

SOLANO SUBBASIN GROUNDWATER SUSTAINABILITY AGENCY

BOARD OF DIRECTORS:

Chair:

Mayor Ronald Kott
City of Rio Vista

Vice Chair:

Director Dale Crossley
Reclamation District No. 2068

DIRECTORS:

Vice-Mayor Scott Pederson
City of Dixon

Director Jack Caldwell
California Water Services

Director Spencer Bei
Dixon Resource
Conservation District

Director Ryan Mahoney
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Supervisor John Vasquez
Solano County District 4

Supervisor Skip Thomson
Solano County District 5

Director John Roteveel
Solano County Farm Bureau

Director Russ Lester
Solano County Agricultural
Advisory Committee

Director Kurt Balasek
Solano Resource
Conservation District

SECRETARY/TREASURER:

Roland Sanford
Solano County Water Agency

BOARD OF DIRECTORS MEETING

DATE: Thursday, October 8, 2020

TIME: 5:30 P.M.

PLACE: Virtual Zoom Meeting

<https://us02web.zoom.us/j/86231270713?pwd=ci9QNXB4Y3pEcXAyM2s1ZEptbktJdz09>
Meeting ID: 862 3127 0713/Passcode: 352722
One tap mobile: +16699009128,,86231270713#,,,,,0#,,352722# US
Dial by your location: +1 669 900 9128 US

Backup Conference line: 800-510-5879/Passcode 385498

1. **CALL TO ORDER**

2. **PLEDGE OF ALLEGIANCE**

3. **APPROVAL OF AGENDA**

4. **PUBLIC COMMENT**

Limited to 5 minutes for any one item not scheduled on the Agenda.

5. **CONSENT ITEMS**

(A) Minutes: Approval of the Minutes of the Board of Directors meeting of August 13, 2020.

6. **BOARD MEMBER REPORTS** (estimated time: 5 minutes)

RECOMMENDATION: For information only.

7. **SECRETARY/TREASURER REPORT** (estimated time: 5 minutes)

RECOMMENDATION: For information only.

8. CONTRACT AMENDMENT WITH LUHDORFF & SCALMANINI CONSULTING ENGINEERS (estimated time: 10 minutes)

RECOMMENDATIONS:

1. Authorize General Manager to execute \$400,000 contract amendment with Luhdorff & Scalmanini Consulting Engineers for continued development of the Solano Groundwater Sustainability Plan.

9. SOLANO GROUNDWATER SUSTAINABILITY PLAN UPDATE (estimated time: 30 minutes)

RECOMMENDATIONS:

1. Hear presentation and provide direction to staff.

10. TIME AND PLACE OF NEXT MEETING

Thursday, December 10, 2020 at 5:30 p.m. at the SCWA offices.

The Full Board of Directors packet with background materials for each agenda item can be viewed on the Agency's website at

www.scwa2.com/resources-management/ground-water/solano-gsa-bod

Any materials related to items on this agenda distributed to the Board of Directors of Solano Subbasin Groundwater Sustainability Agency less than 72 hours before the public meeting are available for public inspection at the Agency's offices located at the following address: 810 Vaca Valley Parkway, Suite 203, Vacaville, CA 95688. Upon request, these materials may be made available in an alternative format to persons with disabilities.

**SOLANO SUBBASIN GROUNDWATER SUSTAINABILITY AGENCY
BOARD OF DIRECTORS MEETING MINUTES**

MEETING DATE: August 13, 2020

The Solano Subbasin Groundwater Sustainability Agency Board of Directors met this evening at the Solano County Water Agency Offices. Present were:

Vice-Mayor Scott Pederson, City of Dixon
Mayor Ronald Kott, City of Rio Vista
Supervisor John Vasquez, Solano County District 4
Supervisor Skip Thomson, Solano County District 5
Director Jack Caldwell, California Water Services Dixon
Director Spencer Bei, Dixon Resource Conservation District
Director Dale Crossley, Reclamation District 2068
Russ Lester, Solano County AG Advisory Committee
Director Kurt Balasek, Solano Resource Conservation District

CALL TO ORDER

The meeting was called to order at 5:30 p.m. by Chairman Kott.

APPROVAL OF AGENDA

On a motion by Director Balasek and a second by Supervisor Vasquez the Board unanimously approved-by roll call vote-the Agenda.

PUBLIC COMMENT

There were no public comments.

CONSENT ITEMS

On a motion by Director Crossley and a second by Director Bei the Board approved-by roll call vote-Consent Item 5(a) Minutes. Supervisor Thomson abstained from voting on Item 5(a).

BOARD MEMBER REPORTS

There were no Board member reports.

SECRETARY/TREASURER REPORT

There were no additions to the written report.

SOLANO SUBBASIN GROUNDWATER SUSTAINABILITY AGENCY
FY 2020/2021 BUDGET

Staff gave a presentation on the Agency’s Fiscal Year 2020/2021 Budget. The proposed FY 2020/2021 budget includes funding to develop the Groundwater Sustainability Plan (GSP), membership to ACWA and insurance through the ACWA-JPIA for the Agency. The Agency does not pay any employee salaries, rent for office space, or costs for office equipment, so budget documentation is fairly simplistic.

The bulk of expenses are for work performed by Luhdorff & Scalmanini towards development of the GSP. Total expenses for FY 2020-2021 are estimated to be \$565,403.

The bulk of revenues are from the 2017 Proposition 1 Sustainable Groundwater Planning Grant and the 2018 Proposition 68 Sustainable Groundwater Planning Grant. Payments are made in arrears for work done on the GSP (there is a 10% holdback until the end of the grant cycle in 2022). Additional revenues are from 2017 Agency membership dues. Estimated reserves for FY 2020-2021 will be \$582,035.

An audit of the Agency’s financial records will be included as a separate line item of the Solano County Water Agency’s (SCWA) annual audit (amount of work required is trivial and will be absorbed by SCWA).

On a motion by Director Balasek and a second by Supervisor Vasquez the Board unanimously approved-by roll call vote-the Agency’s Fiscal Year 2020/2021 Budget.

GROUNDWATER SUSTAINABILITY PLAN: SECTION 1 REVIEW

Interim Assistant General Manager Chris Lee gave the Board of Directors a presentation on Section 1 of the Groundwater Sustainability Plan (GSP), stakeholder input, and the current review process. The GSP discusses some pretty technical issues like groundwater, water budgets, and sustainability goals. Our job is to make it as accessible as possible for all stakeholders. We have also completed our first Technical Memorandum (TMs). The TMs will be appendices to the GSP. They will show our work to DWR on how we developed our groundwater models and how we came up with sustainability goals, and how we analyzed all of the data. This first TM describes the process on how the preliminary Surface Water System water budget was developed. The groundwater portion will be in a future TM.

We are not seeking review and comment from general stakeholders on these TM’s. The question staff have for the Board is, are you comfortable with staff summarizing these reports to the Board and bringing any big issues or red flags to the Board’s attention for direction.

Most of the Board members indicated that they are ok with this process of staff summarizing the TMs. A few Board members would like to review the TMs if they have time.

Section 1 lays out the background and organization of the rest of the report. Although we are talking about a pretty complex issue, the purpose of the GSP can be distilled down to a single sentence: To manage groundwater resources, the GSAs must have the adequate information about groundwater and hydrogeologic conditions within the basin, the tools to measure and monitor those conditions, and a goal to achieve/maintain sustainability.

To do that, the GSP needs to include how we will go about gathering information to define groundwater conditions, starting with existing groundwater management plans and other plans and studies. We need to develop: tools to improve data collection and understanding of groundwater conditions; a water budget and sustainable yield estimates, including evaluating the uncertainties and potential effects of climate change; we have to define sustainable management criteria, including measureable objectives and minimum thresholds to achieve sustainability goals and avoid undesirable results; we need to establish projects and management actions to help us achieve and maintain sustainability; and, we need to evaluate the effects of GSP implementation on adjacent basins, and other city and county planning objectives.

There are several big ticket items mentioned in Section 1 that will be described in greater detail later in the GSP. Two of the biggest topics for the entire GSP are sustainability goals and undesirable results, which will make up Section 6 of the GSP-we will likely have a workshop later on these two topics to go into much greater detail and explanation to the Board.

Another big component of the GSP is that we need to consider all of the beneficial uses and users of groundwater in the subbasin. To do this, we need to insure that we have an active and effective way for stakeholders to provide input on this process. General consensus is that we have done a pretty good job looking at all of the various stakeholders and trying to include them in the fold. The Solano GSA itself is a great testament to that on how we have the municipalities and the farmers and ranchers on the same Board working together. We have had a number of public meetings over the past couple of years to get stakeholder input on the GSP and we have more virtual meetings planned for later this year.

One of the ideas brought up by many stakeholders was to have a Citizens Advisory Committee. This would be a group of stakeholders who are committed to review and provide comments on the GSP over the next 14 months or so. Although this is just an advisory group, it helps us check off all of the boxes with regards to SGMA and GSP stakeholder involvement.

Section 1 also introduces Plan Implementation and Cost Estimates, which will be covered in detail in Section 9. We will likely have a workshop on this topic as well to discuss future costs to comply with SGMA, including implementation of the necessary management actions, projects, and ongoing monitoring and reporting requirements, to show how they can be met.

As was mentioned in previous updates, the delay of Section 1 coming to this Board was to make sure we had this review cycle thought out. First step, the consulting team drafts a section of the GSP. Taking into account early comments we have received from stakeholders the last two years.

The draft then goes to the Solano Collaborative staff for review and comments. The extended consulting team also reviews the draft at this point. Then the Collaborative staff take the draft to each of their GSA Boards for review and comments. If there is a comment that needs further discussion amongst the GSA Boards it is discussed at this point. So for instance, this first section of the GSP, there were no red flags raised by your staff or the Collaborative.

If there are no red flags, we revise the draft taking into account the comments received so far. It then goes as a clean revised draft to the Citizens Advisory Committee and then posted on the GSP website and released to all stakeholders for review and comment. We are hoping to move through each section in about a month.

As it is moving forward in the process we are hopefully introducing the next section to the Collaborative. If after review by all of the stakeholders and there are no red flags or substantive comments, we park the section as essentially a done draft section. If there are any substantive comments we come back before this Board to discuss and get direction on how to move forward. We would then relay that information to the other GSAs to see if we can get consensus on moving forward to park the draft section.

The question we have for the Board, are you comfortable with the review process as presented or are there any suggestions for change or improvement with this process. The Board was in agreement that the review process as presented seemed appropriate.

TIME AND PLACE OF NEXT MEETING

The time and place of the next meeting is Thursday, October 8, 2020 at 5:30 p.m., at the SCWA offices.

ADJOURNMENT

This meeting of the Solano Subbasin Groundwater Sustainability Agency Board of Directors was adjourned at 6:25 p.m.

Roland Sanford
Secretary to the Solano Subbasin
Groundwater Sustainability Agency

SOLANO SUBBASIN GROUNDWATER SUSTAINABILITY AGENCY

MEMORANDUM

TO: Board of Directors

FROM: Roland Sanford, Secretary to the Board of Directors

DATE: October 8, 2020

SUBJECT: October General Manager/Secretary Report

Groundwater Sustainability Plan Update

Luhdorff & Scalmanini, our consultants developing the Groundwater Sustainability Plan (GSP), will give the Board an update on progress and next steps for the GSP.

GSP Schedule

As requested, staff will provide the schedule for the GSP at each Board meeting. The GSP schedule is undergoing some revisions and a revised schedule will be presented to the Board at their next meeting.

Inter-Basin Coordination

Coordination with our neighboring groundwater basin continues. We are taking a two-pronged approach. Staff are contacting the other Plan Managers directly and Ag Innovations (through a separate contract with the Solano County Water Agency) is also setting up meetings between the basins. Staff have had meetings with East Contra Costa, Sacramento, and the Yolo basin managers. All of the GSPs are working in slightly different ways to meet SGMA requirements.

Solano Groundwater Sustainability Plan Website

Continuous updates are being made to the Solano Groundwater Sustainability Plan website. The address for the website is: <http://www.solanogsp.com>

DRAFT Solano Subbasin GSP Schedule and Deliverables

New Task Number and Name for Invoicing	Proposal Project Task/Subtask (Revised July 12, 2018)	Cross Reference to TOC Tasks (9/20/18)	Year 1				Year 2				Year 3				Year 4 (1st half)
			2018	2019			2020				2021				2022
			4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
3.13. Meeting attendance (Basin Setting, GW Conditions, Models, Management Area Considerations)	3.4. Meeting attendance 17 Meetings Total includes: 4 Meetings with GSAs/Stakeholders (includes one webinar) with the following meeting topics: a. Data Gaps and Hydrogeologic Conceptual Model, Historical and Current Groundwater Conditions b. Initial Water Budget c. Refinement of Water Budget 3 Technical Meetings (inter basin technical consultants to discuss data sharing and model approaches (e.g., for consistency) 10 Meetings with GSAs re Potential Management Areas. Meeting time includes some preparation time (agendas, electronic presentation materials; no document reproduction for handouts)														
				GSA 1	TM 1, GSA 2	GSA 3	TM 2		TM 3						
										MA 1&2	MA 3&4	MA 5&6	MA 7&8	MA 9&10	
4.1. Sustainability Goal	4.1. Sustainability Goal (Ch 6.1) Deliverable: Draft Ch 6.1 Sustainability Goal	Ch 6.1													
4.2. Undesirable Results	4.2. Undesirable Results (Ch 6.2) Deliverable: Draft Ch 6.2 Undesirable Results	Ch 6.2													
4.3. Minimum Thresholds	4.3. Minimum Thresholds and Sustainability Indicators (Ch. 6.4) Deliverable: Draft Ch. 6.4	Ch 6.4													
4.4. Measurable Objectives	4.4. Measurable Objectives and Sustainability Indicators (Ch. 6.5) Deliverable: Draft Ch 6.5	Ch. 6.5													
4.5: Assessment and Description of Monitoring Network	4.5.1: Assessment and Description of Monitoring Network Deliverable: Draft Chs. 7.1, 7.2, 7.3	Chs 7.1, 7.2, 7.3													
4.6: Monitoring Protocols for Data Collection and Monitoring	4.5.2: Monitoring Protocols for Data Collection and Monitoring														
4.7: Representative Monitoring	4.5.3: Representative Monitoring Deliverable: Draft Ch. 6.3 Representative Monitoring Sites	Ch 6.3													
4.8: Data Management and Reporting of Monitoring Data to DWR	4.5.5: Data Management and Reporting of Monitoring Data to DWR Deliverable: Chs 7.4, 7.5, 7.6	Ch. 7.4, 7.5, 7.6													
4.9 Meeting attendance (Sustainability Criteria)	4.6 Meeting attendance 7 Meetings (Assumes technical support only and meeting facilitated by others outside of this team) 3 meetings to discuss Chapter 6 (1 with GSA and 2 with stakeholders) 3 meetings and a webinar (1 with elected officials and 2 plus webinar with stakeholders) to review GSP Ch 6 and receive comments for inclusion in the Administrative Draft GSP.														
5.1. Identify and Describe Projects and Management Actions	5.1. Identify and Describe Projects and Management Actions (includes two meetings) Deliverables: • Written report with an overview of optimized scenarios for agricultural projects for each Management Area. (DE lead) • Slide presentation of optimized scenarios for agricultural projects. (DE lead) • Draft GSP Ch 8: Projects and management actions to achieve sustainability goal. (DE lead)	Ch. 8 Projects and Management Actions													
5.2. TFT Project Coordination	5.2. TFT Project Coordination (Agriculture Project Optimization, assumes The Freshwater Trust will provide content; task includes ensuring CIG project is consistent with the GSP and open data exchange and dialogue)														
6.1. Plan Implementation	6.1. Plan Implementation Deliverables: • Draft GSP Ch 9: GSP Implementation • GSP implementation cost estimate • Annual budget for GSP implementation	Ch 9 Plan Implementation													

**ACTION OF
SOLANO SUBBASIN GROUNDWATER SUSTAINABILITY AGENCY**

DATE: **October 8, 2020**

SUBJECT: **Contract Amendment with Luhdorff & Scalmanini Consulting Engineers for Continued
Development of the Solano Subbasin Groundwater Sustainability Plan**

RECOMMENDATION:

1. Authorize General Manager to sign Amendment to Agreement with Luhdorff & Scalmanini Consulting Engineers for continued development of the Solano Subbasin Groundwater Sustainability Plan.

FINANCIAL IMPACT:

Increase in Agreement amount of \$400,000, from \$1,350,000 to \$1,750,000. Funding for this amendment is included in the Agency’s FY 2020-2021 budget.

BACKGROUND:

The Solano GSA was awarded a grant from the Department of Water Resources (DWR) through Proposition 68 to augment work on the Groundwater Sustainability Plan (GSP). The original application had a grant ask of \$705,000, concentrating on three tasks to augment completion of the GSP: monitoring well installation and instrumentation; additional stakeholder engagement and outreach; and stormwater/groundwater recharge potential projects. DWR has awarded the Solano GSA the full request, however, funding will be phased as it is appropriated by the legislature. The first phase is for \$400,000. The amendment to the contract with DWR has been fully executed with these additional funds.

The staff recommendation is to amend the contract with Luhdorff & Scalmanini Consulting Engineers (LSCE) to add these additional tasks for continuation in the development of the GSP in the amount of \$400,000. Tasks performed under this amendment are detailed in the attached scope of work. As the remaining funds are appropriated, additional amendments to both the DWR and LSCE contracts will come back to the Board for consideration.

Recommended: _____
Roland Sanford, Secretary

<input type="checkbox"/>	Approved as recommended	<input type="checkbox"/>	Other (see below)	<input type="checkbox"/>	Continued on next page
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Modification to Recommendation and/or other actions:

I, Roland Sanford, Secretary to the Solano Groundwater Sustainability Agency, do hereby certify that the foregoing action was regularly introduced, passed, and adopted by said Board of Directors at a regular meeting thereof held on October 8, 2020 by the following vote.

Ayes:

Noes:

Abstain:

Absent:

Roland Sanford,
Secretary to the
Solano Groundwater Sustainability Agency

SOLANO SUBBASIN GROUNDWATER SUSTAINABILITY AGENCY
AMENDMENT TO AGREEMENT FOR PROFESSIONAL SERVICES

AMENDMENT NUMBER: 1

CONTRACTOR: Luhdorff & Scalmanini Consulting Engineers

EFFECTIVE DATE: October 8, 2020

PROJECT: Solano Subbasin Groundwater Sustainability Plan

DESCRIPTION OF AMENDMENT:

1. Increase agreement amount by \$400,000 from \$1,350,000 to \$1,750,000.

SIGNATURES:

Solano Subbasin Groundwater Sustainability Agency,
a Public Agency

Luhdorff & Scalmanini
Consulting Engineers

By: _____
Roland Sanford,
General Manager

By: _____
Vicki Kretsinger Grabert
President

July 9, 2020
File No. 20-1-085

Mr. Chris Lee
Solano Groundwater Sustainability Agency
810 Vaca Valley Parkway, Suite 203
Vacaville, CA 95688

**SUBJECT: Solano Subbasin Groundwater Sustainability Plan— Proposition 68
Contract Amendment for GSP Technical Support**

Dear Mr. Lee:

Luhdorff & Scalmanini, Consulting Engineers (LSCE), along with other firms that comprise the LSCE technical team, are currently under contract with the Solano Subbasin Groundwater Sustainability Agency (Solano GSA) through an Agreement dated August 30, 2018 for the development of the Solano Subbasin Groundwater Sustainability Plan (GSP). This letter requests an amendment to that contract for GSP development services, specifically to add the GSP-related tasks that will be funded through Proposition 68 grant funding provided by the California Department of Water Resources to the Solano Subbasin GSA as the Grantee. The tasks covered by this amendment include:

Category (b) [Stakeholder Engagement & Outreach]

Category (c) [GSP Development, Task 2: Stormwater Recharge Project Planning]

- Assess Current Conditions as Related to Stormwater & Floodwater Management
- Develop Credit Accounting Framework for Stormwater Capture Projects
- Incorporate Flow Routing Functionality into Field Runoff Analysis
- Determine Prioritization Criteria for Each Recommended Practice
- Project/Management Action feasibility and run groundwater flow model and hydraulic modeling scenarios

This letter provides the scope and budget for the above Categories. The Category (c) GSP Development Task 2 Stormwater Recharge Project Planning includes technical support by The Freshwater Trust (TFT); TFT will be a subcontractor to LSCE.

Scope

Component 2 GSP Development; Category (b) Stakeholder Engagement & Outreach

This outreach component recognizes the need for outreach and communications planned to occur between January 2020 and January 2022 that were not anticipated or included in the DWR Prop 1 grant application. The original Prop 1 grant application underestimated the technical communications effort

required to make outreach successful (e.g., technical support for public meetings and the additional monthly GSA meetings [including monthly pre-meeting planning calls] were not included). The Solano Subbasin GSAs have applied for Facilitation Support Services from DWR for professional facilitation assistance. This Category (b) is not duplicative of the FSS request and includes:

Technical support for and participation in at least seven (7) monthly calls, five (5) interbasin coordination and GSP Advisory Committee meetings, seven (7) monthly GSA Collaborative and/or other GSA meetings, four (4) public meetings for interested parties within and outside the Subbasin.¹

Component 2 GSP Development; Category (c): Stormwater Recharge Project Planning

The Solano Subbasin GSAs have identified stormwater as a potential valuable resource and the need to expand the GSP's proposed sustainability approaches to defining prioritized recharge areas, efficient water management practices (as defined in Water Code section 10902), and other means to improve surface water and groundwater quality and quantity. The GSAs have begun the examination of the potential sustainability practices and potential locations for those practices as part of the GSP development. In order to facilitate the incorporation of such practices into the GSP, it is necessary to undertake an initial prioritization of potential sustainability practices and implementation locations. This requires the development of an accounting system that identifies and contrasts the relative costs of implementation and the potential groundwater benefits associated with various practices, including recharge projects in suitable areas having high recharge potential and opportunities to achieve multiple benefits.

To achieve and maintain the sustainability goal [354.24], projects and management actions have to be defined in detail (354.44). The stakeholders in the Solano Subbasin have identified the critical need for an approach that identifies what projects and management actions have the potential to yield significant additional water supplies and/or reduce undesirable effects to Groundwater Dependent Ecosystems (GDE), and Disadvantaged Communities (DAC/SDAC/EDC), and associated rural domestic well users. Without this information, substantial data gaps could exist in the Subbasin, and projects could take considerably longer to be developed. The Solano Subbasin GSAs plan to use the Prop 68 grant funding to pilot an innovative strategic sustainable project prioritization and implementation plan, which will become a component of the GSP document. This plan will integrate the existing conservation and conjunctive-use programs being implemented by Solano County, Solano Irrigation District, the

¹ The Prop 68 requested and approved grant amount for this Category was \$172,000. However, the Round 3 funding authorized under the current Agreement between DWR and the Solano Subbasin GSA is \$110,000. The remaining \$62,000 of those funds are contingent upon future appropriation of Prop 1 funding. The DWR Agreement with the Solano Subbasin GSA will require an amendment after July 1, 2021 when the funds are reappropriated and available to award.

Solano County Water Agency and others, such the Natural Resources Conservation Service (NRCS) and the Dixon Resource Conservation District (RCDs).

The plan will first identify those existing programs and detail their historical and anticipated groundwater sustainability benefits, to the extent possible, and assess how innovative, interconnections between monitoring and accounting technologies can be used to track and quantify the benefits of those programs over time for the GSP updates to DWR. Based on the initial findings, the strategic plan will further identify where integrated management actions and associated sustainability practices such as water conservation, water use efficiency; stormwater and sheet floodwater capture and recharge; reclamation; and water banking, exchange, and other market-based sustainability projects could be located. Those sustainability practices will be prioritized through the identification of the potential sources of water and the comparison of the costs and benefits associated with the different practices. This evaluation and prioritization will then be used to support the development of groundwater recharge projects using surface water, stormwater, and recycled water. The evaluation and prioritization will also be used to support the development of sustainability projects and actions that prevent or help clean up contamination of groundwater that serves as a source of drinking water (Public Resources Code § 80146(a)) and utilize infiltration and runoff to inform a novel groundwater recharge pilot program.

One potential pilot project that will receive analysis for integration into the GSP is the use of stormwater or sheet flood waters to recharge groundwater in the Dixon area. This area is routinely subject to winter sheet flows and localized flooding that may be used to augment groundwater supplies. The integration of this type of project requires studying existing agricultural and stormwater drainage systems and analyzing: 1) how those flows are currently routed through those systems, and 2) how those waters can be slowed or captured using a series of NRCS practices (end and edge of field buffers, small basin wetlands, and other improved irrigation runoff management techniques). Within this network of distributed practices, priorities for upgrades to existing or new field-level flood management systems, their costs and their potential for increased infiltration to groundwater will also be analyzed and quantified. Moreover, this planning phase will investigate opportunities to integrate the regional stormwater system developed within the City of Dixon and explore the relative contribution of improved groundwater infiltration where potential sites are hydrogeologically suitable. These are just a portion of the potential projects that will be evaluated—a variety of additional opportunities exist in the region and will be considered as part of this planning and prioritization effort.

Conservation or improved capture of surplus water using distributed on-farm practices is important in the Solano Subbasin, given the significant agricultural land uses. By focusing recharge where the demand is, and where the physical opportunity for recharge to occur effectively is optimal, the benefits can be seen more rapidly. However, this implementation needs to be tightly coupled to the GSP to ensure sustainability and achieve the GSP timelines. The integration of the possible projects into the GSP, despite the complexity of identifying potential locations and costs of implementation, represents the crux of the proposed expansion of the GSP. At the same time, understanding the use of market-based water conservation tools, such as assessing the viability and structures needed to quantify recharge for credit, design crediting for episodic events such as “stormwater flow through on fields”, and the quantification of ancillary co-benefits, such as improving water quality, carbon storage, and

pollinator health, is ultimately needed to increase practice adoption, leverage other funding sources, and to create a sustainable land and water resources management program that dovetails with the requirements and goals of the Sustainable Groundwater Management Act.

1. Assess Current Conditions as Related to Stormwater & Floodwater Management.

This involves mapping the Solano Subbasin using an existing LiDAR dataset, including:

- Mapping existing infrastructure, identify existing and potential water diversion routes
- Developing a drainage network GIS dataset and presentation graphics
- Validating the drainage network in the Dixon pilot area with local partners

The next step is to identify Best Management Practices (BMPs) and other practices for water supply or quality improvements that are being used locally or could be readily adopted, with an initial focus on NRCS practices and Flood-Managed Aquifer Recharge (MAR). In addition, this work will identify potential priority recharge areas and produce a map of initial potential recharge areas on the basis of known suitable geology and hydrogeology, as well as identify risk areas for groundwater mounding or other implementation challenges.

Task Deliverables

- Initial Findings Summary Report

2. Develop Credit Accounting Framework for Stormwater Capture Projects

This involves developing a credit system analysis to incorporate additional groundwater recharge actions into a market-based incentive system. In order to complete this, one shallow monitoring well and up to six (6) gauges for drainage ditches in the Dixon area will be installed to improve the water quantity and quality monitoring network specific to establishing local baseline conditions in the vicinity of the potential priority recharge area(s).

Task Deliverables

- Credit Accounting Framework for Stormwater Capture Projects Report

3. Incorporate Flow Routing Functionality into Field Runoff Analysis

This involves applying a BasinScout evaluation and prioritization toolkit to identify floodwater recharge opportunities across the Subbasin. This involves classifying hydrogeologically suitable regions by practice suitability, project benefits including metrics of increased acre-feet of recharge, and associated practice implementation and maintenance costs. This step will also develop scenarios for various practice combinations and costs as well as scenarios with climate change modifiers. This step will also develop or adapt the Solano Subbasin's flow routing model to connect individual conservation practices at the field level to stormwater routing and flood elevations to assess and track program benefits from the field to regional scales. This step also involves assessing how connections between monitoring and accounting technologies can be used to track and quantify benefits.

Task Deliverables

- Pilot Assessment of Stormwater Routing in the Dixon Area Report

4. Determine Prioritization Criteria for Each Recommended Practice

This step identifies the potential benefits or impacts of potential priority projects to GDEs and DACs, with ecologists, community members, and SDAC grant collaborators. This will include mapping of initial potential practice benefit and risk areas to meet these needs. This step also identifies implementation costs for selected pilot program implementation and defines the environmental analysis needs, including any environmental analysis required for CEQA and permitting. This step also involves prioritizing identified sustainability practices through the identification of potential water sources and comparison of the costs and benefits associated with different sustainability practices.

Task Deliverables

- Addendum to Summary Report, potential prioritization criteria and scenarios for NRCS practices in the Solano Subbasin

5. Project/Management Action Feasibility and Run Groundwater Flow Model Scenarios

This step involves development of an appraisal-level analysis for a priority recharge project and/or management action identified for inclusion in the GSP. For the priority stormwater recharge project, a planning-level feasibility assessment of the most cost-effective project would be conducted. The feasibility analyses will describe the project concept, benefits, and costs at a project-appraisal level of detail.

The GSP will include a description of potential stormwater recharge projects and management actions, preliminary feasibility evaluation, and documentation of financial feasibility. The GSP will include a summary of how projects/management actions will benefit the Solano Subbasin and contribute to sustainability criteria.

Projects and/or management actions developed in this task will be tested in the Solano Subbasin's groundwater flow model to determine how groundwater will be influenced by the projects or management actions in the short and long-term.

Budget

The budget for the above-described tasks is detailed in Table 1. Services will be conducted on a time and materials basis with the budget not to exceed \$400,000 without prior authorization. Also attached are fee schedules for LSCE and TFT.

Table 1. GSP Development: Prop 68 Technical Support Estimated Budget

Budget Categories	Budget Amount
(b) Stakeholder Engagement & Outreach	\$110,100
Monthly calls (premeeting and other planning calls)	\$12,000
Interbasin coordination and GSP Advisory Committee	\$20,100
Meetings with Collaborative and GSAs	\$36,000
Public meetings-Technical Team	\$42,000
(c) GSP Development; Task 2 Stormwater Project Planning	\$289,900
C1. Assess Current Conditions as Related to Storm & Floodwater Management	\$50,000
C2. Develop Credit Accounting Framework for Stormwater Capture Projects	\$49,000
C3. Incorporate Flow Routing Functionality into Field Runoff Analysis	\$56,800
C4. Determine Prioritization Criteria for Each Recommended Practice	\$33,600
C5. Project/Management Action feasibility and prepare and run one project (includes groundwater flow model and hydraulic modeling)	\$100,500
Grand Total	\$400,000

We would be pleased to address any questions concerning the above tasks.

Sincerely,
 LUHDORFF & SCALMANINI
 CONSULTING ENGINEERS

Vicki Kretsinger Grabert
 President

Attachments: Fee Schedules for LSCE and TFT



SCHEDULE OF FEES - ENGINEERING AND FIELD SERVICES 2020

Professional	
Senior Principal	\$225/hr
Principal Professional	\$220/hr
Supervising Professional	\$210/hr
Senior Professional	\$192/hr
Project Professional	\$150 to 170/hr
Staff Professional	\$135 to 145/hr
Technical	
Engineering Inspector	\$140/hr
ACAD Drafting/GIS	\$135/hr
Engineering Assistant	\$105 to 125/hr
Scientist	\$105 to 125/hr
Technician	\$105 to 125/hr
Clerical Support	
Word Processing, Clerical	\$80/hr
Digital Communications Specialist	\$90/hr
Project Admin/Accounting Assistant	\$100/hr
Other Services	
Vehicle Use	\$0.58/mi
Subsistence	Cost Plus 15%
Groundwater Sampling Equipment (Includes Operator)	\$170.00/hr
Copies	0.20 ea
Professional or Technical Testimony	200% of Regular Rates
Technical Overtime (if required)	150% of Regular Rates
Outside Services/Rentals	Cost Plus 15%
Services by Associate Firms	Cost Plus 15%



2020 Billing Rate Sheet

Senior Directors	\$225 per hour
Directors	\$195 per hour
Policy Specialist*	\$175 per hour
Project Manager	\$160 per hour
Senior Analyst	\$150 per hour
Ecosystem Services Analyst	\$140 per hour
GIS Analyst	\$130 per hour
Monitoring/Field Staff	\$110 per hour
Communications/Design	\$100 per hour
Field Technician	\$85 per hour
Invoice/Administration	\$75 per hour

*While some of The Freshwater Trust's policy specialists are licensed attorneys, The Freshwater Trust only provides policy analysis and not legal advice to its clients. If you are seeking legal advice then we suggest that you engage professional counsel.

2020 Expense Rate Sheet



The Freshwater Trust[®]

Changing the course
of conservation.

The Freshwater Trust is a 501(c)(3) not-for-profit organization that actively works to preserve and restore our freshwater ecosystems.

	Fee	Purpose
BasinScout™ StreamBank Fee	\$40,000	Annual fee intended to provide access to TFT's StreamBank toolset
Mobilization/De-Mobilization Fee (daily)	\$150	Daily field equipment setup and breakdown fee
Satellite Data Acquisition License Fee (annual)	\$3,000	
Cloud Data Storage Fee (annual)	\$500	Annual fee for data management and storage;
Database Maintenance Fee (annual)	\$300	Annual fee for IT services
Website Management Fee (annual)	\$175	Annual fee for IT services, if provided in agreement
Support Vehicle (daily)	\$155	Daily vehicle fee (SUV/Truck)
DGPS Equipment Unit Rate (daily)	\$250	Differential GPS (high-accuracy) daily use fee
LiDAR Total Station (daily)	\$425	LiDAR Mapping system daily use fee
DGPS License Fee (annual)	\$1,900	Annual fee for use of licensed DGPS data to correct GPS

**ACTION OF
SOLANO SUBBASIN GROUNDWATER SUSTAINABILITY AGENCY**

DATE: **October 8, 2020**

SUBJECT: **Solano Groundwater Sustainability Plan Update**

RECOMMENDATION:

1. Hear presentation and provide direction to staff.

FINANCIAL IMPACT:

None.

BACKGROUND:

Luhdorff & Scalmanini Consulting Engineers (LSCE) will provide an update on progress of the Solano Groundwater Sustainability Plan (GSP) to the Board. Topics to be covered during the presentation (attached):

- Basin Conditions
 - Hydrogeologic Conceptual Model
 - Groundwater Conditions
- Preliminary Surface Water System Water Budget
- Integrated Hydrologic Model – Local Solano Subbasin Model
- Monitoring Wells near Putah Creek
- Next Steps

After the presentation, staff will ask for input from the Board on continued direction of the development of the GSP.

Recommended: _____
Roland Sanford, Secretary

Approved as
recommended

Other
(see below)

Continued
on next page

Modification to Recommendation and/or other actions:

I, Roland Sanford, Secretary to the Solano Groundwater Sustainability Agency, do hereby certify that the foregoing action was regularly introduced, passed, and adopted by said Board of Directors at a regular meeting thereof held on October 8, 2020 by the following vote.

Ayes:

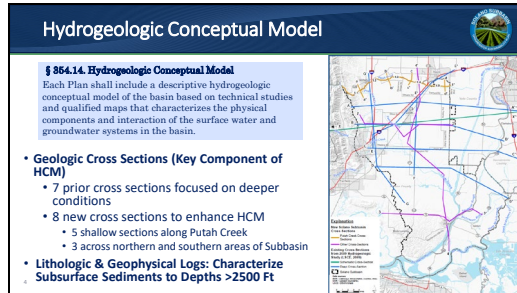
Noes:

Abstain:

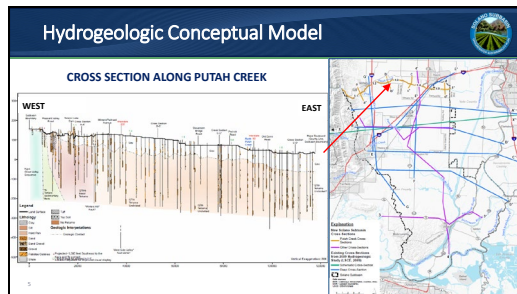
Absent:

Roland Sanford,
Secretary to the
Solano Groundwater Sustainability Agency

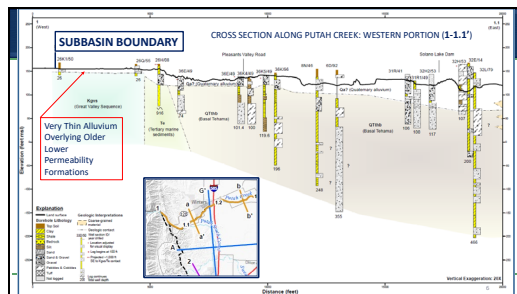
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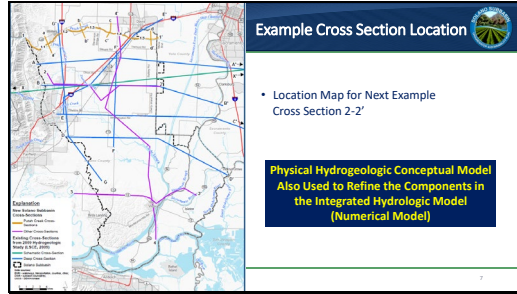
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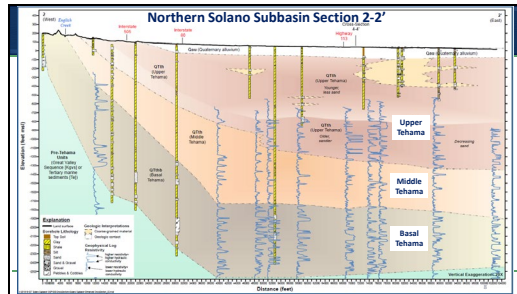
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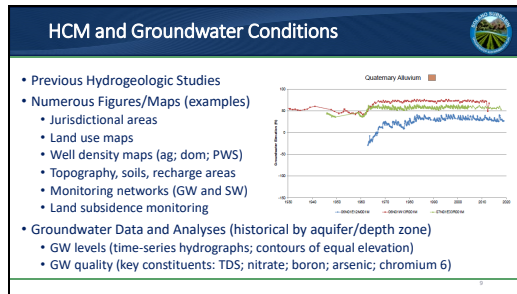
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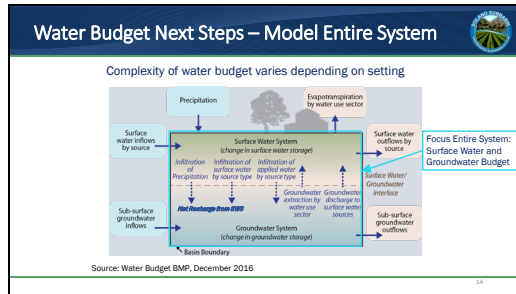
Estimated Net Recharge from SWS

Net Recharge from SWS = Recharge* (Infiltration) - Extraction

Historical Water Budget, 1991-2017 hydrological data and land use (AF/yr)	City of Vacaville GSA	Delta GSA	SID GSA	Solano Subbasin GSA	Rivers and Streams	Total
Infiltration of Applied Water (Deep Percolation)	3,205	29,672	35,933	49,348	--	118,158
Infiltration of Precipitation (Deep Percolation)	4,293	19,871	13,132	58,070	--	95,366
Infiltration of Surface Water (Seepage, Streams)	--	--	--	--	9,494	9,494
Infiltration of Surface Water (Seepage, Canals)	0	0	10,192	7,529	--	17,722
Groundwater Extraction**	-11,246	0	-21,615	-180,445	--	-213,306
Net Recharge from SWS**	-3,748	49,543	37,642	-65,498	9,494	27,434
Net Recharge from SWS (if Delta is Excluded)						-22,109

*Excludes subsurface groundwater inflows/outflows
**Minor revisions underway to City of Vacaville GSA, Delta GSAs and SID GSA in response to comments.

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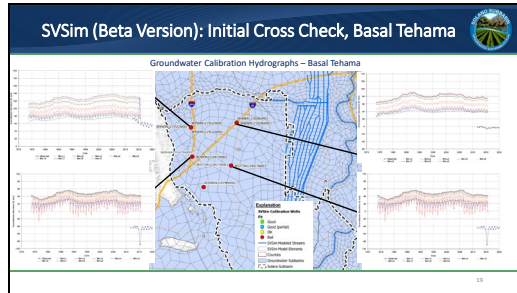
Sacramento Valley Groundwater-Surface Water Simulation Model (SVSim)

- DWR regional model for Sac Valley, but better resolution to structure (e.g., elements, layers) than Central Valley wide models (C2VSim-FG, CVHM)
- DWR posted SVSim Beta Version (uncalibrated) at the end of April
- Assess SVSim inputs/outputs locally
- Perform local model refinements and calibration
- Solano Subbasin-specific Surface Water System water budget inputs will replace regional data

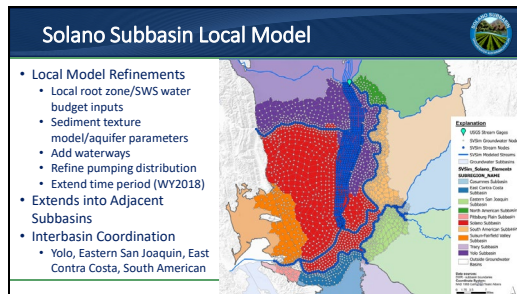
Explanation

- Solano Subbasin Boundary
- SVSim Model Nodes
- SVSim Model Elements

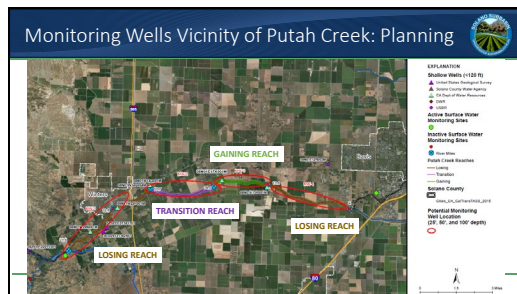
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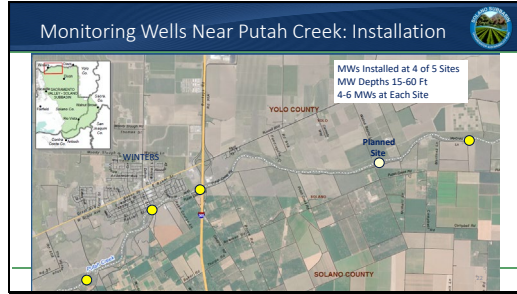
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Monitoring Wells Vicinity of Putah Creek

Collaboration with Mark Grismer of UCD

Purpose:

- Evaluate surface water and groundwater connectivity; stream seepage rates, and responses to changes in hydrologic conditions and pumping
- Evaluate spatial and temporal depths to groundwater; inform mapping of groundwater dependent ecosystems (GDEs)
- Inform the establishment of sustainable management criteria to avoid undesirable results (specifically SW depletion/GDEs)

Data Collection:

- GW levels; estimates of infiltration rates

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GSP Section Preparation and Supporting TMs

- Draft Chapter 1 (reviewed)
- Draft Section 2 (draft October)
- Prelim Surface Water Budget TM (reviewed)
- Hydrogeologic Conceptual Model and Groundwater Conditions TM (draft end of October 2020)
- Other Draft GSP Sections

Groundwater Sustainability Plan
Sacramento Subbasin
Prepared by Solano-GSA Collaborative

Prepared by
LSCCE TEAM
March, 2020

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Looking Ahead: Draft GSP in 2021

- Model calibration and full historical/baseline water budget - Fall 2020/Winter 2021
- Develop concepts for projects and management actions - Late Fall 2020
- Model scenarios (50-yr projected period, climate change, project/MAs) - Spring 2021
- Draft GSP - Fall 2021

PLUS → OUTREACH AND MORE OUTREACH



Virtual Town Hall
October 19th
8:00-8:00pm

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Maintaining a Sustainable Solano Subbasin



Thank You
