7 ATTACHMENT 1: AUTHORIZATION AND ELIGIBILITY REQUIREMENTS

7.1 Authorizing Documentation

The applicant must provide a resolution adopted by the applicant's governing body designating an authorized representative to submit the application and execute an agreement with the State of California for an IRWM Implementation Grant.

A resolution was adopted by the Kaweah Delta WCD Board of Directors authorizing the General Manager, Mark Larsen, to submit the 2013 Groundwater Recharge and Water Quality Protection Projects Proposal on behalf of the Kaweah River Basin IRWM Group and to execute an agreement with the State of California for an IRWM Implementation Grant. A copy of the resolution can be found in the application as **IRWM Implementation Grant Proposal - Appendix A**.

7.2 Eligible Applicant Documentation

Eligible applicants are local agencies or non-profit organizations. If DWR determines that the applicant does not have the authority to enter into a grant agreement with the State, the applicant will not be eligible for funding and application will not be reviewed. The applicant must provide a written statement (and additional information if noted) containing the appropriate information outlined below:

- *Is the applicant a local agency as defined in Appendix B of the 2012 Guidelines? Please explain.*
- *What is the statutory or other legal authority under which the applicant was formed and is authorized to operate?*
- *Does the applicant have legal authority to enter into a grant agreement with the State of California?*
- *Describe any legal agreements among partner agencies and/or organizations that ensure performance of the Proposal and tracking of funds.*

Kaweah Delta Water Conservation District is a local agency as defined in Appendix B of the 2012 Guidelines. Specifically it is a special district.

Kaweah Delta Water Conservation District was formed in 1927 under the provisions of the Water Conservation District Act of 1927.

Kaweah Delta Water Conservation District has the authority to enter into funding contracts as defined in Section 2, paragraph 5 of the Water Conservation Act of 1927.

Prior to Kaweah Delta WCD signing a funding contract with DWR, each implementing agency that will receive funding will enter into and execute a memorandum of understanding with Kaweah Delta WCD that will include commitments on the following topics:

- The implementing agency will agree to, by extension, all of the conditions and requirements that are included in the funding contract between DWR and Kaweah Delta WCD.

- Verify that the implementing agency has sufficient available funds to proceed with their project as planned with the knowledge that the grant program is a reimbursement program and that they must incur costs before those costs can be invoiced to DWR through Kaweah Delta WCD.

- That the implementing agency will support the Kaweah River Basin IRWM Group entering into a binding agreement with DWR to update, within a two year period from the execution date of the grant agreement, the Kaweah River Basin IRWM Plan to comply with then-current state law and to undertake all reasonable and feasible efforts to address water-related needs of disadvantaged communities in the area within the Kaweah River Basin IRWM region.

- That the implementing agency will submit all the identified deliverables in the proposal and all future reimbursement requests in a timely manner to DWR through regular submittals to Kaweah Delta WCD.

- That the implementing agency will accomplish project monitoring, project assessment and collection of performance measures in a timely manner and relay that information back to DWR through submittals to Kaweah Delta WCD.

A draft version of the MOU between Kaweah Delta WCD and implementing agencies can be found in the application as **IRWM Implementation Grant Proposal – Appendix B**.

7.3 GWMP Compliance

For groundwater management and recharge projects and for projects with potential groundwater impacts, either positive or negative, the applicant or the participating agency responsible for such projects must provide in Attachment 1 the following, as applicable:

- *If the Proposal does not contain a groundwater management or recharge project or none of the projects in the Proposal have a potential to impact groundwater, either positively or negative, so indicate, and include in Attachment 1 the justification for such a conclusion.*
- *Identification of projects in the Proposal that involve any groundwater management or groundwater recharge or may have either positive or negative groundwater impacts.*
- *The agency(ies) that will implement such project(s).*
- *The status of the applicable GWMP compliance option as described below:*
    - *The applicant or participating agency has prepared and implemented a GWMP that is in compliance with CWC §10753.7.*
    - *The applicant or participating agency participates or consents to be subject to a GWMP, basin-wide management plan, or other IRWM program or plan that meets the requirements of CWC §10753.7.*
    - *The applicant or participating agency conforms to the requirements of an adjudication of water rights in the subject groundwater basin.*
    - *The applicant or participating agency is in the process of revising the GWMP to be compliant with CWC §10753. In which case, Attachment 1 must state the estimated date for adoption, which must be within one year of application due date (see the Schedule in Table 3).*

Table 7-1: Proposal Projects that Impact Groundwater and Associated Groundwater Management Plans

Projects that Impact Groundwater:	Implementing Agencies:	Applicable Groundwater Management Plan:
Packwood Creek Recharge Project	City of Visalia	Kaweah Delta WCD
Well 15 Water Quality Project	City of Lindsay	Kaweah Delta WCD

As previous discussed in Eligibility Question 15 (Attachment 1, Section 6.15), the groundwater throughout the Kaweah River Basin IRWM area is not in an adjudicated groundwater basin. Kaweah Delta WCD's groundwater management plan has been prepared and implemented in compliance with CWC §10753.7 and covers Kaweah Delta WCD's service area (337,000 acres). Kaweah Delta WCD's groundwater management plan is the most significant groundwater management component of the Kaweah River Basin IRWM region's functionally equivalent IRWM plan. Several local entities are signatory to Kaweah Delta WCD's groundwater management plan, including the City of Visalia, California Water Service Company (urban water supplier in the City of Visalia), the City of Tulare, the City of Farmersville, the City of Lindsay, the City of Woodlake, Consolidated Peoples Ditch Company, Kings County Water District,

Lakeside Ditch Company, Lakeside Irrigation Water District, St. Johns Water District, Stone Corral Irrigation District, Tulare Irrigation District and Ivanhoe Irrigation District. These entities have all agreed to participated in Kaweah Delta WCD's groundwater management plan that meets the requirements of CWC §10753.7.

Both of the implementing agencies (Cities of Visalia and Lindsay) involved in the Kaweah River Basin IRWM implementation grant proposal participate in Kaweah Delta WCD's CWC §10753.7 compliant groundwater management plan (see **Appendix C of Attachment 1** for a copy of the Kaweah Delta WCD Groundwater Management Plan).

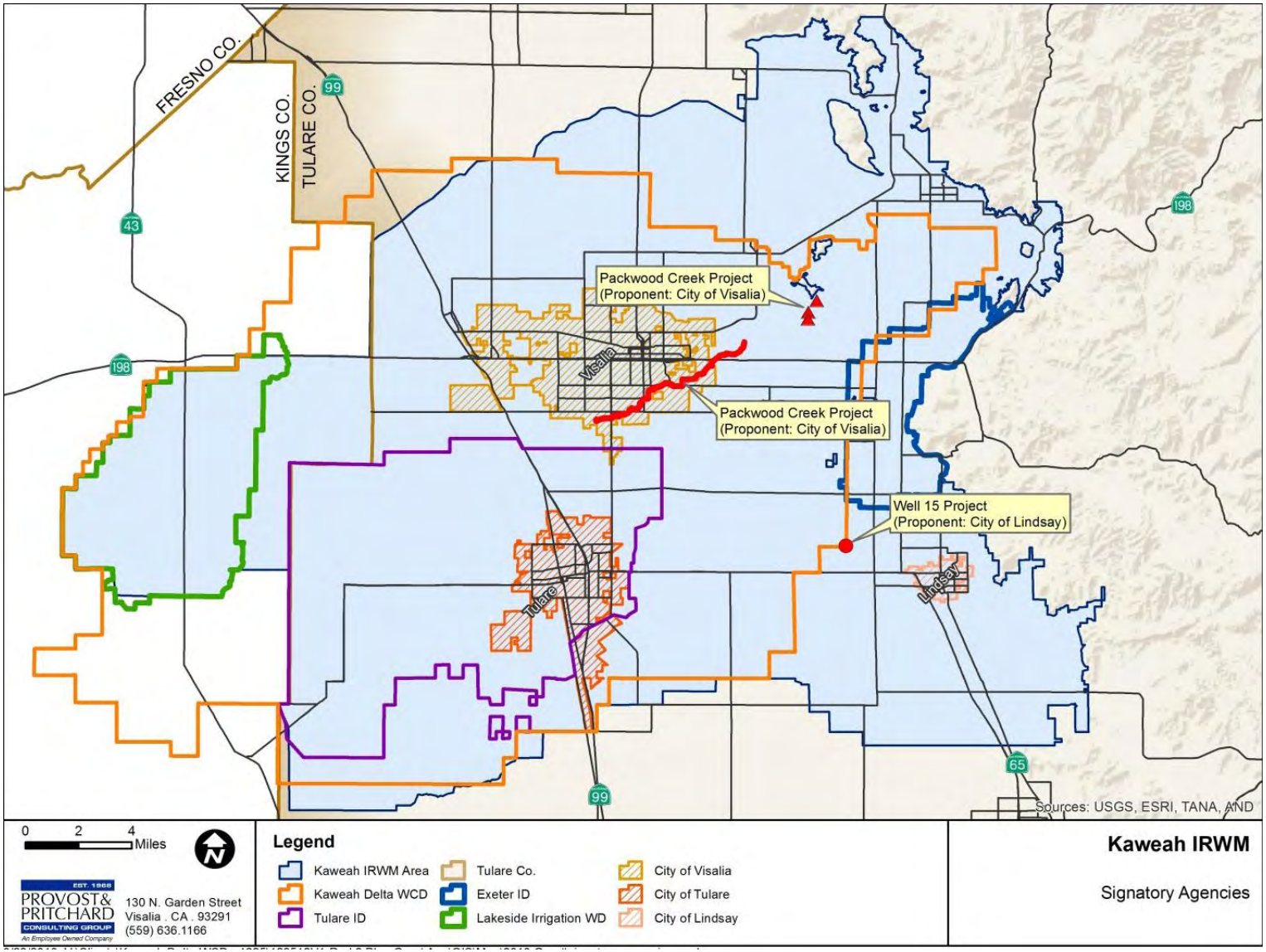


Figure 7.1: Implementing Agencies, Project and GWMPs

7.4 Progress on Meeting Current IRWM Plan Standards

All applicants in the process of updating their IRWM Plan must complete the Overview of Selected IRWM Plan Standards in Table 1 and Include it as part of Attachment 1, to demonstrate that its respective region will adopt an IRWM Plan that meets the IRWM Plan Standards contained in Appendix C of the 2012 Guidelines.

Please keep responses to each standard in Table 1 to less than one page, 12-point font. Section II.B of this PSP presents two possible scenarios whereby projects within an IRWM Plan are eligible for Implementation Grant funding. If eligibility for this criterion is being established using an IRWM Plan that meetings current plan standards as explained in the 2012 Guidelines that plan must be submitted as part of Attachment 1. If eligibility is being established using an IRWM Plan adopted prior to September 30, 2009 the Plan does not need to be submitted.

7.4.1 Functionally Equivalent Plan

The Kaweah River Basin IRWM group has a functionally equivalent plan. This plan is made up of several management documents and agreements between member agencies that have been developed over time into a regional management framework that functionally equates to an IRWM plan. DWR reviewed the elements (management documents and partnering agency agreements) that collectively make-up the Kaweah River Basin IRWM plan and deemed that they were "functionally equivalent" to an IRWM plan. Please review **IRWM Implementation Grant Proposal Appendix D** for a copy of this confirmation from DWR. Therefore, there is no specific adoption date associated with the Kaweah River Basin IRWM Plan because the elements of the plan have been in place for some time and were adopted at different times. However, in a separate effort, DWR evaluated the Kaweah River Basin IRWM region, conditionally approved the region and documented that the region was eligible for IRWM Planning and Implementation grants from Proposition 84. Please review **IRWM Implementation Grant Proposal Appendix D** for a copy of this confirmation from DWR. It is therefore concluded by the applicant, that for the terms of this proposal, the Kaweah River Basin IRWM Plan was adopted prior to September 30, 2008 and therefore the IRWM Plan was not required to be included in this submittal. If this determination has been made in error, the Kaweah Delta WCD is willing to provide a copy of all the management documents and partnering agency agreements that comprise the Kaweah River Basin IRWM plan at DWR's request.

The Kaweah IRWM group applied for a Round 1 Implementation Grant through Kaweah Delta WCD in 2010 and was successfully selected for funding. Kaweah Delta WCD just

recently completed the contracting process for release of these funds. As part of the Round 1 funding agreement Kaweah Delta WCD committed to update their IRWM Plan Standards within a two year period from the start of the funding agreement. Kaweah Delta WCD has been formalizing the documentation of the Region's functionally equivalent plan (see **Appendix E of Attachment 1** for a copy of the Draft Kaweah River Basin IRWM Plan Table of Contents) for some time with current plan standards in mind, and believes that when this formalized plan is finished it will meet current plan standards prior to adoption by the Region. Further, recent communications with DWR Staff have laid out a framework for completion of the formalized plan for the region within 2013 (see letter from Tracie Billington dated January 30, 2013 in **Appendix F of Attachment 1**).

The Kaweah River Basin IRWM group applied for a Round 2 Planning Grant through Kaweah Delta WCD in 2012 and was successfully selected for funding. Kaweah Delta WCD is now negotiating the contract with DWR and the work to modify the existing IRWM Plan is anticipated to begin in summer 2013.

Table 7-2: IRWM Plan Standards Table 1

Table 1 – Overview of Selected IRWM Plan Standards	
Standard	***Specific Standard Questions***
Governance	Will the governance structure need to be altered in the Updated IRWM Plan in order to ensure that balanced access and opportunity for participation in the IRWM effort is provided?
Region Description	Has the regional description changed significantly from the current IRWM Plan?
Objectives	Will your objectives change from those in the current IRWM Plan? If so, how?
Resource Management Strategies	Will the Updated IRWM Plan consider the resource management strategies from the California Water Plan, Update 2009?
Integration	Will the process used in the Updated IRWM Plan allow, encourage, and actively pursue integration in both the planning process and project formulation and implementation?
Project Review Process	Will the project review process consider climate change vulnerabilities and greenhouse gas emissions (for both construction and operation)?
Technical Analysis	Have any data gaps been identified and how will the Updated IRWM Plan help fill the gaps?

Table 1 – Overview of Selected IRWM Plan Standards	
Standard	***Specific Standard Questions***
Relation to Local Water Use Planning	Will changes to the existing IRWM Plan be needed in order to improve coordination with local water use planning efforts?
Relation to Local Land Use Planning	Will changes to the existing IRWM Plan be needed in order to improve coordination with local land use planning efforts?
Stakeholder Involvement	Will changes or improvements to the stakeholder involvement process be needed to ensure effective stakeholder participation?
Coordination	Has the RWMG identified a need for changes/improvements to the ongoing coordination efforts?
Climate Change	Will the Updated IRWM Plan contain: • A climate change vulnerability assessment of the IRWM region that is at least equivalent to the qualitative check list assessment in the Climate Change Handbook for Regional Water Planning (Handbook)? • A list of prioritized vulnerabilities derived from the vulnerability assessment and the IRWM's decision making process? • A plan, program, or methodology for further data gathering/analyzing of the prioritized vulnerabilities?

7.4.2 Table 1 – Overview of Selected IRWM Plan Standards

7.4.2.1Governance

Will the governance structure need to be altered in the Updated IRWM Plan in order to ensure that balanced access and opportunity for participation in the IRWM effort is provided?

No. However, the current governance structure of the Kaweah Region relies on the Board of Directors of the Kaweah Delta WCD as the ultimate decision makers. The guidance and commitment that Kaweah Delta WCD has shown in the Region's IRWM planning is greatly appreciated, but now that there is a critical mass of participants there is a desire on the part of the Kaweah Delta WCD Board as well as other Plan participants to have everyone more involved in the decision making process. Consistent with this, the Region applied for an IRWM Round 2 Planning Grant and was successfully awarded. Part of the scope of this planning grant will address a conversion of governance structure.

7.4.2.2Region Description

Has the regional description changed significantly from the current IRWM Plan?

No. However, two significant changes could affect the Kaweah Region's water supplies. The reduction of delta exports to State Water Project contractors (consistent with the Wanger Decision) and the implementation of interim flows consistent with the San Joaquin River Restoration Settlement will both likely have the effect of reducing the supply and the reliability of these supply sources. As was mentioned in the previous response a IRWM Round 2 Planning Grant was successfully awarded to the Region in 2012 and part of the scope of work for that effort is to analyze the changed conditions and evaluate what planning adjustments might be necessary.

7.4.2.3Objectives

Will your objectives change from those in the current IRWM Plan? If so, how?

No. No change in planning objectives is anticipated however the need to show results in meeting those objectives has become more pressing.

7.4.2.4Resource Management Strategies

Will the Updated IRWM Plan consider the resource management strategies from the California Water Plan, Update 2009?

Yes. The Kaweah Regional has previously considered resource management strategies from the California Water Plan and will continue in the future.

7.4.2.5Integration

Will the process used in the Updated IRWM Plan allow, encourage, and actively pursue integration in both the planning process and project formulation and implementation?

Yes. The Kaweah Regional process has always attempted to actively pursue integration in both the planning process and project formulation and implementation. In particular, the project review and selection process focuses on the highest priorities in the Plan and encourages cooperation and integration of projects to meet multiple objectives.

7.4.2.6Project Review Process

Will the project review process consider climate change vulnerabilities and greenhouse gas emissions (for both construction and operation)?

Yes. The Region suffers from a highly variable water supply which will likely be amplified in its variability by virtue of climate change. By necessity of the water supply to the region, the impacts and consequences of climate change have been and will continue to be actively considered in project review and other aspects of Plan implementation.

7.4.2.7Technical Analysis

Have any data gaps been identified and how will the Updated IRWM Plan help fill the gaps?

No. Except to the extent we need to better understand the vulnerabilities to the Region's water supply associated with the regulatory and climate change impacts by SWP and CVP water supplies and their reliability, both to be analyzed as part of the scope in the IRWM Round 2 Planning Grant.

7.4.2.8Relation to Local Water Planning

Will changes to the existing IRWM Plan be needed in order to improve coordination with local water use planning efforts?

No.

7.4.2.9Relation to Local Land Use Planning

Will changes to the existing IRWM Plan be needed in order to improve coordination with local land use planning efforts?

No.

7.4.2.10 Stakeholder Involvement

Will changes in improvement to the stakeholder involvement process be needed to ensure effective stakeholder participation?

No. There is currently effective stakeholder participation and plans to reach out to agencies and groups in the Region that currently are not participating.

7.4.2.11 Coordination

Has the RWMG identified a need for changes/improvements to the ongoing coordination efforts?

No. The Regional coordination efforts and process are very robust and benefit greatly from the openness of the RWMG.

7.4.2.12 Climate Change

Will the Updated IRWM Plan contain:

- *A climate change vulnerability assessment of the IRWM region that is at least equivalent to the qualitative check list assessment in the Climate Change Handbook for Regional Water Planning (Handbook)?*

Yes. The assessment has been completed and very few weaknesses were identified given the Region's ability to manage water supply variability and situations that range from extreme droughts to extreme floods from year to year.

- *A list of prioritized vulnerabilities derived from the vulnerability assessment and the IRWM's decision making process?*

Yes. With potential reduction of delta exports to the SWP and implementation of interim flows consistent with the San Joaquin River Restoration Settlement, the Kaweah Region relies more heavily on its local supply. If this local supply experiences impacts due to climate change then this Region will become very vulnerable in times of drought.

- *A plan, program, or methodology for further data gathering/analyzing of the prioritized vulnerabilities?*

Yes. This plan will largely rely on the climatological and hydrologic information that the District has always collected, but will evaluate how Regional resources may be varying due to Climate Change and regulatory changes reducing water supplies and their reliability of the CVP and the SWP.

7.5 Project Consistency with an adopted IRWM Plan

Consistency with the adopted IRWM Plan means either the project is included as an implementation project for the IRWM Plan, or the project has been added to the IRWM Plan after adoption, but in accordance with the procedures in the adopted IRWM Plan. In Attachment 1, the applicant must provide a listing of projects proposed for funding and how those projects are consistent with the adopted IRWM Plan. In cases where the project has been added post adoption, please discuss how the addition of the project(s)

was consistent with the procedures established in the adopted IRWM Plan. Applicant must provide documentation indicating that project(s) added post adoption were vetted by the IRWM group. Documentation such as meeting minutes and/or project approval letters from the IRWM group are considered acceptable for submittal.

As stated in the previous section, the Kaweah River Basin IRWM group has a functionally equivalent plan. DWR reviewed the elements (management documents and partnering agency agreements) that collectively make-up the Kaweah River Basin IRWM plan and deemed that they were "functionally equivalent" to an IRWM plan. Demonstrating that the projects in this proposal are consistent with the "functionally equivalent" plan is somewhat challenging. Please review **IRWM Implementation Grant Proposal Appendix E** for a copy of this confirmation from DWR. In a separate effort, DWR evaluated the Kaweah River Basin IRWM region, conditionally approved the region, and documented that the region was eligible for IRWM Planning and Implementation grants from Proposition 84. Please review **IRWM Implementation Grant Proposal Appendix E** for a copy of this confirmation from DWR. Since the Kaweah River Basin IRWM region was conditionally approved, work has progressed with the Tule River Basin (conditionally approved for planning grants) to see if the two regions can feasibly and beneficially be combined. This was the only request made by DWR in the Regional Acceptance Process. The two regions have agreed to move forward with development of formal IRWM Plans and, for the first step in that plan's development, to perform the evaluation of the potential regions combining.

Since the formal IRWM plan for the region is currently being developed, the region's "functionally equivalent" plan currently guides the region's management of water supplies. This plan includes the following water management elements:

1. Programs for water supply reliability, water conservation and water use efficiency.
2. Storm water capture, storage, treatment and management.
3. Groundwater recharge, management and water quality projects.

All of these water management elements are employed to establish a flexible and dependable water supply that is consistent with the water availability issues that are sustainable given regional hydrology. Collectively, the implementation of these elements will reduce dependence on non-local water supplies by improving the flexibility of the management systems which are in place to use surface water when it is available and by improving the reliability of local supplies so that non-local supplies are less necessary for the region's groundwater to achieve balance.

Improving the reliability of groundwater and eliminating groundwater overdraft in the region is one of the Kaweah River Basin IRWM plans goals[1]. The Kaweah River Basin IRWM group imports surface water and utilizes local supplies for groundwater recharge in the area east of Highway 99 so that groundwater resources are replenished both in the confined and unconfined aquifers. To this end, Kaweah Delta WCD has acquired the Lower Kaweah River surface water right from Tulare Lake farming interests several decades ago so that these supplies can be beneficially used in a way that improves water supply reliability throughout the region[2]. The Kaweah River Basin IRWM group's hope is that groundwater declines can be eliminated and accomplishing more effective groundwater recharge with waters that would otherwise potentially cause damage to crops and communities within the Basin.

The Kaweah River Basin IRWM Region is primarily a conjunctive use region. There are portions in the east of the region that do not have usable groundwater supplies (LSID, SCID, IID, and EID), but the majority of the land within the region conjunctively uses surface water and groundwater. This means that for the majority of the region, groundwater is the only reliable supply of water available and surface water is used when possible to ensure that groundwater supplies are protected for when they are eventually needed (times of drought). Therefore, conjunctive use is a key water management element in the Kaweah River Basin IRWM plan. Consistent with this element, the non-local surface water supplies that are available to Basin conjunctive use districts are used to offset groundwater pumping and increase the reliability of local groundwater resources. Non-local wet year water is often imported to the area even though local supplies are plentiful to supplement the local supplies. However, the non-local water is not a supply that the majority of lands in the region can rely or depend on.

Over the last few years, the Kaweah River Basin IRWM group has supported projects by member agencies that have the ability to recharge groundwater in areas that will benefit the confined and unconfined groundwater aquifers throughout the region, that put greater amounts of local river supplies to beneficial use, and that make the region less dependent on Sacramento-San Joaquin Delta water. These recent projects are listed below:

[1] This is a goal in the Groundwater Management Plan and one of the reasons why the Water Resources Investigation (a regional water balance report) is regularly conducted.
[2] This effort is a priority under the region's Surface Water Management goals.

- 2002-Joint effort/program between Tulare ID, Kaweah Delta WCD and the City of Visalia to compensate Tulare ID for groundwater recharge through their earthen unlined Main Intake Canal that benefits regional groundwater resources;
- 2004-Kaweah Delta WCD's Peoples Basin project groundwater recharge along Packwood Creek which is a collaborative flood control project with the City of Visalia;
- 2005-Kaweah Delta WCD's Oakes Basin project along Mill and Packwood Creeks which is a collaborative flood control project with the City of Visalia;
- 2006-City of Visalia's Basin is a 40-acre groundwater recharge project downstream of Mill Creek and Packwood Creek which is a collaborative flood control effort with the Kaweah Delta WCD;
- 2008-Tulare ID's Plum Basin project which is a collaborative effort with the City of Tulare to develop additional groundwater recharge capacity in the region;
- 2009-Kaweah Delta WCD's Police Station Basin project was an effort to improve the City of Visalia's ability to divert Packwood Creek flows for groundwater recharge and improve the City of Visalia's flood control protection;
- 2009-City of Visalia and Tulare ID proposed surface water exchange program that would allow for the City of Visalia to recharge waters east of Highway 99 and upgradient of the City;
- 2010-City of Visalia program with Tulare ID to purchase excess local river water and recharge it in Packwood and Cameron Creeks which are both east of Highway 99 and upgradient of the City of Visalia. This program encourages Tulare ID to use these creeks that have high infiltration rates, to provide the City with groundwater recharge in advantageous locations;
- 2011-City of Visalia development of a 15 acre expansion to Oakes Basin, the 40 acre Peoples Basin, and a 3 acre expansion of Goshen Basin through the DWR Flood Corridor Program;
- 2011-Kaweah Delta WCD's Paregien Basin project was an effort to impound water in a low area on Deep Creek with a new levee and water control structure to develop additional groundwater recharge capacity and improve the City of Farmersville's flood control protection;
- 2012-City of Visalia development of the 5 acre expansion to Soroptimist Basin and the new 2 acre Jennings Basin through an EDA funding opportunity;
- 2012-Kaweah Delta WCD's successful application for partial Bureau of Reclamation funding for the development of the Packwood Creek Recharge project.

It is the belief of the Kaweah River Basin IRWM group that the five projects submitted in this proposal are consistent with the Kaweah River Basin IRWM's "functionally equivalent" plan as each of the projects addresses a key need or risk reduction for the region's water supply. As the Kaweah River Basin IRWM group currently has a "functionally equivalent" plan, there is no formal procedure for adoption of a project into the IRWM Plan. However, all of these projects have been in development for some time and reports have been given to the IRWM group at regular meetings of the member agencies on the development of the projects.

In August 2010, a set of selection criteria was developed by collaboration of the Kaweah River Basin IRWM group for the selection of implementation grant projects that were consistent with the priorities and policies of the region. This set of criteria was accepted by the member agencies and in October, 2010, and for the Round 2 Implementation grant opportunity project submittals were received by the Regional Coordinator in December 2012. At the next regular IRWM group meeting, these proposals were made available to all member agencies and scored based on consistency with the region's priorities and policies through a group effort moderated by the Regional Coordinator (see **Appendix G of Attachment 1** for the meeting minutes and Project scoring sheets). It was decided at that meeting that two of the four proposed projects would be included in the Kaweah River Basin IRWM group's application for round two of the Prop 84 Implementation Grants.

The following list contains a few examples of where the submitted projects are consistent with the region's priorities and policies.

Table 7-3: Proposal Projects and their Consistency with the IRWM Plan

Projects that Impact Groundwater:	Implementing Agencies:	Consistent Element with IRWM Plan:
Packwood Creek Recharge Project	City of Visalia	Increases GW Recharge Capacity, Regional Partnerships, Increases Water Supply Reliability, Reduces GW Overdraft.
Well 15 Water Quality Project	City of Lindsay	Equitable benefits to DACs, Improved Available Water Quality, Diversified Water Supplies, Increased Water Supply Reliability

Each project has been submitted to the IRWM selection committee for review and was evaluated and internally scored in an effort to be transparent and allow projects that

were supported by the group to move forward in the application. At the December 2012 and January 2013 KRB IRWMG meetings, projects were reviewed and scored by the criteria developed by the group. This scoring criteria (**Appendix G of Attachment 1**), based it's scoring on items that are most beneficial to the IRWM group's regional water planning efforts. Each project was fully vetted at this meeting and was presented by the implementing agency. Based on the regional scoring criteria it was determined that all of the submitted projects were worthy of inclusion in the region's implementation grant application. Each project selected showed that it had significant benefits to the region, had been developed by a local agency, had been identified in other planning documents as an important and necessary project, and that same local agency was willing and able to commit to the necessary cost share associated with the project. The Regional Water Management Group selected these projects for inclusion in the Kaweah River Basin Round 2 Implementation Grant application because they match the Region's top priorities very well and demonstrated a high certainty of successful project implementation and benefit development.

ATTACHMENT 1 – AUTHORIZATION AND ELIGIBILITY REQUIREMENTS

APPENDIX A

KDWCD Authorizing Resolution

RESOLUTION NO. 2013- 06
OF THE
BOARD OF DIRECTORS
OF THE
KAWEAH DELTA WATER CONSERVATION DISTRICT

WHEREAS, the State of California Department of Water Resources has determined that the District has a "functionally equivalent" Integrated Regional Water Management Plan for the Kaweah Subbasin;

WHEREAS, the District has coordinated with other local public entities ("Grant Participants"), which are interested in water-related matters in order to formulate several proposed projects for funding with grant monies available under a grant ("Grant") from the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Act of 2006 (California Public Resources Code Sections 75001, et. seq.);

WHEREAS, the Grant Participants have tentatively agreed that the District will be the lead agency with respect to communications with the California Department of Water Resources regarding the Grant;

WHEREAS, the Grant Participants have agreed on two projects ("Projects") that will be included within its application for the Grant;

WHEREAS, the Board of Directors of the District has deemed it to be in the best interest of the District to apply for the Grant on behalf of itself and the Grant Participants;

NOW, THEREFORE, IT IS HEREBY RESOLVED by the Board of Directors of the Kaweah Delta Water Conservation District, that application be made to the California Department of Water Resources to obtain an Integrated Regional Water Management Implementation Grant pursuant to the Safe Drinking Water, Water Quality

and Supply, Flood Control, River and Coastal Protection Act of 2006 (California Public Resources Code Sections 75001, et. seq.), and to enter into an agreement to receive a grant for the two projects identified as follows:

Packwood Creek Conservation Project

Well 15 Pipeline Project

BE IT RESOLVED FURTHER that the President and/or General Manager of the Kaweah Delta Water Conservation District is hereby authorized and directed to prepare the necessary data, conduct investigations, file an application for the Grant, and execute an agreement for the Grant with the California Department of Water Resources.

Upon motion by Director Gomes, seconded by Director Watte, the foregoing Resolution was passed and adopted the 8th day of January, 2013, by the following vote:

AYES:	Don Mills Mark Watte Jeff Ritchie Ron Clark Stan Gomes Mike Shannon Chris Tantau
NOES:	None
ABSTAIN:	None

CERTIFICATE OF RESOLUTION

I, Mark Larsen, hereby certify as follows:

1. That I am the Secretary of the Kaweah Delta Water Conservation 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 District passed at the meeting of the Board of Directors held on January 8, 2013, at the District's principal executive office, located at 2975 N. Farmersville Boulevard, Farmersville, California 93223.

IN WITNESS WHEREOF, I have signed this certificate this 28th day of March, 2013, at the District's principal executive office.

Mark Larsen, Secretary

ATTACHMENT 1 – AUTHORIZATION AND ELIGIBILITY REQUIREMENTS

APPENDIX B

Signed MOU between Kaweah Delta WCD and Implementing Agencies

[ORIGINAL]

COPY

RESTATED
MEMORANDUM OF UNDERSTANDING

THIS RESTATED MEMORANDUM OF UNDERSTANDING ("Restated MOU"), effective this 30th day of November, 2010, by and between the COUNTY OF TULARE ("County"), the EXETER IRRIGATION DISTRICT ("Exeter"), the CITY OF VISALIA ("Visalia") , the CITY OF LINDSAY ("Lindsay"), KAWEAH DELTA WATER CONSERVATION DISTRICT ("District"), LAKESIDE IRRIGATION WATER DISTRICT ("Lakeside"), the TULARE IRRIGATION DISTRICT ("TID") and the CITY OF TULARE ("Tulare"), is made in light of the following:

RECITALS:

WHEREAS, both the Integrated Regional Water Management Planning Act of 2002, found in Division 6, Part 2.2 of the California Water Code ("IRWMP Act"), and the Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002, found in Division 26.5 of the California Water Code, authorize and encourage certain local agencies and mutual water companies to develop an integrated regional water management plan ("IRWMP");

WHEREAS, during or about November 2007, County, Exeter, Visalia, Lindsay and the District (collectively "Original Parties"), desiring to form a regional water management group, as defined in the IRWMP Act, entered into a Memorandum of Understanding ("MOU") to develop an IRWMP for the Kaweah River Basin;

WHEREAS, during or about September 2009, the California Department of Water Resources determined that the Kaweah River Basin already had a "functionally equivalent" IRWMP;

WHEREAS, the Original Parties continue to desire to develop an IRWMP in addition to the aforementioned "functionally equivalent" IRWMP;

WHEREAS; there have been amendments to the IRWMP Act, including an amendment that eliminates the time period during which a plan must be developed by a regional water management group, which amendments have created a reason to amend the MOU;

WHEREAS, Lakeside, TID and Tulare desire to join the Original Parties as members of the Kaweah River Basin regional water management group (collectively "Parties" and individually "Party");

WHEREAS, the Parties desire to have an agreement restating the MOU in order to include Lakeside, TID and Tulare as Parties and also to include other appropriate changes to the MOU resulting from amendments to the IRWMP Act; and

TULARE COUNTY AGREEMENT NO. 24790

WHEREAS, the parties desire to set forth their restatement of the MOU in writing,

NOW, THEREFORE, the parties hereto mutually agree to the terms and conditions of this Restated MOU, which provides as follows:

Section 1: Definitions

1.1 "KAWEAH RIVER BASIN" shall mean the area covered by the IRWMP, which area is generally comprised of all of the lands on which is situated any of the following: (a) the District; (b) portions of the County in which is located any part of Dry Creek, Yokohl Creek or Cottonwood Creek; and (c) any portion of the Kaweah River System located below Terminus Dam.

1.2 "Lead Party" shall mean the District.

1.3 "KAWEAH RIVER BASIN IRWMP" shall be the name for the IRWMP for the KAWEAH RIVER BASIN.

Section 2: Purposes and Goals

2.1 The parties desire to coordinate their efforts to do the following:

2.1.1 Prepare this Restated MOU.

2.1.2 Follow the notice, hearing and other procedures outlined in California Water Code §10543, paragraphs (a) and (b), together with all other applicable law, to determine whether to prepare the KAWEAH RIVER BASIN IRWMP.

2.1.3 To prepare the KAWEAH RIVER BASIN IRWMP and adopt said IRWMP, all in accordance with the provisions of California Water Code §§10540-10543, together with all other applicable law.

Section 3: Cost Sharing

3.1 The Parties agree to retain Dennis R. Keller, Consulting Engineer, to prepare the KAWEAH RIVER BASIN IRWMP at a cost not to exceed $50,000.

3.2 Each Party agrees to contribute $3,000 towards the aforementioned costs of $50,000 described above in Section 3.1. The Lead Party shall pay any difference between the amount of $50,000 and the sum of the aforementioned contributions. Entities other than the Parties may become a party to this Restated MOU by a written amendment to this Restated MOU executed by each such entity and all of the existing Parties to this Restated MOU. Any new party to this Restated MOU shall pay $3,000 to the Lead Party as such new party's contribution towards the aforementioned cost to prepare the KAWEAH RIVER BASIN IRWMP.

3.3 Lead Party will be reimbursed for costs incurred by it in furtherance of the objectives of this Restated MOU, other than the cost described above in Section 3.1, upon the approval of a majority of the Parties, including the Lead Party. The Lead Party shall issue a call for funds to fund the aforementioned approved reimbursement by a written invoice sent to each Party showing its share of such costs, which share shall be calculated by dividing the total approved reimbursements by the number of Parties to the MOU at the time the particular cost is incurred. Each Party will pay its share of the aforementioned costs within thirty (30) days of receiving an invoice for the same from the Lead Party.

Section 4: Authority of Lead Party

4.1 The Lead Party shall be authorized to prepare and publish the notice referred to in California Water Code §10543, paragraph (a). Any Party located wholly outside of the boundaries of the Lead Party shall also publish the aforementioned notice within its own boundaries. Regardless, the Lead Party shall have the authority to hold the public hearing described in California Water Code §10543, paragraph (b).

4.2 After the aforementioned public hearing, the Lead Party shall confirm with each Party whether it is still in favor of proceeding towards the preparation of a KAWEAH RIVER BASIN IRWMP. If all of the Parties are still in agreement with the Parties proceeding to prepare a KAWEAH RIVER BASIN IRWMP, then Lead Party is hereby authorized to retain Dennis R. Keller, Consulting Engineer ("Keller"), on behalf of the Parties, to prepare the KAWEAH RIVER BASIN IRWMP. If either the Lead Party or a majority of the Parties determine that it might be productive to do so, Keller will be instructed to apply for a grant to fund all or part of the cost of preparing the KAWEAH RIVER BASIN IRWMP.

Section 5: General Provisions

5.1 Term. This Restated MOU shall become effective on the date first above written and shall continue until the final adoption of the KAWEAH RIVER BASIN IRWMP or until this Restated MOU is terminated as hereinafter provided. Any Party or all of the Parties may terminate participation in this Restated MOU upon 60 days notice to each other; provided, however, any Party so terminating its participation in this Restated MOU shall be responsible for its share of the costs incurred by the Parties through the date of said notice.

5.2 Additional Parties. Upon written approval of all of the Parties, other local public agencies, as defined in California Water Code §10535, may become parties to this Restated MOU.

5.3 Construction of Terms. This Restated MOU 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.

5.4 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 Restated MOU and the satisfactory performance of its terms.

5.5 Rights of the Parties and Constituencies. This Restated MOU does not contemplate the Parties taking any action that would:

5.5.1 Adversely affect the rights of any of the Parties; or

5.5.2 Adversely affect the constituencies of any of the Parties.

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

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

County:

COUNTY OF TULARE

Dated: 11/30/10

By _____

Title: CHAIRMAN, BOARD OF SUPERVISORS

Approved as to form:

Dated: 11/23/2010

_____ 20101737

TULARE COUNTY Counsel

Exeter:

Dated: 11-22-10

EXETER IRRIGATION DISTRICT

By Stanley Bort

Title: President

Approved as to form:

Dated: 15 Nov. 2010

Attorney for EXETER IRRIGATION DISTRICT

Visalia:

CITY OF VISALIA

Dated: _____

By _____

Title: _____

Approved as to form:

Dated: _____

_____

Attorney for CITY OF VISALIA

Exeter:

Dated:_____

EXETER IRRIGATION DISTRICT

By_____

Title: _____

Approved as to form:

Dated:_____

_____
Attorney for EXETER IRRIGATION DISTRICT

Visalia:

CITY OF VISALIA

Dated: 11/23/2010

By _____

Title: City Manager

Approved as to form:

Dated: 11/22/2010

_____
Attorney for CITY OF VISALIA

Lindsay:

CITY OF LINDSAY

Dated: 11/15/2010

By Ed Murray

Title: MAYOR

Approved as to form:

Dated: 12/06/2010

Julie M. Lee

Attorney for CITY OF LINDSAY

District:

KAWEAH DELTA WATER CONSERVATION DISTRICT

Dated: _____

By _____

Title: _____

Approved as to form:

Dated: _____

_____

Attorney for KAWEAH DELTA WATER CONSERVATION DISTRICT

Lindsay:

CITY OF LINDSAY

Dated:_____ By_____

Title: _____

Approved as to form:

Dated:_____ _____

Attorney for CITY OF LINDSAY

District:

KAWEAH DELTA WATER
CONSERVATION DISTRICT

Dated: 10-7-2010 By Don Mills

Title: President

Approved as to form:

Dated: 10/13/2010 _____

Attorney for KAWEAH DELTA WATER
CONSERVATION DISTRICT

Lakeside:

LAKESIDE IRRIGATION WATER DISTRICT

Dated: 10-7-2010

By Don Mule

Title: President

Approved as to form:

Dated: 11-1-2010

Attorney for LAKESIDE IRRIGATION WATER DISTRICT

TID:

TULARE IRRIGATION DISTRICT

Dated: _____

By _____

Title: _____

Approved as to form:

Dated: _____

_____
Attorney for TULARE IRRIGATION DISTRICT

Lakeside:

LAKESIDE IRRIGATION WATER DISTRICT

Dated:_____

By_____

Title: _____

Approved as to form:

Dated:_____

_____
Attorney for LAKESIDE IRRIGATION WATER DISTRICT

TID:

TULARE IRRIGATION DISTRICT

Dated:_____

By J. Paul Hendrix

Title: General Manager

Approved as to form:

Dated: 11/2/10

Attorney for TULARE IRRIGATION DISTRICT

City:

CITY OF TULARE

By _____

Dated: 10-07-10

Title: CITY MANAGER

Approved as to form:

Dated: 10/7/10

_____

Attorney for CITY OF TULARE

ATTACHMENT 1 – AUTHORIZATION AND ELIGIBILITY REQUIREMENTS

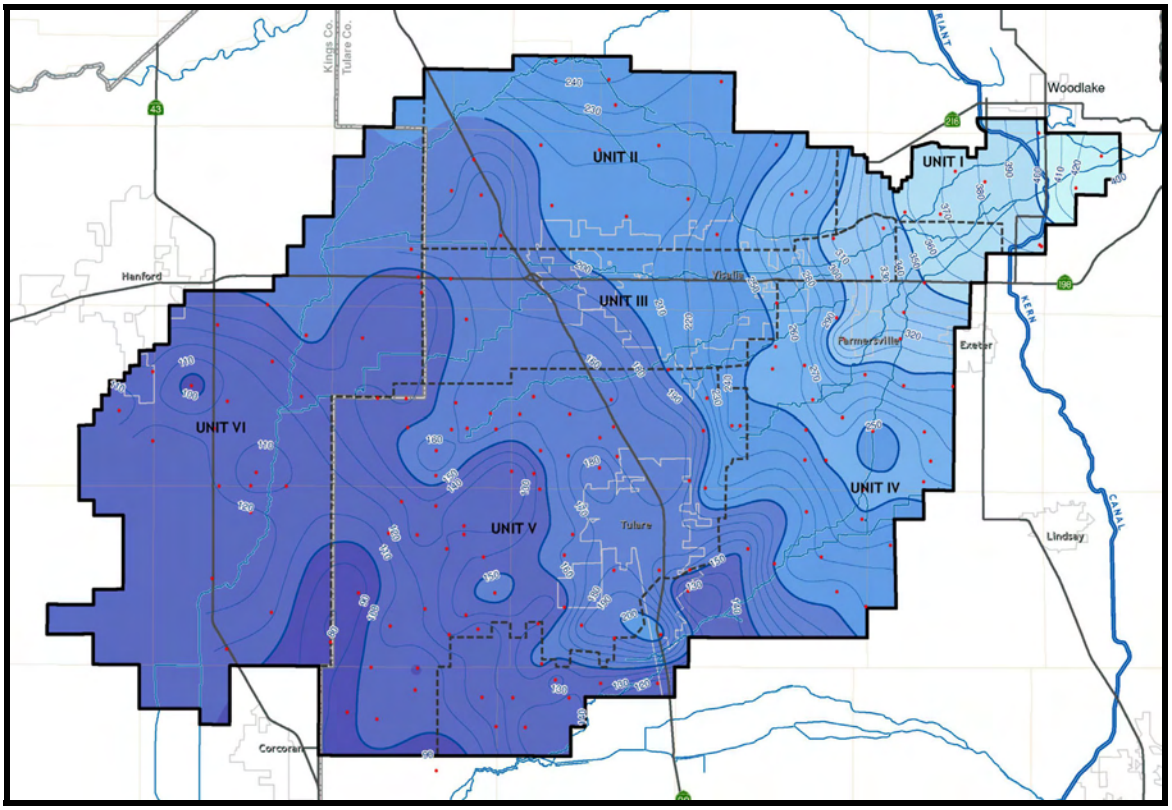
APPENDIX C

Kaweah Delta WCD Groundwater Management Plan, November 2006

KAWEAH DELTA

Water Conservation

DISTRICT



GROUNDWATER MANAGEMENT PLAN

(Updated: November 7, 2006)

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SECTION 1: INTRODUCTION

1.1 Overview

On July 5, 1995, the Kaweah Delta Water Conservation District (District) formally adopted the District's Groundwater Management Plan (Plan). The Plan allows the District to manage groundwater on a local basis in lieu of a mandated plan administered by the State of California Department of Water Resources. The District has long recognized groundwater as an important resource to the area and the Plan gives the District the authority to engage in specific activities, which are beneficial to the groundwater basin within the Plan area.

The Plan was originally prepared and implemented by the District in response to 1992 state legislation AB 3030. Since the establishment of the District's Plan, more recent state legislation SB 1938, current California Water Code interpretation and discussions within the Department of Water Resource's Bulletin 118 led the District to reevaluate the Plan and its components. This document, therefore, is an update of the Kaweah Delta Water Conservation District's 1995 Groundwater Management Plan.

1.2 Plan Authority

The District is an authorized groundwater management agency within the meaning of California Water Code (CWC) § 10753[1](b) and by the establishment of the Plan. The Plan does not conflict with existing groundwater ordinances and groundwater management plans and the District continues to endeavor to coordinate Plan elements with other local agencies that have adopted rules and regulations to implement and enforce their own AB255, or AB 3030 plans as required by CWC § 10753.9(a).

1.3 Background

AB 3030 provided an opportunity for the District to prepare and implement a Groundwater Management Plan. While the legislation allows for separate plans to be developed by each public agency with jurisdiction over water, a well-conceived Plan covering the entire District offers improved management and benefit capabilities for all agencies within the plan area.

The availability of groundwater to serve community and agricultural needs can be impacted by activities that take place a considerable distance beyond local boundaries. There is considerable common use of the

[1] CWC § 10753(b). Any local agency, whose service area includes a groundwater basin, or a portion of a groundwater basin, that is not subject to groundwater management pursuant to other provisions of law or a court order, judgment, or decree, may, by ordinance, or by resolution if the local agency is not authorized to act by ordinance, adopt and implement a groundwater management plan pursuant to this part within all or a portion of its service area.

groundwater resource and this coordinated Plan has been and will continue being a benefit to competing interests using the groundwater resource. This coordination is accomplished through the development of a Memorandum of Understanding (MOU) between the District and other local agencies within the plan area along with a periodic meeting of the MOU participants.

The Plan covers all of the land within the boundary of the District. Any local agency, as that term is defined by Government Code section 10752(g), can exclude the land within its boundary from being covered by the Plan by choosing not to be included in the Plan. Accordingly, the Plan covers all land within the boundary of the District, less that land within the boundaries of local agencies which elect not to participate in the Plan or which may opt out of the Plan (hereinafter the "Plan Area").

1.4 Purpose and Goals

The Plan recognizes that the conjunctive management of water supplies within the Plan Area must be continued. Achieving hydrologic equilibrium requires the management of both surface and groundwater supplies. Maintaining this balance will be the principal benefit to be derived from the Plan. Retaining all existing surface and groundwater supplies within the Plan Area is critical to maintaining this delicate balance.

The Groundwater Management Plan is also a vital element within the District's Integrated Regional Water Management Plan (IRWMP). The Plan provides the organizational foundation for the operation of the IRWMP. Many of the Plan's primary elements are used in carrying out the purpose of the IRWMP. Shared elements between the Plan and IRWMP include;

- ✓ Participation
- ✓ Regional Coverage
- ✓ Regional Objectives
- ✓ Water Management Strategies
- ✓ Integration
- ✓ Project Prioritization

The principal actions called for by the Plan will be gathering and evaluating data concerning the quantity of groundwater. Actions have been and will continue to be developed to enhance the valuable groundwater resource by promoting those measures necessary to reduce the long-term groundwater level decline in the Plan Area. Many of the actions identified are currently being conducted. Other actions will require further study prior to implementation.

Adherence to Plan objectives and procedures will avoid and reduce duplication of activities by local jurisdictions. Additionally, plan elements can be utilized by all the agencies within the Plan Area in long-term planning activities. The Plan is designed to be flexible, allowing updates to be made as needed, based principally on the additional information that is gathered through the monitoring programs.

1.5 Plan Area

The District is located on the alluvial fan of the Kaweah River. This alluvial fan extends approximately 40 miles in a southwesterly direction, commencing in the foothills of the Sierra Nevada range on the east and continuing to near the central axis of the San Joaquin Valley in the vicinity of the east bed edge of Tulare Lake. The north and the northwest boundaries of the District generally abut the service area of the Kings River. The south boundary of the District generally abuts the service area of the Tule River.

The District's Plan includes those areas overlying the groundwater basin or associated groundwater sub-basins within the District. Those areas of the San Joaquin Valley Groundwater Basin resources located within the District include portions of the Kaweah, Kings, Tule and Tulare Lake groundwater sub-basins. These sub-basins are shown on Plate 1.

The District's Plan Area is presented on Plate 2. Areas managed under existing Groundwater Management Plans by local agencies that are excluded by agreement from this Plan include areas within the borders of the Corcoran Irrigation District and specific lands managed under the Tulare Lake Bed Coordinated Groundwater Management Plan (TLBCGMP).

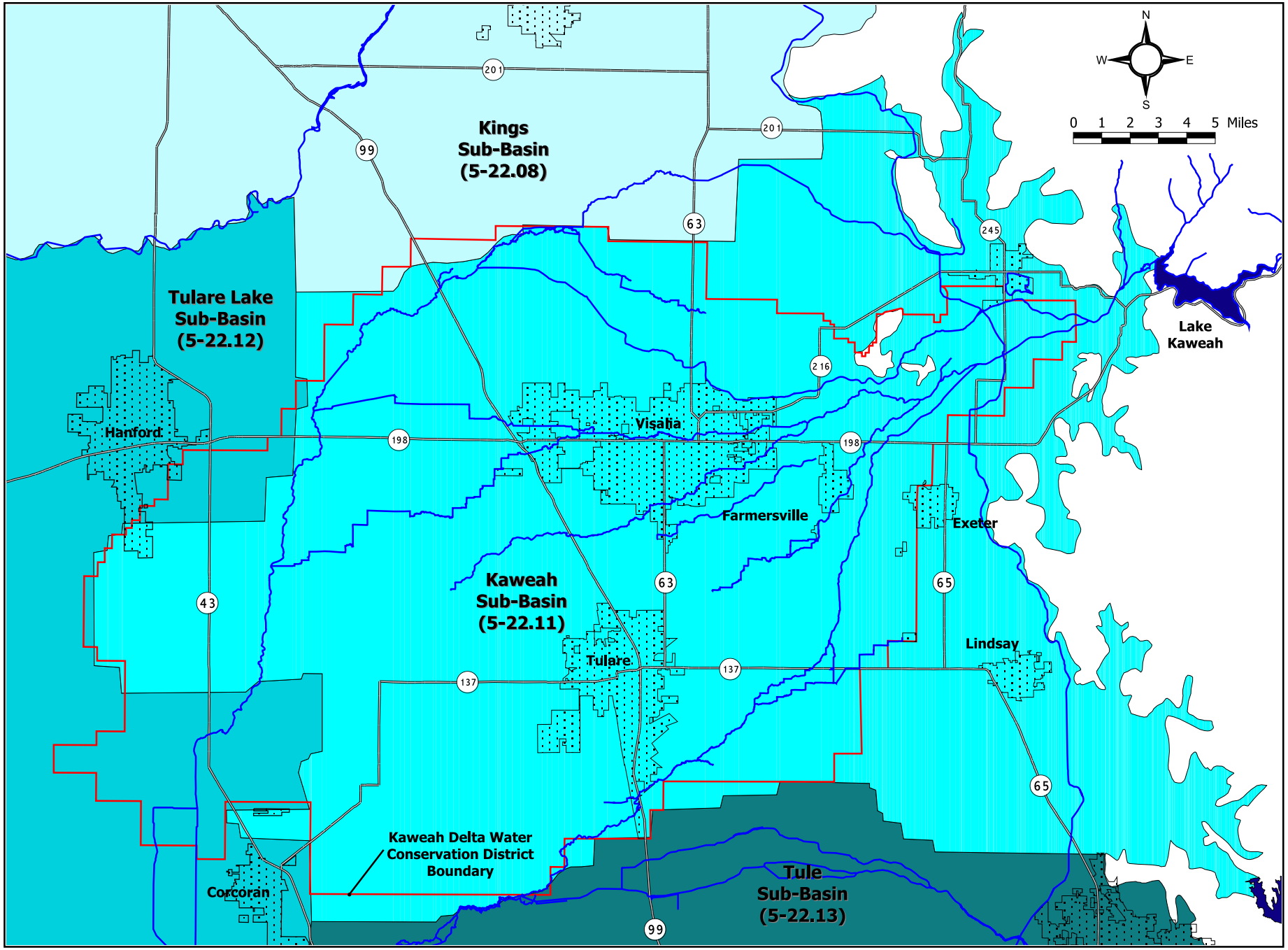


Plate No. 1 : Groundwater Sub-Basins

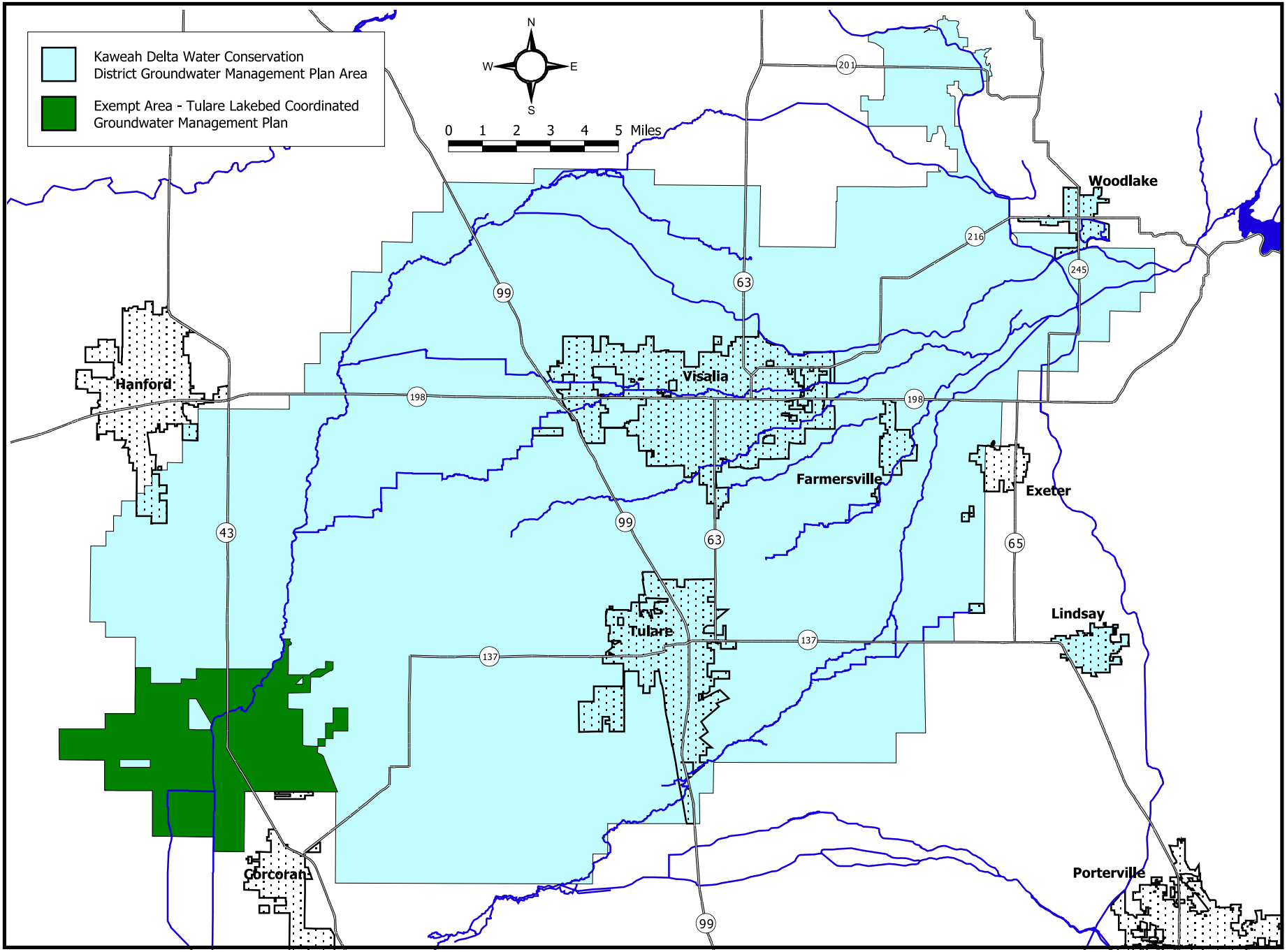


Plate No. 2 : Groundwater Management Plan Area

The District's Plan Area contains multiple local agencies that provide various types of water services. Those local agencies that have been included as stakeholders through the execution of a *Memorandum of Understanding (MOU)* are shown on Plate 3. The list of current stakeholders covered under a MOU is provided below in Table 1.

TABLE 1
PLAN STAKEHOLDERS

California Water Service Company	Kings County Water District (*AB 3030 Plan*)
City of Farmersville	Lakeside Ditch Company
City of Lindsay	Lakeside Irrigation Water District
City of Tulare	St. Johns Water District
City of Visalia	Stone Corral Irrigation District
City of Woodlake	Tulare Irrigation District (*AB 255 Plan*)
Consolidated Peoples Ditch Company	Ivanhoe Irrigation District

1.6 Management Plan Components

The District's Plan includes the following required and recommended components:

- ✓ CWC § 10753.7 (four mandatory components). Recent amendments to the CWC at § 10750 et seq. require a Groundwater Management Plans (GMP) to include several components to be eligible for award of funding administered by the Department of Water Resources (DWR) for the implementation of groundwater related studies, construction of groundwater projects and groundwater quality projects. These amendments to the CWC were included in Senate Bill 1938, effective January 1, 2003.
- ✓ CWC § 10753.8 (12 optional components). CWC § 10753.8 includes 12 specific technical issues that could be addressed in GMPs to manage the basin optimally and protect against adverse conditions.
- ✓ DWR Bulletin 118-2003, Appendix C (six recommended components). The recent 2003 update to the Department of Water Resource's Bulletin 118, *California's Groundwater*, includes discussion of required and recommended components of Local Groundwater Management Plans. Review of the material results in identifying components that are not included in CWC § 10750 et seq.

Table 2 summarizes the required and recommended components of an AB 3030 plan developed pursuant to current State guidance and the appropriate section of the District's Plan where each component is addressed.

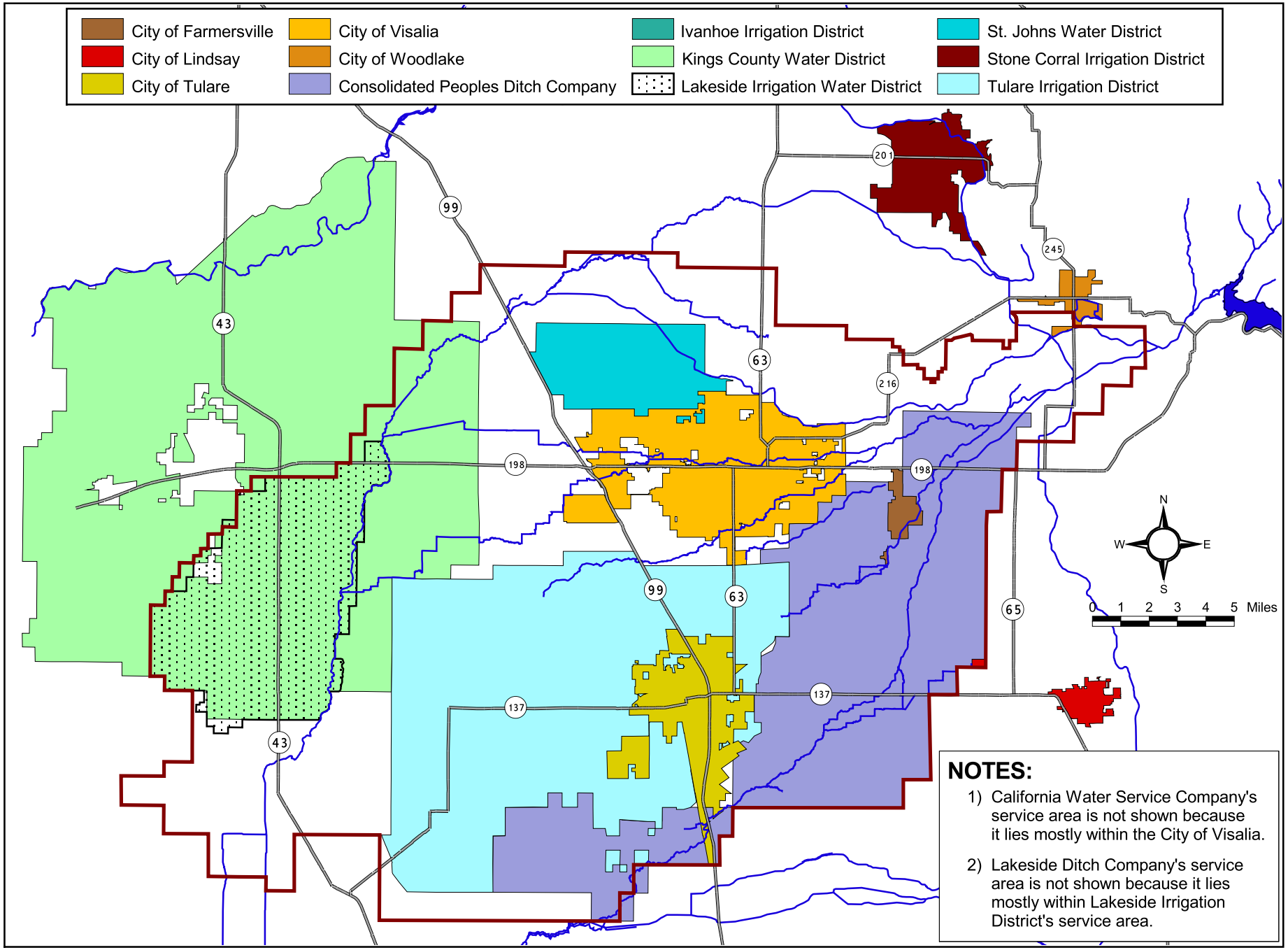


Plate No. 3 : Plan Participants

TABLE 2
GROUNDWATER MANAGEMENT PLAN COMPONENTS

Plan Component Description	District Plan Section
Mandatory Plan Components (CWC § 10753.7(a))	
(1) Basin Management Objectives	3.2
(2) Other Agency Involvement	3.6
(3) Plan Map	1.4
(4) Monitoring Protocols	3.3.5
Optional Plan Components (CWC § 10753.8)	
(a) Saline Water Intrusion	3.4.3
(b) Wellhead Protection	3.4.2
(c) Migration of Contaminated Water	3.4.4
(d) Well Abandonment	3.4.1
(e) Overdraft Mitigation	3.5.2
(f) Groundwater Replenishment	3.5.1
(g) Groundwater Monitoring	3.3.1
(h) Conjunctive Use	3.5.3
(i) Well Construction Policies	3.4.5
(j) Operation of Facilities	3.5.1.4
(k) Relationships with other agencies	3.6.3
(l) Land Use Planning	3.7.1
Recommended Plan Components (BU 118-2003, Appendix C)	
✓ Stakeholder Advisory Committee	3.6.2
✓ Plan Area Description	2.1 – 2.7
✓ Management Objectives Contributions	3.2
✓ Monitoring Program Description	3.3
✓ Periodic Groundwater Reports	3.7.3
✓ Periodic Plan Re-evaluation	3.7.4

SECTION 2: BASIN CONDITIONS

2.1 The District

The District was formed under the provisions of the Water Conservation District Act of 1927 for the purpose of doing those things authorized by the Act. The District, includes lands in both Tulare County and Kings County. The boundary is shown on Plate 4, which also shows hydrologic units established in the District. The total area of the District is about 340,000 acres, with approximately 257,000 acres located in the westerly portion of Tulare County and the balance, or about 83,000 acres, in the northeasterly corner of Kings County.

The lands within the District are used for agricultural purposes, although the cities of Visalia and Tulare constitute significant areas of urbanization. Other communities include Farmersville, Exeter, Goshen, Ivanhoe, Waukena and Guernsey.

2.2 Climate

The area is semi-arid with mild winters and hot, dry summers. The average rainfall, based on District records, is approximately 11 inches per year. Distribution of such rainfall varies from 13 inches on the eastern portions of the District to 7 inches on the western portions. The majority of this rainfall occurs from November through April. With the long, hot summers that normally occur in the valley, there is a potential for about five feet of water that evaporates per year, with the majority of that evaporation occurring during the period from April through October.

Rainfall in the District occurs primarily in the winter months, with virtually no rainfall in the summer months. Annual crop use per acre averages several times the amount of average precipitation. As a result, agricultural crops grown within the District are heavily dependent upon irrigation from surface water deliveries and groundwater pumping, with water needs only partially satisfied by rainfall.

2.3 Land Use

The cropping patterns within the District vary with changes in agricultural economics. In 1981, approximately 77% of the irrigated land was planted in row crops, 20% in permanent plantings and 3% in pasture. In 1999, approximately 71% of the irrigated land was in row crops, 28 % in permanent plantings and 1% in pasture. A tabulation of the land utilization for 1981 and 1999 as compiled in the Final Report (2003) of Water Resources Investigation of the Kaweah Delta Water Conservation District is presented in Table 3.

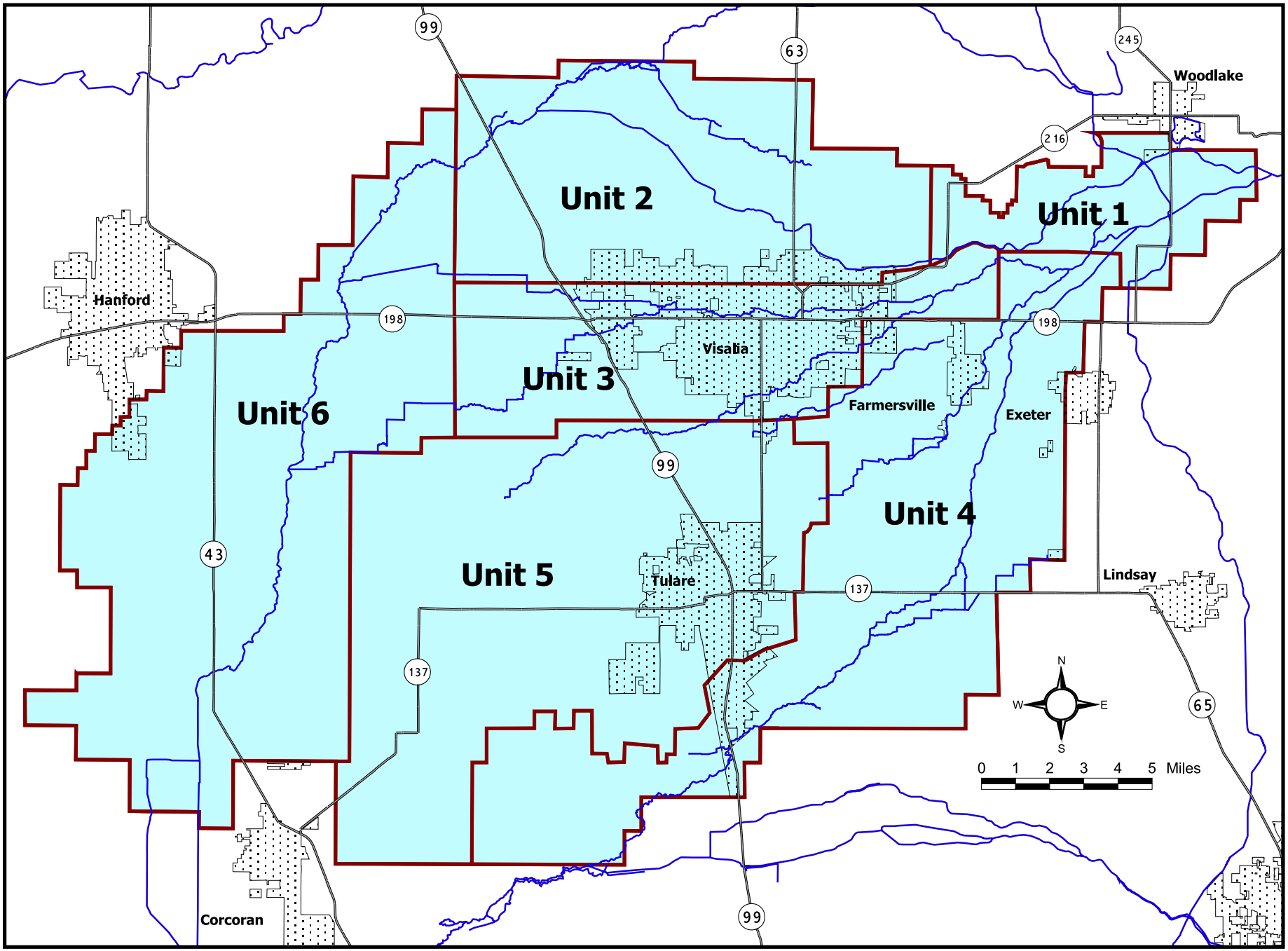


Plate No. 4 : Hydrologic Units

TABLE 3
DISTRICT SUMMARY OF LAND UTILIZATION

(Values in Acres)

Category of Land Use	1981	1990	1999
Irrigated			
Cotton	94,229	93,765	62,295
Alfalfa	33,977	41,257	38,923
Grain	65,062	65,960	87,927
Deciduous and Nuts	36,502	39,262	44,540
Pasture	8,873	4,005	2,954
Miscellaneous Field	2,911	1,053	510
Sugar Beets	1,869	1,100	900
Grapes	9,187	7,492	29,796
Citrus	6,337	6,587	7,184
Rice	313	31	0
Truck	3,995	5,494	10,872
Subtotal, Irrigated	**263,255**	**266,006**	**285,901**
Nonirrigated			
Farmsteads, Dairies, Feed Lots	21,352	29,797	29,508
Urban, Commercial and Industrial	10,397	10,156	13,136
Idle (Fallow)	13,923	7,634	6,958
Roads, Channel and Canals	2,045	3,386	2,433
Undeveloped	28,833	23,047	2,115
Unknown	246	25	0
Sub-total, Nonirrigated	**76,796**	**74,045**	**54,150**
TOTAL	**340,051**	**340,051**	**340,051**

Reference: Water Resources Investigation of the Kaweah Delta Water Conservation District (Final Report 2003)

2.4 Surface Water Hydrology

The majority of the watershed area for the Kaweah River is in the high Sierra Nevada Mountains, which experiences heavy snowfall during most winter months. During the spring and summer months, the snow melts to form tributaries of the Kaweah River. In normal years, the Kaweah River does not reach its highest stage until the middle of May or early June. For the last fifty years, the average annual runoff for the Kaweah River has been 454,295 acre-feet. Average runoff is not the runoff experienced every year. There are great variations in the flows of the Kaweah River, not only from year to year, but also from month to month. Historically, there have been alternating periods of flood and drought in the discharge

area of the Kaweah River, which have been greatly curtailed since 1961 with the completion and operation of Terminus Dam.

In addition to the Kaweah River runoff and rainfall, water enters the District by of way canals from the Kings River and smaller tributary streams such as Dry Creek and Yokohl Creek. Water is also often imported into the District from the Central Valley Project.

At McKay Point, a significant geographical feature immediately to the east of the eastern District boundary and about 1 ½ miles west of the community of Lemon Cove, the Kaweah River divides into the St. Johns River and Lower Kaweah River. Water then enters the District in these two channels. Within the District, these branches continue to divide into both natural and manmade distributaries forming the Kaweah Delta. Included in Section 3.3 of this Plan is Plate No. 16 “Kaweah Watercourses” that displays the extent of the surface water conveyance systems throughout the District.

Numerous public and private entities within the District divert surface water from the Kaweah River and its distributaries. About 250,000 acres within the District have access to surface water supplies from the rivers system. Because of the erratic nature of flows in the Kaweah River, which vary substantially in magnitude from month to month and year to year, nearly all these lands must satisfy supplemental water needs from groundwater. Note that all municipal and industrial uses within the District are supplied exclusively from groundwater.

Terminus Dam and Reservoir, located on the Kaweah River about 3 ½ miles to the east of the District, was completed in 1962 by the U.S. Army Corps of Engineers. This project was constructed mainly for flood control purposes and to provide storage for irrigation waters. The dam is an earth fill structure with a controlled outlet capacity of up to 8,900 cfs. The reservoir space available for conservation and irrigation re-regulation is about 183,000 acre-feet. The District presently has contracts with the United States for the repayment of operation and maintenance costs allocated to flood control and irrigation re-regulation space purposes. The District is the sole entity that holds the contracts for all the conservation and irrigation storage space in the reservoir.

The Friant-Kern Canal, a feature of the Federal Central Valley Project (hereinafter "CVP"), traverses the easterly portion of the District. San Joaquin River water is delivered to certain lands within the Plan Area via this facility. Both the Tulare Irrigation District and Ivanhoe Irrigation District which lie entirely within the Plan Area, obtain water from the Friant-Kern Canal as they have a long-term contract with the Bureau of Reclamation for CVP water. Although the Tulare Irrigation District and Ivanhoe Irrigation District are

the only entities fully within the Plan Area with such a Friant Division contract, the District itself, as well as other entities therein, has historically received substantial quantities of CVP water from time to time through temporary and surplus water service contracts. This water was either percolated or used to offset groundwater extraction. Other special districts located partially within or adjacent to the Plan Area, such as Exeter Irrigation District and Lindmore Irrigation District, also have long-term Friant Division contracts for CVP water.

In common with other areas along the east side of the San Joaquin Valley, the District historically has experienced the anomaly of flood control problems coupled with water deficiency. From time to time, flows in the Kaweah River have reached damaging levels, with substantial volumes of water escaping their channel banks to flood valuable agricultural lands within the District. Even with capture of some of the water associated with these high flood flow events, water supplies are insufficient to meet demands. This is demonstrated in groundwater level declines in all but the eastern portions of the District.

2.5 Hydrogeology

Most of the lands in the District are contained within the Kaweah subbasin of the San Joaquin Valley Groundwater Basin. The San Joaquin Valley Groundwater Basin is surrounded on the west by the Coast Range, on the south by the San Emigdio and Tehachapi Mountains, on the east by the Sierra Nevada and on the north by the Sacramento-San Joaquin Delta and Sacramento Valley. The northern portion of the San Joaquin Valley drains toward the Delta utilizing the San Joaquin River and its tributaries, the Fresno, Merced, Tuolumne and Stanislaus Rivers. The Kings, Kaweah, Tule and Kern Rivers that flow toward the trough of the Tulare drainage basin, which includes the beds of the former Tulare, Buena Vista and Kern Lakes, internally drain the southern portion of the valley.

The Kaweah subbasin lies between the Kings Groundwater Subbasin on the north, the Tule Groundwater Subbasin on the south, crystalline bedrock of the Sierra Nevada foothills on the east and the Tulare Lake subbasin on the west. The subbasin is generally comprised of lands in the Kaweah Delta Water Conservation District. Major rivers and streams in the subbasin include the Lower Kaweah and St. Johns Rivers. The Kaweah River is considered a primary surface water source for groundwater recharge to the area.

The sediments that comprise the Kaweah Subbasin aquifers are unconsolidated deposits of Pliocene, Pleistocene and Holocene age. On the east side of the subbasin, these deposits consist of arkosic material derived from the Sierra Nevada and are divided into three stratigraphic units: continental deposits, older alluvium and younger alluvium. In the western portion of the subbasin, near Tulare Lake bed,

unconsolidated deposits consisting of flood-subbasin and lacustrine and marsh deposits interfinger with east-side deposits.

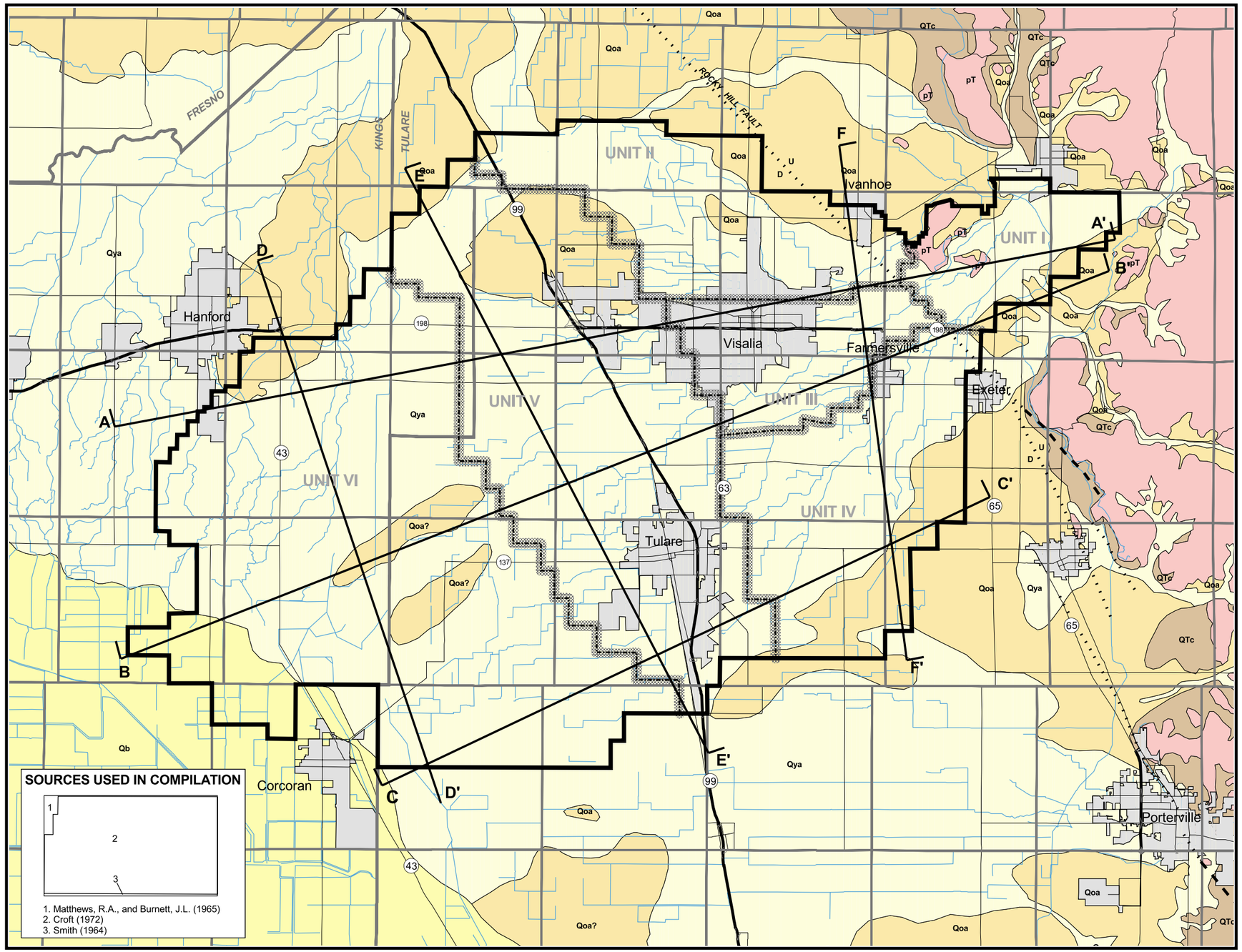
The continental deposits of Pliocene and Pleistocene age are divided into oxidized and reduced deposits based on depositional environment. The oxidized deposits, which crop out along the eastern margin of the valley, consist of deeply weathered, poorly permeable, reddish-brown sandy silt and clay with well-developed soil profiles. The reduced deposits are moderately permeable and consist of micaceous sand, silt and clay that extend across the trough in the subsurface to the west side of the valley.

Older alluvium, which overlies the continental deposits, is moderately to highly permeable and is the major aquifer in the subbasin. Younger alluvium consists of arkosic beds, moderately to highly permeable consisting of sand and silty sand. Flood-basin deposits consist of poorly permeable silt, clay and fine sand. Groundwater in the flood-basin deposits is often of poor quality. Lacustrine and marsh deposits consist of blue, green, or gray silty clay and fine sand and underlie the flood-subbasin deposits. Clay beds of the lacustrine and marsh deposits form aquitards that control the vertical and lateral movement of groundwater. The most prominent clay bed is the Corcoran Clay, which underlies the western half of the Kaweah Subbasin at depths ranging from about 200 to 500 feet (DWR 1981). In the eastern portion of the subbasin, groundwater occurs under unconfined and semi-confined conditions. In the western half of the subbasin, where the Corcoran Clay is present, groundwater is primarily confined below the Corcoran Clay.

The geology of the District and surrounding areas is depicted on Plate 5. The associated geologic legend is depicted in Plate 12. Plates 6 through 11 illustrate this geology in cross section.

R. 20 E. R. 21 E. R. 22 E. R. 23 E. R. 24 E. R. 25 E. R. 26 E. R. 27 E.

T. 16 S.
T. 17 S.
T. 18 S.
T. 19 S.
T. 20 S.
T. 21 S.
T. 22 S.



SOURCES USED IN COMPILATION

1. Matthews, R.A., and Burnett, J.L. (1965)
2. Croft (1972)
3. Smith (1964)

Legend

- District Boundary
- Hydrologic Unit Boundary
- Cross Section Location
- County Line
- Township and Range Lines
- Streams
- Urban Areas
- Fault--dashed where inferred, dotted where concealed; U, upthrown side; D, downthrown side

Projection: California State Plane, Zone 4. NAD83, Feet

UNCONSOLIDATED DEPOSITS

WEST SIDE (Coast Ranges Provenance)		EAST SIDE (Sierra Nevada Provenance)	
	Qb Flood basin deposits (Holocene)	Qya	Younger alluvium (Holocene)
QTa Alluvium, undifferentiated (Pliocene to Holocene)		Qoa	Older alluvium (Pleistocene and Holocene (?))
	QTl Lacustrine and marsh deposits (Pliocene and Pleistocene)	QTc	Continental deposits (Pliocene and Pleistocene(?))

CONSOLIDATED ROCKS

pT Basement complex (gabbro, diorite, granodiorite, and metamorphic rocks) (pre-Tertiary)

N

SCALE = 1:250,000

4 0 4 Miles

Plate No. 5
Regional Geologic Map

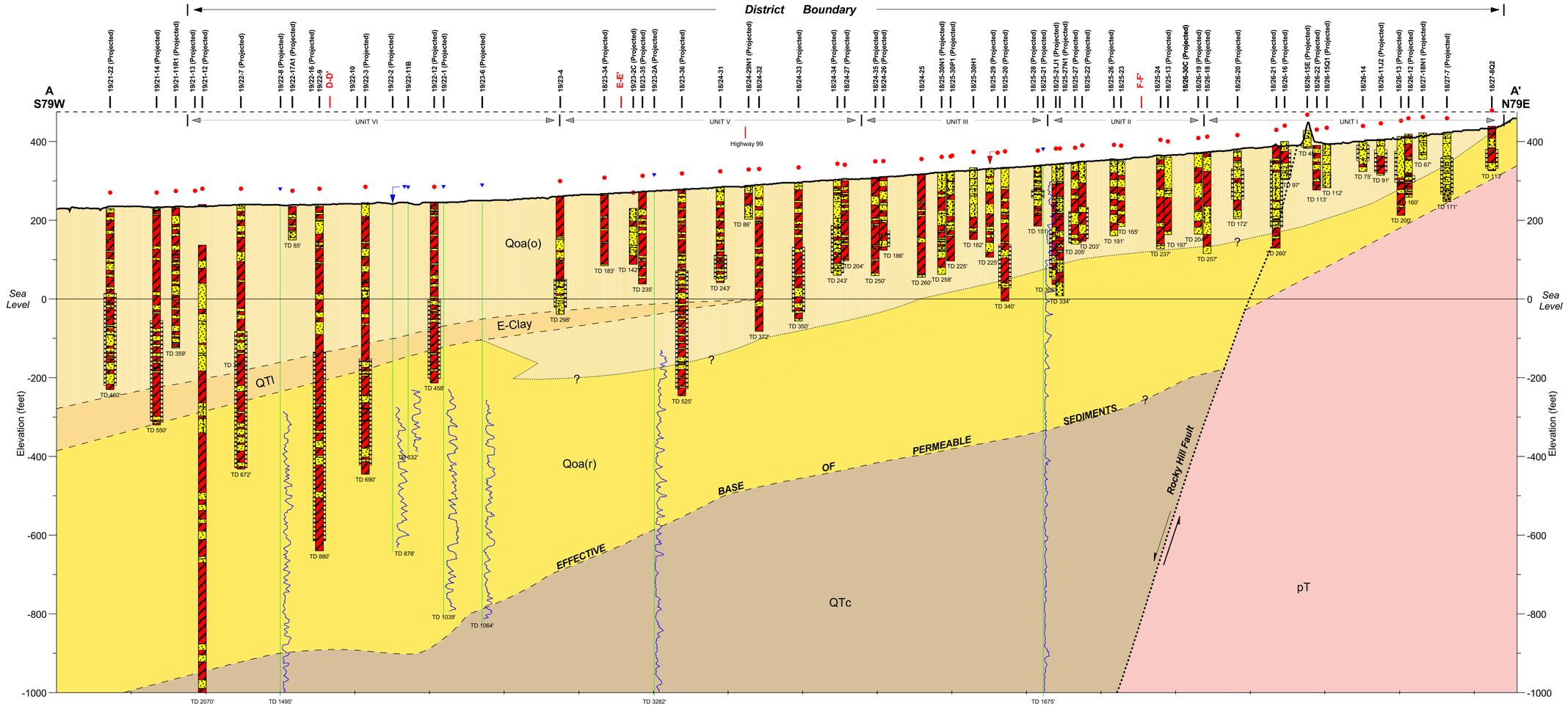


Plate No. 6:
Hydrogeologic Section A-A'
Kaweah Delta Water Conservation District
Kings and Tulare Counties

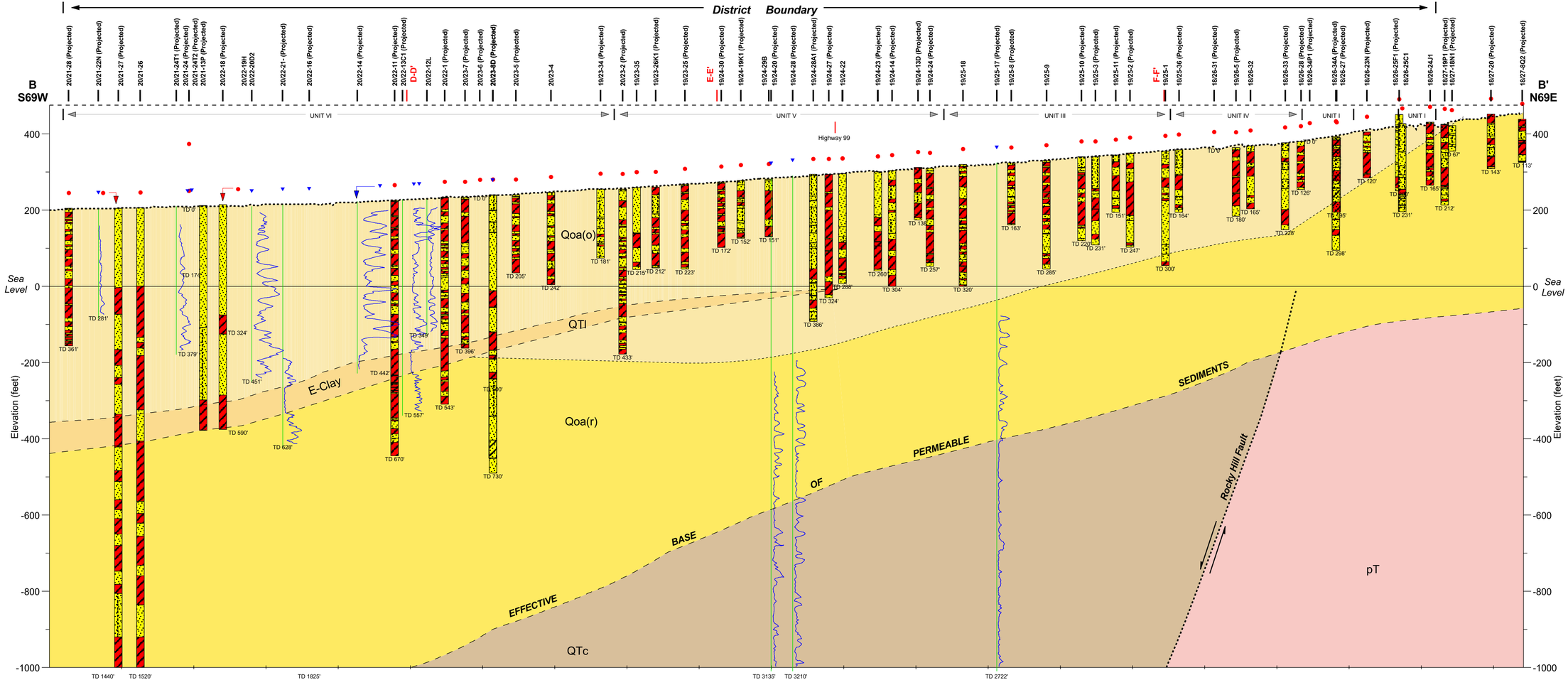


Plate No. 7:
Hydrogeologic Section B-B'
Kaweah Delta Water Conservation District
Kings and Tulare Counties

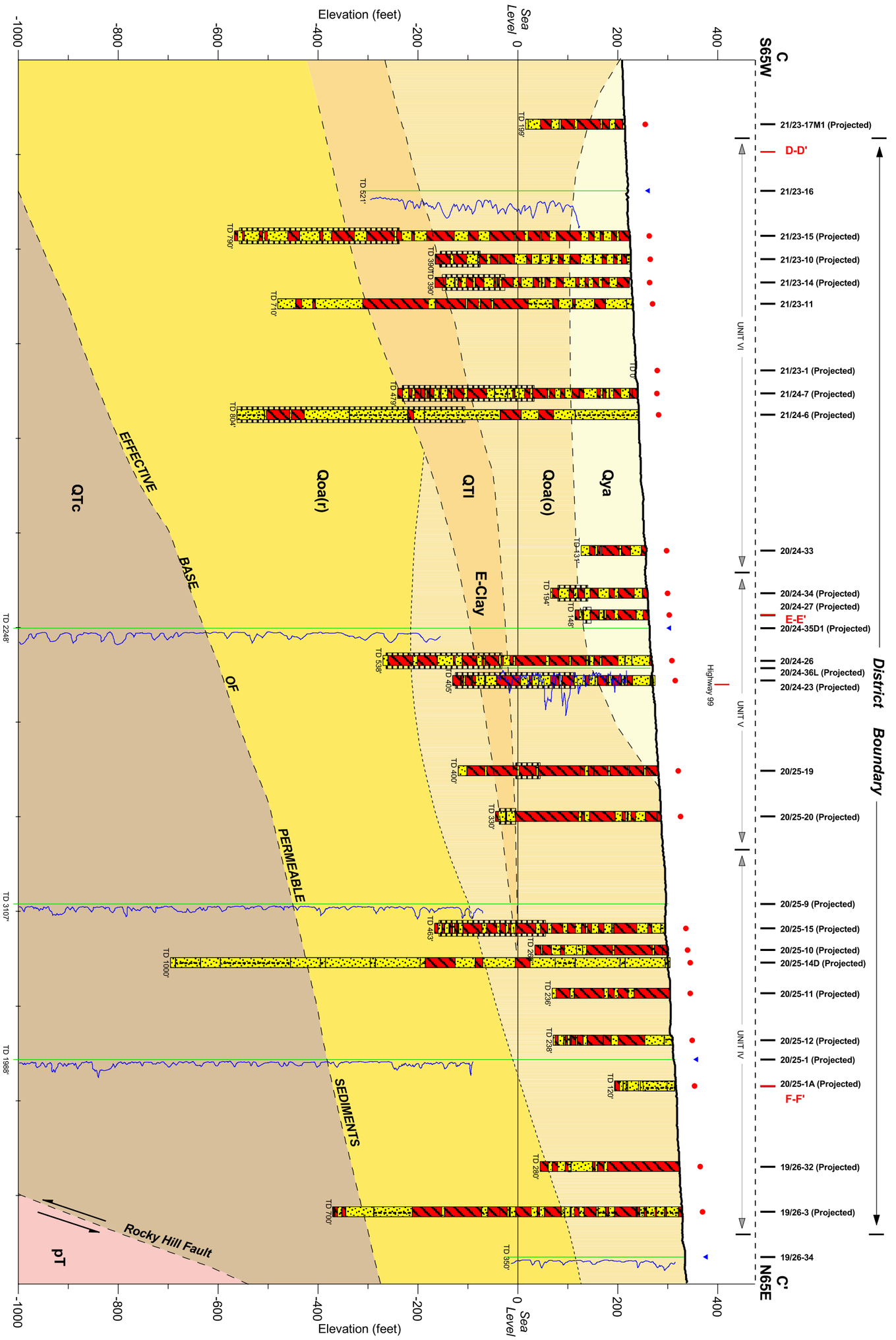


Plate No. 8:
Hydrogeologic Section C-C'

Kaweah Delta Water Conservation District
Kings and Tulare Counties

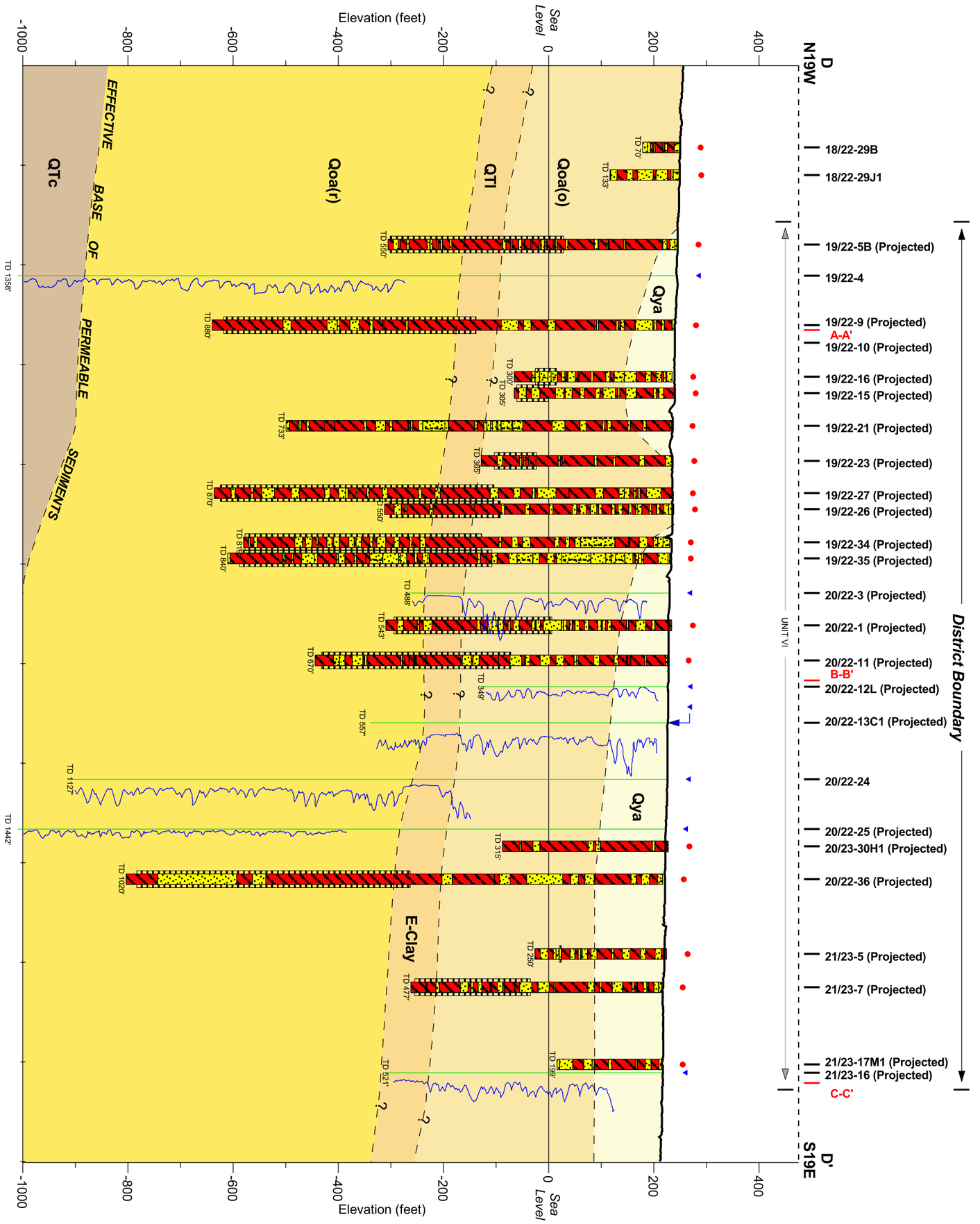


Plate No. 9:
Hydrogeologic Section D-D'
Kaweah Delta Water Conservation District
Kings and Tulare Counties

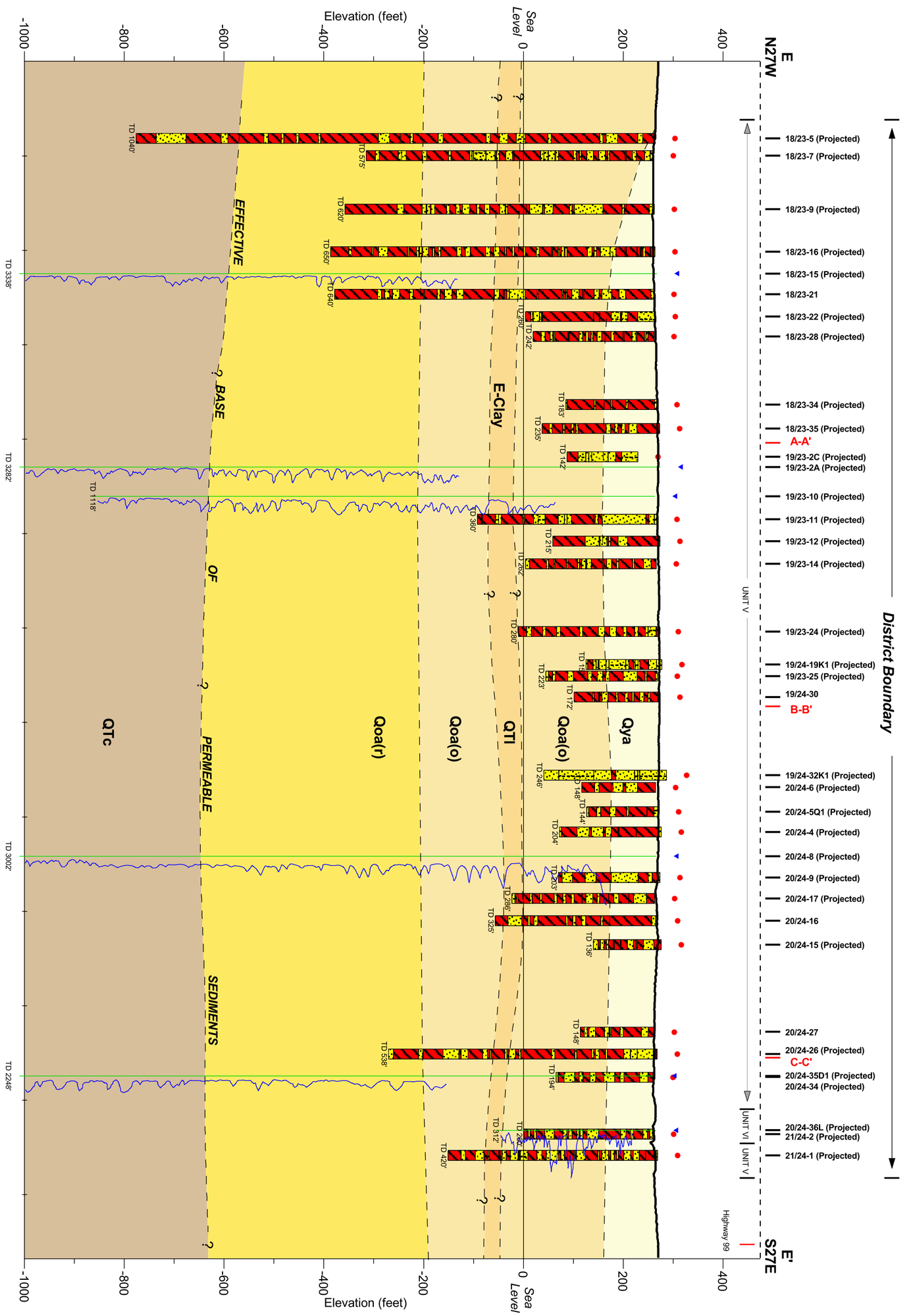


Plate No. 10:
Hydrogeologic Section E-E'
Kaweah Delta Water Conservation District
Kings and Tulare Counties

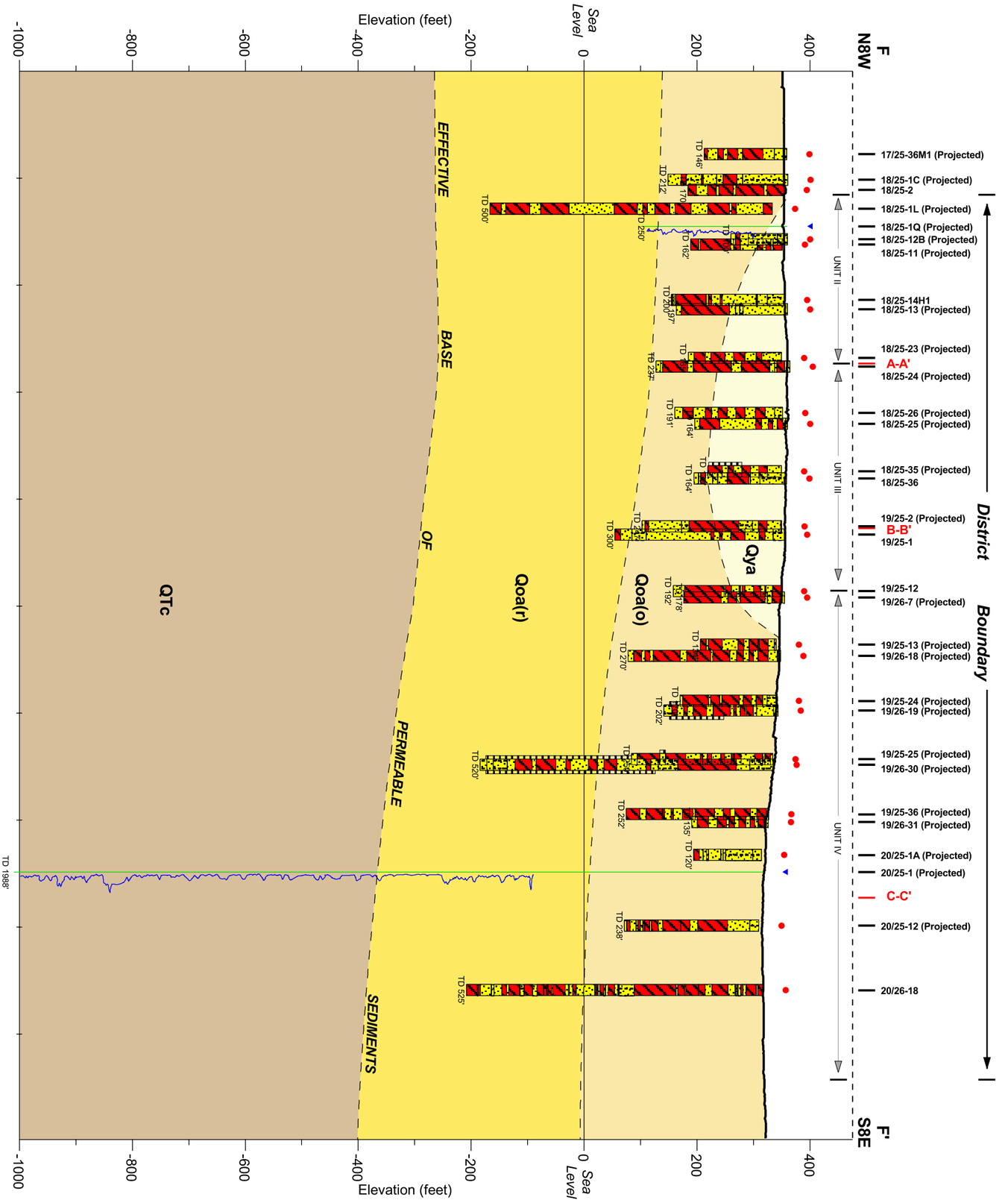


Plate No. 11:
Hydrogeologic Section F-F'
Kaweah Delta Water Conservation District
Kings and Tulare Counties

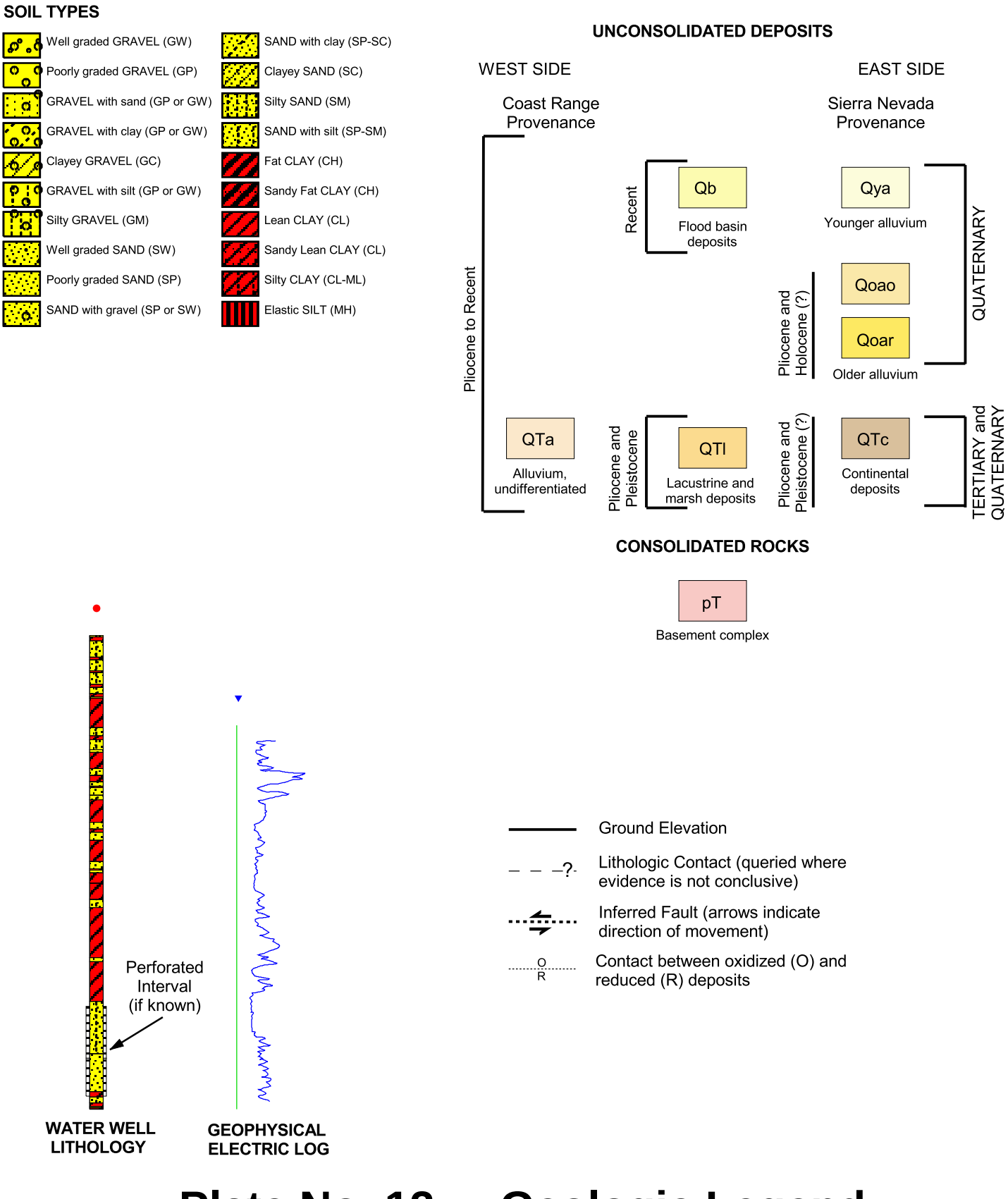


Plate No. 12 : Geologic Legend

2.6 Groundwater

Historically, much of the land within the District had a groundwater table close to the land surface. In the early part of the 20th century, the distance from the ground surface to the groundwater table may have averaged less than fifty feet. Over the last fifty years, each successive drought period has resulted in an increase in groundwater pumping that has caused the water table to drop significantly. It is anticipated that as agricultural land is converted to urban uses and industry grows, the competition for water resources among agricultural, urban, industrial and environmental interests will continue to increase.

Groundwater is the most dependable water supply for the Basin's agricultural, industrial and domestic water users who regularly draw upon this valuable resource from individually owned wells. The continued pumping of groundwater has resulted in an overdraft of the groundwater basin, that is, more water has been pumped from the basin than has been recharged into the basin on a long-term basis. Even though over 3 million acre-feet of surface water has been imported into the District over the past 30 years in an effort to supplement local surface water supply and reduce dependence on groundwater, the average depth to groundwater within the Plan Area has continued to drop.

The District has been monitoring groundwater levels since the 1950's. This is accomplished through groundwater level measurements taken in the late fall and early spring. Based on the water level readings, there is an overall trend of declining groundwater levels within the Basin. A graphical analysis of historical groundwater levels reveals the areal extent of overdraft throughout the District and is presented on Plate No. 13, "Contours of Equal Difference in Water Levels, 1952 to 1999". It is important to note that the Basin does have the ability to respond to positive conditions and this is demonstrated during years of above-average precipitation when the decline has been periodically interrupted by short-term groundwater recovery.

The condition of overdraft results in additional pumping costs to accommodate increased lift. As the water table continues to drop, pumping must occur from deeper levels of the aquifer which often have lower porosity and specific yield characteristics than those found in the upper levels of the unconfined aquifer. The long-term impact is a further reduction in the available groundwater supply in storage. Using the collected historical data and the transmissivity factors of the aquifers, a determination can be made of the estimated quantity of inflow and/or outflow of groundwater within the Plan Area. This data allows the District to identify and evaluate areas that could be more severely impacted during periods of sustained drought due to low yield of wells and the limited depths of the aquifers. This important water management tool is useful to the District in developing long-term planning decisions.