EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
Joint Exercise of Powers
Board of Directors Meeting

AGENDA

Wednesday, October 11, 2017
9:30 a.m. – 12:00 p.m.

San Joaquin County – Robert J. Cabral Agricultural Center
2101 E. Earhart Avenue – Assembly Room #1, Stockton, California

I. Call to Order/Pledge of Allegiance & Safety Announcement/Roll Call

II. SCHEDULED ITEMS

A. Discussion/Action Items:

1. Approval of Minutes of September 13, 2017 (see attached)
2. Discussion and Possible Action to Approve Resolution Authorizing Submittal of a Grant Application for an Amount of $2,176,660 to the Department of Water Resources (DWR) for a Groundwater Sustainability Plans and Projects Grant Under the Sustainable Groundwater Planning Grant Program (see attached)
3. Discussion and Possible Action to Establish a Technical Advisory Committee as a Standing Committee of the Eastern San Joaquin Groundwater Authority Board of Directors

B. Informational Items (see attached):

1. September 14, 2017, Letter from Woodbridge Irrigation District, "SGMA Groundwater Sustainability Plan Management Areas within the Eastern San Joaquin Sub-basin"
2. September 25, 2017, recordnet.com, "Contamination Found in Private Wells in North Stockton"
3. October 3-4, 2017, Agenda from the 26th Groundwater Resources Association Annual Meeting, "2017: Time for Collaboration and Innovation Toward Sustainable Management of Groundwater for Quality and Supply

III. Public Comment

IV. Directors' Comments

V. Future Agenda Items

VI. Workshop/Shirtsleeve Session: No Items for Discussion

VII. Adjournment

Next Regular Meeting
November 8, 2017 at 9:30 a.m.
San Joaquin County - Robert J. Cabral Agricultural Center
2101 E. Earhart Ave., Assembly Rm. #1, Stockton, California

Action may be taken on any item

Agendas and Minutes may also be found at http://www.ESJGroundwater.org
Note: If you need disability-related modification or accommodation in order to participate in this meeting, please contact San Joaquin County Public Works Water Resources Staff at (209) 468-3089 at least 48 hours prior to the start of the meeting.

Eastern San Joaquin Groundwater Authority
Board Meeting Summary
Wednesday, September 13, 2017

I. CALL TO ORDER/PLEDGE OF ALLEGIANCE & SAFETY ANNOUNCEMENT/ROLL CALL:
The Eastern San Joaquin Groundwater Authority (Authority) Board meeting was convened at 9:35 a.m., on September 13, 2017, at the Robert J. Cabral Agricultural Center, 2101 E. Earhart Ave. Stockton, CA. The pledge of allegiance was conducted. Ms. Lynn Hoffman provided the required safety information.

Roll Call:
In attendance were Directors Biagi, Jr., Fletcher, Flinn, Freeman, Henry, Herrick, Kuil, McCoy, Nakanishi, Silverman, Thomas, Thorburn, Alternates Heberle, Lytle, Roberts, Secretary Balaji, Vice-Chair Panizza, and Chair Winn. Roll was taken and a quorum was present.

II. SCHEDULED ITEMS:

A. Discussion/Action Items:

1. **Approval of Minutes**: Motion: The minutes of August 9, 2017 were unanimously approved. (Kuil/Panizza)

2. **Presentation of Baseline Options for Allocation of Costs of Groundwater Sustainability Plan**: Mr. Nakagawa explained that the cost allocation of the Groundwater Sustainability Plan (GSP) is yet to be thoroughly discussed and called attention to the sample draft cost allocation charts that had been introduced at the Ad Hoc Technical Review Committee (Ad Hoc) Meeting in August. A question was asked whether the costs would be allocated for two or three years. Mr. Nakagawa replied that the costs would be spread across a 2 ½ year period and depending on an agency's fiscal year and procedures, it could span either a two- or three-year period. It was also asked when and who would be involved in making the decision on how the costs would be allocated. Mr. Nakagawa replied that at this point, the focus has been to determine the scope of work so that true cost estimates can be developed. He also stated that there is ongoing work to complete the groundwater model, noting that RMC Water and Environment Woodard & Curran has been working with the Ad Hoc group in this effort. This work effort will provide information on water balance, which may be a metric we can use in the cost allocation effort.

B. Informational Items: Mr. Nakagawa called attention to the adopted Bylaws that were distributed in the Agenda packet. He also noted the flyer that was distributed by DWR regarding an upcoming SGMA GSP Workshop in Clovis, CA on September 20, 2017.

III. PUBLIC COMMENT: No public comment was offered.

IV. DIRECTORS' COMMENTS:
Chair Winn mentioned that the Metropolitan Water District Board of Southern California is soon scheduled to vote on whether or not to invest in the Twin Tunnels/BDCP/California WaterFix. He stated that the Delta County Coalition (DCC) agencies have been meeting with other agencies, such as San Diego Water Authority and Santa Clara Valley Water District. He stated the meetings have been very productive and there is some agreement regarding each party's concerns. Chair Winn also stated he attended a meeting last week in Washington, D.C. at which eight valley counties were discussing transportation and water issues with congressional representatives. It was noted that Senator Feinstein, though not opposed to the tunnels, did raise some concerns regarding the project. Additionally, Senator Harris' staff met with the DCC and joined them on a tour of the Delta so that the Senator's staff could become more familiar with issues impacting the Delta. Mr. Kris Balaji, Secretary of the Authority, noted that there were staff members from the California Department of Water Resources (DWR) present at today's Authority meeting and spoke very highly of their support during SGMA GSA formation efforts. In

attendance were Ms. Hong Lin (Division of Integrated Regional Water Management), Mr. Bill Brewster (Senior Engineering Geologist), and Gary Lippner (Region Office Chief of North Central Region). It was noted that Ms. Lin, Mr. Brewster and Mr. Paul Wells (Regional Coordinator) are all part of Mr. Lippner's team.

On a separate note, Director Mike Henry stated that today will be the last meeting which Julianne Phillips will be attending because she has accepted a new position in Kings County.

V. FUTURE AGENDA ITEMS: No discussion held.

VI. WORKSHOP/SHIRTSLEEVE SESSION: EQUITABLE GSP COST APPORTIONMENT:
Ms. Carolyn Lott facilitated this discussion and reminded the group that this will be less formal, and she invited the additional agency staff member/alternate to be seated at the table for this session. She emphasized that the workshops presently are intended for discussion on administrative issues affecting Board responsibilities. In the future, within the actual development of the GSP, the process will include stakeholder engagement efforts to various interested parties (public, special interest, etc.) The objective of today's discussion is to review timeline and to provide Mr. Mark Williamson, GEI Consultants, Inc., with feedback and guidance for developing the work scope for the Sustainable Groundwater Planning Grant Program grant application.

Mr. Nakagawa began the presentation highlighting the grant categories and the revised GSP scoping schedule dates. He stated that the goal of the discussion today is to obtain direction from the group to shape the application efforts and then gain information from the next Ad Hoc meeting. The goal would be to return to this Authority Board at October 11 meeting with a draft of the grant submittal for review and possible approval. He highlighted that this schedule provides a cushion in that there is one more Authority meeting prior the grant application deadline to DWR in November 2017. It is estimated that February 2018 is when the Authority Board would approve the grant agreement with DWR and it is at that time when the cost share allocations must be finalized and the funding sources secured. He stated that the presentation was distributed in advance, will be posted, and encouraged the group to discuss it with their respective GSA Boards for input and feedback.

Mr. Williamson continued the presentation highlighting the key tasks in the grant application development, noting that if the group adheres to the above mentioned schedule, it would allow time to submit the application early to DWR for previewing. He reminded the group of the requirements within SGMA regulations and the seven components of the GSP. He noted that one of the most difficult efforts will be to determine which sustainability management criteria to use in the Plan. Mr. Williamson summarized the GSP development work in three stages: 1) Quantification of existing conditions, which includes the development of hydrogeologic model; 2) Establishment of sustainable management criteria; and 3) determination of threshold and triggers to operate the basin and the implementation schedule. He highlighted that the GSP must identify how we will know the basin is being operated sustainably, metrics for how problems are identified and corrected, as well as the funding mechanism.

Mr. Williamson next discussed the potential method and approach, as well as potential key assumptions to be used on the GSP development process. He stated there is a maximum of $1.5M available in grant funds, along with 50% cost share (which can be comprised of out of pocket and in-kind services). The approach starts with an initial assumption of the full $3.0M for the Scope of Work, and then identifies potential cost reduction measures. He defined 12 Key Assumptions used on the GSP development process for discussion purposes to gain consensus. Ms. Lott emphasized that the 12 Key Assumptions would steer Mr. Williamson in the work plan, regardless of amount of grant funding requested from DWR. The group discussed the method and approach.

Some ideas conveyed included:

- It was suggested that our initial approach should be to find out what information is really needed at this time to supplement what has already been developed, and then determine how we secure funding to support the effort. There were some who supported establishing a committee to work on it, if needed.

- A member expressed interest in the potential credits to be received for reducing reliance on groundwater. Mr. Williamson elaborated that recharge from the various surface water sources are an important aspect to the water balance and should be credited to those that are bringing the surface water supply. It was affirmed by a participant that we should use the broadest definition of recharge to obtain credits of all types we use.
- A follow up question was raised concerning a chart of prior studies: Given several groundwater projects have been initially studied during the development of the Integrated Regional Groundwater Management Plan (IRWMP), to what extent can this work be applied to the GSP efforts? Mr. Nakagawa reference a program guide that has been developed which lays out the regulations, statutes and related requirements. This was then turned into a schedule and set of deliverables. He explained that this has become the basis for Mr. Williamson's scope of work and cost estimate. He confirmed that we are deeply rooted in the regulations and statutes. This effort includes populating the tasks and deliverables with previously collected documents, such as the IRWMP, and then moves us into the cost reduction efforts. He suggested the group discussion move on to the topic of cost reductions, which will further illustrate this approach.

Mr. Williamson continued, seeking input on seven factors that might decrease/increase the GSP effort:

1. Streamline the stakeholder involvement process
2. Maximize efficient use of in-kind services
3. Use updated model efforts to characterize current conditions and water budget
4. Number of management areas selected for the basin
5. Simplified water use accounting
6. Subbasin-wide accounting for natural recharge
7. Use representative monitoring sites

Mr. Walt Ward asked for clarification on the due date, given the required public review period must occur as spelled out in the regulations prior to the submission of the GSP. Mr. Bill Brewster of DWR replied that the Authority must determine its internal procedures to ensure approval is wrapped up in time to submit to DWR by its due date (January 31, 2020), but he will look into the specific question regarding public review period.

Ms. Lott mentioned the Authority will need to decide how much of the stakeholder outreach work to take on at the GSA level or utilize consultants to conduct outreach on its behalf, which will significantly influence the cost. One director stated a united effort would be less expensive than if each GSA did it on their own and another member emphasized the importance of stakeholder outreach, stating we need to give it due emphasis. Ms. Lott stated that the proposed consultant should explain their process for stakeholder engagement in detail and expects the level of support will be significant to meet DWR's requirements.

A question was raised on the mechanics of how in-kind costs are reported. Mr. Nakagawa cautioned that the process and paperwork requirements for reimbursement from the state are onerous, but stated that the time for these meetings are an example of costs which can be considered in-kind. It can be costly just to keep track of the required information.

Questions were raised regarding management areas and the ability to measure sustainability on a smaller scale if we choose to have a single or very few management areas. Mr. Williamson replied that it is not required by SGMA to manage at a level smaller than basin-wide. He stated that management areas are really intended within SGMA to be used as a "special study area" and are based on unique and distinct characteristics (i.e., hydrologically). He added that the more management areas created will significantly increase complexity and cost of compliance. Mr. Brewster added that each management area would be measured by distinct measureable objectives. Ms. Lott summarized comments from Mr. Ward and others that the fewer the management areas the better, but if the need later arises to carve out a separate management area, that flexibility exists.

Mr. Nakagawa added that the input received today on the cost reduction measures will help to properly scope the work plan. A member from the audience asked by how many acre feet has the basin been

depleted. Mr. Nakagawa answered that context would be needed to properly answer that. For instance, since 1960 it may have been depleted by 3 million acre feet, but if comparing from 1970, that may be completely different.

Several participants made the point that they would like to better understand what are the minimum requirements needed to comply and what gaps exist based on work and data gathered to date – then then provide a zero based budget approach and build from there. It was stated that some of the items discussed appear to be implementation based rather than GSP development based. It was also suggested by others that at this stage to remember we are building the framework for the plan (not the plan itself) and we should assume the maximum $3M would be applied for, then build into the plan that certain cost saving measures may be taken. It was stated that even if awarded the full $3M grant, we would not have to fully utilize all funds if cost saving measures are taken. Another member suggested to have GSAs determine how much each could contribute for the GSP and base the grant limit amount on that.

Ms. Lott reiterated that the purpose of today's discussion is to get general guidance on topics such as GSA outreach level, number of management areas, and gauge interest on including in-kind work so Mr. Williamson can develop framework with some cost estimates for future discussion. She summarized that, so far, she is hearing from participants that there is consensus to do only what is required in the GSP and to use all past studies. She stated that the target is to have enough guidance for Mr. Williamson to present cost estimates to the Authority in October so they can make a decision. If more discussion is needed, then the November meeting is available, or a subcommittee can be established. She asked if the group was comfortable with taking some of the general guidance provided today and having Mr. Williamson develop cost estimates and bring it to the Ad Hoc meeting for further discussion. It was suggested by participants to narrow down the discussion and to have Mr. Williamson come up with his best estimate that can be a starting point for the next discussion. It was suggested to have information available to Authority Board in advance so it can be discussed by their own GSA Boards first.

Mr. Nakagawa stated that the input today has been very helpful and that a zero based budget will be developed. This would include a minimum work plan, and to that we must factor in how to plan for scope risk or unanticipated work based on the discussion and the process of our GSP. One way to do this is to establish baseline GSP for minimum compliance and then options beyond that.

Mr. Attebery reminded the group that currently this Authority has no subcommittee and may establish one at the pleasure of the Chair, should the Authority wish to receive recommendations from a subcommittee. Chair Winn expressed interest in pursuing the establishment of a subcommittee.

VII. ADJOURNMENT: Chair Winn adjourned the meeting at 12:10 p.m.

Next Regular Meeting: October 11, 2017, at 9:30 a.m. San Joaquin County – Robert J. Cabral Agricultural Center 2101 E. Earhart Ave., Assembly Rm. #1, Stockton, California

Submitted by: Kelly Villalpando, San Joaquin County

EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY

Joint Exercise of Powers
Board of Directors Meeting

MEETING ATTENDANCE RECORD

Location: SJ COUNTY ROBERT J. CABRAL AG CENTER Date: 09/13/17 Time: 9:30 AM

NAME	AFFILIATION	E-MAIL ADDRESS	PHONE
Danielle Barney	SJC PW WR	dbarney@sjgov.org	468-3089
Michael Callahan	SJCPW	mcallahan@sjgov.org	469-9560
Kelly Villalpando	SJC PW WR	KRVillalpando@sjgov.org	468 3073
Joe Salzman	Lockeford CSD		
Mike Henry	Lockeford CSD	midot@att.net	712-4014
Ken Vogel	Farm Bureau	KenSVogel@yahoo.com	
[illegible]	SEWD		
Dave Simpson	NSJWCD	simpson4grapes@yahoo.com	
Amardeep Singh	DWR	amardeep@water.	(916) 376-9655
Bill Brewster	DWR	bill.brewster@water.ca.gov	916.376.9657
Gary Lippner	DWR	gary.lippner@water.ca.gov	916-376-9604
Erik Ringelberg	The Freshwater Trust	erik@thefreshwatertrust	
Chris Thomas	" " "	cthomas@ " "	
Nick Osman	" "	NOSMAN@ "	
Dale Kuil	SSJID		670 9829
Rich Silverman	Manteca		
Alan Nakanishi	Lodi City Council		
Tim M'C[illegible]	Lathrop		941-7499
Greg Gibson	Lathrop		
Walt Ward	StanCo		
John F[illegible]	CWS		547-7910
Dennis Mills	Calaveras Co	—	—
Russ Thomas	CCWD	—	—
Scot Moody	SEWD		
Dante John Nomellini	CDWA		
John Herrick	SDWA		
George Biagi	ESGA		
Mel Lytle	CWS		

Eastern San Joaquin Groundwater Authority Meeting – Sept. 13, 2017

NAME	AFFILIATION	E-MAIL ADDRESS	PHONE
Dave Fletcher	Linden CWD	dgfletch@comcast.net	887-3202
Reid Roberts	CSJWCD		941-8714
Charlie Swimley	Lodi		
Tom Flinn	NSJWCD		
Dave Eggerton	CCWD	daveeg@ccwd.org	209-754-3001
Steve Cavallini	CAL WATER	SCAVALLINI@CALWATER	209-993-9789
Melvin Panizza	SEWD		
Julianne Phillips	SJFB	JPhillips@SJFB.org	
Mynn Hoffman	SJC AW WR	mhoffman@sjgov.org	468-3531
Supv. Winn	SJC		
Alice Towey	EBMUD	alice.towey@ebmud.com	510-287-1105
Dom Gulli	RDS	greenmountaindan@[illegible]	
Cathy Lee	SEWD		
[illegible]			
Peter Rietkerk	SSJID	prietkerk@ssjid.com	
Sam Bologna	SSJID	sbologna@SSJID.com	249-4617
Joaquin Cruz	EBMUD	jcruz@ebmud.com	510/287-0968
Grace Su	EBMUD	grace.su@ebmud.com	510-287-7013
Jane Wagner Tyack	League of Women Voters	JaneTyack@mac.com	209-642-5105
George Hartmann	RD 2074/2030	guthar@gmail.com	
[illegible]	CA MUN		334 3048
Eric Thorburn	OID	ethorburn@oakdaleirrigation.com	840-5525
Ali Taghavi	RMC/Woodard & Curran	ataghavi@woodardcurran.com	916-999-8760
Kris Balaji	SJC		
Mark Houghton	Manteca		
JN Spaletta	NSJ		
Doug Heberle	WID		

ATTACHMENT II
A.2.

REV7

DRAFT

PROP 1 GSP
GSP GRANT APPLICATION

October 11, 2017

Eastern San Joaquin
Groundwater Authority

Key Tasks

- Task 1: Project Management and Coordination
- Task 2: Grant Strategy, Eligibility, and Guideline Updates
  - Review PSP
  - Determine Eligibility
  - Recommend County-wide Strategy
- ~~Task 3: Collect Compliance Documentation (Optional)~~ Optional task not required
  - ~~*completion of* Groundwater Management Plans~~
  - ~~*inclusion in the* California Statewide Groundwater Elevation Monitoring *(CASGEM)* program~~
  - ~~*completion of* Urban Water Management Plans and Agricultural Water Management Plans~~
  - ~~*filing of* surface water diversion reports~~
  - ~~*establishment of* water conservation (SBx7-7) targets~~
- Task 4: Authority Member Outreach
- Task 5: Meetings with ESJ Groundwater Authority
- Task 6: Grant Writing and Submittal

Key Points

- $2,176,660 Total GSP Cost Estimate
- Apply for a Disadvantaged Community Waiver
  - If approved, local cost share is reduced to 25%.
- Apply for the Maximum $1.5M Grant Amount
- Cost Estimate Sufficient to Ensure Funds are Adequate for Substantially Compliant GSP
- Standard is Substantial Compliance
- Optional Task to Construct Monitoring Wells
- Propose a Budgetary Approach Expend Only What Needed
- Compressed Schedule:
  - Effective Completion Date - June 30, 2019

Cost Estimate Summary

1. Project Management	$115,240	5%
2. Develop Fundamental Tools		
2.1 Communicatons & Engagement Plan and Tracking System	$44,560	2%
2.2 Data Management System	$193,600	9%
2.3 Water Accounting & Sustainable Management Framework	$68,800	3%
2.4 Monitoring Wells (Optional)	$208,400	10%
3. Administrative Information	$263,560	12%
4. Communications and Engagement	$465,900	21%
5. Basin Setting	$129,600	6%
6. Groundwater Conditions	$117,360	5%
7. Water Budget	$80,280	4%
8. Sustainable Management Criteria	$121,080	6%
9. Projects and Management Actions	$103,640	5%
10. Establish Monitoring Networks	$210,120	10%
11. Submit Groundwater Sustainability Plan to DWR	$54,280	2%
Total	$2,176,420	100%

DAC Waiver Granted Scenario

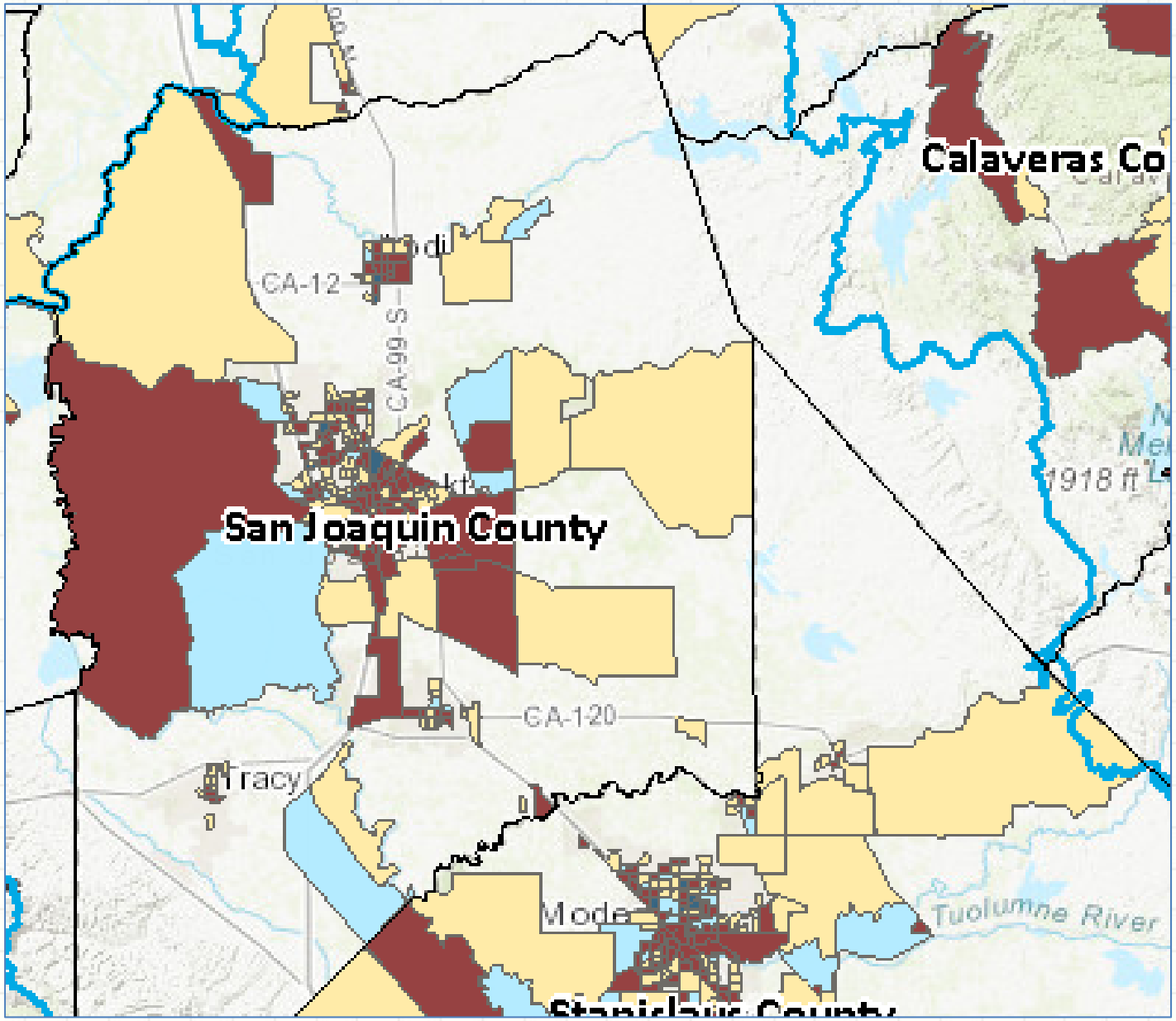
- Total Work Plan Cost = $2,176,420
- Max. DWR Share with DAC Waiver = $1,500,000
- Local Cost Share = $676,420
- Zone 2 Contribution = $450,000
- Remaining Difference = $226,420

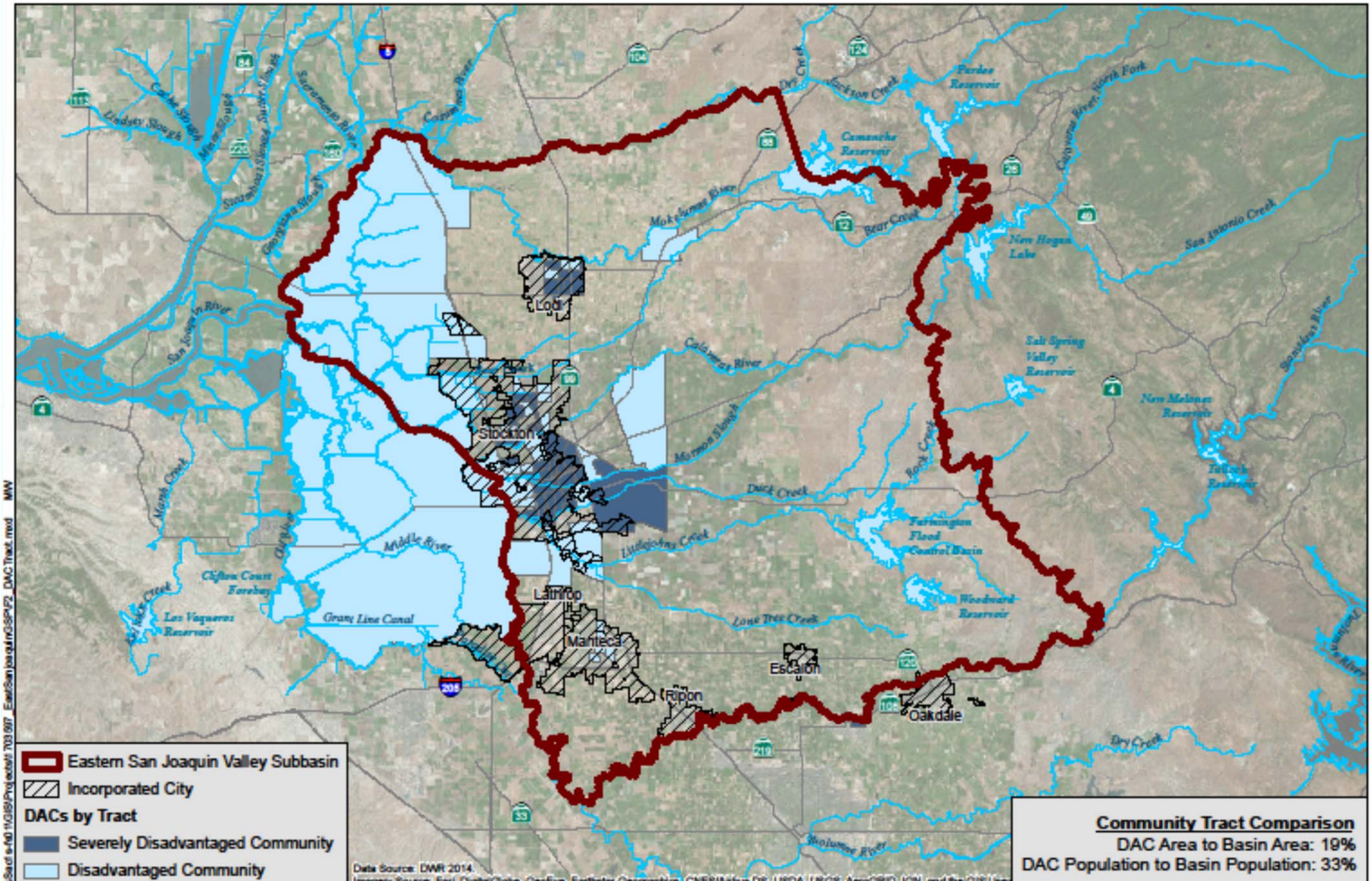
GSP Grant Near-Term Schedule

- October 11
  - Present GSP Application
  - Approve Resolution Authorizing Submittal of Application
  - Action can be Deferred to November 8 Authority Board Meeting
- No Later Than November 13
  - Submit Final Application.
  - Eligibility Documentation (CASGEM, etc.)
  - Letters of Support for DAC Waiver.
  - Concurrent Release of Request for Proposals for GSP Development to Select Consultant
- February
  - Cost-allocation Plan Finalized and Agreed to by GSAs
  - Authority to Approve Funding Agreement with DWR

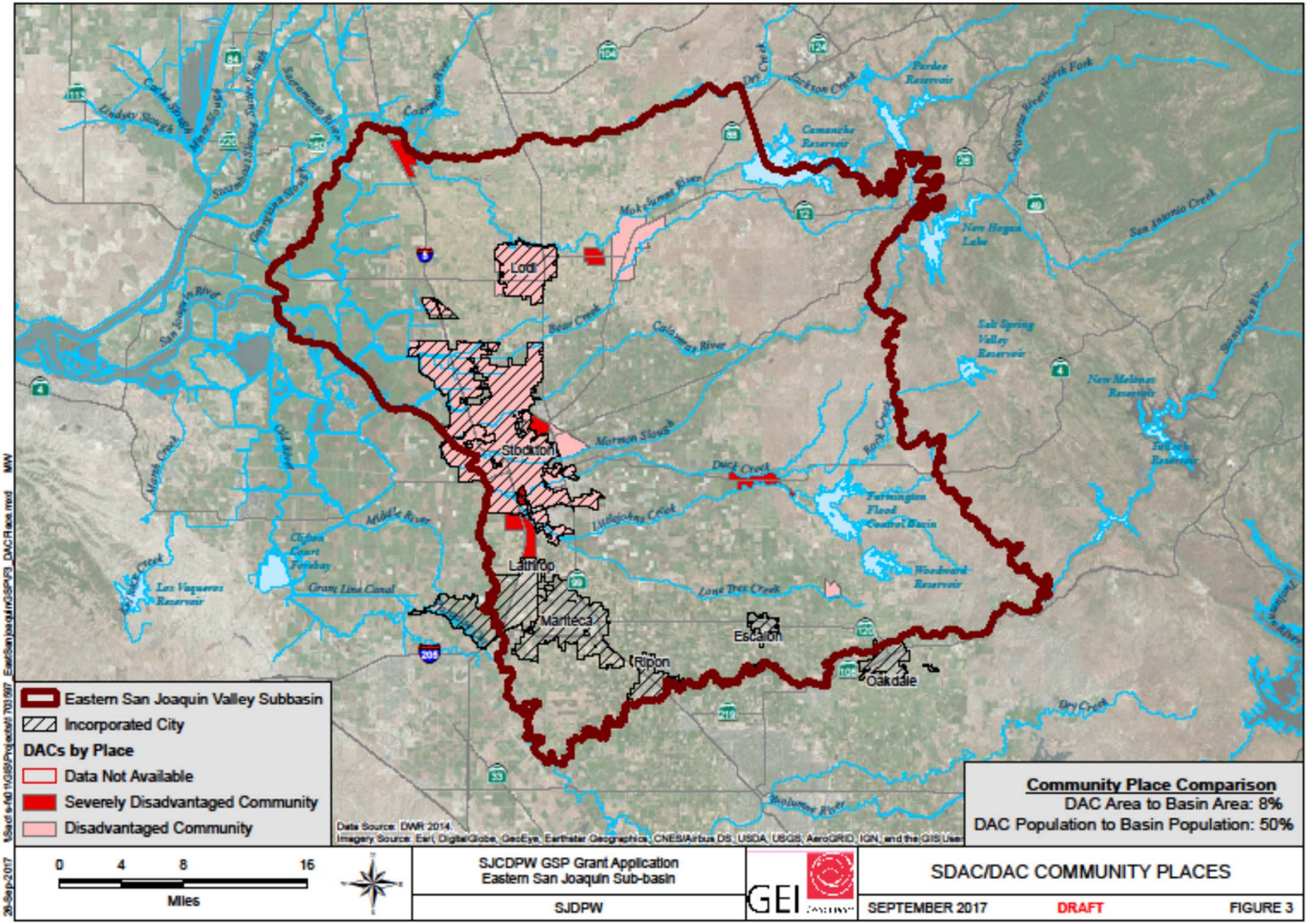
Technical Slides

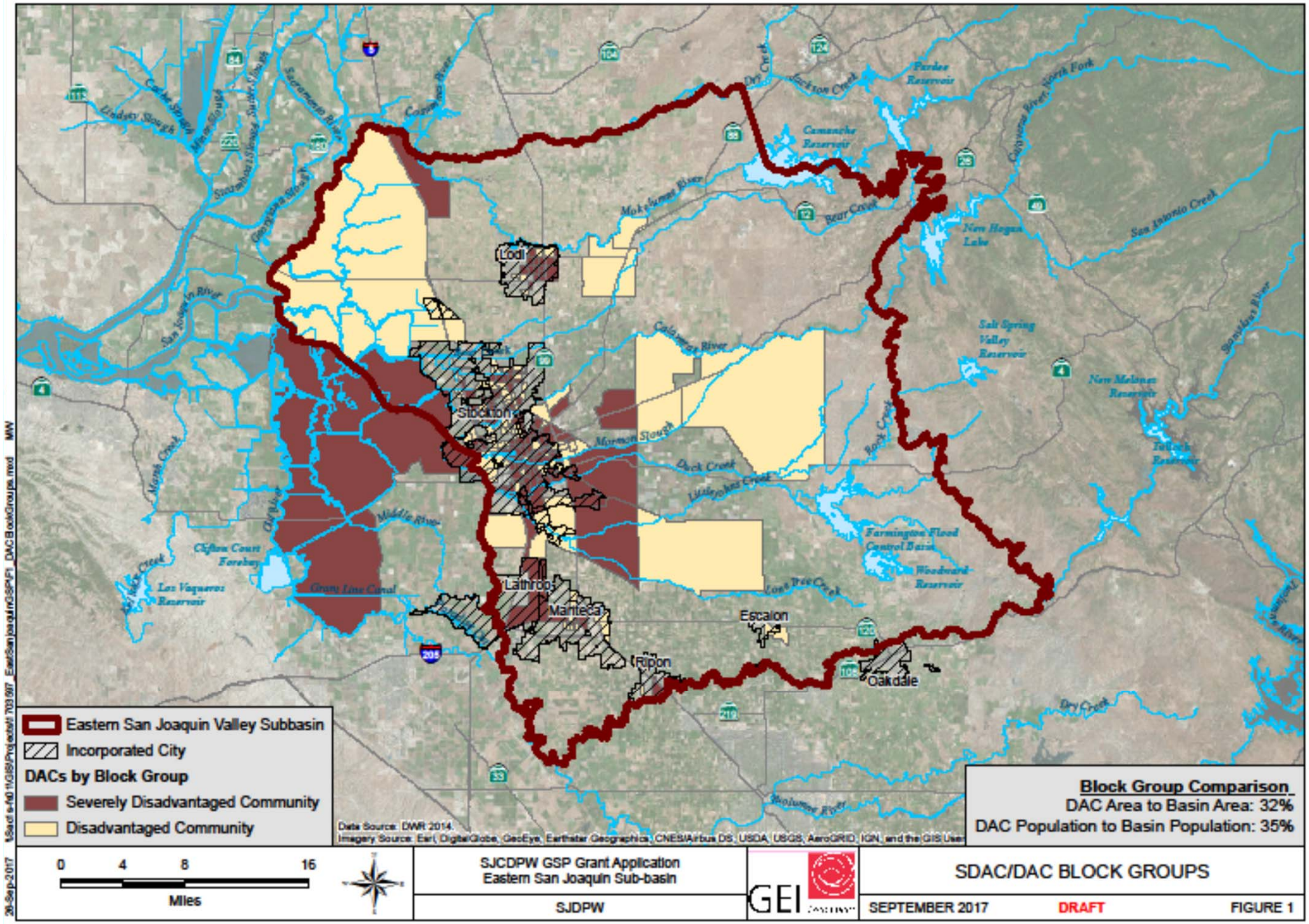
DAC Area = Less than 50% of Basin





0 4 8 16 Miles	SJCDPW GSP Grant Application Eastern San Joaquin Sub-basin	GEI Consultants	SDAC/DAC COMMUNITY TRACTS
	SJDPW		SEPTEMBER 2017 DRAFT FIGURE 2


Eastern San Joaquin Valley Subbasin
Incorporated City
DACs by Place
Data Not Available
Severely Disadvantaged Community
Disadvantaged Community
Community Place Comparison
DAC Area to Basin Area: 8%
DAC Population to Basin Population: 50%
Data Source: DWR 2014
Imagery Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User
Lodi
Stockton
Lathrop
Manteca
Ripon
Escalon
Oakdale
Farmington Flood Control Basin
New Hogan Lake
Camanche Reservoir
Pardee Reservoir
Salt Spring Valley Reservoir
New Melones Reservoir
Tulloch Reservoir
Woodward Reservoir
Los Vaqueros Reservoir
Clifton Court Forebay
Old River
Middle River
Mormon Slough
Bear Creek
Calaveras River
Littlejohns Creek
Duck Creek
Lone Tree Creek
Dry Creek
Jackson Creek
San Joaquin River
Mokelumne River
Stanislaus River
Tuolumne River
Grant Line Canal
0 4 8 16
Miles
SJCDPW GSP Grant Application
Eastern San Joaquin Sub-basin
SJDPW
GEI
SDAC/DAC COMMUNITY PLACES
SEPTEMBER 2017
DRAFT
FIGURE 3
\\Sacfs-fs40 1\GIS\Projects\# 703 597 EastSanJoaquinGSP\F3_DACRace.mxd MW
26-Sep-2017


Eastern San Joaquin Valley Subbasin
Incorporated City
DACs by Block Group
Severely Disadvantaged Community
Disadvantaged Community
Block Group Comparison
DAC Area to Basin Area: 32%
DAC Population to Basin Population: 35%
Data Source: DWR 2014
Imagery Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User
0 4 8 16
Miles
SJCDPW GSP Grant Application
Eastern San Joaquin Sub-basin
SJDPW
GEI
SDAC/DAC BLOCK GROUPS
SEPTEMBER 2017
DRAFT
FIGURE 1
Lodi
Stockton
Lathrop
Manteca
Ripon
Escalon
Oakdale

1. Project Management

1.1. Kick-off Meeting
1.2. Coordination Meetings
1.3. Grant Management
1.4. Reporting

- 24 Monthly Meetings
- 9 Quarterly Grant Management Reports
- $115K (5%)

2. Develop Fundamental Tools

Fundamental tools to shape the work to be done and guide level of effort ($307K, 14%)

2.1. Develop Stakeholder Communication & Engagement Plan and Tracking System

2.2. Develop Data Management System

2.3. Develop Water Accounting & Sustainable Management Framework

- Hydrologic Assessments and Forecasting
- Water Shortage and Cost Allocation Strategy
- Approach for Setting Sustainable Management Criteria
- Approach to Identifying & Filling Data Gaps

2.4 Construct Monitoring Wells (5 pairs) along Stream Channels (optional)

- $208K (10%)

3. Administrative Information

3.1. Background
- Plain-language Executive Summary
- List of references and technical studies
- Agency Information
- Maps
- Description of Plan Area & Jurisdictions

3.2. Water Resource Monitoring and Management Programs

3.3. Land Use Elements of General Plans

3.4. Additional GSP Elements Characterizing Subbasin Conditions
- Control of saline water intrusion
- Migration of contaminated groundwater
- Well abandonment and well destruction program
- Replenishment of groundwater extractions
- Conjunctive use and underground storage
- Impacts on groundwater dependent ecosystems

- Rely on IRWMP & Updated Model
- New topics including Groundwater Dependent Ecosystems
- $264K (12%)

4. Communications and Engagement

4.1. Perform Outreach and Communication

- 4.1.1. Description of beneficial uses and users
- 4.1.4. Decision-making process
- 4.1.5. Public engagement

4.2. Summarize Notifications and Communications

4.3 Stakeholder Involvement

- 4.3.1 Groundwater Authority JPA Meetings
- 4.3.2 Technical Committee Meetings
- 4.3.2 Other Committee Meetings

- $466K (21%)

5. Basin Setting

5.1. Physical Setting and Characteristics

5.2. Hydrogeologic Conceptual Model

- 5.2.1. Physical Components
- 5.2.2. Regional Geologic and Structural Setting
- 5.2.3. Lateral Basin Boundaries
- 5.2.4. Definable Bottom of Basin
- 5.2.5. Principal Aquifers and Aquitards
- 5.2.6. Cross-Sections and Maps
- 5.2.7. Map of Recharge Areas

5.3. Identification of Data Gaps and Uncertainty

- Rely on IRWMP and Updated Model to extent possible
- $130K (6%)

6. Groundwater Conditions

6.1. Description of Current and Historical Groundwater Conditions
- Summarize Groundwater Elevations
- Calculate Change in Storage

6.2. Describe Groundwater Quality Issues

6.3. Describe Interconnected Surface Water Systems

6.4. Describe Groundwater Dependent Ecosystems

6.5. Surface Water Supply
- Water used or available for groundwater recharge

6.6. Management Areas
- Reason for creation of each management area
- Minimum thresholds and measurable objectives for each management area
- Level of monitoring and analysis
- Description of how management areas will not cause undesirable results to adjacent areas

- Use Updated Model for Current and Historical Conditions
  - Includes 1995-2015 only
- $117K (5%)

7. Water Budget

7.1. Apply Groundwater Modeling
- Quantify Overdraft
- Estimate Sustainable Yield

7.2. Historical Water Budget Evaluation
- Evaluate Surface Water Reliability
- Evaluate Aquifer Response Relative to Supply and Demand
- Estimate Uncertainty in Supply and Response

7.3. Projected Water Budget
- Estimate Future Baseline Supply, Demand and Response
- Estimate Aquifer Response to Plan Implementation
- Estimate Uncertainty in Supply and Response

- Use Updated Model for Current and Historical Condition
  - Includes 1995-2015 only
- $80K (4%)

8. Sustainable Management Criteria

8.1. Establish Sustainability Goals

8.2. Develop Processes and Criteria to Define Undesirable Results

- Description of undesirable results
- Cause of groundwater conditions that would lead to undesirable results
- Criteria used to define undesirable results for each sustainability indicator
- Potential effects of undesirable results on beneficial uses and users of groundwater

8.3. Establish Minimum Thresholds and Sustainability Indicators

- Description of each minimum threshold and how they were established for each sustainability indicator

8.4. Define Measurable Objectives to Obtain Goals in 20 Years

- Description of establishment of the measurable objectives for each sustainability indicator
- Description of how a reasonable margin of safety was established for each measurable objective
- Description of interim milestones

- $121K (6%)
- Simplified accounting method will substantially reduce effort

9. Projects and Management Actions

9.1. Determine Projects and Management Actions

9.2. Evaluate Response to Projects and Management Actions

9.3. Describe Projects and Management Actions

- Measurable objective that is expected to benefit from each project and management action
- Management of groundwater extractions and recharge
- Overdraft mitigation projects and management actions
- Estimated costs and plans to meet those costs
- Public noticing
- Permitting and regulatory process
- Time-table for initiation and completion
- Expected benefits and how they will be evaluated
- Legal authority required

- Use IRWMP Project List
- Include Management Actions
- $104K (5%)

10. Establish Monitoring Networks

10.1. Description of monitoring network (density, frequency, rationale)
10.2. Description of monitoring network objectives
10.3. Describe Monitoring Protocols
10.4. Describe Representative Monitoring
10.5. Assessment and Improvement of Monitoring Networks
10.6. Report Monitoring Data to DWR

- Reduced costs from representative monitoring
- Reduced costs from simplified accounting
- Reduced costs from minimizing number of management areas
- $210K (10%)

11. Submit Groundwater Sustainability Plan to DWR

11.1. Publish Draft Plan

11.2. Public Hearing

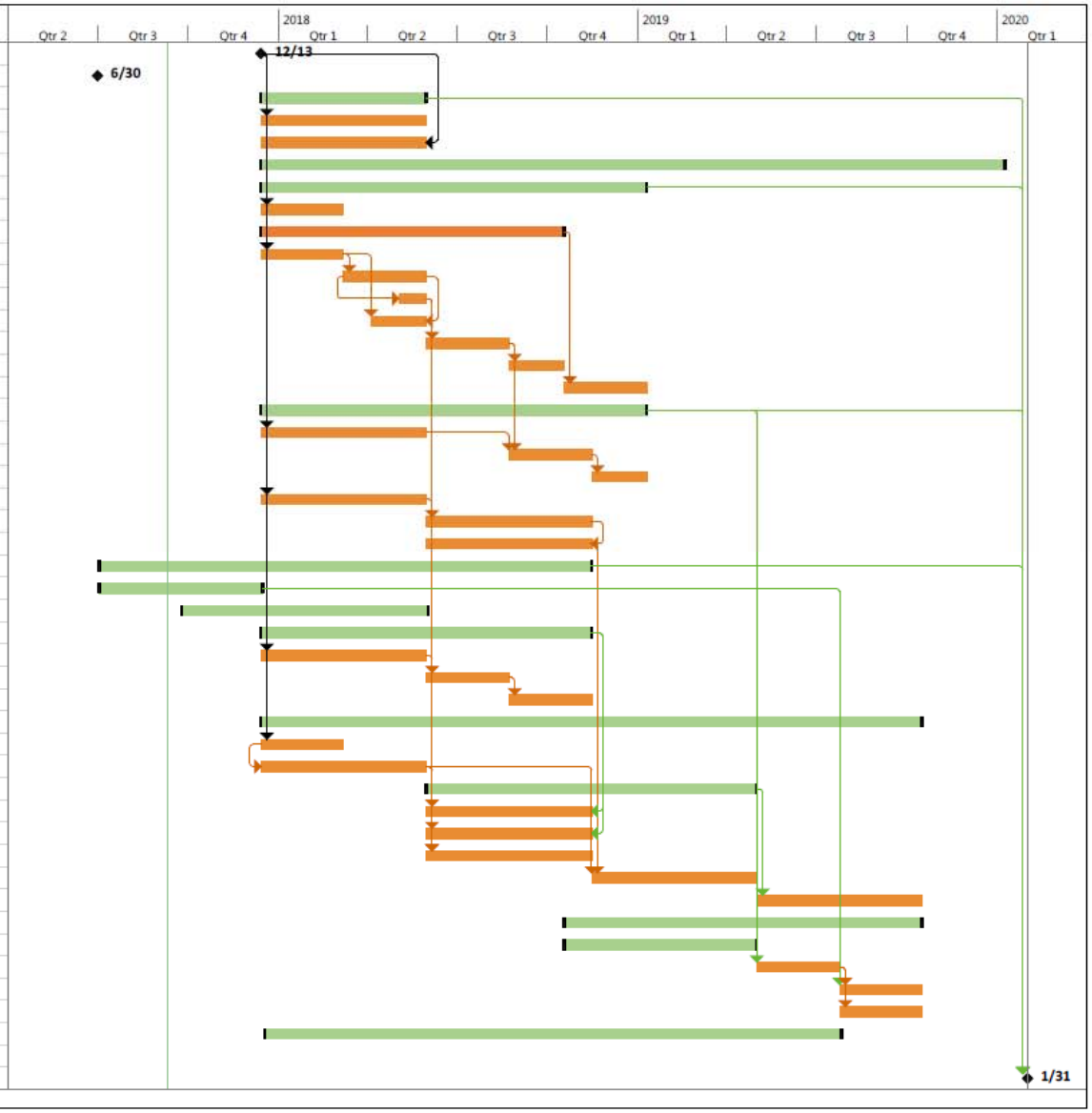
- 11.2.1. Provide public notice on intent to adopt plan
- 11.2.2. Hold public hearing (90 days after notice)

11.3. Adoption by GSAs (after public hearing)

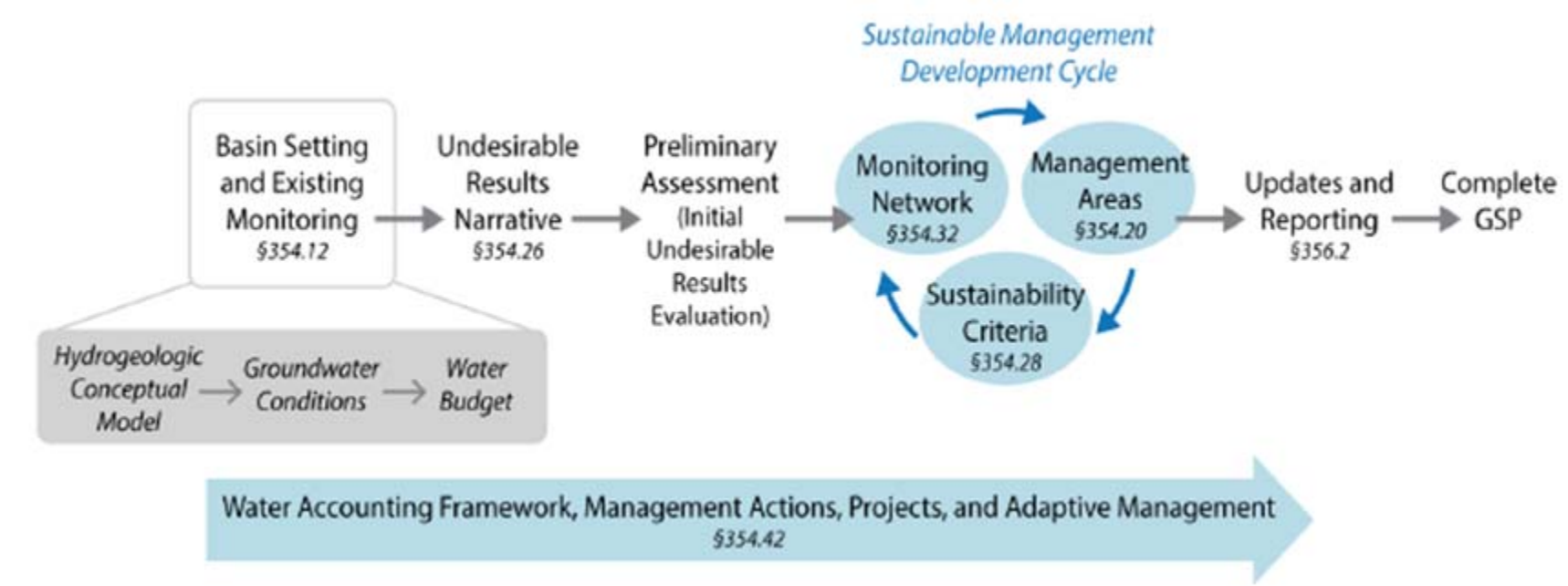
11.4. Submit GSP

- Target Completion Date – June 30, 2019
- $54K (2%)

ID	Task Mode	Task Name
1		Approve Work Plan
2		GSAs and JPA formed
3		**ADMINISTRATIVE INFORMATION**
4		Agency Information
5		Description of Plan Area
6		**NOTIFICATIONS AND COMMUNICATIONS**
10		**BASIN SETTING**
11		Physical Setting and Characteristics
12		**Hydrogeologic Conceptual Model**
13		Physical Components
14		Regional Geologic and Structural Setting
15		Lateral Basin Boundaries
16		Definable Bottom of Basin
17		Principal Aquifers and Aquitards
18		Cross-Sections and Maps
19		Identification of Data Gaps and Uncertainty
20		**GROUNDWATER CONDITIONS**
21		Description of Current and Historical Groundwater Conditions
22		Summarize Groundwater Elevations
23		Calculate Change in Storage
24		Describe Groundwater Quality Issues
25		Describe Interconnected Surface Water Systems
26		Describe Groundwater Dependent Ecosystems
27		**WATER BUDGET**
28		**Develop Groundwater Model**
34		**Develop Historical Water Budget**
38		**Develop Projected Water Budget**
39		Estimate Future Baseline Supply, Demand and Response
40		Estimate Aquifer Response to Plan Implementation
41		Estimate Uncertainty in Supply and Response
42		**SUSTAINABLE MANAGEMENT CRITERIA**
43		Establish Sustainability Goals
44		Develop Processes and Criteria to Define Undesirable Results
45		**Establish Minimum Thresholds and Sustainability Indicators**
46		Chronic Lowering of Groundwater Levels
47		Reduction in Groundwater Storage
48		Degraded Water Quality
49		Depletions of Interconnected Surface Water
50		Define Measureable Objectives to Obtain Goals in 20 Years
51		**ESTABLISH MONITORING NETWORKS**
52		**Describe Monitoring Networks**
56		Describe Representative Monitoring
57		Assessment and Improvement of Monitoring Networks
58		Report Monitoring Data to DWR
59		**PROJECTS AND MANAGEMENT ACTIONS**
63		
64		Submit Groundwater Sustainability Plan to DWR



Requirements in SGMA Regulations



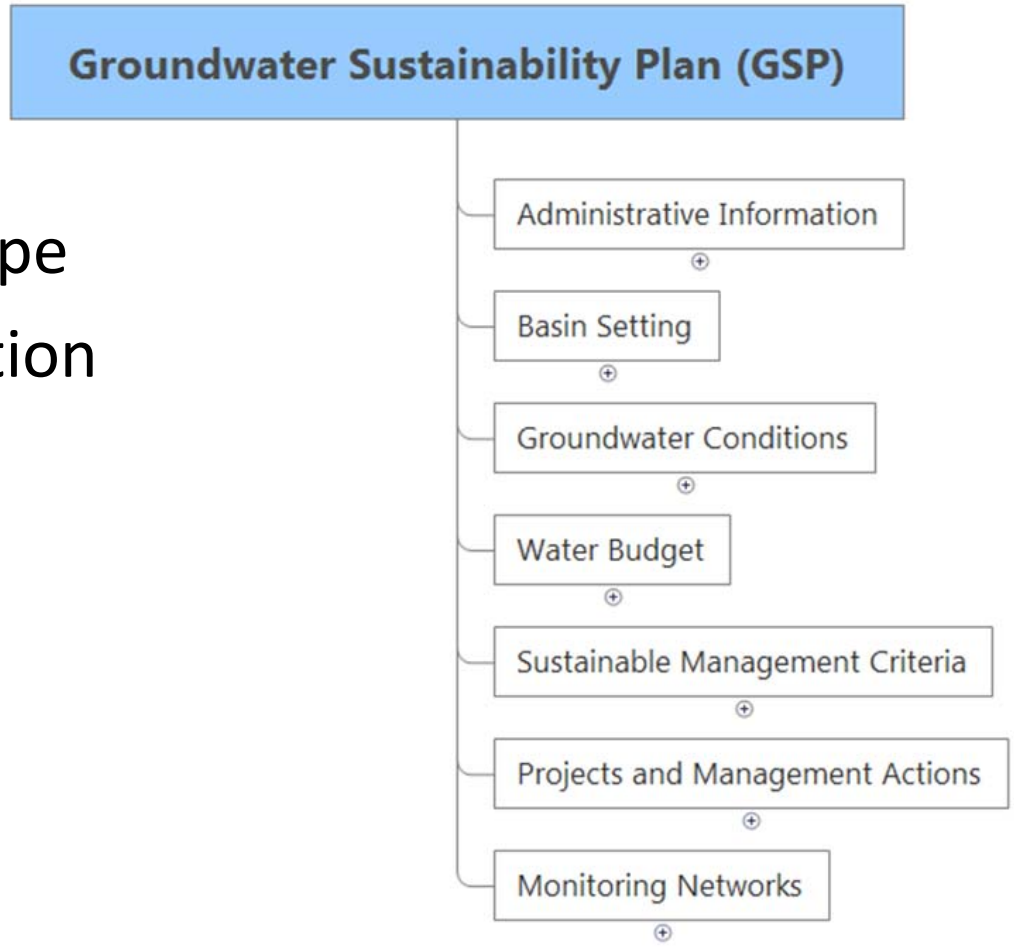
Key Assumptions

1. Interactive Process
2. Steady Progress
3. GSA Responsibilities
4. Short Implementation Horizon
5. Probable Overdraft
6. Solution & Surface Supply
7. Define Solutions & Prove They're Working
8. Keep it Simple & Regional
9. Minimize Management Areas
10. Consider Range of Solutions
11. Subbasin-Wide Data Management
12. Empirical Proof

Factors that Might Decrease or Increase the GSP Effort

1. Streamline the Stakeholder Involvement process
2. Use updated model efforts to characterize current conditions and water budget
3. Number of Management Areas selected for the basin
4. Simplified water use accounting
5. Subbasin-wide accounting for natural recharge
6. Use representative monitoring sites

- Develop GSP Scope
- Prepare Application
- Submit



BEFORE THE BOARD OF DIRECTORS OF THE
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY

RESOLUTION R-17-X

RESOLUTION APPROVING SUBMITTAL OF A GRANT APPLICATION FOR AN AMOUNT OF $2,176,420 TO THE DEPARTMENT OF WATER RESOURCES FOR A GROUNDWATER SUSTAINABILITY PLANS AND PROJECTS GRANT UNDER THE SUSTAINABLE GROUNDWATER PLANNING GRANT PROGRAM

WHEREAS, in 2014, the California Legislature passed and the Governor signed Senate Bills 1168 and 1319 and Assembly Bill 1739, known collectively as the Sustainable Groundwater Management Act of 2014 (SGMA); and

WHEREAS, SGMA requires all high- and medium-priority groundwater Basins, as designated by the California Department of Water Resources (DWR) in Bulletin 118, to be managed by a Groundwater Sustainability Agency (GSA); and

WHEREAS, SGMA requires a Groundwater Sustainability Plan (GSP) be developed and implemented for each medium- or high-priority basin by a GSA; and,

WHEREAS, the Eastern San Joaquin Subbasin (ESJ Subbasin), DWR Basin No. 5-22.01 has, been designated by DWR as a high-priority basin; and,

WHEREAS, the Eastern San Joaquin Groundwater Authority is comprised of Members that are a GSA, duly established in accordance with SGMA, and each of the Members overlie the ESJ Subbasin; and,

WHEREAS, one of the purposes of the Eastern San Joaquin Groundwater Authority is to provide for coordination among the Members to develop and implement a GSP; and,

WHEREAS, the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Proposition 1) was passed by the voters of California on November 4, 2014; and,

WHEREAS, the Eastern San Joaquin Groundwater Authority is eligible to apply for Groundwater Sustainability Plans and Projects Grant under the Sustainable Groundwater Planning Grant Program; and,

,

NOW, THEREFORE, BE IT RESOLVED that this Board of Directors of the Eastern San Joaquin Groundwater Authority hereby approves submittal of an application in the amount of $2,176,420 to the California Department of Water Resources for a Groundwater Sustainability Plans and Projects Grant under the 2017 Sustainable Groundwater Planning Grant Program pursuant to the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Proposition 1) (Water Code Section 79700 *et seq*.), and to enter into an agreement to receive said funds.

NOW, THEREFORE, BE IT FURTHER RESOLVED that the Secretary of the Eastern San Joaquin Groundwater Authority is hereby directed and authorized to prepare the necessary data, conduct investigations, file such application, execute a grant agreement with California Department of Water Resources, and take other actions as necessary and appropriate to obtain Grant funding.

PASSED and ADOPTED this____ day of October, 2017 by the following vote of the Board of Directors of the Eastern San Joaquin Groundwater Authority, to wit:

AYES:

NOES:

ABSENT:

_____	_____
ATTEST: KRIS BALAJI, PMP, P.E. Secretary of the Eastern San Joaquin Groundwater Authority	CHUCK WINN, Chairman Board of Directors of the Eastern San Joaquin Groundwater Authority

ATTACHMENT II
B.1-3.

WOODBRIDGE IRRIGATION DISTRICT
18750 N. LOWER SACRAMENTO ROAD
P.O. BOX 580
WOODBRIDGE, CALIFORNIA 95258
PHONE: (209) 625-8438
FAX: (209) 625-8663

9/14/17

San Joaquin County Board of Supervisors
44 North San Joaquin Street, Suite 627
Stockton, California 95202

RE: SGMA Groundwater Sustainability Plan Management Areas within the Eastern San Joaquin Sub-basin

Dear Supervisor Winn:

Like many other municipalities and water agencies in our sub-basin, Woodbridge Irrigation District has established itself as a GSA under the SGMA to better serve our groundwater extractors. As you well know, SGMA and its many implications will have potentially significant impacts for local and regional entities, particularly individual property owners.

Critical duties of each GSA will include operations that are mandated under SGMA, particularly administration and enforcement of objectives outlined in our collective Groundwater Sustainability Plan (GSP). As our GSP is enacted, efforts to achieve sustainability may include measures such as property assessments, groundwater extraction restrictions, and land use regulation.

Our sub-basin is made up of different land uses, distinct hydrological characteristics, as well as unique political considerations. To consider only a few management areas within the entire sub-basin would result in incompatible management practices being applied uniformly to GSAs in dissimilar situations, resulting in inappropriate enforcement policies and punitive restrictions on individual groundwater extractors. It is imperative that these administration and enforcement actions be applied based on data gathered and tailored to each corresponding GSA.

In light of the submittal of DWR grant application for the upcoming GSP, the WID GSA strongly supports the development of each of the seventeen (17) GSAs in the Eastern San Joaquin Sub-basin to be considered as a distinct and separate Management Area.

Thank you for your ongoing commitment in the collective efforts of all GSA partners to effectively and efficiently manage the groundwater in the Eastern San Joaquin sub-basin.

Sincerely,

William Stokes,
Chairman, Board of Directors

CC: Kris Balaji, SJCO Public Works Director; Brandon Nakagawa, SJCO Water Resources Coordinator; Charlie Swimley, City of Lodi Public Works Director

Recordnet.com
News worth sharing online

Contamination found in private wells in north Stockton

By Alex Breitler
Record Staff Writer
@Alexbreitler

Posted Sep 25, 2017 at 6:43 PM
Updated Sep 25, 2017 at 6:43 PM

STOCKTON — Investigators have discovered what appears to be a new plume of polluted groundwater in north Stockton, the culprit being a chemical commonly associated with dry cleaning businesses.

A meeting to provide residents with more information is scheduled for tonight from 5:30 to 8:30 p.m. at the New Day Community Church, 7525 Oakmont Drive.

The area of concern is mostly between Thornton Road and Lower Sacramento Road, north of Hammer Lane and south of Paloma Avenue, officials said. Of 37 private domestic wells that have been sampled mostly in that area, concentrations of the chemical commonly known as PCE exceeded federal standards in 13 wells.

The problem should be of concern only to residents who rely on private wells for their drinking water. Homes served by the city of Stockton or San Joaquin County should be fine, officials with the State Water Resources Control Board said Monday, noting that one county well that did measure high levels of PCE was destroyed last year.

PCE plumes are **not uncommon** in the Central Valley, including Lodi and Stockton. The newly discovered contamination is less than a mile from a plume beneath Stockton's Lincoln Center that has been known about for decades; a judge held a dry cleaning business liable for that problem, and treatment efforts are ongoing even today.

"We have quite a few of these going on in the Sacramento area and a few in Stockton," said Stewart Black, who manages a cleanup program for the water board. "We feel like we've identified the significant problems that are out there."

That's why they were surprised earlier this summer to discover the "new" PCE problem while doing water quality testing for an entirely unrelated issue.

Officials noted Monday that they do not believe the new plume is related to the Lincoln Center pollution.

The state has, however, **issued an order** to the Parkwoods Cleaners dry-cleaning business on Hammer Lane and to the Sims-Grupe Management Co., which owns the property at the Parkwoods Shopping Center less than a quarter-mile away from some of the affected wells.

Dry cleaning operations began at the shopping center as early as 1960 and continue today, though at a different location within the center, the order says.

While they refer to the dry-cleaning business and property owners as "potentially responsible parties," officials emphasized that they don't know for certain where the pollution is coming from. The order requires the business to hand over documentation of current and past PCE use and how the chemical has been disposed of.

"We have to do some very specific investigation to identify the source of the contamination before we can tie it to one specific property," Black said.

Representatives of both Parkwoods Cleaners and Sims-Grupe could not be reached Monday afternoon.

Known formally as tetrachloroethene, PCE can get into the ground if it is spilled or leaked from a business.

Cleaning up the old sites can be costly. City of Lodi officials estimated in 2014 that cleaning up the five plumes beneath the central portion of the city could cost about $20 million.

And the health risks are real. Human exposure to PCE over a long period of time may cause liver problems and an increased risk of cancer, the state says.

In some wells, the chemical has spiked many times higher than the federal standard of 5 micrograms per cubic liter. Of the wells exceeding that limit, the state's order says the detections have ranged from 9 micrograms to about 88 micrograms, or nearly 18 times higher than the standard.

Some wells in the area of the newly discovered plume have not yet been tested, and officials said residents are welcome to contact them to request sampling. Call Joe Mello at (916) 464-4661 or email **Joe.Mello@waterboards.ca.gov**. Or attend tonight's meeting.

"We're trying to tell everyone that if you're in that general vicinity to come to the meeting and talk with us and we'll be happy to come sample your wells," Black said.

*Contact reporter Alex Breitler at (209) 546-8295 or **abreitler@recordnet.com**. Follow him at recordnet.com/breitlerblog and on Twitter **@alexbreitler**.*

Groundwater Resources Association of California

EST. 1992

26th Groundwater Resources Association Annual Meeting

PRELIMINARY AGENDA

OCTOBER 3-4, 2017

Hilton Arden West

2220 Harvard Street, Sacramento, CA

PRELIMINARY AGENDA

TUESDAY, OCTOBER 3, 2017

7:00 a.m. — Registration/Continental Breakfast (Atrium-Solarium)

Plenary Session (Eagle/Berryessa/Tahoe/Shasta Ballroom)

8:00 a.m. — Welcome – Chris Peterson, GRA President & Jim Strandberg, Conference Chair

8:15 a.m. – 9:30 a.m. — Panel Session – Call to Action to Recharge California's Depleted Aquifers
Moderator: Tim Parker, Parker Groundwater Management

9:30 a.m. — Student Flash Poster Presentations

9:45 a.m. — Meet the Sponsors and Exhibitors

10:00 a.m. – 10:30 a.m. — Break (Atrium-Solarium)

Concurrent Sessions:

Track A - Eagle/Berryessa **Track B -** Tahoe/Shasta **Track C -** Brandywine

10:35 a.m. – 10:55 a.m.

Moderators: **Track 1A:** Dan Gamon, Department of Water Resources
Track 1B: Lisa Porta, CH2M
Track 1C: Kevin Brown, San Francisco Bay Regional Water Quality Control Board

Track 1A — **SGMA Data #1**
GSP Data Gap Management for Small and Large Data Sets
- *Claire Kouba, Dudek*

Track 1B — **SGMA Modeling and other Tools #1**
Assessment of Interconnected Subbasins for SGMA Water Budgets – Regional Collaboration and Model Selection Process
- *Christina Buck, Butte County Water and Resource Conservation*

Track 1C — **Contaminant Trends**
A More Relevant Metric for Groundwater Cleanup
- *Murray Einarson, Haley & Aldrich*

10:55 a.m. – 11:15 a.m.

Track 1A — **SGMA Data #1**
Benefits and Experiences with Centralized Databases in Groundwater Sustainability and Vulnerability Assessments
- *Paul Thorn, Ramboll*

Track 1B — **SGMA Modeling and other Tools #1**
Assessment of Interconnected Subbasins for SGMA Water Budgets – Appropriate Use of Available Models
- *Reza Namvar, Woodard & Curran*

Track 1C — **Contaminant Trends**
Re-Assessment of Ecological Risk at a Mature Near-Bay Petroleum Site Due to Emerging Polar Degradation Metabolite Contaminants
- *Arnab Chakrabarti, Terraphase Engineering*

11:15 a.m. – 11:35 a.m.

Track 1A

SGMA Data #1
DWR's SGMA Technical Assistance - Building Capacity to Achieve Sustainability
- Steven Springhorn, Department of Water Resources

Track 1B

SGMA Modeling and other Tools #1
Sustainable Groundwater Management Act (SGMA) Technical Assistance: Climate Change Datasets for use in GSP Development
- Tyler Hatch, Department of Water Resources

Track 1C

Contaminant Trends
1,4-Dioxane in California's Drinking Water – Source Assessment and Total Exposure Estimation
- Thomas K.G. Mohr, Santa Clara Valley Water District

11:35 a.m. – 11:55 a.m.

Track 1A

SGMA Data #1
Groundwater Monitoring Protocols for Seawater Intrusion - Examples of Challenges and Experiences in a Coastal Groundwater Basin
- Kathleen Kuepper, United Water Conservation District

Track 1B

SGMA Modeling and other Tools #1
Recalculation of the Sustainable Yield for the Chino Basin
*- *Mark Wildermuth, Wildermuth Environmental, Inc.*

Track 1C

Contaminant Trends
TCE in Sanitary Sewers: Characterizing Spatial and Temporal Variability and Extent and Risk Assessment Strategies
- Anthony E. Miller, Entanglement Technologies, Inc.

12:00 p.m. – 1:30 p.m. GRA 2017 Annual Meeting & Awards Luncheon (Atrium-Solarium)

1:30 p.m. – 1:50 p.m. Break (Atrium-Solarium)

1:50 p.m. – 2:10 p.m.

Moderators:
Track 2A: Michael Burns, ESA
Track 2B: Steven Phillips, United States Geological Survey
Track 2C: Sarah Beganskas, University of California, Santa Cruz

Track 2A

SGMA Planning #1
New Draft BMP: Developing Sustainable Management Criteria
- Trevor Joseph, Department of Water Resources

Track 2B

SGMA Modeling and Other Tools #2
Data Management Strategies for Integrated Model Development
- Dirk Kassenaar, Earthfx Inc.

Track 2C

Collegiate Colloquium
Stochastic Management of Non-Point Source Contamination: Joint Impact of Aquifer Heterogeneity and Well Characteristics
- Christopher Vincent Henri, UC Davis

2:10 p.m. – 2:30 p.m.

Track 2A **SGMA Planning #1**
Will Water Rights Conflicts Rupture SGMA Collaboration?
- Gina Nicholls, Nossaman LLP

Track 2B **SGMA Modeling and Other Tools #2**
Addressing Inconsistency of MODFLOW and IWFM Water Budgets for SGMA Modeling
- Reza Namvar, Woodard & Curran

Track 2C **Collegiate Colloquium**
Linking Field and Laboratory Studies to Investigate Enhanced Nitrate Removal Using Permeable Reactive Barrier Technology
- Galen Gorski, UC Santa Cruz

2:30 p.m. – 2:50 p.m.

Track 2A **SGMA Planning #1**
Mutual Benefits of GSA and Remediator Cooperation on Groundwater Basin Health and Sustainability
- Jason House, Woodard & Curran

Track 2B **SGMA Modeling and Other Tools #2**
Drought Stress Tests for Water Supply: Residential Well Impacts and Economic Externalities
- Rob Gailey, UC Davis

Track 2C **Collegiate Colloquium**
Re-evaluating Tracer Results in a Low Effective Porosity, High Anisotropy Aquifer
- Menso de Jong, UC Santa Barbara

2:50 p.m. – 3:10 p.m.

Track 2A **SGMA Planning #1**
Adapting to Climate Change and Drought for California's Communities
- Ruth Langridge, UC Santa Cruz

Track 2B **SGMA Modeling and Other Tools #2**
Development and Application of the Stanislaus County Hydrologic Model
- Robert Abrams, Jacobson James & Associates, Inc.

Track 2C **Collegiate Colloquium**
A Long-term Percolation Monitoring Program Utilizing Fiber Optic Distributed Temperature Sensing
- Patrick O'Connell, CSU Long Beach

3:10 p.m. – 3:35 p.m. Break (Atrium-Solarium)

3:40 p.m. – 4:00 p.m.

Moderators:
Track 3A: Tara Moran, Stanford Water In The West Program
Tim Parker, Parker Groundwater Management
Track 3B: Adam Hutchinson, Orange County Water District
Track 3C: Charles Ice, County of San Mateo

Track 3A **Land Use Planning and Groundwater Resources Management Under SGMA Panel**
- Pete Parkinson, American Planning Association California Chapter

Track 3B **Groundwater Replenishment #1**
Capturing Lost Stormwater for Additional Long-Term Sustainable Water Supply – an Active Recharge Project for the Tributaries of the Santa Ana River
- Brian Villalobos, Geoscience

Track 3C **Innovative Site Characterization**
Evolution of the Conceptual Site Model under Regulatory Changes and Technological Advances
- Amy Wilson, TRC Solutions

4:00 p.m. – 4:20 p.m.

Track 3A **Land Use Planning and Groundwater Resources Management Under SGMA Panel**
- Jack Rice, California Farm Bureau Federation

Track 3B **Groundwater Replenishment #1**
Coupling Distributed Stormwater Collection and Managed Aquifer Recharge: Field Application, Modeling, and Implications
- Sarah Beganskas, UC Santa Cruz

Track 3C **Innovative Site Characterization**
SF Bay Water Board's Approach to Evaluating Contaminated Groundwater Discharges to Surface Water
- Ross Steenson, San Francisco Bay Regional Water Quality Control Board

4:20 p.m. – 4:40 p.m.

Track 3A **Land Use Planning and Groundwater Resources Management Under SGMA Panel**
- Iris Priestaf, Todd Groundwater

Track 3B **Groundwater Replenishment #1**
Strategic Siting of Managed Aquifer Recharge & Maximizing Recharge Potential by Leveraging Geologic Heterogeneity in the South American Groundwater Sub-Basin, CA
- Stephen Maples, UC Davis

Track 3C **Innovative Site Characterization**
Data from Online Chromium-6 Analyzer Helps Monitor Performance of Chromium Remediation in Real-Time
- Tom Williams, Aqua Metrology Systems

4:40 p.m. – 5:00 p.m.

Track 3A **Land Use Planning and Groundwater Resources Management Under SGMA Panel**
- Paul Gosselin, Butte County Department of Water and Resource Conservation

Track 3B **Groundwater Replenishment #1**
Implementation of Agricultural Managed Aquifer Recharge in the Central Valley: Large Scale Long-Term Success?
- Thomas Harter, UC Davis

Track 3C **Innovative Site Characterization**
Perfluorinated Compounds Monitoring in Response to the U.S. EPA Health Advisories
- Kevin Calcagno, Eurofins Eaton Analytical

5:00 p.m. - 7:00 p.m. President's Reception and Poster Session (Atrium-Solarium)

WEDNESDAY, OCTOBER 4, 2017

7:15 a.m. Registration/Continental Breakfast (Atrium-Solarium)

Concurrent Sessions:

Track A - Eagle/Berryessa **Track B -** Tahoe/Shasta **Track C -** Brandywine

8:20 a.m. – 8:40 a.m.

Moderators: **Track 4A:** Jacob Vind, Ministry of Foreign Affairs of Denmark
Track 4B: Adam Hutchinson, Orange County Water District
Track 4C: Murray Einarson, Haley & Aldrich

Track 4A **Sustainable Groundwater Management: Lessons Learned Over 20 Years of the "Danish SGMA"**
Airborne Geophysics to Map Groundwater - Case Studies from Around the World
- Bill Brown, SkyTEM

Track 4B **Groundwater Replenishment #2**
On-Farm Flood Capture and Recharge at an Organic Almond Orchard in the Central Valley: Recharge Rates, Soil Water and Salt Profiles, Chowchilla, California
- Philip Bachand, Bachand & Associates, Inc.

Track 4C **Advances in Site Remediation**
Controlled Release Environmental Reactants – In Situ Soil and Groundwater Remediation of Recalcitrant Compounds and Emerging Contaminants of Concern
- Lindsay Swearingen, Specialty Earth Sciences LLC

8:40 a.m. – 9:00 a.m.

Track 4A **Sustainable Groundwater Management: Lessons Learned Over 20 Years of the "Danish SGMA"**
Data Acquisition and Data Management in the Danish Groundwater Mapping Program (SGMA)
- Max Halkjaer, Ramboll

Track 4B **Groundwater Replenishment #2**
Assessing Natural Recharge and Managing Withdrawals from a Fractured Granitic Aquifer in Coastal California During a Multi-Year Drought to Wet-Year Cycle
- Mark Woyshner, Balance Hydrologics, Inc.

Track 4C **Advances in Site Remediation**
Optimizing the Performance of Zero Valent Iron for the In-Situ Chemical Reduction of Chlorinated Ethenes
- John Freim, OnMaterials

9:00 a.m. – 9:20 a.m.

Track 4A **Sustainable Groundwater Management: Lessons Learned Over 20 Years of the "Danish SGMA"**
3D Hydrogeological Conceptual Model Building in Denmark
- Torben Bach, I-GIS

Track 4B **Groundwater Replenishment #2**
90 Years of Groundwater Replenishment on the Oxnard Coastal Plain: Past Successes and Concerns for the Future
- John Lindquist, United Water Conservation District

Track 4C **Advances in Site Remediation**
Sustained Remediation of Chlorinated Solvents Using In-Situ Formation and Regeneration of Ferrous Sulfide
- Lee Hovey, TRC Solutions

9:20 a.m. – 9:40 a.m.

Track 4A

Sustainable Groundwater Management: Lessons Learned Over 20 Years of the "Danish SGMA"
Modeling and Planning Applications for Groundwater Management with Real Time and Distributed Web-based Resources
- Steve Blake, DHI

Track 4B

Groundwater Replenishment #2
Increasing Groundwater Recharge Capacity in the Southern San Joaquin Valley, Shafter Wasco Irrigation District: Construction of Kimberlina Recharge Project
- Sam Schaefer and Dana Munn, GEI

Track 4C

Advances in Site Remediation
Successful Bioremediation of 1,4-Dioxane and 1,2-DCA in a Dilute Plume
- Jacob Chu, Haley & Aldrich

9:40 a.m. – 10:10 a.m. Break (Atrium-Solarium)

10:15 a.m. - 10:35 a.m.

Moderators: **Track 5A:** TBD
Track 5B: Ali Taghavi, Woodard Curran
Track 5C: TBD

Track 5A

Surface Water/Groundwater
Monitoring for Impact of Chino Basin Management Plans on Santa Ana River Riparian Habitat
- Andrew Malone, Wildermuth Environmental, Inc.

Track 5B

Tools for Visualization and Analysis
Groundwater Recharge Assessment Tool (GRAT): Integrating geo-spatial data to determine GSA recharge potential
- Daniel Mountjoy, Sustainable Conservation

Track 5C

Regional Groundwater Quality
Managing Freshwater Resources: Insights from New Zealand's Changing Management Regimes for Managing the Nation's Freshwater Resources
- Suzie Greenhalgh, Landcare Research

10:35 a.m. - 10:55 a.m.

Track 5A

Surface Water/Groundwater
Using Data to Set Minimum Thresholds and Measurable Objectives that Can Avoid Undesirable Results to GDEs
- Melissa Rohde, The Nature Conservancy

Track 5B

Tools for Visualization and Analysis
Identifying New Sites and Sources of Contamination Impacting Public Water Supply Wells – the Spatial Prioritization Geographical Information Tool (SPGIT)
- Rick Fears, Dept. of Toxic Substance Control

Track 5C

Regional Groundwater Quality
Measuring and Modelling Soil Water Balance and Nitrate Leaching of Perennial Crops in New Zealand
- Karin Muller, Plant & Food Research

10:55 a.m. – 11:15 a.m.

Track 5A

Surface Water/Groundwater
Data Collection for Assessing Surface Water-Groundwater Interaction
- Rodney Fricke, GEI

Track 5B

Tools for Visualization and Analysis
TBD

Track 5C

Regional Groundwater Quality
Identifying Areas of Degrading and Improving Groundwater-quality Conditions in the State of California
- Bryant Jurgens, USGS

11:15 a.m. – 11:35 a.m.

Track 5A **Surface Water/Groundwater**
Quantifying the Relationship Between Stream Flow and Groundwater Elevations to Assess Stream Depletion and the Effects on Groundwater-Dependent Ecosystems
- Andrew Kopania, EMKO Environmental, Inc.

Track 5B **Tools for Visualization and Analysis**
Developing a Basin-wide 3D Hydrogeologic Model to Support a Numerical Flow Model
- Gary Vanderslice, Lytle Water Solutions

Track 5C **Regional Groundwater Quality**
Occurrence, Fate, and Remediation of the Emerging Contaminant 1,2,3-Trichloropropane
- Eric Suchomel, Geosyntec Consultants

11:40 a.m. – 11:50 a.m. Presentation of Student Oral and Poster Awards (Atrium-Solarium)

12:00 p.m. – 1:00 p.m. Lunch (Atrium-Solarium)

General Session (Eagle/Berryessa/Tahoe/Shasta Ballroom)

1:10 p.m. – 1:25 p.m. Announcement of 2018 David Keith Todd Lecturers

1:25 p.m. – 2:25 p.m. Water Availability and Sustainability in California's Central Valley: Past, Present, and Future
- Dr. Claudia Faunt, United States Geological Survey

2:25 p.m. – 3:25 p.m. The Use of Geophysical Methods for Groundwater Evaluation and Management
- Dr. Rosemary Knight, Stanford University

3:25 p.m. – 3:30 p.m. Closing Remarks
- Jim Strandberg, Conference Chair

Groundwater Resources Association of California
EST. 1992