

DRAFT | SEPTEMBER 2026

Terra Bella Irrigation District
Groundwater Sustainability Agency

GROUNDWATER SUSTAINABILITY PLAN

Tule Subbasin

TERRA BELLA
IRRIGATION DISTRICT

PREPARED BY



**Luhdorff &
Scalmanini**
Consulting Engineers

SIGNATURE PAGE AND PROFESSIONAL DISCLAIMER

Luhdorff and Scalmanini Consulting Engineers (LSCE) in preparation of this Groundwater Sustainability Plan (GSP) for the Terra Bella Irrigation District Groundwater Sustainability Agency (PID GSA), relied primarily on the technical aspects of the *2024 Tule Subbasin Coordination Agreement* and its appendices, including work products prepared by Thomas Harder & Company, Inc. and 4Creeks, Inc. using the best available information at the time of preparation. This GSP also includes TBID GSA-specific information, projects, management actions, and implementation activities developed using the best available information at the time of preparation. The undersigned are not liable or responsible for the accuracy of the information developed by others.

This GSP was prepared by the staff of Luhdorff & Scalmanini, Consulting Engineers, under the supervision of the Hydrogeologists whose seals and signatures appear hereon. This GSP was prepared under the direction of a qualified licensed Professional Geologist (PG) or Professional Engineer (PE), as required in the State of California per California Code of Regulations, Title 23, Section 354.12, consistent with professional standards of practice.



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APPENDICES

Appendix A 2024 Tule Subbasin Coordination Agreement

- Appendix A-1 Tule Subbasin Coordination Agreement Attachment 1: Tule Subbasin Monitoring Plan v.3 Draft-Final
- Appendix A-2 Tule Subbasin Coordination Agreement Attachment 2: Tule Subbasin Setting
- Appendix A-3 Tule Subbasin Coordination Agreement Attachment 3: Technical Memorandum Re: Update to the Groundwater Flow Model of the Tule Subbasin
- Appendix A-4 Tule Subbasin Coordination Agreement Attachment 4: Draft-Final Technical Memorandum Re: Technical Support for Addressing Department of Water Resources Comments Regarding Sustainable Management Criteria for Upper Aquifer Groundwater Levels in the Tule Subbasin.
- Appendix A-5 Tule Subbasin Coordination Agreement Attachment 5: Technical Memorandum Re: Addressing SWRCB Staff's Degraded Groundwater Quality Sustainable Management Criteria Deficiencies
- Appendix A-6 Tule Subbasin Coordination Agreement Attachment 6: Draft Technical Memorandum Re: Technical Support for Land Subsidence Sustainable Management Criteria in the Tule Subbasin
- Appendix A-7 Tule Subbasin Coordination Agreement Attachment 7: Draft-Final Technical Memorandum Re: Technical Support for Addressing State Water Resources Control Board Comments Regarding Interconnected Surface Water in the Tule Subbasin

Appendix B Rules and Regulations of the Terra Bella Irrigation District Groundwater Sustainability Agency

Appendix C	Board Resolution for Terra Bella Irrigation District to Serve as a Groundwater Sustainability Agency (Resolution No. 2025-01)
Appendix D	Tulare County EHS Well Permitting
Appendix E	Terra Bella Irrigation District Rules & Regulations
Appendix F	Tulare County and Terra Bella Plans
Appendix F-1	Tulare County General Plan 2030 Update
Appendix F-2	Terra Bella Area Community Plan
Appendix G	ETGSA Land Subsidence Monitoring Plan
Appendix H	Tule Subbasin Drinking Water Well Mitigation Plan

LIST OF ACRONYMS AND ABBREVIATIONS

Acronym	Meaning
1,2,3-TCP	1,2,3, trichloropropane
2024 Coordination Agreement	2024 Tule Subbasin Coordination Agreement
AF	acre-feet
AFFF	aqueous film-forming foams
AFY	acre-feet per year
Ag-MAR	Agricultural Managed Aquifer Recharge
Agency	Groundwater Sustainability Agency
amsl	above mean sea level
As	arsenic
bgs	below ground surface
BMP	Best Management Practices
Board	Board of Directors
CASGEM	California Statewide Groundwater Elevation Monitoring
Ca GOV	California Government Code
Ca PRC	California Public Resources Code
Ca WC	California Water Code
CAL FIRE	California Department of Forestry and Fire Protection
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CIWQS	California Integrated Water Quality System
Cl	chloride
COC	constituents of concern
Cr(VI)	hexavalent chromium
CSRC	California Spatial Reference Center
CU	Consumptive Use
CVRWQCB	California Regional Water Quality Control Board, Central Valley Region
CVP	Central Valley Project
CV-SALTS	Central Valley Salinity Alternatives for Long-Term Sustainability
DBCP	dibromo-3-chloropropane
DCTRA	Deer Creek–Tule River Authority
DEID	Delano-Earlimart Irrigation District
District	Porterville Irrigation District
DO	dissolved oxygen
DWR	Department of Water Resources
EC	Electrical Conductivity

Acronym	Meaning
ET	evapotranspiration
ETGSA	Eastern Tule Groundwater Sustainability Area
FKC	Friant-Kern Canal
Flood-MAR	Flood-Managed Aquifer Recharge
FWA	Friant Water Authority
GAMA	Groundwater Ambient Monitoring and Assessment Program
GAMA PBP Study	Groundwater Ambient Monitoring and Assessment – Priority Basin Project
GDE	Groundwater Dependent Ecosystem
GIS	geographic information system
GPS	global positioning system
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
HCM	hydrogeologic conceptual model
ICON	Indicators of Groundwater Dependent Ecosystems
ILRP	Irrigated Lands Regulatory Program
IM	interim milestone
IRWMP	Integrated Regional Water Management Plan
InSAR	Interferometric Synthetic Aperture Radar
ISW	interconnected surface water
KTGSA	Kern-Tulare Groundwater Sustainability Agency
KTWD	Kern-Tule Water District
LS Management Plan	Land Subsidence Management Plan
LS Mitigation Plan	Land Subsidence Mitigation Plan
LS Monitoring Plan	Land Subsidence Monitoring Plan
LTID	Lower Tule Irrigation District
LTRID	Lower Tule River Irrigation District
LUST	leaking underground storage tanks
MAC	Mitigation Advisory Committee
MCL	Maximum Contaminant Level
mg/L	milligrams per liter
Subbasin Mitigation Plan	Tule Subbasin Mitigation Plan
MO	measurable objective
msl	mean sea level
MT	minimum threshold
N	nitrogen
ng/L	nanograms per liter
NGS	National Geodetic Survey
NO3	
NOAA	National Oceanic and Atmospheric Administration

Acronym	Meaning
NPDWR	National Primary Drinking Water Regulation
NRCS	Natural Resources Conservation Service
NRMSE	Normalized Root Mean Square Error
OSC	Open Space and Conservation
OSWCR	DWR Online System for Well Completion Reports
PCE	tetrachloroethene
pCi/L	picocuries per liter
PFAS	per-and polyfluoroalkyl substances
PFOA	Perfluorooctanic Acid
PFOS	Perfluorooctane Sulfate
PID	Porterville Irrigation District
PIXID	Pixley Irrigation District
Plan Area	GSA GSP Plan Area
PMA	project management action
ppb	parts per billion
ppm	parts per million
ppt	parts per trillion
PSAG	Public Supply Assessment Grid
Region	Tulare Lake Hydrologic Region
RMS	representative monitoring site
RVLP	Rural Valley Lands Plan
RWQCB	Regional Water Quality Control Board
SAGBI	Soil Agricultural Groundwater Banking Index
SGMA	Sustainable Groundwater Management Act
SHE	Self-Help Enterprises
SI	sustainability indicator
SID	Saucelito Irrigation District
SJRRP	San Joaquin River Restoration Project
SLSS	Southern Land Subsidence Study
SMA	subsidence management area
SMC	sustainable management criteria
SMCL	Secondary Maximum Contaminant Level
SOPAC	Scripps Orbit and Permanent Array Center
Study Areas	potential IWS locations
Subbasin	Tule Subbasin
SWA	subsidence monitoring area
SWN	state well number
SWRCB	State Water Resources Control Board
TAC	Tule Subbasin Technical Advisory Committee
TBID	Terra Bella Irrigation District

Acronym	Meaning
TBCP	Terra Bella Community Plan
TBSMD	Terra Bella Sewer Maintenance District
TBWF	Tule Basin Water Foundation
TBWQC	Tule Basin Water Quality Coalition
TCP	1,2,3, trichloropropane
TCWA	Tri-County Water Authority
TDS	total dissolved solids
TEGSA	Tule East Groundwater Sustainability Agency
TRA	Tule River Association
TSMP	Tule Subbasin Monitoring Plan
Tulare GP	Tulare County General Plan 2030 Update
U	uranium
UDB	Urban Development Boundary
UR	undesirable result
USBR	US Bureau of Reclamation
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USGS	US Geological Survey
VegCAMP	Vegetation Classification and Mapping Program
WBA	Water Budget Area
WC	Water Code
WQO	Agricultural Water Quality Objective
WY	water year
µg/L	micrograms per liter