

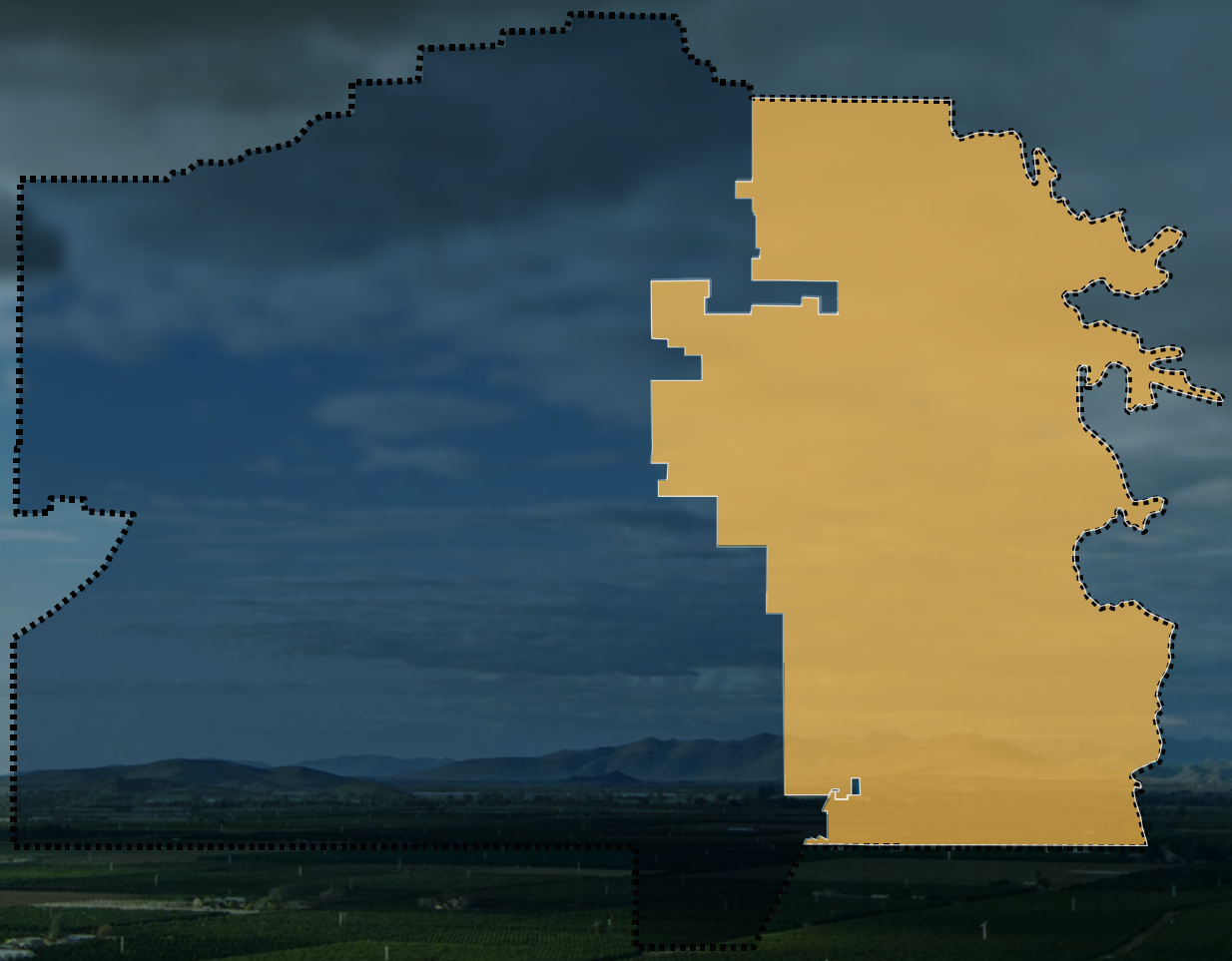
Summary of Responses to DWR Comments to the Tule Subbasin Groundwater Sustainability Plans

DWR Identified Deficiency	DWR Comment	Applicable Coordination Agreement Section	Summary of Revisions
Degraded Water Quality	The GSPs do not specify what groundwater conditions are considered suitable for agricultural irrigation and domestic use.	4.4.3.1 Attachment 5	Reference MCLs and Ag WQO's as set by existing State Regulations.
	The GSPs do not explain the choice of constituents (pH, conductivity, and nitrate) as a means of evaluating impacts to beneficial uses and users, especially agricultural irrigation.	4.3.3.2 4.3.3.3 Attachment 7	COCs were expanded to include Arsenic, Nitrate, Chromium-6, DBCP, TCP, PCE, Sodium, Chloride, Perchlorate, TDS.
	The GSPs do not explain how the use of a 10-year running average to establish the sustainable management criteria will avoid undesirable results due to degraded groundwater quality and related potential effects of the undesirable results to existing regulatory standards.	4.4.3.5 4.5.3 Attcahment 7	Sustainable Management Criteria was set as follows Measurable Objective: 75% of MCL or Ag WQO Minimum Threshold: MCL or Ag WQO
	The GSPs do not explain how the criteria defining when undesirable results occur in the Subbasin was established, the rationale behind the approach, and why it is consistent with avoiding significant and unreasonable effects associated with groundwater pumping and other aspects of the GSAs' implementation of their GSPs.	4.3.3.2 4.3.3.3 Attachment 7	Reference Drinking Water MCLs and Ag WQO's. The Tule Subbasin Mitigation Framework (Appendix A, Attachment 7) discuss mitigation for impacts from degradation of groundwater quality from GSP implementation.
	The GSPs do not explain how the sustainable management criteria for degraded water quality relate to existing groundwater regulatory requirements in the Subbasin and how the GSAs will coordinate with existing agencies and programs to assess whether or not implementation of the GSPs is contributing to the degradation of water quality throughout the Subbasin.	4.3.3.2 4.3.3.3 Attachment 7	Same as previous comment. Additional background information on existing programs was added to section 2.2.4 of the Tule Subbasin Setting (Appendix A, Attachment 2).

Sustainable Groundwater Management Act

Groundwater Sustainability Plan

REVISED July 2022



Eastern Tule

Groundwater Sustainability Agency

Tule Subbasin

RESOLUTION 2022-4
of the
EASTERN TULE GROUNDWATER SUSTAINABILITY AGENCY
JOINT POWERS AUTHORITY

ADOPTION OF THE EASTERN TULE GROUNDWATER SUSTAINABILITY AGENCY GROUNDWATER SUSTAINABILITY PLAN

WHEREAS, the Eastern Tule Groundwater Sustainability Agency Joint Powers Authority ("**ETGSA**") is a California groundwater sustainability agency formed to implement the Sustainable Groundwater Management Act of 2014, *Water Code* § 10720 et seq. ("**SGMA**") in a portion of the Department of Water Resources Bulletin 118 Tule Subbasin;

WHEREAS, ETGSA has developed a Groundwater Sustainability Plan ("**GSP**"), and has completed a process of public engagement, public comment, and a public hearing pursuant to the requirements of SGMA at *Water Code* Section 10728.4;

WHEREAS, ETGSA has developed in cooperation and coordination with representatives of the Tule Subbasin a Coordination Agreement pursuant to requirements of SGMA at *Water Code* Section 10727.6. The Coordination Agreement has been incorporated into the GSP;

WHEREAS, after considering the comments provided by the public and various interested parties, the Board of Directors adopted the GSP and approved the Coordination Agreement on January 17, 2020;

WHEREAS, on January 28, 2022, the ETGSA received notification from the Department of Water Resources that various aspects of the adopted GSP were deficient and required corrective actions no later than July 27, 2022 ("**Deficiency Letter**");

WHEREAS, as a result of the January 28, 2022 Deficiency Letter, the ETGSA caused numerous revisions to the GSP and the Coordination to occur and as a result the Board of Directors desires to adopt the 2022 First Amended GSP and 2022 First Amended Coordination Agreement;

NOW, THEREFORE, BE IT HEREBY RESOLVED, that the ETGSA Board of Directors adopts the 2022 First Amended GSP, including the 2022 First Amended Coordination Agreement, attached hereto and incorporated by reference and directs staff to submit the same to the Department of Water Resources.

THE FOREGOING RESOLUTION was passed and adopted by the ETGSA Board of Directors on this 18th day of July, 2022, by the following vote:

AYES: Directors Townsend, Alt. Director Yap, Director Leider, Director Corkins, Alt. Director Knight, Director Schneider, Vice-Chairman Kisling, Chairman Borba

NOES:

ABSTAIN:

ABSENT:

Eric Borba, Chair

ATTEST:

Rogelio Caudillo, Secretary

Certificate of Secretary

I do hereby certify that I am the Secretary of the Eastern Tule Groundwater Sustainability Agency Joint Powers Authority, a groundwater sustainability agency organized and existing under the laws of the State of California, and that the foregoing Resolution was duly adopted by the Board of Directors of said Agency at a meeting thereof duly and specially held in Porterville, California on the 18th day of January, 2022, at which meeting a quorum of the said Board of Directors was at all times present and acting, and that said Resolution has not been rescinded or amended in whole or any part thereof, and remains in force and effect.

IN WITNESS WHEREOF, I have signed this Certificate on this 18th day of January, 2022, at Porterville, California.

Rogelio Caudillo, Secretary
Eastern Tule GSA

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Figures

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Tables

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Exhibits

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Appendices

Appendices Attached to Corresponding Section

Appendix 2-A: Tulare County Resolution No. 2016-0939

Appendix 2-B: Resolution No. 1-2017

Appendix 2-C: Notice of the Eastern Tule Groundwater Sustainability Agency's Election to Become a Groundwater Sustainability Agency for a Portion of the Tule Subbasin

Appendix 2-D: ETGSA Notification of Intent to Develop a Groundwater Sustainability Plan

Appendix 2-E: Addendum to Original February 28, 2017 ETGSA Notice of Election to Serve as a Groundwater Sustainability Agency

Appendix 2-F: Memorandum of Understanding to Develop and Implement a Groundwater Sustainability Plan Coordination Agreement

Appendix 2-G: Tule Subbasin Coordination Agreement

Abbreviations & Acronyms

Agency	Eastern Tule Groundwater Sustainability Agency
amsl	above mean sea level
CASGEM	California State Groundwater Elevation Monitoring
CDWR	California Department of Water Resources
CEOP	Communication, Engagement and Outreach Plan
CEQA	California Environmental Quality Act
CGQMP	Comprehensive Groundwater Management Plan
CP	Community Plan
CSD	Community Services District
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
DCTRA	Deer Creek Tule River Authority
DDW	Division of Drinking Water
DMS	Data Management System
DWR	Department of Water Resources
EC	Electrical Conductivity
ET	Evapotransportation
EIR	Environmental Impact Report
ESTGSA	Eastern Tule Groundwater Sustainability Agency
FKC	Friant-Kern Canal
GAMA	Groundwater Ambient Monitoring and Assessment
GAR	Groundwater Assessment Report
GDEs	Groundwater Dependent Ecosystems
GFM	Groundwater Flow Model
GP	General Plan
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
GQTMP	Groundwater Quality Trend Monitoring Program
GQTMW	Groundwater Quality Trend Monitoring Workflow
ILRP	Irrigated Lands Regulatory Program
InSAR	Interferometric Synthetic Aperture Radar
IRWM	Integrated Regional Water Management
IRWMGs	Integrated Regional Water Management Groups

IRWMP	Integrated Regional Water Management Plan
ITRC	Irrigation Training and Research Center
KTWD	Kern-Tulare Water District
LUSTs	leaking underground storage tanks
MOU	Memorandum of Understanding
NASA	National
NC	Natural Communities
NOAA	National Oceanic and Atmospheric Administration
NPL	National Priority List
NTFGW	net to from groundwater
PUD	Public Utility District
RMS	representative monitoring sites
RWQCB	Regional Water Quality Control Board
SAGBI	Soil Agricultural Groundwater Banking Index
SB	Senate Bill
SCADA	Supervisory Control and Data Acquisition
SGMA	Sustainable Groundwater Management Act
SMC	Sustainable Management Criteria
SREP	Success Reservoir Enlargement Project
SWRCB	State Water Resources Control Board
TBWQC	Tule Basin Water Quality Coalition
TSMP	Tule Subbasin Monitoring Plan
UABs	Urban Area Boundaries
UDBs	Urban Development Boundaries
USACE	United States Army Corps of Engineers
USBR	United States Bureau of Reclamation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WDL	Water Data Library

Section 1. Introduction to the ETGSA Groundwater Sustainability Plan

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1.1 Purpose of the Groundwater Sustainability Plan *[23 CCR § 354.2]*

23 Cal. Code Regs. § 354.2. Introduction to Administrative Information. *This Subarticle describes information in the Plan relating to administrative and other general information about the Agency that has adopted the Plan and the area covered by the Plan.*

In 2014, the Sustainable Groundwaters Management Act (hereafter, "SGMA") was passed by the State of California. SGMA requires that groundwater basins in California that are designated as medium or high priority be managed sustainably within 20 years of implementation of their groundwater sustainability plans. Moreover, SGMA requires that basins designated as critically overdrafted adopt their respective plans by January 31, 2020 and thereafter achieve their respective sustainability goal by 2040.

The Tule Subbasin, as identified by California Department of Water Resources (hereafter, "DWR") in Bulletin 118 as Subbasin No. 5.22-13, is designated as a high priority, critically overdrafted groundwater basin within the State of California. To satisfy the requirements of SGMA, six general activities are required for the Tule Subbasin:

1. One or multiple Groundwater Sustainability Agencies(s) (hereafter, "GSA(s)") must fully cover the Tule Subbasin, beginning June 30, 2017;
2. One or more Groundwater Sustainability Plan(s) (hereafter, "GSP(s)") must be developed and adopted by the GSA(s) and fully cover the Tule Subbasin, beginning January 31, 2020;
3. If multiple GSPs are adopted within the Tule Subbasin, they must be coordinated via Coordination Agreement by the time they are submitted to DWR, no later than January 31, 2020;
4. DWR must determine that the GSP(s) is/are "adequate" and satisfy the requirements set forth in SGMA;
5. All adopted GSPs covering the Tule Subbasin must be implemented in a manner that achieves the Tule Subbasin's sustainability goal and avoids significant and unreasonable undesirable results; and
6. GSAs must provide regular reporting to the DWR, pursuant the requirements outlined in SGMA.

The Eastern Tule Groundwater Sustainability Agency Joint Powers Authority (hereafter, "ETGSA" or "Agency") is one of seven (7) GSAs with jurisdiction in the Tule Subbasin authorized to develop and implement a GSP. This GSP has been adopted by the ETGSA's Board of Directors following a 90-day public notice and public hearing and has been coordinated through a Coordination Agreement between each of the Tule Subbasin GSAs.

The ETGSA GSP describes the ETGSA's jurisdictional area within the Tule Subbasin, provides the sustainable management criteria that consider the interests of all beneficial uses and users of groundwater within its jurisdiction, and identifies a series of projects and management actions that will allow for the ETGSA – in coordination with the remaining Tule Subbasin GSAs – to achieve the Tule Subbasin Sustainability goal within 20 years of Plan adoption.

1.2 Executive Summary *[23 CCR § 354.4(a)]*

23 Cal. Code Regs. § 354.4. General Information. *Each Plan shall include the following general information:*

(a) *An executive summary written in plain language that provides an overview of the Plan and description of groundwater conditions in the basin.*

The Tule Subbasin, as identified by California Department of Water Resources (DWR) in Bulletin 118 as Subbasin No. 5.22-13, is situated primarily in southern Tulare County with a small portion in Kern County within the southern portion of the Central Valley of California. The Tule Subbasin is one of the top producing agriculture regions in the area, with very fertile soils and wide diversity of crops. The Tule Subbasin includes seven (7) Groundwater Sustainability Agencies (GSAs) that have coordinated efforts per the adopted SGMA regulations through a common Coordination Agreement but each with a separate Groundwater Sustainability Plan (GSP).

The Eastern Tule GSA includes the City of Porterville and many other smaller rural towns and communities. The surface water supplies for the ETGSA include the local water supplies of the Tule River, Deer Creek, and White River and imported surface water from those entities with a Friant Contract from the Central Valley Project. Surface water supplies are critical to supplying recharge to the groundwater supplies in the ETGSA.

The Tule Subbasin is designated by DWR as a critically overdrafted basin with an estimated historical annual overdraft of 115,300-feet per year based on the average hydrologic period from 1990/1991 to 2009/2010. The portion of the subbasin overdraft attributed to areas within the ETGSA is approximately 61,000 acre-feet per year. The overdraft conditions have caused issues for those reliant on groundwater pumping, which include municipal, domestic, and agriculture users. Other issues caused by the groundwater overdraft include land subsidence, which has created issues along critical infrastructure within the ETGSA at the Friant Kern Canal.

Through a coordinated effort with the other GSAs within the Subbasin, a Coordination Agreement has been prepared describing the common Tule Subbasin Setting, Subbasin Sustainability Goal, definitions for undesirable results, and basin wide monitoring. The Coordination Agreement is included as an attachment to this Plan. Generally, the Tule Subbasin sustainability goal is to achieve no long-term reduction in groundwater storage by year 2040, by implementing a series of projects and management actions among the member agencies, stakeholders, and landowners during this planning horizon.

This Plan addresses the items identified in the SGMA regulations specific to the ETGSA, including descriptions of the physical characteristics, the ETGSA water budget (historic and future), specific monitoring features and locations, quantifiable measurable objectives, interim milestones and minimum thresholds for the applicable sustainable management criteria including depth to groundwater, groundwater storage, groundwater quality, and land subsidence between 2020 and 2040, and those projects and management actions proposed to implement during the 20 year planning horizon to achieve the Sustainability Goal. These projects and management actions will be critical to the success of the Plan, which initially focus the ETGSA to implement an accounting system to track and monitor groundwater data to help inform and develop policies to adaptively manage to reduce groundwater overdraft while minimizing impacts to agriculture production and economic impacts to the local communities.

Nothing in this GSP is intended to modify the water rights of any Party or of any Person (as that term is defined under Section 19 of the Water Code). Nothing in this GSP shall be construed as an admission by any Party regarding any subject matter of this GSP, including without limitation any water right or priority of any water right that is claimed by a Party or any Person. Nor shall this GSP in any way be construed to represent an admission by a Party with respect to the subject or sufficiency of another Party's claim to any water or water right or priority or defenses thereto, or to establish a standard for the purposes of the determining the respective liability of any Party or Person, except to the extent otherwise specified by law. Nothing in this GSP shall be construed as a waiver by any Party of its election to at any time assert a legal claim or argument as to water, water right or any subject matter of this GSP or defenses thereto. Any dispute or claim arising out of or in any way related to a water right alleged by a Party shall be separately resolved before the appropriate judicial, administrative or enforcement body with proper jurisdiction and is specifically excluded from the dispute resolution procedures set forth under this GSP.

1.3 References and Technical Studies *[23 CCR § 354.4(b)]*

23 Cal. Code Regs. § 354.4. General Information. *Each Plan shall include the following general information:*

(b) *A list of references and technical studies relied upon by the Agency in developing the Plan. Each Agency shall provide to the Department electronic copies of reports and other documents and materials cited as references that are not generally available to the public***.**

See **Section 9 – References and Technical Studies** of this plan, for a list of references and technical studies utilized by the Agency in developing this Plan.

Section 2. Agency Information

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Appendices

2.1 Agency Information *[23 CCR § 354.6]*

23 Cal. Code Regs. § 354. 6 Agency Information. *When submitting an adopted Plan to the Department, the Agency shall include a copy of the information provided pursuant to Water Code Section 10723.8, with any updates, if necessary, along with the following information:*

(a) *The name and mailing address of the Agency*

(c) *The name and contact information, including the phone number, mailing address and electronic mail address, of the plan manager.*

(d) *The legal authority of the Agency, with specific reference to citations setting forth the duties, powers, and responsibilities of the Agency, demonstrating that the Agency has the legal authority to implement the Plan.*

ETGSA is a Groundwater Sustainability Agency that was formed via Joint Powers Agreement (see **Appendix 2-A: Tulare County Resolution No. 2016-0939**) on December 6, 2016, pursuant the requirements of California's Sustainable Groundwater Management Act. The joint powers agreement is between the following eight (8) member agencies:

- City of Porterville (hereafter, "City of Porterville" or "City")
- County of Tulare (hereafter, "County of Tulare" or "Tulare County" or "County")
- Kern-Tulare Water District (hereafter, "KTWD" or "Kern-Tulare Water District")
- Porterville Irrigation District (hereafter, "PID" or "Porterville Irrigation District")
- Saucelito Irrigation District (hereafter, "SID" or "Saucelito Irrigation District")
- Tea Pot Dome Water District (hereafter, "TPDWD" or "Tea Pot Dome Water District")
- Terra Bella Irrigation District (hereafter, "TBID" or "Terra Bella Irrigation District")
- Vandalia Water District (hereafter, "VWD" or "Vandalia Water District")

Following public notification, comment, and hearing, ETGSA resolved to become a Groundwater Sustainability Agency (see **Appendix 2-B: Resolution No. 1-2017**) on February 23, 2017 and provided notice of its election to DWR to this effect dated February 28, 2017 (see **Appendix 2-C: Notice of the Eastern Tule Groundwater Sustainability Agency's Election to Become a Groundwater Sustainability Agency for a Portion of the Tule Subbasin**). The Agency was approved by the California Department of Water Resources to serve as an exclusive GSA on June 6th, 2017. The Agency provided notice to the Department of Water Resources and the public regarding manners by which interested parties may participate in the development and implementation of the GSP on July 17, 2017 (see **Appendix 2-D: ETGSA Notification of Intent to Develop a Groundwater Sustainability Plan**); this notice was thereafter posted to the Agency's website, the Department of Water Resources' website, and shared with the City of Porterville and County of Tulare. ETGSA submitted to DWR an addendum to its original notice of election to become a GSA on May 17, 2019 to address non-material boundary adjustments of ETGSA's original service area boundaries (see **Appendix 2-E: Addendum to Original February 28, 2017 ETGSA Notice of Election to Serve as a Groundwater Sustainability Agency**)

Figure 2-1: ETGSA Boundaries & Jurisdictional Areas of its Member Agencies describes the boundaries of the ETGSA and the jurisdictional areas represented by its Member Agencies, to the extent their jurisdictions reside within ETGSA.

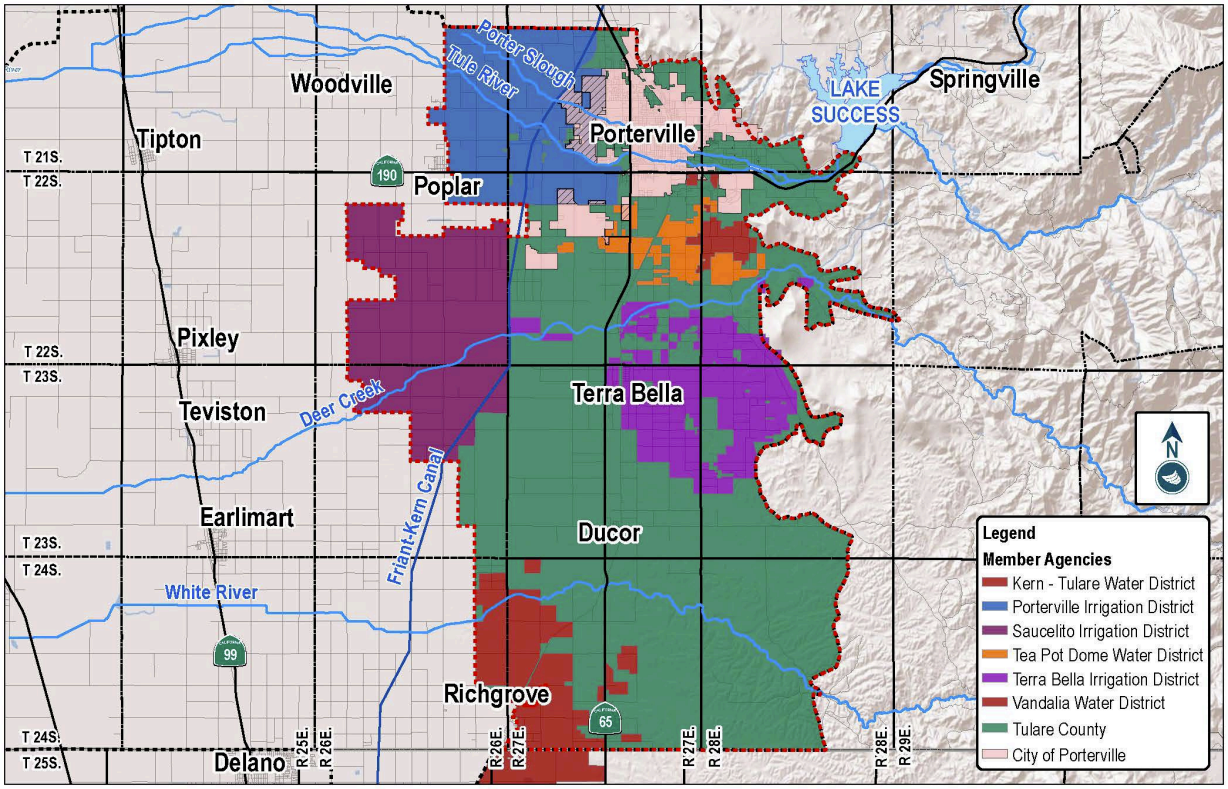


Figure 2-1: ETGSA Boundaries & Jurisdictional Areas of its Member Agencies

2.1.1 Name, Mailing Address, and Contact Information *[23 CCR § 354.6(a)]*

23 Cal. Code Regs. § 354. 6 Agency Information. *When submitting an adopted Plan to the Department, the Agency shall include a copy of the information provided pursuant to Water Code Section 10723.8, with any updates, if necessary, along with the following information:*

(a) *The name and mailing address of the Agency*

Eastern Tule Groundwater Sustainability Agency Joint Powers Authority

Mailing Address:
Eastern Tule Groundwater Sustainability Agency Joint Powers Authority
881 West Morton Avenue, Suite D
Porterville, CA 93257

Telephone:
559-781-7660

Email:
info@easterntulegsa.com

Website:
www.easterntulegsa.com

2.1.1.1 Name, Mailing Address, and Contact Information of ETGSA's Member Agencies

City of Porterville

Mailing Address:
City of Porterville
291 North Main Street
Porterville, CA 93257

Telephone:
559-782-7499

Email:
mgr-office@ci.porterville.ca.us

County of Tulare

Mailing Address:
County of Tulare
c/o Board of Supervisors
2800 West Burrel Avenue
Visalia, CA 93291

Telephone:
559-636-5000

Email:
dengland@co.tulare.ca.us

Kern-Tulare Water District

Mailing Address:
Kern-Tulare Water District
5001 California Avenue, Suite 102
Bakersfield, CA 93309

Telephone:
661-327-3132

Email:
sdalke@kern-tulare.com

Porterville Irrigation District

Mailing Address:
Porterville Irrigation District
22086 Avenue 160
Porterville, CA 93257

Telephone:
559-784-0716

Email:
portervilleid@ocsnet.net

Saucelito Irrigation District

Mailing Address:
Saucelito Irrigation District
20712 Avenue 120
Porterville, CA 93257

Telephone:
559-784-1208

Email:
sid@ocsnet.net

Tea Pot Dome Water District

Mailing Address:
Tea Pot Dome Water District
105 West Teapot Dome Avenue
Porterville, CA 93257

Telephone:
559-784-8641

Email:
customerservice@ltrid.org

Terra Bella Irrigation District

Mailing Address:
Terra Bella Irrigation District
24790 Avenue 95
Terra Bella, CA 93270

Telephone:
559-535-4414

Email:
info@terrabellaid.org

Vandalia Water District

Mailing Address:
Vandalia Water District
357 East Olive Avenue
Tipton, CA 93272

Telephone:
559-784-1208

Email:
customerservice@ltrid.org

2.1.2 Legal Authority *[23 CCR § 354.6(d)]*

23 Cal. Code Regs. § 354. 6 Agency Information. *When submitting an adopted Plan to the Department, the Agency shall include a copy of the information provided pursuant to Water Code Section 10723.8, with any updates, if necessary, along with the following information:*

(d) *The legal authority of the Agency, with specific reference to citations setting forth the duties, powers, and responsibilities of the Agency, demonstrating that the Agency has the legal authority to implement the Plan.*

ETGSA was created via a Joint Powers Agreement pursuant to the Joint Exercise of Powers Act, California Government Code (hereafter, "GOV") § 6500 *et seq*. The Agency elected to become a separate entity pursuant to GOV § 6503.5. Pursuant to the Joint Exercise of Powers Act, the Agency may exercise any power common to all of its member agencies. ETGSA's various member agencies provide water supply and land use planning services, therefore providing ETGSA with the authority to establish itself as a GSA pursuant California Water Code (hereafter, "WAT") § 10721. Following formation and proper notification, the Agency elected to become a Groundwater Sustainability Agency in compliance with WAT § 10723.6. DWR deemed ETGSA the exclusive GSA for its portion of the Tule Subbasin on June 6, 2017. Upon establishing itself as a GSA, the ETGSA retains all the rights and authorities provided to GSAs under WAT § 10725 *et seq,* in addition to those powers common to all its member agencies.

The ETGSA recognizes individual water or irrigation districts to the GSA have the ability to request management areas for their jurisdictional areas, and also are provided the right to withdraw from the JPA and implement SGMA directly as a separate GSA. (JPA Article VII and Section 8.05); Although formal management areas have not been created to represent water or irrigation districts individually, they reserve the right to request establishment of a management area and do so in the future.

Pursuant its status as an exclusive GSA overlying the Tule Subbasin, ETGSA is authorized to develop and implement a GSP for its jurisdictional area, otherwise known as its Plan Area, in a manner that is formally coordinated with the other GSAs overlying the Tule Subbasin. ETGSA has coordinated the development and intended implementation of its Groundwater Sustainability Plan with the other six (6) GSAs overlying the Tule Subbasin via the Tule Subbasin Coordination Agreement (see **Appendix A: Tule Subbasin Coordination Agreement**). This group of GSAs is collectively known as the Tule Subbasin MOU Group. Pursuant the GSP Emergency Regulations (hereafter, "23 CCR") § 357.4 and WAT 10727.6(b)(3).

Figure 2-2: Coordination Amongst the Tule Subbasin GSAs describes the Tule Subbasin MOU Group's organizational, management, and coordination structure.

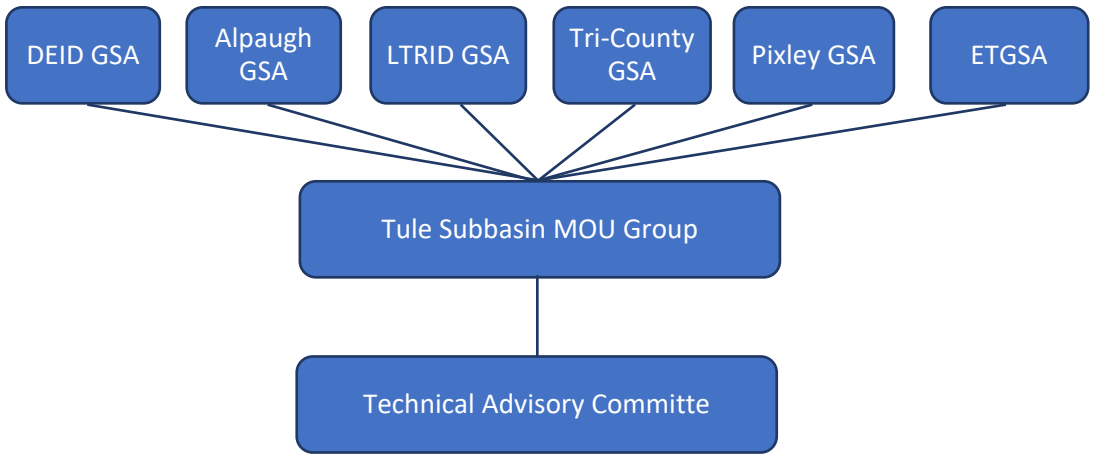


Figure 2-2: Coordination Amongst the Tule Subbasin GSAs

2.1.3 Organization and Management Structure *[23 CCR § 354.6(b)]*

23 Cal. Code Regs. § 354. 6 Agency Information. *When submitting an adopted Plan to the Department, the Agency shall include a copy of the information provided pursuant to Water Code Section 10723.8, with any updates, if necessary, along with the following information:*

(b) *The organization and management structure of the Agency, identifying persons with management authority for implementation of the Plan*

ETGSA is a joint powers authority formed by eight (8) member agencies approved by DWR to serve as the exclusive GSA over its portion of the Tule Subbasin. The Joint Powers Agreement and Bylaws of the Agency (see **Appendix 2-G: ETGSA Bylaws**) describe the purpose and governance structure of the ETGSA.

The Agency is governed by a 9-member Board of Directors. The Board of Directors has final authority over plan implementation. Each individual member agency of the ETGSA appoints a Director and an Alternate to the Board of Directors. Additionally, the County of Tulare appoints an additional Director and Alternate to serve as representatives of those lands not within the jurisdiction of the other seven member agencies.

The Board of Directors may form temporary or permanent advisory Committees for the purpose of advising the Board with respect to certain matters. At the time of the writing, three standing Committees serve the Board of Directors:

- Executive Committee
- Stakeholder Committee
- Finance Committee
- Land Subsidence Monitoring Committee

Agency staff undertake the day-to-day management and operations of the Agency.

Figure 2-3: Governance and Structure of ETGSA describes the Agency's organizational and management structure.

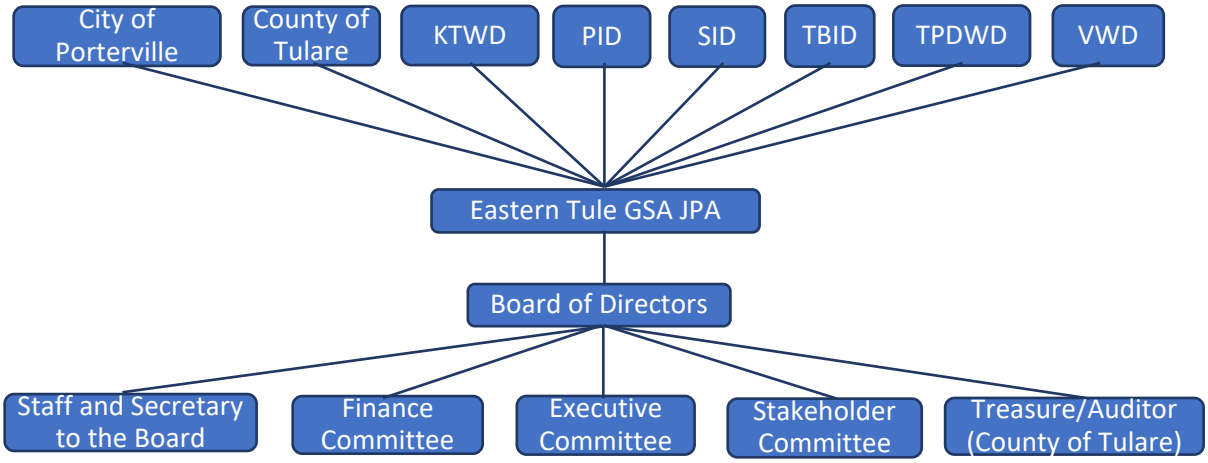


Figure 2-3: Governance and Structure of ETGSA

2.1.4 Plan Manager and Contact Information *[23 CCR § 354.6(c)]*

23 Cal. Code Regs. § 354. 6 Agency Information. *When submitting an adopted Plan to the Department, the Agency shall include a copy of the information provided pursuant to Water Code Section 10723.8, with any updates, if necessary, along with the following information:*

(c) *The name and contact information, including the phone number, mailing address and electronic mail address, of the plan manager.*

The Plan Manager is identified in the **Coordination Agreement** as the Chairman of the Tule Subbasin TAC.

Mr. Rogelio Caudillo serves as the General Manager of ETGSA and is the point of contact for the ETGSA.

The contact information for the General Manager of the ETGSA is as follows:

Mailing Address:

Mr. Rogelio Caudillo
881 West Morton Avenue
Suite D
Porterville, CA 93257

Telephone:
559-781-7660

Email:
rcaudillo@easterntulegsa.com

2.1.5 Cost and Funding of Plan Implementation *[23 CCR § 354.6(e)]*

23 Cal. Code Regs. § 354. 6 Agency Information. *When submitting an adopted Plan to the Department, the Agency shall include a copy of the information provided pursuant to Water Code Section 10723.8, with any updates, if necessary, along with the following information:*

(e) *An estimate of the cost of implementing the Plan and a general description of how the Agency plans to meet those cost***s.**

ETGSA estimates the cost to implement this Plan during the Plan Implementation Period to be approximately $1.35 million per year, based on the most recent fiscal year budget adopted.

There are several factors incorporated into estimating the total cost of Plan implementation, which include:

- Payroll and Benefits
- Insurance
- Office, Materials, and Outreach
- Employee Expenses/ Reimbursements
- Accounting
- Professional Services
- Monitoring and Coordination
- Capital Expenditures

2.1.5.1 Funding Sources

The Agency plans to meet these costs through three funding mechanisms: (1) contributions of ETGSA's constituent members; (2) grant funding; and (3) taxes or assessments levied in conformity with Proposition 218 and/or Proposition 26.

Member Contributions Required by the Terms of the JPA. Under the terms of the Agency's JPA, the Agency is authorized "to do all acts necessary for the exercise of all powers authorized under SGMA and necessary to satisfy the requirements of SGMA." *JPA*, § 2.01. Section 6.04 of the JPA provides that the Agency may "assess members for a share of costs incurred by the Authority or which are anticipated to be incurred by the Authority. All assessments shall be paid by Members within sixty (60) days of the approval of the assessment by the Board."

Grant Funding. The Agency intends to obtain grant funding to the extent possible in order to finance the implementation of the Agency's GSP.

Landowner Assessments. The Agency, and/or its constituent members separately, may elect to impose assessments upon landowners who will directly benefit from particular projects. In order to do so, the entity levying the assessment will follow the procedures codified at Art. XIIIC and/or XIIID of the California Constitution.

Groundwater Extraction Fees. SGMA authorizes a GSA to impose groundwater extraction fees. The Agency may elect to impose groundwater extraction fees upon extractions within its jurisdiction. To do so, it will comply with all procedures codified in SGMA and Art. XIIIC and/or XIIID of the California Constitution.

Appendix 2-A: Tulare County Resolution No. 2016-0939

BEFORE THE BOARD OF SUPERVISORS
COUNTY OF TULARE, STATE OF CALIFORNIA

IN THE MATTER OF EAST TULE SUSTAINABLE GROUNDWATER MANAGEMENT ACT JOINT POWERS AGREEMENT	))))	Resolution No. 2016-0939 Agreement No. 27912

UPON MOTION OF SUPERVISOR WORTHLEY, SECONDED BY SUPERVISOR COX, THE FOLLOWING WAS ADOPTED BY THE BOARD OF SUPERVISORS, AT AN OFFICIAL MEETING HELD DECEMBER 6, 2016, BY THE FOLLOWING VOTE:

AYES: SUPERVISORS ISHIDA, VANDER POEL, COX, WORTHLEY AND ENNIS
NOES: NONE
ABSTAIN: NONE
ABSENT: NONE

ATTEST: MICHAEL C. SPATA
COUNTY ADMINISTRATIVE OFFICER/
CLERK, BOARD OF SUPERVISORS

BY: Denise A. Ybarra
Deputy Clerk

* *

1. Approved a Joint Powers Agreement with the City of Porterville, Porterville Irrigation District, Saucelito Irrigation District, Teapot Dome Water District, Vandalia Water District, Terra Bella Irrigation District, and Kern-Tulare Water District to form the East Tule Groundwater Sustainability Agency; and

2. Authorized the Chairman to execute the agreement; and

3. Appointed Supervisor Ennis as Director and appointed Supervisor Vander Poel as Alternate Director to the JPA Board.

CAO
Co. Counsel
Auditor

DAY
12/7/16

AGREEMENT TO FORM A JOINT POWERS AUTHORITY

EASTERN TULE GROUNDWATER SUSTAINABILITY AGENCY

THIS AGREEMENT ("Agreement") is made December 6, 2016, by and between COUNTY OF TULARE ("County"), CITY OF PORTERVILLE, PORTERVILLE IRRIGATION DISTRICT, SAUCELITO IRRIGATION DISTRICT, TEAPOT DOME WATER DISTRICT, VANDALIA WATER DISTRICT, TERRA BELLA IRRIGATION DISTRICT, and KERN-TULARE WATER DISTRICT (hereinafter referred to individually as "Member" and collectively as "Members"), in light of the following:

RECITALS

A. During September 2014, Governor Brown signed three bills (SB 1168, SB 1319, and AB 1739) into law creating the Sustainable Groundwater Management Act ("SGMA").

B. SGMA authorizes the formation of an entity called a Groundwater Sustainability Agency ("GSA"), one or more of which are authorized to be responsible for implementing provisions of SGMA as to each groundwater basin and subbasin falling within the provisions of SGMA.

C. The Members overlie the Tule Subbasin (5-22.13 of the Department of Water Resources Bulletin 118 classifications) ("Subbasin") of the San Joaquin Valley Basin, an unadjudicated groundwater basin, portions of which underlie the jurisdictional boundaries of each Member.

D. Each of the Members to this Agreement is a local government entity with either water supply, water management, or land use responsibilities within the Subbasin and is qualified individually to serve as a GSA under the provisions of SGMA.

E. Under SGMA, a combination of local agencies may elect to form a GSA through a joint powers agreement.

F. The Members intend by this Agreement to create a joint powers authority that will elect to become a GSA for their jurisdictional areas covering a portion of the Subbasin.

G. Under SGMA, each GSA will be responsible for assuming its regulatory role by June 30, 2017, and for submitting a Groundwater Sustainability Plan ("GSP") to the Department of Water Resources by January 31, 2020.

H. The Members intend to work cooperatively with other GSAs in the Subbasin for purposes of developing a GSP and entering into a Coordination Agreement if necessary.

I. The Members desire, once successfully electing to be a GSA, to begin collecting and organizing data, engaging and retaining experts and consultants, and soliciting feedback from

beneficial users and users of groundwater and interested persons within the portion of the Subbasin subject to their jurisdiction, for the purpose of preparing a GSP and for the purpose of negotiating Coordination Agreements with the other GSAs in the Subbasin.

J. The Members intend by this Agreement to provide for the management and funding commitments reasonably anticipated to be necessary for the above purposes.

K. The Members intend by this Agreement to provide a framework for cooperative efforts for all entities and individuals within the Authority's jurisdictional area and to implement SGMA in the most effective, efficient, and fair way reasonably possible, and at the lowest reasonable cost.

L. The jurisdictional area of this Authority is intended to generally consist of all areas within the jurisdictional boundaries of the Members and will specifically be determined at the time a notice of intent to act as a GSA is filed with the Department of Water Resources. For the purposes of this Agreement only, the jurisdictional boundary of the County of Tulare will be defined to not include any areas that are within the jurisdictional boundaries of any other Member.

NOW THEREFORE, in consideration of the promises, terms, conditions, and covenants contained herein, the Members hereby agree as follows:

ARTICLE I

GENERAL PROVISIONS

Section 1.01. Creation of Authority. Pursuant to California Government Code Section 6500 *et seq.*, there is hereby created a public entity to be known as the "Eastern Tule Groundwater Sustainability Agency" (hereinafter referred to as the "Authority"), which shall be a public entity separate and apart from the Members, and shall administer this Agreement.

Section 1.02. Purpose. The purposes of this Agreement are:

(a) To create a Joint Powers Authority separate from its Members that will elect to be the GSA for a portion of the Subbasin and, subject to the limitations of this agreement, carry out the provisions of SGMA within the jurisdictional area of the GSA;

(b) To develop, adopt, and implement a legally sufficient GSP covering those portions of the Subbasin that are within the jurisdictional boundaries of the GSA, subject to the limitations set forth herein, in order to implement SGMA's requirements and achieve sustainability goals outlined in SGMA; and

(c) To enter into a Coordination Agreement or similar agreement with other GSAs in order to meet the sustainability requirements outlined in SGMA.

ARTICLE II

POWERS

(a) Section 2.01. Powers. The Authority is hereby authorized, in its own name, to do all acts necessary for the exercise of all powers authorized under SGMA and necessary to satisfy the requirements of SGMA, including but not limited to developing, adopting and implementing a GSP, subject to the right of Members to withdraw from the authority and seek to become GSAs as specified in Section 8.05. The Authority shall have the power to sue and be sued.

Section 2.02. Restrictions on the Exercise of Powers. Pursuant to Government Code Section 6509 *et seq.*, the powers of the Authority shall be exercised and restricted in the same manner as those imposed upon the Kern Tulare Water District. The Authority shall not have the power of eminent domain. Nothing in this Agreement shall modify or limit the police powers of Members, if any.

Section 2.03. Obligations of the Authority. No debt, liability or obligation of the Authority shall constitute a debt, liability or obligation of any of the Members, appointed members of the Board of Directors, or committee members.

Section 2.04. Water Right. The Authority shall not have the power to control, limit or empower a Member's rights and authorities over its own surface water supplies, facilities, operations, water management, water supply projects and financial affairs ("Water Supply Matters"). As provided in Water Code Section 10720.5 of SGMA, the Authority and all of its Members confirm that groundwater management under this Authority shall not modify rights or priorities to use or store groundwater consistent with Section 2 of Article X of the California Constitution and that any groundwater management plan adopted by the Authority shall not determine or alter surface water rights or groundwater rights under common law or any provision of law that determines or grants surface water rights.

ARTICLE III

GOVERNING BODY

Section 3.01. Governing Board. The Authority shall be administered by a Board of Directors ("Board"), composed of Directors and alternate Directors as described herein, to serve at the pleasure of their appointive governing body. All voting power of the Authority shall reside in the Board.

(a) The Board shall consist of Directors who shall be appointed as follows:

(1) One elected member of the governing body of each Member entity.

(2) One representative from a landowner and groundwater user in a "white area" (hereinafter referred to as "White Area Representative"), appointed by the County of Tulare Board of Supervisors. A "white area" is defined as such area where the County of Tulare is the only public agency with jurisdiction as defined by SGMA

.

(b) Each Member shall appoint one person, who is either an elected member of the governing body of the Member entity or on the staff of such Member entity, to serve as an alternate Director of the Board in the same manner as the Director is appointed by the Member. Any such alternates shall be empowered to cast votes in the absence of the regular Directors or, in the event of a conflict of interest preventing the regular Director from voting, to vote because of such conflict of interest.

(c) Directors and alternate Directors may be removed or replaced as follows:

(1) Members may be removed or replaced at any time by their governing board; and

(2) A Director who is no longer either an elected member of the governing body of the entity or on the staff of such entity that qualified such director to serve on the Board shall be deemed automatically removed from the Board.

Section 3.02. Meetings of the Board. The Board shall provide for calling and conducting its regular meetings and special meetings, in accordance with Government Code Section 54950 *et seq.*

Section 3.03. Minutes. The Secretary shall cause to be kept summary minutes of the meetings of the Board and shall, as soon as possible after each meeting, cause a copy of the summary minutes to be forwarded to each Director and to each of the Members.

Section 3.04. Voting. Each Director shall have one vote.

Section 3.05. Quorum; Required Votes; Approval. A quorum of the Board for convening of any meeting shall consist of a majority of all Directors, or in the absence of a Director, such Director's designated alternate. A quorum of the Board must be present at the time of any vote on any matter before the Board. An affirmative vote of at least a majority of all Directors, or designated alternate Director, present in a quorum of the Board, shall be required for any action of the Board. Notwithstanding the foregoing, approval of certain types of matters shall require the approval of two-thirds of the Directors of the Board. The items requiring approval of two-thirds of the Directors of the Board are: agenda items to approve or revise budgets, assessments, litigation, the hiring or termination of the chief executive officer, the adoption of bylaws, adoption of the GSP, the addition of new Members, the termination of Members, and amendments of this Agreement. Directors representing a Member who is delinquent in any past or present monetary contributions shall abstain from voting on all matters.

Section 3.06. Bylaws. The Board may adopt bylaws and governing regulations consistent with this Agreement, which may be amended from time to time, for the conduct of its meetings as are necessary for the purposes hereof.

ARTICLE IV

COMMITTEES

Section 4.01. Committee Formation. Committees shall be formed by the Board in order to advise the Board on matters that fall within the scope of the particular committee's assignment. Committees may be standing committees or *ad hoc* committees. The Board shall appoint one Director or alternate Director to be a member of and the Chair of each committee. Committees shall meet as often as directed by the Board or, if no such direction is given, as often as necessary, as determined by the Chair of the committee. Two standing committees shall be formed as soon as reasonably practical, but in no event later than one hundred and twenty (120) days of formation of the Authority. They are as follows:

(a) Stakeholder Committee. Committee members shall fall within categories of interested persons or representatives of interested entities as described in SGMA. Committee members shall be appointed by the Board from among applicants.

(b) Executive Committee. Each Director shall be entitled to appoint one staff member of the Member agency to be a member of the Executive Committee.

ARTICLE V

OFFICERS AND EMPLOYEES

Section 5.01. Chair and Vice-Chair. Each year the Board shall elect a Chair and a Vice-Chair from among the Directors. The Chair and the Vice-Chair shall serve at the pleasure of the Board and shall perform the duties normally required of said offices.

(a) The Chair shall (1) preside at and conduct each meeting of the Board, (2) represent the Board as directed by the Board, (3) be an ex-officio member of each committee established by the Board, and (4) perform such other duties as may be imposed by said Board;
(b) The Vice-Chair shall act and perform all of the Chair's duties in the absence of the Chair; and
(c) The Chair or Vice-Chair shall sign all contracts and agreements as approved by the Board.

Section 5.02. Secretary. The Board shall appoint a Secretary from among the employees of the Authority, or if no such employees exist, a consultant. The Secretary shall serve at the

pleasure of the Board. The Secretary shall act on behalf of the Authority and perform such other duties as may be imposed by the Board. The Secretary shall sign agreements for the Authority when authorized by the Board.

Section 5.03. Treasurer and Auditor.

(a) The County Treasurer shall be the depositary, shall have custody of all the money of the Authority from whatever source, and shall have the duties and obligations of the Treasurer as set forth in Government Code Sections 6505 and 6505.5. The County Treasurer shall be responsible for receiving quarterly reports from the Secretary and verifying the balance of this report with respect to the balance as maintained by the records of the County Auditor.

(b) The County Auditor shall assure strict accountability of all receipts and disbursements of the Authority and shall make arrangements with a certified public accountant or firm of certified public accountants for the annual audit of accounts and records of the Authority.

Section 5.03. Officers in Charge of Records; Funds; and Accounts. Pursuant to Government Code Section 6505.1, the County Treasurer shall have charge of, handle and have access to all accounts, funds and money of the Authority and all records of the Authority relating thereto; and the Secretary shall have charge of, handle and have access to all other records of the Authority.

Section 5.04. Employees and Consultants. The Board may hire employees and consultants, including engineers, accountants and attorneys, to provide services to the Authority to accomplish the purposes of the Authority.

ARTICLE VI

ACCOUNTS AND REPORTS; FUNDS

Section 6.01. Accounts and Reports. The County Auditor shall establish and maintain such funds and accounts as may be required by good accounting practice. The books and records of the Authority shall be open to inspection at all reasonable times by the public and representatives of the Members. The County Auditor, within 120 days after the close of each Fiscal Year, shall give a complete written report of all financial activities for such Fiscal Year to the Members.

Section 6.02. Annual Budget. The Board shall adopt a budget for the Authority. Members shall make contributions as set forth in the budgets adopted by the Board. A Director's affirmative vote to approve a budget does not constitute consent to finance or otherwise participate in any project or projects within that budget.

Section 6.03. Intention for Reimbursement for Expenditures from Grant Proceeds. It is the intention of the Members that the advancement of monies by any Members for expenses of the

operational needs of the Authority shall be reimbursed from the proceeds of grants, if grant funds are obtained and such reimbursement is allowable under the terms of any grant agreement.

Section 6.04. Assessment of Members. The Board may vote to assess Members for a share of costs incurred by the Authority or which are anticipated to be incurred by the Authority. All assessments shall be paid by Members within sixty (60) days of the approval of the assessment by the Board. Any Member or entity failing to timely pay an assessment shall lose its privilege to vote on any item presented to the Board, until such assessment is paid.

ARTICLE VII

Implementation of SGMA

Section 7.01 – Development of GSP. Unless otherwise provided under this section 7.01, the Authority shall develop the GSP for all areas within the jurisdictional boundary of the Members, as defined herein. Notwithstanding the foregoing, consistent with the provisions of SGMA pertaining to Management Areas, any Member or group of Members may propose its or their own chapter or provisions governing SGMA implementation within their respective boundaries or a Management Area managed in whole or in part by such Member(s) for inclusion by the Authority into the Authority's GSP. The Authority shall promptly review the proposed chapter or provisions for consistency with the Authority's GSP and to determine that it meets the requirements of SGMA. If the Authority determines by a vote of 75% of the Directors that a Member's proposed chapter or provisions is/are consistent with SGMA and the Authority's GSP, it shall incorporate such chapter or provisions into the Authority's GSP.

Section 7.02 – Implementation in Management Areas. Any Member (or group of Members) that has or have established a Management Area as part of the Authority's GSP may request to be assigned the primary responsibility of implementing SGMA and the Authority's GSP within its Management Area by giving written notice to the Authority, which notice may be given at any time. Upon receipt of such notice, the Authority and the requesting Member(s) shall develop a mutually acceptable agreement describing the respective roles and responsibilities of the Authority and the requesting General Member(s) with respect to such implementation.

ARTICLE VIII

MEMBERSHIP, TERM; WITHDRAWL; TERMINATION

Section 8.01. Other Members. The Board may vote to approve other entities to be a Member of the Authority with representatives serving as Director and alternate Director on the Board. The Board may vote to remove any Member as a member of the Authority.

Section 8.02. Term. The Members hereby agree to establish the Authority to last in perpetuity. This Agreement may be rescinded and the Authority terminated by unanimous written consent of all Members.

Section 8.03. Withdrawal of Member. A Member may terminate its membership in the Authority at any time upon giving written notice of the withdrawal to the Authority which shall be effective one hundred eighty (180) days after such notice. Any Member who withdraws shall remain obligated to pay its share of all debts, liabilities, and obligations incurred or accrued prior to the effective date of such withdrawal.

Section 8.04. Disposition of Assets. Upon termination of the Authority, any assets shall be returned to the Members in the same proportion said Members have funded such reserves or surplus, in accordance with California Government Code Section 6512.

Section 8.05 Effect of Withdrawal On SGMA Status. Upon withdrawal or termination as a Member, whether occurring before or after June 30, 2017, it is contemplated the withdrawing or terminated Member would concurrently become (or designate) a GSA for the lands within its boundaries (or a Management Area managed in whole or in part by such Member), so that such lands of the withdrawing or terminated Member would continue to be subject to a GSA and if applicable a GSP and the powers of such withdrawing Member within its boundaries would not be limited by this Agreement. In the event that a Member provides notice of withdrawal either prior to or within 30 days after adoption of a GSP by the Authority, the Authority (i) shall not object to or interfere with the lands in the withdrawing or terminated Member's boundaries (or a Management Area managed in whole or in part by such Member) being in a GSA, as designated by such withdrawing or terminated Member, (ii) shall facilitate such transition to the extent necessary, and (iii) the Authority shall withdraw from managing the Subbasin as a GSA for that portion of the Basin within the boundaries of the withdrawing or terminated Member and so notify the Department of Water Resources. The withdrawing or terminated Member will also be entitled to copies of all documents, information, and material developed by the Authority and paid for in whole or in part by the Member prior to the Member's withdrawal or termination.

ARTICLE IX

MISCELLANEOUS PROVISIONS

Section 9.01. Amendments. This Agreement may be amended by the Board at any time, or from time to time.

Section 9.02. Indemnification. The Authority shall indemnify, defend, and save harmless the Members, their officers, agents, and employees, and appointed members of the Board of

Directors, their officers, agents, and employees, and committee members, their officers, agents, and employees, from and against any and all claims and losses whatsoever, occurring or resulting to persons, firms, or corporations furnishing or supplying work, services, materials or supplies to the Authority in connection with the performance of this Agreement, and, except as expressly provided by law, from any and all claims and losses accruing or resulting to any persons, firm or corporation, for damage, injury, or death arising out of or connected with the Authority's performance of its obligations under this Agreement. Nothing herein shall limit the right of the Authority to purchase insurance or to create a self-insurance mechanism to provide coverage for the foregoing indemnity.

In this regard, the Members do not intend hereby to be obligated either jointly or severally for the debts, liabilities or obligations of the Authority, except as may be specifically provided for in California Government Code Section 895.2 as amended or supplemented. Provided, however, if any Member(s) of the Authority are, under such applicable law, held liable for the acts or omissions of the Authority caused by negligent or wrongful act or omission occurring in the performance of this Agreement, such parties shall be entitled to contribution from the other Members so that after said contributions each Member shall bear an equal share of such liability,. This Section 9.02 does not apply to acts or omissions of a Member in implementing the GSP adopted by the Authority within such Member's boundaries managed in whole or in part by such Member.

Section 9.03. Insurance. The Authority shall obtain insurance for all Members, appointed members, and committee members, including but not limited to directors and officers liability insurance and general liability insurance containing policy limits in such amounts as the Board of Directors shall determine will be necessary to adequately insure against the risks of liability that may be incurred by the Authority.

Section 9.04. Severability. If any provision of this Agreement is determined to be invalid or unenforceable, the remaining provisions will remain in force and unaffected to the fullest extent permitted by law and regulation.

Section 9.05. Counterparts. This Agreement may be executed in one or more counterparts and may include multiple signature pages, all of which shall be deemed to be one instrument.

IN WITNESS WHEREOF, the Members hereto execute this Agreement on the date first written above.

COUNTY OF TULARE By:	CITY OF PORTERVILLE By:
PORTERVILLE IRRIGATION DISTRICT By:	SAUCELITO IRRIGATION DISTRICT By:
TEAPOT DOME WATER DISTRICT By:	VANDALIA WATER DISTRICT By:
TERRA BELLA IRRIGATION DISTRICT By:	KERN-TULARE WATER DISTRICT By:

APPROVED AS TO FORM:
COUNTY COUNSEL
By _____ 20161606
Deputy

Appendix 2-B: Resolution No. 1-2017

EASTERN TULE GROUNDWATER SUSTAINABILITY AGENCY

RESOLUTION No. 01-2017

RESOLUTION OF THE EASTERN TULE GROUNDWATER SUSTAINABILITY AGENCY DECLARING ITS INTENTION TO BECOME A GROUNDWATER SUSTAINABILITY AGENCY PURSUANT TO THE SUSTAINABLE GROUNDWATER MANAGEMENT ACT FOR THE PORTIONS OF THE EASTERN TULE SUBBASIN WITHIN THE BOUNDARIES OF THE AGENCY

WHEREAS, on September 16, 2014, Governor Jerry Brown signed into law Senate Bills 1168 and 1319, and Assembly Bill 1739, known collectively as the Sustainable Groundwater Management Act ("SGMA"); and

WHEREAS, SGMA went into effect on January 1, 2015; and

WHEREAS, SGMA requires all high and medium priority groundwater basins, as designed by the California Department of Water Resources ("DWR") Bulletin 118, to be managed by Groundwater Sustainability Agencies ("GSA"); and

WHEREAS, Tule Subbasin has been designated by DWR as a high priority basin; and

WHEREAS, California Water Code Section 10723, subdivision (a), authorizes a "local agency" with water supply, water management or local land use responsibilities, or a combination of local agencies, overlying a groundwater basin to elect to become a GSA under SGMA; and

WHEREAS, the Eastern Tule Groundwater Sustainability Agency is a joint power authority, formed pursuant to the Joint Exercise of Powers Act (Gov. Code §§ 6500, *et seq.*) consisting of multiple "local agencies" and is therefore eligible to serve as a GSA within the Tule Subbasin; and

WHEREAS, California Water Code Section 10723.2 requires that a GSA consider the interests of all beneficial uses and users of groundwater, as well as those responsible for implementing Groundwater Sustainability Plans ("GSPs"); and

WHEREAS, California Water Code Section 10723.8 requires that a "local agency" or combination of "local agencies" electing to be a GSA notify DWR of its election and intention to undertake sustainable groundwater management within the basin; and

WHEREAS, the Eastern Tule Groundwater Sustainability Agency held a public hearing on February 23, 2017, after publication pursuant to California Government Code Section 6066, to consider the adoption of this Resolution and its election to be a GSA in the Tule Subbasin;

WHEREAS, at the public hearing, the Board of Directors considered oral and written comments to the extent provided by the public; and

WHEREAS, being in its best interests, the Eastern Tule Groundwater Sustainability Agency desires to exercise powers and authorities of a GSA granted by GSMA, as defined in the California Water Code.

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE EASTERN TULE GROUNDWATER SUSTAINABILITY AGENCY does hereby resolve, declare and order as follows:

1. The Eastern Tule Groundwater Sustainability Agency hereby elects to become a GSA and undertake sustainable groundwater management in the portion of the Tule Subbasin (Subbasin # 5-22.13 of the San Joaquin Valley Basin as defined by DWR Bulletin 118) underlying the Eastern Tule Groundwater Sustainability Agency's boundaries as identified on the map attached hereto as Exhibit A.

2. The Eastern Tule Groundwater Sustainability Agency shall develop an outreach program to include all stakeholders to ensure all beneficial uses and users of groundwater are considered.

3. The Eastern Tule Groundwater Sustainability Agency Board of Directors intends to negotiate a memorandum of understanding, participation agreement, and other necessary cooperative agreements or other forms of agreement with other agencies or entities utilizing groundwater in the Tule Subbasin, for the purpose of implementing a cooperative, coordinated structure for the management of the Tule Subbasin pursuant to SGMA.

4. Staff is directed to send to DWR within thirty (30) days of this Resolution the Eastern Tule Groundwater Sustainability Agency's notification of its election to be a GSA pursuant to Water Code Section 10723.8 and all necessary information including but not limited to: the boundaries of the Subbasin that the Eastern Tule Groundwater Sustainability Agency intends to manage, which shall include lands within the Eastern Tule Groundwater Sustainability Agency's boundaries as set forth in the map attached hereto as Exhibit "1", a copy of this Resolution, a list of the interested parties developed pursuant to Section 10723.2 of SGMA, and an explanation of how their interests will be considered in the development and operation of the GSA and the development and implementation of the GSA's GSP.

PASSED, APPROVED AND ADOPTED this 23rd day of February, 2017, by the following vote to wit:

DIRECTOR	AYE	NAY	ABSTAIN	ABSENT
A Monte Reyes	X			
Steven Kisley	X			
Mike Ennis	X			
Lorren Wheaton	X			
Dyson Schneider	X			
Curt Holmes	X			
Matthew Leider	X			
Eric Borba	X			

CERTIFICATE OF SECRETARY
OF
EASTERN TULE GROUNDWATER SUSTAINABILITY AGENCY,
a California joint powers agency

I, Michael K. Reed, do hereby certify that I am the duly authorized and appointed Secretary of the Eastern Tule Groundwater Sustainability Agency, a California joint powers agency (the "Agency"); that the following is a true and correct copy of the certain resolution duly and unanimously adopted and approved by the Board of Directors of the Agency on the 23rd day of February, 2017; and that said resolution has not been modified or rescinded and remains in full force and effect as the date hereof:

IN WHITNESS WHEREOF, I have executed this Certificate on this 23rd day of February, 2017.

Michael K. Reed, Secretary
Eastern Tule Groundwater Sustainability Agency

Appendix 2-C: Notice of the Eastern Tule Groundwater Sustainability Agency's Election to Become a Groundwater Sustainability Agency for a Portion of the Tule Subbasin

CITY OF PORTERVILLE
INCORPORATED MAY 7, 1902

Public Works Department

EASTERN TULE GROUNDWATER SUSTAINABLE AGENCY
291 N Main Street
Porterville, CA 93257-3737
(559) 782-7462

February 28, 2017

Mark Nordberg, GSA Project Manager
Senior Engineering Geologist
Department of Water Resources
901 P Street, Room 213A
Post Office Box 942836
Sacramento, CA 94236

Delivery via E-Mail and US Mail
(MarkNordberg@water.ca.gov)

RE: NOTICE OF THE EASTERN TULE GROUNDWATER SUSTAINABILITY AGENCY'S ELECTION TO BECOME A GROUNDWATER SUSTAINABILITY AGENCY FOR A PORTION OF THE TULE SUBBASIN

Dear Mr. Nordberg,

Pursuant to California Water Code Section 10723.8 of the Sustainability Groundwater Management Act ("SGMA"), the Eastern Tule Groundwater Sustainability Agency ("Agency") provides this notice to the Department of Water Resources ("DWR") of its election to become a Groundwater Sustainability Agency ("GSA") and to undertake sustainable groundwater management in the portion of the Tule Subbasin (DWR Bulletin 118 Subbasin 5-22.13) underlying the Agency's boundary as indicated on the map attached hereto as **Exhibit "A"**.

Joint Powers Authority Agreement

The Agency is a joint powers authority consisting of the following public agencies: County of Tulare, City of Porterville, Saucelito Irrigation District, Tea Pot Dome Water District, Vandalia Water District, Terra Bella Irrigation District, Kern-Tulare Water District, and Porterville Irrigation District. A true and correct copy of the Eastern Tule Groundwater Sustainability Agency Joint Power Agreement is attached hereto as **Exhibit "B"**.

Notice Within 30 Days of Election

On February 23, 2017, the Agency held a noticed public hearing in accordance with California Water Code Section 10723(b). Proof of publication in accordance with Government Code section 6066 is attached hereto as **Exhibit "C"**.

During the public hearing, the Agency's Board of Directors adopted Resolution No. 01-2017, attached hereto as **Exhibit "D"**, electing to become a GSA pursuant to SGMA for the portion of the Tule Subbasin within the boundaries of the Agency. No written comments were received prior or during the public hearing, however one oral communication is noted, Mr. Henry Owen of Ducor, California, expressed concerns regarding "White Area" farmers in Eastern Tule Subbasin only receiving one acre foot of surface water to irrigate, vs. the farmers on the west side of the San Joaquin Valley receiving one acre foot of surface water and one acre foot of well water. Mr. Owen feels that all should be treated equally.

Service Area Boundaries

Pursuant to Water Code Section 10723.8(a)(1), a copy of the Agency's service area boundaries, the boundaries of a portion of the basin the Agency intends to manage, and the other agencies managing or proposing to manage groundwater within the subbasin is attached hereto as Exhibit A.

List of Interested Parties

Pursuant to Water Code Section 10723.8(a)(4), the Agency has developed and will maintain a list of interested persons pursuant to Water Code Section 10723.2. The Agency shall consider the interests of all beneficial uses and users of groundwater and the development of a Groundwater Sustainability Plan ("GSP").

The Agency's joint powers agreement mandates a standing stakeholder committee to be formed within 120 days of the Agency's formation. The Stakeholder Committee shall be comprised of representatives falling within the categories of interested persons or representatives of interested entities as described in Water Code Section 10723.2. The Agency may at a future date form further committees should the need arise to ensure representation of all interests of beneficial users and users of groundwater.

The following list identifies interested parties pursuant to Water Code Section 10723.2 and how their interests will be considered as described above:

a. Holders of overlying groundwater rights including:
    1. Agricultural users – Approximately half of the Agency's area is composed of agricultural users. Representatives of the agricultural community are currently involved in Agency committees and subcommittees. Agricultural users are also represented on the

Board of Directors through several of the member agencies. In addition, additional agricultural users could seek representation through various committees.

2. Domestic well owners – Domestic well owners are represented on the Board of Directors through the County of Tulare. In addition, domestic well owners could seek representation through Stakeholder Committee.

b. Municipal well operators – City of Porterville is an incorporated municipal well operator and exists within the Agency's boundaries, and are represented on the Board of Directors.

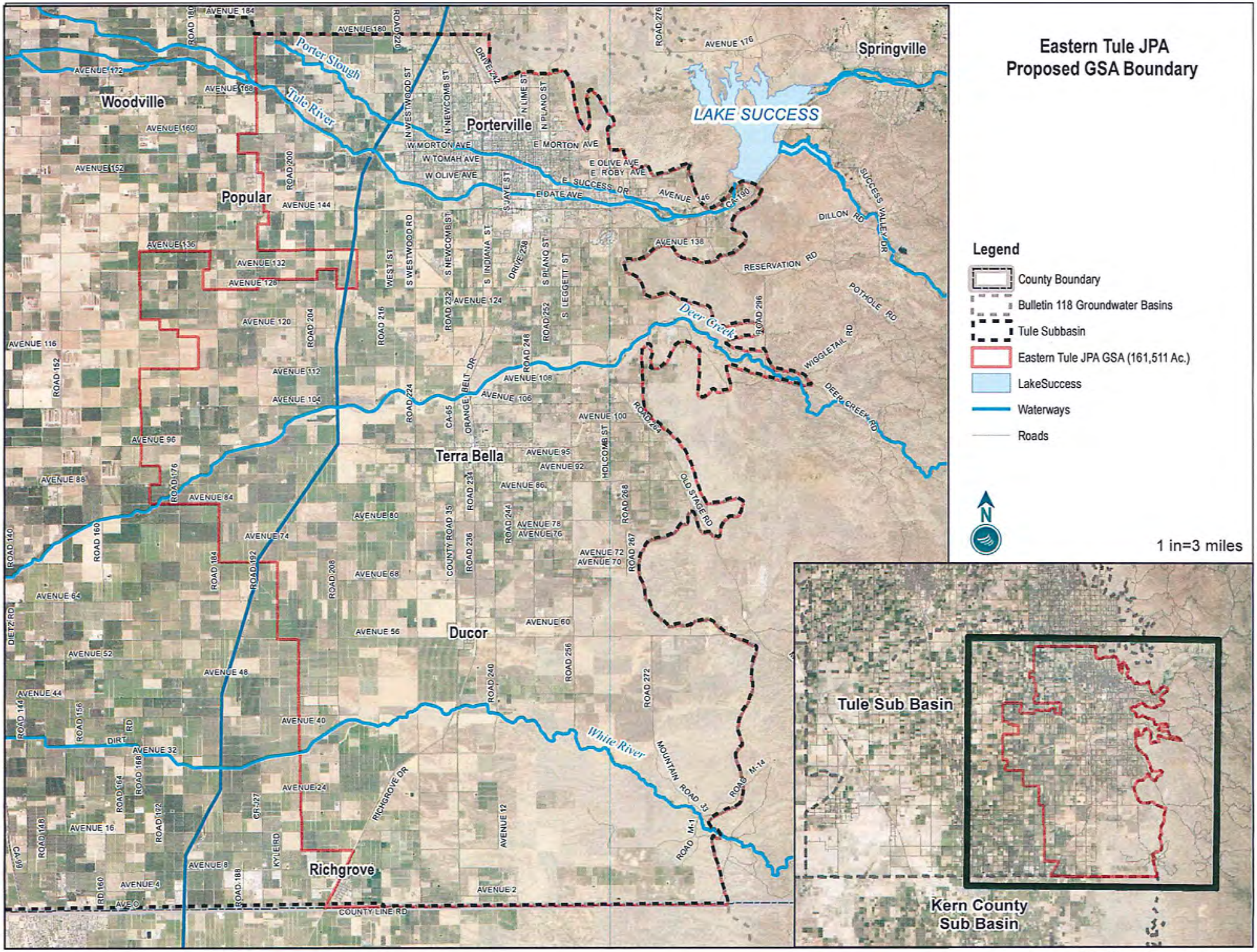
c. Public Water Systems – Public water system operators within the Agency not included in the municipal well operator category above include the Del Oro Water Company, California Water Services Company, Ducor Community Service District, and Richgrove Community Service District and could seek representation through the Stakeholder Committee.

d. Local land use planning agencies – Local land use planning agencies, including counties and city, are represented on the Board of Directors and also could seek representation on the Stakeholder Committee.

e. Environmental users of groundwater – At this time, the Agency is not aware of any environmental users of groundwater within the Agency's boundaries. Nonetheless, environmental groups could seek representation on the Stakeholder Committee. The Agency will continue to consider and evaluate whether such use does exist.

f. Surface water users, if there is a hydrologic connection between surface and groundwater bodies – It is unknown at this time if such users exist in the Tule Subbasin. The Agency will consider and evaluate whether such users do exist. If it is determined such use exists within the boundaries of the Agency, such users could seek representation on the Stakeholder Committee.

g. The Federal Government, including, but not limited to, the military and managers of federal lands – The Agency has attempted to determine what, if any, federal lands and/or federal areas are in need of representation in the Tule Subbasin. At this time, it does not appear such need exists. However, the Agency will continue to consider and evaluate whether such representation is needed. If so, representation could be included in the Stakeholder Committee.


Eastern Tule JPA
Proposed GSA Boundary
Legend
County Boundary
Bulletin 118 Groundwater Basins
Tule Subbasin
Eastern Tule JPA GSA (161,511 Ac.)
LakeSuccess
Waterways
Roads
N
1 in=3 miles
Tule Sub Basin
Kern County
Sub Basin
Springville
Woodville
Porterville
Popular
Terra Bella
Ducor
Richgrove
LAKE SUCCESS
Porter Slough
Tule River
Deer Creek
White River
AVENUE 184
AVENUE 180
AVENUE 176
AVENUE 172
AVENUE 168
AVENUE 160
AVENUE 152
AVENUE 144
AVENUE 136
AVENUE 132
AVENUE 128
AVENUE 124
AVENUE 120
AVENUE 116
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AVENUE 44
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AVENUE 32
AVENUE 24
AVENUE 16
AVENUE 12
AVENUE 8
AVENUE 4
AVENUE 2
AVE C
ROAD 180
ROAD 200
ROAD 204
ROAD 216
ROAD 220
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W MORTON AVE
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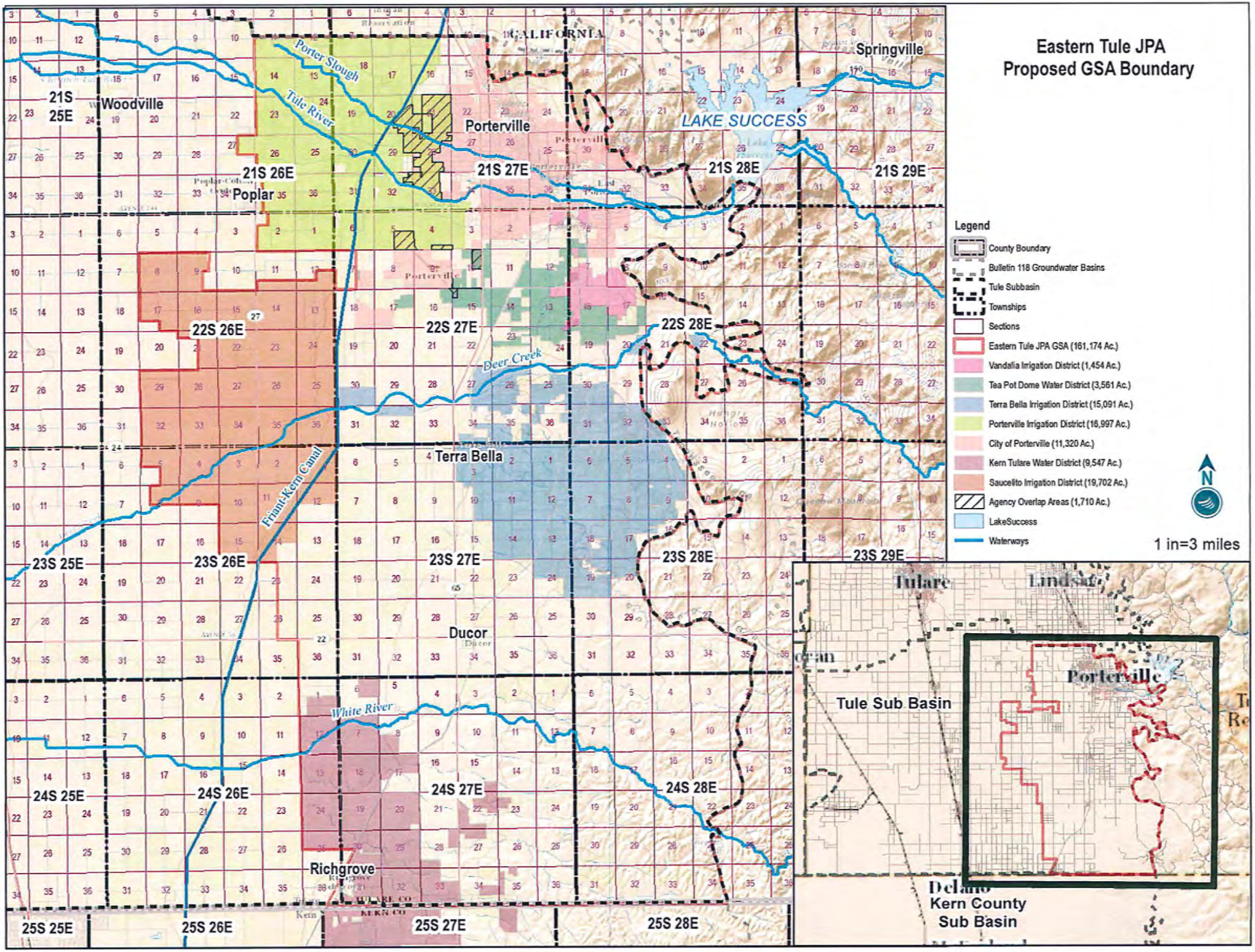
W OLIVE AVE
E MORTON AVE
E OLIVE AVE
E ROBY AVE
E SUCCESS DR
E DATE AVE
N WESTWOOD ST
N NEWCOMB ST
N LIME ST
N PLANO ST
S WESTWOOD RD
S NEWCOMB ST
S INDIANA ST
S PLANO ST
S LEGGETT ST
WEST ST
HOLCOMB ST
ORANGE BELT DR
COUNTY ROAD 35
CA-65
CA-190
SUCCESS VALLEY DR
DILLON RD
RESERVATION RD
POTHOLE RD
WIGGLETAIL RD
DEER CREEK RD
OLD STAGE RD
MOUNTAIN ROAD 33
ROAD M-14
ROAD M-1
RICHGROVE DR
KYLE RD
CR-27
DIRT RD
DIETZ RD
COUNTY LINE RD
CA-99

Exhibit "A"


Eastern Tule JPA
Proposed GSA Boundary
Legend
County Boundary
Bulletin 118 Groundwater Basins
Tule Subbasin
Townships
Sections
Eastern Tule JPA GSA (161,174 Ac.)
Vandalia Irrigation District (1,454 Ac.)
Tea Pot Dome Water District (3,561 Ac.)
Terra Bella Irrigation District (15,091 Ac.)
Porterville Irrigation District (16,997 Ac.)
City of Porterville (11,320 Ac.)
Kern Tulare Water District (9,547 Ac.)
Saucelito Irrigation District (19,702 Ac.)
Agency Overlap Areas (1,710 Ac.)
LakeSuccess
Waterways
1 in=3 miles
N
Woodville
Porterville
Springville
Poplar
Terra Bella
Ducor
Richgrove
LAKE SUCCESS
Porter Slough
Tule River
Deer Creek
Friant-Kern Canal
White River
21S 25E
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24S 25E
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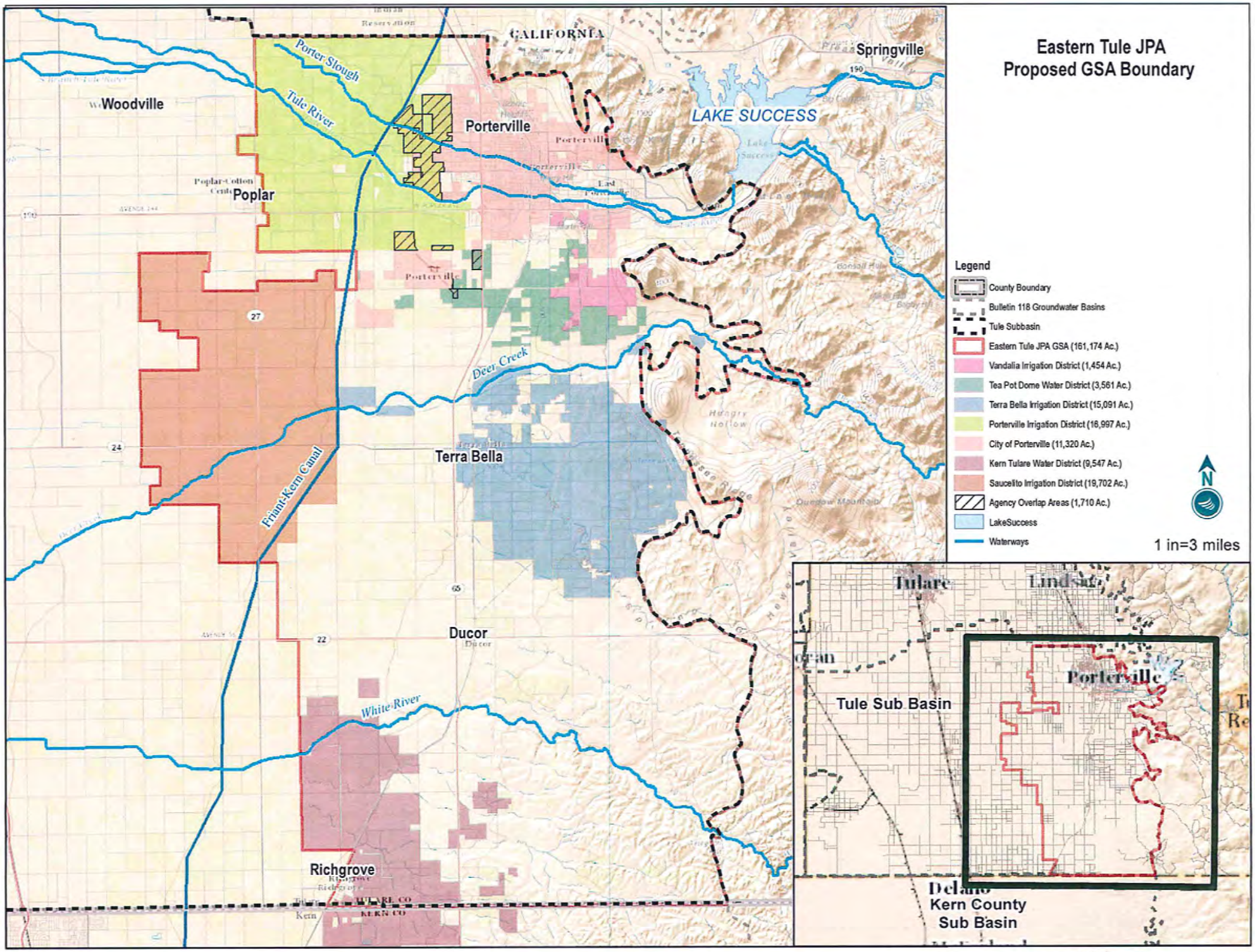
24S 28E
25S 25E
25S 26E
25S 27E
25S 28E
Tulare
Lindsay
Tule Sub Basin
Porterville
Delano
Kern County
Sub Basin

Exhibit "A"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CALIFORNIA
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Tule River
Deer Creek
Terra Bella
Friant-Kern Canal
Ducor
White River
Richgrove
Tulare
Tule Sub Basin
Kern County
Sub Basin

Exhibit "A"

h. California Native American Tribes – The Agency has not identified at this time any Native American Tribes located within the boundaries of the Agency. However, a representative from local tribe(s) could seek representation as an interested party on the Stakeholder Committee of the Agency or through public participation.

i. Disadvantaged communities, including, but not limited to, those served by private domestic wells or small community water systems –The small DACs include the communities of Terra Bella, Ducor, Richgrove and East Porterville. Disadvantaged communities are represented on the Board of Directors and could seek representation on the Stakeholder Committee.

j. Entities listed in Water Code section 10927 that are monitoring and reporting groundwater elevations in all or part of the groundwater basin managed by the groundwater sustainability agency – The Agency has not identified any entities listed in Water Code section 10927. The Agency will continue to evaluate and consider any potential entities which might fall within Section 10927.

The Agency intends to work cooperatively with stakeholders to develop and implement a GSP by collaborating with other qualified GSA's in the Tule Subbasin. The Agency shall maintain a list of interested parties to be included in the formation of a GSP. Interested parties will have opportunities, both formal and informal, to provide input to the Agency throughout the process of developing, operating, and implementing the GSA and GSP. Such opportunities may include, but are not limited to, public comment during the Agency's regular and special meetings and committee meetings, and at other times to be determined and noticed pursuant to Water Code section 10727.8(a).

By this notification, the Agency has provided DWR with all applicable information in the California Water Code section 10723.8(a). Should DWR have any questions or require any further information regarding this notice of intent, please contact Secretary Michael Reed at (559) 782-7462, or mreed@ci.porterville.ca.us.

Sincerely,

Exhibits:
Exhibit "A": GSA Map
Exhibit "B": Joint Powers Agreement
Exhibit "C": Notice of Public Hearing
Exhibit "D": Resolution #01-2017

BEFORE THE BOARD OF SUPERVISORS
COUNTY OF TULARE, STATE OF CALIFORNIA

IN THE MATTER OF EAST TULE SUSTAINABLE GROUNDWATER MANAGEMENT ACT JOINT POWERS AGREEMENT	))))	Resolution No. 2016-0939 Agreement No. 27912

UPON MOTION OF SUPERVISOR WORTHLEY, SECONDED BY SUPERVISOR COX, THE FOLLOWING WAS ADOPTED BY THE BOARD OF SUPERVISORS, AT AN OFFICIAL MEETING HELD DECEMBER 6, 2016, BY THE FOLLOWING VOTE:

AYES: SUPERVISORS ISHIDA, VANDER POEL, COX, WORTHLEY AND ENNIS
NOES: NONE
ABSTAIN: NONE
ABSENT: NONE

ATTEST: MICHAEL C. SPATA
COUNTY ADMINISTRATIVE OFFICER/
CLERK, BOARD OF SUPERVISORS

BY: Denise A. Ybarra
Deputy Clerk

* *

1. Approved a Joint Powers Agreement with the City of Porterville, Porterville Irrigation District, Saucelito Irrigation District, Teapot Dome Water District, Vandalia Water District, Terra Bella Irrigation District, and Kern-Tulare Water District to form the East Tule Groundwater Sustainability Agency; and

2. Authorized the Chairman to execute the agreement; and

3. Appointed Supervisor Ennis as Director and appointed Supervisor Vander Poel as Alternate Director to the JPA Board.

CAO
Co. Counsel
Auditor

DAY
12/7/16

AGREEMENT TO FORM A JOINT POWERS AUTHORITY

EASTERN TULE GROUNDWATER SUSTAINABILITY AGENCY

THIS AGREEMENT ("Agreement") is made December 6, 2016, by and between COUNTY OF TULARE ("County"), CITY OF PORTERVILLE, PORTERVILLE IRRIGATION DISTRICT, SAUCELITO IRRIGATION DISTRICT, TEAPOT DOME WATER DISTRICT, VANDALIA WATER DISTRICT, TERRA BELLA IRRIGATION DISTRICT, and KERN-TULARE WATER DISTRICT (hereinafter referred to individually as "Member" and collectively as "Members"), in light of the following:

RECITALS

A. During September 2014, Governor Brown signed three bills (SB 1168, SB 1319, and AB 1739) into law creating the Sustainable Groundwater Management Act ("SGMA").

B. SGMA authorizes the formation of an entity called a Groundwater Sustainability Agency ("GSA"), one or more of which are authorized to be responsible for implementing provisions of SGMA as to each groundwater basin and subbasin falling within the provisions of SGMA.

C. The Members overlie the Tule Subbasin (5-22.13 of the Department of Water Resources Bulletin 118 classifications) ("Subbasin") of the San Joaquin Valley Basin, an unadjudicated groundwater basin, portions of which underlie the jurisdictional boundaries of each Member.

D. Each of the Members to this Agreement is a local government entity with either water supply, water management, or land use responsibilities within the Subbasin and is qualified individually to serve as a GSA under the provisions of SGMA.

E. Under SGMA, a combination of local agencies may elect to form a GSA through a joint powers agreement.

F. The Members intend by this Agreement to create a joint powers authority that will elect to become a GSA for their jurisdictional areas covering a portion of the Subbasin.

G. Under SGMA, each GSA will be responsible for assuming its regulatory role by June 30, 2017, and for submitting a Groundwater Sustainability Plan ("GSP") to the Department of Water Resources by January 31, 2020.

H. The Members intend to work cooperatively with other GSAs in the Subbasin for purposes of developing a GSP and entering into a Coordination Agreement if necessary.

I. The Members desire, once successfully electing to be a GSA, to begin collecting and organizing data, engaging and retaining experts and consultants, and soliciting feedback from

beneficial users and users of groundwater and interested persons within the portion of the Subbasin subject to their jurisdiction, for the purpose of preparing a GSP and for the purpose of negotiating Coordination Agreements with the other GSAs in the Subbasin.

J. The Members intend by this Agreement to provide for the management and funding commitments reasonably anticipated to be necessary for the above purposes.

K. The Members intend by this Agreement to provide a framework for cooperative efforts for all entities and individuals within the Authority's jurisdictional area and to implement SGMA in the most effective, efficient, and fair way reasonably possible, and at the lowest reasonable cost.

L. The jurisdictional area of this Authority is intended to generally consist of all areas within the jurisdictional boundaries of the Members and will specifically be determined at the time a notice of intent to act as a GSA is filed with the Department of Water Resources. For the purposes of this Agreement only, the jurisdictional boundary of the County of Tulare will be defined to not include any areas that are within the jurisdictional boundaries of any other Member.

NOW THEREFORE, in consideration of the promises, terms, conditions, and covenants contained herein, the Members hereby agree as follows:

ARTICLE I

GENERAL PROVISIONS

Section 1.01. Creation of Authority. Pursuant to California Government Code Section 6500 *et seq.*, there is hereby created a public entity to be known as the "Eastern Tule Groundwater Sustainability Agency" (hereinafter referred to as the "Authority"), which shall be a public entity separate and apart from the Members, and shall administer this Agreement.

Section 1.02. Purpose. The purposes of this Agreement are:

(a) To create a Joint Powers Authority separate from its Members that will elect to be the GSA for a portion of the Subbasin and, subject to the limitations of this agreement, carry out the provisions of SGMA within the jurisdictional area of the GSA;

(b) To develop, adopt, and implement a legally sufficient GSP covering those portions of the Subbasin that are within the jurisdictional boundaries of the GSA, subject to the limitations set forth herein, in order to implement SGMA's requirements and achieve sustainability goals outlined in SGMA; and

(c) To enter into a Coordination Agreement or similar agreement with other GSAs in order to meet the sustainability requirements outlined in SGMA.

ARTICLE II

POWERS

(a) Section 2.01. Powers. The Authority is hereby authorized, in its own name, to do all acts necessary for the exercise of all powers authorized under SGMA and necessary to satisfy the requirements of SGMA, including but not limited to developing, adopting and implementing a GSP, subject to the right of Members to withdraw from the authority and seek to become GSAs as specified in Section 8.05. The Authority shall have the power to sue and be sued.

Section 2.02. Restrictions on the Exercise of Powers. Pursuant to Government Code Section 6509 *et seq.*, the powers of the Authority shall be exercised and restricted in the same manner as those imposed upon the Kern Tulare Water District. The Authority shall not have the power of eminent domain. Nothing in this Agreement shall modify or limit the police powers of Members, if any.

Section 2.03. Obligations of the Authority. No debt, liability or obligation of the Authority shall constitute a debt, liability or obligation of any of the Members, appointed members of the Board of Directors, or committee members.

Section 2.04. Water Right. The Authority shall not have the power to control, limit or empower a Member's rights and authorities over its own surface water supplies, facilities, operations, water management, water supply projects and financial affairs ("Water Supply Matters"). As provided in Water Code Section 10720.5 of SGMA, the Authority and all of its Members confirm that groundwater management under this Authority shall not modify rights or priorities to use or store groundwater consistent with Section 2 of Article X of the California Constitution and that any groundwater management plan adopted by the Authority shall not determine or alter surface water rights or groundwater rights under common law or any provision of law that determines or grants surface water rights.

ARTICLE III

GOVERNING BODY

Section 3.01. Governing Board. The Authority shall be administered by a Board of Directors ("Board"), composed of Directors and alternate Directors as described herein, to serve at the pleasure of their appointive governing body. All voting power of the Authority shall reside in the Board.

(a) The Board shall consist of Directors who shall be appointed as follows:

(1) One elected member of the governing body of each Member entity.

(2) One representative from a landowner and groundwater user in a "white area" (hereinafter referred to as "White Area Representative"), appointed by the County of Tulare Board of Supervisors. A "white area" is defined as such area where the County of Tulare is the only public agency with jurisdiction as defined by SGMA

.

(b) Each Member shall appoint one person, who is either an elected member of the governing body of the Member entity or on the staff of such Member entity, to serve as an alternate Director of the Board in the same manner as the Director is appointed by the Member. Any such alternates shall be empowered to cast votes in the absence of the regular Directors or, in the event of a conflict of interest preventing the regular Director from voting, to vote because of such conflict of interest.

(c) Directors and alternate Directors may be removed or replaced as follows:

(1) Members may be removed or replaced at any time by their governing board; and

(2) A Director who is no longer either an elected member of the governing body of the entity or on the staff of such entity that qualified such director to serve on the Board shall be deemed automatically removed from the Board.

Section 3.02. Meetings of the Board. The Board shall provide for calling and conducting its regular meetings and special meetings, in accordance with Government Code Section 54950 *et seq.*

Section 3.03. Minutes. The Secretary shall cause to be kept summary minutes of the meetings of the Board and shall, as soon as possible after each meeting, cause a copy of the summary minutes to be forwarded to each Director and to each of the Members.

Section 3.04. Voting. Each Director shall have one vote.

Section 3.05. Quorum; Required Votes; Approval. A quorum of the Board for convening of any meeting shall consist of a majority of all Directors, or in the absence of a Director, such Director's designated alternate. A quorum of the Board must be present at the time of any vote on any matter before the Board. An affirmative vote of at least a majority of all Directors, or designated alternate Director, present in a quorum of the Board, shall be required for any action of the Board. Notwithstanding the foregoing, approval of certain types of matters shall require the approval of two-thirds of the Directors of the Board. The items requiring approval of two-thirds of the Directors of the Board are: agenda items to approve or revise budgets, assessments, litigation, the hiring or termination of the chief executive officer, the adoption of bylaws, adoption of the GSP, the addition of new Members, the termination of Members, and amendments of this Agreement. Directors representing a Member who is delinquent in any past or present monetary contributions shall abstain from voting on all matters.

Section 3.06. Bylaws. The Board may adopt bylaws and governing regulations consistent with this Agreement, which may be amended from time to time, for the conduct of its meetings as are necessary for the purposes hereof.

ARTICLE IV

COMMITTEES

Section 4.01. Committee Formation. Committees shall be formed by the Board in order to advise the Board on matters that fall within the scope of the particular committee's assignment. Committees may be standing committees or *ad hoc* committees. The Board shall appoint one Director or alternate Director to be a member of and the Chair of each committee. Committees shall meet as often as directed by the Board or, if no such direction is given, as often as necessary, as determined by the Chair of the committee. Two standing committees shall be formed as soon as reasonably practical, but in no event later than one hundred and twenty (120) days of formation of the Authority. They are as follows:

(a) Stakeholder Committee. Committee members shall fall within categories of interested persons or representatives of interested entities as described in SGMA. Committee members shall be appointed by the Board from among applicants.

(b) Executive Committee. Each Director shall be entitled to appoint one staff member of the Member agency to be a member of the Executive Committee.

ARTICLE V

OFFICERS AND EMPLOYEES

Section 5.01. Chair and Vice-Chair. Each year the Board shall elect a Chair and a Vice-Chair from among the Directors. The Chair and the Vice-Chair shall serve at the pleasure of the Board and shall perform the duties normally required of said offices.

(a) The Chair shall (1) preside at and conduct each meeting of the Board, (2) represent the Board as directed by the Board, (3) be an ex-officio member of each committee established by the Board, and (4) perform such other duties as may be imposed by said Board;
(b) The Vice-Chair shall act and perform all of the Chair's duties in the absence of the Chair; and
(c) The Chair or Vice-Chair shall sign all contracts and agreements as approved by the Board.

Section 5.02. Secretary. The Board shall appoint a Secretary from among the employees of the Authority, or if no such employees exist, a consultant. The Secretary shall serve at the

pleasure of the Board. The Secretary shall act on behalf of the Authority and perform such other duties as may be imposed by the Board. The Secretary shall sign agreements for the Authority when authorized by the Board.

Section 5.03. Treasurer and Auditor.

(a) The County Treasurer shall be the depositary, shall have custody of all the money of the Authority from whatever source, and shall have the duties and obligations of the Treasurer as set forth in Government Code Sections 6505 and 6505.5. The County Treasurer shall be responsible for receiving quarterly reports from the Secretary and verifying the balance of this report with respect to the balance as maintained by the records of the County Auditor.

(b) The County Auditor shall assure strict accountability of all receipts and disbursements of the Authority and shall make arrangements with a certified public accountant or firm of certified public accountants for the annual audit of accounts and records of the Authority.

Section 5.03. Officers in Charge of Records; Funds; and Accounts. Pursuant to Government Code Section 6505.1, the County Treasurer shall have charge of, handle and have access to all accounts, funds and money of the Authority and all records of the Authority relating thereto; and the Secretary shall have charge of, handle and have access to all other records of the Authority.

Section 5.04. Employees and Consultants. The Board may hire employees and consultants, including engineers, accountants and attorneys, to provide services to the Authority to accomplish the purposes of the Authority.

ARTICLE VI

ACCOUNTS AND REPORTS; FUNDS

Section 6.01. Accounts and Reports. The County Auditor shall establish and maintain such funds and accounts as may be required by good accounting practice. The books and records of the Authority shall be open to inspection at all reasonable times by the public and representatives of the Members. The County Auditor, within 120 days after the close of each Fiscal Year, shall give a complete written report of all financial activities for such Fiscal Year to the Members.

Section 6.02. Annual Budget. The Board shall adopt a budget for the Authority. Members shall make contributions as set forth in the budgets adopted by the Board. A Director's affirmative vote to approve a budget does not constitute consent to finance or otherwise participate in any project or projects within that budget.

Section 6.03. Intention for Reimbursement for Expenditures from Grant Proceeds. It is the intention of the Members that the advancement of monies by any Members for expenses of the

operational needs of the Authority shall be reimbursed from the proceeds of grants, if grant funds are obtained and such reimbursement is allowable under the terms of any grant agreement.

Section 6.04. Assessment of Members. The Board may vote to assess Members for a share of costs incurred by the Authority or which are anticipated to be incurred by the Authority. All assessments shall be paid by Members within sixty (60) days of the approval of the assessment by the Board. Any Member or entity failing to timely pay an assessment shall lose its privilege to vote on any item presented to the Board, until such assessment is paid.

ARTICLE VII

Implementation of SGMA

Section 7.01 – Development of GSP. Unless otherwise provided under this section 7.01, the Authority shall develop the GSP for all areas within the jurisdictional boundary of the Members, as defined herein. Notwithstanding the foregoing, consistent with the provisions of SGMA pertaining to Management Areas, any Member or group of Members may propose its or their own chapter or provisions governing SGMA implementation within their respective boundaries or a Management Area managed in whole or in part by such Member(s) for inclusion by the Authority into the Authority's GSP. The Authority shall promptly review the proposed chapter or provisions for consistency with the Authority's GSP and to determine that it meets the requirements of SGMA. If the Authority determines by a vote of 75% of the Directors that a Member's proposed chapter or provisions is/are consistent with SGMA and the Authority's GSP, it shall incorporate such chapter or provisions into the Authority's GSP.

Section 7.02 – Implementation in Management Areas. Any Member (or group of Members) that has or have established a Management Area as part of the Authority's GSP may request to be assigned the primary responsibility of implementing SGMA and the Authority's GSP within its Management Area by giving written notice to the Authority, which notice may be given at any time. Upon receipt of such notice, the Authority and the requesting Member(s) shall develop a mutually acceptable agreement describing the respective roles and responsibilities of the Authority and the requesting General Member(s) with respect to such implementation.

ARTICLE VIII

MEMBERSHIP, TERM; WITHDRAWL; TERMINATION

Section 8.01. Other Members. The Board may vote to approve other entities to be a Member of the Authority with representatives serving as Director and alternate Director on the Board. The Board may vote to remove any Member as a member of the Authority.

Section 8.02. Term. The Members hereby agree to establish the Authority to last in perpetuity. This Agreement may be rescinded and the Authority terminated by unanimous written consent of all Members.

Section 8.03. Withdrawal of Member. A Member may terminate its membership in the Authority at any time upon giving written notice of the withdrawal to the Authority which shall be effective one hundred eighty (180) days after such notice. Any Member who withdraws shall remain obligated to pay its share of all debts, liabilities, and obligations incurred or accrued prior to the effective date of such withdrawal.

Section 8.04. Disposition of Assets. Upon termination of the Authority, any assets shall be returned to the Members in the same proportion said Members have funded such reserves or surplus, in accordance with California Government Code Section 6512.

Section 8.05 Effect of Withdrawal On SGMA Status. Upon withdrawal or termination as a Member, whether occurring before or after June 30, 2017, it is contemplated the withdrawing or terminated Member would concurrently become (or designate) a GSA for the lands within its boundaries (or a Management Area managed in whole or in part by such Member), so that such lands of the withdrawing or terminated Member would continue to be subject to a GSA and if applicable a GSP and the powers of such withdrawing Member within its boundaries would not be limited by this Agreement. In the event that a Member provides notice of withdrawal either prior to or within 30 days after adoption of a GSP by the Authority, the Authority (i) shall not object to or interfere with the lands in the withdrawing or terminated Member's boundaries (or a Management Area managed in whole or in part by such Member) being in a GSA, as designated by such withdrawing or terminated Member, (ii) shall facilitate such transition to the extent necessary, and (iii) the Authority shall withdraw from managing the Subbasin as a GSA for that portion of the Basin within the boundaries of the withdrawing or terminated Member and so notify the Department of Water Resources. The withdrawing or terminated Member will also be entitled to copies of all documents, information, and material developed by the Authority and paid for in whole or in part by the Member prior to the Member's withdrawal or termination.

ARTICLE IX

MISCELLANEOUS PROVISIONS

Section 9.01. Amendments. This Agreement may be amended by the Board at any time, or from time to time.

Section 9.02. Indemnification. The Authority shall indemnify, defend, and save harmless the Members, their officers, agents, and employees, and appointed members of the Board of

Directors, their officers, agents, and employees, and committee members, their officers, agents, and employees, from and against any and all claims and losses whatsoever, occurring or resulting to persons, firms, or corporations furnishing or supplying work, services, materials or supplies to the Authority in connection with the performance of this Agreement, and, except as expressly provided by law, from any and all claims and losses accruing or resulting to any persons, firm or corporation, for damage, injury, or death arising out of or connected with the Authority's performance of its obligations under this Agreement. Nothing herein shall limit the right of the Authority to purchase insurance or to create a self-insurance mechanism to provide coverage for the foregoing indemnity.

In this regard, the Members do not intend hereby to be obligated either jointly or severally for the debts, liabilities or obligations of the Authority, except as may be specifically provided for in California Government Code Section 895.2 as amended or supplemented. Provided, however, if any Member(s) of the Authority are, under such applicable law, held liable for the acts or omissions of the Authority caused by negligent or wrongful act or omission occurring in the performance of this Agreement, such parties shall be entitled to contribution from the other Members so that after said contributions each Member shall bear an equal share of such liability,. This Section 9.02 does not apply to acts or omissions of a Member in implementing the GSP adopted by the Authority within such Member's boundaries managed in whole or in part by such Member.

Section 9.03. Insurance. The Authority shall obtain insurance for all Members, appointed members, and committee members, including but not limited to directors and officers liability insurance and general liability insurance containing policy limits in such amounts as the Board of Directors shall determine will be necessary to adequately insure against the risks of liability that may be incurred by the Authority.

Section 9.04. Severability. If any provision of this Agreement is determined to be invalid or unenforceable, the remaining provisions will remain in force and unaffected to the fullest extent permitted by law and regulation.

Section 9.05. Counterparts. This Agreement may be executed in one or more counterparts and may include multiple signature pages, all of which shall be deemed to be one instrument.

IN WITNESS WHEREOF, the Members hereto execute this Agreement on the date first written above.

COUNTY OF TULARE By:	CITY OF PORTERVILLE By:
PORTERVILLE IRRIGATION DISTRICT By:	SAUCELITO IRRIGATION DISTRICT By:
TEAPOT DOME WATER DISTRICT By:	VANDALIA WATER DISTRICT By:
TERRA BELLA IRRIGATION DISTRICT By:	KERN-TULARE WATER DISTRICT By:

APPROVED AS TO FORM:
COUNTY COUNSEL
By _____ 20161606
Deputy

KERN-TULARE WATER DISTRICT

RESOLUTION NO. 2016-18

A RESOLUTION OF THE BOARD OF DIRECTORS OF KERN-TULARE WATER DISTRICT AUTHORIZING EXECUTING AN AGREEMENT TO FORM A JOINT POWERS AUTHOIRITY EASTERN TULE GROUNWATER SUSTAINABLITY AGENCY

WHEREAS, the Sustainable Groundwater Management Act of 2015 ("SGMA") was signed in to law on September 16, 2014; and

WHEREAS, SGMA requires that each California groundwater basin or subbasin be managed by a Groundwater Sustainability Agency (GSA), or multiple GSAs, and that such management be implemented pursuant to an approved Groundwater Sustainability Plan (GSP) or multiple GSPs; and

WHEREAS, the Department of Water Resources defines California groundwater basins and subbasins in Bulletin 118-80 updated in 2003; and

WHEREAS, Kern-Tulare Water District (District) overlies two subbasins within the Tulare Lake Hydrologic Region San Joaquin Valley Groundwater Basin known as the Kern County Subbasin (Basin No. 5-22.14) and the Tule Subbasin (Basin No. 5-22.13), both unadjudicated groundwater basins; and

WHEREAS, the District desires to have all District lands in Tulare County which are in the Tule Subbasin coordinate with other parties of the Tule Subbasin; and

WHEREAS, the District wishes to work with neighboring parties to provide a framework for cooperative efforts relative to formation of an Eastern Tule GSA under the act; and

WHEREAS, the Eastern Tule GSA has an agreement titled "Agreement to Form a Joint Powers Authority Eastern Tule Groundwater Sustainability Agency"; and

WHEREAS, it is in the best interest of the District and its landowners to enter into the agreement.

NOW, THEREFORE, BE IT RESOLVED, by the Board of Directors of **Kern-Tulare Water District** as follows:

1. Each of the matters set forth above is true and correct and the Board so finds and determines.

2. The Agreement is hereby adopted and the District's General Manager is authorized to sign a signatory page which will accompany the Agreement and

indicate adoption of the Agreement by this District.

PASSED, APPROVED AND ADOPTED by the Board of Directors of Kern-Tulare Water District this 10th day of November, 2016.

AYES:	Kent H. Stephens Andrew Pandol Bruce Kelsey
NOES:	None
ABSENT:	John Zaninovich Curt Holmes
ABSTAIN:	None

CERTIFICATE OF RESOLUTION

We, the undersigned, hereby certify as follows:

1. That we are the President and Assistant Secretary of the KERN-TULARE WATER DISTRICT; and

2. That the foregoing resolution, consisting of 3 pages, including this page, is a true and correct copy of a resolution of the Board of Directors of the Kern-Tulare Water District passed at the meeting of the Board of Directors held on November 10, 2016, at the conference room of Pandol and Sons, Inc., 401 Road 192, Delano California.

IN WITNESS WHEREOF, we have signed this certificate this 10th day of November, 2016, at Delano, California.

Kent H. Stephens
President of the Board of Directors

Steven C. Dalke
Assistant Secretary

In the Superior Court of the State of California
In and for the County of Tulare

Public Notices

PUBLIC NOTICE

EASTERN TULE GROUNDWATER SUSTAINABILITY AGENCY JOINT POWERS AUTHORITY

Notice of Public Hearing Election to Become a Groundwater Sustainability Agency Under the Sustainable Groundwater Management Act.

NOTICE IS HEREBY GIVEN that, pursuant to Water Code Section 10723, the Eastern Tule Groundwater Sustainability Agency Joint Powers Authority (Authority) will hold a public hearing during a special meeting on February 23, commencing at 2:00 PM at the City of Porterville City Hall, 291 N. Main Street, Porterville, California 93257, to determine whether the Authority will become a Groundwater Sustainability Agency for a portion of the Tule Subbasin of the San Joaquin Valley Groundwater Basin.

Written comments may be submitted to the Authority, Attn: Michael Reed, Secretary, no later than 5:00 PM on February 22, 2017, to 291 N. Main Street, Porterville, California 93257.

During the hearing, the Authority will allow oral comments and will receive additional written comments before making a decision. The Chairman may limit oral comments to a reasonable length. Dated: January 26, 2017, Michael Reed, Secretary.

00069782
Feb. 9, 16

State of California
County of Tulare } SS.

Declarant says:

That at all times herein mentioned Declarant is and was a resident of said County of Tulare, over the age of twenty-one years; not a party to nor interested in the within matter; that Declarant is now and was at all times herein mentioned the Principal Clerk of the Porterville Recorder, a daily newspaper, which said newspaper was adjudged a newspaper of general circulation on October 15, 1951, by Superior Court Order No. 42369 as entered in Book 57 Page 384 of said Court; and that said newspaper is printed and published every day except Sunday published LEGAL NOTICE OF PUBLIC NOTICE in said newspaper FEB. 9, 16, 2017 and that such publication was made in the regular issues of said paper (and not in any supplemental edition or extra there of). I declare under penalty of perjury that the forgoing is true and correct. Executed FEB. 16, 2017 at Porterville, California.

Declarant

EASTERN TULE GROUNDWATER SUSTAINABILITY AGENCY

RESOLUTION No. 01-2017

RESOLUTION OF THE EASTERN TULE GROUNDWATER SUSTAINABILITY AGENCY DECLARING ITS INTENTION TO BECOME A GROUNDWATER SUSTAINABILITY AGENCY PURSUANT TO THE SUSTAINABLE GROUNDWATER MANAGEMENT ACT FOR THE PORTIONS OF THE EASTERN TULE SUBBASIN WITHIN THE BOUNDARIES OF THE AGENCY

WHEREAS, on September 16, 2014, Governor Jerry Brown signed into law Senate Bills 1168 and 1319, and Assembly Bill 1739, known collectively as the Sustainable Groundwater Management Act ("SGMA"); and

WHEREAS, SGMA went into effect on January 1, 2015; and

WHEREAS, SGMA requires all high and medium priority groundwater basins, as designed by the California Department of Water Resources ("DWR") Bulletin 118, to be managed by Groundwater Sustainability Agencies ("GSA"); and

WHEREAS, Tule Subbasin has been designated by DWR as a high priority basin; and

WHEREAS, California Water Code Section 10723, subdivision (a), authorizes a "local agency" with water supply, water management or local land use responsibilities, or a combination of local agencies, overlying a groundwater basin to elect to become a GSA under SGMA; and

WHEREAS, the Eastern Tule Groundwater Sustainability Agency is a joint power authority, formed pursuant to the Joint Exercise of Powers Act (Gov. Code §§ 6500, *et seq.*) consisting of multiple "local agencies" and is therefore eligible to serve as a GSA within the Tule Subbasin; and

WHEREAS, California Water Code Section 10723.2 requires that a GSA consider the interests of all beneficial uses and users of groundwater, as well as those responsible for implementing Groundwater Sustainability Plans ("GSPs"); and

WHEREAS, California Water Code Section 10723.8 requires that a "local agency" or combination of "local agencies" electing to be a GSA notify DWR of its election and intention to undertake sustainable groundwater management within the basin; and

WHEREAS, the Eastern Tule Groundwater Sustainability Agency held a public hearing on February 23, 2017, after publication pursuant to California Government Code Section 6066, to consider the adoption of this Resolution and its election to be a GSA in the Tule Subbasin;

WHEREAS, at the public hearing, the Board of Directors considered oral and written comments to the extent provided by the public; and

WHEREAS, being in its best interests, the Eastern Tule Groundwater Sustainability Agency desires to exercise powers and authorities of a GSA granted by GSMA, as defined in the California Water Code.

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE EASTERN TULE GROUNDWATER SUSTAINABILITY AGENCY does hereby resolve, declare and order as follows:

1. The Eastern Tule Groundwater Sustainability Agency hereby elects to become a GSA and undertake sustainable groundwater management in the portion of the Tule Subbasin (Subbasin # 5-22.13 of the San Joaquin Valley Basin as defined by DWR Bulletin 118) underlying the Eastern Tule Groundwater Sustainability Agency's boundaries as identified on the map attached hereto as Exhibit A.

2. The Eastern Tule Groundwater Sustainability Agency shall develop an outreach program to include all stakeholders to ensure all beneficial uses and users of groundwater are considered.

3. The Eastern Tule Groundwater Sustainability Agency Board of Directors intends to negotiate a memorandum of understanding, participation agreement, and other necessary cooperative agreements or other forms of agreement with other agencies or entities utilizing groundwater in the Tule Subbasin, for the purpose of implementing a cooperative, coordinated structure for the management of the Tule Subbasin pursuant to SGMA.

4. Staff is directed to send to DWR within thirty (30) days of this Resolution the Eastern Tule Groundwater Sustainability Agency's notification of its election to be a GSA pursuant to Water Code Section 10723.8 and all necessary information including but not limited to: the boundaries of the Subbasin that the Eastern Tule Groundwater Sustainability Agency intends to manage, which shall include lands within the Eastern Tule Groundwater Sustainability Agency's boundaries as set forth in the map attached hereto as Exhibit "1", a copy of this Resolution, a list of the interested parties developed pursuant to Section 10723.2 of SGMA, and an explanation of how their interests will be considered in the development and operation of the GSA and the development and implementation of the GSA's GSP.

PASSED, APPROVED AND ADOPTED this 23rd day of February, 2017, by the following vote to wit:

DIRECTOR	AYE	NAY	ABSTAIN	ABSENT
A Monte Reyes	X			
Steven Kisley	X			
Mike Ennis	X			
Lorren Wheaton	X			
Dyson Schneider	X			
Curt Holmes	X			
Matthew Leider	X			
Eric Borba	X			

CERTIFICATE OF SECRETARY
OF
EASTERN TULE GROUNDWATER SUSTAINABILITY AGENCY,
a California joint powers agency

I, Michael K. Reed, do hereby certify that I am the duly authorized and appointed Secretary of the Eastern Tule Groundwater Sustainability Agency, a California joint powers agency (the "Agency"); that the following is a true and correct copy of the certain resolution duly and unanimously adopted and approved by the Board of Directors of the Agency on the 23rd day of February, 2017; and that said resolution has not been modified or rescinded and remains in full force and effect as the date hereof:

IN WHITNESS WHEREOF, I have executed this Certificate on this 23rd day of February, 2017.

Michael K. Reed, Secretary
Eastern Tule Groundwater Sustainability Agency

Appendix 2-D: ETGSA Notification of Intent to Develop a Groundwater Sustainability Plan

EASTERN TULE GROUNDWATER SUSTAINABILITY AGENCY JOINT POWERS AUTHORITY
County of Tulare
City of Porterville
Porterville Irrigation District
Saucelito Irrigation District
Teapot Dome Water District
Vandalia Water District
Terra Bella Irrigation District
Kern-Tulare Water District

Trevor Joseph, GGM Section Chief
STATE OF CALIFORNIA
Department of Water Resources
P.O. Box 94236
Sacramento, CA 94236

Subject: Notification of Intent to Develop a Groundwater Sustainable Plan

Dear Mr. Joseph:

Pursuant to California Water Code Section 10727.8, and California Code of Regulations Section 353.6, the Department of Water Resources (DWR) is hereby given notice that the Eastern Tule Groundwater Sustainable Agency (ETGSA) intends to commence with the development of a Groundwater Sustainability Plan (GSP) for the agency's service area within the Tule Subbasin (Basin Number 5-22.13 DWR Bulletin 118). The ETGSA is an exclusive GSA effective June 6, 2017. The GSP will be one of multiple plans implemented by multiple groundwater sustainable agencies and coordinated pursuant to a single coordination agreement compliant with Section 10727.6 that covers the entire Tule Subbasin.

The ETGSA Board has selected members of the Executive Committee and Stakeholder Committee in accordance with the ETGSA Joint Powers Authority Agreement. The Executive Committee is comprised of staff members of the Member agencies of the JPA. The Executive Committee's role involves support in preparing the GSP and reporting progress to the GSA Board. Interested parties and the public are encouraged to attend Executive Committee meetings. The ETGSA has also formed a Stakeholder Committee comprised of members falling within the categories of interested persons or representatives of interested entities as described in SGMA. The Stakeholder Committee will specifically be asked to engage on issues related to GSP preparation

and implementation. This committee may also spearhead other outreach efforts to encourage participation from diverse social, cultural, and economic elements of the population in development and implementation of a GSP.

The ETGSA Board meets at 2:00 p.m. on the third Thursday of every month at Porterville City Council Chambers (City Hall, 291 N. Main Street, Porterville, CA 93257). The Executive Committee meets at 2:00 p.m. on the first Thursday of every month in the Coleman Conference Room at Porterville City Hall. Scheduled meetings involving the Stakeholder Committee will be established relatively soon. All meetings are public meetings and the public is encouraged to attend and participate in the GSP development and implementation process. Also, the ETGSA has developed and continues to maintain a list of interested parties pursuant to Water Code Section 10723.2. The ETGSA will notify interested parties of all meetings, but especially those related to GSP development and implementation. Lastly, pursuant to California Code of Regulations Section 353.6, information about SGMA updates and GSP process are available at the ETGSA website: www.ci.porterville.ca.us/depts/PublicWorks/easterntulegsa.cfm.

The ETGSA looks forward to working collaboratively with DWR on developing and implementing a GSP. Should DWR have any questions about this notice, please contact Michael K. Reed, by phone at (559) 782-7462, or by e-mail at: mreed@ci.porterville.ca.us.

Sincerely;

Eastern Tule Groundwater Sustainable Agency

Michael K. Reed

Secretary to the Board

Cc:

California Public Utility Commission

Appendix 2-E: Addendum to Original February 28, 2017 ETGSA Notice of Election to Serve as a Groundwater Sustainability Agency

EASTERN TULE GROUNDWATER SUSTAINABILITY AGENCY JOINT POWERS AUTHORITY

Eric Borba
Chairman

Steve Kisling
Vice-Chairman

Bryce G. McAteer
Executive Director

Aubrey A. Mauritson
Legal Counsel

City of Porterville

County of Tulare

Kern-Tulare Water District

Porterville Irrigation District

Saucelito Irrigation District

Teapot Dome Water District

Terra Bella Irrigation District

Vandalia Water District

info@easterntulegsa.com
559-791-8880

881 W. Morton Ave
Suite D
Porterville, CA 93257

May 17, 2019

Mark Nordberg, GSA Project Manager
Senior Engineering Geologist
Department of Water Resources
901 P Street, Room 213-B
P.O. Box 942836
Sacramento, CA 94236

RE: ADDENDUM TO ORIGINAL FEBRUARY 28, 2017 ETGSA NOTICE OF ELECTION TO SERVE AS A GROUNDWATER SUSTAINABILITY AGENCY FOR A PORTION OF THE TULE SUBBASIN AND ADVISEMENT OF NON-MATERIAL BOUNDARY ADJUSTMENTS TO ETGSA SERVICE AREA BOUNDARIES

Dear Mr. Nordberg:

Please accept this addendum to the Notice of Election (see **Attachment A**) originally filed by the Eastern Tule Groundwater Sustainability Agency Joint Powers Authority (ETGSA) that advised Department of Water Resources (DWR) of its election to become a Groundwater Sustainability Agency (GSA) for a Portion of the Tule Subbasin, pursuant to the Sustainable Groundwater Management Act.

ETGSA originally filed its Notice of Election to become a Groundwater Sustainability Agency for a Portion of the Tule Subbasin with DWR on February 28, 2017, and subsequently uploaded all appropriate documentation and boundary files to the DWR SGMA Portal on March 3, 2017. DWR approved the ETGSA as an exclusive GSA over its portion of the Tule Subbasin on June 6, 2017.

This addendum, along with its associated documents, is being filed to advise DWR of non-material boundary adjustments to the service area of ETGSA.

Subsequent analyses of the boundary files originally uploaded to DWR indicated certain jurisdictional overlaps and service area issues between certain Tule Subbasin GSAs. ETGSA, Delano-Earlimart Irrigation District GSA (DEIDGSA), and Lower Tule River Irrigation District GSA (LTRIDGSA) have resolved and/or

otherwise agreed to a series of minor, non-material boundary changes in order to resolve these overlaps and service area issues.

The following jurisdictional overlaps and service area issues have been addressed by these non-material boundary adjustments:

- Jurisdictional overlaps between LTRIDGSA, ETGSA, and their member agencies in the vicinity of Porterville Irrigation District and Poplar Community Services District; and
- Movement of a majority of Richgrove Community Services District's (RCSD) service area from ETGSA to DEIDGSA (*Note* – Only parcel number 340-060-081, which is currently developed in agriculture and served by Kern-Tulare Water District but also within RCSD's service area, shall remain within in ETGSA).

The ETGSA Board of Directors approved the following Resolutions in open session in support of the non-material boundary changes:

- RESOLUTION 2019-001: RESOLUTION OF SUPPORT FOR A NON-MATERIAL GSA BOUNDARY CHANGE (see **Attachment B**); and
- RESOLUTION 2019-002: RESOLUTION OF SUPPORT FOR A NON-MATERIAL GSA BOUNDARY CHANGE BETWEEN ETGSA AND LTRIDGSA (see **Attachment C**).

Additional documents filed with this addendum to further support the noted non-material adjustments include:

- A PDF map of the revised service area boundaries of ETGSA (see **Attachment D**);
- An executed Memorandum of Understanding between DEID and RCSD providing for the inclusion of RCSD lands in DEIDGSA (see **Attachment E**);
- A Letter of support for the boundary adjustment between ETGSA and DEID from the Kern-Tulare Water District (see **Attachment F**); and
- A Resolution from LTRIDGSA in support of the boundary adjustment between ETGSA and LTRIDGSA (see **Attachment G**); and
- A revised shapefile of ETGSA's service area boundaries.

ETGSA will continue to work cooperatively with interested parties, stakeholders, and those representing all beneficial uses and users of groundwater as it seeks to to develop and eventually implement its Groundwater Sustainability Plan. Moreover, ETGSA remains committed to cooperatively working with other GSAs within the Tule Subbasin and in surrounding Subbasins so as to coordinate all activities and efforts related to the successful implementation of SGMA.

Should DWR have any questions or require any further information regarding the addendum and/or non-material boundary adjustments to the ETGSA's service area, please contact Executive Director Bryce McAteer at 559-791-8880, or bmcateer@easterntulegsa.com.

Sincerely,

Bryce G. McAteer
Executive Director

Attachments:

- *Attachment A*: NOTICE OF THE EASTERN TULE GROUNDWATER SUSTAINABILITY AGENCY'S ELECTION TO BECOME A GROUNDWATER SUSTAINABILITY AGENCY FOR A PORTION OF THE TULE SUBBASIN – February 28, 2017
- *Attachment B*: ETGSA RESOLUTION 2019-001: RESOLUTION OF SUPPORT FOR A NON-MATERIAL GSA BOUNDARY CHANGE – March 7, 2019
- *Attachment C*: ETGSA RESOLUTION 2019-002: RESOLUTION OF SUPPORT FOR A NON-MATERIAL GSA BOUNDARY CHANGE BETWEEN ETGSA AND LTRIDGSA – May 2, 2019
- *Attachment D*: Revised ETGSA Service Area Boundary Map
- *Attachment E:* Executed Memorandum of Understanding Regarding Groundwater Sustainability Agency Participation [between Delano-Earlimart Irrigation District and Richgrove Community Services District] – March 14, 2019
- *Attachment F:* Letter of Support from Kern-Tulare Water District to DEID regarding the Boundary Change with EGTSA – March 15, 2019
- *Attachment G:* LTRIDGSA RESOLUTION 2019-5-1: RESOLUTION OF SUPPORT FOR A NON-MATERIAL GSA BOUNDARY CHANGE BETWEEN ETGSA AND LTRIDGSA – May 14, 2019

Additional Files:

- *Shapefile*: Revised ETGSA Service Area

Appendix 2-F: Memorandum of Understanding to Develop and Implement a Groundwater Sustainability Plan Coordination Agreement

Memorandum of Understanding to Develop and Implement a Coordination Agreement

Tule Subbasin

This MOU to Develop and Implement a Coordination Agreement ("Agreement") shall be effective the date that it is executed by all the groundwater sustainability agencies ("GSAs") within the Tule Subbasin. The signatories to this Agreement are hereinafter referred to collectively as "Parties" or individually as "Party" and this Agreement is made in light of the following:

RECITALS:

WHEREAS, the Parties are each a groundwater sustainability agency ("GSA") and collectively represent GSA coverage over the Tulare Lake Hydrologic Region San Joaquin Valley Groundwater Basin, Tule Subbasin, a groundwater subbasin recognized by the California Department of Water Resources;

WHEREAS, the Sustainable Groundwater Management Act ("SGMA") requires the development and establishment of groundwater sustainability plans ("GSP") designed to ensure the sustainability of each groundwater basin/subbasin identified by the State of California, particularly areas such as the Tule Subbasin that are in critical overdraft based on DWR analysis;

WHEREAS, pursuant to Water Code Section 10727, SGMA allows for the preparation of a GSP by three methods: (a) A single GSP covering the entire basin/subbasin developed and implemented by one GSA (§ 10727 (b)(1)); (b); A single GSP covering the entire basin/subbasin developed and implemented by multiple GSAs (§ 10727 (b)(2)); or (c) Multiple GSPs implemented by multiple GSAs that are subject to a single Coordination Agreement that covers the entire basin/subbasin (§ 10727 (b)(3));

WHEREAS, the Parties are in the process of each developing a GSP to cover their respective GSA boundaries and, as such, there will be multiple GSPs implemented by multiple GSAs, requiring a Coordination Agreement covering the entire Tule Subbasin;

WHEREAS, Water Code Section 10727.6 requires that, if multiple GSPs will be implemented within a basin or subbasin, a Coordination Agreement must be prepared to ensure that the GSPs utilize the same data and methodologies within the basin for the following items: (a) Groundwater elevation data; (b) Groundwater extraction data; (c) Surface water supply; (d) Total water use; (e) Change in groundwater storage; (f) Water budget; and (g) Sustainable yield;

WHEREAS, California Code of Regulations Title 23, Section 357.4 states that agencies intending to develop and implement multiple GSPs pursuant to Water Code Section 10727(b)(3) shall enter into a Coordination Agreement to ensure (a) that the GSPs are developed and implemented utilizing the same data and methodologies, (b) that elements of the GSPs necessary to achieve the sustainability goal for the basin are based upon consistent interpretations of the basin setting and this regulation sets forth additional specific requirements for Coordination Agreements that shall apply as GSPs are completed, and (c) this regulation requires that the GSPs and the Coordination Agreement shall be submitted to the state for review;

WHEREAS, the Parties acknowledge that since 2015 individual public agencies within the Tule Subbasin have, pursuant to a prior "MOU Agreement to Develop and Implement a Groundwater Sustainability Plan Coordination Agreement," been gathering data to meet the requirements of a Coordination Agreement;

WHEREAS, the Parties intend to replace the prior "MOU Agreement to Develop and Implement a Groundwater Sustainability Plan Coordination Agreement" with this Agreement to reflect that GSAs covering the entire Tule Subbasin have been formed and that these GSAs are moving forward with the development and implementation of a Coordination Agreement to meet the requirements of state law; and

WHEREAS, the purpose of this Agreement is to provide for a cooperative means of gathering the data required for the preparation of a Coordination Agreement that will apply to the GSPs implemented by the Parties, and to provide a framework to enable the eventual preparation of a Coordination Agreement for the Tule Subbasin.

NOW, THEREFORE, in consideration of the mutual promises, covenants, and conditions hereinafter set forth and the above Recitals, which are hereby incorporated herein by this reference, It is agreed by and among the Parties hereto as follows:

Section 1: Definitions

1.1 "Tule Subbasin" or "Tule Basin" refers to that subbasin identified and described in California Department of Water Resources California's Groundwater Bulletin 118 as part of the Tulare Lake Hydrologic Region, San Joaquin Valley Groundwater Basin, Tule Subbasin, also identified as Groundwater Basin Number 5-22.13, and is depicted in Exhibit "A" to this Agreement.

1.2 "Groundwater sustainability agency" or "GSA" means one or more local agencies that implement the provisions of SGMA as defined by Water Code § 10721(j).

1.3. "Groundwater sustainability plan" or "GSP" means a plan of a GSA proposed or adopted under SGMA as defined in Water Code § 10721(k).

1.4 "Coordination Agreement" shall be the agreement to ensure coordination of the data and methodologies used in all GSPs within the Tule Basin for the following

assumptions: (a) Groundwater elevation data; (b) Groundwater extraction data; (c) Surface water supply; (d) Total water use; (e) Change in groundwater storage; (f) Water budget; (g) Sustainable yield, all as required by SGMA under Water Code § 10727.6 and, in addition, those requirements for coordination agreements stated in California Code of Regulations Title 23 § 357.4, as these state law requirements currently exist or are later amended. Parties acknowledge that although not defined by SGMA, they anticipate working together under this Agreement to complete "Pre-GSP Coordination" consisting of the identification of the elements listed in Water Code § 10727.6 that will be used in each GSA's respective GSP and that the Parties will develop and implement the final written Coordination Agreement to meet the requirements stated in California Code of Regulations Title 23 § 357.4 that will be submitted for state review along with each GSA's respective GSP. Collectively, Parties agree to refer to these GSP coordination requirements as the "Coordination Agreement."

1.5 "Tule Subbasin GSAs" shall collectively refer to the six GSAs that have formed within the Tule Subbasin and that are the Parties to this Agreement. See Exhibit "B" to this Agreement, a map showing the boundaries of Tule Subbasin and each GSA.

1.6 "Tule Subbasin TAC" is a technical advisory committee consisting of representatives from each Tule Subbasin GSA to review technical data for use in the Coordination Agreement and to summarize such data for recommendations that will be presented by respective Tule Subbasin TAC representatives to their respective GSAs. This is an ad hoc group convened as needed and does not serve as the final decision-making body; however, as stated below, its meetings shall be open to the public and shall provide a forum for the interested parties to review and comment on issues concerning the required elements of the Coordination Agreement that will be subject to approval by each respective GSA.

Section 2: Purposes and Goals

2.1 The Parties are entering into this Agreement to do the following:

2.1.1 Set forth their mutual agreement to identify and develop Pre-GSP Coordination identifying data and methodologies to be used by the multiple GSPs being prepared by the multiple GSAs within the Tule Subbasin for the following items: (a) Groundwater elevation data; (b) Groundwater extraction data; (c) Surface water supply; (d) Total water use; (e) Change in groundwater storage; (f) Water budget; and (g) Sustainable yield. Parties separately acknowledge that each of these items are subject to modification as basin-wide data is continuously monitored, reviewed, and studied.

2.1.2 Provide for the research of the data, and the review of the GSPs being prepared by the individual GSAs required for Post-GSP Coordination, oversee the preparation and monitoring of a groundwater model and or other tools to be developed and used by the entire Tule Subbasin, and to draft a Coordination Agreement meeting all applicable state requirements and that will be submitted to the state along with the GSPs being prepared by the individual GSAs. Parties anticipate the Coordination

Agreement that is drafted and submitted to the appropriate state agencies, as necessary, along with the GSPs, will replace this Agreement or that a revised version of this Agreement will be approved that incorporates those agreed upon terms of coordination. Parties agree to utilize their best efforts in fully cooperating with the advisors gathering the information and preparing the Coordination Agreement.

2.1.3 Parties agree that after the data is gathered and necessary studies or technical analysis of data is complete, the Coordination Agreement will be prepared setting forth the assumptions based on the information gathered by this Agreement.

2.1.4 Parties agree that separately from the efforts under this Agreement relating to preparation of the Coordination Agreement, each Party shall continue to develop their respective GSP in compliance with SGMA.

2.2 Parties agree that as part of this Agreement they will cooperate in seeking grant funds that can be used to pay for basin-wide SGMA requirements that would be subject to this Agreement.

Section 3: Cost Sharing and Governance

3.1. Parties shall share on an equitable basis the costs related to the preparation of the data required for the Coordination Agreement to be drafted. Costs shall be allocated between GSAs based on the number of acres within a GSA. Attached hereto as Exhibit "C" is a list of each GSAs acreage and cost share allocation.

3.2 Parties agree that if grant funds are available for the preparation of the Coordination Agreement, then the Parties shall utilize grant funds to pay for those costs. Parties agree to coordinate specific grant application requests by separate agreement. Parties agree that grant funds shall be utilized based on the grant application budget and that if any grant funds are available for distribution to the GSAs then the remaining grant funds shall be distributed based on GSA acreage within the Tule Subbasin.

3.3 The Tule Subbasin GSAs shall appoint by a separate agreement a fiscal agent and that fiscal agent shall have authority to enter any contract necessary to assist with the preparation of the Coordination Agreement, subject to the direction of the Tule Subbasin TAC. The fiscal agent shall be entitled to its reasonable costs attributable to contract administration.

3.4 The terms of the Coordination Agreement will be approved by the GSAs within the Tule Subbasin so that each GSA's GSP will be subject to the requirements of such Coordination Agreement.

3.5 Nothing in this Agreement is intended to affect the statutory powers granted under SGMA, or any other applicable law, to the Tule Subbasin GSAs. Each Tule Subbasin GSA shall be solely responsible for the adoption and enforcement of any ordinances, bylaws, or other legally enforceable actions taken within their respective

GSA boundaries to implement SGMA, including but not limited to, the preparation of the GSP applicable within their GSA boundaries.

3.6 Tule Subbasin TAC:

3.6.1 A Tule Subbasin TAC shall be formed with one (1) representative appointed from each GSA, as well as one (1) alternate from each GSA. The Subbasin TAC shall make technical recommendations regarding the Coordination Agreement and other Tule Subbasin related SGMA compliance issues to each GSA. The Tule Subbasin TAC shall meet as necessary. Each GSA shall be entitled to one (1) vote. Recommendations to each GSA shall only be made upon consensus of the Tule Subbasin TAC. Should consensus not be reached, the votes shall be reported to each GSA Board for further direction.

3.6.2 Parties agree that the Tule Subbasin TAC should obtain the services of consultants to facilitate the collection of data and the submission of information to the Tule Subbasin GSAs through the process and subject to Section 3.7.9 herein. Prior to hiring consultants, other than designated below, the TAC shall obtain approval of a scope of work and budget from all of the GSAs.

3.6.3 The fiscal agent appointed pursuant to Section 3.3 of this Agreement shall contract with the current facilitators of the "MOU Agreement to Develop and Implement a Groundwater Sustainability Plan Coordination Agreement" to continue serving in that capacity. R.L. Schafer of R.L. Schafer and Associates shall serve as the chairman of the Tule Subbasin TAC. David DeGroot of 4Creeks Engineering Inc. shall serve as the Secretary to the TAC, until their resignation or they are replaced by the TAC. These facilitators may be replaced with or without cause upon consensus of the Tule Subbasin TAC and subject to the provisions of Section 3.6.2 and Section 3.7.9 for hiring consultants.

3.6.4 The facilitators for the TAC shall be responsible for preparing and distributing TAC agenda materials to all Tule Subbasin GSAs and to all interested parties that request to be notified of TAC meetings, as well as ensuring compliance with all applicable legal requirements including but not limited to the Ralph M. Brown Act. They shall also be responsible for record keeping of the TAC group, maintaining minutes of TAC meetings, maintaining copies of all executed agreements by the fiscal agent appointed by this Agreement for the Coordination Agreement, maintaining copies of documents produced by such consultants, and reviewing such materials for presentation to the TAC or to individual Tule Subbasin GSAs upon request. In this capacity, they may meet with Tule Subbasin GSAs or GSA member agency employees to coordinate information and to assist with TAC agenda preparation. Additional public outreach as required by SGMA may also be authorized by the TAC.

3.6.5 The Tule Subbasin GSAs are not appointing specific legal counsel to the TAC. Legal services shall be provided by counsel for Tule Subbasin GSAs appointed as the lead attorney for specific agreements or legal issues as needed by the TAC.

3.6.6 TAC meetings shall be open to the public and conducted pursuant to the Ralph M. Brown Act. Interested parties shall be provided an opportunity to comment on Coordination Agreement issues. Parties acknowledge the TAC duties may include public outreach.

3.6.7 The purpose of the TAC is to develop all data and analysis necessary for the Coordination Agreement and to make recommendations of Coordination Agreement requirements to the Tule Subbasin GSAs. TAC members shall use good faith efforts to reach consensus on recommendations to the GSAs.

3.6.8 Coordination Agreement recommendations, decisions whether to hire consultants, and budgetary recommendations by the TAC are not binding on the GSAs unless separately approved by all Tule Subbasin GSAs. The GSAs agree to use good faith efforts to reach consensus on these issues.

3.7.9 The TAC is authorized to (a) recommend the hiring of consultants to the Tule Subbasin GSA fiscal agent, (b) oversee such consultants, and (c) review the data being gathered by consultants or acquired by Tule Subbasin GSA members. The TAC shall also review invoices of such consultants and recommend payments and may authorize payments if within the approved budgetary amounts.

3.7.10 The TAC shall annually prepare a schedule, scope of work, and budget of items required for the Coordination Agreement, which shall identify the estimated expenses and the estimated portions each respective Tule Subbasin GSA will be expected to be responsible for. This information shall be submitted to the GSAs for review and approval. The TAC may request approved funds from the GSAs as needed to reimburse the GSA's fiscal agent and may also request budget amendments.

3.7.11 Dispute Resolution. The Parties acknowledge that at times consensus may not be reached amongst the TAC. All matters in which consensus cannot be reached shall be reported to the GSA Boards of Directors. At that time, any GSA may choose to initiate a dispute resolution process by serving written notice to the remaining GSAs of the following: (1) identify the conflict; (2) describe how the conflict may negatively impact the sustainability of the Tule Subbasin; and (3) a proposal for one or more resolutions. The Parties agree to designate representatives to meet and confer with each other within thirty (30) days of the date such notice is given and said representatives shall then meet within a reasonable time to address all issues identified in the notice. Should the representatives be unable to reach a resolution within ninety (90) days of the written notice, the Parties shall enter into informal mediation in front of a mutually agreeable mediator.

Section 4. General Provisions

4.1. Term. This Agreement shall become effective on the date signed by all Tule Subbasin GSAs and shall remain in effect until the Coordination Agreement is fully executed or it is replaced or terminated by unanimous vote of the GSAs.

4.2 GSAs May Implement Separate Cost Sharing. Nothing in this Agreement prevents other alternative forms of cost sharing or cost reimbursement from being agreed upon between the Tule Subbasin GSAs.

4.3 Termination of 2015 MOU. The MOU Agreement to Develop and Implement a Groundwater Sustainability Plan Coordination Agreement entered into effective September 1, 2015, by the various participating public agencies in the Tule Subbasin is hereby terminated and replaced by this Agreement.

4.4 Construction of Terms. This Agreement is for the sole benefit of the Parties and shall not be construed as granting rights to or imposing obligations on any person other than the Parties.

4.5 Good Faith. Each Party shall use its best efforts and work in good faith for the expeditious completion of the purposes and goals of this Agreement and the satisfactory performance of its terms.

4.6 Rights of the Parties. This Agreement does not contemplate the Parties taking any action that would adversely affect the rights of any of the Parties.

4.7 Execution. This Agreement may be executed in counterparts and the signed counterparts shall constitute a single instrument. The signatories to this Agreement represent that they have the authority to sign this Agreement and to bind the Party for whom they are signing.

4.8 Notices. All notices, requests, demands or other communications required or permitted under this MOU shall be in writing unless provided otherwise in this MOU, and shall be deemed to have been duly given and received on: (i) the date of service if personally served or served by electronic mail or facsimile transmission on the Party to whom notice is to be given at the address(es) below; (ii) on the first day after mailing, if mailed by Federal Express, U.S. Express Mail, or other similar overnight courier service; or (iii) on the third day after mailing if mailed to the Party to whom notice is to be given by first class mail, registered certified as follows:

Alpaugh Groundwater Sustainability Agency
Attn: Bruce Howarth
P.O. Box 129
Alpaugh, CA 93201

Delano-Earlimart Irrigation District GSA
Attn: Eric Quinley
14181 Avenue 24
Delano, CA 93215

Eastern Tule Groundwater Sustainability Agency
Attn: Mike Reed, City Engineer City of Porterville
291 North Main Street
Porterville, CA 93257

Lower Tule River Irrigation District GSA
Attn: Eric Limas
357 E. Olive Avenue
Tipton, CA 93272

Pixley Irrigation District GSA
Attn: Eric Limas
357 E. Olive Avenue
Tipton, CA 93272

Tri-County Water Authority GSA
Attn: Matthew Hurley
944 Whitley Avenue Suite E
Corcoran, CA 93212

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement to be effective as of the date first above written.

Alpaugh Groundwater Sustainability Agency

_____

Delano Earlimart Irrigation District GSA

_____

Eastern Tule Groundwater Sustainability Agency

_____

Lower Tule River Irrigation District

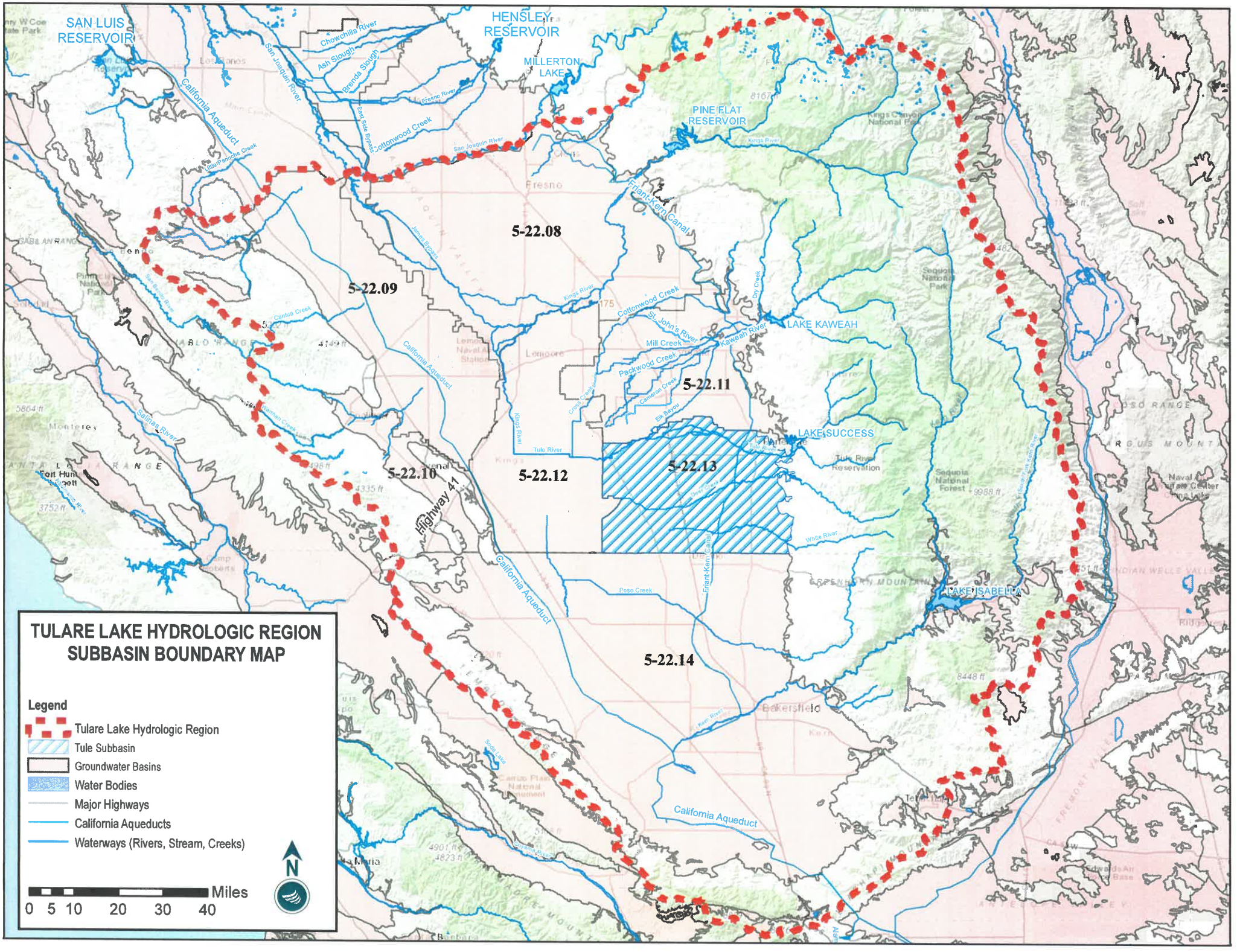
_____

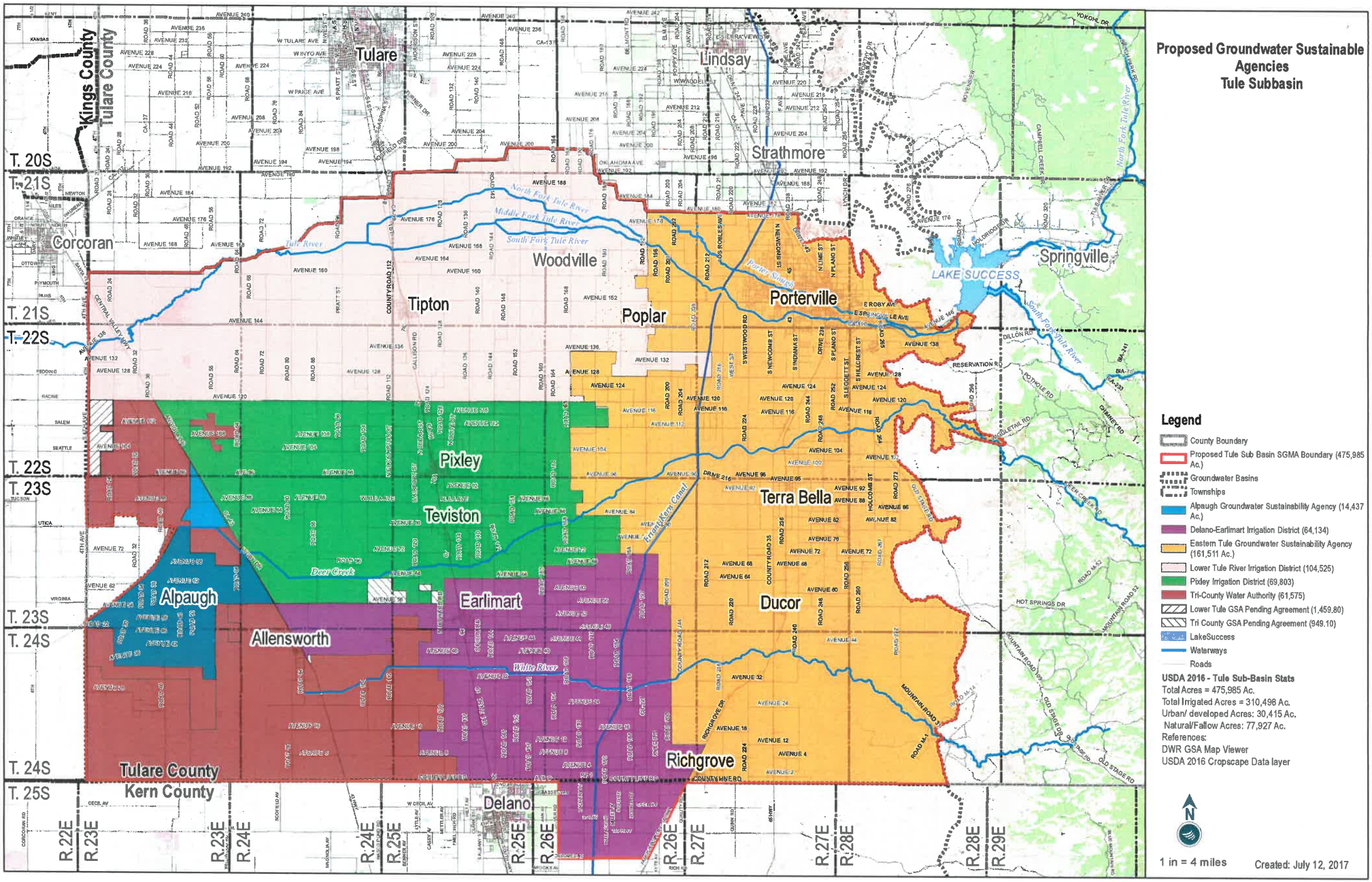
Pixley Irrigation District

_____

Tri-County Water Authority

_____


SAN LUIS RESERVOIR
HENSLEY RESERVOIR
MILLERTON LAKE
PINE FLAT RESERVOIR
LAKE KAWEAH
LAKE SUCCESS
LAKE ISABELLA
5-22.08
5-22.09
5-22.10
5-22.11
5-22.12
5-22.13
5-22.14
Highway 41
California Aqueduct
Friant-Kern Canal
Fresno
Lemoore
Bakersfield
Monterey
Tule River Reservation
TULARE LAKE HYDROLOGIC REGION
SUBBASIN BOUNDARY MAP
Legend
Tulare Lake Hydrologic Region
Tule Subbasin
Groundwater Basins
Water Bodies
Major Highways
California Aqueducts
Waterways (Rivers, Stream, Creeks)
N
Miles
0 5 10 20 30 40


Proposed Groundwater Sustainable Agencies
Tule Subbasin
Legend
County Boundary
Proposed Tule Sub Basin SGMA Boundary (475,985 Ac.)
Groundwater Basins
Townships
Alpaugh Groundwater Sustainability Agency (14,437 Ac.)
Delano-Earlimart Irrigation District (64,134)
Eastern Tule Groundwater Sustainability Agency (161,511 Ac.)
Lower Tule River Irrigation District (104,525)
Pixley Irrigation District (69,803)
Tri-County Water Authority (61,575)
Lower Tule GSA Pending Agreement (1,459.80)
Tri County GSA Pending Agreement (949.10)
LakeSuccess
Waterways
Roads
USDA 2016 - Tule Sub-Basin Stats
Total Acres = 475,985 Ac.
Total Irrigated Acres = 310,498 Ac.
Urban/ developed Acres: 30,415 Ac.
Natural/Fallow Acres: 77,927 Ac.
References:
DWR GSA Map Viewer
USDA 2016 Cropscape Data layer
1 in = 4 miles
Created: July 12, 2017
Tulare
Lindsay
Strathmore
Springville
Corcoran
Woodville
Tipton
Poplar
Porterville
Pixley
Teviston
Terra Bella
Alpaugh
Earlimart
Ducor
Allensworth
Richgrove
Delano
Tulare County
Kern County
Kings County
LAKE SUCCESS
T. 20S
T. 21S
T. 22S
T. 23S
T. 24S
T. 25S
R.22E
R.23E
R.24E
R.25E
R.26E
R.27E
R.28E
R.29E

TULE SUBBASIN

GSA	TOTAL GROSS ACRES	PERCENT OF BASIN	PENDING AGREEMENTS
Lower Tule River Irrigation District GSA	**104,525**	21.96%	1,459.80
Pixley Irrigation District GSA	**69,803**	14.66%	
Eastern Tule JPA GSA	**161,511**	33.93%	
Delano Earlimart Irrigation District GSA	**64,134**	13.47%	
Tri-County Water Authority GSA	**61,575**	12.94%	949.10
Alpaugh GSA	**14,437**	3.03%	
TOTAL:	**475,985**	**100%**	
*County GSA Lands		0.51%	**2,408.90**

Appendix 2-G: ETGSA Bylaws

BYLAWS

EASTERN TULE GROUNDWATER SUSTAINABILITY AGENCY

Adopted May 2, 2019

PREAMBLE

These Bylaws are adopted and effective as of October 4,2018, pursuant to the Eastern Tule Groundwater Sustainability Agency Joint Powers Authority Agreement ("Agreement").

ARTICLE 1. THE AGENCY

1.1. *Name of Agency.* The name of the Agency created by the Agreement shall be the Eastern Tule Groundwater Sustainability Agency Joint Powers Authority ("Agency", "Authority").

1.2. *Office of Agency*. The principal office of the Agency shall be the 881 W. Morton Avenue, Suite D, Porterville, CA 93257, or at such other location as the Board may designate by resolution.

ARTICLE 2. BOARD OF DIRECTORS

2.1 *Board of Directors*. The Agency shall be governed by a Board of Directors (the "Board"). Pursuant to Section 3.01(a) of the Agreement, the Board shall consist of nine (9) Directors as follows: one elected member of the governing body of each Member entity ("Member"), and one representative from a landowner and groundwater user in a "white area" (hereinafter referred to as "White Area Representative". Pursuant to Section 3.01(b) of the Agreement, nine (9) Alternate Directors shall be appointed in the same manner as the Directors. The Directors shall serve for a term at the pleasure of their appointing bodies.

2.2 *Procedure for Appointment of Director as "White Area Representative"*. Pursuant to Section 3.01(a)(2), the White Area Representative shall be appointed by the County of Tulare Board of Supervisors.

2.3 *Vacancies*. Any vacancy in any Director or Alternate Director seat because of death, resignation, removal, disqualification, or any other cause will be filled for the balance of the vacated term in the manner prescribed in these Bylaws or Agreement for regular appointment to that seat; provided, however, that such vacancies may be filled at any regular or special meeting of the Board.

2.4 *Quorum*. Pursuant to Section 3.05 of the Agreement, a quorum of the Board for convening any meeting shall consist of a majority of all Directors, or in the absence of a Director, such Director's alternate. A quorum of the Board must be present at the time of any vote on any matter before the Board. An affirmative vote of at least a majority of all Directors, or designated alternate Director, present in a quorum of the Board, shall be required for any action of the Board. Notwithstanding the foregoing, approval of certain types of matters shall require the approval of two-thirds of the Directors of the Board. The items requiring approval of

two-thirds of the Directors of the Board are: agenda items to approve or revise budgets, assessments, litigation, the hiring or termination of the chief executive director, the adoption of bylaws, the adoption of the GSP, the addition of new Members, the termination of Members, and amendments of the Agreement. Directors representing a Member who is delinquent in any past or present monetary contributions shall abstain from voting on all matters.

ARTICLE 3. BOARD MEETINGS

3.1. *Meetings*. The Board's regular meeting schedule shall be the first Thursday of every month at 2:00 P.M. at a City of Porterville facility, or at some other time and location as the Board may designate by resolution. Special meetings of the Board may be called by the Chairman or any Director upon written request.

ARTICLE 4. OFFICERS

4.1. *Officers*. The Officers of the Agency are the Chair, Vice-Chair, and Secretary, pursuant to Article V of the Agreement. Only Directors representing Members of the Agreement are eligible to serve as Chair or Vice-Chair. The Executive Director shall serve as Secretary to the Board, unless the Board chooses to elect a Director from amongst the Board or a consultant or another employee of the Authority to serve as Secretary.

4.2. *Election of Officers*. At the first meeting of the Board after January 1 each year, nominations for the Officers will be made and seconded by a Director. If more than two (2) Directors are nominated for any one office, voting shall occur until a nominee receives a majority of the votes cast.

4.3. *Removal of Elected Officers*. An Officer may be removed, with or without cause, by a majority vote of the Board at a regular or special meeting.

4.4. *Vacancies*. Any vacancy in the offices because of death, resignation, removal, disqualification, or any other cause will be filled for the balance of the vacated term in the manner prescribed in these Bylaws for regular appointments to that office; provided, however, that such vacancies may be filled at any regular or special meeting of the Board.

4.5. *Resignation of Officers*. Any Officer may resign at any time by giving written notice to the Board Chair or Secretary. Any resignation takes effect at the date of the receipt of that notice or at any later time specified in that notice. Unless otherwise specified in that notice, the acceptance of the resignation is not necessary to make it effective.

4.6. *Responsibilities of Officers*. The responsibilities of the Chair and Vice-Chair shall be performed as outlined in Article V of the Agreement. In addition to the duties outlined in Article V of the Agreement, the Secretary shall: 1) keep or cause to be kept, at the principal executive office of the Agency, a book of minutes of all meetings and actions of Directors and Committees of the Agency; 2) Prepare, give, or cause to be given, notice of, and agendas for, all meetings of the Board and committees of the Agency; and 3) exercise and perform such other powers and perform such other duties as may be assigned to him/her by the Board.

ARTICLE 5. BOARD ADVISORY COMMITTEES

5.1. *Board Advisory Committees*. The Board may establish temporary or permanent advisory committees. Through its Agreement, the Board has established two standing advisory committees: the Executive Committee and the Stakeholder Committee. In addition, the Board may establish a Technical Advisory Committee, a Finance Committee, and any other committees the Board may see fit to establish. The purpose of the advisory committees is to provide input, recommendations, and feedback to the Board on specific issues. The Board will seek input, recommendations, and feedback from the advisory committees as needed. All standing committee meetings shall be subject to the Ralph M. Brown Act. Temporary or *ad hoc* committees will be subject to the Ralph M. Brown Act if so required by law.

5.2. *Agenda & Meeting Minutes*. The Secretary of the Authority as identified in Section 4.1 of these Bylaws shall prepare all agendas, agenda packets, and minutes of any committee meetings to ensure compliance with all applicable legal requirements, including but not limited to, the Ralph M. Brown Act.

5.3. *Executive Committee*.

5.3.1. *Purpose*. The purpose of the Executive Committee is to provide advice to the Board on matters related to SGMA. The Executive Committee is advisory in nature and has no authority to approve, deny, or require modifications to any matter or project under the committee's consideration.

5.3.2. *Chair and Vice-Chair.* The Board shall appoint one Director or Alternate Director to be a non-voting member of and the Chair of the Executive Committee. The Board shall also appoint one Director or Alternate Director to be a non-voting member of and the Vice-Chair of the Executive Committee. No meetings of the Executive Committee shall take place without the presence of the Chair or Vice-Chair.

5.3.3. *Members*. Each Member entity shall be entitled to appoint one member to be a member of the Executive Committee, with the exception of the County of Tulare who shall be entitled to appoint two members to the Executive Committee. The member shall serve for a term at the pleasure of their appointing bodies.

5.3.4. *Meetings*. The Executive Committee shall meet as needed at 881 W. Morton Avenue, Suite D, Porterville, CA 93257, or at some other time and location as the Board may designate by resolution. A special meeting may be called by the Chair of the Executive Committee, or any two members of the Executive Committee. A quorum of the committee for convening any meeting shall consist of a simple majority of all members. An affirmative vote of at least a majority of those in attendance at the meeting shall be required for any action.

5.3.5. *Attendance*. Executive Committee members shall make every effort to attend regular meetings. Members unable to attend any meeting should contact the Committee Chair or staff at least seventy-two (72) hours prior to the meeting and shall be excused provided a valid reason is given for the failure to attend. Three

consecutive unannounced absences, or three unannounced absences within one calendar year, shall be grounds for dismissal from the Executive Committee, subject to the discretion of the Board.

5.3.6. *Voting*. Each member shall be entitled to one (1) vote.

5.4. Stakeholder Committee.

5.4.1. *Purpose*. The purpose of the Stakeholder Committee is to provide advice to the Board on matters related to SGMA, and specifically to represent interests of all beneficial uses and users of groundwater as identified in Water Code Section 10723.2. The Stakeholder Committee is advisory in nature and has no authority to approve, deny, or require modifications to any matter or project under the committee's consideration. The Stakeholder Committee shall report to the Executive Committee. The Executive Committee shall report recommendations, points of dissension, and other issues as may come from the Stakeholder Committee to the Board of Directors. Notwithstanding the foregoing, the Stakeholder Committee may at any time request to be placed on the Board of Directors agenda to report matters of interest or concern directly to the Board.

5.4.2. *Chair and Vice-Chair.* The Board shall appoint one Director or Alternate Director to be a non-voting member of and the Chair of the Stakeholder Committee. The Board shall also appoint one Director or Alternate Director to be a non-voting member of and the Vice-Chair of the Stakeholder Committee. No meetings of the Stakeholder Committee shall take place without the presence of the Chair or Vice-Chair.

5.4.3. *Members.* The Stakeholder Committee shall be comprised of ten (10) members. One seat shall be reserved for a representative of Ducor Community Services District. One seat shall be reserved for a person or entity representing environmental interests. The remaining eight (8) seats shall represent agricultural interests. Potential members shall submit an application to the Board. The Board shall consider all applications received and then appoint eleven (11) representatives to the Stakeholder Committee. For the purpose of providing staggered terms, seats identified by an even number shall initially serve a term of two (2) years, and thereafter shall serve a term of four (4) years. Seats identified by an odd number shall serve a term of four (4) years upon appointment. Appointments shall occur prior to the first meeting of the Board after January 1 when the term has expired, with the next appointment for the seats identified by an even number to occur prior to the first Board meeting in January 2018, and the seats identified by an odd number to occur prior to the first Board meeting in January 2020.

5.4.4. *Meetings*. Regular meetings shall be held monthly, the second Thursday of the month at 2:00pm at 881 W. Morton Avenue, Suite D, Porterville, CA 93257, or at some other time and location as the Board may designate by resolution. A special meeting may be called by the Chair of the Stakeholder Committee, or any two members of the Stakeholder Committee. A quorum of the committee for convening any meeting shall consist of a simple majority of all members. An affirmative vote of at least a majority of those in attendance at the meeting shall be required for any action.

5.4.5. *Attendance*. Stakeholder Committee members shall make every effort to attend regular meetings. Members unable to attend any meeting should contact the Committee Chair or staff at least seventy-two (72) hours prior to the meeting, and shall be excused provided a valid reason is given for the failure to attend. Three consecutive unannounced absences, or three unannounced absences within one calendar year, shall be grounds for dismissal from the Stakeholder Committee, subject to the discretion of the Board.

5.4.6. *Voting.* Each member shall be entitled to one (1) vote.

5.5. *Technical Advisory Committee*

5.5.1. *Purpose*. The purpose of the Technical Advisory Committee ("TAC") is to provide technical advice to the Board on matters related to SGMA. The TAC is advisory in nature and has no authority to approve, deny, or require modifications to any matter or project under the committee's consideration.

5.5.2. *Chair and Vice-Chair*. The Board shall appoint one Director or Alternate Director to be a non-voting member of and the Chair of the TAC. The Board shall also appoint one Director or Alternate Director to be a non-voting member of and the Vice-Chair of the TAC. No meetings of the TAC shall take place without the presence of the Chair or Vice-Chair.

5.5.3. *Members*. The Board shall be entitled to appoint up to five (5) members to the TAC. Appointed members shall remain so until the appointing the Board requests the member be withdrawn or replaced.

5.5.4. *Meetings*. Regular meetings shall be established by the TAC. A special meeting may be called by the Chair, or any two members of the TAC. A quorum of the committee for convening any meeting shall consist of a simple majority of all members. An affirmative vote of at least a majority of all members shall be required for any action.

5.5.5. *Voting*. Each member shall be entitled to one (1) vote.

5.6. *Finance Committee*

5.6.1. *Purpose*. The purpose of the Finance Committee is to review matters pertaining to the finances of the Authority and to make recommendations to the Board. These matters include, but are not limited to, reviewing and payment of bills, interim financial statements, assessments, and budgets.

5.6.2. *Members and Chair*. The Board shall appoint three members of the Board of Directors to serve on the Finance Committee. The members shall serve at the pleasure of the board provided they are a director of the Board. Of the three members appointed, the Board shall appoint one director to be chair of the Committee.

5.6.3. *Meetings*. The Committee shall meet as needed. The Committee only meets when there are items to be heard. Additional special meetings may be scheduled as needed. A quorum of the committee for convening any meeting shall consist of a simple majority of all members. An affirmative vote of at least a majority of those in attendance at the meeting shall be required for any action.

5.6.4. *Voting*. Each member shall be entitled to one (1) vote.

ARTICLE 6. ETHICS AND CONFLICTS OF INTEREST

6.1. The Agency shall be subject to the conflict of interest rules set forth in the Political Reform Act (commencing with Section 81000 of the Government Code of the State of California) and Sections 1090, *et seq*. of the Government Code. The Agency shall adopt a conflict of interest code.

ARTICLE 7. AMENDMENT

7.1. These Bylaws may be amended from time to time by resolution of the Board duly adopted pursuant to Article III of the Agreement at a regular or special meeting of the Board.

ARTICLE 8. DEFINITIONS AND CONSTRUCTION

8.1. Unless specifically defined in these Bylaws, all defined terms shall have the same meaning ascribed to them in the Agreement. If any of the terms within these Bylaws conflict with any term of the Agreement, the Agreement's terms shall prevail, and these Bylaws shall be amended to eliminate such conflict of terms.

Section 3. Description of Plan Area

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Appendices

3.1 ETGSA GSP Plan Area *[23 CCR § 354.8(a)(1), 354.8(b)]*

23 Cal. Code Regs. § 354.8 Description of Plan Area. *Each Plan shall include a description of the geographic areas covered, including the following information:*

(a) *One or more maps of the basin that depict the following, as applicable:*

(1) *The area covered by the Plan, delineating areas managed by the Agency as an exclusive Agency and any areas for which the Agency is not an exclusive Agency, and the name and location of any adjacent basins.*

(b) *A written description of the Plan area, including a summary of the jurisdictional areas and other features depicted on the map.*

The Plan Area of the ETGSA GSP covers the entire jurisdictional area of the Agency overlying the Tule Subbasin, a Subbasin of the San Joaquin Valley Groundwater Basin delineated and defined by DWR in Bulletin 118 as Subbasin No. 5.22-13. The Agency's boundaries exist exclusively within the boundaries of the Tule Subbasin.

ETGSA's boundaries encompass 160,867 acres in the southeastern portion of Tulare County (See **Figure 3-1: ETGSA GSP Plan Area**). The area is mostly highly developed agriculture on prime farmland, with other major land uses including rural rangeland and urban development.

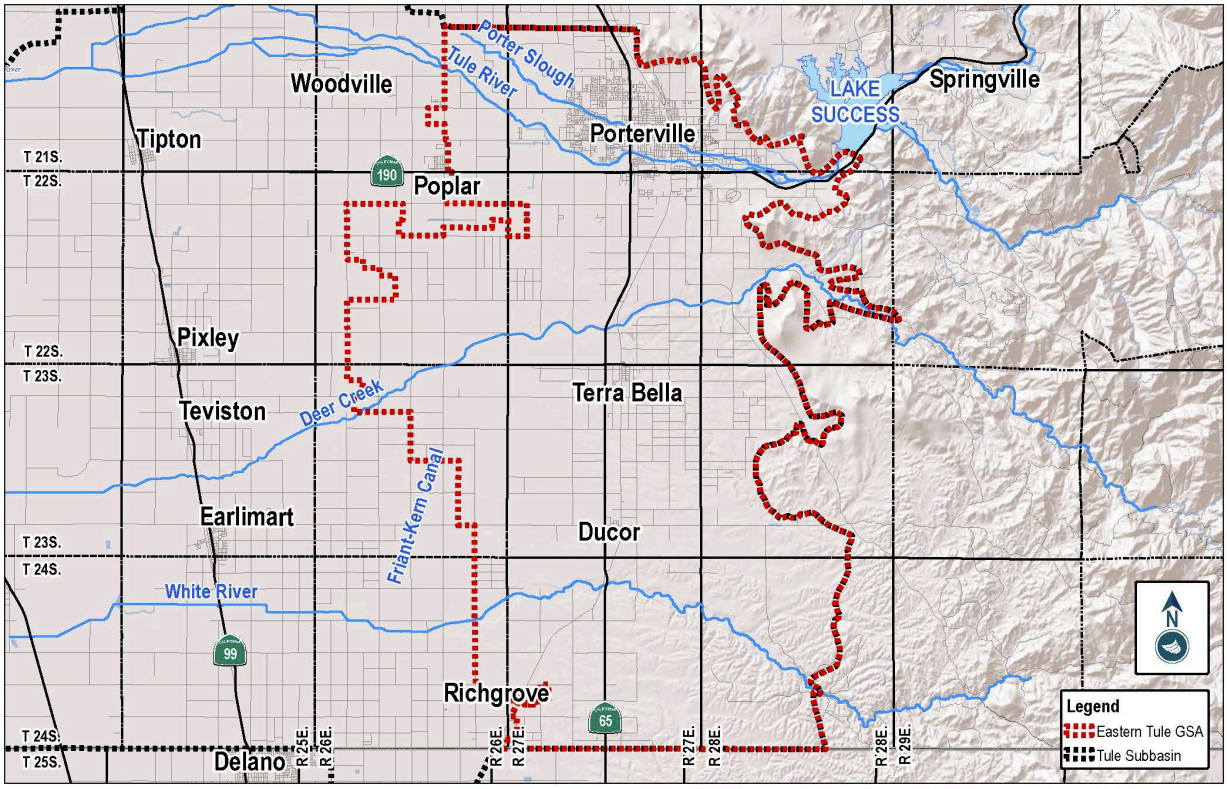


Figure 3-1: ETGSA GSP Plan Area

The ETGSA's northern boundary generally follows the northern boundary of Porterville Irrigation District and is shared with the Kaweah Subbasin (*Bulletin 118, Subbasin No. 5.22-11*). The Agency's western boundary follows Porterville Irrigation District's western boundary and then moves in a north-south direction to include the western boundaries of Saucelito Irrigation District and Kern-Tulare Water District

until reaching the county line between Tulare and Kern Counties, which defines the southern boundary of the Agency and is shared with the Kern County Subbasin (*Bulletin 118, Subbasin No. 5.22-14*). The Agency is generally bounded to the east by the Sierra Nevada's and includes the full eastern extent of the Tule Subbasin. The City of Porterville and the unincorporated communities of Terra Bella, Ducor, and East Porterville are included within the boundaries of the Agency. The jurisdictional extent of each of ETGSA's member agencies is fully included within the boundaries of ETGSA, to the extent that each member agency's jurisdiction overlies the Tule Subbasin.

State Highway 65 bisects the Agency in the north-south direction, while State Highway 190 crosses through the Agency's northern portion in the west-east direction. West-flowing Tule River, Deer Creek, and White River span the entire length of the Agency, forming in the Sierra Nevada mountain range and eventually flowing across the Tule Subbasin into the Tulare Lakebed. The Friant-Kern Canal runs north to southwest, entering the Agency's northern boundary near State Highway 65 and exiting the Agency through its western boundary near Avenue 72.

3.2 Other Tule Subbasin GSP Plan Areas *[23 CCR § 354.8(a)(1), 354.8(b)]*

23 Cal. Code Regs. § 354.8 Description of Plan Area. *Each Plan shall include a description of the geographic areas covered, including the following information:*

(a) *One or more maps of the basin that depict the following, as applicable:*

(1) *The area covered by the Plan, delineating areas managed by the Agency as an exclusive Agency and any areas for which the Agency is not an exclusive Agency, and the name and location of any adjacent basins.*

(b) *A written description of the Plan area, including a summary of the jurisdictional areas and other features depicted on the map.*

ETGSA is one of seven (7) GSAs that overly the Tule Subbasin. Each GSA overlying the Tule Subbasin is the exclusive GSA for its portion of the Tule Subbasin, and these GSAs collectively fully cover the Tule Subbasin and have developed their own GSP. These GSPs have been coordinated, pursuant WAT § 10727.6, and their Plan Areas collectively fully cover the Tule Subbasin, satisfying the requirements of WAT § 10727 *et seq*.

In addition to ETGSA, the other exclusive GSAs overlying the Tule Subbasin include:

- Alpaugh GSA
- Delano-Earlimart Irrigation District GSA
- Lower Tule Irrigation District GSA
- Pixley Irrigation District GSA
- Tri-County Water Authority GSA
- Tulare County GSA

Figure 3-2: Tule Subbasin GSAs and GSP Plan Areas describes the boundaries of the GSAs in the Tule Subbasin in relation to their proximity to the ETGSA.

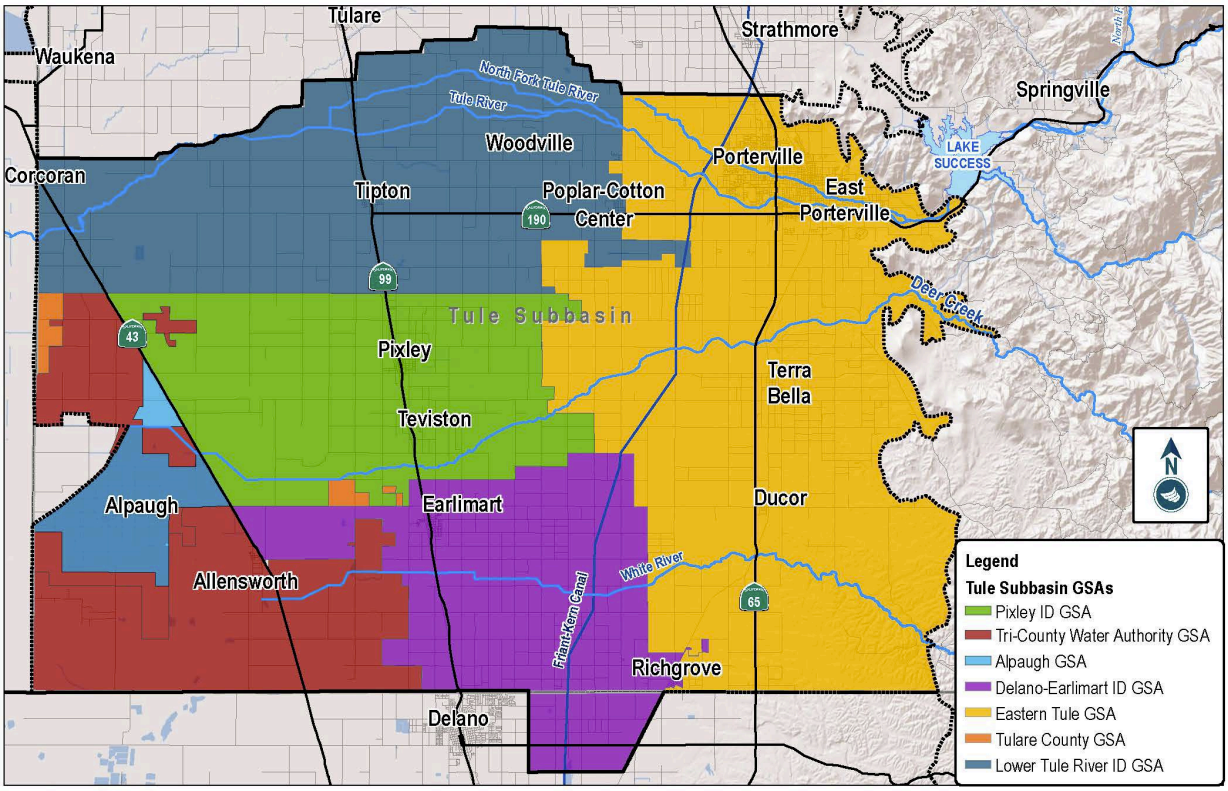


Figure 3-2: Tule Subbasin GSAs and GSP Plan Areas

3.3 Adjudicated Areas and Alternative Plans *[23 CCR § 354.8(a)(2), 354.8(b)]*

23 Cal. Code Regs. § 354.8 Description of Plan Area. *Each Plan shall include a description of the geographic areas covered, including the following information:*

(a) *One or more maps of the basin that depict the following, as applicable:*

(2) *Adjudicated areas, other Agencies within the basin, and areas covered by an Alternative.*

(b) *A written description of the Plan area, including a summary of the jurisdictional areas and other features depicted on the map.*

No part of the Tule Subbasin is adjudicated. No alternative plans have been submitted for any part of the Tule Subbasin. As the Tule Subbasin has no adjudicated areas and no alternative plans covering any portion of the Subbasin, no map has been provided in this GSP for these items.

3.4 Subbasins Adjacent to the Tule Subbasin *[23 CCR § 354.8(a)(1), 354.8(b)]*

23 Cal. Code Regs. § 354.8 Description of Plan Area. *Each Plan shall include a description of the geographic areas covered, including the following information:*

(a) *One or more maps of the basin that depict the following, as applicable:*

(1) *The area covered by the Plan, delineating areas managed by the Agency as an exclusive Agency and any areas for which the Agency is not an exclusive Agency, and the name and location of any adjacent basins.*

(b) *A written description of the Plan area, including a summary of the jurisdictional areas and other features depicted on the map.*

ETGSA is located exclusively within the Tule Subbasin and directly borders the Kaweah Subbasin to the north and the Kern County Subbasin to the south. The Tule Subbasin is bounded to its north, west, and south by subbasins of the San Joaquin Valley Groundwater Basin. The three (3) subbasins adjacent to the Tule Subbasin include:

- Kaweah Subbasin (*Bulletin 118, Subbasin No. 5.22-11*)
- Tulare Lake Subbasin (*Bulletin 118, Subbasin No. 5.22-12*)
- Kern County Subbasin (*Bulletin 118, Subbasin No. 5.22-14*)

Figure 3-3: Tule Subbasin and Adjacent Subbasins provides a map of the subbasin adjacent to the Tule Subbasin.

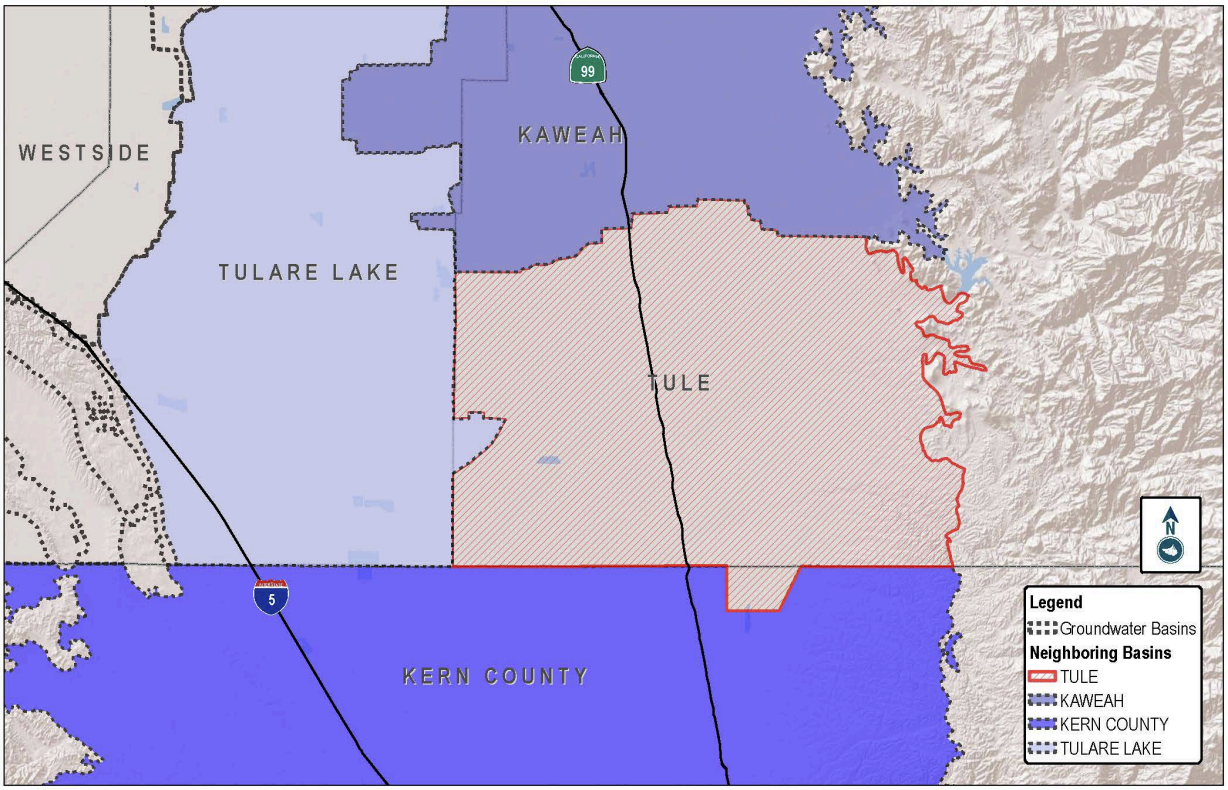


Figure 3-3: Tule Subbasin and Adjacent Subbasins

3.5 Other Jurisdictional Areas *[23 CCR § 354.8(a)(3), 354.8(b)]*

23 Cal. Code Regs. § 354.8 Description of Plan Area. *Each Plan shall include a description of the geographic areas covered, including the following information:*

(a) *One or more maps of the basin that depict the following, as applicable:*

(3) *Jurisdictional boundaries of federal or state land (including the identity of the agency with jurisdiction over that land), tribal land, cities, counties, agencies with water management responsibilities, and areas covered by relevant general plans.*

(b) *A written description of the Plan area, including a summary of the jurisdictional areas and other features depicted on the map.*

The presence and role of various state, federal, tribal, county, city, and local government entities who have jurisdiction within or have water management responsibilities within the vicinity of ETGSA are described below.

Figure 3-4: Federal, State, County, and Tribal Jurisdictional Boundaries within ETGSA provides a map describing the jurisdictional extent of relevant federal, state, county, and tribal entities within or near ETGSA.

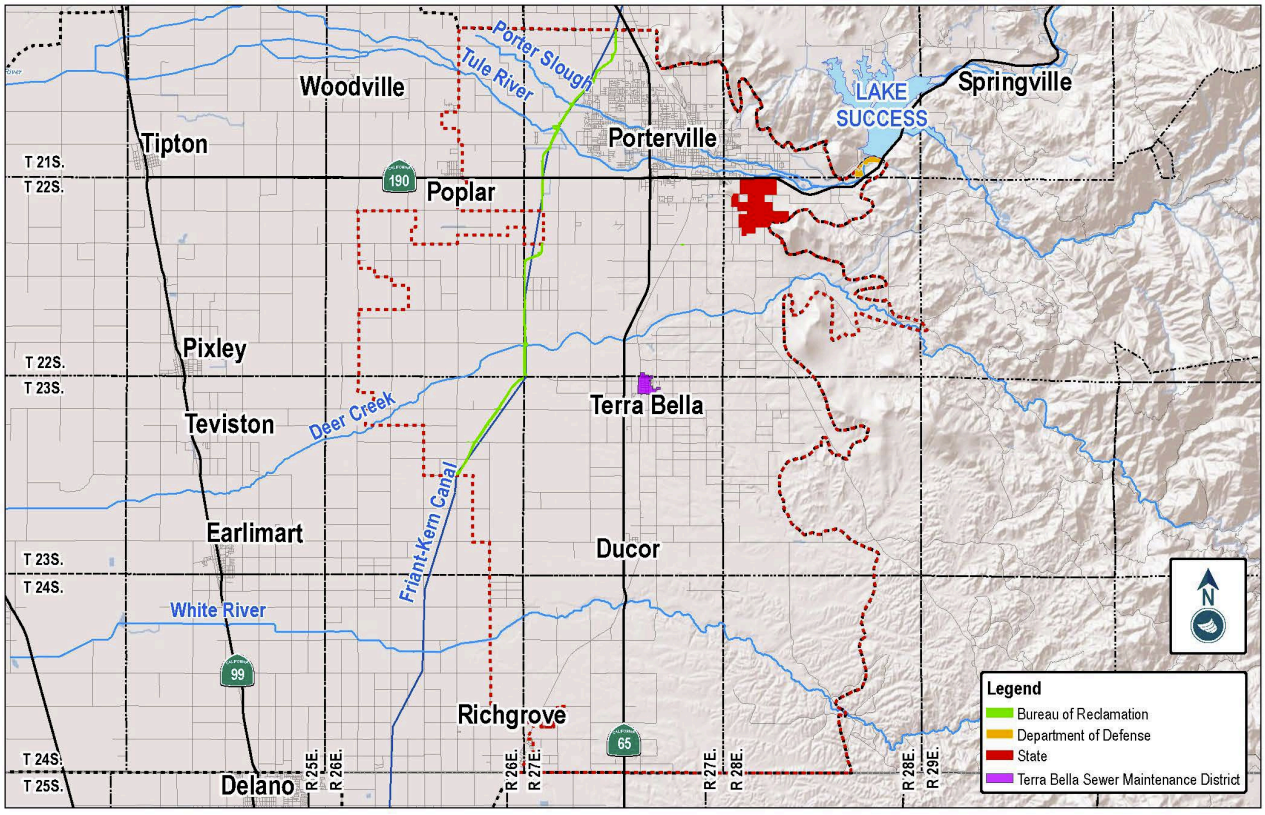


Figure 3-4: Federal, State, County, and Tribal Jurisdictional Boundaries within ETGSA

3.5.1 Federal Jurisdictions

The United States Bureau of Reclamation (hereafter, "USBOR") is the only federal agency with any significant land holdings and water management responsibilities directly within the ETGSA. Specifically, a reach of the Friant-Kern Canal, a canal integral to the Friant Division of the Central Valley Project, runs through the ETGSA in north-south manner for approximately 15 miles. Friant Water Authority maintains and operates the Friant-Kern Canal. The Friant-Kern Canal conveys surface water to approximately 850,000 acres of irrigated land and several communities by way of contracts maintained by various water districts.

The United States National Forest Service (hereafter, "NFS") and United States Army Corps of Engineers ("USACE") also operate facilities in or near the jurisdiction of ETGSA. NFS maintains its Sequoia National Forest Headquarters near Porterville Airport. USACE owns and operates the Success Dam and Reservoir, which provides flood protection and irrigation storage to communities downstream of the Tule River.

3.5.2 State Jurisdictions

California Department of Developmental Services (hereafter, "DDS") is the only state agency with any significant land holdings and water management responsibilities directly within the ETGSA. DDS owns and operates the Porterville Developmental Center (hereafter, "PDS"), an approximately 670-acre facility serving people with developmental and intellectual disabilities. PDS also maintains its own public water system and sources its drinking water via series of groundwater wells.

Other state entities with land or facilities in ETGSA include the California Military Department, the Judiciary of California, and the California Department of Motor Vehicles.

3.5.3 Tribal Jurisdictions

There is no significant presence of tribal lands within the ETGSA. However, the reservation of the Tule River Tribe of California (hereafter, "Tule River Tribe") resides in the Sierra Nevada foothills northeast of the ETGSA and the Tule River Tribe does maintain and own several land holdings and facilities within ETGSA.

3.5.4 County, City, and Local Jurisdictions

ETGSA resides entirely within the County of Tulare. Except for those lands within the jurisdiction of City of Porterville, Tulare County maintains ultimate land use planning authority for all lands within ETGSA's jurisdiction, including those lands within the unincorporated communities of Terra Bella and Ducor. Tulare County maintains several land holdings, various civic centers, and the Mid Valley Disposal Site within ETGSA. The Terra Bella Sewer Maintenance District is also managed via Tulare County.

City of Porterville is the only incorporated city within ETGSA and retains land use planning authority within its jurisdiction. The city coordinates with County regarding land use within unincorporated community of East Porterville. The city also maintains water management responsibilities within most of its incorporated

boundaries. Its water management responsibilities include the purveyance of water to households and business, stormwater management, and wastewater management.

Local agencies within ETGSA with jurisdiction and water management responsibilities include:

- Ducor Community Services District
- Ducor Irrigation District
- Hope Water District
- Kern-Tulare Water District
- Porterville Irrigation District
- Porter Vista Public Utility District
- Saucelito Irrigation District
- Tea Pot Dome Water District
- Terra Bella Irrigation District
- Vandalia Water District

Error! Reference source not found. provides a map describing the jurisdictional extent of city and local jurisdictions within ETGSA.

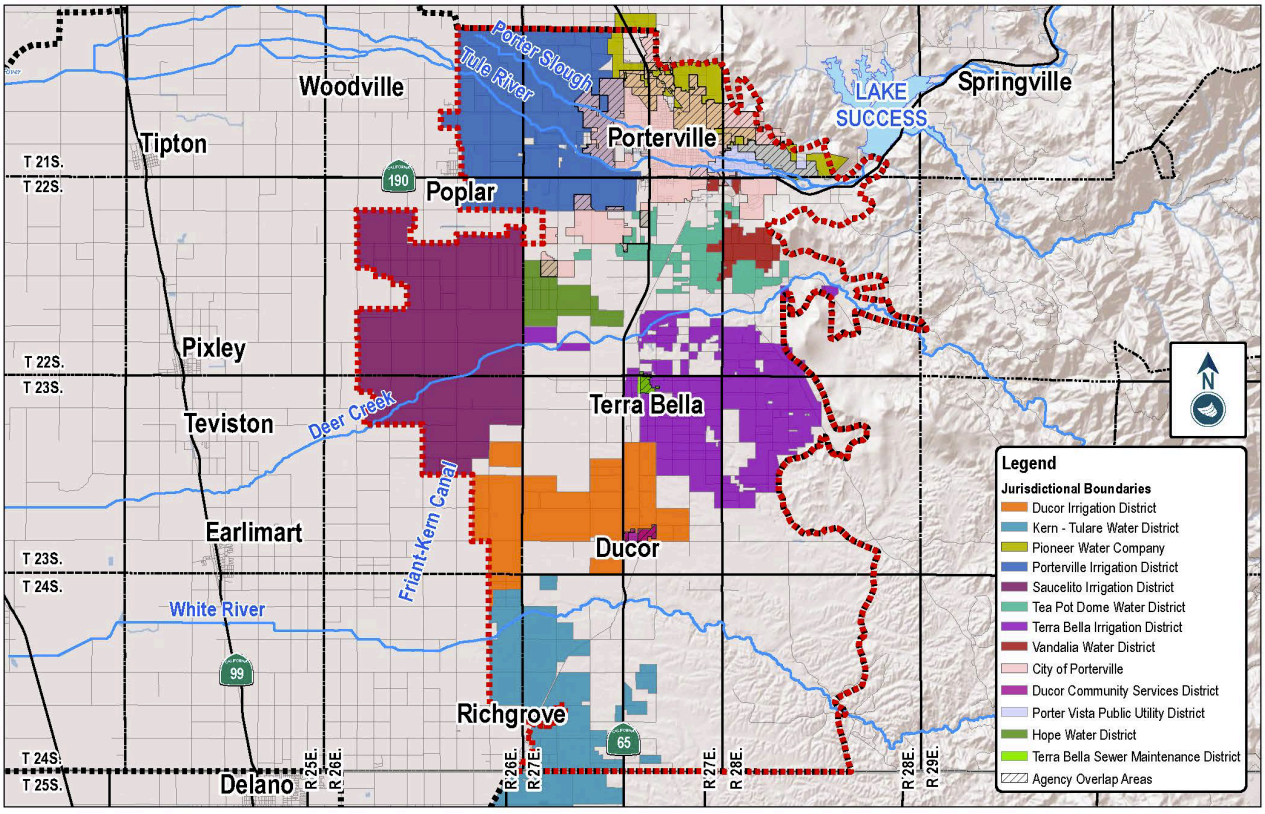


Figure 3-5: City and Local Agency Jurisdictional Boundaries within ETGSA

3.6 Management Areas within ETGSA

The ETGSA is subdivided into five (5) Management Areas. These Management Areas have been formed in order to facilitate the implementation of this GSP and to address various needs resulting from considerations of water use sector, water source type, the avoidance of undesirable results, and the conditions previously described in this Section. Management Areas have been grouped into specific Management Area Types that reflect the reason for their creation. The six ETGSA Management Areas are described below and grouped by Type:

Type: Community Management Areas

1. Porterville Community Management Area
2. Terra Bella Community Management Area
3. Ducor Community Management Area

Type: Cross-Boundary Management Areas

4. Kern-Tulare Water District Management Area

Type: Greater Tule Management Area

5. Greater Tule Management Area

Type: Special Management Area

6. Land Subsidence Management Area

Section 4.5: Management Areas describes the three Management Areas according the requirements of 23 CCR § 354.20. Error! Reference source not found. shows the boundaries of the management areas within the ETGSA.

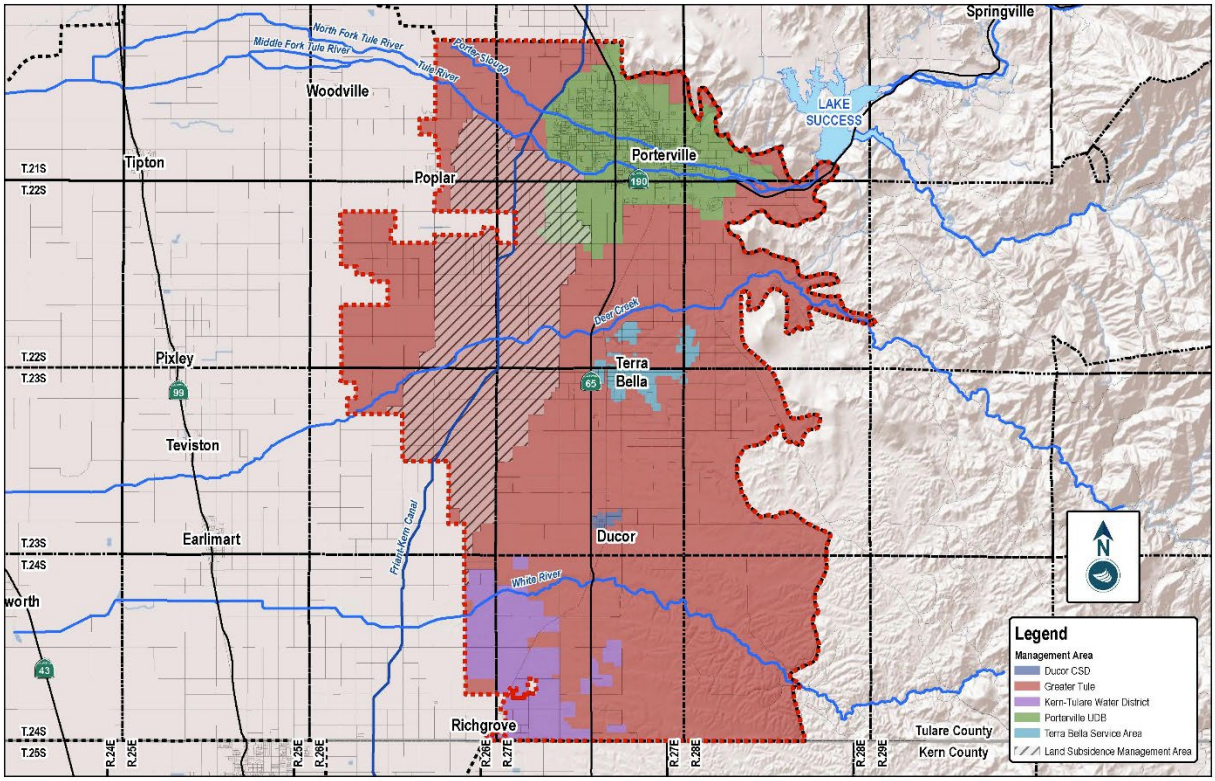


Figure 3-6: Management Areas within ETGSA

The management area categorized under the Cross-Boundary Management Area type have been created to specifically address the needs of Member Agencies with service areas partially within the Tule Subbasin and partially within another Subbasin. Presently, Kern-Tulare Water District is the only Member Agency of ETGSA experiencing this situation, as its boundaries are partially within the Tule Subbasin and partially within the Kern County Subbasin. Future projects and management actions focused in this Management Area will focus on enabling Kern-Tulare Water District to achieve the sustainability goals of both the Tule and the Kern County Subbasins while minimizing the need for Kern-Tulare Water District to significantly alter its operations. Additionally, Kern-Tulare Water District has prepared a GSP that encompasses its district as a whole within both the Tule Subbasin and Kern Subbasin. Throughout **Section 5 – Sustainable Management Criteria**, **Section 6 – Monitoring Network**, and **Section 7 - Projects and Management Actions** of this Plan, reference to the Kern-Tulare Water Districts GSP corresponding sections will be provided as to how the management area will differ from the remainder of the ETGSA. Kern-Tulare Water District Draft GSP is attached to this Plan as **Appendix B**.

ETGSA recognizes a management area categorized under Subsidence Management Area type is important to recognize the impacts subsidence has historically caused to Friant Kern Canal (hereafter, "FKC") which has led to reduce FKC capacity and ability to deliver imported waters to Friant Contractors down stream of Deer Creek. The ETGSA is exploring a subsidence management area to address future subsidence, but due to data gaps, is unable to create defined boundaries for such a management area at this time. The intention is to prepare a Land Subsidence Management Plan to inform and assist this process. Additional discussion around the Subsidence Management Area can be found in **Section 4.5 – Management Areas** and **Section 7.2.3 – Land Subsidence Management and Monitoring.**

3.7 Land Use *[23 CCR § 354.8(a)(4), 354.8(b)]*

23 Cal. Code Regs. § 354.8 Description of Plan Area. *Each Plan shall include a description of the geographic areas covered, including the following information:*

(a) *One or more maps of the basin that depict the following, as applicable:*

(4) *Existing land use designations and the identification of water use sector and water source type.*

(b) *A written description of the Plan area, including a summary of the jurisdictional areas and other features depicted on the map*

Land use planning authority within ETGSA is the responsibility of Tulare County and the City of Porterville. Relevant general and community plans that govern the land use within ETGSA's jurisdiction are further described in **Section 3.13** and include:

- Tulare County General Plan 2030 Update
- City of Porterville 2030 General Plan
- Porterville Area Community Plan 2015
- Terra Bella Community Plan 2015 Update
- Ducor Community Plan 2015 Update

Land use within the Agency is primarily agricultural in nature, with predominant crop types being citrus and subtropical fruits, table and wine grapes, pistachios, grain and hay crops, almonds, and permanent

plantings. Another significant land use is idle and non-irrigated rangeland, which largely prevails in the southeastern portion of the Agency. Urban land use within the Agency includes the City of Porterville and the unincorporated communities of Terra Bella, Ducor, and East Porterville.

Current land use type and land use zoning information was collected and described from DWR (see **Figure 3-7: ETGSA Land Use Map per DWR 2014 Land Use Survey**). Alternative sources of land use are California Department of Conservation, Tulare County, and City of Porterville.

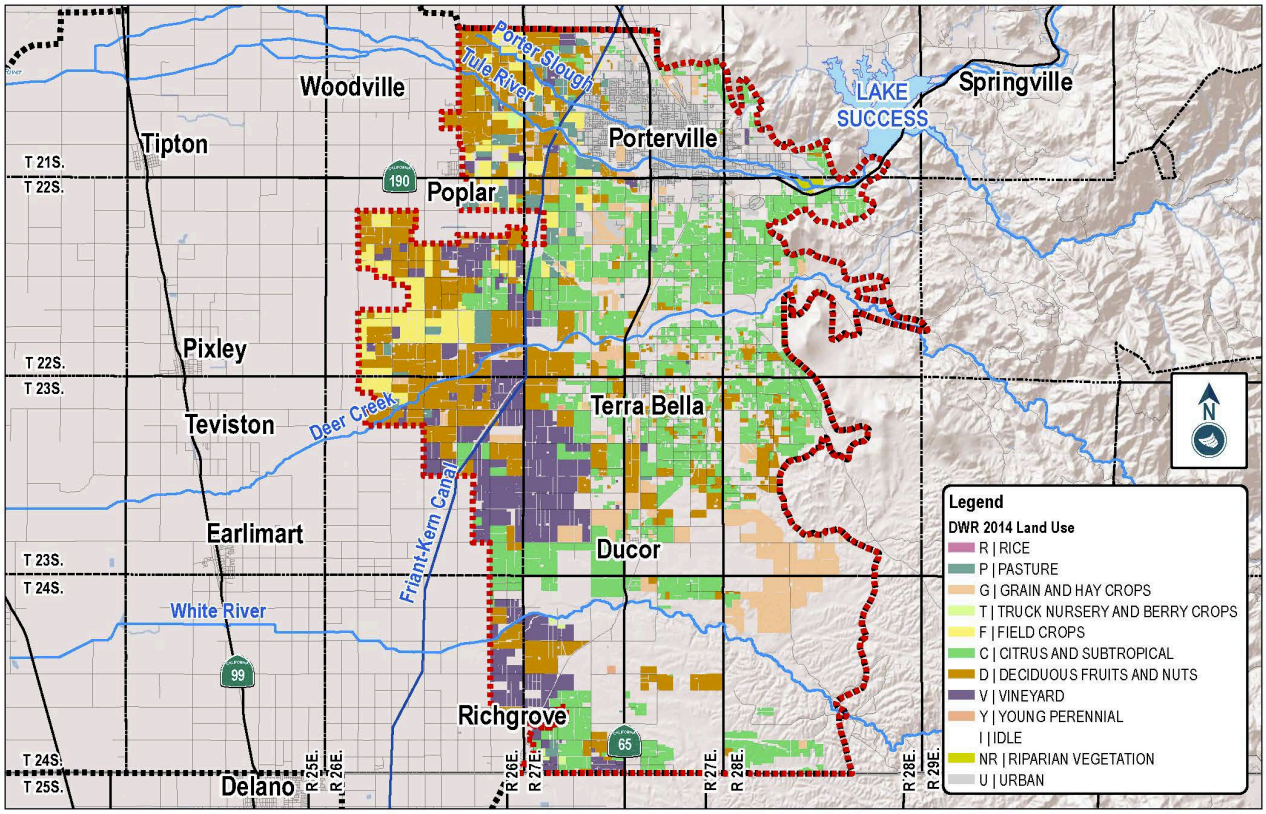


Figure 3-7: ETGSA Land Use Map per DWR 2014 Land Use Survey

Table 3-1: ETGSA Land Use Map per DWR 2014 Land Use Survey

Land Use[1]	Acres
Citrus & Subtropical	29,998
Idle Acres	19,561
Vineyard	13,407
Urban	8,728
Pistachios	9,467
Grain & Hay Crops	8,745
Almonds	5,999
Walnuts	5,500
Field Crops	4,703
Deciduous Fruits & Nuts	2,889
Alfalfa, Misc. Grasses, and Other Pasture	2,616
Cotton	858
Truck, Nursery, and Berry Crops	546
Riparian Vegetation	229
Young Perennial	100
Total	**113,347**

3.8 Water Use Sectors and Water Source Types *[23 CCR § 354.8(a)(4), 354.8(b)]*

23 Cal. Code Regs. § 354.8 Description of Plan Area. *Each Plan shall include a description of the geographic areas covered, including the following information:*

(a) *One or more maps of the basin that depict the following, as applicable:*

(4) *Existing land use designations and the identification of water use sector and water source type*

(b) *A written description of the Plan area, including a summary of the jurisdictional areas and other features depicted on the map*

Each water use sector within ETGSA utilizes one or several water source types. Pursuant the definition of water use sector in the 23 CCR § 351(al), ETGSA has identified and grouped water use into four primary sectors:

- **Urban/Industrial**: Urban and industrial water use is assigned to household and commercial water use in the City of Porterville and census-designated places, rural domestic household use, and the limited industrial use of water – primarily associated with packing houses and agricultural facilities – that resides both within and outside of incorporated areas Industrial use is also assigned
- **Agricultural**: Agricultural water use is assigned to water applied for commercial crop production, water utilized in dairy facilities, and water for livestock.
- **Managed Recharge**: Managed recharge water use is assigned to surface water specifically diverted to percolation ponds and banking facilities, and treated wastewater effluent that is recycled for groundwater recharge via percolation ponds.
- **Environmental**: Environmental water use is assigned to water used for environmental purposes such as sustaining natural wetlands and wildlife habitat.

[1] DWR 2014 Land Use

Water use sectors within ETGSA utilize one or more of the following water source types: areal precipitation, groundwater, local surface water, imported surface water, banked surface water, and recycled water.

Section 4.4 Water Budget of this GSP provides additional detail regarding ETGSA's water budget and further describes the water use sectors and the water source types used to meet the demand of each sector within ETGSA.

Each of ETGSA's water use sectors have been described below, along with their affiliated water source type(s).

3.8.1 Urban/Industrial Water Use and Water Sources

Municipalities, public water systems, domestic users, and industrial users within the Agency are generally reliant upon groundwater as their primary source of water. Major active public water systems include, but are not limited to:

- Beverly Grand Mutual Water Company
- California Water Service – Mullen Service Area
- Central Mutual Water Company
- City of Porterville
- City of Porterville – Jones Corner
- Del Oro Water Company – East Plano and Grandview Gardens Districts
- Ducor Community Services District
- Porterville Developmental Center
- Terra Bella Irrigation District

Per data sourced from California State Water Resources Control Boards Division of Drinking Water and the California Environmental Health Tracking Program database, 88 unique public water systems may potentially operate within or partially within the boundaries of the Agency. However, of the 88 listed systems, only 45 are listed as currently Active. Moreover, following outreach and investigation undertaken by the Agency during the development of this GSP, there are strong indications that several listed Active systems may no longer be in operation as a result of consolidation, dissolution, or other circumstances. Only 17 of these 45 active systems have service areas that are mapped and reside with ETGSA.

Table 3-2: Active Public Water Systems[2] provides a summary of active public water systems identified via these two databases, as well as their primary source of water, number of persons served, and number of connections.

[2] CEHTP, SWRCB DDW; retrieved 1/9/2019

Table 3-2: Active Public Water Systems

System	System Name	Water Source	Population	Connections
5400504	A & A MHP	GW	200	60
5401038	AKIN WATER CO	GW	50	22
5400580	ALTA VISTA MHP	GW	40	33
5400696	ARMY CORPS ENGS-TULE REC AREA	GW	25	4
5400651	BEVERLY GRAND MUTUAL WATER	GW	108	28
5402019	BLANCA MARKET & DELI	GW	25	3
5400985	BOB'S TINY MART	GW	25	3
5403047	CASILLAS WATER SYSTEM	GW	30	6
5400655	CENTRAL MUTUAL WATER CO	GW	115	23
5400935	CWS - MULLEN WATER COMPANY	GW	135	42
5402057	DEER CREEK RV PARK	GW	76	78
5400767	DEL ORO EAST PLANO DISTRICT	GW	50	15
5400666	DEL ORO GRANDVIEW GARDENS DISTRICT	GW	389	119
5400542	DUCOR CSD	GW	612	164
5400602	EAGLE'S NEST RESORT	GW	50	78
5400769	FOOTHILL APARTMENTS	GW	82	14
5400987	FOUNTAIN SPRINGS EL TAPATIO	GW	25	2
5403051	FRIENDS RV PARK	GW	24	44
5400759	GIUMARRA VINEYARDS 1 & 2	GW	80	8
5400762A	GIUMARRA VINEYARDS 3 & 4	GW	125	7
5400763	GIUMARRA VINEYARDS 5 & 6	GW	150	2
5403150	HARI'S MARKET	GW	200	10
5400994	HOPE ELEMENTARY SCHOOL	GW	100	1
5400604	MOUNTAIN VIEW DUPLEXES	GW	108	27
5403053	NS MINI MART	GW	140	2
5403156	PAN AMERICAN BALLROOM	GW	750	2
5403120	PANADERIA LA CABANA	GW	155	1
5410026	POPLAR COMM SERVICE DIST	GW	2,200	586
5490006	POPLAR CSD	GW	0	0
5410024	RICHGROVE COMMUNITY SERVICES DISTRICT	GW	3,400	524
5400884	ROCKFORD SCHOOL	GW	240	4
5400735	RODRIGUEZ LABOR CAMP	GW	110	35
5400558	SAUCELITO ELEM SCHOOL	GW	75	3
5400529	SHADY GROVE MHP	GW	137	40
5400984	SUCCESS MARKET	GW	25	4
5403131	SUNNY ACRES PRESCHOOL	GW	80	2
5403039	TEA POT DOME WATER CO	GW	25	4
5410038	TERRA BELLA IRRIGATION DISTRICT - TBT	SW	2,340	793
5401063	THARP REAL PROPERTIES	GW	35	3
5400670	TRIPLE R MUTUAL WATER CO	GW	400	154
5490005	CITY OF PORTERVILLE	GW	61,946	15,535
5410801	PORTERVILLE DEVELOPMENTAL CENTER	GW	1,749	99
5410048	PORTERVILLE - JONES CORNER	GW	339	5
5400718	WILLIAMS MUTUAL WATER CO	GW	180	50
5400875	DIXON WATER COMPANY	GW	28	5
		Total	**77,178**	**18,644**

Residents of Terra Bella residing within the Water Quality Improvement Program boundary of Terra Bella Irrigation District receive surface water as their primary source of drinking water. The water is supplied through a contract between the USBOR and TBID as part of the Central Valley Project (hereafter, "CVP"). The raw surface water received from the Friant-Kern Canal is treated and then distributed to households and commercial business. TBID also maintains arrangements to pump groundwater to meet municipal needs when surface water deliveries are insufficient to meet demand, which is usually the result of canal maintenance or extreme drought.

The City of Porterville, though it does not directly deliver surface water to its residents, recharges surface water supplied by the Tule River and Friant-Kern Canal to maintain elevated groundwater levels within the area of its groundwater extractions.

As stated in **Section 4.4.1.1.5 Municipal Deliveries from Wells** of this GSP's Basins Setting, between the historical period of 1986/87-2016/17, an approximate average annual 14,600 acre-feet of groundwater was extracted for municipal purposes, of which an approximate annual average of 5,850 acre-feet was recycled and diverted to recharge basins where it either evapotranspiration, irrigated crops, or recharged the groundwater aquifer.

3.8.2 Agricultural Water Use and Water Sources

Agricultural water demand is met through areal precipitation, local surface water supplies, imported surface water supplies, locally pumped groundwater supplies, and recycled water.

The quantity of areal precipitation, local surface water, and non-local surface water available for use to meet crop needs is annually variable. Water year type and various government regulations are the major determinants of annual surface water supply variability. Locally pumped groundwater, on average, meets the majority of agricultural water demand. Lands with access to surface water supplies typically use groundwater in a conjunctive manner, whereas those lands outside of the bounds of any water agency or local ditch company are typically exclusively reliant upon groundwater.

Imported surface water is sourced primarily from the Friant-Kern Canal via long-term contract, short-term exchange, and banked supplies. Additionally, lands within Kern-Tulare Water District have access to and in some years utilize waters from the Kern River, the Cross Valley Canal, various banking programs, and produced water. Imported surface water supplies are managed and allocated to agricultural users within ETGSA by five active water agencies. The agencies, as well as their federal CVP contracts, are listed below:

- Kern-Tulare Water District;
  - *I1r-1460-A*, CVP Friant-Kern Canal Unit Class 2 (Maximum Annual Quantity: 5,000 AF)
  - *14-06-200-8601A-IR16*, CVP Cross Valley Canal Unit (Maximum Annual Quantity: 40,000 AF)
  - *14-06-200-8367A-IR16*, CVP Cross Valley Canal Unit (Maximum Annual Quantity: 13,300 AF)
- Porterville Irrigation District;
  - *I75r-4309-D (C1)*, CVP Friant Division Class 1 (Maximum Annual Quantity: 15,000 AF)
  - *I75r-4309-D (C2)*, CVP Friant Division Class 2 (Maximum Annual Quantity: 30,000 AF)
- Saucelito Irrigation District;
  - *14-06-200-7430E*, CVP Friant-Kern Canal Unit Class 1 (Maximum Annual Quantity: 300 AF)
  - *I75r-2604-D (C1)*, CVP Friant-Kern Canal Unit Class 1 (Maximum Annual Quantity: 21,200 AF)

  - *I75r-2604-D (C2)*, CVP Friant-Kern Canal Unit Class 2 (Maximum Annual Quantity: 32,800 AF)
- Tea Pot Dome Water District; and
  - *14-06-200-7430-D*, CVP Friant-Kern Canal Unit Class 1 (Maximum Annual Quantity: 7,200 AF)
- Terra Bella Irrigation District.
  - *I75r-2446-D*, CVP Friant-Kern Canal Unit Class 1 (Maximum Annual Quantity: 29,000 AF)

Local surface water supplies are sourced from the native flows of the Tule River, Deer Creek, and White River. Local surface water supplies are distributed by way of appropriative and riparian water rights. The Tule River is the largest local source of surface water and is primarily managed by the Tule River Association, which is made up of the ditch companies with rights to the Tule River and those Agencies with storage rights in Success Reservoir. Collectively, Vandalia Water District and Porterville Irrigation District maintain 15,750 acre-feet of irrigation storage space within Success Reservoir. The following ditch companies and water agencies within the ETGSA have access to Tule River water and/or storage space:

- Campbell-Moreland Ditch Company
- Hubbs & Miner Ditch Company
- Rhodes-Fine Ditch Company
- Rosedale Water Company
- Pioneer Water Company
- Porter Slough Ditch Company
- Porterville Irrigation District
- Vandalia Water District

A minority of agricultural water demand is met through recycled water supplied on an irregular basis by way of treated domestic effluent from facilities operated by the City of Porterville.

Per the estimates provided in **Section 4.4 Water Budget**, between the historical period of 1986/87-2016/17, an approximate average annual 16,800 acre-feet of Tule River water, 79,000 acre-feet of imported surface water, 192,000 acre-feet extracted groundwater, and 2,600 acre-feet of recycled water were applied to crops within ETGSA.

Figure 3-8: Water Use Sources provides a map of the various water agencies and their primary water source type, groundwater dependent agricultural areas, and major surface water distribution facilities within ETGSA that provide irrigation water for agricultural and other purposes.

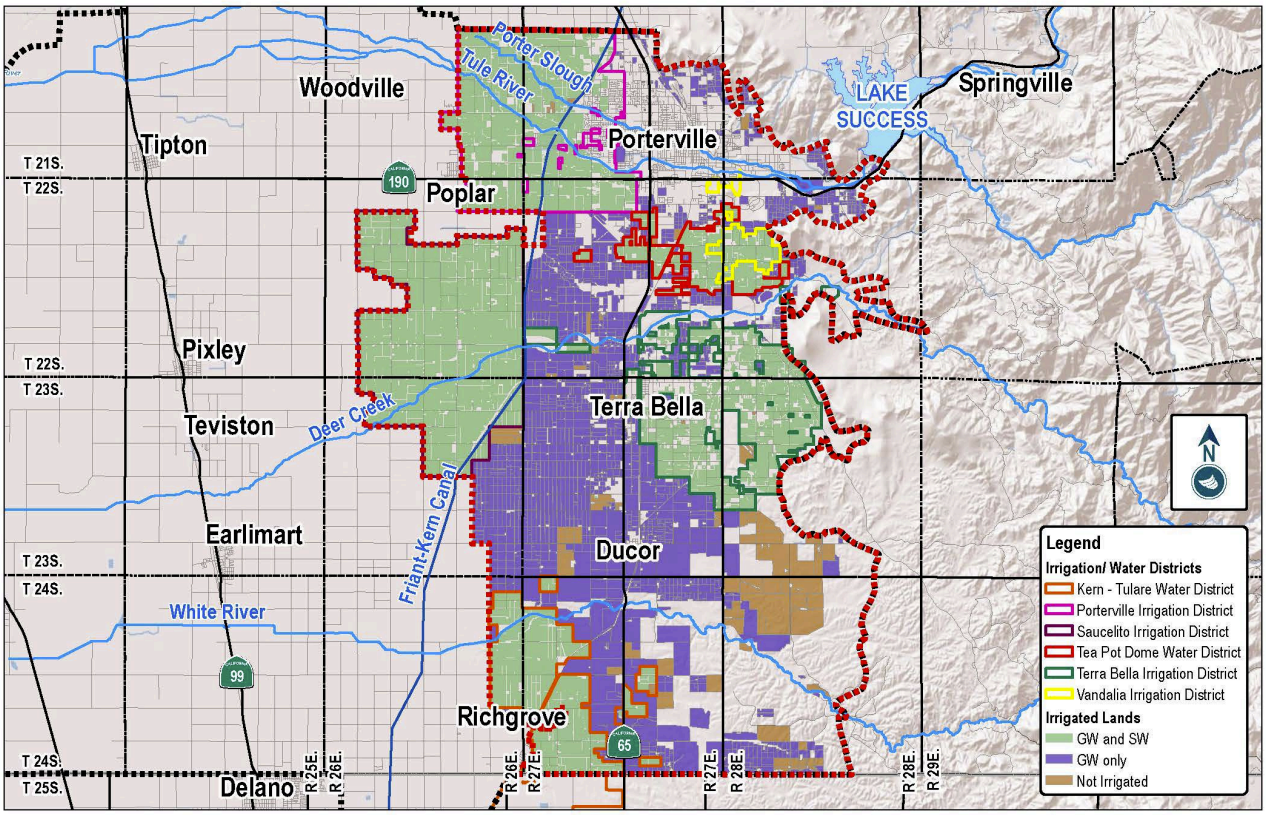


Figure 3-8: Water Use Sources

3.8.3 Managed Recharge

Several percolation ponds and groundwater recharge sites are maintained across ETGSA's jurisdiction. These sites generally recharge water from the Tule River, Deer Creek, Friant-Kern Canal, or from a treatment facility

Deer Creek Tule River Authority (hereafter, "DCTRA"), a joint powers authority formed in 1994, has functioned to coordinate groundwater recharge efforts amongst several local water agencies, including the following that reside within ETGSA: Porterville Irrigation District, Saucelito Irrigation District, Tea Pot Dome Water District, and Terra Bella Irrigation District, and Vandalia Water District. Recharged water is typically sourced from the Tule River, Deer Creek, or Friant-Kern Canal. Several recharge basins are utilized by these agencies that also reside outside of the ETGSA's jurisdiction but within the boundaries of the Tule Subbasin.

Vandalia Water District operates two percolation ponds into which it diverts surface water from the Tule River. To meet its customers' irrigation demand, two well fields in the vicinities of these ponds extract the recharged water and divert them into the district's piped distribution system.

Terra Bella Irrigation District maintains a pre-1914 water right and appropriative water right on the local Deer Creek. TBID diverts an estimated average annual 1,200 acre-feet of Deer Creek water into recharge

basins managed by the district that is later recovered by groundwater extraction to meet in-district crop demands.

City of Porterville currently maintains three primary recharge efforts: (1) percolation of treated wastewater effluent in six percolation ponds, (2) purchase and transfer local and imported surface water that is diverted into recharge basins, and (3) maintenance of ~25 stormwater detention basins that provide groundwater recharge.

Terra Bella Sewer Maintenance District treats the residential and commercial wastewater effluent for a portion of Terra Bella and diverts the treated water to a percolation pond.

While Kern-Tulare Water District does recharge water through groundwater banking programs, none of these programs currently operate within the Tule Subbasin.

Per the estimates provided in **Section 4.4.1.2.4 Managed Recharge in Basins**, between the historical period of 1986/87-2016/17, an approximate average annual 5,800 acre-feet of Tule River water and 3,200 acre-feet recycled water were recharged in recharge basins within ETGSA.

3.8.4 Environmental

Presently, ETGSA has yet to identify any environmental users of groundwater within its jurisdiction. As noted in **Section 4.3.6 - Interconnected Surface Water Systems** and **Section 4.3.7 – Groundwater Dependent Ecosystems**, the absence of interconnected surface waters and GDEs strongly indicates that there are no environmental users of groundwater within ETGSA's boundaries. Throughout implementation of this GSP the ETGSA will evaluate new data and work with environmental interests for future consideration of environmental water users within its Jurisdiction.

3.9 Existing Wells, Well Types, and Density *[23 CCR § 354.8(a)(5), 354.8(b)]*

23 Cal. Code Regs. § 354.8 Description of Plan Area. *Each Plan shall include a description of the geographic areas covered, including the following information:*

(a) *One or more maps of the basin that depict the following, as applicable:*

(5) *The density of wells per square mile, by dasymetric or similar mapping techniques, showing the general distribution of agricultural, industrial, and domestic water supply wells in the basin, including de minimis extractors, and the location and extent of communities dependent upon groundwater, utilizing data provided by the Department, as specified in Section 353.2, or the best available information.*

(b) *A written description of the Plan area, including a summary of the jurisdictional areas and other features depicted on the map.*

The counting, categorization, and density of wells within ETGSA is based on the DWR's *Well Completion Report Map Application* tool. Wells available through this tool are categorized as domestic, production, public supply, or unknown. For this GSP, production well as are assumed to be for agricultural irrigation purposes. The well information is based on the information found in well logs submitted to DWR.

Per the information provided with this tool, there are 2,714 wells within ETGSA at an average density of approximately 10.8 wells per square mile. **Table 3-3: Wells within ETGSA by Well Use Type**[3] the count of wells within ETGSA by type. This information is visualized in Figure 3-9: Wells within ETGSA Well Use Type.

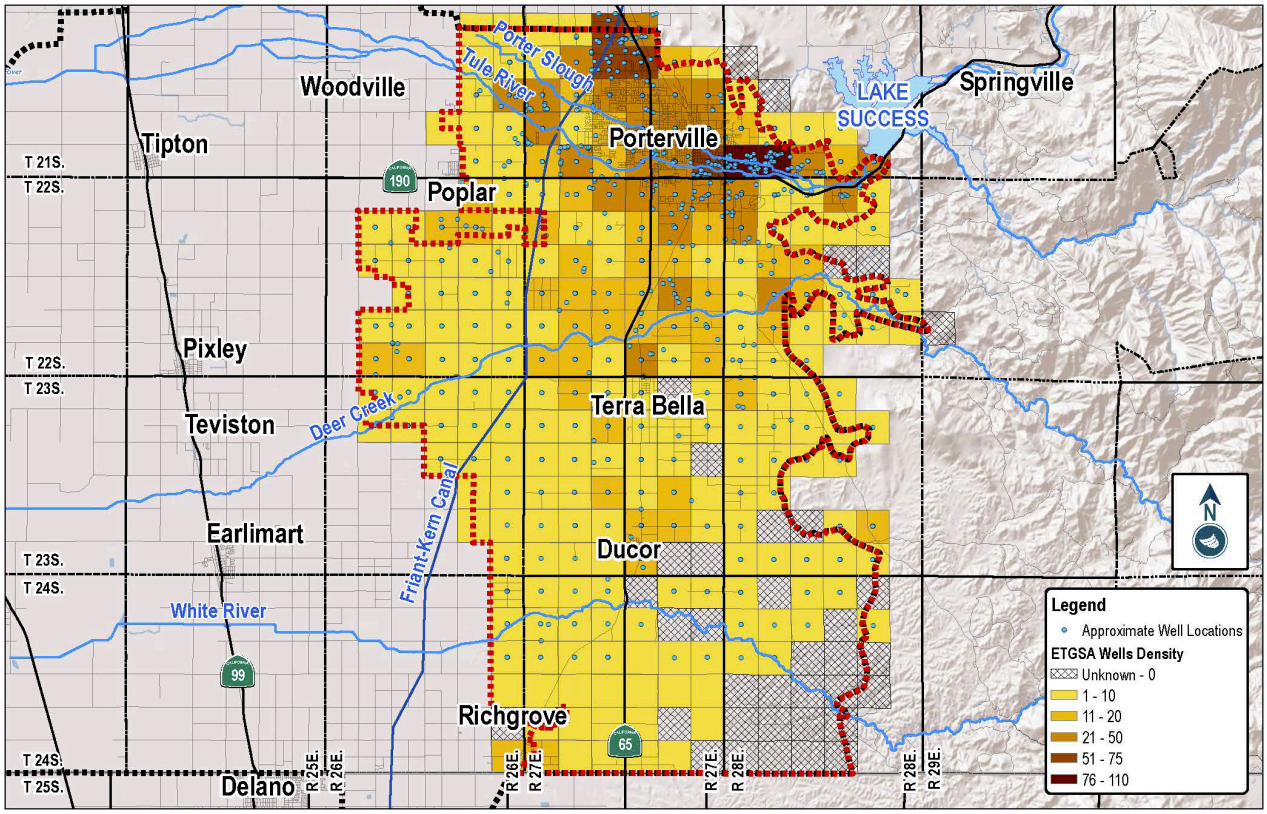


Figure 3-9: Wells within ETGSA Well Use Type

Table 3-3: Wells within ETGSA by Well Use Type

Well Type	Total
Domestic	1,099
Irrigation - Agricultural	563
Public	72
Other	175
Unknown	805
Total	**2,714**

The majority of domestic wells tend to exist within and around the communities of Porterville, Terra Bella, Ducor. Agricultural wells are generally situated in those areas under production, with average density typically higher in those areas existing outside of the boundaries of any active water agency.

Within ETGSA's boundary, competing sources of well locations exist. By using more than one of these sources to account for wells within the Agency will result in an inaccurate representation of the number wells. Therefore, until further efforts or policies are implemented by the Agency, such as well

[3] DWR Well Completion Report Map Application; retrieved 6/12/2019

registrations, the most accurate source for determining well density, location and type within the Agency's boundaries is considered to be DWR's Well Completion Report Map Application tool and database

3.10 Groundwater Dependent Communities *[23 CCR § 354.8(a)(5), 354.8(b)]*

23 Cal. Code Regs. § 354.8 Description of Plan Area. *Each Plan shall include a description of the geographic areas covered, including the following information:*

(a) *One or more maps of the basin that depict the following, as applicable:*

(5) *The density of wells per square mile, by dasymetric or similar mapping techniques, showing the general distribution of agricultural, industrial, and domestic water supply wells in the basin, including de minimis extractors, and the location and extent of communities dependent upon groundwater, utilizing data provided by the Department, as specified in Section 353.2, or the best available information.*

(b) *A written description of the Plan area, including a summary of the jurisdictional areas and other features depicted on the map.*

This plan distinguishes between human communities (i.e. Groundwater Dependent Communities) and ecological communities (i.e. Groundwater Dependent Ecosystems) in its description of those communities dependent upon groundwater.

3.10.1 Potentially Groundwater Dependent Ecosystems

Groundwater Dependent Ecosystems (hereafter, "GDEs") are defined as "ecological communities or species that depend on groundwater emerging from the aquifers or on groundwater occurring near the groundwater surface" [23 CCR § 351 (m)]. Utilizing the DWR Natural Communities (hereafter, "NC") Dataset Viewer map application, these ecosystems are shown to potentially occur along the natural reaches of the Tule Subbasin's three native waterways.

Figure 3-10: Potentially Groundwater Dependent Ecosystems within ETGSA provides a map visualizing the extent of GDEs that may potentially occur within ETGSA

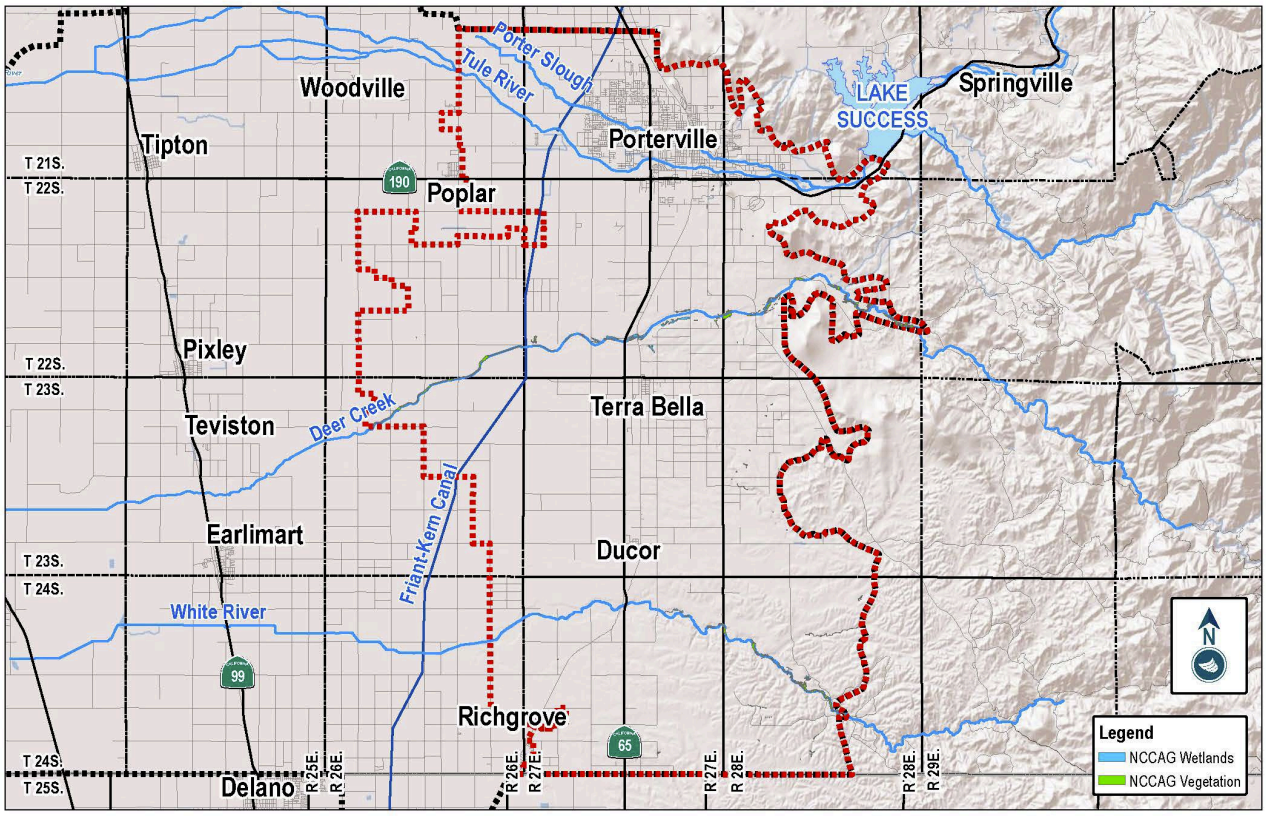


Figure 3-10: Potentially Groundwater Dependent Ecosystems within ETGSA

Section 4.3.7 notes that GDEs are unlikely to occur in the Tule Subbasin given that the average depth to groundwater relative to the root zone for groundwater dependent plants is well below those plants' roots systems.

3.10.2 Groundwater Dependent Communities

As previously described in **Section 3.8.1**, most of ETGSA's communities rely on groundwater to meet their municipal and industrial needs, with the sole exception being residents within Terra Bella Irrigation District who primarily use surface water supplied by a contract with USBOR. All the Agency's communities are considered either Disadvantaged or Severely Disadvantaged Communities.

Figure 3-10: Potentially Groundwater Dependent Ecosystems within ETGSA provides a map of ETGSA's various community areas, and the information provided in this Exhibit is also summarized below in **Figure 3-11: Communities within ETGSA and their Primary Source of Drinking Water**

Table 3-4: Communities within ETGSA and their Primary Source of Drinking Water**.**

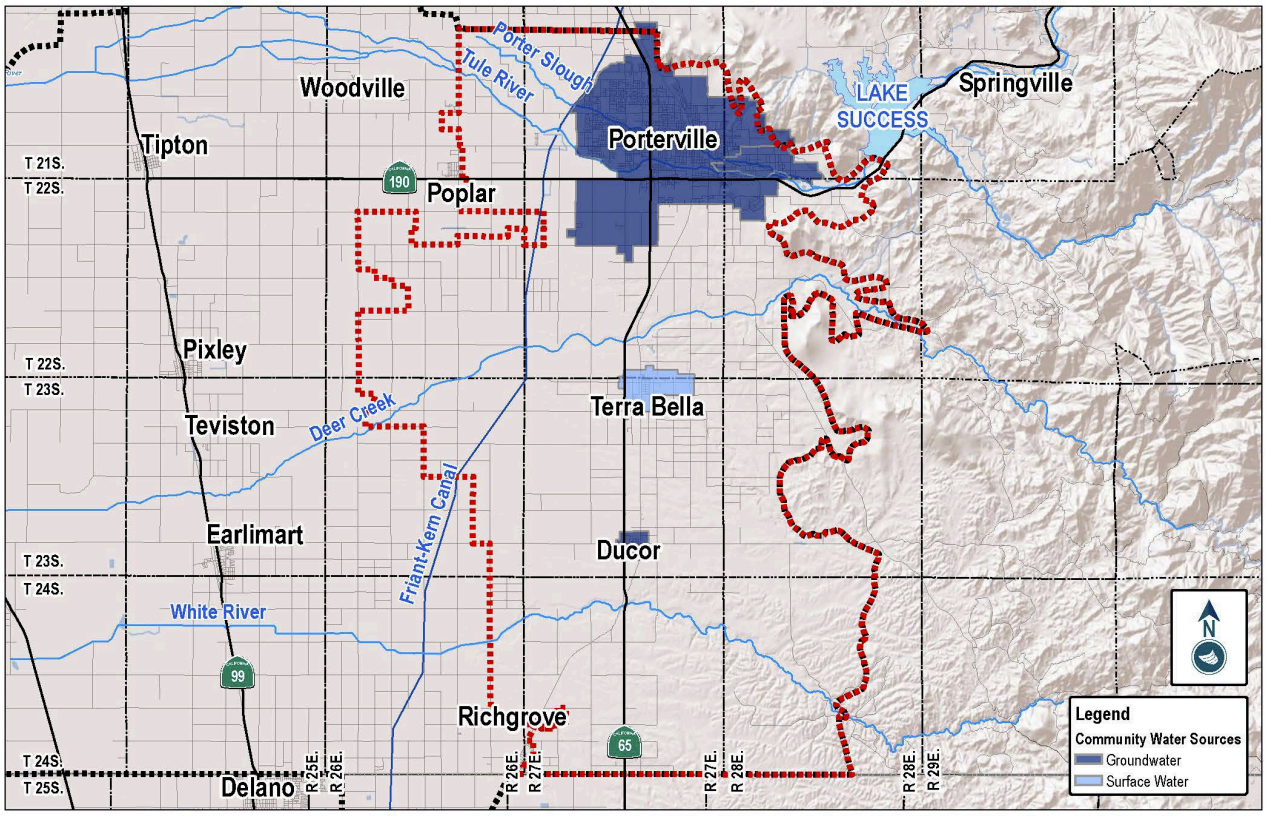


Figure 3-11: Communities within ETGSA and their Primary Source of Drinking Water

Table 3-4: Communities within ETGSA and their Primary Source of Drinking Water

Community	Population[4]	Status	Primary Source of Drinking Water
City of Porterville	54,949	Disadvantaged Community	Groundwater
East Porterville	6,585	Severely Disadvantaged Community	Groundwater
Terra Bella	2,912	Severely Disadvantaged Community	Surface Water (CVP)
Ducor	646	Severely Disadvantaged Community	Groundwater
Eastern Tule GSA (Total)	**65,092**	**N/A**	**N/A**

With groundwater as the primary source of municipal and industrial water within ETGSA, the Agency's communities are sensitive to groundwater depths relative to the depth of their water supply wells. Continued lowering of the groundwater levels could result in well failure and the loss of a community's primary source of water.

[4] United States Census (2010)

3.11 Existing Monitoring and Management Programs *[23 CCR § 354.8(c)]*

23 Cal. Code Regs. § 354.8 Description of Plan Area. *Each Plan shall include a description of the geographic areas covered, including the following information:*

(c) *Identification of existing water resource monitoring and management programs, and description of any such programs the Agency plans to incorporate in its monitoring network or in development of its Plan. The Agency may coordinate with existing water resource monitoring and management programs to incorporate and adopt that program as part of the Plan.*

A variety of programs actively monitor and/or manage water resources within jurisdiction of the ETGSA. These programs are carried out by various state, local, and federal agencies.

Monitoring programs include the monitoring of groundwater levels, groundwater quality, flows of imported and native surface waters, and quality of imported and native surface waters. Management programs describe the management of water within individual agencies' jurisdiction, the integrated management of regional water, and various conjunctive use operations. Several programs retain aspects of both monitoring and management programs.

Those water resources monitoring and management programs occurring within the Agency have been identified and summarized below. Additionally, where applicable, the below section describes how the Agency has incorporated these programs into the development of its GSP or intends to coordinate with these programs as a part of implementing its GSP.

3.11.1 Monitoring Programs

3.11.1.1 Water Quality and Supply: State-Wide Groundwater Monitoring Programs

Several state programs collect and monitor groundwater data, including:

- DWR Water Data Library;
- DWR California Data Exchange Center;
- SWRCB Groundwater Ambient Monitoring and Assessment program; and
- California Statewide Groundwater Elevation Monitoring program.

DWR's Water Data Library (hereafter, "WDL") is a repository for groundwater quality data. Samples are collected from a variety of well types including irrigation, stock, domestic, and some public supply wells. WDL can be accessed at the following link: http://wdl.water.ca.gov/waterdatalibrary/

DWR's California Data Exchange Center (hereafter, "CDEC") installs, maintains, and operates an extensive hydrologic data collection network. This network includes data related to precipitation, snowfall, snow pack, river flow, reservoir storage, and weather. CDEC can be accessed at the following link: http://cdec.water.ca.gov/index.html

Established in 2000 by the California State Water Resources Control Board (hereafter, "SWRCB"), the GeoTracker Groundwater Ambient Monitoring and Assessment (hereafter, "GAMA") program monitors groundwater quality throughout the State of California. GAMA is intended to create a comprehensive groundwater monitoring program throughout California and increase public availability and access to

groundwater quality and contamination information. GAMA receives data from a variety of monitoring entities including DWR, USGS, and SWRCB. GAMA can be accessed at the following link: https://www.waterboards.ca.gov/water_issues/programs/gama/online_tools.html

Since 2009, the California Statewide Groundwater Elevation Monitoring (hereafter, "CASGEM") Program has been used to collect and track seasonal and long-term groundwater elevation trends in groundwater basins statewide. CASGEM sources its data from new and previously established state, federal, and local monitoring programs and provides public access to this data. CASGEM data can be accessed at the following link: https://data.cnra.ca.gov/dataset/periodic-groundwater-level-measurements

3.11.1.2 Consumer Confidence Reports for Drinking Water

Per the State of California Health & Safety Code Section 116470 and the federal Safe Water Drinking Act, all public water systems must prepare an annual consumer confidence report and mail or deliver a copy of that report to each customer in order to inform them of the quality of the water delivered and how that quality compares to certain maximum contaminant levels, primary drinking water standards, and public health goals. Per the State of California's Electronic Data Transfer (EDT Library) and California Environmental Health Tracking Program, there may be up to 88 public water systems that serve customers within or partially within the boundaries of ETGSA. See **Section 3.8.1 Urban/Industrial Water Use and Water Sources** for additional discussion on public water systems within ETGSA.

To receive a consumer confidence report, customers may either request one from their public water supplier or may find it using the US EPA consumer confidence report tool: https://www.epa.gov/ccr/ccr-information-consumers

3.11.1.3 TBWQC Surface Water Quality Monitoring Plan, 2014

Tule Basin Water Quality Coalition (hereafter, "TBWQC"), a special project of the Deer Creek and Tule River Authority has prepared a Surface Water Monitoring Plan (TBWQC, 2014) in response to the Central Valley Regional Water Quality Control Board's (hereafter, "RWQCB") General Order No. R5-2013-0120 Waste Discharge Requirements General Order for Growers within the Tulare Lake Basin Area that are Members of a Third-Party Group (hereafter, "General Order").

Three natural waterways enter the TBWQC coverage area:

- Tule River;
- Deer Creek; and
- White River.

Since 2006, DCTRA has sampled and monitored the surface water quality at seven monitoring stations, listed below:

1. Porter Slough below Road 192
2. Tule River at Road 144
3. Tule River at Road 92
4. Deer Creek at Road 248
5. Deer Creek at Road 176

6. Deer Creek at Road 120
7. White River at Road 208

The proposed sites selected for the fixed monitoring locations along the Tule River, Deer Creek, and White River were chosen to provide a series of monitoring sites among the irrigated agricultural lands along each water body within the TBWQC. In general, along each of the three natural waterways within the TBWQC, a monitoring station was sited at the location the waterway enters the irrigated agriculture of the basin from the Sierra Nevada Mountains and a monitoring station at the downstream end of the waterway where limited flow occurs. For the Tule River and Deer Creek, intermediate monitoring sites were added to better characterize and distinguish between potential discharges from the different irrigated lands and municipalities along the channel.

Sampling generally occurs over one or two days per event, with one event occurring each month. Consistent with RWQCB requirements, the surface water monitoring parameters include field measurements, general physical parameters, metals, nutrients, pesticides, and water toxicity for designated species. These parameters are provided in Appendix B of the TBWQC Surface Water Monitoring Plan (TBWQC, 2014).

3.11.1.4 DCTRA Groundwater Elevation Monitoring Program

The respective member agencies of DCTRA regularly measure groundwater levels in approximately 300 wells. Measurements are taken twice a year, once in the Spring and again the Fall. DCTRA began annually assembling this data in 2005. This data is provided to CASGEM and is summarized annually in the DCTRA Annual Report.

3.11.1.5 USGS National Streamflow Information Program

USGS operates and maintains approximately 7,500 stream gauges through its National Streamflow Information Program (hereafter, "NSIP"). The streamflow of two major stream systems within ETGSA, Deer Creek and Tule River, is monitored by USGS at monitoring sites 11203580, 11200800, and 11204100.

NSIP data is freely available at: https://water.usgs.gov/nsip/reports.html

3.11.1.6 Tule River Stream and Diversion Gauges

The Tule River Association (hereafter, "TRA"), TRA's members, USBOR, and the USACE maintain a series of gauges along discharge points and reaches of the Tule River that record streamflow data. Discharge information and site descriptions are provided annually through TRA's Annual Reports.

3.11.1.7 DWR California Irrigation Management Information System

California Irrigation Management Information System (hereafter, "CIMIS") is a network of over 140 computerized weather stations, located across urban and agricultural areas within California. CIMIS is a program unit of DWR and the University of California. Two CIMIS stations are located within the Tule Subbasin, Porterville Station #169 and Delano Station #182.

CIMIS data is freely available at: https://cimis.water.ca.gov/Default.aspx

3.11.1.8 USACE Tule River Precipitation Stations

USACE maintains and collects data from five precipitation stations within the watershed of the Tule River for downstream operations and management of Success Reservoir. Precipitation information and site descriptions are provided annually through TRA's Annual Reports.

3.11.2 Management Programs

3.11.2.1 Integrated Regional Water Management Plans

Since the passage of the Integrated Regional Water Management Planning Act (SB 1672) in 2002, two Integrated Regional Water Management Plan (hereafter, "IRWMP") regions have formed over the Tule Subbasin:

- Poso Creek, and
- Tule River.

Participants overlying these regions, including public agencies, water suppliers, and other interested stakeholders, have formed Regional Water Management Groups (hereafter, "RWMGs") that have actively worked to develop and implement IRWMPs. The purpose of these IRWMPs is to document and detail the approach of participants within a watershed as to their methodologies for coordinating and integrating management of available water resources. Moreover, the goal of these IRWMPs is to identify and implement water management solutions on a regional scale that increases regional self-reliance, reduce conflict, and manage water to concurrently achieve social, environmental, and economic objectives.

The Poso Creek IRWMP was adopted in 2007. Within the Poso Creek RWMG, Kern-Tulare Water District is the sole participant that also is a member agency of ETGSA.

The Tule River Basin IRWMP was most recently updated in 2018. The Tule River Basin IRWM Group includes the ETGSA member agencies of City of Porterville, County of Tulare, Porterville Irrigation District, Saucelito Irrigation District, Tea Pot Dome Water District, Terra Bella Irrigation District, and Vandalia Water District. Additionally, the Tule River Association, Pioneer Water Company, a number Community Services Districts, and several non-profit groups also active within the ETGSA also participate in the Tule River Basin IRWM Group.

3.11.2.2 District Agricultural Water Management Plans

The Central Valley Improvement Act of 1992 (hereafter, "CVPIA") and Section 210 (b) of the Reclamation Reform Act of 1982 requires the preparation and submittal of a Water Management Plan from certain entities that enter into a repayment contract or water service contract with the USBOR. Each Plan is required to be updated every 5 years. These plans provide an inventory of the entities' water resources, best management practices for urban and agricultural contractors, facilities descriptions, and other details pertinent to the management of those entities' water. Within ETGSA, five Districts prepare and submit such plans:

- Kern-Tulare Water District;
- Porterville Irrigation District;
- Saucelito Irrigation District;
- Tea Pot Dome Water District; and
- Terra Bella Irrigation District.

3.11.2.3 Urban Water Management Plans

Urban Water Management Plans (hereafter, "UWMPs") are a requirement of the Urban Water Management Planning Act and must be updated and submitted every 5 years to the DWR. The objective of UWMP is to provide assistance to urban water suppliers with resource planning and to ensure adequate water supplies are available for future use. UWMPs are required of urban water suppliers with 3,000 or more connections or supplying more than 3,000 acre-feet of water annually.

Within the boundaries of the ETGSA the City of Porterville is the only supplier required to develop a UWMP. The City of Porterville UWMP 2015, released in 2017, is the only UWMP within ETGSA.

City of Porterville's UWMP includes a water use target of 179 gallons per capita per day [gpcd] by 2020, and an interim 2015 target of 187 gpcd. The 2020 target is based off of a 10-year baseline period from 2001-2010 and a 95% regional conservation goal. Beginning in 2015, the City assumes an annual retail population growth rate of 2.5%, progressing from 65,702 persons served in 2015 to 121,808 persons served in 2040. Under this same period, projected water supply needs are anticipated increase with population at the 179 gpcd conservation rate, with 4,857 million gallons of projected groundwater supplies necessary in 2020 and 7,958 million gallons of projected groundwater supplies necessary in 2040. Potential future water projects and activities noted in the UWMP include a surface water treatment plant, additional water conservation, utilizing transfers and existing surface water rights for groundwater recharge, and the continued application of recycled wastewater of agricultural irrigation.

The City of Porterville's Water Conservation Plan (hereafter, "WCP") is an attachment to the City of Porterville 2015 UWMP. The WCP consist of five phases of water conservation. City staff evaluates the variables which affect the water conditions when determining transition from one phase to another, except in the case of phase V, which is initiated when a critical water supply shortages are declared by the State of California or the City Manager or as a result of certain water supply emergencies (e.g system outage, equipment failure, contamination of water supply, etc.). Each phase defines actions to be undertaken by the City and by the general public to promote water conservation. The five phases of conservation with the category that trigger each corresponding phase are listed below:

- Phase I (Water Conservation): Normal Water Supply
- Phase II (Drought Response): Water Supply Shortage
- Phase III (Drought Response): Significant Water Supply Shortage
- Phase IV (Drought Response): Significant Water Supply Shortage
- Phase V (Emergency Response): Critical Water Supply Shortage

Implementation of the City's WCP has been generally successful in reducing water consumption, with the consumption in 2015 reducing from an average baseline of 195 gpcd to 130 gpcd when Phase IV was implemented.

3.11.2.4 Tulare County Well Construction Permits and Drilling Requirements

The Tulare County Ordinance Code, Part IV, Chapter 13, provides requirements for the design, construction, repair, and reconstruction of agricultural wells, domestic wells, cathodic protection wells, industrial wells, monitoring wells, observation wells, geothermal heat exchange wells, and test wells in such a manner that the groundwater of the county will not be contaminated or polluted, and that water obtained for beneficial uses will not jeopardize the health and safety or welfare of the people of Tulare County. More information on Tulare County's well drilling and permitting process can be found in **Section 3.14 Land Use Plans**.

3.11.3 Monitoring and Management Programs

3.11.3.1 Irrigated Lands Regulatory Program

The Irrigated Lands Regulatory Program (hereafter, "ILRP") of the Regional Water Quality Control Board (hereafter, "RWQCB") regulates waste discharges from irrigated lands. The ILRP focuses on priority water quality issues, such as pesticides and toxicity, nutrients, and sediments. There are 14 coalitions in the Central Valley region that help growers comply with the general orders; one of these is the Tule Basin Water Quality Coalition (hereafter, "TBWQC"), which operates programs to monitor (and improve) surface water and groundwater quality associated with agricultural activities.

In response to the RWQCB's General Order, TBWQC prepared a Groundwater Quality Assessment Report (hereafter, "GAR"), which provided a groundwater quality assessment and documented high vulnerability areas where discharges from irrigated agriculture may have degraded groundwater quality. The focus was primarily on nitrate [NO3] with evaluation of Electrical Conductivity [EC] in the same area.

With the recognition of high vulnerability areas and areas with confirmed water quality exceedances, TBWQC also prepared a Comprehensive Groundwater Management Plan (TBWQC CGQMC, 2018).

While CGQMP implementation is focused on irrigation and nutrient management practices to improve water quality, it also provides a Groundwater Quality Trend Monitoring Program (hereafter, "GQTMP") to develop long-term groundwater quality information to evaluate regional effects of irrigated agriculture.

3.11.3.2 District Groundwater Management Plans

The Groundwater Management Act, passed in 1992 as AB 3030, provided for local groundwater management through voluntary Groundwater Management Plans (hereafter, "GWMPs") developed by existing local agencies. The bill has since been modified by SB 1938 and AB 359**.** GWMPs provide for planned and coordinated groundwater monitoring, operation, and administration of groundwater basins with the goal of long-term groundwater conjunctive use and resource sustainability. Within the ETGSA, two existing entities have developed GWMPs:

- Deer Creek and Tule River Authority; and
- Kern Tulare Water District.

3.11.3.3 Groundwaters Protection Areas

California Department of Pesticide Regulation (hereafter, "DPR") regulates the use of known groundwater contaminants in vulnerable areas called groundwater protection areas (hereafter, "GWPA(s)"). Each GWPA is a one-square mile section of land that is sensitive to the movement of pesticides. GWPAs can be established if any of the following are true:

- Previous detections of pesticides in that section;
- Contains coarse soils and depth to ground water < 70 feet; or
- Contains runoff-prone soils/hardpans and depth to ground water < 70 feet

GWPAs were developed and implemented beginning in 2004 as a result of DPR's adoption of new regulations for the management of groundwater contamination. GWPAs are either leeching GWPAs or runoff GWPAs, depending on the predicted pathway to groundwater. GWPAs regulate the use specific pesticides listed in Title 3 of the California Code of Regulations § 6800(a) that have the potential to pollute groundwater. To use any of the regulated pesticides within a GWPA requires that the user obtain permit(s) for such use from their County Agricultural Commissioner; these permits specific and require the enforceable management practices required for the pesticide(s) in the appropriate GWPA type.

Figure 3-12: Groundwater Protection Areas within ETGSA provides a map that visualizes the GWPAs currently within ETGSA's jurisdiction.

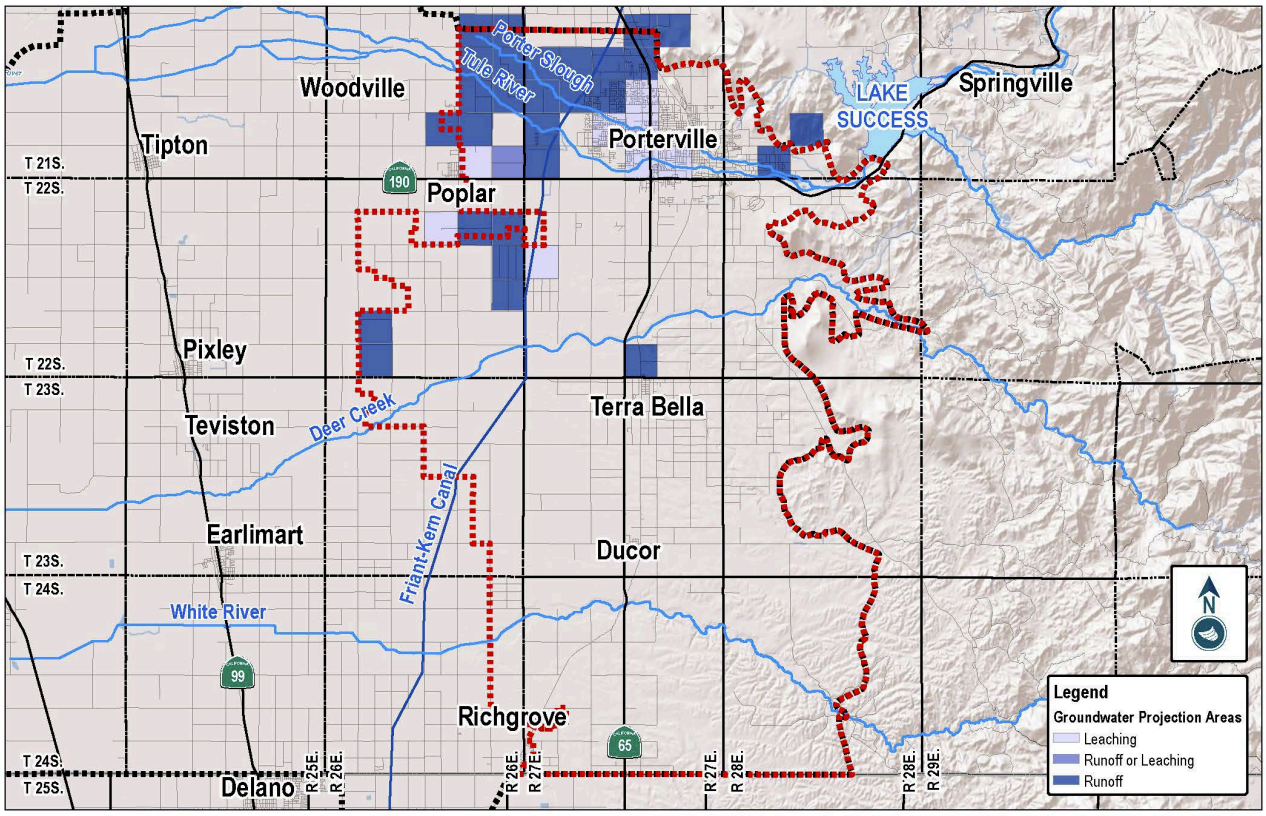


Figure 3-12: Groundwater Protection Areas within ETGSA

As a part of DPR's groundwater protection program, it also maintains a statewide database of wells sampled for pesticides. This database was established in 1983 and includes data collected by DPR as well as other public agencies.

3.11.3.4 SWRCB Division of Drinking Water, Title 22

SWRCB Division of Drinking Water (hereafter, "DDW") regulates and monitors public water systems within California pursuant Title 22 of the California Code of Regulations (hereafter, "CCR"). Municipal, community, and other systems designated as public water systems (hereafter, "PWS") must collect water quality samples on a routine basis and provide this data to DDW. PWSs are defined as systems that provide water for human consumption to 15 or more connects or regularly serve 25 or more people daily for at least 60 days out of the year. Systems that do not meet the criteria to be defined as public water system, such as domestic wells and irrigation wells, are not regulated by DDW.

CCR Title 22 identifies regulatory limits known, such as maximum contaminant levels [MCLs], for various waterborne compounds. DDW undertakes compliance enforcement actions if water supplied by public water systems exceeds any regulated limit.

DDW data can be accessed at the following link:
https://www.waterboards.ca.gov/drinking_water/programs/

Additionally, public water system service areas are available at:
http://cehtp.org/page/water/water_system_map_viewer

3.11.3.5 RWQCB Water Quality Control Plan for the Tulare Lake Basin, 3rd Edition

California's regional water quality control boards develop water quality control plans (hereafter, "Basin Plan(s)", pursuant the state Porter-Cologne Water Quality Control Act and Section 303 of the federal Clean Water Act, to provide the administrative policies and procedures for protecting the state's waters.

The Central Valley RWQCB most recently updated the Basin Plan (3rd Edition) for the Tulare Lake Basin in May 2018. The Basin Plan for the Tulare Lake Basin describes the designated beneficial users to protected, water quality objectives to protect those uses, and a program of implementation needed for achieving those objectives. Additionally, the plan identifies maximum contaminant limits [MCLs] for various chemical compounds.

The Tulare Lake Basin's Basin Plan's recognizes 14 surface water beneficial uses: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Service Supply (IND), Industrial Process Supply (PRO), Hydropower Generation (POW), Water Contact Recreation (REC-1), Non-Contact Water Recreation (REC-2), Warm Freshwater Habitat (WARM), Cold Freshwater Habitat (COLD), Wildlife Habitat (WILD), Rare, Threatened or Endangered Species (RARE), Spawning, Reproduction, and/or Early Development (SPWN), Migration of Aquatic Organisms (MIGR), and Ground Water Recharge (GWR).

Additionally, the Basin Plan recognizes 7 groundwater beneficial uses: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Service Supply (IND), Industrial Process Supply (PRO), Water Contact Recreation (REC-1), and Wildlife Habitat (WILD).

3.11.3.6 CV-SALTS

The Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) program is overseen by State Water Board and Central Valley Water Board through Central Valley Water Quality Control Plans (often referred to as Basin Plans) and focus on achieving long term salinity management and nitrate management within the San Joaquin Valley. The Nitrate Control Program (NCP) focuses on achieving the following goals:

1. Provide safe drinking water supplies
2. Reduce nitrate impacts to water supplies
3. Restore groundwater quality, where reasonable and feasible

To achieve the goals of the NCP permitted nitrate dischargers are given two pathways for compliance. Pathway A – Individual Permitting Approach or Pathway B – Forming a Local Management Zone which grants dischargers an exception from the nitrate standard but must work with Management Zone members to first assure safe drinking water.

There are six (6) groundwater subbasin in the Central Valley region that have been prioritized as Priority 1 Subbasins to implement of the NCP, one of which is the Tule Subbasin which resulted in the formation of the Tule Basin Management Zone (TBMZ) to represent Pathway B dischargers in early 2021.

3.11.4 Initial and on-going efforts of the TBMZ consist of providing drinking water well testing resources and in cases of nitrate standard exceedances, providing those impacted by the exceedance with resources for accessing clean, safe, free drinking water. Future efforts align with finding long-term drinking water solutions to those impacted by nitrate contamination of groundwater. Incorporation of Existing Monitoring and Management Programs

Existing monitoring programs identified provide a broad variety of data pertinent and relevant to the sustainable management of groundwater within the Tule Subbasin. These programs have been reviewed as part of developing this GSP. Data sources and monitoring sites from several monitoring programs have been incorporated into the Tule Subbasin Monitoring Plan. Additional discussion on their inclusion can be found in **Tule Subbasin Monitoring Plan (Coordination Agreement, Attachment 2)(Appendix A)**.

Existing management programs identified generally contribute to the sustainable management of surface water and groundwater resources within ETGSA. Various aspects of these programs have been considered throughout the development of this GSP and many have contributed to the development of this GSP's sustainable management criteria and projects and management actions.

To prevent duplication of efforts and competing datasets for the ILRP, CV-Salts Nitrate Control Program, and SGMA GSAs, the Tule Subbasin utilizes a single group to manage the monitoring efforts within the Subbasin for collectively meeting the various requirements of these programs being implemented at the local level. This level of coordination between these agencies and groups ensures that the efforts performed under each program help provide a cohesive response to providing short term and long-term solutions to groundwater management.

3.11.5 Limitation of Operation Flexibility *[23 CCR § 354.8(d)]*

23 Cal. Code Regs. § 354.8 Description of Plan Area. *Each Plan shall include a description of the geographic areas covered, including the following information:*

(d) *A description of how existing water resource monitoring or management programs may limit operational flexibility in the basin, and how the Plan has been developed to adapt to those limits.*

Existing monitoring programs are not anticipated to limit the operational flexibility of this GSP and its implementation.

Existing management programs may limit the operational flexibility of this GSP and its implementation. These limitations have been considered and incorporated as part of evaluation ETGSA's projects and management actions.

3.12 Conjunctive Use Programs *[23 CCR § 354.8(e)]*

23 Cal. Code Regs. § 354.8 Description of Plan Area. *Each Plan shall include a description of the geographic areas covered, including the following information:*

(e) *A description of conjunctive use programs in the basin.*

Conjunctive use of ground- and surface water within ETGSA is commonplace and takes form via both *de facto* and intentional efforts. The most common forms of conjunctive use include using imported and native surface water supplies in-lieu of pumping groundwater, over-irrigation using surface water, percolation of surface water through unlined canals, recharge basins capturing stormwater runoff, and managed aquifer recharge via spreading basins using surface or recycled water. Examples of existing conjunctive use practices undertaken by entities within the ETGSA are outlined below.

3.12.1 Surface Water Supply

Water agencies and several other entities within ETGSA maintain contracts and/or water rights for the diversion and delivery of surface water from various local and imported sources. By delivering this surface water to meet the domestic and irrigation demands of their customers, reliance on groundwater pumping within these agencies' boundaries is reduced. Additionally, when the surface water applied for irrigation purposes is greater than the crop consumptive use, the balance is recharged into the Tule Subbasin for later recovery by groundwater extraction wells.

Agencies that provide for in-lieu use include Campbell Moreland Ditch Company, Kern-Tulare Water District, Pioneer Water Company, Porterville Irrigation District, Saucelito Irrigation District, Tea Pot Dome

Water District, Terra Bella Irrigation District, and Vandalia Water District. Collectively, these agencies contract for up to 193,800 acre-feet in surface water delivered by way of the CVP and maintain 15,750 acre-feet of storage space for irrigation water in Success Reservoir. Other surface water supplies available to these agencies include banked water, produced water, Section 215 water, flood flows conveyed in the Friant-Kern Canal, purchases from other CVP Contractors, Kern River water, and SWP water. The actual volumes of imported surface water historically delivered by the agencies within ETGSA is detailed in **Appendix B: Table 1a** of the *Tule Subbasin Setting***.**

3.12.2 Groundwater Recharge, Recharge Policies, and Banking

Porterville and Saucelito Irrigation Districts have both adopted policies regarding landowner recharge and banking of surface water. The policies provide entities who perform the acts of recharge or banking with groundwater recharge credits and the exclusive opportunity to extract the recharged or banked surface water at a later date, pursuant district policy and conditional restraints. These districts' policies also describe leave-behind percentages, wherein a percentage of the surface water applied to recharge or banking is credited to the districts' accounts to protect the Subbasin and benefit local groundwater levels within the District. Copies of these policies are included as in the following appendices:

- **Appendix 3-A: Porterville Irrigation District Landowner Recharge Policy**
- **Appendix 3-B: Porterville Irrigation District Groundwater Banking Program**
- **Appendix 3-C: Saucelito Irrigation District Landowner Recharge Policy**
- **Appendix 3-D: Saucelito Irrigation District Groundwater Banking Program**

Kern-Tulare Water District has participated in the development of several groundwater banking programs. These include North Kern Water Storage District, Rosedale-Rio Bravo Water Storage District, and West Kern Water Storage District. Kern-Tulare Water District delivers excess surface water to these groundwater banks and extracts this groundwater during years of inadequate supplies. None of the banks described currently reside within the Tule Subbasin.

The City of Porterville's 2030 General Plan notes describes conjunctive use in one of its Public Utilities Element policies. The policy, PU-I-9, reads:

> *"Work cooperatively toward a program of conjunctive surface water use with local purveyors and irrigation districts to retain surface water rights and supply following annexation and urban development so as to protect against aquifer over drafts and water quality degradation." (Porterville 2030 General Plan)*

Other banking projects that take place within the ETGSA include Tea Pot Dome Water District banking of CVP supplies for later extraction to supplement CVP supplies during shortages and Vandalia Water Districts banking program for pre-1914 Tule River Water rights.

Additional discussion and information related to ongoing groundwater recharge and related conjunctive use can be found in **Section 3.8.3**.

3.12.3 Recycled Water

Urban communities within the ETGSA allow for the opportunity to recycle wastewater. This water can be used for crop irrigation, landscapes, or to recharge the Subbasin through groundwater recharge.

Since 1999, the City of Porterville's wastewater treatment plant has treated an average of approximately 5,000 acre-feet of wastewater per year. This treatment plant receives the majority of the City's wastewater, as well as wastewater from Porter Vista Public Utility District and the Porterville Developmental Center. Following treatment, roughly 60% of this water is used to irrigate crops, while the remaining 40% is directed to 750 acres of percolation basins that recharge the Subbasin.

Similarly, the Terra Bella Sewer Maintenance District, which serves a small portion of the community of Terra Bella, treats and discharges approximately 130 acre-feet of effluent annually from its wastewater treatment plant to a percolation basin, providing for localized groundwater recharge.

3.13 Land Use Plans

3.13.1 Introduction to Land Use Plans *[23 CCR § 354.8(f), 354.8(f)(1)]*

23 Cal. Code Regs. § 354.8 Description of Plan Area. *Each Plan shall include a description of the geographic areas covered, including the following information:*

(f) *A plain language description of the land use elements or topic categories of applicable general plans that includes the following:*

(1) *A summary of general plans and other land use plans governing the basin.*

Under GOV § 65300 *et seq*, state law requires each City and County to prepare and adopt a comprehensive long-range General Plan for its future development. These General Plans must address, to the extent the elements exist in the planning area (GOV § 65301(c), GOV § 65302) seven mandatory Elements:

- Land use;
- Circulation;
- Housing;
- Open-space;
- Conservation;
- Safety; and
- Noise.

Within the San Joaquin Valley, General Plans must also address air quality matter as specified by GOV § 65302.1.

Tulare County and City of Porterville have land use authority within ETGSA. Each of these entities maintain and update their own General Plan. Tulare County also administers Community Plans, which are a part of the land use element of the county-wide General Plan. Within ETGSA, areas with Community Plans addressed in this GSP include Terra Bella, Ducor, and the Porterville Area (which includes East Porterville).

For the purpose of this GSP, the general plan elements and topic categories considered applicable to address are land use, population, and water resources and supply. A general summary of each of these plans is detailed below under their respective general or community plan heading.

3.13.1.1 Tulare County General Plan 2030 Update

The Tulare County General Plan 2030 Update (hereafter, "Tulare County GP") is a three-part planning document, officially adopted by the County Board of Supervisors in August 2012. Part I, entitled "Goals and Policies Report", covers the seven mandatory Elements of a General Plan and several optional Elements. Part II, entitled "Area Plans", consists of four adopted area plans: The Rural Valley Lands Plan, the Corridors Framework Plan, the Foothill Growth Management Plan, and The Mountain Framework Plan. These four plans cover four of the major geographical areas within the unincorporated areas of the County and establish policies applicable in these particular areas. Part III, entitled "Community, Hamlet, County Adopted City General, Valley Sub-Area, Corridor Sub-Area, Foothill Sub-Area, and Mountain Sub-Area Plans" consists of a number of existing planning documents and applies tailored policies to specified portions of the County based off of these documents.

Specific policies related to general plan Elements are found in Part I, which is organized into four Components. Each of the Components address one or several of the fourteen Elements covered by the Tulare County GP, guided by a series of Concepts and Principles. Listed under each Element are a series of Goals and Policies that are to be implemented through Implementation Measures that constitute a preliminary, anticipated Work Plan to carry out the identified Goals and Policies.

The County's Area Plans in Part II provide policies and designate land uses that generally encompass agricultural, rural, semi-rural, open space, and mountainous areas not otherwise within the designated urban or community boundaries described in Part III. Individual community plans are found in Part III. These plans provide an overview of each community plan area's general conditions, describe specific policies relevant to the area, and designate land use and development boundaries.

3.13.1.1.1 Land Use

Land Use is a primary focus of the Tulare County GP and is specifically addressed as an Element in Chapter 4 of Part I in the Tulare County GP. Among other things, this Element describes the County's land use designations, which are applied based upon regional planning frameworks and other land use boundaries. A land use designation is "*an applied policy on the General Plan Land Use Diagrams that defines allowable uses and development standards for agricultural, residential, commercial, industrial development, and other basic categories of land use*" (*Tulare County General Plan 2030 Update*). Other Elements and Parts of the Tulare County GP relevant to general land uses within ETGSA include:

- Part I, Component A, Chapter 2 - Planning Framework
- Part I, Component B, Chapter 3 – Agriculture
- Part I, Component B, Chapter 6 – Housing
- Part I, Component C, Chapter 8 – Environmental Resource Management
- Part I, Component C, Chapter 9 – Air Quality
- Part II, Chapter 1 – Rural Valley Lands Plan
- Part II, Chapter 2 – Corridors Framework Plan

- Part II, Chapter 3 – Foothill Growth Management Plan

Urban land use is more specifically managed in the Tulare County GP through the official adoption of Urban Development Boundaries (hereafter, "UDBs") and Urban Area Boundaries (hereafter, "UABs"). UDBs establish a 20-year growth boundary that is consistent with the General Plan's time horizon and delineate an area around incorporated cities or unincorporated communities wherein urban development is allowed and services are likely to be extended. UABs are areas where land uses are presumed to have an impact upon the adjacent incorporated city. To coordinate land use planning with cities, the County adopts City UABs and City UDBs wherein the city regulates land use within the City UDB and the city and the County coordinate on land use within the City UAB. Generally, the Planning Area of a city's General Plan is coterminous with the County Adopted City UAB. Within ETGSA, there are three Community Plans that include UDBs and/or UABs that are addressed by this GSP[5]. The most recent version of these plans, as well as the UDBs and/or UABs that they define, include:

- Porterville Area Community Plan (2015)
    - County Adopted City UAB for City of Porterville
    - County Adopted City UDB for City of Porterville;
    - UDB for East Porterville
- Terra Bella Community Plan Update (2015)
    - UDB for Terra Bella
- Ducor Community Plan Update (2015)
    - UDB for Ducor

The Rural Valley Lands Plan encompasses the majority of ETGSA's non-urban areas. This plan establishes policies for preserving agricultural and working landscapes. Policies include the establishment of minimum parcel sizes for areas zoned for agricultural and a fifteen-factor evaluation that must be undertaken to determine if certain agricultural lands may be suitable for urban/suburban type uses prior to approving such a change in land use designation or zoning.

Policies for corridors adjacent to transportation routes in the County are contained within the Corridors Framework Plan. Corridors present within ETGSA include an urban corridor along Highway 65 (generally within the Porterville UAB), a Scenic Corridor along Highway 190, and a regional growth corridor along highway 65 south of Porterville.

Land use within certain eastern portions of ETGSA's jurisdiction are guided by the Foothill Growth Management Plan. This plan is generally for lands above the 600-foot elevation contour line and its policies aim to rationally direct and accommodate urban growth while preserving natural resources and the viability of agricultural land uses.

[5] Two small communities, Richgrove and Poplar-Cotton Center, reside almost entirely within other Tule Subbasin GSAs; however, each has a small minority of their respective UDB that also resides within the ETGSA. Due to the relatively minor presence of these UDBs within ETGSA, the Community Plans for these communities is not addressed in this GSP.

The individual Community Plans noted above, as well as the respective information provided on population, land use, water supply, are provided in Part III of the Tulare County GP and are further described in **Sections 3.13.1.3**, **3.13.1.4**, and **3.13.1.5**.

Exhibit 3-1: Tulare County General Plan 2030 Update Land Use Planning Frameworks and Urban Boundaries provides a map visualizing the extent of the various planning frameworks, UDBs, and UABs that guide land use planning within the ETGSA.

3.13.1.1.2 Population

The Tulare County GP's Planning Framework Element (Part I, Component B, Chapter 2), Housing Element (Part I, Component B, Chapter 6), Public Facilities and Services Element (Part I, Component D, Chapter 14), and specifically denote Goals and Policies that address the population needs and needs related to the population growth likely to occur within the County during its 20-year time horizon.

More specific population data is found in each of the Community Plans provided in Part III of the Tulare County GP. Population information for Community Plans active within ETGSA is further discussed in **Sections 3.13.1.3**, **3.13.1.4**, and **3.13.1.5**.

3.13.1.1.3 Water Resources and Supply

The Water Resources Element (Part 1, Component C, Chapter 11) of the Tulare County GP specifically addresses water resources Goals and Policies related to both County water quality and supply. Several other Elements described in Part 1 of the Tulare County GP also include Concepts, Principles, and Policies that address water resources management, including the Planning Framework Element (Part 1, Component A, Chapter 2), the Agriculture Element (Part 1, Component B, Chapter 3), the Environmental Resources Management Element (Part 1, Component C, Chapter 8), the Health and Safety Element (Part 1, Component C, Chapter 10), and the Public Facilities and Services Element (Part 1, Component D, Chapter 14). Additionally, within ETGSA, the County's Community Plans also address water resources and supply.

Following the structure for Part I of the Tulare County GP, a selected subset of Part I's Concepts, Principles, Goals and Policies from various Elements describing water resources management have been provided below:

Component: **A. General Plan Framework**

Element: **2. Planning Framework**

Section: **2.5 New Towns**

Policy: **PF-5.2 Criteria for New Towns**

Policy Text: *"When evaluating proposals for New Town development, the County shall require all of the following: … 9. The adequate and sustainable water supplies be documented…."*

Component: **B. Prosperity**

Element: **3. Agriculture**

Section: **3.1 Agriculture Preservation**

Policy: **AG-1.13 Agriculture Related Land Uses**

Policy Text: *"The County shall allow agriculturally-related uses, including value-added processing facilities by discretionary approvals in areas designated Valley or Foothill Agriculture, subject to the following criteria: … The operational or physical characteristics of the use shall not have a significant adverse impact on water resources or the use or management of surrounding agricultural properties within at least one-quarter (1/4) mile radius…."*

Policy: **AG-1.17 Agricultural Water Resources**

Policy Text: *"The County shall seek to protect and enhance surface water and groundwater resources critical to agriculture."*

Component: **C. Environmental**

Concept: **5. Water**

Concept Text: *"The long-term strategy for water in Tulare County centers on protecting and conserving existing water supplies and identifying new sources of water. As Tulare County continues to grow, new methods for conserving, treating, and supplying water will enable County residents and farmers to continue to have an adequate supply of quality water that limits long-term impacts on groundwater."*

Principle: **1. Protection**

Principle Text: *"Protect the supply and quality of urban, agricultural, and environmental water serving the County..."*

Principle: **2. New Sources**

Principle Text: *"Identify and encourage the development of new sources for water that do not deplete or negative impact groundwater…."*

Principle: **3. Recharge**

Principle Text: *"Identify and encourage the development of locations where water recharge systems can be developed to replenish water supplies…."*

Principle: **4. Adequate Supply**

Principle Text: *"Plan delivery systems to ensure adequate water is available to meet demands..."*

Principle: **5. Conservation**

Principle Text: *"Encourage efficient use, conservation, and reuse of water…"*

Element: **10. Health and Safety**

Section: **10.2 Geologic and Seismic Hazards**

Policy: **HS-2.7 Subsidence**

Policy Text: *"The County shall confirm the development is not located any known areas of active subsidence. If urban development may be located in such an area, a special safety study will be prepared and needed safety measures implemented. The County shall also request that developments provide evidence that its long-term use of ground water resources, where applicable, will not result in notable subsidence attributed to the new extraction of groundwater resources for the use by the development."*

Section: **10.5 Flood Hazards**

Policy: **HS-5.4 Multi-Purpose Flood Control Measures**

Policy Text: *"The County shall encourage multipurpose flood control projects that incorporate recreation, resource conservation, preservation of natural riparian habitat, and scenic values of the County's streams, creeks, and lakes. Where appropriate, the County shall also encourage the use of flood and/or stormwater retention facilities for use as groundwater recharge facilities."*

Section: **10.6 Urban and Wildland Fire Hazards**

Policy: **HS-6.7 Water Supply System**

Policy Text: *"The County shall require that water supply systems be adequate to serve the size and configuration of land developments, including satisfying fire flow requirements. Standards as set forth in the subdivision ordinance shall be maintained and improved as necessary."*

Element: **11. Water Resources**

Section: **11.1 General**

Policy: **WR-1.1 Groundwater Withdrawal**

Policy Text: *"The County shall cooperate with water agencies and management agencies during land development processes to help promote an adequate, safe, and economically viable groundwater supply of existing and future development within the County. These actions shall be intended to help the County mitigate the potential impact on groundwater resources identified during the planning and approval processes."*

Policy: **WR-1.3 Water Export Outside County**

Policy Text: *The County shall regulate the permanent export of groundwater and surface water resources allocated to users within the county to cities and service providers outside the County to the extent necessary to protect the public health, safety, and welfare. The County shall strive for a "no net loss" where there may be exchanges serving a public purpose."*

Policy: **WR-1.8 Groundwater Basin Management**

Policy Text: *"The County shall take an active role in cooperating in the management of the County's groundwater resources."*

Policy: **WR-1.11 Groundwater Overdraft**

Policy Text: "*The County shall consult with water agencies within those areas of the County where groundwater extraction exceeds groundwater recharge, with the goal of reducing and ultimately reversing groundwater overdraft conditions in the County."*

Section: **11.2 Water Quality**

Policy: **WR-2.1 Protect Water Quality**

Policy Text: *"All major land use and development plans shall be evaluated as to their potential to create surface and groundwater contamination hazards from point and non-point sources. The County shall confer with other appropriate agencies, as necessary, to assure adequate water quality review to prevent soil erosion; direct discharge of potentially harmful substances; ground leaching from storage of raw materials, petroleum products, or wastes; floating debris; and runoff from the site."*

Section: **11.3 Water Supply**

Policy: **WR-3.1 Develop Additional Water Resources**

Policy Text: *"The County shall encourage, support and, as warranted, require the identification and development of additional water sources through the expansion of water storage reservoirs, development of groundwater banking for recharge and infiltration, and promotion of water conservation programs, and support of other projects and programs that intend to increase the water resources available to the County and reduce the individual demands of urban and agricultural users."*

Policy: **WR-3.3 Adequate Water Availability**

Policy Text: *"The County shall review new development proposals to ensure the intensity and timing of growth will be consistent with the availability of adequate water supplies. Projects must submit a Will-Serve letter as part of the application process and provide evidence of adequate and sustainable water availability prior to approval of the tentative map or other urban development entitlement."*

Policy: **WR-3.4 Water Resource Planning**

Policy Text: *"The County shall continue participation in State, regional, and local water resource planning efforts affecting water resource supply and quality."*

Policy: **WR-3.9 Establish Critical Water Supply Areas**

Policy Text: *"The County shall designate Critical Water Supply Areas to include the specific areas used by a municipality or community for its water supply system, areas critical to groundwater recharge, and other areas possessing a vital role in the management of the water resources in the County, including those areas with degraded groundwater quality."*

Pursuant SB 244, County of Tulare undertook and included as Appendix D of the Tulare County GP a Disadvantaged Communities Assessment. This Assessment provides an inventory of water and sewer systems, services, and connections for the County's disadvantaged communities. Communities described in this report that wholly or partially reside within ETGSA include East Porterville, Terra Bella, Ducor, Richgrove, Poplar-Cotton Center, Deer Creek Colony, Ponca, Worth, Zante, and Jones Corner.

Additionally, the County prepared an EIR as part of the development and adoption of the Tulare County GP. Included as Exhibit G of this EIR is the County's Phase 1 Water Supply Evaluation. This document provides an initial analysis to support the determination of environmental impacts to water resources within Tulare County as associated with the adoption of the General Plan Update. The analysis indicates that groundwater basins within Tulare County are in a state of overdraft, but states "*the actions contemplated in the General Plan Update are not anticipated to cause overall demand in the County to vary from within the range of demands seen historically and documented by DWR - a range of about 2,600,000 acre-feet to 2,850,000 acre-feet." (Tulare County General Plan Update, Phase 1 - Water Supply Evaluation*). Several issues that the EIR assumes may affect water supplies include changes in California groundwater law, water supply and use legislation, regulatory risk, groundwater adjudications, population growth, and ongoing groundwater overdraft.

Tulare County's role in water management is broad and active, particularly through the implementation of its General Plan and its Zoning Ordinance (*Ordinance No. 352*), which translates General Plan policies into specific use regulations and development standards. The County also administers other ordinances that influence the use and management of water within the County, and it may adopt more in the future if deemed necessary. However, limited only to the implementation of its General Plan, Tulare County recognizes that its role in water management is neither comprehensive, nor is it to be construed as such; rather, water management within the County is carried out by way of dynamic interactions between the many participants who each bear a variety of responsibilities:

> "*Policies in this Element discussing the management of water resources are relative to the areas of water usage that the County has regulatory control, such as the approval of new land use development. The policies in this Element should not be construed to insert the County into the allocation or management of water resources. This is a complicated system over which the County does not have direct regulatory control.*" (*Tulare County General Plan 2030 Update)*

More explicit discussion of water needs, water supply, and water resources and services infrastructure for communities within ETGSA with active Community Plans is found in **Sections 3.13.1.3, 3.13.1.2.3, 3.13.1.4.3,** and **3.13.1.5.3**.

3.13.1.2 Porterville 2030 General Plan

The Porterville 2030 General Plan (hereafter, "Porterville GP") was adopted in March 2008 by the Porterville City Council. This most recently adopted General Plan for the City addresses six of the seven mandatory Elements of a General Plan and three additional optional Elements. The seventh mandatory Element that was noted addressed in the Porterville GP was adopted as a separate volume in March 2004. Information relating to land use, population, and water supply which were consider in development of this GSP.

The City Limit for the City of Porterville is the only area within ETGSA where Tulare County does not have direct authority to regulate land use. Land use outside of these boundaries is coordinated between City of Porterville and Tulare County through their respective General Plans and the Planning Area, UDBs, and UABs identified therein. The existing County Adopted City UDB for the City of Porterville is 14,221 acres, with a total County Adopted UAB of 36,341 acres (which includes the UDB of East Porterville). Porterville GP's total Planning Area is coterminous with the County Adopted City UAB.

The Porterville GP provides Element-specific policies establishing planning requirements, programs, standards, and criteria for project review. Two types of policies are outlined in the General Plan:

- Guiding Policies; and
- Implementing Policies.

Guiding Policies are the City's statements of its goals and philosophy. Implementing Policies represent commitments to specific actions. Of these two policy types, Implementing Policies provide the general basis for understanding for how this GSP and the Porterville GP will work together.

3.13.1.2.1 Land Use

The Growth Strategy found in Chapter 2 describes a commitment to focusing growth within the City's UDB, so as to prevent "*urban sprawl and protect environmentally sensitive areas*" (*Porterville 2030 General Plan)*. Additionally, Chapter 6: Open Space and Growth provides specific policies and programs related to the preservation and managing open space resources, including open space, agriculture and farmland resources, land resources including soils and minerals, biological resources, water quality, air quality, and cultural resources. Through the integration of all the Elements within the Porterville GP, it is assumed that policies implemented will be able to "*guide sustainable physical and economic growth, while conserving natural and cultural resources*" (*ibid).*

Pursuant the adoption of the Porterville GP by the Porterville City Council, land use types within Porterville's Planning Area were comprehensively updated. The proposed and, now, adopted land use classifications for the 2030 buildout are found in Chapter 2 of the Porterville GP. However, it should be noted that some land uses identified in the Porterville GP may have changed since adoption of the document, as warranted or requested in relation to various development projects.

Total land use acreages per the planned 2030 buildout for the Planning Area, as described in the Porterville GP, are summarized in **Table 3-5: Porterville Planning Area Buildout Land Use Classifications**[6] and is also visualized in Exhibit 3-3: Terra Bella Proposed and Adopted Land Uses.

[6] City of Porterville General Plan. Developed Land includes development projects approved in 2005

Table 3-5: Porterville Planning Area Buildout Land Use Classifications

Land Use	Developed Land[1]	General Plan	2030 Total	Percent of Total
Rural Residential	324	1,731	2,055	5.7%
Resort Residential	-	1,084	1,084	3.0%
Very Low Density Residential	79	1,699	1,778	4.9%
Low Density Residential	3,802	4,339	8,141	22.6%
Low-Medium Density Residential	28	233	251	0.7%
Medium Density Residential	613	438	1,051	2.9%
High Density Residential	264	11	275	0.8%
Residential Subtotal	**5,110**	**9,525**	**14,635**	**39.8%**
Downtown Mixed-Use	34	25	59	0.2%
Commercial Mixed-Use	57	58	115	0.3%
Retail Centers	495	251	746	2.1%
General & Service Commercial	242	76	318	0.9%
Neighborhood Commercial	18	129	147	0.4%
Mixed-Use & Commercial Subtotal	**846**	**539**	**1,385**	**3.8%**
Industrial Park	131	1,314	1,445	4.0%
Industrial	312	171	483	1.3%
Professional Office	100	1	101	0.3%
Office & Industrial Subtotal	**543**	**1,486**	**2,029**	**5.6%**
Public/Institutional	1,255	348	1,603	4.4%
Education	419	343	762	2.1%
Parks & Open Space	313	993	1,306	3.6%
Commercial Recreational	-	55	55	0.2%
Public & Open Space Subtotal	**1,987**	**1,739**	**3,726**	**10.3%**
Agricultural/Rural/Conservation	266	11,658	11,924	33.1%
Unclassified (Roads, water, etc.)	3	2,639	2,642	7.3%
Total	**8,755**	**27,586**	**36,341**	**100%**

3.13.1.2.2 Population

Under assumed full development of the Porterville GP, otherwise known as "buildout", the Porterville GP assumes that the Planning Area will be able to accommodate a buildout population of 107,300. This number represents a 3.7% annual growth rate from the 2006 population estimate of 45,220.

3.13.1.2.3 Water Resources and Supply

Policies and information regarding water resources and supply are primarily addressed in Chapters 6: Open Space and Conservation and 8: Public Utilities.

As stated in Chapter 6, "*The Open Space and Conservation Element is intended to establish policies and programs for conservation, development, and use of open space and natural resources*" (*Porterville 2030 General Plan).* Following the structure provided for this Chapter, a selected subset of the Open Space and Conservation Element's policies are provided below:

Element: 6. Open Space and Conservation

Section: 6.1 Open Space

Policy: OSC-I-12

Policy Text: *"Establish priorities for open space preservation and acquisition based on an evaluation of… Watersheds or significant water recharge areas…"*

Section: 6.5 Water Resources

Policy: OSC-I-37

Policy Text: *"Establish watershed protection standards and review procedures in Zoning Ordinance to protect groundwater resources…"*

Policy: OSC-I-40

Policy Text: *"Support identification of degraded surface water quality and groundwater resources and promote restoration where appropriate…"*

Policy: OSC-I-48

Policy Text: *"Protect groundwater recharge areas by carefully regulating the type of development within these areas…."*

Policy: OSC-I-54

Policy Text: *"Support efforts to create additional water storage where needed, in cooperation with federal, State, and local water authorities. Additionally, support and/or engage in water banking in conjunction with these agencies where appropriate."*

Policy: OSC-I-55

Policy Text: *"Participate in the development, implementation, and maintenance of a program to institute recharge aquifers underlying the Planning Area. The program shall make use of flood and other waters to offset existing and future groundwater pumping."*

Information and policies specific to water supply and conservation are described in section 8.1 of the Porterville GP. This section provides "*guiding and implementing policies to maintain and enhance sufficient water resources to sustain the City's quality of life and support existing and future residential, commercial, and industrial development*" (*Porterville 2030 General Plan*).

City of Porterville is the primary provider of water supply and sewer services within the city limits. Per the Porterville GP, this City's system is comprised of 34 active wells that distribute water via approximately 200 miles of pipeline to approximately 14,000 metered connections. Based on a demand estimate of 250 gallons per capita per day [gpcd] and a buildout population of 107,330 in 2030, section 8.1 plans for a

maximum future water demand of 30,000 acre-feet. [7] Future supply needs are assumed to be met via produced groundwater, water rights on the Tule River, and purchases from local irrigation districts.

Table 3-6: City of Porterville Current and Planned Water Supplies provides a breakdown of the city of Porterville's water supply and demands through 2030, per information provided in the Porterville GP.[8]

Table 3-6: City of Porterville Current and Planned Water Supplies

Description	2006	2010	2015	2020	2025	2030
Population	45,200	52,220	62,530	74,860	89,620	107,300
Total City Demands[1]	1,270	14,600	17,500	21,100	25,100	30,000
Supplier Produced Groundwater[2]	12,700	13,000	15,100	16,580	19,900	23,660
Supplier Surface Diversions[3]	0	900	900	900	900	900
Surface Water Purchases[4]	0	700	1,500	3,520	4,300	5,440

[1] *Total demands based on assumed per capita use of 250 gallons/day from 2001 Porterville Water System master Plan.*

[2] *The aquifer safe yield is assumed to be 1.0 acre-feet/acre. This value is approximate and needs to be verified with a detailed water balance study.*

[3] *Includes water rights on the Tule River with the Pioneer Ditch Company and Porter Slough Ditch Company.*

[4] *Surface water sellers are likely to include Porterville irrigation District and other local irrigation districts*.

The City of Porterville has adopted "*…a goal of gradually reducing groundwater pumping to match the aquifer safe yield by 2020*" (*Porterville 2030 General Plan*).[9] To achieve this, section 8.1 also outlines various conservation efforts, water recycling programs, and groundwater recharge methods to reduce annual demand below the 2030 buildout needs. Conservation efforts include the use of meters, water system audits, and the use of high efficiency plumbing. Water recycling and groundwater recharge are anticipated or ongoing through the management of the City's wastewater effluent at 6 percolation ponds. The Porterville GP also describes that the City maintains approximately 25 stormwater detention basins that provide incidental groundwater recharge.

Following the structure provided for Chapter 8, a selected subset of the Public Utilities Element's policies are provided below:

[7] It should be noted that average annual groundwater production by the City of Porterville is currently less than the planned total volume and per capita volume stated in the Porterville GP, largely as a result of conservation measures implemented by the City (see **3.11.2.3 - Urban water Management Plans***)* for more discussion of the conservation measures and goals of City of Porterville)

[8] It should be noted that the Porterville GP did not anticipate that extension of City of Porterville's water supply services to East Porterville. City of Porterville currently serves over 700 connections within East Porterville, and it is presently anticipated that services will continue to expand to other residential properties in the area in the coming years as part of the East Porterville Water Supply Project. Using a rate of 300 gpcd, the total water supply necessary to totally meet East Porterville's needs is estimated to be approximately 2,350 acre-feet/yr (see *East Porterville Water Supply Project Feasibility Study, 2016).*

[9] It should be noted that, while the Porterville GP does assume an approximate aquifer safe yield of 1 acre-foot per acre, the Porterville GP describes that a more detailed groundwater budget is necessary to accurately estimate safe yield.

Element: 8. Public Utilities

Section: 8.1 Water Supply and Conservation

Policy: PU-I-1

Policy Text: *"Adopt and maintain an Urban Water Management Plan consistent with the California Water Code."*

Policy: PU-I-4

Policy Text: *"Support efforts to expand surface water supply and storage that benefit the City…"*

Policy: PU-I-5

Policy Text: *"Require the necessary water supply infrastructure and storage facilities are in place coincident with new development and approve development plans only when a dependable and adequate water supply to serve the development is assured…"*

Policy: PU-I-6

Policy Text: *"Cooperate with surrounding water management and irrigation district in a comprehensive water management and recharge program with the long-term goal of stabilizing the groundwater basin…"*

Policy: PU-I-8

Policy Text: *"Require that agricultural water rights be assigned to the City when agricultural land is annexed to the City for urban development, consistent with this Porterville Area Community Plan…"*

Policy: PU-I-9

Policy Text: *"Work cooperatively toward a program of conjunctive surface water use with local purveyors and irrigation districts to retain surface water rights and supply following annexation and urban development so as to protect against aquifer over drafts and water quality degradation."*

Policy: PU-I-10

Policy Text: *"Encourage private sector use of alternative water sources to achieve a water balance, including reclaimed water for irrigation and landscaping purposes."*

Policy: PU-I-11

Policy Text: *"Promote the continued use of surface water for agriculture to reduce groundwater table reduction.*

3.13.1.3 Porterville Area Community Plan 2015

The Porterville Area Community Plan (hereafter, "Porterville ACP") is document separate from the Porterville 2030 General Plan, and was completed by the County of Tulare in 2015. The document was developed pursuant a request from City of Porterville so as to update the County Adopted City Plan, otherwise known as the Porterville Area Community Plan, in order to implement the Settlement Agreement reached between the City and the County in the previous year resulting from litigation initiated by City of Porterville.[10]

The Settlement Agreement outlines how the County will enforce the Porterville GP and how the City will uphold the County's goals within City of Porterville's jurisdiction. The Porterville ACP uses as its foundation the Porterville GP. However, the overall responsibility of the Porterville ACP's implementation is vested in the Tulare County Board of Supervisors and the plan maintains consistency with the County Ordinance code. Per adoption of the Porterville ACP, the County has delineated and adopted (or maintained) three boundaries[11]:

- County Adopted City UAB for City of Porterville
- County Adopted City UDB for City of Porterville
- UDB for East Porterville

The County Adopted City UAB for the City of Porterville is coterminous with the Planning Area Boundary found within the Porterville GP. However, while the Settlement Agreement does limit the City's land use authority in the East Porterville UDB, the extension of municipal water services from City of Porterville to East Porterville may cause adjustments to the application of the City's growth and land use policies in the general area. As part of the Porterville ACP, all City standards for development and infrastructure, land use and zoning are to be applied to all new subdivisions approved within East Porterville.

As it is the case that the Porterville ACP generally reflects the same policies and information found in the Porterville GP, the document is not discussed in any further detail for the purpose of this GSP. Additional information can be found in **Section 3.13.1.2 Porterville 2030 General Plan.**

3.13.1.4 Terra Bella Community Plan 2015 Update

The Terra Bella Community Plan 2015 Update (hereafter, "Terra Bella CP") is a component of Part III of the Tulare County GP. Terra Bella is a small, unincorporated severely disadvantaged community with a UBD of approximately 1,393 acres. The community is located in the southeastern portion of Tulare County, with State Route 65 located in the western portion of the community. The Terra Bella CP provides an overview of the community's general conditions, states the Tulare County GP policies relevant to Terra

[10] It should be noted that land uses as adopted by the Porterville ACP may be subsequently updated by way of a General Plan Amendment.

[11] The UDB for East Porterville is separate from City of Porterville's UDB, and this boundary was maintained pursuant adoption of the Porterville ACP.

Bella, describes goas and policies specific to Terra Bella, and designates land use and development boundaries.

3.13.1.4.1 Land Use

The Terra Bella CP provides four categories of Goals, Objectives and Policies specific to Terra Bella that generally provide a framework for sustainable community and land use development. These are, namely, Community Development, Housing, Economic Base, and Environmental Quality.

Pursuant the adoption of the Terra Bella CP by the County of Tulare, land uses within Terra Bella's UDB were updated in 2015. These land uses reflect the policies specific to Terra Bella pursuant the Terra Bella CP, as well as the policies within the Tulare County GP relevant to Terra Bella. The current UBD for the community is projected to be sufficient for the community's growth according to the Terra Bella CP, as vacant land is available for future development. However, it should be noted that some land uses identified in the Terra Bella CP may have changed since adoption of the document, as warranted or requested in relation to various development projects and General Plan Amendments.

Table 3-7: Terra Bella Proposed and Adopted Land Uses describes the acreage associated with each land use designation within the Terra Bella UDB, per information provided in Table 30 of the Terra Bella CP. Exhibit 3-3: Terra Bella Proposed and Adopted Land Uses provides a map that visualizes the current land uses within the Terra Bella UDB, per information provided in the Terra Bella CP.

Table 3-7: Terra Bella Proposed and Adopted Land Uses

Land Use	Acres
General Commercial	78
Heavy Industrial	207
High Density Residential	18
Light Industrial	90
Low Medium Density Residential	481
Medium Density Residential	102
Public/Quasi Public	99
Service Commercial	8
Urban Reserve-Residential	171
Right-of Ways	141
Total	**1,393**

3.13.1.4.2 Population

Between 2000 to 2010, the population of Terra Bella has decreased from 3,466 to 3,310. However, within the Tulare County's General Plan Background Report, all unincorporated areas of the county are assigned a 1.3% projected annual growth rate from 2007 to 2030. This 1.3% projected annual growth rate is assumed for Terra Bella for the period of 2007-2030 in the Terra Bella CP. At this growth rate, the projected population of Terra Bella in 2030 is estimated to be 3,707.

3.13.1.4.3 Water Resources and Supply

Water resources and supply are addressed under the Infrastructure section of the Terra Bella CP. Irrigation and municipal water services are largely supplied to the community by TBID. Wastewater services are primarily supplied by TBSMD.

TBID utilizes two separate systems provide domestic and irrigation water to the community, the primary being treated surface water for domestic use contracted from USBOR in the amount of 29,000 acre-ft per water year, by way of the Friant-Kern Canal, and a separate system consisting of a series of groundwater wells to provide irrigation water to rural areas of the community. The surface water treatment plant has the capacity of providing domestic water to approximately 600-700 additional connections.

TBSMD operates a wastewater treatment plant (hereafter, "WWTP") under Waste Discharge Requirements Order No. 95-029 issued by the California Regional Water Quality Control Board that allows for up to 0.3 million gallons per day (MGD) for monthly average discharge. Treated effluent from the WWTP is currently diverted to a percolation basin within the confines of the WWTP facilities, where the effluent is left to recharge the groundwater basin or evaporate.

The Terra Bella CP maintains as Goal IV under the category of Community Development, "*Coordinate Community Development Decisions with the Terra Bella Irrigation District & Terra Bella Sewer Maintenance District*" (*Terra Bella Community Plan 2015 Update*). Five policies specific to the Terra Bella CP are found under this Goal that provide guidance on new development and ensuring that appropriate water services are available for such developments.

3.13.1.5 Ducor Community Plan 2015 Update

The Ducor Community Plan 2015 Update (hereafter, "Ducor CP") is a Ducor is a component of Part III of the Tulare County GP. Ducor is a small unincorporated severely disadvantaged community with a UBD of approximately 366 acres. The community is located in the southeastern portion of Tulare County, with State Route 65 located in the western portion of the community. The Ducor CP provides an overview of the community's general conditions, states the Tulare County GP policies relevant to Ducor, describes goas and policies specific to Ducor, and designates land use and development boundaries.

3.13.1.5.1 Land Use

The Ducor CP provides four categories of Goals, Objectives and Policies specific to Ducor that generally provide a framework for sustainable community and land use development. These are, namely, Community Development, Housing, Economic Base, and Environmental Quality.

Pursuant the adoption of the Ducor CP by the County of Tulare, land uses within Ducor's UDB were updated as of 2015. These land uses reflect the policies specific to Ducor pursuant the Ducor CP, as well as the policies within the Tulare County GP relevant to Ducor. The current UBD for the community is projected to be sufficient for the community's growth according to the Ducor CP, as vacant land is available for future development. However, it should be noted that some land uses identified in the Ducor CP may have changed since adoption of the document, as warranted or requested in relation to various development projects and General Plan Amendments.

Table 3-8: Ducor Proposed and Adopted Land Uses describes the acreage associated with each land use designation within the Terra Bella UDB, per information provided in Table 27 of the Ducor CP. Exhibit 3-4: Ducor Proposed and Adopted Land Uses provides a map that visualizes the current land uses within the Ducor UDB, per information provided in the Ducor CP.

Table 3-8: Ducor Proposed and Adopted Land Uses

Land Use	Acres
General Commercial	61
Heavy Industrial	6
High Density Residential	13
Low Industrial	35
Low Medium Density Residential	3
Medium Density Residential	49
Public/Quasi Public	12
Urban Reserve-Residential	77
Right-of Ways	83
Total	**367**

3.13.1.5.2 Population

From 2000 to 2010 the population of Ducor has increased from 504 to 510. However, within the Tulare County's General Plan Background Report, all unincorporated areas of the county are assigned a 1.3% projected annual growth rate from 2007 to 2030. This 1.3% projected annual growth rate is assumed for Ducor for the period of 2007-2030 in the Ducor CP. At this growth rate, the projected population of Ducor in 2030 is estimated to be 627.

3.13.1.5.3 Water Resources and Supply

Water resources and supply are addressed under the Infrastructure section of the Ducor CP. Municipal water services are largely supplied to the community by Ducor Community Services District (hereafter, "DCSD"). No wastewater services are present within Ducor; properties utilize on-site septic systems.

Per a Sanitary Survey for CSD prepared in 2009 and quoted in the Ducor CP, DCSD water system provides water to approximately 153 service connections with a majority of the connections being residential. DCSD's water supply has historically come from two groundwater wells but, due to nitrate contamination in one of the wells, the community relies on one well for all water system supplies. However, since the adoption of the Ducor CP, DCSD has incorporated another new well to accommodate for the over reliance and risk associated with utilizing one well as the sole source of water supply to the community. The Ducor CP suggests other water sources, such as contracting with TBID for treated surface water, could be a solution for meeting the water supply and quality demands of DCSD system.

The Ducor CP maintains as Goal IV under the category of Community Development, "*Coordinate Community Development Decisions with the Ducor Community Services District*" (*Ducor Community Plan 2015 Update*). Four policies specific to the Ducor CP are found under this Goal that provide guidance on new development and ensuring that appropriate water services are available for such developments.

3.13.2 Effect of Implementation of Land Use Plans *[23 CCR § 354.8(f)(2)]*

23 Cal. Code Regs. § 354.8 Description of Plan Area. *Each Plan shall include a description of the geographic areas covered, including the following information:*

(f) *A plain language description of the land use elements or topic categories of applicable general plans that includes the following:*

(2) *A general description of how implementation of existing land use plans may change water demands within the basin or affect the ability of the Agency to achieve sustainable groundwater management over the planning and implementation horizon, and how the Plan addresses those potential effects.*

Each of the most recently adopted General and Community Plans active within ETGSA's jurisdiction retain Goals and Polices and other guidance that generally recognize and, when properly implemented, support the following themes:

- Protection and conservation of water supplies;
- Collaboration with other local agencies to address water management;
- Identification and development of new supplies;
- Sustainable physical and economic growth; and
- Adequate and sustainable water supplies.

The goals of this GSP are seen as generally consistent with the themes and policies of the land use plans active within ETGSA's jurisdiction. Pursuant the application of these themes and their affiliated policies by the various entities with land use authority within ETGSA through the implementation of their various General and Community Plans, ETGSA anticipates that it will be able to achieve sustainable groundwater management over the planning and implementation horizon.

Through the implementation of this GSP, ETGSA anticipates that some water demands within its jurisdiction will be met by new alternative sources and that, generally, groundwater demands will decrease. ETGSA will continue to collaborate with entities with land use authority so as to provide an effective program of sustainable groundwater management that coordinates efficiently with the implementation of the various General and Community Plans active within its jurisdiction.

3.13.3 Effects of Land Use Plans on Water Supply Assumptions *[23 CCR § 354.8(f)(3)]*

23 Cal. Code Regs. § 354.8 Description of Plan Area. *Each Plan shall include a description of the geographic areas covered, including the following information:*

(f) *A plain language description of the land use elements or topic categories of applicable general plans that includes the following:*

(3) *A general description of how implementation of the Plan may affect the water supply assumptions of relevant land use plans over the planning and implementation horizon.*

Water supply assumptions within the recently adopted General and Community Plans active within ETGSA's jurisdiction generally provide global estimations of future water supplies and demands. Additionally, these plans provide Goals and Policies that recognize the need and, when implemented, provide for sustainable water management.

As part of the EIR developed for the Tulare County GP, the *Phase 1- Water Supply Evaluation* contemplates four scenarios of future supplies assuming baseline groundwater use across the County to be 1,633,100 acre-feet per year[12]. It should be noted that Scenarios 1 and 2 assume groundwater supplies to be available as historically used with projected groundwater use increasing or decreasing depending on hydrologic year type and implemented conservation measures, and Scenarios 3 and 4 assume constraints in available surface water supplies that project increases in average annual groundwater use. However, the EIR indicates that several issues may affect future water supplies, including changes in California groundwater law, water supply and use legislation, regulatory risk, groundwater adjudications, population growth, and ongoing groundwater overdraft.

Tulare County's Water Resources Goal 3, which recognizes the importance of a sustainable water supply, is *"[t]o provide a sustainable, long-term supply of water resources to meet domestic, agricultural, industrial, and recreational needs and to assure that new urban development is consistent with available water resources*" (*Tulare County General Plan 2030 Update).* This Goal resonates across all the Community Plans administered and adopted by Tulare County.

City of Porterville's Porterville GP and Tulare County's Porterville ACP provide analyses of future water demands. These analyses indicate a general increase in future water use and identify groundwater, surface water, and transfers as the primary supplies anticipated to meet these demands. However, City of Porterville has also established "… *a goal of gradually reducing groundwater pumping to match the aquifer safe yield by 2020*" (*Porterville 2030 General Plan*) and intends to achieve this through conservation, purchase of surface water resources, and groundwater recharge. More discussion of the water resources assumptions in the Porterville GP can be found in **Section 3.13.1.2.3 Water Resources and Supply.** Additionally, the Porterville GP was completed prior to the City's Urban Water Management Plan, which assumes a less aggressive population growth rate and institutes various conservation measures to reduce estimated future demands (see **Section 3.11.2.3**).

Development of this GSP has occurred in consultation with Tulare County and City of Porterville, both of which are Member Agencies of the ETGSA. This GSP provides for a sustainable groundwater management approach that appropriately observes the land use designations maintained by these entities and has considered the relative impact that current land uses may have on existing groundwater supply and demand. ETGSA anticipates an active role in the future development and facilitation of these entities' respective land use plans.

The projects and management actions proposed in this GSP provide a framework by which the opportunity to use lands according to existing land use designations as permitted by land use designations and zoning ordinances remains unaltered, subject to the sustainable use of groundwater within the ETGSA's jurisdiction. However, the assumptions made by ETGSA in this GSP anticipate a shift in water demand due to the implementation of certain projects and management actions that ultimately reduces the total volume of groundwater supply available for extraction on an annual basis and, therefore, current actual land uses reliant upon these groundwater supplies may change during the Plan's implementation horizon.

[12] The Water Supply Evaluation provides a 2003 baseline of 1,633,000 acre-feet/yr of groundwater use across the County. ETGSA encompasses only a small portion of Tulare County.

3.14 Well Permitting Processes *[23 CCR § 354.8(f)(4)]*

23 Cal. Code Regs. § 354.8 Description of Plan Area. *Each Plan shall include a description of the geographic areas covered, including the following information:*

(f) *A plain language description of the land use elements or topic categories of applicable general plans that includes the following:*

(4) *A summary of the process for permitting new or replacement wells in the basin, including adopted standards in local well ordinances, zoning codes, and policies contained in adopted land use plans.*

Permitting of water supply wells within in Tulare County is administered by the Tulare County Environmental Health Services Division. The Tulare County Ordinance Code, Part IV, Chapter 13 (hereafter, "Tulare County Well Ordinance") provides requirements for the design, construction, repair, and reconstruction of agricultural wells, domestic wells, cathodic protection wells, industrial wells, monitoring wells, observation wells, geothermal heat exchange wells, and test wells in such a manner that the groundwater of the county will not be contaminated or polluted, and that water obtained for beneficial uses will not jeopardize the health and safety or welfare of the people of Tulare County.

The Tulare County Well Ordinance adopts the following standards, and any subsequent revisions to such standards:

- DWR Bulletin 74-81
- DWR Bulletin 74-90
- California Well Standards: Water Wells, Monitoring Wells, Cathodic Protection Wells (Supplement to Bulletin 74-81)
- Geothermal Heat Exchange Wells (Draft April 1999)

The procedures for applying or, completing, and obtaining a well permit to construct a well are also defined in the Tulare County Well Ordinance. In summary, submitted applications are reviewed by the Health Officer to determine if an annular seal would be required, accounting for location and groundwater quality data that may indicate differences in groundwater quality between unconfined and confined aquifers. A site inspection may be conducted before the permit is issued. A permit may be issued, denied, or issued with conditions. No permit is required for exploratory borings less than 45' unless groundwater is encountered. If groundwater is encountered, work must stop and an application for a permit must be filed.

Following the passage of SB 252 in 2017 and now pursuant WAT § 13808, the Tulare County Environmental Health Services Division is required to request certain information, to the extent that it can be reasonably known, from an applicant, or the applicant's agent, seeking to construct a new Agricultural, Dairy, or Industrial well as part of an application for a well permit. This information includes the well's proposed capacity in acre-feet and gallons per minute, size of service area, and estimated annual extraction volume in acre-feet.

On March 28, 2022, Governor Newsom issues Drought Executive Order (EO) N-7-22 that included new well permitting requirements for local agencies to prepare for and lessen the effects of drought conditions (Action 9). Action 9 from the Drought EO states the following:

9. *To protect health, safety, and the environment during this drought emergency, a county, city, or other public agency shall not:*

    a. *Approve a permit for a new groundwater well or for alteration of an existing well in a basin subject to the Sustainable Groundwater Management Act and classified as medium-or high-priority without first obtaining written verification from a Groundwater Sustainability Agency managing the basin or area of the basin where the well is proposed to be located that groundwater extraction by the proposed well would not be inconsistent with any sustainable groundwater management program established in any applicable Groundwater Sustainability Plan adopted by that Groundwater Sustainability Agency and would not decrease the likelihood of achieving a sustainability goal for the basin covered by such a plan; or*

    b. *Issue a permit for a new groundwater well or for alteration of an existing well without first determining that extraction of groundwater from the proposed well is (1) not likely to interfere with the production and functioning of existing nearby wells, and (2) not likely to cause subsidence that would adversely impact or damage nearby infrastructure.*

This paragraph shall not apply to permits for wells that will provide less than two acre-feet per year of groundwater for individual domestic users, or that will exclusively provide groundwater to public water supply systems as defined in section 116275 of the Health and Safety Code

To comply with Drought EO N-7-22 Action 9.a, the Agency has developed a Well Verification Form and Agreement to be completed by the landowner submitting a well permit application (**Appendix 3 - E**)

A copy of the County of Tulare's existing Well Permit Application is provided in **Appendix 3 - F: County of Tulare Well Permit Application.**

3.15 Effect of Land Use Plan Outside of the Subbasin *[23 CCR § 354.8(f)(5)]*

23 Cal. Code Regs. § 354.8 Description of Plan Area. *Each Plan shall include a description of the geographic areas covered, including the following information:*

(f) *A plain language description of the land use elements or topic categories of applicable general plans that includes the following:*

(5) *To the extent known, the Agency may include information regarding the implementation of land use plans outside the basin that could affect the ability of the Agency to achieve sustainable groundwater management.*

All Subbasins adjacent to the Tule Subbasin, which include the Kaweah Subbasin, Tulare Lake Subbasin, and Kern Subasin, are considered critically overdrafted and must achieve sustainable groundwater management by 2040. Moreover, pursuant 23 CCR § 350.4(f), DWR is required to evaluation all GSPs "… consistent with the objective that a basin be sustainably managed within 20 years of Plan implementation without adversely affecting the ability of an adjacent basin to implement its Plan that groundwater resources within their respective Subbasins are sustainability managed by 2040."

As the GSPs implemented within adjacent Subbasins must ensure no adverse impact to the GSPs implemented within the Tule Subbasin and must also address any impact that the various land use plans

active within their GSPs' respective Plan Areas may have on their successful implementation of their respective GSPs, ETGSA does not anticipate any significant adverse impacts resulting from the implementation of land use plans adjacent to the Tule Subbasin.

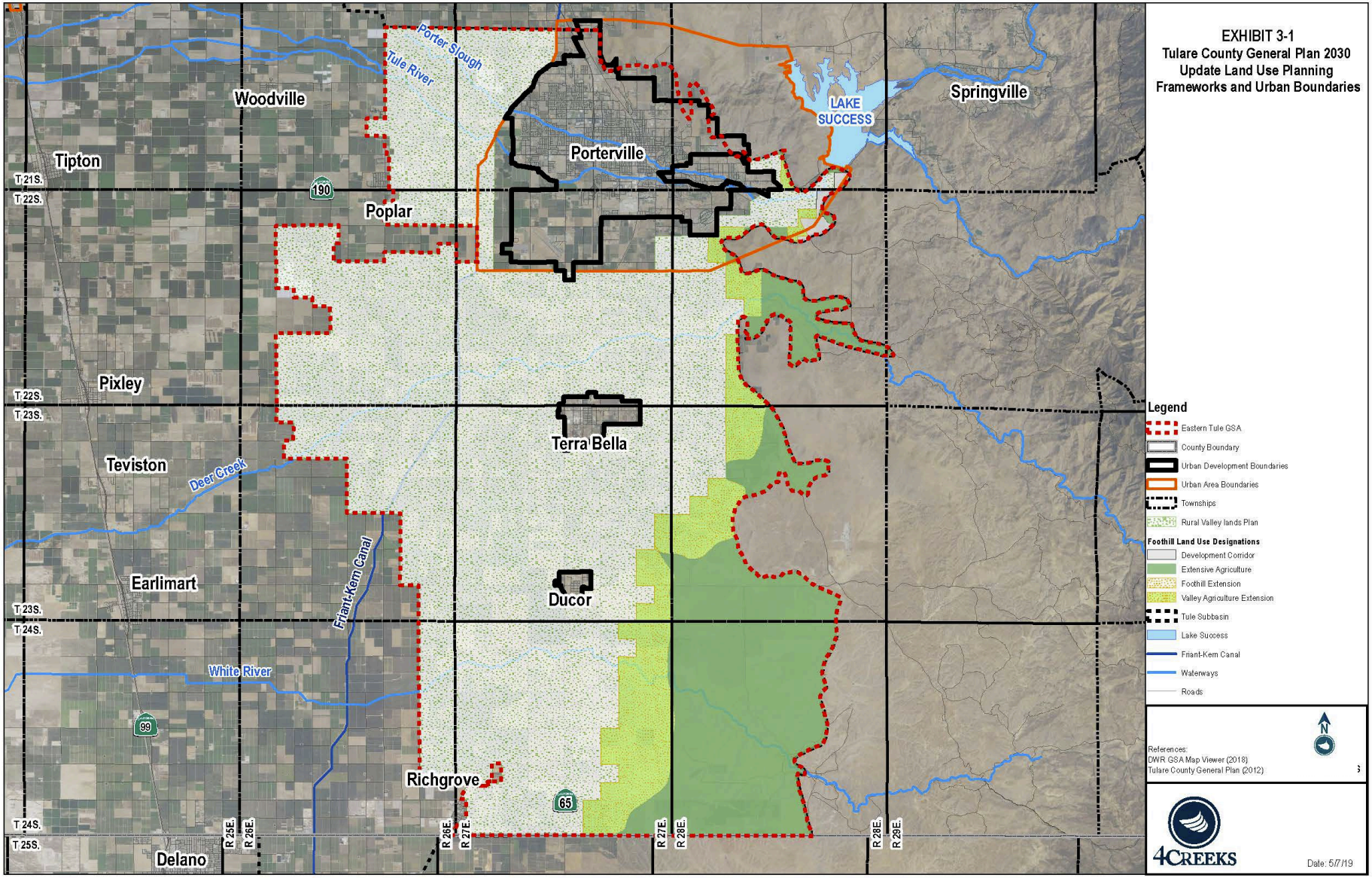


Exhibit 3-1: Tulare County General Plan 2030 Update Land Use Planning Frameworks and Urban Boundaries

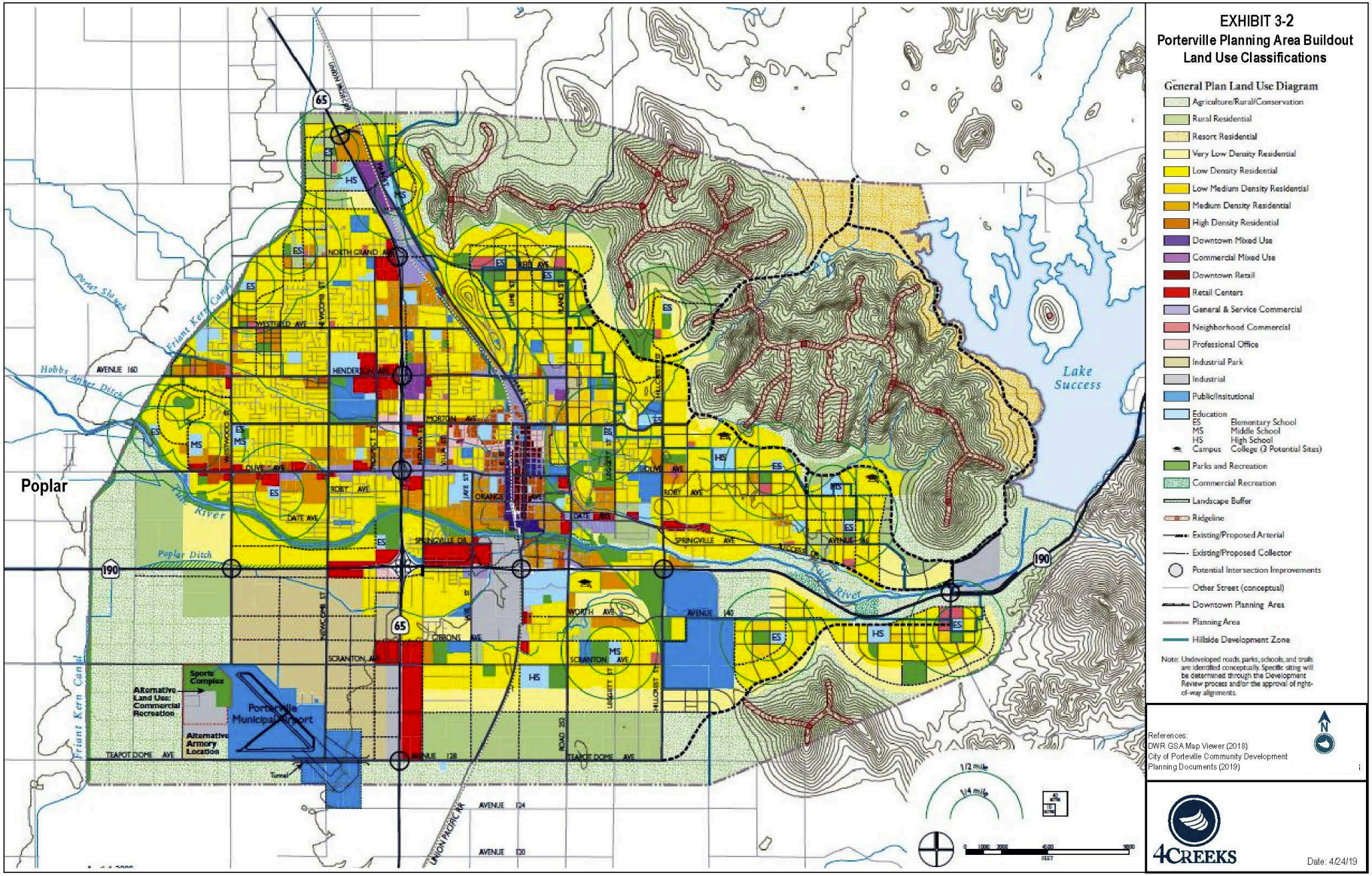


Exhibit 3-2: Porterville Planning Area Buildout Land Use Classifications

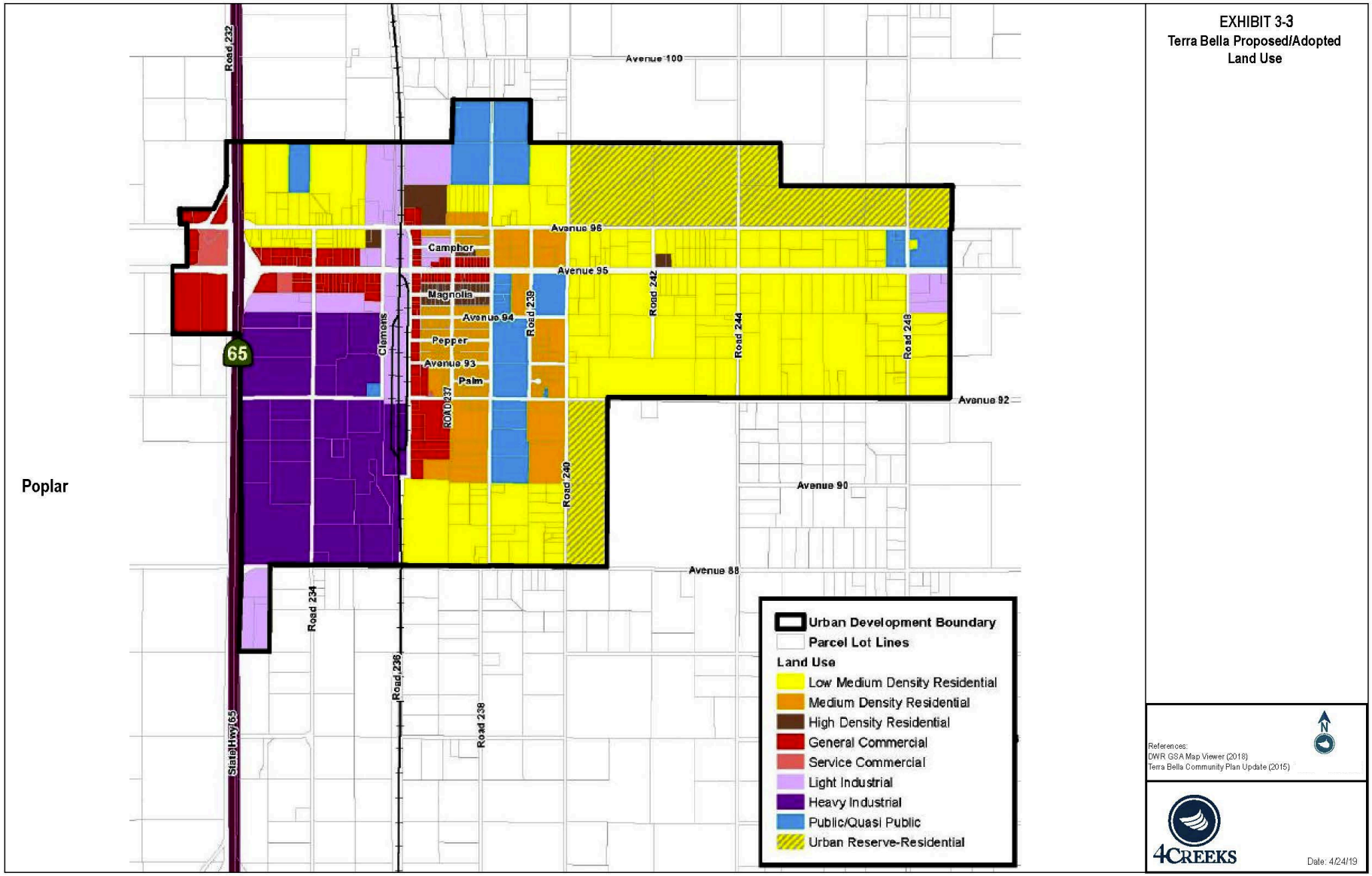


Exhibit 3-3: Terra Bella Proposed and Adopted Land Uses

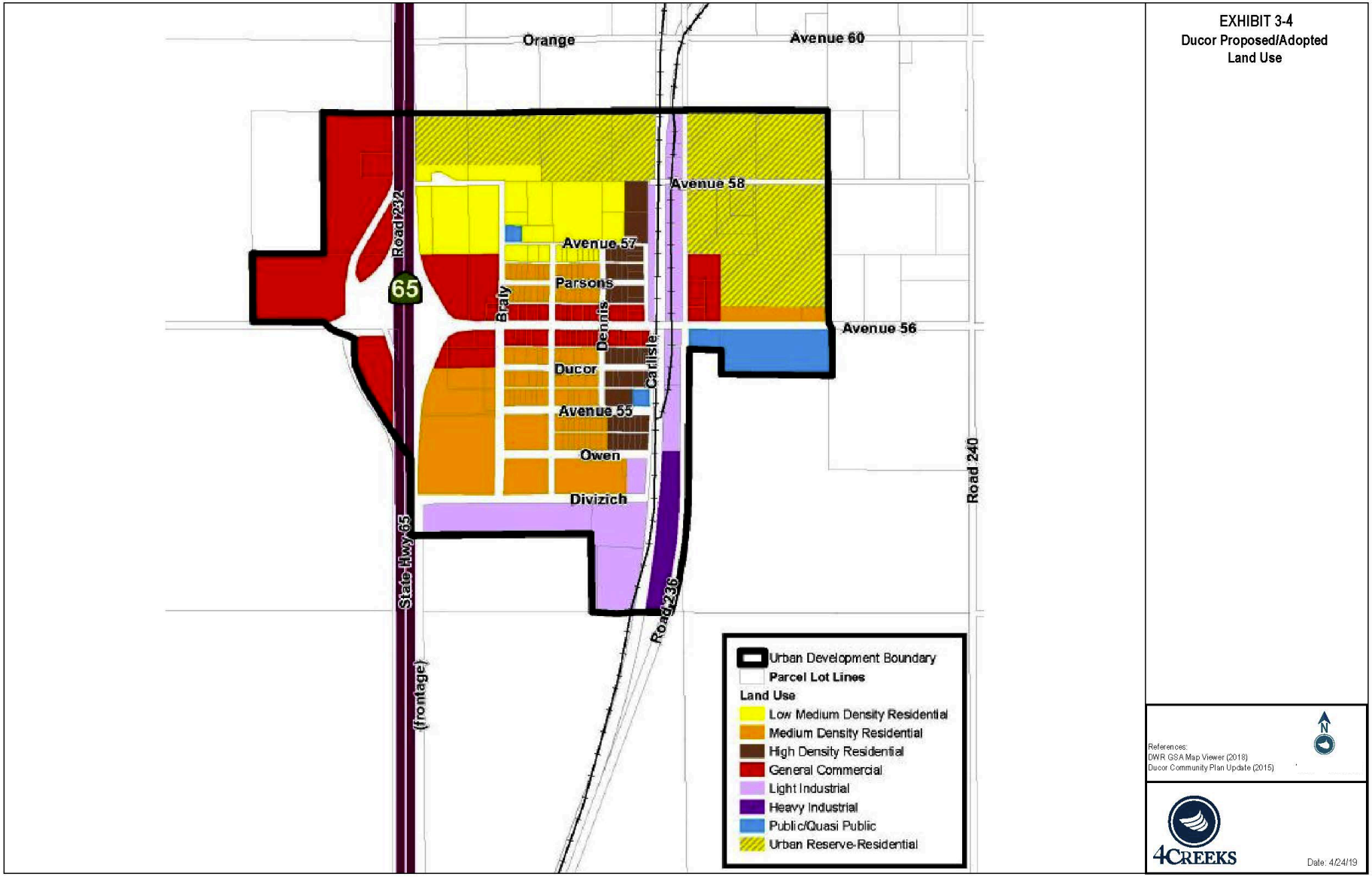


Exhibit 3-4: Ducor Proposed and Adopted Land Uses

Appendix 3 - A: Porterville Irrigation District Landowner Recharge Policy

POLICY PRINCIPLES FOR PORTERVILLE IRRIGATION DISTRICT

LANDOWNER GROUNDWATER RECHARGE PROGRAM

January 20, 2016

In furtherance of the District's project to manage surface and groundwater supplies available within the District, the District authorizes the delivery of District water supplies to Landowners for groundwater recharge purposes according to the following principles:

1. Subject to the District rules and regulations regarding the availability and pricing of District water supply, a Landowner may schedule with the District delivery of water for groundwater recharge on its lands located within the District.

2. At the sole cost of the Landowner, all water delivered by the District to the Landowner for groundwater recharge shall be measured and recorded with equipment furnished, installed, operated, and maintained by the District at the point or points of delivery approved by the District. The District shall use the information obtained from the meter to prepare a written statement, bill, and report of the water delivered by the District to the Landowner.

3. The Landowner shall be responsible for the control, carriage, handling, use, disposal, or distribution of water delivered by the District for groundwater recharge beyond the delivery points approved by the District.

4. The Landowner, at its sole expense, shall be responsible for maintaining accurate and complete accounting records for water delivered to a Landowner's groundwater recharge facility and the total net amount of water recharged to the groundwater aquifer within the District. Each month, the Landowner shall provide the District with a written report stating the amount of water the Landowner delivered to each recharge facility and the total net amount of the water recharged to the groundwater aquifer.

5. The Landowner, at its sole expense and risk, shall be responsible for the design, construction, operation, maintenance, repair and replacement of groundwater recharge facilities, equipment, appurtenances, and any legal and regulatory compliance of groundwater recharge activities.

6. The Landowner may, at is sole discretion, extract the recharged water from time to time, at its sole expense, as the Landowner may desire for its farming operations or other purposes within the District.

7. The Landowner shall indemnify and hold harmless the District, its board of directors, officers, employees, agents, assigns on account of damage or claim of damage of any nature whatsoever for which there is legal responsibility, including property damage, personal injury, or death, and including attorneys' fees and other costs of litigation, arising out of or connected with the control, carriage, handling, use, disposal, or distribution of water for groundwater recharge.

Appendix 3 - B: Porterville Irrigation District Groundwater Banking Program

POLICY PRINCIPLES FOR PORTERVILLE IRRIGATION DISTRICT

GROUNDWATER BANKING PROGRAM

December 12, 2017

In furtherance of the District's project to manage surface and groundwater supplies available within the District, the District authorizes landowners within the District to develop, operate and maintain groundwater banking projects within District boundaries according to the following principles:

1. Rules & Regulations. Subject to the District rules and regulations relating to the availability, priority of use, and pricing of District water supply, a landowner in the District may operate a groundwater banking project within District boundaries.

2. Legal. California law permits a party who has a separate legal right to surface water developed from a source that is separate and distinct from the natural or native groundwater supplies existing in a common Basin aquifer to use the developed water for beneficial use. A party that owns a developed water supply "may use the supply by commingling the water with the native supplies and may subsequently recapture the developed water." (*City of Los Angeles v. City of Glendale* (1943) 23 Cal.2d 68, 76-78.) The recapture right includes the amount equivalent to the augmentation contributed by the water stored (either by direct recharge or return flows from water deliveries) (*City of Los Angeles v. City of San Fernando* (1975) 14 Cal.3d 199, 260.) Banking projects are permitted to recharge, store and recover water placed in the Basin aquifer so long as the quantity recovered does not exceed the amount contributed and none of the banking activities cause injury to any Basin resource or the rights of other users of water in the process.

3. District Objectives. The District adopts these policy principles based on its determination that District approval of groundwater banking activities conducted according to these principles will benefit the District, its landowners and water users, in the following respects:

    a. Increase the total water supply available in the District.
    b. Improve groundwater conditions within the Tule Subbasin (Bulletin 118, Subbasin 5-22.13, hereafter "Basin") and the District.
    c. Contribute to the reduction of District and landowner costs to produce groundwater.
    d. Increase the diversification of water supplies available in the District.
    e. Facilitate landowners needs to obtain water for beneficial use in the District; and
    f. Facilitate the District's compliance with the Sustainable Groundwater Management Act.

4. Groundwater Banking Agreement. A party eligible to develop, operate and maintain a groundwater bank within the District is required to be a current owner (in good standing) of land within the District boundaries and/or a third party with a written agreement with such a landowner of the District ("Banker"). Prior to commencement of construction or operation

of banking facilities, the Banker shall enter into a groundwater banking agreement with the District to provide for groundwater banking activities consistent with these principles. Any written agreement between a landowner authorizing a third party to develop, operate and maintain a groundwater bank within the District boundaries on behalf of a landowner shall be submitted and approved by the District. The District does not currently intend to directly develop, operate and maintain a groundwater bank but does expressly reserve its authority to revise these principles to include District groundwater banking in the future should it be deemed necessary and proper.

5. Banking Facilities. The Banker shall be solely responsible for determining the nature, location and extent of the necessary banking facilities. All costs of design, permitting, construction, operation, maintenance, repair and replacement and all other costs and expenses of a groundwater banking facility shall be the sole responsibility of the Banker. Prior to commencement of construction and operation of groundwater banking facilities the Banker shall submit and obtain approval from the District of a written report containing the following information:

    a. The banking site location (Assessor Parcel Number, legal description, and GIS map).
    b. The conveyance and distribution facilities and manner and method of operation.
    c. The recharge facilities and the manner and method of operation.
    d. The recovery facilities (landowner and/or project extraction wells) and the manner and method of operation.
    e. The energy facilities (electric, diesel, solar, etc.).
    f. The schedule for permitting, construction and commencement of operation.
    g. The plan of operation, maintenance, repair and replacement of banking facilities.
    h. The intended source of all banking water supplies (e.g., Central Valley Project, local surface waters [Tule River], third party exchange/transfer supplies, other).
    i. The banking accounting, measurement, monitoring and reporting procedure.
    j. A Monitoring and Operational Constraint Plan (MOCP) to ensure that unacceptable impacts to neighboring crops, well flow rates, water levels and quality are prevented and/or adequately mitigated.

6. Banking Leave Behind. In order to insure that a groundwater banking project will protect the Basin and benefit the District, its landowners and water users, the Banker shall leave in storage in the Basin aquifer to the credit of the District's storage master account the percentage amount of the total water reported, on an annual basis, to have augmented the storage in the Basin according to the following table:

WATER SUPPLY	PLACE OF USE			
	PORTERVILLE ID	EAST-TULE GSA	REMAINDER OF TULE SUB-BASIN	ANY OTHER LAWFUL PLACE
WATER AVAILABLE TO THE DISTRICT AND DESIGNATED FOR IRRIGATION DELIVERY	20%	X	X	X
WATER AVAILABLE TO THE DISTRICT AND DESIGNATED FOR GROUNDWATER RECHARGE	10%	20%	X	X
WATER AVAILABLE TO THE DISTRICT AND DESIGNATED FOR OUT OF DISTRICT SALE	10%	20%	30%	X[1]
NON-DISTRICT WATER FROM THE TULE RIVER TRIBUTARY TO THE BASIN	10%	20%	30%	X[2]
OTHER NON-DISTRICT WATER SUPPLY	15%	15%	15%	15%

The term "water available to the District" means all Central Valley Project, Tule River or any other water supply which the District owns and is otherwise required to manage and deliver to landowners and water users within the boundaries of the District. An example illustrating application of the leave behind requirements in the table above is, if 1,000af of water available to the District and designated for out of district sale was banked by the Banker and reported as augmenting the storage in the Basin pursuant to this policy then: 900af could be extracted by the Banker if used within Porterville ID; 800af could be extracted if used within the East-Tule GSA boundary; and 700af could be extracted if used within the remainder of the Tule-Basin but outside of the East-Tule GSA boundary. The District's storage master account would be credited respectively in the amount of 100af, 200af or 300af. The District

[1] The District reserves the right to approve additional uses on a case-by-case basis.

[2] The District reserves the right to approve additional uses on a case-by-case basis.

will determine, in its sole discretion, the use of the water stored and credited to the District in its storage master account resulting from any groundwater banking activities.

7. Place of Use. Any water credited to the Bankers storage sub-account originating from a District water supply, along with water originating from the Tule River, shall only be extracted and beneficially used within the boundaries of the District, the East-Tule Groundwater Sustainability Agency, or the Tule Subbasin (Bulletin 118, 5-22.13) to the extent provided in the leave behind requirements stated in Paragraph 6 above. Any water recharged, stored and credited to the Bankers storage sub-account originating from other non-District imported water supplies may be extracted and beneficially used at any place permitted by law in accordance with the leave behind requirements stated in Paragraph 6 above. It is anticipated that the District will review the leave behind (Paragraph 6) and place of use (Paragraph 7) provisions of this policy, and any other provision deemed necessary by the District, in conjunction with the five year review conducted by the Department of Water Resources following the District's initial submittal of its Groundwater Sustainability Plan in 2020.

8. Priority of Use of District Water. All District water supplies available for groundwater banking shall be subject to the District policies, rules and regulations regarding priority for allocation and use of water by landowners and water users within the District.

9. Water Quality Standards. The Banker shall insure that all water diverted into groundwater banking recharge facilities and stored in the Basin aquifer does not result in unacceptable deterioration of groundwater quality contrary to applicable Tulare Lake Basin Plan water quality objectives or as required in any MOCP approved by the District.

10. Banking Accounting, Measurement, Monitoring and Reporting Procedure. The Banker shall be responsible for developing and implementing a procedure to accurately account for all banking activities on a monthly and annual basis including the following: the source of all water delivered to each turnout, recharge discharges, percolation rates, recharge losses to evaporation and soil profile, net augmentation to storage in the Basin, pumping extractions, amounts of water in storage and recovery, the place of use of all banked water deliveries, changes in local groundwater conditions (including depth to groundwater, water quantity, quality, groundwater gradient and migration). All water recharged, stored and credited to the Banker according the groundwater banking agreement shall be identified by source of water as a separate storage sub-account exclusively for use by the Banker but under the name of the District. Prior to commencement of construction and operation of groundwater banking facilities the Banker shall submit a written report and obtain approval from the District of its proposed banking accounting, measurement, monitoring and reporting procedure. The Banker shall provide the District on a monthly and annual basis a written report of all groundwater banking activities in a form approved by the District.

11. Legal Compliance. The Banker shall be solely responsible for complying with all applicable Federal, State and local laws, rules and regulations relating to its banking activities. At the

District's discretion, the Banker shall provide the District with a copy of any permit, order, agreement, environmental document, judgment or other record requested by the District indicating the Banker's compliance with applicable laws.

12. California Environmental Policy Act. The District shall act as the lead agency under the California Environmental Policy Act (Public Resources Code §21000, et. seq., "CEQA") regarding the preparation of documents required to carry out or approve a groundwater banking project authorized pursuant to this policy. Implementation of this policy and the approval of any groundwater banking project pursuant to this policy are subject to compliance with CEQA and the Banker shall be responsible for the payment of all costs and expenses incurred by the District and the Banker relating to such compliance.

13. Indemnification. The Banker shall indemnify, defend and hold harmless the District, its board of directors, officers, employees, agents, assigns on account of damage or claim of damage of any nature whatsoever for which there is legal responsibility, including property damage, personal injury, or death, and including attorneys' fees and other costs of litigation, arising out of or connected with the development, operation and maintenance of a groundwater bank.

14. District Administration. The Banker shall reimburse the District for its reasonable costs and expenses incurred, as determined by the District, to prepare or review the agreements, reports, plans and other documents and materials relating to the administration of the groundwater banking agreement with the Banker.

Appendix 3 - C: Saucelito Irrigation District Landowner Recharge Policy

POLICY PRINCIPLES FOR SAUCELITO IRRIGATION DISTRICT

LANDOWNER GROUNDWATER RECHARGE PROGRAM

Final March 19, 2019

In furtherance of the District's project to manage surface and groundwater supplies available within the District, the District authorizes the delivery of District water supplies to Landowners for groundwater recharge purposes according to the following principles:

1. Subject to the District rules and regulations regarding the availability and pricing of District water supply, a Landowner may schedule with the District delivery of water for groundwater recharge on its lands located within the District.

2. At the sole cost of the Landowner, all water delivered by the District to the Landowner for groundwater recharge shall be measured and recorded with equipment furnished, installed, operated, and maintained by the District at the point or points of delivery approved by the District. The District shall use the information obtained from the meter to prepare a written statement, bill, and report of the water delivered by the District to the Landowner.

3. The Landowner shall be responsible for the control, carriage, handling, use, disposal, or distribution of water delivered by the District for groundwater recharge beyond the delivery points approved by the District.

4. The Landowner, at its sole expense, shall be responsible for maintaining accurate and complete accounting records for water delivered to a Landowner's groundwater recharge facility and the total net amount of water recharged to the groundwater aquifer within the District. Each month, the Landowner shall provide the District with a written report stating the amount of water the Landowner delivered to each recharge facility and the total net amount of the water recharged to the groundwater aquifer.

5. The Landowner, at its sole expense and risk, shall be responsible for the design, construction, operation, maintenance, repair and replacement of groundwater recharge facilities, equipment, appurtenances, and any legal and regulatory compliance of groundwater recharge activities.

6. The Landowner may, at is sole discretion, extract the recharged water from time to time, at its sole expense, as the Landowner may desire for its farming operations or other purposes within the District.

7. During flood periods as determined by the SID Board of Directors, landowner may, in its discretion, apply excess irrigation waters through normal irrigation facilities for purposes of recharge. The District recognizes [75%] of such waters as a recharge to the sub-basin. Pursuant to Section 6, Landowner may later extract such waters for beneficial use within the District at its sole discretion. Pursuant to Section 4, Landowner is responsible for all accounting.

8. The Landowner shall indemnify and hold harmless the District, its board of directors, officers, employees, agents, assigns on account of damage or claim of damage of any nature whatsoever for which there is legal responsibility, including property damage, personal injury, or death, and including attorneys' fees and other costs of litigation, arising out of or connected with the control, carriage, handling, use, disposal, or distribution of water for groundwater recharge.

Appendix 3 - D: Saucelito Irrigation District Groundwater Banking Program

POLICY PRINCIPLES FOR SAUCELITO IRRIGATION DISTRICT

GROUNDWATER BANKING PROGRAM

JUNE 14, 2018

In furtherance of the District's project to manage surface and groundwater supplies available within the District, the District authorizes landowners within the District to develop, operate and maintain groundwater banking projects within District boundaries according to the following principles:

1. Rules & Regulations. Subject to the District rules and regulations relating to the availability, priority of use, and pricing of District water supply, a landowner in the District may operate a groundwater banking project within District boundaries.

2. Legal. California law permits a party who has a separate legal right to surface water developed from a source that is separate and distinct from the natural or native groundwater supplies existing in a common Basin aquifer to use the developed water for beneficial use. A party that owns a developed water supply "may use the supply by commingling the water with the native supplies and may subsequently recapture the developed water." (*City of Los Angeles v. City of Glendale* (1943) 23 Cal.2d 68, 76-78.) The recapture right includes the amount equivalent to the augmentation contributed by the water stored (either by direct recharge or return flows from water deliveries) (*City of Los Angeles v. City of San Fernando* (1975) 14 Cal.3d 199, 260.) Banking projects are permitted to recharge, store and recover water placed in the Basin aquifer so long as the quantity recovered does not exceed the amount contributed and none of the banking activities cause injury to any Basin resource or the rights of other users of water in the process.

3. District Objectives. The District adopts these policy principles based on its determination that District approval of groundwater banking activities conducted according to these principles will benefit the District, its landowners and water users, in the following respects:

    a. Increase the total water supply available in the District.
    b. Improve groundwater conditions within the Tule Subbasin (Bulletin 118, Subbasin 5-22.13, hereafter "Basin") and the District.
    c. Contribute to the reduction of District and landowner costs to produce groundwater.
    d. Increase the diversification of water supplies available in the District.
    e. Facilitate landowners needs to obtain water for beneficial use in the District; and
    f. Facilitate the District's compliance with the Sustainable Groundwater Management Act.

4. Groundwater Banking Agreement. A party eligible to develop, operate and maintain a groundwater bank within the District is required to be a current owner (in good standing) of land within the District boundaries and/or a third party with a written agreement with such a landowner of the District ("Banker"). Prior to commencement of construction or operation

of banking facilities, the Banker shall enter into a groundwater banking agreement with the District to provide for groundwater banking activities consistent with these principles. Any written agreement between a landowner authorizing a third party to develop, operate and maintain a groundwater bank within the District boundaries on behalf of a landowner shall be submitted and approved by the District. The District does not currently intend to directly develop, operate and maintain a groundwater bank but does expressly reserve its authority to revise these principles to include District groundwater banking in the future should it be deemed necessary and proper.

5. Banking Facilities. The Banker shall be solely responsible for determining the nature, location and extent of the necessary banking facilities. All costs of design, permitting, construction, operation, maintenance, repair and replacement and all other costs and expenses of a groundwater banking facility shall be the sole responsibility of the Banker. Prior to commencement of construction and operation of groundwater banking facilities the Banker shall submit and obtain approval from the District of a written report containing the following information:

    a. The banking site location (Assessor Parcel Number, legal description, and GIS map).
    b. The conveyance and distribution facilities and manner and method of operation.
    c. The recharge facilities and the manner and method of operation.
    d. The recovery facilities (landowner and/or project extraction wells) and the manner and method of operation.
    e. The energy facilities (electric, diesel, solar, etc.).
    f. The schedule for permitting, construction and commencement of operation.
    g. The plan of operation, maintenance, repair and replacement of banking facilities.
    h. The intended source of all banking water supplies (e.g., Central Valley Project, local surface waters [Tule River], third party exchange/transfer supplies, other).
    i. The banking accounting, measurement, monitoring and reporting procedure.
    j. A Monitoring and Operational Constraint Plan (MOCP) to ensure that unacceptable impacts to neighboring crops, well flow rates, water levels and quality are prevented and/or adequately mitigated.

6. Banking Leave Behind. In order to insure that a groundwater banking project will protect the Basin and benefit the District, its landowners and water users, the Banker shall leave in storage in the Basin aquifer to the credit of the District's storage master account the percentage amount of the total water reported, on an annual basis, to have augmented the storage in the Basin according to the following table:

WATER SUPPLY	PLACE OF USE			
	SAUCELITO ID	EAST-TULE GSA	REMAINDER OF TULE SUB-BASIN	ANY OTHER LAWFUL PLACE
WATER AVAILABLE TO THE DISTRICT AND DESIGNATED FOR IRRIGATION DELIVERY	20%	X	X	X
WATER AVAILABLE TO THE DISTRICT AND DESIGNATED FOR GROUNDWATER RECHARGE	10%	20%	X	X
WATER AVAILABLE TO THE DISTRICT AND DESIGNATED FOR OUT OF DISTRICT SALE	10%	20%	30%	X[1]
NON-DISTRICT WATER FROM THE TULE RIVER TRIBUTARY TO THE BASIN	10%	20%	30%	X[2]
OTHER NON-DISTRICT WATER SUPPLY	15%	15%	15%	15%

The term "water available to the District" means all Central Valley Project, Tule River or any other water supply which the District owns and is otherwise required to manage and deliver to landowners and water users within the boundaries of the District. An example illustrating application of the leave behind requirements in the table above is, if 1,000af of water available to the District and designated for out of district sale was banked by the Banker and reported as augmenting the storage in the Basin pursuant to this policy then: 900af could be extracted by the Banker if used within Saucelito ID; 800af could be extracted if used within the East-Tule GSA boundary; and 700af could be extracted if used within the remainder of the Tule-Basin but outside of the East-Tule GSA boundary. The District's storage master account would be credited respectively in the amount of 100af, 200af or 300af. The District

[1] The District reserves the right to approve additional uses on a case-by-case basis.

[2] The District reserves the right to approve additional uses on a case-by-case basis.

will determine, in its sole discretion, the use of the water stored and credited to the District in its storage master account resulting from any groundwater banking activities.

7. Place of Use. Any water credited to the Bankers storage sub-account originating from a District water supply, along with water originating from the Tule River, shall only be extracted and beneficially used within the boundaries of the District, the East-Tule Groundwater Sustainability Agency, or the Tule Subbasin (Bulletin 118, 5-22.13) to the extent provided in the leave behind requirements stated in Paragraph 6 above. Any water recharged, stored and credited to the Bankers storage sub-account originating from other non-District imported water supplies may be extracted and beneficially used at any place permitted by law in accordance with the leave behind requirements stated in Paragraph 6 above. It is anticipated that the District will review the leave behind (Paragraph 6) and place of use (Paragraph 7) provisions of this policy, and any other provision deemed necessary by the District, in conjunction with the five year review conducted by the Department of Water Resources following the District's initial submittal of its Groundwater Sustainability Plan in 2020.

8. Priority of Use of District Water. All District water supplies available for groundwater banking shall be subject to the District policies, rules and regulations regarding priority for allocation and use of water by landowners and water users within the District.

9. Water Quality Standards. The Banker shall insure that all water diverted into groundwater banking recharge facilities and stored in the Basin aquifer does not result in unacceptable deterioration of groundwater quality contrary to applicable Tulare Lake Basin Plan water quality objectives or as required in any MOCP approved by the District.

10. Banking Accounting, Measurement, Monitoring and Reporting Procedure. The Banker shall be responsible for developing and implementing a procedure to accurately account for all banking activities on a monthly and annual basis including the following: the source of all water delivered to each turnout, recharge discharges, percolation rates, recharge losses to evaporation and soil profile, net augmentation to storage in the Basin, pumping extractions, amounts of water in storage and recovery, the place of use of all banked water deliveries, changes in local groundwater conditions (including depth to groundwater, water quantity, quality, groundwater gradient and migration). All water recharged, stored and credited to the Banker according the groundwater banking agreement shall be identified by source of water as a separate storage sub-account exclusively for use by the Banker but under the name of the District. Prior to commencement of construction and operation of groundwater banking facilities the Banker shall submit a written report and obtain approval from the District of its proposed banking accounting, measurement, monitoring and reporting procedure. The Banker shall provide the District on a monthly and annual basis a written report of all groundwater banking activities in a form approved by the District.

11. Legal Compliance. The Banker shall be solely responsible for complying with all applicable Federal, State and local laws, rules and regulations relating to its banking activities. At the

District's discretion, the Banker shall provide the District with a copy of any permit, order, agreement, environmental document, judgment or other record requested by the District indicating the Banker's compliance with applicable laws.

12. California Environmental Policy Act. The District shall act as the lead agency under the California Environmental Policy Act (Public Resources Code §21000, et. seq., "CEQA") regarding the preparation of documents required to carry out or approve a groundwater banking project authorized pursuant to this policy. Implementation of this policy and the approval of any groundwater banking project pursuant to this policy are subject to compliance with CEQA and the Banker shall be responsible for the payment of all costs and expenses incurred by the District and the Banker relating to such compliance.

13. Indemnification. The Banker shall indemnify, defend and hold harmless the District, its board of directors, officers, employees, agents, assigns on account of damage or claim of damage of any nature whatsoever for which there is legal responsibility, including property damage, personal injury, or death, and including attorneys' fees and other costs of litigation, arising out of or connected with the development, operation and maintenance of a groundwater bank.

14. District Administration. The Banker shall reimburse the District for its reasonable costs and expenses incurred, as determined by the District, to prepare or review the agreements, reports, plans and other documents and materials relating to the administration of the groundwater banking agreement with the Banker.

Appendix 3 - E: ETGSA Well Verification Form (EO N-7-22)

CONTACT:
office: (559) 781-7660
email: support@easterntulegsa.com
website: easterntulegsa.com
mailing address: 881 W. Morton Avenue
Suite D
Porterville, CA 93257

WELL VERIFICATION FORM
EXECUTIVE ORDER N-7-22

WELL Number:	Date Submitted:	GSA Phone or Email
Groundwater Sustainability Agency (GSA) Name	GSA Representative Name/Title	
Site Location:	APN:	
Property Owner:	Driller Business Name:	

☐ The above well permit application must comply with any and all groundwater extraction limitations imposed by the GSA to be consistent with sustainability goals established in the GSP. The purpose of the extraction limitations is to meet sustainability goals that the well is not likely to interfere with the production and functioning of existing nearby wells and is not likely to cause subsidence that would adversely impact or damage nearby critical infrastructure. Attached hereto as Exhibit A is the Landowner Agreement to comply with any and all limitations imposed to reduce or eliminate well interference or land subsidence, in addition to other sustainability goals.

☐ The GSA does not oppose the issuance of the above well permit application.

The information contained herein is based on the information contained in the well permit application. The preceding statements are made upon information known at the time of this statement only. The GSA is currently amending its GSP, which may necessitate or cause changes to previously made statements. As of the date of this form, the State's Department of Water Resources has found the relevant GSP to be deficient and the GSA is in the process of amending the GSP.

Printed Name: _____

Title: _____

GSA: ___Eastern Tule GSA_____

Signature: _____ Date: _____

EXHIBIT A
LANDOWNER AGREEMENT

CONTACT: office: (559) 781-7660
email: support@easterntulegsa.com
website: easterntulegsa.com
mailing address: 881 W. Morton Ave. Ste. D
Porterville, CA 93257

LANDOWNER AGREEMENT
EXHIBIT A
TO
WELL VERIFICATION FORM
EXECUTIVE ORDER N-7-22

Landowner Name:

_____

Mailing Address:

_____

ETGSA Account No_____

Landowner has submitted a well permit application with Tulare County. The County requests that the GSA provide written verification that approval of the well permit application will not be inconsistent with the GSA's sustainability goals. Executive Order N-7-22 also provides the permit shall not be issued without first determining that the extraction of groundwater from the proposed well is not likely to interfere with the production and functioning of existing nearby wells, and not likely to cause subsidence that would adversely impact or damage nearby infrastructure.

The purpose of the ETGSA Groundwater Sustainability Plan ("GSP"), Rules and Regulations, and any other policies, rules or laws imposing restrictions on groundwater extractions is to avoid Undesirable Results as defined in the Sustainable Groundwater Management Act ("SGMA") and obtain the Subbasin Sustainability Goal as defined in the GSP, which includes amongst other things the avoidance of neighboring well interference and the reduction or elimination of land subsidence.

Landowner hereby agrees and acknowledges that he or she shall comply with the ETGSA's GSP and any amendments thereto, the ETGSA Rules and Regulations including any and all limitations on groundwater extractions, the ETGSA Land Subsidence Management Plan including any and all limitations on groundwater extractions, and any other rules, regulations, policies or other laws as may be required.

*If you have any questions or require assistance in filling out your form, please contact the ETGSA Administration Staff at **(559) 781-7660** or email **support@easterntulegsa.com**. When complete, please submit this Form to the ETGSA in person or by mail to the following address: 881 W. Morton Ave. Ste. D, Porterville, CA 93257*

CONTACT: office: (559) 781-7660
email: support@easterntulegsa.com
website: easterntulegsa.com
mailing address: 881 W. Morton Ave. Ste. D
Porterville, CA 93257

Provided the Landowner is in current "good standing" with the ETGSA, including but not limited to, current on all fees, penalties or other monies owed to the ETGSA, and not having exceeded groundwater allocations, ETGSA will provide the "Verification Form" to which this Agreement is attached as Exhibit A, to the County of Tulare.

Landowner Signature

_____Date _____

ETGSA Signature

_____Date _____

General Manager

If you have any questions or require assistance in filling out your form, please contact the ETGSA Administration Staff at ***(559) 781-7660*** *or email* ***support@easterntulegsa.com****. When complete, please submit this Form to the ETGSA in person or by mail to the following address: 881 W. Morton Ave. Ste. D, Porterville, CA 93257*

Appendix 3 - F: County of Tulare Well Permit Application

TULARE COUNTY ENVIRONMENTAL HEALTH SERVICES DIVISION

5957 SOUTH MOONEY BLVD. VISALIA, CA 93277

(559)624-7400 – tularecountyehwells@tularecounty.ca.gov

APPLICATION TO CONSTRUCT, DEEPEN, RECONSTRUCT OR DESTROY A WELL

Application #: WWA – _____ **Permit #: WELL** _____

APPLICANT INFORMATION

Applicant Name: _____ **Telephone:** _____

I am the: ○ **Property Owner** ○ **Authorized Agent of the Property Owner** *(Attach Written Authorization)*

Property Owner: *(If Other than Applicant)* _____ **Telephone:** _____

Mailing Address: _____ _____ _____

Street **City, State** **Zip Code**

E-Mail Address: _____

LICENSED CONTRACTOR DECLARATION

Licensed under the provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, as a well drilling contractor and such license is in full force and effect.

Company Name: _____

E-Mail Address: _____

Mailing Address: _____ _____ _____

Street **City, State** **Zip Code**

C–57 License #: _____ **Office Telephone:** _____ **Cell:** _____

I would like the Permit to be: ○ **Mailed** ○ **E-Mailed**

_____ I certify that I have a current and active C-57 Contractor's License and, if I employ workers, a current certificate of Workers' Compensation Insurance.

CONSULTANT INFORMATION (Required for Remedial Action Sites)

Consulting Firm: _____ **Contact:** _____

Address: _____ _____ _____

Street **City, State** **Zip Code**

E-Mail Address: _____ **Telephone:** _____

PARCEL INFORMATION

Location: _____

Address or Distance from Nearest Cross Streets (or Property Lines)

Is the well within city limits? ○ **Yes** ○ **No** **Nearest City:** _____ **Parcel Size:** _____ **Acre(s)**

APN: _____ - _____ - _____ _____ _____ _____

Township **Range** **Section**

GPS Data: *(Use Decimal Degrees)* _____ _____ _____

Latitude **Longitude** **Elevation (ft.)**

○ **Valley** *(Complete the following section)*

○ **Foothills/Mountains**

Project Start Date: _____ *Application must be submitted at least ten (10) working days prior to the proposed starting date.*

Groundwater Basin: For wells to be drilled in the Valley, select the Groundwater Basin and the Groundwater Sustainability Agency (GSA) that has jurisdiction where the well will be located.	○ **Kaweah** ○ East Kaweah GSA ○ Greater Kaweah GSA ○ Mid-Kaweah Groundwater Subbasin Joint Powers Authority	○ **Kings** ○ Central Kings GSA ○ Kings River East GSA	○ **Tulare Lake** ○ El Rico GSA ○ Tri County Water Authority	○ **Tule** ○ Alpaugh GSA ○ Delano – Earlimart GSA ○ Eastern Tule GSA ○ Lower Tule Irrigation District ○ Pixley Irrigation District ○ Tri County Water Authority

TYPE OF WORK

- ○ **New** — First or Additional Well
- ○ **Replacement** — Requires Destruct Permit
- ○ **Deepening** — Increase depth of well
- ○ **Reconstruct** — Installation of a Casing Liner
- ○ **Destruct** — Fill, cap and bury well.

WELL TYPE

- ○ Domestic (1 – 4 Connections)
- ○ Community (5+ Connections)*
- ○ Agricultural**
- ○ Other _____
- ○ Dairy Supply
- ○ Industrial
- ○ Soil Boring(s) †
- ○ Test Well
- ○ Cathodic Protection
- ○ Monitoring Well(s) †

†Number of Soil Boring(s) or Monitoring Well(s): _____

INTENDED USE

*For Community (5+ Connection) wells:

Will this well serve a regulated Water System? ○ Yes ○ No If Yes, name of Water System: _____

Name of Water System Contact: _____ Telephone: _____

If No, number of persons to be served by the well: _____ Days per year that water is served: _____ Days

**For Agricultural wells:

APNs to be irrigated by this well: _____ Total acreage: _____

WELL CONSTRUCTION

Drilling Method: ○ Rotary ○ Reverse Rotary ○ Cable Tool ○ Air Rotary ○ Auger ○ Casing Driven ○ Other _____

Proposed Borehole: Diameter: _____ in. Depth: _____ ft.

Well Casing: ○ PVC ○ Steel Diameter: _____ in. Gauge/Thickness: _____ Slot Size: _____

Perforations: _____ to _____ ft. _____ to _____ ft. _____ to _____ ft.

Conductor Casing: ○ Yes ○ No Diameter: _____ in. Depth: _____ ft.

Annular Seal: Depth: _____ to _____ ft. _____ to _____ ft. _____ to _____ ft.

Thickness: ○ 2 in. – All well types except Community ○ 3 in. – Community (5+ Connection) Wells

Material: ○ Neat Cement ○ _____ Sack Sand Slurry ○ Bentonite ○ Other _____

Method: ○ Tremie Pipe ○ Free Fall *(Allowed only when the interval to be sealed is dry and less than 30 ft. in depth. Variance required.)*

WELL DEEPENING

Original Well: ○ PVC ○ Steel Diameter: _____ in. Depth: _____ ft. Depth to Water: _____ ft.

Deepened Well: ○ PVC ○ Steel Diameter: _____ in. Gauge/Thickness: _____ Slot Size: _____

Perforations: _____ to _____ ft. _____ to _____ ft. _____ to _____ ft.

Proposed Well Depth: _____ ft.

Annular Seal: Depth: _____ to _____ ft. _____ to _____ ft. _____ to _____ ft.

Material: ○ Neat Cement ○ _____ Sack Sand Slurry ○ Bentonite ○ Other _____

Method: ○ Tremie Pipe ○ Free Fall *(Allowed only when the interval to be sealed is dry and less than 30 ft. in depth. Variance required.)*

WELL RECONSTRUCTION

Well Reconstruction involves the installation of a casing liner. A Well Permit is required, but there is no well permit fee for a Well Reconstruction Permit; however, a Well Completion Report (WCR) is required to be submitted within thirty (30) days of work being completed. Use the space below to describe the Well Reconstruction work to be done.

_____

_____

_____

WELL DESTRUCTION

Well Casing: ○ PVC ○ Steel Diameter: _____ in. Excavation Depth: *(Max 5')* _____ ft. *(No excavation requires variance.)*

Original Well Depth: _____ ft. Distance from Property Lines: _____

Seal: Depth: _____ ft. Method: ○ Free Fall *(Min 20'; Max 30')* ○ Tremie Pipe *(Only metal tremie pipe can be used for destructions.)*

Material: ○ Neat Cement ○ _____ Sack Sand Slurry ○ Bentonite ○ Other _____

WELL SETBACKS

Setbacks from surrounding properties must be taken into consideration when selecting a well site location. Setback requirements may be increased by Tulare County if dangers of pollution, contamination or other adverse conditions are known to be present.

If the well site is within a one mile radius of a landfill, there may be additional requirements.

Should a site visit be needed to verify the proposed well location, mark all well sites with a surveyor's stake labeled "Well Site".

Measuring in feet, list distances from proposed well drilling location. Minimum requirements in parentheses.

Front Property Line (25 ft.)	_____	Storm Drain (50 ft.)	_____
Side Property Lines (5 ft.)	_____	Seepage Pit (150 ft.)	_____
Septic Tank & Leach Field (100 ft.)	_____	Animal/Fowl Enclosure (100 ft.)	_____
Sewer Laterals (50 ft.)	_____	Existing Active Well(s) (50 ft.)	_____
Surface Water (25 ft.)	_____	Underground Storage Tank (150 ft.)	_____
Transmission Lines	_____		

CONTRACTOR DISCLAIMERS

All information provided in this application is subject to review by the Groundwater Sustainability Agency (GSA) in which the proposed well is to be located, prior to permit issuance. Additional conditions may apply based upon GSA review.

GSAs may attach well permit conditions including, but not limited to, depth limitations, perforation limitations and additional setback requirements on wells to be Constructed or Deepened within their jurisdictions.

Submitting an incomplete application will delay the issuance of a permit.

Drilling operations shall not commence until this application is approved and a permit has been issued.

Once issued, the permit is to be available at all times on-site during Construction, Deepening or Reconstruction activities.

Drilling fluids shall be disposed of in a safe and sanitary manner, and shall not be permitted to flow, or be diverted, onto adjacent properties.

With my initials, I certify that I have read and understand the above disclaimers: _____

APPLICANT DISCLAIMERS

Issuance of a well permit does not guarantee future usage of the proposed well depending upon GSA requirements.

Actual operation of the proposed well must be consistent with the ordinances, regulations and other policies active within a GSAs jurisdiction. Prior to operation of the well, there may be requirements to undertake additional action(s) so as to comply with these policies. Improper operation of the proposed well may result in fines and/or civil penalties.

With my initials, I certify that I have read and understand the above disclaimers: _____

DRILLING CONTRACTOR CERTIFICATION STATEMENT

_____ I hereby certify under penalty of perjury that all information provided on this well permit application is true, correct and complete to the best of my knowledge. I understand that all work is to be done in accordance with the Tulare County Well Ordinance and the California Department of Water Resources Bulletin 74-81, 74-90 and all subsequent bulletins, as well as any and all permit conditions added through the application review process.

CONTRACTOR

This application is not considered complete until properly signed by both the Contractor and the Property Owner (or the Authorized Agent of the Property Owner).

Any misrepresentation on this application or noncompliance with required permit conditions, or regulations, will result in the issuance of a "Stop Work Order".

Print Name: _____

Signature: _____

Date: _____

APPLICANT

This application is not considered complete until properly signed by both the Contractor and the Property Owner (or Authorized Agent of the Property Owner).

As the Property Owner (or Authorized Agent of the Property Owner) I hereby grant permission to perform the work as described in this application. Also, I agree to provide access to TCEHD personnel for inspection purposes.

Print Name: _____

Signature: _____

Date: _____

By signing above, I hereby agree to defend, indemnify, and hold harmless the County of Tulare, its agents, legislative body, officers or employees in any legal or administrative action, claim or proceeding concerning approval of this Application; or at the County's election and in the alternative, shall relinquish such approval. I agree to assume the defense of the County in any such legal or administrative action, claim or proceeding with legal counsel paid for in the entirety by me, but subject to the County's reasonable approvals. I agree to reimburse the County, its agents, its legislative body, officers or employees for any judgments, amounts paid in the settlements, court costs, and attorney's fees with the County, its agents, legislative body, officers or employees may be required to pay at court as a result of such action, claim or proceeding. The County may, at its sole discretion, participate at its own expense in the defense of any such action, claim or proceeding, but such participation shall not relieve me of my obligations under this condition.

ENVIRONMENTAL HEALTH SERVICES DIVISION USE ONLY

Date Received _____ **Fee Amount** _____ **Receipt #** _____ **Invoice #** _____

Payment Method: O **Cash** O **Check #** _____ O **CC Approval #** _____ **Received by:** _____

O **Flood Zone** O **Landfill** O **DWR** O **DTSC** O **Parcel Manager Hold** O **CEQA** **RMA Clear Date** _____

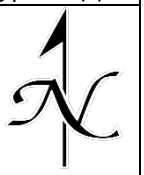
O **GIS Review** O **PALMS** O **CSLB Check** **C-57 Expiration Date** _____ O **GSA Review** **Send Date:** _____

O **Other** _____

SITE MAP

The space below can be used to include a map. <u>All</u> maps must include:

- Nearest cross-streets to the parcel
- Setbacks documented above
- Property lines and dimensions
- Existing and proposed structures on the parcel
- Surface water (ponds, lakes, streams and canals) within 300 ft.
- Any existing well(s) and septic systems on the parcel and any neighboring parcel(s)



Driving directions to well site: _____

_____

_____

_____

TO BE COMPLETED FOR WELL CONSTRUCTION

(For Domestic, Community, Agricultural, Dairy or Industrial Wells Only)

Property Owner/Contact Person Name _____ **Telephone** _____

1. What type of well is being drilled?

- ☐ **Domestic** Serves 1 to 4 Service Connections/Homes.
- ☐ **Community** Serves a Residential Area with Five (5) or more Services Connections/Homes, a Business, or a Public Building.
- ☐ **Agricultural** Exclusively used to supply water for irrigation or other agricultural purposes.
- ☐ **Dairy** Exclusively used by a Dairy Farm for the milk production process.
- ☐ **Industrial** Exclusively used by a Business for the processes related to producing goods or services.

2. How many homes will the new well serve? _____ 2a. Service Connections? _____

3. How many employees work at your business? _____ 3a. Overall water users? _____

4. How many wells are currently on this parcel? _____

Domestic _____ **Community** _____ **Agricultural** _____ **Dairy** _____ **Industrial** _____

5. Are there any **inactive** or **abandoned** wells on this parcel? ☐ **Yes** ☐ **No**
(An **inactive** well is not routinely used but capable of being made operational with minimal effort. An **abandoned** well is a well that has not been used for at least one (1) year, or is in such disrepair that it can no longer produce water.)

6. What is the expected usage of the new well? ☐ **Year-Round** ☐ **Seasonal**

7. Are there any animal or fowl enclosures on this parcel? ☐ **Yes** ☐ **No**
If Yes, how far is the enclosure from the proposed well site? _____ **ft.** **(May require site visit to verify.)**

8. What is the reason for drilling a new well?

- ☐ **Current well went dry.** **How long has the well been dry?** _____
- ☐ **Current well about to go dry.**
- ☐ **Additional well due to lack of production from existing source(s).**
- ☐ **First well on parcel.**
- ☐ **Other** _____

9. What is/are the plan(s) for the existing well(s) once the new well(s) is/are drilled?

- ☐ **Keep the existing well(s) active. (Keep the pump(s) installed and connected to power.)**
- ☐ **Destroy the existing well(s) using a licensed C-57 well contractor.**
- ☐ **File an Inactivation Permit. (Requires an annual permit fee.)**
- ☐ **I don't know. (Please call Environmental Health at (559)624-7400 for more details.)**

10. Has the recent drought influenced your decision to drill a new well? ☐ **Yes** ☐ **No**

Section 4. Basin Setting

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Table of Figures

List of Tables

4.1 Introduction *[23 CCR § 354.12]*

23 Cal. Code Regs. § 354.12 Introduction to Basin Setting. *This Subarticle describes the information about the physical setting and characteristics of the basin and current conditions of the basin that shall be part of each Plan, including the identification of data gaps and levels of uncertainty, which comprise the basin setting that serves as the basis for defining and assessing reasonable sustainable management criteria and projects and management actions. Information provided pursuant to this Subarticle shall be prepared by or under the direction of a professional geologist or professional engineer.*

The Basin Setting for the ETGSA is derived from the *Tule Subbasin Setting,* which was developed for the Tule Subbasin by Thomas Harder and Company, The *Tule Subbasin* Setting can be found as **Attachment 1** to the Tule Subbasin Coordination Agreement. This section of the GSP describes information about the physical setting and characteristics of the basin and its current conditions by providing reference to the *Tule Subbasin Basin Setting* and, when necessary, providing additional information that is particularly related to the ETGSA.

A description of the Tule Subbasin's physical setting, including its location, size, and jurisdictional areas is described in the introduction of the *Tule Subbasin Setting.*

ETGSA's physical setting within the Tule Subbasin and its Plan Area is described in **Section 3.1: ETGSA Plan Area** of this plan.

4.2 Hydrogeologic Conceptual Model *[23 CCR § 354.14(a)]*

23 Cal. Code Regs. § 354.14 Hydrogeologic Conceptual Model. **(a)** *Each Plan shall include a descriptive hydrogeologic conceptual model of the basin based on technical studies and qualified maps that characterizes the physical components and interaction of the surface water and groundwater systems in the basin.*

The Hydrogeologic Conceptual Model (hereafter, "Hydrogeologic Conceptual Model") for the Tule Subbasin is described in ***Chapter 2.1: Hydrogeologic Conceptual Model*** of the *Tule Subbasin Setting.:*

The regulatory requirements provided in 23 CCR § 354.14 are addressed and fulfilled by the HCM described in ***Chapter 2.1*** of the *Tule Subbasin Setting.*

Table 4-1: Components of CCR § 354.14 (HCM, ETGSA) links the requirements of 23 CCR § 354.14 to the sections in the *Tule Subbasin Setting* and the sections of this GSP that apply to and fulfil each regulatory component.

Table 4-1: Components of CCR § 354.14 (HCM, ETGSA)

23 CCR	Section Title	Tule Subbasin Setting	ETGSA GSP
N/A	Source of Data	2.1.1	
§ 354.14 (b)(1) & (c)	Geologic Setting	2.1.2	4.2.1
§ 354.14 (b)(2)	Lateral Basin Boundaries	2.1.3	4.2.2
§ 354.14 (b)(3)	Bottom of Basin	2.1.4	4.2.3
§ 354.14 (d)(5)	Surface Water Features	2.1.5	4.2.4
§ 354.14 (d)(6)	Imported Water	2.1.5.6	4.2.4.2
§ 354.14 (d)(4)	Areas of Groundwater Recharge and Discharge	2.1.6	4.2.5
§ 354.14 (b)(4)	Principal Aquifers and Aquitards	2.1.7	4.2.6
§ 354.14 (b)(4)(A)	Aquifer Formations	2.1.7.1	4.2.6.1
§ 354.14 (b)(4)(B)	Aquifer Physical Properties	2.1.7.2	4.2.6.2
§ 354.14 (b)(4)(C)	Geologic Structures that Affect Groundwater Flow	2.1.7.3	4.2.6.3
§ 354.14 (b)(4)(D)	Aquifer Water Quality	2.1.7.4	4.2.6.4
§ 354.14 (b)(4)(E)	Aquifer Primary Uses	2.1.7.5	4.2.6.5
§ 354.14 (b)(5)	Uncertainty in the Hydrogeologic Conceptual Model	2.1.8	4.2.7

Excerpts and brief summaries of the HCM information described in the *Tule Subbasin Setting*, as well as brief descriptions of the physical and hydrogeological components of the HCM present within the ETGSA, are provided below.

4.2.1 Geologic Setting *[23 CCR § 354.14(b)(1), (c), (d)(1)(2)(3)]*

23 Cal. Code Regs. § 354.14 Hydrogeologic Conceptual Model. (b) *The hydrogeologic conceptual model shall be summarized in a written description that includes the following:*

(1) *The regional geologic and structural setting of the basin including the immediate surrounding area, as necessary for geologic consistency.*

(c) *The hydrogeologic conceptual model shall be represented graphically by at least two scaled cross-sections that display the information required by this section and are sufficient to depict major stratigraphic and structural features in the basin.*

(d) *Physical characteristics of the basin shall be represented on one or more maps that depict the following:*

(1) *Topographic information derived from the U.S. Geological Survey or another reliable source.*

(2) *Surficial geology derived from a qualified map including the locations of cross-sections required by this Section.*

(3) *Soil characteristics as described by the appropriate Natural Resources Conservation Service soil survey or other applicable studies.*

ETGSA is located in the eastern portion of the Tule Subbasin within the Tulare Lake Hydrologic Region (see ***Figure 2-1,*** *Tule Subbasin Setting*).

The ETGSA is located on a series of coalescing alluvial fans that extend toward the center of the Central Valley from the Sierra Nevada Mountains (see ***Chapter 2.1.2;*** *Tule Subbasin Setting*). Land surface elevations for the ETGSA range from 850 ft above mean sea level [amsl] along the eastern boundary of

the GSA to approximately 400 ft amsl to the western edge of the GSA (see ***Figure 2-4;*** *Tule Subbasin Setting*).

Six cross sections are used to describe the geologic features within the Tule Subbasin (see ***Figure 2-4;*** *Tule Subbasin Setting)*. Of these six cross sections, three occur within the ETGSA as follows: A'-A" middle-north, B-B' west, C-C' south. By examination of the three cross-sections (see ***Figure 2-5 through 2.6;*** *Tule Subbasin Setting*), three of the five geologic formations observed within the Tule Subbasin are observed to occur within the ETGSA or along the GSA's boundary. These formations, described in more detail in the *Tule Subbasin Setting,* include:

- Pliocene Marine Deposits;
- Santa Margarita Formation; and
- Tertiary Sedimentary Deposits.

Sol characteristics of the subbasin are shown in ***Figure 2-8*** of the *Tule Subbasin.* From visual examination of ***Figure 2-8,*** the ETGSA soil characteristics primarily consist of Centerville Clay, Porterville Clay, and Exeter loam.

4.2.2 Lateral Basin Boundary *[23 CCR § 354.14 (b)(2)]*

23 Cal. Code Regs. § 354.14 Hydrogeologic Conceptual Model. (b) *The hydrogeologic conceptual model shall be summarized in a written description that includes the following:*

(2) *Lateral basin boundaries, including major geologic features that significantly affect groundwater flow.*

The lateral Basin Boundaries for the Tule Subbasin are defined in DWR Bulletin 118 and include both natural and political boundaries. ***Chapter 2.1.3*** and ***Figure 2-4*** of the *Tule Subbasin Setting*, provide a detailed description of the lateral boundaries of the subbasin.

The eastern boundary of the ETGSA is defined by the contact between crystalline rocks of the Sierra Nevada and surficial alluvial sediments that make up the groundwater basin (see ***Figure 2-4;*** *Tule Subbasin Setting*). The northern boundary is defined by the Porterville Irrigation District and the Kaweah Subbasin boundary. The southern boundary is defined by the Tulare County/Kern County boundary. The west the GSA's boundary is generally defined by the eastern boundaries of the Delano Earlimart Irrigation District (including the sphere of influence for community of Richgrove), Pixley Irrigation District, and Lower Tule River Irrigation District.

4.2.3 Bottom of Basin *[23 CCR § 354.14 (b)(3)]*

23 Cal. Code Regs. § 354.14 Hydrogeologic Conceptual Model. (b) *The hydrogeologic conceptual model shall be summarized in a written description that includes the following:*

(3) *The definable bottom of the basin.*

The definable bottom of the Tule Subbasin is described in the *Tule Subbasin Setting* ***Chapter 2.1.4***.

The bottom of the basin beneath the ETGSA is less than 600 ft below ground surface [bgs] east of State Highway 65 and greater than 2,000 ft bgs west of the Friant-Kern Canal and is defined by the interface between the Santa Margarita Formation and the relatively impermeable granitic bedrock (see ***Figures 2-4*** and ***2-5;*** *Tule Subbasin Setting*). The freshwater/brackish water interface is thought to occur at less than

1,200 ft bgs in the northern portion of the GSA and extents to a depth greater than 2,500 ft bgs near the Tulare/Kern County line.

4.2.4 Surface Water Features *[23 CCR § 354.14 (d)(5)]*

23 Cal. Code Regs. § 354.14 Hydrogeologic Conceptual Model. (b) *The hydrogeologic conceptual model shall be summarized in a written description that includes the following:*

(5) *Surface water bodies that are significant to the management of the basin.*

The natural water ways within the Tule Subbasin consist of Tule River, Deer Creek, and White River. These systems form in the Sierra Nevada Mountains east of the Tule Subbasin and flow westerly toward the lakebed of the historic Tulare Lake. The ETGSA's eastern boundary is generally adjacent to the foothill base of the Sierra Nevada Mountains and extends north to south along the entire eastern extent of the Tule Subbasin. All three of the Tule Subbasin's natural waterways flow westerly across the ETGSA's jurisdiction. Additionally, Lake Success, which stores surface water from the Tule River for flood control, recreational, irrigation, and other purposes, sits at the northeastern edge of the ETGSA

The Friant-Kern Canal conveys imported water to various districts within the ETGSA. The canal enters ETGSA's northern boundary and moves in a southwesterly fashion before exiting into DEID GSA. Water supplies from the Friant-Kern Canal are distributed by contract with the Bureau of Reclamation to the Terra Bella Irrigation District, Saucelito Irrigation District, Tea Pot Dome Water District, Porterville Irrigation District, and Kern-Tulare Water District.

Surface water is distributed within ETGSA using a variety of natural waterways, man-made ditches, unlined canals, and pipeline distribution systems.

Each of the major surface water features of the Tule Subbasin are described in further detail in ***Chapter 2.1.5*** of the *Tule Subbasin Setting* and those occurring within ETGSA are listed below.

4.2.4.1 Lake Success

See TH&Co. Tule Subbasin Setting, ***Chapter 2.1.5.2****.*

4.2.4.2 Tule River

See TH&Co. Tule Subbasin Setting, ***Chapter 2.1.5.3****.*

4.2.4.3 Deer Creek

See TH&Co. Tule Subbasin Setting, **Chapter 2.1.5.4.**

4.2.4.4 White River

See TH&Co. Tule Subbasin Setting, ***Chapter 2.1.5.5****.*

4.2.4.5 Imported Water [23 CCR §354.14(d)(6)]

23 Cal. Code Regs. § 354.14 Hydrogeologic Conceptual Model. (b) *The hydrogeologic conceptual model shall be summarized in a written description that includes the following:*

(6) *The source and point of delivery for imported water supplies.*

See TH&Co. Tule Subbasin Setting, ***Chapter 2.1.5.6****.*

4.2.5 Areas of Groundwater Recharge and Discharge *[23 CCR § 354.14(d)(4)]*

23 Cal. Code Regs. § 354.14 Hydrogeologic Conceptual Model. (d) *Physical characteristics of the basin shall be represented on one or more maps that depict the following:*

(4) *Delineation of existing recharge areas that substantially contribute to the replenishment of the basin, potential recharge areas, and discharge areas, including significant active springs, seeps, and wetlands within or adjacent to the basin The hydrogeologic conceptual model shall be summarized in a written description that includes the following:*

Groundwater recharge occurs throughout the Tule Subbasin within stream channels, unlined canals, in managed recharge basins, and in areas of the subbasin with irrigated agriculture. The ETGSA is host to all of these types of features. According to the Soil Agricultural Groundwater Banking Index or SAGBI (see ***Figure 2-9;*** *Tule Subbasin Setting*), areas generally suitable for recharge within the ETGSA occur around the City of Porterville and along the stream channels and floodplains of the Tule River, Deer Creek, and White River. ***Figure 2-9*** *of the Tule Subbasin Setting* also displays the locations of existing groundwater recharge basins.

Due to the depth of groundwater, there are no areas within the Tule Subbasin or ETGSA where groundwater discharges at the land surface.

See *Tule Subbasin Setting,* ***Chapter 2.1.6,*** for additional information regarding areas of groundwater recharge and discharge within the Tule Subbasin.

4.2.6 Principal Aquifers and Aquitards

4.2.6.1 Aquifer Formations *[23 CCR § 354.14(b)(4)(A)]*

23 Cal. Code Regs. § 354.14 Hydrogeologic Conceptual Model. (b) *The hydrogeologic conceptual model shall be summarized in a written description that includes the following:*

(4) *Principal aquifers and aquitards, including the following information:*

(A) *Formation names, if defined.*

Of the five general aquifer/aquitard units described to be present in the subsurface beneath the Tule Subbasin, four occur within the subsurface of the ETGSA area (see ***Chapter 2.1.7.1, Figures 2-5 & 2-6,*** *Tule Subbasin Setting)*:

1. Upper Aquifer;
2. Lower Aquifer;
3. Pliocene Marine Deposits (generally considered an aquitard); and
4. Santa Margarita Formation and Olcese Formation.

The upper aquifer is generally unconfined to semi-confined. This aquifer occurs within the 100 ft of sediments in the Porterville area and deepens to approximately 200 ft at the western boundary of the ETGSA. In the southeastern portion of the Tule Subbasin, which includes the southern portion of ETGSA, the upper aquifer is generally considered unsaturated although there may be local areas of groundwater.

The lower aquifer has a total depth of approximately 400 ft bgs in northeastern portion of ETGSA and deepens as the aquifer extends to the west. This aquifer is conceptualized to be semi-confined within the ETGSA. In the southern region of the ETGSA, the lower aquifer system is separated from the underlying Santa Margarita Formation and the Olcese Formation by a thick layer of marine deposits.

4.2.6.2 Aquifer Physical Properties *[23 CCR § 354.14(b)(4)(B)]*

23 Cal. Code Regs. § 354.14 Hydrogeologic Conceptual Model. (b) *The hydrogeologic conceptual model shall be summarized in a written description that includes the following:*

(4) *Principal aquifers and aquitards, including the following information:*

(B) *Physical properties of aquifers and aquitards, including the vertical and lateral extent, hydraulic conductivity, and storativity, which may be based on existing technical studies or other best available information.*

The principal water bearing aquifers of the Tule Subbasin consist of permeable sand and gravel layers, interbedded with low permeability silt and clay lenses. Shallower saturated sediments are generally unconfined to semi-confined, whereas aquifers beneath the Corcoran Clay in the western portion of the basin are confined.

The ability of aquifer sediments to transmit and store water is described in terms of transmissivity, hydraulic conductivity and storativity. The quantitative values for each of these parameters (for both the upper aquifer and lower aquifer) and the process by which these values were developed or derived are discussed in ***Chapter 2.1.7.2*** and ***Figures 2-10 through 2-11*** of the *Tule Subbasin Setting*. Aquifer parameters were developed and assigned using short-term pump tests, long term pump tests (24 hours or more at a constant rate), and values published in literature.

Transmissivity/Hydraulic Conductivity

Transmissivity is described in ***Chapter 2.1.7.2***:

Horizonal hydraulic conductivity for the upper aquifer within the ETGSA range from less than 5 ft/day in the southern portion of the GSA to greater than 160 ft/day along the Tule River upstream of the city of Porterville (see ***Figure 2-10***, *Tule Subbasin Setting*). The higher values in the norther portion of the GSA indicate more permeable sediments and the lower values in the southern portion of the GSA indicate less permeable sediments. Horizontal hydraulic conductivity values in the lower aquifer within the ETGSA range from 5 ft/day to greater than 60 ft/day (see ***Figure 2-11***, *Tule Subbasin Setting*).

Specific Yield/Storativity

Chapter 2.1.7.2 describes the storage properties of the Tule Subbasin's upper aquifer in terms of specific yield.

Specific yield values range from approximately 0.03 to 0.25 in the upper aquifer within the ETGSA (see ***Figure 2-12;*** *Tule Subbasin Setting)*. Areas of higher specific yield occur around the City of Porterville and areas of low specific yield are more common in the southeastern portion of the GSA.

For the subbasin's lower aquifer, ***Chapter 2.1.7.2***, describes specific yield in terms of storativity:

Figure 2-13 of the *Tule Subbasin Setting* indicates that specific yield applies to areas of the subbasin that are unconfined and under the upper aquifer (generally occurring in the east side of the subbasin) and that storativity is the measure used for the lower aquifer under confined conditions. In unconfined conditions, the specific yield values of the lower aquifer range from 0.02 to 0.25 within the ETGSA. Areas of higher specific yield are prevalent near the White River west of State Highway 65 and east of the Friant-Kern Canal. In confined conditions, storativity values for the lower aquifer underlying ETGSA range from 8.0e-06 to 3.6e-04, generally increasing from east to west.

4.2.6.3 Geologic Structures that Affect Groundwater Flow *[23 CCR § 354.14(b)(4)(C)]*

23 Cal. Code Regs. § 354.14 Hydrogeologic Conceptual Model. (b) *The hydrogeologic conceptual model shall be summarized in a written description that includes the following:*

(4) *Principal aquifers and aquitards, including the following information:*

(C) *Structural properties of the basin that restrict groundwater flow within the principal aquifers, including information regarding stratigraphic changes, truncation of units, or other features*

Chapter 2.1.7.3 of the *Tule Subbasin Setting* provides a description of features throughout the entire subbasin that affect groundwater flow. There are no significant faults mapped within the Tule Subbasin that would affect groundwater flow and the Corcoran Clay, which is most significant feature to affect vertical groundwater flow in the subbasin, is not present within the ETGSA. However, there may be communication between the upper and lower aquifers in areas where composite wells perforate both aquifer systems; such wells may also facilitate recharge of the deep aquifer from the shallow aquifer.

4.2.6.4 Aquifer Water Quality *[23 CCR § 354.14(b)(4)(D)]*

23 Cal. Code Regs. § 354.14 Hydrogeologic Conceptual Model. (b) *The hydrogeologic conceptual model shall be summarized in a written description that includes the following:*

(4) *Principal aquifers and aquitards, including the following information:*

(D) *General water quality of the principal aquifers, which may be based on information derived from existing technical studies or regulatory programs.*

Groundwater quality varies across the ETGSA and with the depth in the aquifer system. The native groundwater quality is generally considered good, with groundwater quality issues stemming from both non-point source and point-source contamination. ***Chapter 2.1.7.4*** *of the Tule Subbasin Setting,* provides a general description of non-point source conditions and their effect on groundwater conditions in the subbasin.

Concentrations for electrical conductivity (EC) in the ETGSA are relatively low with a majority of the concentrations showing 180-750 µmohs/cm (see ***Figure 2-14***, *Tule Subbasin Setting*). Nitrate as Nitrogen (NO_3-N) concentrations in the GSA are predominantly below 15 mg/L, with limited data points near the City of Porterville having concentrations greater than 76 mg/L and concentrations under 60 mg/L near Deer Creek and Richgrove (see ***Figures 2-15***, *Tule Subbasin Setting*).

26 active cleanup sites have been identified within the Tule Subbasin using the Geotracker website (see ***Figure 2-16*** and ***Table 2-1****, Tule Subbasin Setting]*. While most of these sites are associated with leaking underground storage tanks [LUSTs], there are two National Priority List [NPL] sites around the city of Porterville. Problems associated with point source contamination sites are highly localized.

4.2.6.5 Aquifer Primary Uses *[23 CCR § 354.14(b)(4)(E)]*

> **23 Cal. Code Regs. § 354.14 Hydrogeologic Conceptual Model. (b)** *The hydrogeologic conceptual model shall be summarized in a written description that includes the following:*
>
> **(4)** *Principal aquifers and aquitards, including the following information:*
>
> **(E)** *Identification of the primary use or uses of each aquifer, such as domestic, irrigation, or municipal water supply.*

Chapter 2.1.7.5 of the *Tule Subbasin Setting* describes the predominant beneficial uses of groundwater in the subbasin as agricultural irrigation, with other beneficial uses including municipal water supply, private domestic water supply, and livestock washing and watering.

Section 3.7: Water Use Sectors and Water Source Type of this GSP details the primary water use sectors and water source types within the ETGSA.

4.2.7 Uncertainty in the Hydrogeologic Conceptual Model *[23 CCR § 354.14(b)(5)]*

> **23 Cal. Code Regs. § 354.14 Hydrogeologic Conceptual Model. (b)** *The hydrogeologic conceptual model shall be summarized in a written description that includes the following:*
>
> **(5)** *Identification of data gaps and uncertainty within the hydrogeologic conceptual model.*

The primary sources of uncertainty in the hydrogeologic conceptual model are described in ***Chapter 2.1.8****, of the Tule Subbasin Setting* and are applicable to the ETGSA.

4.3 Groundwater Conditions *[23 CCR § 354.16]*

> **23 Cal. Code Regs. § 354.14 Hydrogeologic Conceptual Model. (b)** *The hydrogeologic conceptual model shall be summarized in a written description that includes the following:*
>
> **(5)** *Identification of data gaps and uncertainty within the hydrogeologic conceptual model.*

The regulatory requirements outlined in 23 CCR § 354.16 for describing the current and historical groundwater conditions of the Tule Subbasin are addressed and fulfilled throughout ***Chapter 2.2: Groundwater Conditions*** of the *Tule Subbasin Setting.*

Table 4-2: Components of 23 CCR § 354.16 (Groundwater Conditions, ETGSA) links the requirements of 23 CCR § 354.16 to the sections in the *Tule Subbasin Setting* and the sections of this GSP that apply to and fulfil each regulatory component.

Table 4-2: Components of 23 CCR § 354.16 (Groundwater Conditions, ETGSA)

23 CCR	Section Title	ETGSA GSP	Tule Subbasin Setting
§ 354.16 (a)	Groundwater Occurrence and Flow	4.3.1	2.2.1
§ 354.16 (b)	Groundwater Storage	4.3.2	2.2.2
§ 354.16 (c)	Seawater Intrusion	4.3.3	2.2.3
§ 354.16 (d)	Groundwater Quality Issues	4.3.4	2.2.4
§ 354.16 (e)	Subsidence	4.3.5	2.2.5
§ 354.16 (f)	Interconnected Surface Water Systems	4.3.6	2.2.6
§ 354.16 (g)	Groundwater Dependent Ecosystems	4.3.7	2.1.7

Excerpts and brief summaries of the groundwater conditions described in the *Tule Subbasin Setting*, as well as brief descriptions of the subbasin groundwater conditions observed historically or currently within ETGSA, are provided below.

4.3.1 Groundwater Occurrence and Flow *[23 CCR § 354.16 (a)]*

23 Cal. Code Regs. § 354.16 Groundwater Conditions. (a) *Groundwater elevation data demonstrating flow directions, lateral and vertical gradients, and regional pumping patterns, including:*

(1) *Groundwater elevation contour maps depicting the groundwater table or potentiometric surface associated with the current seasonal high and seasonal low for each principal aquifer within the basin.*

(2) *Hydrographs depicting long-term groundwater elevations, historical highs and lows, and hydraulic gradients between principal aquifers.*

The groundwater elevation, flow, gradient, and regional pumping patterns in the Tule Subbasin are described in ***Chapter 2.2.1*** of the *Tule Subbasin Setting.*

Chapter 2.2.1 continues to describe groundwater flow with respect to the upper and lower aquifers. Groundwater levels in shallow aquifer wells show a persistent downward trend between approximately 1987 and 2017 (see ***Figure 2-20,*** *Tule Subbasin Setting)*. In the deep aquifer, this downward trend is also present in the northwestern portion of the subbasin. However, in the southern part of the subbasin, groundwater levels in the deep aquifer were relatively stable between 1987 and 2007 but began to decline after 2007 (see ***Figure 2-21,*** *Tule Subbasin Setting)*. Groundwater levels in the subbasin are generally higher in the shallow aquifer than in the deep aquifer, indicating a downward hydraulic gradient that may suggest possible recharge of the deep aquifer by the shallow aquifer in some parts of the subbasin – particularly in areas where composite wells perforate across both aquifers.

Groundwater elevations and contours within the Tule Subbasin's shallow aquifer as of the spring and fall of 2017 (the most recent year for which data is available) are visualized in ***Figures 2-17*** and ***Figure 2-18*** of the *Tule Subbasin Setting.* Groundwater elevations and contours within the Tule Subbasin's deep aquifer as of the spring and fall of 2010 (the most recent year for which data is available) are visualized in ***Figures 2-19*** and ***Figure 2-20*** of the *Tule Subbasin Setting*.

By examination of the contour maps provided in the aforementioned Figures, groundwater in the ETGSA is shown to predominantly flow in an east-to-west fashion from areas of natural recharge. Recharge from the Tule River experiences divided groundwater flows, with the shallow aquifer on the northern side of

the river flowing north and out of the subbasin and, on the southern side, flowing southwest toward a groundwater pumping depression in the west-central portion of the Tule Subbasin.

4.3.2 Groundwater Storage *[23 CCR § 354.16 (b)]*

23 Cal. Code Regs. § 354.16 Groundwater Conditions. (b) *A graph depicting estimates of the change in groundwater in storage, based on data, demonstrating the annual and cumulative change in the volume of groundwater in storage between seasonal high groundwater conditions, including the annual groundwater use and water year type.*

Groundwater storage in the Tule Subbasin is described in ***Chapter 2.2.2***

Within the ETGSA, as indicated in ***Table 2*** of ***Appendix B*** the *Tule Subbasin Setting*, the average annual change in storage between the period of 1986/87 and 2016/17 is estimated to be approximately -41,000 acre-feet/yr. Predominant sources of groundwater outflow within the ETGSA include municipal and agricultural pumping and subsurface outflows both out of the subbasin and to other GSAs within the subbasin.

4.3.3 Seawater Intrusion *[23 CCR § 354.16 (c)]*

23 Cal. Code Regs. § 354.16 Groundwater Conditions. (c) *Seawater intrusion conditions in the basin, including maps and cross-sections of the seawater intrusion front for each principal aquifer.*

Seawater intrusion does not occur in the Tule Subbasin due to its location with respect to the Pacific Ocean. As described in ***Chapter 2.2.3*** *of the Tule subbasin Setting.*

4.3.4 Groundwater Quality Issues *[23 CCR § 354.16 (d)]*

23 Cal. Code Regs. § 354.16 Groundwater Conditions. (d) *Groundwater quality issues that may affect the supply and beneficial uses of groundwater, including a description and map of the location of known groundwater contamination sites and plumes.*

Groundwater quality was previously discussed in ***Section 4.2.6.4: Aquifer Water Quality*** of this GSP and groundwater quality issues are further described in ***Chapter 2.2.4*** of the *Tule Subbasin Setting*. ETGSA experiences relatively good groundwater quality; however, per data provided by California Geotracker, there are fifteen active clean-up sites within the jurisdiction of the Agency.

Data gaps pertaining to groundwater quality exist throughout the ETGSA and entire Tule Subbasin. While the ETGSA plans to coordinate with other existing water quality regulatory programs with requirements to monitor groundwater quality within the subbasin, the objectives of those programs don't always align with those of SGMA. The ETGSA will continue to work with these programs to identify common objectives as well as differences that can be addressed to efficiently and effectively satisfy the requirements of multiple programs required to monitor and address groundwater quality issues.

4.3.5 Subsidence *[23 CCR § 354.16 (e)]*

23 Cal. Code Regs. § 354.16 Groundwater Conditions. (e) *The extent, cumulative total, and annual rate of land subsidence, including maps depicting total subsidence, utilizing data available from the Department, as specified in Section 353.2, or the best available information.*

Per ***Chapter 2.2.6,*** land subsidence within the Tule Subbasin is prevalent and well documented*:*

Subsidence was estimated in feet using a combination of calibrated subsidence simulations at two measurement locations as well as extrapolations of measured data at a variety of other locations. The total average change in land surface elevation within the southern and eastern two-thirds of the Tule Subbasin, wherein ETGSA is located, was estimated to be approximately 2 feet or 0.1 ft/yr between 1987-2007. This information is visualized in **Figure 2-24** of the *Tule Subbasin Setting.*

Land surface subsidence between 2007-2011 observed in the western portion of the subbasin is based on an analysis of satellite data. Additionally, measured subsidence points along the Friant-Kern Canal for the period of 1959-2017 indicate a range of land subsidence values from 1.69 to 9.00 feet. The highest land subsidence values along this canal are located within ETGSA and generally in the vicinity of the canal's intersection with Deer Creek (see ***Figure 2.25****, Tule Subbasin Setting).*

4.3.6 Interconnected Surface Water Systems *[23 CCR § 354.16 (f)]*

23 Cal. Code Regs. § 354.16 Groundwater Conditions. (f) *Identification of interconnected surface water systems within the basin and an estimate of the quantity and timing of depletions of those systems, utilizing data available from the Department, as specified in Section 353.2, or the best available information.*

Surface water features are addressed in **Section 4.2.4** of this GSP, as well as in **Chapter 2.1.5** and **2.2.7** of the *Tule Subbasin Setting.* As presently assessed, there is no indication of interconnected surface water systems within the Tule Subbasin per the definition provided in 23 CCR § 351(o).

23 Cal. Code Regs §351(o) defines the phrase "interconnected surface water" as "surface water that is hydraulically connected at any point by a continuous saturated zone to the underlying aquifer and the overlying surface water is not completely depleted." Generally, two different flow regimes between surface water and groundwater are possible: the surface water body drains the aquifer (gaining stream) or recharges the aquifer (losing stream). (Brunner, Cook and Simmons, 2009, Hydrogeologic controls on disconnection between surface water and groundwater.) According to Brunner, Cook and Simmons, if the groundwater table is lowered sufficiently, an unsaturated zone will sometimes develop beneath the streambed. In the case that an unsaturated zone develops and the groundwater table is lowered further, the infiltration rate asymptotically approaches a constant value. When further reductions in the groundwater table no longer significantly affect the infiltration rate, the stream is said to be disconnected.

Groundwater falls into one of two classifications in California: percolating groundwater or subterranean streams flowing through a known and definite channel. Groundwater in subterranean streams flowing in known and definite channels is subject to SWRCB permitting authority, unless the groundwater is used under a riparian or pre-1914 right. There is a presumption in California water law that groundwater is not part of a subterranean stream flowing through a known and definite channel. (Los Angeles v. Pomeroy (1899) 124 Cal. 597; Arroy Ditch and Water Co. v. Baldwin (1990) 155 Cal. 280.)

North Gualala Water Co. v. SWRCB provides the "test" the State Board applies in determining the presence of subterranean streams:

The Board proposed to apply a four-part test for determining whether groundwater fell within its permitting authority that it had first utilized in a 1999 decision concerning the Garrapata Water Company:

"[F]or groundwater to be classified as a subterranean stream flowing through a known and definite channel, the following physical conditions must exist:

1. A subsurface channel must be present;
2. The channel must have a relatively impermeable bed and banks;
3. The course of the channel must be known or capable of being determined by reasonable inference; and
4. Groundwater must be flowing in the channel."

Thus, only if the four elements above are met could any waters arguably be considered "interconnected surface waters". The Board, based the Garrapata test on its reading of an 1899 California Supreme Court case, City of Los Angeles v. Pomeroy (1899) 124 Cal. 597, 57 P. 585 (Pomeroy). (North Gualala Water Co. v. State Water Resources Control Bd., 43 Cal.Rptr.3d 821, 827, 139 Cal.App.4th 1577, 1585–86 (Cal.App. 1 Dist.,2006).) and analysis completed in the Tule Subbasin Setting, there is no data currently to suggest any interconnected surface waters within the ETGSA.

Surface water tributaries in the Tule Subbasin include the Tule River, Deer Creek and White River. Present day groundwater elevations of the unconfined aquifer are significantly lower than all surface water channels, indicating there is an unsaturated zone between the bottom of the river and the top of the unconfined water table.

The foregoing establishes that is no data currently to suggest any interconnection between surface water and groundwater in the ETGSA.

4.3.7 Groundwater Dependent Ecosystems *[23 CCR § 354.16 (g)]*

23 Cal. Code Regs. § 354.16 Groundwater Conditions. (g) *Identification of groundwater dependent ecosystems within the basin, utilizing data available from the Department, as specified in Section 353.2, or the best available information.*

Groundwater Dependent Ecosystems are discussed in ***Chapter 2.2.8*** of the *Tule Subbasin Setting*.

4.4 Water Budget *[23 CCR § 354.18(a)]*

23 Cal. Code Regs. § 354.18 Water Budget. (a) *Each Plan shall include a water budget for the basin that provides an accounting and assessment of the total annual volume of groundwater and surface water entering and leaving the basin, including historical, current and projected water budget conditions, and the change in the volume of water stored. Water budget information shall be reported in tabular and graphical form.*

The regulatory requirements outlined in CCR § 354.18 for describing the total annual volume of groundwater and surface water entering and leaving the Tule Subbasin, including historical, current and

projected water budget conditions, and the change in the volume of water stored are addressed and fulfilled in ***Chapter 2.3*** of the *Tule Subbasin Setting.*

Table 4-3: Components of 23 CCR § 354.18 (Water Budget, ETGSA) links the requirements of 23 CCR § 354.18 to the sections in the *Tule Subbasin Setting* and the sections of this GSP that apply to and fulfil each regulatory component.

Table 4-3: Components of 23 CCR § 354.18 (Water Budget, ETGSA)

23 CCR	Section Title	Tule Subbasin Setting	ETGSA GSP
§ 354.18 (b)(1)	Surface Water Budget	2.3.1	4.4.1
§ 354.18 (b)(2)	Sources of Groundwater Recharge	2.3.2.1	4.4.2.1
§ 354.18 (b)(3)	Sources of Groundwater Discharge	2.3.2.2	4.4.2.2
§ 354.18 (d)(4)	Change in Groundwater Storage	2.3.2.3	4.4.2.3
§ 354.18 (d)(5)	Overdraft	2.3.2.4	4.4.2.4
§ 354.18 (d)(6)	Water Year Type	2.3.2.5	4.4.2.5
§ 354.18 (b)(7)	Sustainable Yield	2.3.2.6	4.4.2.6
§ 354.18 (c)(1)	Current Water Budget	2.3.3	4.4.3
§ 354.18 (c)(2)	Historical Water Budget	2.3.4	4.4.4
§ 354.18 (c)(3)	Projected Water Budget	2.3.5	4.4.5

Excerpts and brief summaries of the Water Budget information described in the *Tule Subbasin Setting*, as well as brief descriptions of the water budget components and their accounting within the ETGSA, are provided below.

Additionally, a separate historical water budget was prepared for the ETGSA and is in ***Tables 1a***, ***1b***, and ***2*** of ***Appendix B*** of the *Tule Subbasin Setting*.

4.4.1 Surface Water Budget *[23 CCR § 354.18(b)(1)]*

23 Cal. Code Regs. § 354.18 Water Budget. (b) *The water budget shall quantify the following, either through direct measurements or estimates based on data:*

(1) *Total surface water entering and leaving a basin by water source type.*

Chapter 2.3.1 provides an overview of the Tule Subbasin's surface water budget and its components.

The surface budget representation of actual conditions is based on a complete and accurate accounting of surface water inflow and outflow. Based on the percent difference of 0.2 percent (*Tule Subbasin Setting, **Chapter 2.3.1***), the surface water budget is considered an accurate representation of actual surface water conditions in the Tule Subbasin.

Several sources of surface water outflow are also sources of groundwater inflow. Of those surface water outflows that provide groundwater recharge, many sources are associated with diversions undertaken in accordance with existing water rights and/or purchased import water. These types of diversions are excluded from the estimate of sustainable yield.

ETGSA's historical surface water budget is a sub-budget of the total Tule Subbasin surface water budget. Evaluated over the same 1986/87 to 2016/17 period, sources of surface water inflow within ETGSA include precipitation; stream flow of the Tule River, Deer Creek, White River; imported water from various water agencies Saucelito Irrigation District, Terra Bella Irrigation District, Kern-Tulare Water District, Porterville Irrigation District, Tea Pot Dome Water District; and discharges from agricultural and municipal wells. Sources of surface water outflow include groundwater recharge resulting from areal precipitation, streambed infiltration, recharge in basins, deep percolation of applied water, evapotranspiration, and outflows of native surface water to Tule Subbasin GSAs west of ETGSA.

Unlike the Tule Subbasin surface water budget, the ETGSA inflows and outflows do not balance. Over the period of 1986/87 to 2016/17 the average annual inflow in ETGSA was estimated to be approximately 557,000 acre-feet/yr (**Table 1a** of **Appendix B,** *Tule Subbasin Setting)* with annual average surface water outflow of approximately 775,000 acre-feet/yr (**Table 1b** of **Appendix B,** *Tule Subbasin Setting*).

4.4.1.1 Surface Water Inflow

4.4.1.1.1 Precipitation

Chapter 2.3.1.1.1 of the *Tule Subbasin Setting* describes the methodology used to determine annual average precipitation throughout the Tule Subbasin. Annual precipitation was derived from annual precipitation values recorded at Porterville Station (see ***Figure 2-28****, Tule Subbasin Setting)* and applying them against the long-term average annual isohyetal map for the region (see ***Figure 2-27****, Tule Subbasin Setting)*, with total estimated precipitation varying within each isohyetal zone based on historical records.

The total annual precipitation within the ETGSA between the water years 1986/87 and 2016/17 ranged from approximately 41,000 acre-feet in 2013/14 to 305,000 acre-feet in 1997/98, with the approximate annual average volume estimated to be 129,000 acre-feet/yr (see ***Table 1a*** of ***Appendix B***, *Tule Subbasin Setting*).

4.4.1.1.2 Stream Inflow

As previously mentioned in **Section 4.2.4** of this GSP, all three of the Tule Subbasin's natural water ways flow through the ETGSA in an east-to-west manner.

As described in ***Chapter 2.3.1.1.2*** of the *Tule Subbasin Setting,* several different sources were used to estimated surface water inflows from native streams. Records from TRA served as the source for Tule River inflow. The Fountain Springs USGS station along Deer Creek was used to estimate inflow from Deer Creek. The USGS White River Station along White River was used to estimate flor from White River; however, historical records at this station are only available from 1971 to 2005. Per a linear regression model indicating a correlation coefficient of 0.91 between White River and Deer Creek, the streamflow of White River was assumed to be proportional to the magnitude of flow in Deer Creek. For the period of 2005-2017, White River streamflow was based on a linear interpretation of measured data.

For the period of 1986/87- 2016/17, stream inflow into the ETGSA on an average annual basis was estimated to be approximately 118,300 acre-feet/yr, 17,800 acre-feet/yr, and 5,800 acre-feet/yr from Tule River, Deer Creek, and White River, respectively (see ***Table 1a*** of ***Appendix B***, *Tule Subbasin Setting*).

4.4.1.1.3 Imported Water

Imported surface water is delivered to five water agencies within the ETGSA from the Friant-Kern Canal (see ***Table 1a*** of ***Appendix B***, *Tule Subbasin Setting*). Data from Porterville Irrigation District, Saucelito Irrigation District, Tea Pot Dome Water District, and Terra Bella Irrigation District was obtained from USBR Central Valley Operation Annual Reports. Data from Kern-Tulare Water District was provided directly to the compilers of the *Tule Subbasin Setting.* Additional information related to imported water in the Tule Subbasin is found in ***Chapter 2.3.1.1.3*** of the *Tule Subbasin Setting.*

For the period of 1986/87- 2016/17, imported water inflow into the ETGSA on an average annual basis was estimated to be approximately 79,100 acre-feet/yr (see ***Table 1a*** of ***Appendix B***, *Tule Subbasin Setting).*

4.4.1.1.4 Discharge to Crops from Wells

For the Tule Subbasin water budget and as descripted in ***Chapter 2.3.1.1.4*** of the Tu*le Subbasin Setting*, the water applied to crops was assumed to be the total applied water minus surface water deliveries from imported water and diverted streamflow (see ***Figure 2-30***; *Tule Subbasin Setting).* Total crop demand was assumed based on estimates and an assumed average irrigation efficiency of 0.79. However, it should be noted that this irrigation efficiency is different by crop type and year, and that the Tule Subbasin average is a volume-adjusted mean of these various irrigation efficiencies over time.

The estimated average annual discharge to crops from wells for water years 1986/87 to 2016/17 in the ETGSA was estimated to be approximately 192,000 acre-ft/yr (see ***Table 1a*** of ***Appendix B***, *Tule Subbasin Setting*).

4.4.1.1.5 Municipal Deliveries from Wells

As described in ***Chapter 2.3.1.1.5*** of the *Tule Subbasin Setting*, groundwater pumping for municipal supply is conducted by the City of Porterville and small municipalities for the majority of local communities in the ETGSA. Some households in the more rural portions of the Tule Subbasin rely on private wells to meet their domestic needs; however, the volume pumped is negligible. The ETGSA represents 73 percent of the total average annual municipal pumping in the subbasin, largely as a result of the subbasin's only city being situated within ETGSA.

For the period of 1986/87- 2016/17, municipal pumping within ETGSA on an average annual basis was estimated to be approximately 14,600 acre-feet/yr (see ***Table 1a*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.1.2 Surface Water Outflow

4.4.1.2.1 Areal Recharge from Precipitation

Areal recharged for the Tule Subbasin is based on the Williamson Method, as described in *Williamson et al., (1989),* that estimates net infiltration from annual precipitation falling the valley floor based on monthly soil moisture budgets based on records from the period of 1922-1971. For each year in the Tule Subbasin Water Budget, annual groundwater recharge was estimated for each isohyetal zone. It should be noted that the Williamson Method results in no groundwater recharge if annual precipitation is less

than 9.69 inches per year. Further description of this method and areal recharge in the Tule Subbasin can be found in ***Chapter 2.3.1.2.1*** of the *Tule Subbasin Setting.*

For the period of 1986/87- 2016/17, areal recharge within ETGSA ranged from 0 to 112,000 acre-feet per year, with an average annual volume estimated to be approximately 14,000 acre-feet/yr (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.1.2.2 Streambed Infiltration (Channel Loss)

Descriptions of streambed infiltration, or channel loss, occurring in the Tule River, Deer Creek and White River and the methodology by which they were estimated are provided in ***Chapter 2.3.1.2.2*** of the *Tule Subbasin Setting.* Streambed infiltration within the Tule Subbasin is accounted between various reaches of each natural waterway, generally subdivided by monitoring or diversion points. Streambed infiltration within ETGSA is described in ***Table 1b*** of ***Appendix B*** of the *Tule Subbasin Setting.*

Although Ditch Company post-appropriation channel losses may not be specifically reflected in the subbasin water budgets provided in *Tule Subbasin Setting*, they will be accounted for in the water accounting system to be established under the Groundwater Accounting Management Action discussed in **Section 7.2.1** of this Plan.

4.4.1.2.2.1 Tule River

Streambed infiltration of the Tule River occurs between Success Reservoir to Oettle Bridge in the ETGSA. For the water years 1986/87 to 2016/17, annual streambed infiltration volumes of the Tule River within ETGSA ranged from 1,000 acre-ft/yr to 41,000 acre-ft/yr, with the average annual volume estimated to be approximately 16,500 acre-ft/yr (see ***Table 1b*** of ***Appendix B*** of the *Tule Subbasin Setting).*

4.4.1.2.2.2 Deer Creek

Streambed infiltration of the Deer Creek occurs before Trenton Weir in the ETGSA. For the water years 1986/87 to 2016/17, annual streambed infiltration volumes of the Deer Creek ranged from 1,800 acre-ft/yr to 45,100 acre-ft/yr, with an average annual volume estimated to be approximately 12,100 acre-ft/yr (see ***Table 1b*** of ***Appendix B*** of the *Tule Subbasin Setting).*

4.4.1.2.2.3 White River

All surface water that is measured or interpolated at the White River stream gage, after accounting for ET losses, is assumed to become streambed infiltration. For the water years 1986/87 to 2016/17, annual streambed infiltration volumes of the White River within ETGSA ranged from 200 acre-ft/yr to 9,500 acre-ft/yr, with an average annual volume estimated to be approximately 3,600 acre-ft/yr (see ***Table 1b*** of ***Appendix B*** of the *Tule Subbasin Setting).*

4.4.1.2.3 Canal Loss

As described in ***Chapter 2.3.1.2.3*** of the *Tule Subbasin Setting*, all canal losses from diversions of native Tule River, Deer Creek and imported water deliveries occur within the Lower Tule River Irrigation District

and Pixley Irrigation District, therefore no canal losses are accounted for in the surface water outflow portion of the ETGSA water budget.

4.4.1.2.4 Managed Recharge in Basins

Managed aquifer recharge within the ETGSA results from diverted streamflow of the Tule River (via DCTRA and its member agencies, Campbell and Moreland Ditch Company, and Vandalia Water District) and percolation of recycled water from the city of Porterville (see **Chapter 2.3.1.2.4**, *Tule Subbasin Water Budget)*.

Section 3.7.3. Managed Recharge of this GSP provides additional discussion regarding the recharge efforts of individual agencies within the ETGSA. ***Exhibit 3-12: Percolation Basins and Recharge Sites with ETGSA*** provides a map of percolation ponds and groundwater recharge sites currently operating within ETGSA.

For the period of 1986/87- 2016/17, managed recharge in basins within ETGSA on an average annual basis was estimated to be approximately 5,800 acre-feet/yr and 3,200 acre-feet/yr from the Tule River and Recycled water, respectively (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.1.2.5 Deep Percolation of Applied Water

Chapter 2.3.1.2.5 of the *Tule Subbasin Setting* describes the deep percolation of applied water from native waterways, imported water, recycled water and native groundwater for the subbasin, including efficiencies that were used to determine the volume of water contributing to deep percolation compared to volume applied.

Table 1b of ***Appendix B*** of the *Tule Subbasin Setting* identifies sources of deep percolation of applied water within ETGSA, which include native Tule River water, imported water, recycled water, agricultural groundwater pumping and municipal groundwater pumping for the ETGSA. Each of these sources and the volume of water attributed to deep precoalition are described below.

4.4.1.2.5.1 Deep Percolation of Applied Tule River Diversions

Chapter 2.3.1.2.5 describes deep percolation of applied Tule River diversions.

Within the ETGSA, the Tule River is diverted for agricultural irrigation by the Pioneer Water Company, Porter Slough Headgate, Porter Slough Ditch Company, Hubbs and Miner Ditch Company and the Rhodes-Fine Ditch Company.

For the period of 1986/87- 2016/17, deep percolation of applied Tule River water within ETGSA on an average annual basis was estimated to be approximately 6,000 acre-feet/yr (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.1.2.5.2 Deep Percolation of Applied Imported Water

The estimate of deep percolation resulting from imported water applied to crops is based on total volume of imported water delivered to water agencies minus losses and recharge in the ETGSA. Deep percolation of applied imported water is assumed to be approximately 21 percent of the total applied water.

For the period of 1986/87- 2016/17, deep percolation of applied imported water within ETGSA on an average annual basis was estimated to be approximately 15,900 acre-feet/yr (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.1.2.5.3 Deep Percolation of Applied Recycled Water

The estimate of recycled water delivered and applied to crops was provided by the City of Porterville. Deep percolation of applied recycled water is assumed to be 21 percent of total applied water.

For the period of 1986/87- 2016/17, deep percolation of applied recycled water within ETGSA on an average annual basis was estimated to be approximately 400 acre-feet/yr (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.1.2.5.4 Deep Percolation of Applied Native Groundwater for Agricultural Irrigation

The balance of agricultural irrigation demand not met by imported water or stream diversions is assumed to be met by groundwater pumping. Return flow of applied water from groundwater pumping is assumed to be 21 percent of the applied water.

For the period of 1986/87- 2016/17, deep percolation of applied imported water within ETGSA on an average annual basis was estimated to be approximately 32,000 acre-feet/yr (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.1.2.5.5 Deep Percolation of Applied Native Groundwater for Municipal Irrigation

Deep percolation of applied native groundwater for municipal irrigation is described in ***Chapter 2.3.1.2.5*** of the *Tule Subbasin Setting.*

For the period of 1986/87- 2016/17, deep percolation of applied native groundwater for municipal irrigation within ETGSA on an average annual basis was estimated to be approximately 3,700 acre-feet/yr (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.1.2.6 Evapotranspiration

Evapotranspiration occurs in multiple forms and utilizing a variety of water sources within the Tule Subbasin, and its various occurrences within the Tule Subbasin are described by source in ***Chapter 2.3.1.2.6*** of the *Tule Subbasin Setting.* As described in the aforementioned Chapter, evapotranspiration is *"… the loss of water to the atmosphere from free-water evaporation, soil moisture evaporation, and transpiration by plants (Fetter, 1994)."*

Table A-1b of ***Appendix B*** of the *Tule Subbasin Setting* identifies sources of evapotranspiration within the ETGSA as precipitation from crops and native vegetation, surface water in native channels, recycled water in basins, agricultural consumptive use, and municipal consumptive use. Each of these sources and the volume of water attributed to evapotranspiration are described below.

4.4.1.2.6.1 Evapotranspiration of Precipitation from Crops and Native Vegetation

Chapter 2.3.1.2.6 describes evapotranspiration of precipitation from crops and native vegetation.

For the period of 1986/87- 2016/17, evapotranspiration of precipitation within the ETGSA on an average annual basis was estimated to be approximately 115,000 acre-feet/yr (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.1.2.6.2 Evapotranspiration of Surface Water within the Tule River Channel

Evapotranspiration of surface water within the Tule River channel is described in ***Chapter 2.3.1.2.6*** of the *Tule Subbasin Setting.*

For the period of 1986/87- 2016/17, evapotranspiration of surface water within the Tule River channel within the ETGSA on an average annual basis was estimated to be approximately 400 acre-feet/yr (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

The average annual ET within the ETGSA is approximately 400 acre-ft/yr for water years 1986/87 to 2016/17 (see ***Table 1b*** of ***Appendix B***, *Tule Subbasin Setting*).

4.4.1.2.6.3 Evapotranspiration of Surface Water within the Deer Creek Channel

Evapotranspiration within the Deer Creek channel was estimated using the same methodology as for the Tule River.

For the period of 1986/87- 2016/17, evapotranspiration of surface water within the Deer Creek channel within the ETGSA on an average annual basis was estimated to be approximately 300 acre-feet/yr (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.1.2.6.4 Evapotranspiration of Surface Water within the White River Channel

Evapotranspiration within the White River channel was estimated using the same methodology as for the Tule River.

For the period of 1986/87-2016/17, evapotranspiration of surface water within the White River channel within the ETGSA on an average annual basis was estimated to be approximately 100 acre-feet/yr (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.1.2.6.5 Evapotranspiration of Recycled Water in Basins

Evapotranspiration of recycled water delivered to recharge basins, which are presumed to only occur within ETGSA, was estimated to be approximately 50 acre-ft/yr for the period of 1986/87-2016/17 (see ***Table 1b*** of ***Appendix B***, *Tule Subbasin Setting*) based on *Schmidt (2009)*.

4.4.1.2.6.6 Agricultural Consumptive Use

Agricultural consumptive use and its method of estimation within the Tule Subbasin is described in ***Chapter 2.3.1.2.6*** of the *Tule Subbasin Setting.*

Types of and areas of crops grown in the ETGSA were estimated from land use maps and associated data published by the CDWR for 1993, 1999, 2007, and 2014. These maps are visualized in ***Figure 2-31*** of the *Tule Subbasin Setting.* Consumptive use estimates were based on crop coefficients published in *ITRC (2003)* multiplied by the area of the crop multiplied by a return flow factor reflecting irrigation efficiency

For the period of 1986/87-2016/17, the estimated agricultural consumptive use of surface water within the ETGSA on an average annual basis was estimated to be approximately 10,800 acre-feet/yr, 63,100 acre-feet/yr, and 160,000 acre-feet/yr from the Tule River, imported surface waters, and discharge from wells, respectively (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.1.2.6.7 Municipal Consumptive Use

The *Tule Subbasin Setting* describes municipal consumptive use is described in ***Chapter 2.3.1.2.6***.

For the period of 1986/87-2016/17, the estimated municipal consumptive use from landscape irrigation within the ETGSA on an average annual basis was estimated to be approximately 5,100 acre-feet/yr (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.1.2.7 Surface Water Outflow

Residual streamflow of the Tule River and Deer Creek that reaches the Tule Subbasin's western edge is assumed to flow out of the subbasin. Similarly, any residual streamflow of the Tule River, Deer Creek, or White River that reaches the ETGSA's western edge is assumed to flow out of the Agency and into the neighboring Tule Subbasin GSAs. ***Chapter 2.3.1.2.7*** of the *Tule Subbasin Setting* describes these outflows, and their accounting within the ETGSA is also found in ***Table 1b*** of ***Appendix B.***

4.4.1.2.7.1 Tule River

For the period of 1986/87-2016/17, the estimated surface water outflow of native Tule River water to Lower Tule River Irrigation District GSA from ETGSA on an average annual basis was estimated to be approximately 70,100 acre-feet/yr (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.1.2.7.2 Deer Creek

For the period of 1986/87-2016/17, the estimated surface water outflow of native Deer Creek water to Pixley GSA from ETGSA on an average annual basis was estimated to be approximately 5,500 acre-feet/yr (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.1.2.7.3 White River

For the period of 1986/87-2016/17, the estimated surface water outflow of native White River water to DEID GSA from ETGSA on an average annual basis was estimated to be approximately 2,000 acre-feet/yr (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.2 Groundwater Budget

The fundamental premise of the Tule Subbasin Groundwater Budget is as follows:

Inflow – Outflow = +/- ΔS

In this equation, "ΔS" serves as "change in groundwater storage." The groundwater budget of the Tule Subbasin, as well as its component terms and methodology of development, are described in ***Chapter 2.3.2*** of the *Tule Subbasin Setting.*

The accounting of ETGSA's groundwater budget can be found in ***Table 2*** of ***Appendix B*** of the *Tule Subbasin Setting.*

4.4.2.1 Sources of Groundwater Recharge *[23 CCR § 354.18(b)(2)]*

> **23 Cal. Code Regs. § 354.18 Water Budget. (b)** *The water budget shall quantify the following, either through direct measurements or estimates based on data:*
>
> **(2)** *Inflow to the groundwater system by water source type, including subsurface groundwater inflow and infiltration of precipitation, applied water, and surface water systems, such as lakes, streams, rivers, canals, springs and conveyance systems.*

Sources of groundwater recharge are described ***Chapter 2.3.2.1*** of the *Tule Subbasin Setting*. Those sources of groundwater recharge that are present and occur within ETGSA are identified and discussed below.

4.4.2.1.1 Areal Recharge

Chapter 2.3.2.1.1 describes areal recharge as, "*Groundwater recharge from precipitation falling on the valley floor in the Tule Subbasin…" (Tule Subbasin Setting).* See ***Section 4.4.1.2.1*** for additional discussion on areal recharge.

For the period of 1986/87- 2016/17, areal recharge within ETGSA ranged from 0 to 112,000 acre-feet per year, with an average annual volume estimated to be approximately 14,000 acre-feet/yr (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.2.1.2 Groundwater Recharge from the Tule River

The *Tule Subbasin Setting* describes groundwater recharge from the Tule River in ***Chapter 2.3.2.1.2****.*

See ***Sections 4.4.1.2.2, 4.4.1.2.4,*** and ***4.4.1.2.54.4.1.2.1*** for additional discussion on sources of groundwater recharge from the Tule River within ETGSA.

For the period of 1986/87- 2016/17, groundwater recharge from the Tule River within ETGSA on an average annual basis was estimated to be approximately 16,500 acre-feet/y, 5,800 acre-feet/yr, and 6,000 acre-feet/yr from streambed infiltration, recharge in basins, and return flow of applied water, respectively (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.2.1.3 Groundwater Recharge from the Deer Creak

The *Tule Subbasin Setting* describes groundwater recharge from the Deer Creek in ***Chapter 2.3.2.1.3***.

See ***Section 4.4.1.2.2*** for additional discussion on sources of groundwater recharge from Deer Creek within ETGSA.

For the period of 1986/87- 2016/17, groundwater recharge from Deer Creek within ETGSA on an average annual basis was estimated to be approximately 12,100 acre-feet/yr resulting from streambed infiltration (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.2.1.4 Streambed Infiltration from White River

The Tule Subbasin Setting describes streambed infiltration from the White River in ***Chapter 2.3.2.1.4.***

See ***Section 4.4.1.2.2*** for additional discussion on sources of groundwater recharge from White River within ETGSA.

For the period of 1986/87- 2016/17, groundwater recharge from White River within ETGSA on an average annual basis was estimated to be approximately 3,600 acre-feet/yr resulting from streambed infiltration (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.2.1.5 Groundwater Recharge from Imported Water Deliveries

The *Tule Subbasin Setting* describes groundwater recharge from imported water deliveries in ***Chapter 2.3.2.1.5***:

See ***Section 4.4.1.2.5*** for additional discussion on sources of groundwater recharge from imported water within the Tule Subbasin.

For the period of 1986/87- 2016/17, groundwater recharge from imported water within ETGSA on an average annual basis was estimated to be approximately 15,900 acre-feet/yr resulting from return flow of applied water (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.2.1.6 Recycled Water

The Tule Subbasin Setting describes recycled water within the ETGSA in ***Chapter 2.3.2.1.6.***

See ***Sections 4.4.1.2.4*** and ***4.4.1.2.5*** for additional discussion on sources of groundwater recharge from recycled water within ETGSA.

For the period of 1986/87- 2016/17, groundwater recharge from recycled water within ETGSA on an average annual basis was estimated to be approximately 400 acre-feet/yr and 3,200 acre-feet/yr from return flow of applied water and artificial recharge, respectively (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.2.1.7 Deep Percolation of Applied Water from Groundwater Pumping

The *Tule Subbasin Setting* describes deep percolation of applied water from groundwater pumping within the Tule Subbasin in ***Chapter 2.3.2.1.7***.

See ***Section 4.4.1.2.5*** for additional discussion on sources of groundwater recharge from return flow of applied groundwater pumping within ETGSA.

For the period of 1986/87- 2016/17, groundwater recharge from applied water from groundwater pumping within ETGSA on an average annual basis was estimated to be approximately 32,000 acre-feet/yr and 3,700 acre-feet/yr from return flow of groundwater applied for agricultural irrigation and from return flow of groundwater applied for municipal irrigation, respectively (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.2.1.8 Release of Water from Compression of Aquitards

The *Tule Subbasin Setting* describes release of water from compression of aquitards within the Tule Subbasin in ***Chapter 2.3.2.1.8***.

For the period of 1986/87- 2016/17, groundwater inflow from compression of aquitards within ETGSA on an average annual basis was estimated to be approximately 12,000 acre-feet/yr (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.2.1.9 Subsurface Inflow

The *Tule Subbasin Setting* describes subsurface inflow for the Tule Subbasin in ***Chapter 2.3.2.1.9***:

Subsurface inflow into the ETGSA occurs from both as inter- and intra-subbasin sources.

For the period of 1986/87- 2016/17, groundwater inflow from subsurface inflow into ETGSA on an average annual basis was estimated to be approximately 8,000 acre-feet/yr and 43,000 acre-feet/yr from outside of the Tule Subbasin and from other GSAs within the Tule Subbasin, respectively (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.2.1.10 Mountain Front Recharge

Chapter 2.3.2.1.10 of the *Tule Subbasin Setting* describes mountain front recharge occurring in the subbasin and the methodology used to estimate the volume occurring within the Tule Subbasin.

The ETGSA's eastern boundary is directly adjacent to the mountain front and, thus, the GSA is the initial recipient of the mountain front recharge.

For the period of 1986/87- 2016/17, groundwater inflow from mountain front recharge into ETGSA on an average annual basis was estimated to be approximately 29,000 acre-feet/yr (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.2.2 Sources of Groundwater Discharge *[23 CCR § 354.18(b)(3)]*

23 Cal. Code Regs. § 354.18 Water Budget. (b) *The water budget shall quantify the following, either through direct measurements or estimates based on data:*

(3) *Outflows from the groundwater system by water use sector, including evapotranspiration, groundwater extraction, groundwater discharge to surface water sources, and subsurface groundwater outflow.*

Chapter 2.3.2.3 of the *Tule Subbasin Setting* discusses sources of groundwater discharge or outflow within the Tule Subbasin. Those sources of groundwater recharge or outflow that are present and occur within ETGSA are identified and discussed below.

4.4.2.2.1 Municipal Groundwater Pumping

A description of municipal groundwater pumping for the Tule Subbasin is provided in ***Chapter 2.3.2.3.1.***

See ***Section 4.4.1.1.5*** for additional discussion on municipal groundwater pumping within ETGSA. Additionally, it should be noted that some households in the more rural portions of the Tule Subbasin rely on private wells to meet their domestic needs; however, the volume pumped is negligible.

For the period of 1986/87- 2016/17, municipal groundwater pumping within ETGSA on an average annual basis was estimated to be approximately 14,600 acre-feet/yr (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.2.2.2 Agricultural Groundwater Pumping

A description of agricultural groundwater pumping for the Tule Subbasin is provided in ***Chapter 2.3.2.3.2***:

For the period of 1986/87- 2016/17, agricultural groundwater pumping within ETGSA on an average annual basis was estimated to be approximately 192,00 acre-feet/yr (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.2.2.3 Subsurface Outflow

A description of subsurface outflow for the Tule Subbasin is provided in ***Chapter 2.3.2.3.4***.

Subsurface outflow from ETGSA flows out of the Agency's boundaries into adjacent GSA's within the Tule Subbasin and into subbasins adjacent to ETGSA.

For the period of 1986/87 - 2016/17, subsurface outflow from ETGSA on an average annual basis was estimated to be approximately 5,000 acre-feet/yr and 62,000 acre-feet/yr to outside subbasins and to other GSAs within the Tule Subbasin, respectively (see ***Table 1b*** of ***Appendix B,*** *Tule Subbasin Setting*).

4.4.2.3 Change in Groundwater Storage *[23 CCR § 354.18(b)(4)]*

23 Cal. Code Regs. § 354.18 Water Budget. (b) *The water budget shall quantify the following, either through direct measurements or estimates based on data:*

(4) *The change in the annual volume of groundwater in storage between seasonal high conditions*

The change in groundwater storage within the Tule Subbasin was estimated by comparing the groundwater inflow elements with the groundwater outflow elements of the groundwater budget. For the period of 1986/87 – 2016/17, the cumulative change in groundwater storage across the Tule Subbasin was estimated to be approximately (-4,948,000) acre-feet; on an average annual basis, this is approximately (-160,000) acre-feet/yr (see ***Chapter 2.3.2.4*** and ***Table 2-3,*** *Tule Subbasin Setting).*

Within ETGSA, the cumulative and average-annual change in storage can be estimated by utilizing the fundamental premise of the groundwater budget (Inflow – Outflow = +/- ΔS) to compare the sources of groundwater recharge and groundwater discharge occurring and present within ETGSA, as described in ***Sections 4.4.2.1 Sources of Groundwater Recharge*** and ***4.4.2.2 Sources of Groundwater Discharge*****.**

For the period of 1986/87 – 2016/17, the cumulative change in groundwater storage within ETGSA was estimated to be approximately (-2,132,000) acre-feet; on an average annual basis, this is approximately (-69,000) acre-feet/yr (see ***Table A-2*** of ***Appendix B,*** *Tule Subbasin Setting).*

It should be noted that several of the ETGSA member agencies have a separate water accounting system to track the amount of groundwater that has been banked by the Irrigation District or individual landowners, which will be internally calculated from the gross groundwater storage volume for the ETGSA.

4.4.2.4 Overdraft *[23 CCR § 354.18(b)(5)]*

23 Cal. Code Regs. § 354.18 Water Budget. (b) *The water budget shall quantify the following, either through direct measurements or estimates based on data:*

(5) *If overdraft conditions occur, as defined in Bulletin 118, the water budget shall include a quantification of overdraft over a period of years during which water year and water supply conditions approximate average conditions.*

Average hydrologic conditions in the Tule Subbasin are represented by the twenty-year period from 1990/91 – 2009/10 (see ***Chapter 2.3.2.5***, *Tule Subbasin Setting).* Overdraft during this period is estimated to be approximately 115,300 acre-feet/yr. Using the same methodology but relating only to the ETGSA, overdraft is estimated to be approximately 54,450 acre-feet/yr (see ***Table 2-3*** and ***Table 2*** of ***Appendix B,*** respectively, *Tule Subbasin Setting*).

4.4.2.5 Water Year Type [23 CCR § 354.18(b)(6)]

23 Cal. Code Regs. § 354.18 Water Budget. (b) *The water budget shall quantify the following, either through direct measurements or estimates based on data:*

(6) *The water year type associated with the annual supply, demand, and change in groundwater stored.*

All water year elements presented herein are based on a water year, which begin October 1 and ends September 30 (see ***Chapter 2.3.2.6***, *Tule Subbasin Setting).* The second to left column of the Tule Subbasin water budget table in the Tule Subbasin Setting distinguishes water years as either above average, average, or below average.

4.4.2.6 Sustainable Yield *[23 CCR § 354.18(b)(7)]*

23 Cal. Code Regs. § 354.18 Water Budget. (b) *The water budget shall quantify the following, either through direct measurements or estimates based on data:*

(7) *An estimate of sustainable yield for the basin.*

The term "Sustainable Yield" for the purposes of SGMA and GSPs developed under SGMA is defined by Water Code §107219(w) as: "*the maximum quantity of water, calculated over a base period representative of long-term conditions in the basin and including any temporary surplus, that can be withdrawn annually from a groundwater supply without causing an undesirable result.*" Within the Tule Subbasin, the Sustainable Yield includes the natural channel losses in the natural streams, precipitation, subsurface inflow and subsurface outflow, mountain front subsurface inflow, and return flow of applied water not associated with a Water Right. The components not included in the estimate of the Tule Subbasin's Sustainable Yield is described below from the Tule Subbasin Setting:

"It is noted that sources of groundwater recharge in the subbasin that are associated with pre-existing water rights and/or imported water deliveries are not included in the Sustainable Yield estimate. These recharge sources include:

Diverted Tule River water canal losses, recharge in basins, and deep percolation of applied water, Diverted Deer Creek water canal losses, recharge in basins, and deep percolation of applied water, Imported water canal losses, recharge in basins, and deep percolation of applied water, and Recycled water deep percolation of applied water and recharge in basins." (Tule Subbasin Setting)

The sources of groundwater recharge in the subbasin that are not included in Sustainable Yield calculations are intended to be accounted for by each GSA, as either additional groundwater that is capable of being withdrawn without causing undesirable results or in the case of groundwater exports, deduction of groundwater from GSA Sustainable Yield volume. Therefore, for this GSA purposes, the ETGSA Sustainable Yield consists of both the Subbasin portion of Sustainable Yield, determined through the *Tule Basin Setting* document and its process, plus the documented additions to groundwater associated with ETGSA's water deliveries and or deduction of any groundwater exports from the GSA.

Chapter 2.3.2.7 of the *Tule Subbasin Setting* estimates the historical Sustainable Yield for the Tule Subbasin as to be approximately 257,725 acre-ft/yr (see ***Table 2-4,*** *Tule Subbasin Setting*). This is based on the hydrologic period of 1986/87 – 2016/17. The groundwater inflow components not included in the estimate of the subbasin's sustainable yield described below:

Sustainable Yield of the Tule Subbasin will change in the future as a result of change in groundwater levels and flow associated with planned projects and management actions changes on deep percolation of applied water (i.e. return flow) from reduced groundwater pumping. This new water budget regime will result in a Sustainable Yield that is different from what was realized historically. Thus, the Sustainable Yield of the Subbasin presented herein was estimated based on projected water budgets which is more representative than the Sustainable Yield from the historical water budgets.

Utilizing the Tule Subbasin Groundwater Flow Model and assessing uncertainties in the model, the future Sustainable Yield of the Tule Subbasin is estimated to be approximately 130,000 acre-ft/yr (see **Table 2-4**, Tule Subbasin Setting). The projected Sustainable Yield does not include:

- Water released to the aquifer system from the compression of aquitards,
- Diverted Tule River water canal losses, recharge in basins, and deep percolation of applied water,
- Diverted Deer Creek water canal losses, recharge in basins, and deep percolation of applied water,
- Imported water canal losses, recharge in basins, and deep percolation of applied water, and
- Deep percolation of applied recycled water and recycled water recharge in basins.

Each GSA will determine their allowable groundwater pumping by multiplying that GSA's proportionate areal coverage of the Tule Subbasin times the total Sustainable Yield of the subbasin (130,000 acre-ft/yr), as described in the Coordination Agreement. The estimated consumptive use rate that can be sustained under the Subbasin-wide Sustainable Yield is 65,000 acre-ft/yr. When applied across the entire 475,895 acres of the subbasin, this consumptive use rate is approximately 0.14 acre-ft/acre. This consumptive use rate incorporates consumptive use from both agriculture and municipal demand. This "sustainable" consumptive use rate does not equal the Sustainable Yield on an acre-ft/acre basis because it does not account for irrigation return flow and changes to subbasin inflow and outflow caused by changes in pumping stress within the subbasin. It is noted that the consumptive use rate of 0.14 acre-ft/acre is for irrigation water only (i.e. does not include consumptive use of precipitation) and is the baseline sustainable consumptive use as applied across the entire subbasin. Each GSA will individually estimate their total allowable consumptive use as the sum of the baseline sustainable consumptive use, available precipitation, and surface water supplies.

As additional data become available and as projects and management plans are implemented, the groundwater flow model used to estimate the Sustainable Yield of the Tule Subbasin will be updated and the Sustainable Yield may be adjusted to reflect the new data.

4.4.3 Current Water Budget *[23 CCR § 354.18(c)(1)]*

> **23 Cal. Code Regs. § 354.18 Water Budget. (c)** *Each Plan shall quantify the current, historical, and projected water budget for the basin as follows:*
>
> **(1)** *Current water budget information shall quantify current inflows and outflows for the basin using the most recent hydrology, water supply, water demand, and land use information.*

The surface and groundwater budgets for the Tule Subbasin for the 2016/2017 water year are described in ***Chapter 2.3.3*** and their full accounting can be found in ***Tables 2a, 2b*** and ***3*** of the *Tule Subbasin Setting*. For this year, total groundwater inflows were approximately 854,600 acre-feet and total groundwater outflows were approximately 539,430 acre-feet.

For the ETGSA, the surface and groundwater budgets for the 2016/2017 water year are shown in ***Tables 1a, 1b, and -2*** of ***Appendix B*** of the *Tule Subbasin Setting*. For this year, total groundwater inflows were approximately 258,000 acre-feet and total groundwater outflows were approximately 210,000 acre-feet.

4.4.4 Historical Water Budget *[23 CCR § 354.18(c)(2)(A)(B)(C)]*

23 Cal. Code Regs. § 354.18 Water Budget. (c) *Each Plan shall quantify the current, historical, and projected water budget for the basin as follows:*

(2) *Historical water budget information shall be used to evaluate availability or reliability of past surface water supply deliveries and aquifer response to water supply and demand trends relative to water year type. The historical water budget shall include the following:*

(A) *A quantitative evaluation of the availability or reliability of historical surface water supply deliveries as a function of the historical planned versus actual annual surface water deliveries, by surface water source and water year type, and based on the most recent ten years of surface water supply information.*

(B) *A quantitative assessment of the historical water budget, starting with the most recently available information and extending back a minimum of 10 years, or as is sufficient to calibrate and reduce the uncertainty of the tools and methods used to estimate and project future water budget information and future aquifer response to proposed sustainable groundwater management practices over the planning and implementation horizon.*

(C) *A description of how historical conditions concerning hydrology, water demand, and surface water supply availability or reliability have impacted the ability of the Agency to operate the basin within sustainable yield. Basin hydrology may be characterized and evaluated using water year type.*

The historical surface and groundwater budgets for the Tule Subbasin, as assessed over the water years 1986/87 – 2016/17, are shown in ***Table 2a, 2b*** and ***3*** of the *Tule Subbasin Setting.* The ETGSA's historical surface water and groundwater budgets are assessed over the same period, and are accounted for in ***Tables 1a, 1b,*** and ***2*** of ***Appendix B*** of the *Tule Subbasin Setting* and summarized throughout **Section 4.4** of this GSP.

4.4.5 Projected Water Budget *[23 CCR § 354.18(c)(3)]*

23 Cal. Code Regs. § 354.18 Water Budget. (c) *Each Plan shall quantify the current, historical, and projected water budget for the basin as follows:*

(3) *Projected water budgets shall be used to estimate future baseline conditions of supply, demand, and aquifer response to Plan implementation, and to identify the uncertainties of these projected water budget components. The projected water budget shall utilize the following methodologies and assumptions to estimate future baseline conditions concerning hydrology, water demand and surface water supply availability or reliability over the planning and implementation horizon:*

(A) *Projected hydrology shall utilize 50 years of historical precipitation, evapotranspiration, and streamflow information as the baseline condition for estimating future hydrology. The projected hydrology information shall also be applied as the baseline condition used to evaluate future scenarios of hydrologic uncertainty associated with projections of climate change and sea level rise.*

(B) *Projected water demand shall utilize the most recent land use, evapotranspiration, and crop coefficient information as the baseline condition for estimating future water demand. The projected water demand information shall also be applied as the baseline condition used to evaluate future scenarios of water demand uncertainty associated with projected changes in local land use planning, population growth, and climate.*

Chapter 2.3.5 of the *Tule Subbasin Setting* discusses methodologies, and information used to develop the Tule Subbasin projected water budget in the Groundwater Flow Model.

The projected surface and groundwater budgets for the Tule Subbasin, as assessed over the water years 2020 to 2070, are shown in ***Table 2-8a***, ***2-8b*** and ***2-9*** of the *Tule Subbasin Setting.*

Projected surface and groundwater budgets for the LTRID GSA over the same time period (2020-2070) are provided in ***Table 3a***, ***3b*** and ***4***, in ***Appendix B*** of the *Tule Subbasin Setting*.

4.5 Management Areas *[23 CCR § 354.20(a), § 354.20(c)]*

23 Cal. Code Regs. § 354.20 Management Areas. (a) *Each Agency may define one or more management areas within a basin if the Agency has determined that creation of management areas will facilitate implementation of the Plan. Management areas may define different minimum thresholds and be operated to different measurable objectives than the basin at large, provided that undesirable results are defined consistently throughout the basin.*

(c) *If a Plan includes one or more management areas, the Plan shall include descriptions, maps, and other information required by this Subarticle sufficient to describe conditions in those areas.*

The regulatory requirements outlined in CCR § 354.20 for describing the management areas within the Tule Subbasin and further the ETGSA for defining different minimum thresholds and operate to different measurable objectives are addressed and fulfilled in part in ***Chapter 2.4*** of the *Tule Subbasin Setting*, with supplemental information to meet the regulator requirements provided in this section.

Table 4-4: Components of 23 CCR § 354.20 (Management Areas, ETGSA) links the requirements of 23 CCR § 354.20 to the sections in the *Tule Subbasin Setting* and the sections of this GSP that apply to and fulfil each regulatory component. This Plan provides a reference to the *Tule Subbasin Setting*, and when necessary, a brief summary the connects basin wide and relative to the ETGSA.

Table 4-4: Components of 23 CCR § 354.20 (Management Areas, ETGSA)

23 CCR	Section Title	Tule Subbasin Setting	ETGSA GSP
§ 354.20 (b)(1)	Criteria for Management Areas	2.4.1	3.5.1
§ 354.20 (b)(2)	Minimum Thresholds and Measurable Objectives	2.4.2	2.5.2
§ 354.20 (b)(3)	Monitoring Pan	2.4.3	2.5.3
§ 354.20 (d)(4)	Coordination with Adjacent Areas	2.5.4	2.5.4

The ETGSA is subdivided into six (6) Management Areas. These Management Areas have been formed in order to facilitate the implementation of this GSP and to address various needs resulting from considerations of water use sector, water source type, the avoidance of undesirable results, and the conditions previously described in this Section. Management Areas have been grouped into specific Management Area Types that reflect the reason for their creation. The six ETGSA Management Areas are described below and grouped by Type:

- **Type:** Community Management Areas
    1. Porterville Community Management Area
    2. Terra Bella Community Management Area
    3. Ducor Community Management Area
- **Type:** Cross-Boundary Management Areas
    4. Kern-Tulare Water District Management Area
- **Type**: Subsidence Management Area

5. Friant-Kern Canal Subsidence Management Area

- **Type:** Greater Tule Management Area
    6. Greater Tule Management Area

Figure 4-1: ETGSA Management Areas describes the various Management Areas within ETGSA's jurisdiction and the area over which they reside.

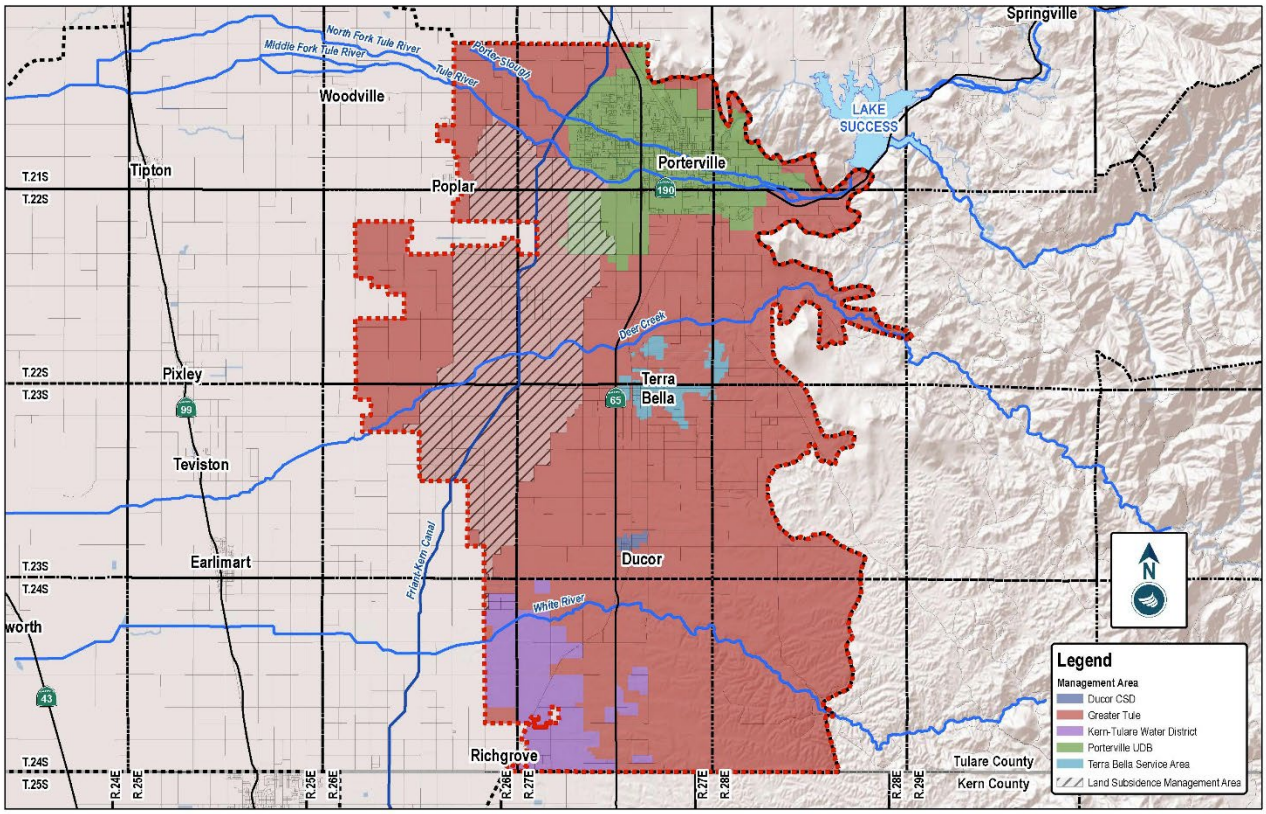

Figure 4-1: ETGSA Management Areas

The ETGSA has defined a Land Subsidence Management Area to address future subsidence along the FKC. The Managed Area extends two miles on either side of th FKC from the Tule River to the south boundary of the ETGSA.Additional discussion around the Land Subsidence Management Area can be found in **Section 7.2.3 – Land Subsidence Management and Monitoring**.

ETGSA anticipates that new Management Areas may be developed, existing Management Areas may be consolidated, and that Management Area boundaries may be altered in the future, as necessary to further improve the ability of ETGSA to meet its sustainability goal and avoid undesirable results.

4.5.1 Reason for Creation *[23 CCR § 354.20(b)(1)]*

23 Cal. Code Regs. § 354.20 Management Areas. (b) *A basin that includes one or more management areas shall describe the following in the Plan:*

(1) *The reason for the creation of each management area.*

Each Management Area Type has been developed pursuant consideration of the applicable differences described in 23 CCR § 351 (r), consideration of how such a Management Area Type will facilitate the ability of ETGSA to achieve its sustainability goal, and consideration of the groundwater conditions described in this Section.

Management Areas categorized under the Community Management Area Type have been created to specifically address the needs of ETGSA's population centers and communities. Future projects and management actions focused in these areas will seek to address achieving the ETGSA' sustainability goal and improve access to safe, reliable drinking water supplies. The boundaries for each Community Management Area consider existing County and/or City adopted Urban Development Boundaries, as well as the service area boundaries of the public water suppliers providing services to residents within these areas.

Management Areas categorized under the Cross-Boundary Management Area Type have been created to specifically address the needs of Member Agencies with service areas partially within the Tule Subbasin and partially within another Subbasin. Presently, Kern-Tulare Water District is the only Member Agency of ETGSA experiencing this situation, as its boundaries are partially within the Tule Subbasin and partially within the Kern County Subbasin. Future projects and management actions focused in this Management Area will focus on enabling Kern-Tulare Water District to achieve the sustainability goals of both the Tule and the Kern County Subbasins while minimizing the need for Kern-Tulare Water District to significantly alter its operations. Additionally, Kern-Tulare Water District has prepared a GSP that encompasses its district within both the Tule Subbasin and Kern Subbasin. In **Section 5 – Sustainable Management Criteria**, **Section 6 – Monitoring Network**, and **Section 7 - Projects and Management Actions** of this Plan reference to the Kern-Tulare Water Districts GSP corresponding sections will be provided as to how the management area will differ from the remainder of the ETGSA. Kern-Tulare Water District GSP is attached to this Plan as **Appendix C.**

Those lands not within the Management Areas above reside in the Greater Tule Management Area.

Although a Management Areas have not been established for the jurisdictional areas of the individual water and irrigation districts, in lieu of Management Areas, separate accounting of water budgets will be provided for those areas within the Water Accounting system that will be adopted per the Management Action described in **Section 7.2.1**. Further, those agencies have reserved the right to request establishment of Management Areas in the future if warranted or necessary.

4.5.2 Minimum Thresholds and Measurable Objectives *[23 CCR § 354.20(b)(2)]*

23 Cal. Code Regs. § 354.20 Management Areas. (b) *A basin that includes one or more management areas shall describe the following in the Plan:*

(2) *The minimum thresholds and measurable objectives established for each management area, and an explanation of the rationale for selecting those values, if different from the basin at large.*

The Minimum Thresholds and Measurable Objectives established for each Management Area, and an explanation of the rationale for selecting those values, are described in **Section 5: Sustainable Management Criteria**.

4.5.3 Monitoring *[23 CCR § 354.20(b)(3)]*

23 Cal. Code Regs. § 354.20 Management Areas. (b) *A basin that includes one or more management areas shall describe the following in the Plan:*

(3) *The level of monitoring and analysis appropriate for each management area.*

The monitoring sites and monitoring methods established for each Management Area are described in **Section 6: ETGSA Subbasin Monitoring Plan.**

A monitoring area has been created to specially address land subsidence in areas with existing or future planned critical infrastructure that are at risk of significant impairment. Within the Tule Subbasin, the Friant-Kern Canal has historically experienced accelerated rates of subsidence that have impaired its ability to function per its historical design. Technical studies undertaken by the Tule Subbasin GSAs have also indicated that subsidence beneath the canal will likely continue through the SGMA planning and implementation horizon due to legacy impacts, but that this subsidence can also be significantly mitigated through both demand reduction and groundwater recharge activities within local areas in the vicinity of the canal. The Friant-Kern Canal Monitoring Area is a Monitoring Area shared between ETGSA and PXIDGSA. Future projects and management actions within this Monitoring Area will focus on physically mitigating future subsidence.

4.5.4 Coordination with Adjacent Areas *[23 CCR § 354.20(b)(4)]*

23 Cal. Code Regs. § 354.20 Management Areas. (b) *A basin that includes one or more management areas shall describe the following in the Plan:*

(4) *An explanation of how the management area can operate under different minimum thresholds and measurable objectives without causing undesirable results outside the management area, if applicable.*

Chapter 2.4.4 of the *Tule Subbasin Setting* discusses the coordination between Tule Subbasin GSAs in developing processes and methodologies in setting minimum thresholds and undesirable results and is also discussed in **Section IV** of the *Tule Subbasin Coordination Agreement.*

Section 5. Sustainable Management Criteria

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5.1 Introduction *[§ 354.22]*

23 Cal. Code Regs. § 354.22 Introduction to Sustainable Management Criteria. *This Subarticle describes criteria by which an Agency defines conditions in its Plan that constitute sustainable groundwater management for the basin, including the process by which the Agency shall characterize undesirable results, and establish minimum thresholds and measurable objectives for each applicable sustainability indicator.*

This Section defines the process for determining sustainable groundwater management specific for the ETGSA and its member agencies in order to achieve the sustainability goal of the Tule Subbasin defined in the **Tule Subbasin Coordination Agreement (Coordination Agreement) (Appendix A**). Specifically, this Section includes the characterization and definition of minimum thresholds and measurable objectives with interim milestones for each applicable sustainability indicator.

5.2 Sustainability Goal *[§ 354.24]*

23 Cal. Code Regs. § 354.24 Sustainability Goal. *Each Agency shall establish in its Plan a sustainability goal for the basin that culminates in the absence of undesirable results within 20 years of the applicable statutory deadline. The Plan shall include a description of the sustainability goal, including information from the basin setting used to establish the sustainability goal, a discussion of the measures that will be implemented to ensure that the basin will be operated within its sustainable yield, and an explanation of how the sustainability goal is likely to be achieved within 20 years of Plan implementation and is likely to be maintained through the planning and implementation horizon.*

The Sustainability Goal of the Tule Subbasin is defined in the **Coordination Agreement** pursuant to **Section 4.2,** as the absence of undesirable results accomplished by 2040 and achieved through a collaborative, Subbasin-wide program of sustainable groundwater management by the numerous Tule Subbasin GSAs.

Achievement of this goal will be accomplished through the coordinated effort of the Tule Subbasin GSAs in cooperation with their many stakeholders. It is further the goal of the Tule Subbasin GSAs that coordinated implementation of their respective GSPs will achieve sustainability in a manner that facilitates the highest degree of collective economic, societal, environmental, cultural, and communal welfare and provides all beneficial uses and users the ability to manage the groundwater resource at least cost. Moreover, this coordinated implementation is anticipated to ensure that the sustainability goal, once achieved, is also maintained through the remainder of the 50-year planning and implementation horizon, and well thereafter.

In achieving the Sustainability Goal, these GSPs are intended to balance average annual inflows and outflows of water by 2040 so that negative change in storage does not occur after 2040, with the ultimate goal being avoidance of undesirable results caused by groundwater conditions throughout the Subbasin. The stabilization of change in storage should also drive stable groundwater elevations, which, in turn, works to inhibit water quality degradation and arrest land subsidence.

5.3 Process for Establish Sustainable Management Criteria *[§ 354.26]*

23 Cal. Code Regs. § 354.26 Undesirable Results. *Each Agency shall describe in its Plan the processes and criteria relied upon to define undesirable results applicable to the basin. Undesirable results occur when significant and unreasonable effects for any of the sustainability indicators are caused by groundwater conditions occurring throughout the basin.*

The Sustainable Management Criteria (hereafter "SMC") discussed and established in this Section were developed in consultation with ETGSA's member agencies, local stakeholders, Tule Subbasin GSA counterparts, technical leads, regional partners, interbasin stakeholders, and many other interested parties. The process for setting SMC related to undesirable results and measurement methodology is consistent among the various GSAs within the Tule Subbasin, while the quantifiable process for setting measurable objectives, interim milestones, and minimum thresholds for RMS in each GSA individually was determined by that GSA and their consultants to cater to the diverse conditions that occur throughout the Tule Subbasin.

The general process leading up to the development and establishment of these Sustainable Management Criteria included:

- Regular agenda items, material reviews, and presentations at ETGSA's regular Board and Committee Meetings wherein information relevant pertinent to the development of Sustainable Management Criteria was discussed and/or decided upon;
- Holding public outreach meetings within ETGSA and throughout the Tule Subbasin outlining the process for GSP development, discussing Sustainable Management Criteria, and provide data and context related to local groundwater-related issues;
- Soliciting public feedback through public comment, Stakeholder Surveys, written correspondence, formal meetings, and informal meetings to gather information on local values, locally relevant groundwater issues, and how local stakeholders might define groundwater conditions that they consider to be undesirable; and
- Reviewing existing hydrologic data, current and historical groundwater information assembled in the **Tule Subbasin Setting** (**Coordination Agreement, Attachment 2**), and future projections prepared by the Tule Subbasin Hydrogeologist utilizing the Tule Subbasin Groundwater Flow Model (GFM) (**Coordination Agreement, Attachment 3**) to provide summary of historic groundwater conditions and projected future groundwater conditions based upon implementation of the proposed projects and management actions described in **Section 7** of this Plan.

5.4 Undesirable Results

23 Cal. Code Regs. § 354.26 Undesirable Results. (a) *Each Agency shall describe in its Plan the processes and criteria relied upon to define undesirable results applicable to the basin. Undesirable results occur when significant and unreasonable effects for any of the sustainability indicators are caused by groundwater conditions occurring throughout the basin.*

Undesirable Results are caused by groundwater conditions occurring within the basin that, for any sustainability indicator, are considered significant and unreasonable. These conditions, or sustainability indicators, include:

- Chronic lowering of groundwater levels indicating a depletion of supply if continued over the planning and implementation horizon;
- Reduction of groundwater storage;
- Seawater intrusion;
- Degraded water quality, including the migration of contaminant plumes that impair water supplies;
- Land subsidence that substantially interferes with surface land uses; and
- Depletions of interconnected surface water that have adverse impacts on beneficial uses.

The Tule Subbasin GSAs have evaluated the potential for each of these groundwater conditions and have established common criteria within the **Coordination Agreement**, wherein, if any such significant and unreasonable conditions were to become present, they would constitute an undesirable result within the GSA. The process to identify the conditions that constitute significant and unreasonable conditions in the Tule Subbasin was informed through:

- Research and documentation of the hydrogeological conceptual model of the subbasin (see **Attachment 1** of the **Coordination Agreement**, **Appendix A**);
- Development of a calibrated numerical groundwater flow model of the subbasin for use in estimating sustainable yield and analyzing the effects of projects and management actions on future groundwater levels and land subsidence (see **Attachment 3** of the **Coordination Agreement**, **Appendix A**);
- Analysis of potential future groundwater levels, land subsidence, and groundwater quality throughout the subbasin for use in assessing significant and unreasonable groundwater conditions and identifying sustainable management criteria (see **Attachments 4** and **5** of the **Coordination Agreement**, **Appendix A**).

Based on analysis of the hydrogeological conceptual model, four sustainability indicators were identified with potential to cause significant and unreasonable effects within the Tule Subbasin. These indicators are:

- Chronic lowering of groundwater levels indicating a depletion of supply if continued over the planning and implementation horizon;
- Reduction of groundwater storage;
- Degraded water quality, including the migration of contaminant plumes that impair groundwater supplies; and

- Land subsidence that substantially impacts critical infrastructure.

Two groundwater conditions, the depletion of interconnected surface waters and seawater intrusion, do not apply as sustainability indicators within the Tule Subbasin (pursuant to the **Tule Subbasins Setting, Coordination Agreement, Attachment 2)** and, therefore, cannot create adverse conditions that are significant and unreasonable and will be evaluated every five years during the five-year review process to confirm no change of the Tule Subbasin conditions.

Based on groundwater level and land subsidence projections from the Tule Subbasin groundwater flow model and analysis of potential impacts of the additional groundwater level decline and land subsidence projected for the transition period from 2020 to 2040 (see **Attachments 4** and **5** of the **Coordination Agreement**, **Appendix A**), each GSA developed Sustainable Management Criteria for each of the sustainability indicators to avoid undesirable results in consideration of the beneficial uses of groundwater and the beneficial users of these supplies and facilities:

- Municipal and Domestic Supply
- Agricultural Supply
- Industrial Supply
- Critical Infrastructure, including the Friant-Kern Canal (FKC)

The Sustainable Management Criteria identified to avoid undesirable results were vetted through a public process that included multiple stakeholder workshops, meetings, and document review. While the sustainable management criteria are protective of undesirable results for most beneficial uses and users, during the transition period between 2020 and 2040, if impacts occur, a mitigation program has been developed to address these impacts. The Tule Mitigation Plan can be found as **Attachment 7** of the Tule Subbasin Coordination Agreement (See **Appendix A**).

The definition and description of the undesirable result for each sustainability indicator is described commonly between the GSAs in the Tule Subbasin, included in the **Coordination Agreement (Appendix A)**. Separate from the Coordination Agreement, the ETGSA has defined more stringent criteria for defining undesirable results related to land subsidence in **Section 5.8.1 - Undesirable Results.**

ETGSA GSA has developed the numerical minimum thresholds, interim milestones, and measurable objectives for each of the four sustainability indicators applicable to the Tule Subbasin.

Each sustainability indicator is evaluated at the various RMS within the ETGSA GSA, defined in the Tule Subbasin Monitoring Plan, to establish the numerical minimum threshold, interim milestones and measurable to achieve sustainability within 20 years. The locations of the various RMS for each Sustainability Indicator are identified in **Figure 5-1: ETGSA GSA RMS Locations.**

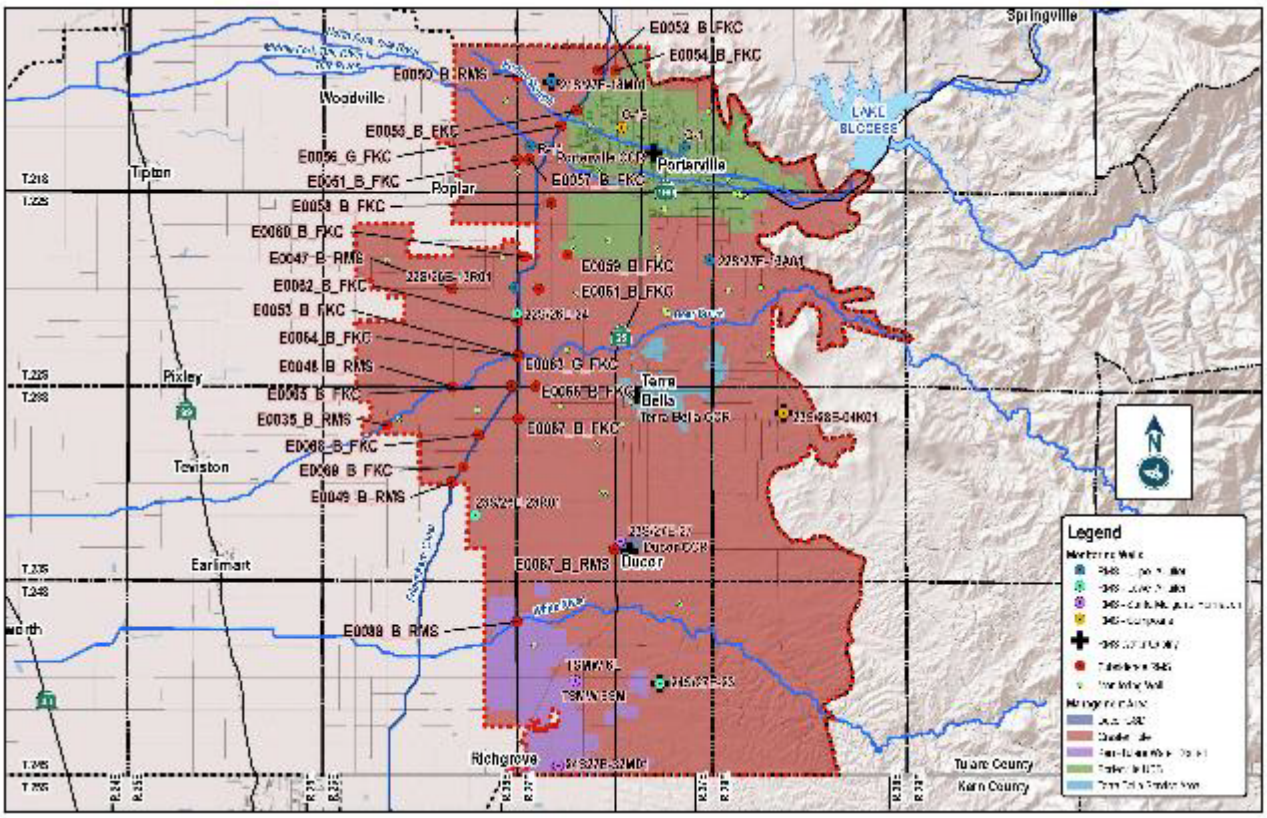

Figure 5-1: ETGSA GSA RMS Locations

In addition, for each Sustainability Indicator in the GSA, the metrics for quantifying the measurable objective and minimum threshold are established, as identified in **Table 5-1: Metrics for Quantifying Sustainability Indicators.**

Table 5-1: Metrics for Quantifying Sustainability Indicators

Sustainability Indicator	Metric for Quantifying
Chronic Lowing of Groundwater Levels	Depth to Groundwater
Reduction in Groundwater Storage	Depth to Groundwater
Seawater Intrusion	*Not Applicable to Tule Subbasin*
Degraded Water Quality	Measured Groundwater Quality
Land Subsidence	Measured Land Subsidence
Depletion of Interconnected Surface Waters	*Not Applicable to Tule Subbasin*

5.5 Groundwater Levels *[§ 354.26(a); § 354.28(b)(1); § 354.30(a)]*

23 Cal. Code Regs. § 354.26 Undesirable Results. (a) *Each Agency shall describe in its Plan the processes and criteria relied upon to define undesirable results applicable to the basin. Undesirable results occur when significant and unreasonable effects for any of the sustainability indicators are caused by groundwater conditions occurring throughout the basin.*

23 Cal. Code Regs. § 354.28 Minimum Thresholds. (b) *The description of minimum thresholds shall include the following:*

(1) *The information and criteria relied upon to establish and justify the minimum thresholds for each sustainability indicator. The justification for the minimum threshold shall be supported by information provided in the basin setting, and other data or models as appropriate, and qualified by the uncertainty in the understanding of the basin setting.*

23 Cal. Code Regs. § 354.30 Measurable Objectives. (a) *Each Agency shall establish measurable objectives, including interim milestones in increments of five years, to achieve the sustainability goal for the basin within 20 years of Plan implementation and to continue to sustainably manage the groundwater basin over the planning and implementation horizon.*

The sustainable management criteria for each RMS associated with the Chronic Lowering of Groundwater Levels Sustainability Indicator have been quantified using the following available data and is further described in **Section 4.3.1** of the **Coordination Agreement (Appendix A)**.

- Historical groundwater elevation data from wells monitored by ETGSA GSA member agencies, monitored by other local monitoring entities, or otherwise available through CASGEM;
- Projects and Management Actions as proposed by the ETGSA GSA and other Tule Subbasin GSAs incorporated into the Groundwater Flow Model.
- Historical and future projections scenarios of groundwater elevation specific to each RMS well based on output from the Tule Subbasin Groundwater Flow Model; and
- Other relevant information discussed in the **Tule Subbasin Setting** (**Coordination Agreement, Attachment 2**).

5.5.1 Undesirable Results

5.5.1.1 Causes of Groundwater Conditions That Could Lead to Undesirable Results *[§ 354.26(b)]*

23 Cal. Code Regs. § 354.26 Undesirable Results. (b) *The description of undesirable results shall include the following:*

(1) *The cause of groundwater conditions occurring throughout the basin that would lead to or has led to undesirable results based on information described in the basin setting, and other data or models as appropriate.*

This requirement is satisfied by the description provided in **Section 4.3.1.1** of the **Coordination Agreement (Appendix A)**.

5.5.1.2 Criteria to Define Undesirable Results *[§ 354.26(b)(2)]*

> **23 Cal. Code Regs. § 354.26 Undesirable Results. (b)(2)** *The criteria used to define when and where the effects of the groundwater conditions cause undesirable results for each applicable sustainability indicator. The criteria shall be based on a quantitative description of the combination of minimum threshold exceedances that cause significant and unreasonable effects in the basin.*

This requirement is satisfied by the description provided in **Section 4.3.1.2** of the **Coordination Agreement (Appendix A)**.

The quantitative definition of undesirable results for chronic lowering of groundwater levels indicating continued overdraft conditions is the lowering of the groundwater elevation below the minimum threshold at an RMS in the GSA for the area and beneficial uses and users associated with that RMS. This condition would indicate that more aggressive management actions were needed by the GSA to mitigate the overdraft.

5.5.1.3 Potential Effects on Beneficial Uses and Users *[§ 354.26(b)(3)]*

> **23 Cal. Code Regs. § 354.26 Undesirable Results. (b)(3)** *Potential effects on the beneficial uses and users of groundwater, on land uses and property interests, and other potential effects that may occur or are occurring from undesirable results.*

This requirement is satisfied by the description provided in **Section 4.3.1.3** of the **Coordination Agreement (Appendix A)**, which includes an analysis of potential impacts to beneficial uses and users based at established minimum thresholds (see **Attachment 4** of the **Coordination Agreement**, **Appendix A**) and reference to the Tule Subbasin Mitigation Framework for addressing impacts they may occur prior to reaching minimum thresholds (see **Attachment 7** of the **Coordination Agreement**, **Appendix A**). Further detail on the ETGSAs approach to a mitigation program for addressing impacts are discussed in (Insert P&MA Section # for describing the Mitigation Plan).

5.5.1.4 Evaluation of Multiple Minimum Thresholds *[§ 354.26(c)]*

> **23 Cal. Code Regs. § 354.26 Undesirable Results. (c)** *The Agency may need to evaluate multiple minimum thresholds to determine whether an undesirable result is occurring in the basin. The determination that undesirable results are occurring may depend upon measurements from multiple monitoring sites, rather than a single monitoring site.*

This requirement is satisfied by the description provided in **Section 4.3.1** of the **Coordination Agreement (Appendix A)**.

5.5.1.5 Evaluation of Representative Minimum Thresholds *[§ 354.26(d)]*

> **23 Cal. Code Regs. § 354.26 Undesirable Results. (d)** *An Agency that is able to demonstrate that undesirable results related to one or more sustainability indicators are not present and are not likely to occur in a basin shall not be required to establish criteria for undesirable results related to those sustainability indicators.*
>
> **23 Cal. Code Regs. § 354.28 Minimum Thresholds. (a)** *Each Agency in its Plan shall establish minimum thresholds that quantify groundwater conditions for each applicable sustainability indicator at each monitoring site or representative monitoring site established pursuant to Section 354.36. The numeric value used to define minimum thresholds shall represent a point in the basin that, if exceeded, may cause undesirable results as described in Section 354.26.*
>
> **(d)** *An Agency may establish a representative minimum threshold for groundwater elevation to serve as the value for multiple sustainability indicators, where the Agency can demonstrate that the representative value is a reasonable proxy for multiple individual minimum thresholds as supported by adequate evidence.*

Groundwater elevations will be used as the quantifiable value for the Chronic Lowering of Groundwater levels. Groundwater elevations will be used as a proxy for determining groundwater levels and calculating groundwater storage.

In **Sections 5.5.2.1.1 Process for Determining Measurable Objectives & Interim Milestones** and **5.5.3.1 Criteria to Define Minimum Thresholds** the process and criteria for setting measurable objectives, interim milestones, and minimum threshold for groundwater levels are described.

5.5.2 Measurable Objectives and Interim Milestones *[§ 354.30]*

5.5.2.1 Description of Measurable Objectives *[§ 354.30(a), (b)]*

5.5.2.1.1 Process for Determining Measurable Objectives & Interim Milestones *[§ 354.30(b), (e)]*

> **23 Cal. Code Regs. § 354.30 Measurable Objectives. (b)** *Measurable objectives shall be established for each sustainability indicator, based on quantitative values using the same metrics and monitoring sites as are used to define the minimum thresholds.*
>
> **(e)** *Each Plan shall describe a reasonable path to achieve the sustainability goal for the basin with 20 years of Plan implementation, including a description of interim milestones for each relevant sustainability indicator, using the same metric as the measurable objective, in increments of five years. The description shall explain how the Plan is likely to maintain sustainable groundwater management over the planning and implementation horizon.*

The following four (4) steps detail the process for setting interim milestones and the measurable objective at each RMS well.

Step 1: Locate the RMS defined in the Tule Subbasin Monitoring Plan, identify which portion of the aquifer it represents, and prepare a hydrograph using available historical groundwater elevation data.

Step 2: Incorporate into the RMS Well Hydrograph groundwater elevation data from the Groundwater Flow Model that includes historical and projected groundwater elevation data.

Step 3: Adjust the GFM projected groundwater elevations at the RMS well to the most recent physically measured groundwater elevation. Each RMS site will further be adjusted to the

groundwater elevation measured during February 2020 to establish the starting baseline conditions.

Step 4: Utilize the adjusted GFM projected groundwater elevations for the period 2020 to 2040 to quantify numerically the interim milestones and the measurable objective value in 2040.

5.5.2.1.2 Quantifiable Measurable Objectives & Interim Milestones

23 Cal. Code Regs. § 354.30 Measurable Objectives. (b) *Measurable objectives shall be established for each sustainability indicator, based on quantitative values using the same metrics and monitoring sites as are used to define the minimum thresholds.*

Using the process described, a hydrograph was established at each RMS well location (**Appendix 3-A: RMS Hydrographs**), and from the hydrograph, the quantifiable interim milestones and measurable objectives were established, summarized in **Table 5-2: Chronic Lowering of Groundwater Levels Interim Milestones and Measurable Objective by RMS Well.**

Table 5-2: Chronic Lowering of Groundwater Levels Interim Milestones and Measurable Objective by RMS Well

RMS ID	Management Area	Aquifer	Interim Milestone[1]			Measurable Objective[1]
			GWE (ft amsl)			*GWE (ft amsl)*
			2025	2030	2035	2040
21S/27E-18M01	Greater Tule	Upper	NA	NA	NA	NA
22S/27E-13A01	Greater Tule	Upper	320	323	328	331
R-11	City of Porterville	Upper	362	371	374	376
C-1	City of Porterville	Upper	366	369	374	377
C-16	City of Porterville	Composite	144	129	119	111
23S/27E-27	Community of Ducor	Santa Margarita	81	94	103	112
23S/26E-23R01	Greater Tule	Lower	0	-6	-5	-2
22S/26E-24	Greater Tule	Lower	30	24	24	26
TSMW 6L	KTWD	Lower	NA	NA	NA	NA
TSML 6SM	KTWD	Santa Margarita	NA	NA	NA	NA
24S/27E-32M01	KTWD	Santa Margarita	NA	NA	NA	NA

5.5.2.2 Operational Flexibility *[§ 354.30(c)]*

23 Cal. Code Regs. § 354.30 Measurable Objectives (c) *Measurable objectives shall provide a reasonable margin of operational flexibility under adverse conditions which shall take into consideration components such as historical water budgets, seasonal and long-term trends, and periods of drought, and be commensurate with levels of uncertainty.*

[1] Numeric Values to be updated based on initial 2020 monitoring results. Current values are most current values available.

By using the process described in **5.5.3.1 Criteria to Define Minimum Thresholds** , minimum thresholds are set at levels based ceasing overdraft in the basin through the implementation of projects and management actions through 2040 and beyond. Overdraft in the subbasin was defined based on averaged hydrology from the years 1990/91 through 2009/10 (see **Chapter 2.3.2.4** of the **Tule Subbasin Setting**). Utilizing the information just described, minimum thresholds for groundwater levels were set based on the GFM projected elevations at RMS, with consideration to the groundwater levels response to a historical 10-year drought (2007-2016) providing for a reasonable margin of operational flexibility.

5.5.2.3 Representative Monitoring *[354.30(d)]*

23 Cal. Code Regs. § 354.30 Measurable Objectives (d) *An Agency may establish a representative measurable objective for groundwater elevation to serve as the value for multiple sustainability indicators where the Agency can demonstrate that the representative value is a reasonable proxy for multiple individual measurable objectives as supported by adequate evidence.*

Measurable objectives, interim milestones and minimum thresholds for groundwater elevations will be used as a proxy for calculating change in groundwater storage sustainable management criteria per the description provided in **5.6.2.1.1 Process for Determining Measurable Objectives & Interim Milestones** and **5.6.3.1.1 Process for Determining Minimum Thresholds.** Although groundwater levels will not be used as a proxy for determining sustainable management criteria for groundwater quality and land subsidence, the relationship between the sustainability indicators will be evaluate through data collected in each indicator's respective monitoring network.

5.5.2.4 Path to Achieve Measurable Objectives *[§ 354.30(e)]*

23 Cal. Code Regs. § 354.30 Measurable Objective. (e) *Each Plan shall describe a reasonable path to achieve the sustainability goal for the basin with 20 years of Plan implementation, including a description of interim milestones for each relevant sustainability indicator, using the same metric as the measurable objective, in increments of five years. The description shall explain how the Plan is likely to maintain sustainable groundwater management over the planning and implementation horizon.*

Section 5.5.2.1.2 Quantifiable Measurable Objectives & Interim Milestones provides the numeric value for interim milestones and measurable objectives, which will be evaluated annually through the monitoring network discussed in **Section 6** – **Monitoring Network** of this Plan. If measured groundwater levels within the GSA are not aligning with the interim milestones established, management actions as discussed in **Section 7** of this Plan, will be implemented or modified so that conditions within the GSA meet the sustainability goal in 2040.

5.5.3 Minimum Thresholds

5.5.3.1 Criteria to Define Minimum Thresholds *[§ 354.28(b), (c)]*

> **23 Cal. Code Regs. § 354.28 Minimum Thresholds. (b)** *The description of minimum thresholds shall include the following:*
>
> **(1)** *The information and criteria relied upon to establish and justify the minimum thresholds for each sustainability indicator. The justification for the minimum threshold shall be supported by information provided in the basin setting, and other data or models as appropriate, and qualified by the uncertainty in the understanding of the basin setting.*
>
> **(c)** *Minimum thresholds for each sustainability indicator shall be defined as follows:*
>
> **(1)** *Chronic Lowering of Groundwater Levels. The minimum threshold for chronic lowering of groundwater levels shall be the groundwater elevation indicating a depletion of supply at a given location that may lead to undesirable results. Minimum thresholds for chronic lowering of groundwater levels shall be supported by the following:*
>
> **(A)** *The rate of groundwater elevation decline based on historical trend, water year type, and projected water use in the basin.*

The minimum threshold for each RMS associated with the Chronic Lowering of Groundwater Levels Sustainability Indicator have been quantified using the same data set described in **Section 5.5.1.1** of this Plan.

The following four (4) steps detail the process for setting the minimum threshold at each RMS well.

Step 1: Utilize the Hydrograph created for each RMS well based on process for establishing the interim milestones and measurable objective which assumes average hydrology.

Step 2: Calculate the change in groundwater elevation during the most recent 10-year drought period (2007-2016) from historical groundwater data at the RMS well.

Step 3: Deduct the calculated change in groundwater elevation during drought conditions from the lowest projected interim milestone during the initial 10-year plan implementation period (2020 - 2030).

Step 4: Establish the minimum threshold for groundwater elevation for the entire plan implementation period as a single value below the interim milestones and measurable objective. The difference between the interim milestones and measurable objective is the operational flexibility established at each RMS well.

Based on the best available data collected to date and groundwater model analysis (see Section 4.3.1.2, Tule Subbasin Setting), the Agency established groundwater level minimum thresholds designed to reasonably protect access to groundwater for the majority of beneficial users. For those uses such as shallow domestic well owners where impacts to groundwater access may occur, the Tule Subbasin GSAs have adopted Framework for a Mitigation Program (see Attachment 7, Tule Subbasin Setting).

5.5.3.1.1 Quantification of Minimum Thresholds *[§354.28(a)]*

23 Cal. Code Regs. § 354.28 Minimum Thresholds. (a) *Each Agency in its Plan shall establish minimum thresholds that quantify groundwater conditions for each applicable sustainability indicator at each monitoring site or representative monitoring site established pursuant to Section 354.36. The numeric value used to define minimum thresholds shall represent a point in the basin that, if exceeded, may cause undesirable results as described in Section 354.26.*

Using the process described, a minimum threshold determined at RMS is represented on the respective RMS well hydrograph (**Appendix 5-1: RMS Groundwater Elevation Hydrographs**). The quantifiable minimum threshold was determined as summarized in **Table 5-3: Chronic Lowering of Groundwater Levels Minimum Threshold by RMS Well**

Table 5-3: Chronic Lowering of Groundwater Levels Minimum Threshold by RMS Well

RMS ID	Management Area	Aquifer	Minimum Threshold[2]
			GWE (ft amsl)
21S/27E-18M01	Greater Tule	Upper	NA
22S/27E-13A01	Greater Tule	Upper	259
R-11	City of Porterville	Upper	264
C-1	City of Porterville	Upper	317
C-16	City of Porterville	Composite	2
23S/27E-27	Community of Ducor	Lower	-87
23S/26E-23R01	Greater Tule	Lower	-66
22S/26E-24	Greater Tule	Lower	-47
TSMW 6L	KTWD	Lower	NA
TSMW 6SM	KTWD	Santa Margarita	NA
24S/27E-32M01	KTWD	Santa Margarita	NA

5.5.3.2 Relationships Between Minimum Thresholds and Sustainability Indicators *[§ 354.28(b)(2), (c)]*

23 Cal. Code Regs. § 354.28 Minimum Thresholds. (b) *The description of minimum thresholds shall include the following:*

(2) *The relationship between the minimum thresholds for each sustainability indicator, including an explanation of how the Agency has determined that basin conditions at each minimum threshold will avoid undesirable results for each of the sustainability indicators.*

(c) *Minimum thresholds for each sustainability indicator shall be defined as follows:*

(1)*....Minimum thresholds for chronic lowering of groundwater levels shall be supported by the following:*

(B) *Potential effects on other sustainability indicators.*

This requirement is satisfied by the description provided in **Section 4.4.1.2** of the **Coordination Agreement (Appendix A)**.

[2] Numeric Values to be updated based on initial 2020 monitoring results. Current values are most current values available.

Additionally**, Section 5.5.1.5 Evaluation of Representative Minimum Thresholds** *[§ 354.26(d)]***,** discusses the relationship between groundwater levels to other sustainability indicators, including groundwater storage, water quality, and land subsidence.

See **Section 5.5.2.3 Representative Monitoring** *[354.30(d)]*for a description of potential effects thresholds set for groundwater levels will have on other sustainability indicators if exceeded.

5.5.3.3 Minimum Thresholds in Relation to Adjacent Basins *[§ 354.28(b)(3)]*

23 Cal. Code Regs. § 354.28 Minimum Thresholds. (b) *The description of minimum thresholds shall include the following:*

(3) *How minimum thresholds have been selected to avoid causing undesirable results in adjacent basins or affecting the ability of adjacent basins to achieve sustainability goals.*

Per criteria described for define minimum thresholds for groundwater levels in **Section 5.5.1.2 Criteria to Define Minimum Thresholds ,** the GFM projects groundwater elevations based the Tule Subbasin reaching sustainability by 2040, with built in operational flexibility of a 10-year drought occurring during the 20-year implementation horizon of this plan. Adjacent basins have been tasked with the same objective to reach sustainability 2040, therefore, based on the criteria previously described, if minimum thresholds were experienced at groundwater level RMS, adjacent basins would experience similar groundwater conditions not as a direct result of minimum thresholds set by the Agency.

5.5.3.4 Impact of Minimum Thresholds on Beneficial Uses and Users *[§ 354.28(b)(4)]*

23 Cal. Code Regs. § 354.28 Minimum Thresholds. (b) *The description of minimum thresholds shall include the following:*

(4) *How minimum thresholds may affect the interests of beneficial uses and users of groundwater or land uses and property interests.*

If minimum thresholds were to be experienced for Chronic Lowering of Groundwater Levels Sustainability indicator, the beneficial uses and users of may experience increased pumping and loss of production wells further limiting availability of groundwater extractions till levels realign with the path towards reaching the GSA defined measurable objective in 2040.

Per discussion provided in **Section 5.5.1.2 Criteria to Define Undesirable Results** relating to the criteria to define undesirable results for groundwater levels, an analysis of well failures would also inform decisions to re-evaluate established minimum thresholds at RMSs.

5.5.3.5 Current Standards Relevant to Sustainability Indicator *[§ 354.28(b)(5)]*

23 Cal. Code Regs. § 354.28 Minimum Thresholds. (b) *The description of minimum thresholds shall include the following:*

(5) *How state, federal, or local standards relate to the relevant sustainability indicator. If the minimum threshold differs from other regulatory standards, the Agency shall explain the nature of and basis for the difference.*

No federal, state or local standards currently exist for the chronic lowering of groundwater levels.

5.5.3.6 Measurement of Minimum Thresholds *[§ 354.28(b)(6)]*

> ***23 Cal. Code Regs. § 354.28 Minimum Thresholds. (b)*** *The description of minimum thresholds shall include the following:*
>
> ***(6)*** *How each minimum threshold will be quantitatively measured, consistent with the monitoring network requirements described in Subarticle 4.*

Groundwater elevations will be directly measured at RMS wells using the technical reporting standards and procedures described in the **Tule Subbasin Monitoring Plan** as **Attachment 1** of the **Coordination Agreement (Appendix A)**.

5.6 Groundwater Storage

5.6.1 Undesirable Results

5.6.1.1 Causes of Groundwater Conditions That Could Lead to Undesirable Results *[§ 354.26(b)(1)]*

> 23 Cal. Code Regs. § 354.26 Undesirable Results***. (b)*** *The description of undesirable results shall include the following:*
>
> ***(1)*** *The cause of groundwater conditions occurring throughout the basin that would lead to or has led to undesirable results based on information described in the basin setting, and other data or models as appropriate.*

This requirement is satisfied by the description provided in **Section 4.3.2.1** of the **Coordination Agreement (Appendix A)**.

5.6.1.2 Criteria to Define Undesirable Results *[§ 354.26(b)(2)]*

> ***23 Cal. Code Regs. § 354.26 Undesirable Results. (b)(2)*** *The criteria used to define when and where the effects of the groundwater conditions cause undesirable results for each applicable sustainability indicator. The criteria shall be based on a quantitative description of the combination of minimum threshold exceedances that cause significant and unreasonable effects in the basin.*

This requirement is satisfied by the description provided in **Section 4.3.2.2** of the **Coordination Agreement (Appendix A)**.

5.6.1.3 Potential Effects on Beneficial Uses and Users *[§ 354.26(b)(3)]*

> ***23 Cal. Code Regs. § 354.26 Undesirable Results. (b)(3)*** *Potential effects on the beneficial uses and users of groundwater, on land uses and property interests, and other potential effects that may occur or are occurring from undesirable results.*

This requirement is satisfied by the description provided in **Section 4.3.2.3** of the **Coordination Agreement (Appendix A)**.

5.6.1.4 Evaluation of Multiple Minimum Thresholds *[§ 354.26(c); 354.28(a), (d)]*

> **23 Cal. Code Regs. § 354.26 Undesirable Results. (c)** *The Agency may need to evaluate multiple minimum thresholds to determine whether an undesirable result is occurring in the basin. The determination that undesirable results are occurring may depend upon measurements from multiple monitoring sites, rather than a single monitoring site.*
>
> **23 Cal. Code Regs. § 354.28 Minimum Thresholds. (a)** *Each Agency in its Plan shall establish minimum thresholds that quantify groundwater conditions for each applicable sustainability indicator at each monitoring site or representative monitoring site established pursuant to Section 354.36. The numeric value used to define minimum thresholds shall represent a point in the basin that, if exceeded, may cause undesirable results as described in Section 354.26.*
>
> **(d)** *An Agency may establish a representative minimum threshold for groundwater elevation to serve as the value for multiple sustainability indicators, where the Agency can demonstrate that the representative value is a reasonable proxy for multiple individual minimum thresholds as supported by adequate evidence.*

Groundwater elevations are used as a proxy for calculating therefore when minimum thresholds are exceeded at RMS wells for Chronic Lowering of Groundwater Levels Sustainability Indicator, minimum thresholds for Reduction in Groundwater Storage will also occur. As previously stated in **Section 5.5.1.4 Evaluation of Multiple Minimum Thresholds,** the relationship of Reduction in Groundwater Storage is not in direct relation to Land Subsidence and Degraded Water Quality Sustainability Indicators, but the relationships will be evaluate through monitoring.

5.6.2 Measurable Objectives and Interim Milestones *[§ 354.30]*

5.6.2.1 Description of Measurable Objectives *[§ 354.30(a), (b)]*

> **23 Cal. Code Regs. § 354.30 Measurable Objectives. (a)** *Each Agency shall establish measurable objectives, including interim milestones in increments of five years, to achieve the sustainability goal for the basin within 20 years of Plan implementation and to continue to sustainably manage the groundwater basin over the planning and implementation horizon.*
>
> **(b)** *Measurable objectives shall be established for each sustainability indicator, based on quantitative values using the same metrics and monitoring sites as are used to define the minimum thresholds.*

The interim milestones and measurable objective for the Reduction of Groundwater Storage Sustainability Indicator have been quantified using the following available data:

- Utilize same RMS wells as identified for the Chronic Lowering of Groundwater Levels, along with the interim milestones and measure objective values as a proxy data point to calculate groundwater storage; and
- Other relevant information discussed in the **Tule Subbasin Setting** (**Coordination Agreement, Attachment 2**) **(Appendix A)**.

5.6.2.1.1 Process for Determining Measurable Objectives & Interim Milestones

The process to determine the total numerical volume of groundwater storage for the ETGSA is calculated using the Groundwater Flow Model which incorporates the numerical interim milestones and measurable objective groundwater elevation values established at each RMS well. From this groundwater elevation

data, along with applying the soil characteristics described in the **Tule Subbasin Setting** (**Coordination Agreement, Attachment 2**) **(Appendix A)**, the groundwater storage is calculated.

5.6.2.1.2 Quantified Measurable Objectives & Interim Milestones

The interim milestones and measurable objective for groundwater storage for the ETGSA summarized in **Table 5-4: Reduction of Groundwater Storage Interim Milestones & Measurable Objectives.**

Table 5-4: Reduction of Groundwater Storage Interim Milestones & Measurable Objectives

Interim Milestone[3]			Measurable Objective[3]
Groundwater Volume (million ac-ft)			*Groundwater Volume (million ac-ft)*
2025	**2030**	**2035**	**2040**
53.02	52.78	52.73	52.90

Several of the ETGSA member agencies have a separate water accounting system to track the amount of groundwater that has been banked by the Irrigation Districts and/or individual landowners, which will be internally calculated from the gross groundwater storage volume for the ETGSA. Surface or imported water banked by irrigation districts or landowners is not to be considered groundwater storage that is available to or be a part of other agencies or the subbasin as a whole quantification of sustainability and remains in ownership with the banker.

5.6.2.2 Operational Flexibility *[§ 354.30(c)]*

23 Cal. Code Regs. § 354.30 Measurable Objectives. (c) *Measurable objectives shall provide a reasonable margin of operational flexibility under adverse conditions which shall take into consideration components such as historical water budgets, seasonal and long-term trends, and periods of drought, and be commensurate with levels of uncertainty.*

See **Section 5.5.2.2 Operational Flexibility** for a description of operation flexibility.

5.6.2.3 Representative Monitoring *[§ 354.30(d)]*

23 Cal. Code Regs. § 354.30 Measurable Objectives. (d) *An Agency may establish a representative measurable objective for groundwater elevation to serve as the value for multiple sustainability indicators where the Agency can demonstrate that the representative value is a reasonable proxy for multiple individual measurable objectives as supported by adequate evidence.*

See **Section 5.5.2.3 Representative Monitoring** for a description of representative measurable objective for groundwater elevations to serve as a proxy for Reduction in Groundwater Storage.

[3] Numeric Values to be updated based on initial 2020 monitoring results. Current values are most current values available.

5.6.2.4 Path to Achieve Measurable Objectives *[§ 354.30(e)]*

23 Cal. Code Regs. § 354.30 Measurable Objectives. (e) *Each Plan shall describe a reasonable path to achieve the sustainability goal for the basin with 20 years of Plan implementation, including a description of interim milestones for each relevant sustainability indicator, using the same metric as the measurable objective, in increments of five years. The description shall explain how the Plan is likely to maintain sustainable groundwater management over the planning and implementation horizon.*

Section 5.6.2.1.2 Quantified Measurable Objectives & Interim Milestones provides the numeric value for interim milestones and measurable objectives, which will be evaluated annually through the monitoring network discussed in **Section 6** – **Monitoring Network** of this Plan. If measured groundwater storage within the GSA is not aligning with the interim milestones established, management actions as discussed in **Section 7** of this Plan, will be implemented or modified so that conditions within the GSA meet the sustainability goal in 2040.

5.6.3 Minimum Thresholds *[§ 354.28]*

5.6.3.1 Criteria to Define Minimum Thresholds *[§ 354.28(b)(1), (c)(2)]*

23 Cal. Code Regs. § 354.28 Minimum Thresholds. (b) *The description of minimum thresholds shall include the following:*

(1) *The information and criteria relied upon to establish and justify the minimum thresholds for each sustainability indicator. The justification for the minimum threshold shall be supported by information provided in the basin setting, and other data or models as appropriate, and qualified by the uncertainty in the understanding of the basin setting.*

(c) *Minimum thresholds for each sustainability indicator shall be defined as follows:*

(2) *Reduction of Groundwater Storage. The minimum threshold for reduction of groundwater storage shall be a total volume of groundwater that can be withdrawn from the basin without causing conditions that my lead to undesirable results. Minimum thresholds for reduction of groundwater storage shall be supported by the sustainable yield of the basin, calculated based on historical trends, water year type, and projected water use in the basin.*

The minimum threshold for each RMS associated with the Reduction of Groundwater Storage Sustainability Indicator have been quantified using the same data set described in **Section 5.5.1.2** of this Plan and is discussed in **Section 4.4.2.1** in the **Coordination Agreement** (**Appendix A**)..

5.6.3.1.1 Process for Determining Minimum Thresholds

The process to determine the minimum threshold volume of groundwater storage for the ETGSA is calculated using the Groundwater Flow Model which incorporates the minimum threshold groundwater elevation values established at each RMS well.

5.6.3.1.2 Quantified Minimum Thresholds

The minimum threshold for groundwater storage within each management area is summarized in **Table 5-5: Reduction of Groundwater Storage Minimum Thresholds**.

Table 5-5: Reduction of Groundwater Storage Minimum Thresholds

Minimum Threshold[4]
GW Storage Volume (million ac-ft)
50.6

Several of the ETGSA member agencies have a separate water accounting system to track the amount of groundwater that has been banked by the Irrigation Districts and/or individual landowners, which will be internally calculated from the gross groundwater storage volume for the ETGSA. Surface or imported water banked by irrigation districts or landowners is not to be considered groundwater storage that is available to or be a part of other agencies or the subbasin as a whole quantification of sustainability and remains in ownership with the banker.

5.6.3.2 Relationships Between Minimum Thresholds and Sustainability Indicators *[§ 354.28(b)(2)]*

23 Cal. Code Regs. § 354.28 Minimum Thresholds. (b) *The description of minimum thresholds shall include the following:*

(2) *The relationship between the minimum thresholds for each sustainability indicator, including an explanation of how the Agency has determined that basin conditions at each minimum threshold will avoid undesirable results for each of the sustainability indicators.*

Groundwater elevations at RMS are used as a proxy for calculating groundwater storage, therefor, the criteria for defining an undesirable result for groundwater storage is directly related to undesirable results for groundwater levels. Groundwater quality and land subsidence have an indirect relationship with groundwater storage, therefore the indicators minimum thresholds are established independently of each other but will be evaluated through monitoring to develop a better understanding of the relationship in localized areas where the indicator minimum thresholds potentially could lead to another indicator experiencing an undesirable result.

5.6.3.3 Minimum Thresholds in Relation to Adjacent Basins *[§ 354.28(b)(3)]*

23 Cal. Code Regs. § 354.28 Minimum Thresholds. (b) *The description of minimum thresholds shall include the following:*

(3) *How minimum thresholds have been selected to avoid causing undesirable results in adjacent basins or affecting the ability of adjacent basins to achieve sustainability goals.*

Per criteria described for define minimum thresholds for groundwater levels in **5.6.1.2 Criteria to Define Undesirable Results,** the GFM projects groundwater elevations based the Tule Subbasin reaching sustainability by 2040, with built in operational flexibility of a 10-year drought occurring during the 20-year implementation horizon of this plan. Adjacent basins have been tasked with the same objective to reach sustainability 2040, therefore, based on the criteria previously described, if minimum thresholds

[4] Numeric Values to be updated based on initial 2020 monitoring results. Current values are most current values available.

were experienced at groundwater level RMS, adjacent basins would experience similar groundwater conditions not as a direct result of minimum thresholds set by the Agency.

5.6.3.4 Impact of Minimum Thresholds on Beneficial Uses and Users *[§ 354.28(b)(4)]*

> **23 Cal. Code Regs. § 354.28 Minimum Thresholds. (b)** *The description of minimum thresholds shall include the following:*
>
> **(4)** *How minimum thresholds may affect the interests of beneficial uses and users of groundwater or land uses and property interests.*

This requirement is satisfied by the description provided in **Section 4.3.2.4 of** the **Coordination Agreement (Appendix A)**.

5.6.3.5 Current Standards Relevant to Sustainability Indicator *[§ 354.28(b)(5)]*

> **23 Cal. Code Regs. § 354.28 Minimum Thresholds. (b)** *The description of minimum thresholds shall include the following:*
>
> **(5)** *How state, federal, or local standards relate to the relevant sustainability indicator. If the minimum threshold differs from other regulatory standards, the Agency shall explain the nature of and basis for the difference.*

No federal, state or local standards currently exist for the chronic lowering of groundwater levels.

5.6.3.6 Measurement of Minimum Thresholds *[§ 354.28(b)(6)]*

> **23 Cal. Code Regs. § 354.28 Minimum Thresholds. (b)** *The description of minimum thresholds shall include the following:*
>
> **(6)** *How each minimum threshold will be quantitatively measured, consistent with the monitoring network requirements described in Subarticle 4.*

This requirement is satisfied by the description provided in **Section 4.3.2.6** of the **Coordination Agreement (Appendix A)**.

5.7 Degraded Water Quality

5.7.1 Undesirable Results *[§ 354.26]*

5.7.1.1 Causes of Groundwater Conditions That Could Lead to Undesirable Results *[§ 354.26(b)(1)]*

> **23 Cal. Code Regs. § 354.26 Undesirable Results. (b)** *The description of undesirable results shall include the following:*
>
> **(1)** *The cause of groundwater conditions occurring throughout the basin that would lead to or has led to undesirable results based on information described in the basin setting, and other data or models as appropriate.*

This requirement is satisfied by the description provided in **Section 4.3.3.1** of the **Coordination Agreement (Appendix A)**

5.7.1.2 Criteria to Define Undesirable Results *[§ 354.26(b)(2)]*

> **23 Cal. Code Regs. § 354.26 Undesirable Results. (b)(2)** *The criteria used to define when and where the effects of the groundwater conditions cause undesirable results for each applicable sustainability indicator. The criteria shall be based on a quantitative description of the combination of minimum threshold exceedances that cause significant and unreasonable effects in the basin.*

This requirement is satisfied by the description provided in **Section 4.3.3.2** of the **Coordination Agreement (Appendix A)**.

5.7.1.3 Potential Effects on Beneficial Uses and Users *[§ 354.26(b)(3)]*

> **23 Cal. Code Regs. § 354.26 Undesirable Results. (b)(3)** *Potential effects on the beneficial uses and users of groundwater, on land uses and property interests, and other potential effects that may occur or are occurring from undesirable results.*

This requirement is satisfied by the description provided in **Section 4.3.3.3** of the **Coordination Agreement (Appendix A)**.

5.7.1.4 Evaluation of Multiple Minimum Thresholds *[§ 354.26(c); 354.28(a), (d)]*

> **23 Cal. Code Regs. § 354.26 Undesirable Results. (c)** *The Agency may need to evaluate multiple minimum thresholds to determine whether an undesirable result is occurring in the basin. The determination that undesirable results are occurring may depend upon measurements from multiple monitoring sites, rather than a single monitoring site.*
>
> **23 Cal. Code Regs. § 354.28 Minimum Thresholds. (a)** *Each Agency in its Plan shall establish minimum thresholds that quantify groundwater conditions for each applicable sustainability indicator at each monitoring site or representative monitoring site established pursuant to Section 354.36. The numeric value used to define minimum thresholds shall represent a point in the basin that, if exceeded, may cause undesirable results as described in Section 354.26.*
>
> **(d)** *An Agency may establish a representative minimum threshold for groundwater elevation to serve as the value for multiple sustainability indicators, where the Agency can demonstrate that the representative value is a reasonable proxy for multiple individual minimum thresholds as supported by adequate evidence.*

Changes in groundwater quality can be affected by significant change in groundwater levels and groundwater storage sustainability indicators where localized contaminated plumes and unsaturated soils zones where COC reside. Although the relationship exists, a lack of historically available data makes it difficult to establish a direct relationship, therefore, groundwater quality sustainability management criteria will be established independent of groundwater levels and groundwater storage sustainability criteria but the relationship between the indicators will be evaluated through monitoring performed as part of this Plan.

5.7.2 Measurable Objectives and Interim Milestones *[§ 354.30]*

5.7.2.1 Description of Measurable Objectives *[§ 354.30(a), (b)]*

23 Cal. Code Regs. § 354.30 Measurable Objectives. (a) *Each Agency shall establish measurable objectives, including interim milestones in increments of five years, to achieve the sustainability goal for the basin within 20 years of Plan implementation and to continue to sustainably manage the groundwater basin over the planning and implementation horizon.*

(b) *Measurable objectives shall be established for each sustainability indicator, based on quantitative values using the same metrics and monitoring sites as are used to define the minimum thresholds.*

The interim milestones and measurable objective for the Groundwater Quality Sustainability Indicator have been quantified using the following available data:

- Utilizing historical groundwater quality data from the existing RMS wells which are monitored under separate groundwater quality regulatory programs, such as those wells monitored under the California Regional Water Quality Control Board Irrigated Lands Regulatory Program and those associated with Public Water Systems; and
- Other relevant information discussed in the **Tule Subbasin Setting** (**Coordination Agreement, Attachment 2**) **(Appendix A)**.

5.7.2.1.1 Process for Determining Measurable Objectives & Interim Milestones

The following three (3) steps detail the process for setting interim milestones and the measurable objective at individual RMS related to Groundwater Quality:

Step 1:

Locate the RMS defined in the Tule Subbasin Monitoring Plan, identify which portion of the aquifer it represents, and the associated Constituents of Concern (COC) to be monitored at the RMS based on groundwater beneficial uses and users of groundwater represented by the RMS well (Agricultural, drinking water) as described below:

Drinking Water: The RMS well is within an urban MA or 1-mile of a public water system**.**

Agricultural: Greater than 50% of the pumping within the representative area is determined to be agricultural and there are no public water systems within a 1-mile radius.

Agricultural or drinking water constituents of concerns will be evaluated based on the established Maximum Contaminate Level (MCL) or Water Quality Objectives (WQO) by the responsible regulatory agency. In the case of drinking water, the following title 22 constituents will be monitored and for agricultural the following Basin Plan Water Quality Objective (WQO) COC as identified in **Table 3-4: Constituents of Concern by Use.**

Table 3-6: Constituents of Concern by Beneficial Uses and Users

Drinking Water	Agricultural
Arsenic	Nitrogen as N
Nitrate as N	*Chloride*
Hexavalent Chromium	Sodium
Dibromochloropropane (DBCP)	Total Dissolved Solids
1,2,3-Trichloropropane (TCP)	Perchlorate
Tetrachloroethene (PCE)	
Chloride	
Total Dissolved Solids	
Perchlorate	

Step 2:

Establish measurable objectives and interim milestones at each groundwater quality RMS well based on 75% of the regulatory limits set as part of the responsible regulatory programs that are applicable to the identified beneficial uses and users of groundwater represented by the RMS well as shown in **Table 3-5: Constituents of Concern by Beneficial Uses and Users**

Table 3-7: Interim Milestones & Measurable Objectives for Groundwater Quality

Constituent	Units	Interim Milestone & Measurable Objective	
		75% Drinking Water Limits (MCL/SMCL)	75% Agricultural Water Quality Objective (WQOs)
Arsenic	ppb	7.5	N/A
Nitrate as N	ppm	7.5	N/A
Hexavalent Chromium	ppb	7.5	N/A
Dibromochloropropane (DBCP)	ppb	0.15	N/A
1,2,3-Trichloropropane (TCP)	ppt	3.75	N/A
Tetrachloroethene (PCE)	ppb	3.75	N/A
Chloride	ppm	375	79.5
Sodium	ppm	N/A	51.75
Total Dissolved Solids	ppm	750	337.5
Perchlorate	ppb	4.5	N/A

Step 3:

Evaluate historical groundwater quality data for instances where SMCs established at RMS wells have been historically exceeded not as a result of implementation of a GSP. In those instances, SMCs will not be set at the MCLs or WQOs, but rather the pre-SGMA implementation concentration. These RMS wells closely monitored to evaluate if further degradation is occurring at the RMS site as a result of GSP implementation into the future.

(Note that Point Source/Non-Point Source Discharges unrelated to groundwater recharge are not monitored under this Plan or regulated by the GSA).

5.7.2.1.2 Quantifiable Measurable Objectives & Interim Milestones

The interim milestones and measurable objective for groundwater quality for each management area are summarized in **Table 5-7: Groundwater Quality Interim Milestones & Measurable Objectives.**

Table 5-8: Groundwater Quality Interim Milestones & Measurable Objectives

RMS ID	Well Design.	Aquifer	COC Measurable Objective									
			Arsenic	Nitrate as N	Hexavalent Chromium	DBCP	TCP	PCE	Chloride	Sodium	TDS	Perchlorate
			(ppb)	*(ppm)*	*(ppb)*	*(ppb)*	*(ppt)*	*(ppm)*	*(ppm)*	*(ppm)*	*(ppm)*	*(ppb)*
21S/27E-18M01 (360725)	Drinking	Upper	7.5	7.5	7.5	0.15	3.75	3.75	375	NA	345	4.5
23S/28E-04K01 (500004)	Drinking	Composite	7.5	7.5	7.5	0.15	3.75	3.75	375	75	337.5	4.5
24S/27E-23 (5015540[illegible])	Greater Tule	Lower	7.5	7.5	7.5	0.15	3.75	3.75	375	51.75	337.5	4.5
COP CCR	Drinking	NA	7.5	7.5	7.5	0.15	3.75	3.75	375	N/A	750	4.5
DCSD CCR	Drinking	NA	7.5	7.5	7.5	0.15	3.75	3.75	375	N/A	750	4.5
TBID CCR	Drinking	NA	7.5	7.5	7.5	0.15	3.75	3.75	375	N/A	750	4.5

5.7.2.2 Operational Flexibility *[§ 354.30(c)]*

23 Cal. Code Regs. § 354.30 Measurable Objectives. (c) *Measurable objectives shall provide a reasonable margin of operational flexibility under adverse conditions which shall take into consideration components such as historical water budgets, seasonal and long-term trends, and periods of drought, and be commensurate with levels of uncertainty.*

Process for Determining Measurable Objectives & Interim Milestones

5.7.2.3 Representative Monitoring *[§ 354.30(d)]*

23 Cal. Code Regs. § 354.30 Measurable Objectives. (d) *An Agency may establish a representative measurable objective for groundwater elevation to serve as the value for multiple sustainability indicators where the Agency can demonstrate that the representative value is a reasonable proxy for multiple individual measurable objectives as supported by adequate evidence.*

See **Section 5.7.1.4 Evaluation of Multiple Minimum Thresholds** for a description of the relationship between groundwater quality sustainability management criteria to other sustainability indicators.

5.7.2.4 Path to Achieve Measurable Objectives *[§ 354.30(e)]*

23 Cal. Code Regs. § 354.30 Measurable Objectives. (e) *Each Plan shall describe a reasonable path to achieve the sustainability goal for the basin with 20 years of Plan implementation, including a description of interim milestones for each relevant sustainability indicator, using the same metric as the measurable objective, in increments of five years. The description shall explain how the Plan is likely to maintain sustainable groundwater management over the planning and implementation horizon.*

Section 5.7.2.1.2 Quantifiable Measurable Objectives & Interim Milestones provides the numeric value for interim milestones and measurable objectives, which will be evaluated annually through the monitoring network discussed in **Section 6** – **Monitoring Network** of this Plan. If measured groundwater quality within the GSA is not aligning with the interim milestones established, management actions as discussed in **Section 7** of this Plan, will be implemented or modified so that conditions within the GSA meet the sustainability goal in 2040.

5.7.3 Minimum Thresholds (§ 354.28)

5.7.3.1 Criteria to Define Minimum Thresholds *[§ 354.28(b), (c)]*

23 Cal. Code Regs. § 354.28 Minimum Thresholds. (b) *The description of minimum thresholds shall include the following:*

(1) *The information and criteria relied upon to establish and justify the minimum thresholds for each sustainability indicator. The justification for the minimum threshold shall be supported by information provided in the basin setting, and other data or models as appropriate, and qualified by the uncertainty in the understanding of the basin setting.*

5.7.3.1.1 Process for Determining Minimum Thresholds

The process to determine the minimum threshold volume of groundwater storage for the ETGSA is calculated using the Groundwater Flow Model which incorporates the minimum threshold groundwater elevation values established at each RMS well.

The following four (4) steps detail the process for setting minimum thresholds at individual RMS related to Groundwater Quality:

Step 1:

Locate the RMS defined in the Tule Subbasin Monitoring Plan, identify which portion of the aquifer it represents, and the associated Constituents of Concern (COC) to be monitored at the RMS based on beneficial uses and users of groundwater represented by the RMS well (Agricultural, Drinking Water) as described below:

Drinking Water: The RMS well is within an urban MA or 1-mile of a public water system**.**

Agricultural: Greater than 50% of the pumping within the representative area is determined to be agricultural and there are no public water systems within a 1-mile radius.

Agricultural or drinking water constituents of concerns will be evaluated based on the established Maximum Contaminate Level (MCL) or Water Quality Objectives (WQO) by the responsible regulatory agency. In the case of drinking water, the following title 22 constituents will be monitored and for agricultural the following Basin Plan Water Quality Objective (WQO) COC as previously identified in **Table 3-4: Constituents of Concern by Use.**

Step 2:

Establish minimum thresholds at each groundwater quality RMS well based on the regulatory limits set as part of the responsible regulatory programs that are applicable to the identified beneficial uses and users of groundwater represented by the RMS well as shown in **Table 3-5: Constituents of Concern by Beneficial Uses and Users.**

Table 3-9: Minimum Thresholds for Groundwater Quality

Constituent	Units	Minimum Thresholds	
		Drinking Water Limits (MCL/SMCL)	Agricultural Water Quality Objective (WQOs)
Arsenic	ppb	10	N/A
Nitrate as N	ppm	10	N/A
Hexavalent Chromium	ppb	10	N/A
Dibromochloropropane (DBCP)	ppb	0.20	N/A
1,2,3-Trichloropropane (TCP)	ppt	5	N/A
Tetrachloroethene (PCE)	ppb	5	N/A
Chloride	ppm	500	106
Sodium	ppm	N/A	69
Total Dissolved Solids	ppm	1,000	450
Perchlorate	ppb	6	N/A

Step 3:

Evaluate historical groundwater quality data for instances where SMCs established at RMS wells have been historically exceeded not as a result of implementation of a GSP. In those instances, SMCs will not be set at the MCLs or WQOs, but rather the pre-SGMA implementation concentration. These RMS wells closely monitored to evaluate if further degradation is occurring at the RMS site as a result of GSP implementation into the future

(Note that Point Source/Non-Point Source Discharges unrelated to groundwater recharge are not monitored under this Plan or regulated by the GSA).

5.7.3.1.2 Quantified Minimum Thresholds

The minimum threshold for groundwater quality at each RMS is summarized in **Table 5-8: Groundwater Quality Minimum Thresholds.**

Table 5-10: Groundwater Quality Minimum Thresholds

RMS ID	Well Design.	Aquifer	COC Minimum Thresholds									
			Arsenic	Nitrate as N	Hexavalent Chromium	DBCP	TCP	PCE	Chloride	Sodium	TDS	Perchlorate
			(ppb)	*(ppm)*	*(ppb)*	*(ppb)*	*(ppt)*	*(ppm)*	*(ppm)*	*(ppm)*	*(ppm)*	*(ppb)*
21S/27E-18M01 (360725)	Drinking	Upper	10	10	10	0.2	5	5	500	NA	450	6
23S/28E-04K01 (500094)	Drinking	Composite	10	10	10	0.2	5	5	500	NA	450	6
24S/27E-23 (E0155481)	Agr.	Lower	10	10	NA	NA	NA	NA	500	100	450	6
COP CCR	Drinking	NA	10	10	10	0.2	5	5	500	N/A	1,000	6
DCSD CCR	Drinking	NA	10	10	10	0.2	5	5	500	N/A	1,000	6
TBID CCR	Drinking	NA	10	10	10	0.2	5	5	500	N/A	1,000	6

5.7.3.2 Relationships Between Minimum Thresholds and Sustainability Indicators *[§ 354.28(b)(2)]*

23 Cal. Code Regs. § 354.28 Minimum Thresholds. (b) *The description of minimum thresholds shall include the following:*

(2) *The relationship between the minimum thresholds for each sustainability indicator, including an explanation of how the Agency has determined that basin conditions at each minimum threshold will avoid undesirable results for each of the sustainability indicators.*

See **Section 5.7.2.3 Representative Monitoring** for the relation between groundwater quality and other sustainability indicators.

5.7.3.3 Minimum Thresholds in Relation to Adjacent Basins *[§ 354.28(b)(3)]*

23 Cal. Code Regs. § 354.28 Minimum Thresholds. (b) *The description of minimum thresholds shall include the following:*

(3) *How minimum thresholds have been selected to avoid causing undesirable results in adjacent basins or affecting the ability of adjacent basins to achieve sustainability goals.*

Groundwater quality minimum thresholds are established to be protective of beneficial uses and users within the subbasin, therefore, will not result in result in adjacent basins to not achieve their sustainability goals.

5.7.3.4 Impact of Minimum Thresholds on Beneficial Uses and Users *[§ 354.28(b)(4)]*

23 Cal. Code Regs. § 354.28 Minimum Thresholds. (b) *The description of minimum thresholds shall include the following:*

(4) *How minimum thresholds may affect the interests of beneficial uses and users of groundwater or land uses and property interests.*

Groundwater quality minimum thresholds are established to be protective of beneficial uses and users of groundwater, if minimum thresholds are exceeded to the extent described in this plan resulting from activities related to groundwater extraction and recharge and determined to be significant and unreasonable, projects and management actions will be implemented to protect the beneficial uses and users within effected areas as described in **Section 7.2.4 and 7.2.5** and **Attachment 7** of the **Coordination Agreement** (**Appendix A**).

5.7.3.5 Current Standards Relevant to Sustainability Indicator *[§ 354.28(b)(5)]*

23 Cal. Code Regs. § 354.28 Minimum Thresholds. (b) *The description of minimum thresholds shall include the following:*

(5) *How state, federal, or local standards relate to the relevant sustainability indicator. If the minimum threshold differs from other regulatory standards, the Agency shall explain the nature of and basis for the difference.*

Agricultural and drinking water constituents of concerns (COC) will be evaluated based on the established Maximum Contaminate Level (MCL) or Water Quality Objectives (WQO) by the responsible regulatory

agency. In the case of drinking water, the following Title 22 constituents will be monitored and for agricultural the following Basin Plan Water Quality Objective (WQO) constituents of concern are used as the baseline for establishing minimum thresholds at each groundwater quality RMS well. In instances where regulatory limits were exceeded prior to GSP implementation the historical concentration for constituent of concern will be used as the minimum threshold.

Significant local, state, and federal regulation already exists in order to manage human use, treatment, and disposal of compounds that may have an effect on our environment. In order to avoid an undesirable condition, the Tule Subbasin GSAs will partner, as needed, with the appropriate entities already currently regulating activities that may have an effect on groundwater quality.

5.7.3.6 Measurement of Minimum Thresholds *[§ 354.28(b)(6)]*

23 Cal. Code Regs. § 354.28 Minimum Thresholds. (b) *The description of minimum thresholds shall include the following:*

(6) *How each minimum threshold will be quantitatively measured, consistent with the monitoring network requirements described in Subarticle 4.*

Groundwater monitoring is conducted by several local and state regulated programs, such as the Irrigated Lands Regulatory Program for agricultural COCs and California Code of Regulations (CCR) Title 22 for public water systems. Groundwater quality data collected through these programs will be reviewed and analyzed at RMS locations on an annual basis utilizing the standard and procedures set forth in the **Tule Subbasin Monitoring Plan** as **Attachment A** of the **Coordination Agreement (Appendix A)**

5.8 Land Subsidence

In addition to the information and criteria described in this section of the GSP and associated sections of the **Tule Subbasin Coordination Agreement** (**Appendix A**) for establishing sustainable management criteria relating to land subsidence within the ETGSA, the Agency also evaluated sustainable management criteria for land subsidence based on findings in the following documents:

- Friant Water Authority and Bureau of Reclamation Technical Memorandum to the ETGSA prepared by Stantec on February 21, 2020, titled "*Preliminary Financial Impact Analysis of Transitional Groundwater Pumping-Induced Subsidence on the Friant-Kern Canal as Proposed in the Tule Subbasin Groundwater Sustainability Plans"* (*see* **Attachment 5-1**); and
- Friant Water Authority, Arvin-Edison Water Storage District, and ETGSA Settlement Agreement entered into on January 15, 2021, titled "*Settlement Agreement Regarding Transitional Overdraft Pumping and Anticipated Subsidence/Repairs to the Friant Kern Canal*" (see **Attachment 5-2**).

5.8.1 Undesirable Results *[§ 354.26]*

5.8.1.1 Causes of Groundwater Conditions That Could Lead to Undesirable Results *[§ 354.26(b)(1)]*

> **23 Cal. Code Regs. § 354.26 Minimum Thresholds. (b)** *The description of undesirable results shall include the following:*
>
> **(1)** *The cause of groundwater conditions occurring throughout the basin that would lead to or has led to undesirable results based on information described in the basin setting, and other data or models as appropriate.*

This requirement is satisfied by the description provided in **Section 4.3.4.1** of the **Coordination Agreement (Appendix A)**.

5.8.1.2 Criteria to Define Undesirable Results *[§ 354.26(b)(2)]*

> **23 Cal. Code Regs. § 354.26 Undesirable Results. (b)(2)** *The criteria used to define when and where the effects of the groundwater conditions cause undesirable results for each applicable sustainability indicator. The criteria shall be based on a quantitative description of the combination of minimum threshold exceedances that cause significant and unreasonable effects in the basin.*

This requirement is satisfied by the description provided in Section 4.3.4.2 of the Coordination Agreement (Appendix A).

5.8.1.3 Potential Effects on Beneficial Uses and Users *[§ 354.26(b)(3)]*

> **23 Cal. Code Regs. § 354.26 Undesirable Results. (b)(3)** *Potential effects on the beneficial uses and users of groundwater, on land uses and property interests, and other potential effects that may occur or are occurring from undesirable results.*

This requirement is satisfied by the description provided in **Section 4.3.4** of the **Coordination Agreement (Appendix A)**.

Further discussed in relation to the Friant Kern Canal, Friant Contractor beneficial users would be effected by reduced water deliveries through the Friant Kern Canal downstream of impacted locations and upstream Friant Contractors would lose the ability to sell excess water to downstream users due to decrease in canal capacity.

5.8.1.4 Evaluation of Multiple Minimum Thresholds *[§ 354.26(c); § 354.28(a), (d)]*

> **23 Cal. Code Regs. § 354.26 Undesirable Results. (c)** *The Agency may need to evaluate multiple minimum thresholds to determine whether an undesirable result is occurring in the basin. The determination that undesirable results are occurring may depend upon measurements from multiple monitoring sites, rather than a single monitoring site.*
>
> **23 Cal. Code Regs. § 354.28 Minimum Thresholds. (a)** *Each Agency in its Plan shall establish minimum thresholds that quantify groundwater conditions for each applicable sustainability indicator at each monitoring site or representative monitoring site established pursuant to Section 354.36. The numeric value used to define minimum thresholds shall represent a point in the basin that, if exceeded, may cause undesirable results as described in Section 354.26.*
>
> **(d)** *An Agency may establish a representative minimum threshold for groundwater elevation to serve as the value for multiple sustainability indicators, where the Agency can demonstrate that the representative value is a reasonable proxy for multiple individual minimum thresholds as supported by adequate evidence.*

Land Subsidence occurs when there is prolonged dewatering of groundwater that causes subsequent compaction of water bearing formations composed of substantial thicknesses of fine-grained deposits. Thus, subsidence is related to chronic lowering of groundwater levels and reduction in groundwater storage sustainability indicators. Although the relationship exists between the indicator's, factors such as geology structure and critical infrastructure affect how land subsidence react when comparing it to groundwater levels and groundwater storage, therefore, minimum thresholds for land subsidence will be set independent of other indicators.

5.8.2 Measurable Objectives and Interim Milestones *[§ 354.30]*

5.8.2.1 Description of Measurable Objectives *[§ 354.30(a), (b)]*

> **23 Cal. Code Regs. § 354.30 Measurable Objectives. (a)** *Each Agency shall establish measurable objectives, including interim milestones in increments of five years, to achieve the sustainability goal for the basin within 20 years of Plan implementation and to continue to sustainably manage the groundwater basin over the planning and implementation horizon.*
>
> **(b)** *Measurable objectives shall be established for each sustainability indicator, based on quantitative values using the same metrics and monitoring sites as are used to define the minimum thresholds.*

The interim milestones and measurable objective for each RMS associated with the Land Subsidence Sustainability Indicator have been quantified using the following available data:

- Development of a detailed hydrogeologic conceptual model of the subbasin that included an assessment of the conditions causing land subsidence along the FKC (see **Attachment 1** of the **Coordination Agreement**, **Appendix A)**
- Development of a calibrated numerical groundwater flow model of the subbasin that included a land subsidence package for estimating potential future land subsidence (see **Attachment 3** of the **Coordination Agreement**, **Appendix A**)
- Analysis of potential future land subsidence using the model and incorporating each GSA's planned projects and management actions (**Attachment 3** of the **Coordination Agreement**, **Appendix A**),
- Comparison of the forecasted rate and extent of land subsidence through the transition period

from 2020 to 2040 with surface land uses and critical infrastructure throughout the Subbasin (see **Attachment 6** of the **Coordination Agreemen**t, **Appendix A**), and

- Coordination with Friant Water Authority staff and consultants.

5.8.2.1.1 Process for Determining Measurable Objectives & Interim Milestones

The following four (4) steps detail the process for setting interim milestones and the measurable objective at individual RMS.

Step 1: Locate the RMS defined in the Tule Subbasin Monitoring Plan, identify which portion of the aquifer it represents, and prepare a chart using available historical land subsidence data interpolated to RMS location.

Step 2: Incorporate into the RMS chart the projected depth of land subsidence from the Groundwater Flow Model.

Step 3: Adjust depth of land subsidence to each RMS site based on the ground surface elevation measured during Fall 2020 to establish the starting baseline ground surface conditions.

Step 4: Utilize the adjusted GFM estimated depth of land subsidence for the period 2020 to 2040 to quantify numerically the interim milestones and the measurable objective value in 2040.

Note that the land subsidence evaluation includes legacy related subsidence. The term "Legacy Subsidence" refers to the delay occurrence of subsidence resulting from groundwater pumping that historically occurred and recognizes that as groundwater pumping reaches sustainable levels, subsidence as a result of that groundwater pumping, will continue into the future.

5.8.2.1.2 Quantifiable Measurable Objectives & Interim Milestones

Using the process described, a chart was established at each RMS location (**Appendix 5-C: RMS Land Subsidence Charts**), and from the chart, the quantifiable interim milestones and measurable objectives were established, summarized in **Table 5-9: Land Subsidence Interim Milestones and Measurable Objective by** RMS Location**.**

Table 5-11: Land Subsidence Interim Milestones and Measurable Objective by RMS Location

RMS ID	Baseline	Interim Milestone[5]			Measurable Objective[7]
	GSE (ft amsl)	*Ground Surface Elevation (ft amsl)*			*GSE (ft amsl)*
	2020	2025	2030	2035	2040
E0035_B_RMS	342.106	341	340	340	340
E0047_B_RMS	366.190	365	365	365	365
E0048_B_RMS	370.475	370	369	369	369
E0049_B_RMS	403.188	402	402	402	402
E0050_B_RMS	386.577	386	386	386	386
E0051_B_FKC	397.321	397	397	397	397
E0052_B_FKC	405.728	405	405	405	405
E0053_B_FKC	399.753	399	399	399	399
E0054_B_FKC	412.529	412	412	412	412
E0055_B_FKC	409.084	409	409	409	408
E0056_G_FKC	406.735	406	406	406	406
E0057_B_FKC	399.287	399	399	399	399
E0058_B_FKC	407.791	407	407	407	407
E0059_B_FKC	418.007	417	416	416	416
E0060_B_FKC	393.648	393	392	392	392
E0061_B_FKC	403.848	403	402	402	402
E0062_B_FKC	403.627	403	402	402	402
E0063_G_FKC	403.228	403	403	403	403
E0064_B_FKC	400.787	400	400	400	400
E0065_B_FKC	393.743	393	392	392	392
E0066_B_FKC	411.938	411	410	410	410
E0067_B_FKC	408.037	407	406	407	406
E0068_B_FKC	391.21	391	390	390	390
E0069_B_FKC	397.400	397	397	397	397
E0087_B_RMS	531.0655	531	531	531	531
E0088_B_RMS	457.473	457	456	456	456

5.8.2.2 Operational Flexibility *[§ 354.30(c)]*

23 Cal. Code Regs. § 354.30 Measurable Objective. (c) *Measurable objectives shall provide a reasonable margin of operational flexibility under adverse conditions which shall take into consideration components such as historical water budgets, seasonal and long-term trends, and periods of drought, and be commensurate with levels of uncertainty.*

By using the process described in **5.8.3.1 Criteria to Define Minimum Thresholds**, minimum thresholds are set at levels based ceasing overdraft in the basin through the implementation of projects and management actions through 2040 and beyond. Overdraft in the subbasin was defined based on averaged

[5] Numeric Values to be updated based on initial 2020 monitoring results. Current values are most current values available.

hydrology from the years 1990/91 through 2009/10 (see **Chapter 2.3.2.4** of the **Tule Subbasin Setting**). Utilizing the information just described, minimum thresholds for groundwater levels were established based on the GFM projected elevations at RMS, with consideration to the groundwater surface elevations response to a historical 10-year drought (2007-2016) providing for a reasonable margin of operational flexibility.

5.8.2.3 Representative Monitoring *[§ 354.30(d)]*

23 Cal. Code Regs. § 354.30 Measurable Objective. (d) *An Agency may establish a representative measurable objective for groundwater elevation to serve as the value for multiple sustainability indicators where the Agency can demonstrate that the representative value is a reasonable proxy for multiple individual measurable objectives as supported by adequate evidence.*

Although groundwater elevations will not be used as a proxy for determining measurable objectives for groundwater quality and land subsidence, the relationship between the sustainability indicators will be evaluate through data collected in each indicator's respective monitoring network.

5.8.2.4 Path to Achieve Measurable Objectives *[§ 354.30(e)]*

23 Cal. Code Regs. § 354.30 Measurable Objective. (e) *Each Plan shall describe a reasonable path to achieve the sustainability goal for the basin with 20 years of Plan implementation, including a description of interim milestones for each relevant sustainability indicator, using the same metric as the measurable objective, in increments of five years. The description shall explain how the Plan is likely to maintain sustainable groundwater management over the planning and implementation horizon.*

Section5.8.2.1.2 Quantifiable Measurable Objectives & Interim Milestones provides the numeric value for interim milestones and measurable objectives, which will be evaluated annually through the monitoring network discussed in **Section 6 – Monitoring Network** of this Plan. If measured land subsidence within the GSA is not aligning with the interim milestones established, management actions as discussed in **Section 7** of this Plan, will be implemented or modified so that conditions within the GSA meet the sustainability goal in 2040.

5.8.3 Minimum Thresholds [§ 354.28(b), (c)(5)(A)]

5.8.3.1 Criteria to Define Minimum Thresholds

23 Cal. Code Regs. § 354.28 Minimum Threshold. (b) *The description of minimum thresholds shall include the following:*

(1) *The information and criteria relied upon to establish and justify the minimum thresholds for each sustainability indicator. The justification for the minimum threshold shall be supported by information provided in the basin setting, and other data or models as appropriate, and qualified by the uncertainty in the understanding of the basin setting.*

(c) *Minimum thresholds for each sustainability indicator shall be defined as follows:*

(5) *Land Subsidence. The minimum threshold for land subsidence shall be the rate and extent of subsidence that substantially interferes with surface land uses and may lead to undesirable results. Minimum thresholds for land subsidence shall be supported by the following:*

(A) *Identification of land uses and property interests that have been affected or are likely to be affected by land subsidence in the basin, including an explanation of how the Agency has determined and considered those uses and interests, and the Agency's rationale for establishing minimum thresholds in light of those affects.*

(B) *Maps and graphs showing the extent and rate of land subsidence in the basin that defines the minimum threshold and measurable objectives.*

The minimum threshold for each RMS associated with the Land Subsidence Sustainability Indicator have been quantified using the same data set described in **5.8.2.1.1 Process for Determining Measurable Objectives & Interim Milestones** of this Plan.

5.8.3.1.1 Process for Determining Minimum Threshold

The following four (4) steps detail the process for setting the minimum threshold at each RMS.

Step 1: Utilize the Charts created for each RMS well based on process for establishing the interim milestones and measurable objective which assumes average hydrology.

Step 2: Calculate the change in ground surface elevation during the most recent 10-year drought period (2007-2016) from historical ground surface data at the RMS.

Step 3: The Deduct the calculated change in ground surface elevation during drought conditions from the lowest projected interim milestone during the initial 10-year plan implementation period (2020 - 2030) or a maximum of three (3) feet along the Friant Kern Canal, whichever numeric value is less.

Step 4: Establish the minimum threshold for ground surface elevation for the entire plan implementation period as a single value below the interim milestones and measurable objective. The difference between the interim milestones and measurable objective is the operational flexibility established at each RMS well.

Note that the land subsidence evaluation includes legacy related subsidence.

5.8.3.1.2 Quantified Minimum Thresholds

The minimum thresholds for land subsidence for each RMS are summarized in **Table 5-10: Land Subsidence Minimum Thresholds**.

Table 5-12: Land Subsidence Minimum Thresholds

RMS ID	Minimum Threshold
	Ground Surface Elevation *(ft amsl)*
E0035_B_RMS	339.54
E0047_B_RMS	363.37
E0048_B_RMS	366.47
E0049_B_RMS	401.82
E0050_B_RMS	385.53
E0051_B_FKC	396.30
E0052_B_FKC	404.65
E0053_B_FKC	398.31
E0054_B_FKC	411.00
E0055_B_FKC	407.97
E0056_G_FKC	405.68
E0057_B_FKC	398.26
E0058_B_FKC	406.02
E0059_B_FKC	415.89
E0060_B_FKC	391.66
E0061_B_FKC	401.69
E0062_B_FKC	401.94
E0063_G_FKC	402.1
E0064_B_FKC	399.37
E0065_B_FKC	389.93
E0066_B_FKC	409.13
E0067_B_FKC	404.74
E0068_B_FKC	388.97
E0069_B_FKC	396.43
E0087_B_RMS	530.19
E0088_B_RMS	455.75

5.8.3.2 Relationships Between Minimum Thresholds and Sustainability Indicators *[§ 354.28(b)(2)]*

23 Cal. Code Regs. § 354.28 Minimum Thresholds. (b) *The description of minimum thresholds shall include the following:*

(2) *The relationship between the minimum thresholds for each sustainability indicator, including an explanation of how the Agency has determined that basin conditions at each minimum threshold will avoid undesirable results for each of the sustainability indicators.*