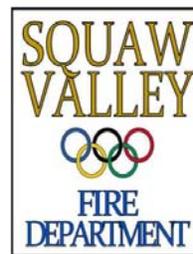




SQUAW VALLEY PUBLIC SERVICE DISTRICT



REDUNDANT WATER SUPPLY – PREFERRED ALTERNATIVE EVALUATION

DATE: October 29, 2013

TO: District Board Members

FROM: Mike Geary, General Manager

SUBJECT: Redundant Water Supply / Preferred Alternative Evaluation – Farr West Engineering Professional Services Agreement

BACKGROUND: The Board approved a proposal from Farr West Engineering for this project at its September, 2013 meeting for \$190,000. The Board also authorized staff to enter into a Funding Agreement with the State of California’s Department of Water Resources as part of the Local Groundwater Assistance Grant Program for \$225,000 to reimburse the District for the evaluation. See last month’s Board Report, attached.

DISCUSSION: However, the Water & Sewer Committee and the Board of Directors directed staff to summarize and communicate the results of prior feasibility analyses of water supply sources in and outside of the Olympic Valley watershed and to evaluate any gaps in these prior investigations to assess each potential source’s feasibility.

As such, staff and Farr West Engineering revised the scope per this direction and attached it to this report for the Committee and Board’s reconsideration and approval. The grant funds from DWR remain adequate and eligible to fund the revised and expanded scope of work.

This revised and expanded evaluation serves to effectively demonstrate the District’s efforts investigating local sources and its environmentally sustainable approach to fulfill its duty to provide reliable and redundant water supply to its customers and visitors. The revised scope also realigns our efforts to the approach envisioned in the District’s Five Year Strategic Plan. Specifically, the addition of Phases I and II of the new proposal effectively satisfies the following tasks of the Work Plan:

- Task 1.1.2 – Water Supply Feasibility Study

- Task 1.5.0 – Olympic Valley Watershed Study

See Progress Report #3 for the Five-Year Strategic Plan’s Work Plan (agenda item F-5) for more details on these goals.

- ALTERNATIVES:**
1. Authorize staff to execute a Professional Services Agreement (PSA) with Farr West Engineering for the revised Redundant Water Supply – Preferred Alternative Evaluation for \$225,000.
 2. Do not authorize staff to execute the PSA with Farr West Engineering.

FISCAL/RESOURCE IMPACTS: The DWR grant will reimburse expenses incurred by the District to perform the evaluation to a maximum of \$225,000. The proposal from Farr West Engineering is estimated to cost the same. Internal expenses for staff to participate in the preparation of the evaluation and administer both the consultant and DWR grant contract have been budgeted in the 2013-14 Capital Budget for \$50,000 and are expected to be much less.

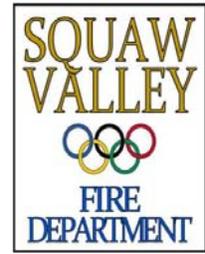
RECOMMENDATION: Authorize staff to execute a Professional Services Agreement (PSA) with Farr West Engineering for the revised Redundant Water Supply – Preferred Alternative Evaluation for \$225,000.

ATTACHMENTS: Board Report for Redundant Water Supply / Preferred Alternative Evaluation – California Dept. of Water Resources Local Groundwater Assistance Grant Agreement dated September 24, 2013.
Farr West Engineering Proposal (Work Plan): *Redundant Water Supply - Alternative Evaluation (revised)*.

DATE PREPARED: October 18, 2013



SQUAW VALLEY PUBLIC SERVICE DISTRICT



REDUNDANT WATER SUPPLY – PREFERRED ALTERNATIVE EVALUATION

DATE: September 24, 2013

TO: District Board Members

FROM: Mike Geary, General Manager

SUBJECT: Redundant Water Supply / Preferred Alternative Evaluation – California Dept. of Water Resources Local Groundwater Assistance Grant Agreement – Farr West Engineering Professional Services Agreement

BACKGROUND: The District applied for grant funds in the amount of \$250,000 from the California Department of Water Resources' (DWR) Local Groundwater Assistance (LGA) Program in July, 2012 for Phase II of the Creek / Aquifer Interaction Study. The District Board approved Resolution 2012-21 (attached) in June, 2012 as required by the LGA application. Award of the grant funds from the LGA Program by DWR were originally scheduled for December, 2012 but were delayed by approximately eight months. As such, Squaw Valley Real Estate (SVRE) agreed to fund Phase II of the Creek / Aquifer Interaction Study in January, 2013 to expedite the analyses of the impacts of pumping groundwater from the Squaw Valley aquifer on Squaw Creek that the Lahontan Regional Water Quality Control Board (Lahontan) requires of the *Village at Squaw* Project EIR. As reported in June, 2013, District staff requested the Lahontan Board to fund Phase II of the Creek / Aquifer Interaction Study (and reimburse SVRE) but its request was denied. In May, 2013 staff was notified that the grant application submitted in 2012 scored very high but that the grant funds were specifically prohibited from retroactively funding the Phase II Study to reimburse SVRE. However, DWR did approve staff's request to redirect the LGA grant funds towards the *Redundant Water Supply / Preferred Alternative Evaluation* Project in the amount of \$225,000.

The proposed *Redundant Water Supply / Preferred Alternative Evaluation* advances the District's *Alternative/Supplemental Water Supply and Enhanced Utilities Feasibility Study* prepared in 2008 and published in 2009. For additional information on the background of the subject project and the 2009 Study, please see the attached Work Plan for the *Redundant Water Supply / Preferred Alternative Evaluation*.

DISCUSSION: The proposed project will evaluate various water supply and transmission alternatives to identify a preferred alternative for a future water supply project. The purpose of the water supply project is to provide redundancy to the District's current supply. Additional project goals are identified on page 2 of the attached Work Plan.

The project pursues top-priority goals identified in the District's *Five-Year Strategic Plan*, specifically:

Goal 1.0.0: *Water Supply. Develop and maintain a high quality water supply that meets the needs of our community today and in the future.*

Goal 2.2.2: *Pursue funding and partnerships for a feasibility analysis of the Truckee River Utility Corridor and Bike Trail Project. Consider redundant water supply, natural gas service, Class I Bike Trail, communication / fiber optic, other utilities.*

The evaluation will result in an update to the 2009 Study; identify preferred alternatives for an export water supply and a transmission main alignment; identify potential joint trench utility partners; and include an analysis of environmental constraints. It will also provide planning-level cost estimates, an update to the project's overall feasibility, and a preliminary public outreach plan.

The project is expected to take approximately one-year to complete and cost \$190,000 for consultant expenses and \$35,000 in staff expenses.

ALTERNATIVES: A1. Authorize staff to enter into a Funding Agreement with the State of California's Department of Water Resources as part of the Local Groundwater Assistance Grant Program under the Local Groundwater Management Assistance Act of 2000 for \$225,000

OR

A2. Do not authorize staff to enter into the Grant Funding Agreement with DWR.

AND

B1. Authorize staff to execute a Professional Services Agreement (PSA) with Farr West Engineering for the Redundant Water Supply – Preferred Alternative Evaluation for \$190,000.

OR

B2. Do not authorize staff to execute the PSA with Farr West Engineering.

FISCAL/RESOURCE IMPACTS: The DWR grant will reimburse expenses incurred by the District to perform the evaluation to a maximum of \$225,000. The proposal from Farr West Engineering is estimated to cost \$190,000. Internal expenses for staff to participate in the preparation of the evaluation and administer both the consultant and DWR grant contract are estimated at \$35,000 and are reimbursable under the terms of the grant contract.

RECOMMENDATION:

A. Authorize staff to enter into a Funding Agreement with the State of California’s Department of Water Resources as part of the Local Groundwater Assistance Grant Program under the Local Groundwater Management Assistance Act of 2000 for \$225,000

AND

B. Authorize staff to execute a Professional Services Agreement (PSA) with Farr West Engineering for the Redundant Water Supply – Preferred Alternative Evaluation for \$190,000.

ATTACHMENTS: Squaw Valley PSD Resolution 2012-21, passed June 26, 2012.
Farr West Engineering Proposal (Work Plan): *Redundant Water Supply - Alternative Evaluation*.

DATE PREPARED: September 17, 2013



October 14, 2013

Mike Geary, P.E.
General Manager
Squaw Valley Public Service District
305 Squaw Valley Road
P.O. Box 2026
Olympic Valley, CA 96146-2026

RE: Scope of Work for Redundant Water Supply – Preferred Alternative Evaluation Project

BACKGROUND

For well over a decade, the Squaw Valley Public Service District (District) has dedicated an enormous amount of resources studying water supply options and the available water supply in and around the Olympic Valley. Some of these studies have included the Squaw Valley Groundwater Development & Utilization Feasibility Study, the aquifer storage and recovery investigation, and the water treatment plan preliminary design project, among others.

Moving forward with the evaluation of additional water supply, in September 2009, the District completed the Squaw Valley Public Service District - Alternative/Supplemental Water Supply and Enhanced Utilities Feasibility Study. The purpose of the study was to determine potential project “fatal flaws” and it investigated the feasibility of importing water supplies from outside District boundaries as a redundant and supplemental and/or alternative water supply for the Valley’s current and future water supply customers. Drilling new production wells within the Olympic Valley has become increasingly more difficult due to the limited capacity of the Squaw Valley aquifer to yield sufficient quantity and quality of potable water. Benefits of reduced pumping of the Olympic Valley aquifer are well documented in the Olympic Valley Groundwater Management Plan (GMP). The Study concluded that the feasibility of the project was apparent based on the available water supply from the Martis Valley, desire of local water purveyors to work with the District on the project, potential transmission main corridors within the Highway 89 corridor and USFS rights of way, no major environmental fatal flaws, and interest from natural gas and communications providers in the area partnering with the District to create a utility corridor to provide these services to the Valley and others along the alignment.

PROJECT PURPOSE

The primary purpose of this project is to evaluate the various water supply and transmission alternatives and identify a preferred water supply project for the District. To satisfy this purpose, the scope of work for the Redundant Water Supply – Preferred Alternative Evaluation project, the project approach includes three distinct phases:

- Phase I – Water Supply Feasibility Summary and Gap Analysis

Reference: Scope of Work – Redundant Water Supply – Preferred Alternative Evaluation

- Phase II - Evaluation of Water Supply Source(s) Identified in Gap Analysis
- Phase III – Preferred Alternative Evaluation

The approach for Phase I – Water Supply Feasibility Summary and Gap Analysis, is to review and summarize the water supply investigations that have been performed by the District in past evaluations of local water sources. This memorandum will summarize this work and present the key findings as to which water supply alternatives were considered to be infeasible and why. During the Phase I investigation, we will also identify and gaps in evaluations on other potential local water sources. This could include the north and south forks of Squaw Creek or horizontal wells within the Valley, for instance. These gaps will be further evaluated in Phase II of the project.

Phase II – Evaluation of Water Supply Source(s) Identified in the Gap Analysis, will include a feasibility level evaluation of any potential local areas of water supply identified in the Phase I analysis. This phase includes a literature level hydrogeologic feasibility evaluation of additional potential water sources in or near the Valley. Phase II is a feasibility level hydrogeologic evaluation of additionally identified water sources. If any of the potentially available water sources near the valley appear feasible, then Phase III of this project would be redefined to further explore these options. If these near valley water sources are shown to be infeasible, then the District will continue on with Phase III as planned and define a preferred water supply alternative from the Martis Valley.

Phase III – Preferred Alternative Evaluation will evaluate the feasible water supply options and develop a preferred alternative and project description. As it is currently written, this phase would include updating the 2009 Alternative/Supplemental Water Supply and Enhanced Utilities Feasibility Study, and performing a detailed ranking and evaluation of supply and transmission alternatives. In the end, a preferred water supply project and its associated components would be recommended and a detailed project description would be prepared. This would put the District in position to move forward with the environmental permitting process and design.

If further analysis of near valley water sources is shown to be feasible, they would be further evaluated in Phase III and incorporated into the overall alternatives evaluation. The scope of Phase III would be modified as necessary to accomplish this.

GOALS AND OBJECTIVES

The overall project goals are:

- Define a water supply project that would reduce pumping demands on the Olympic Valley aquifer;
- Identify a reliable water supply of sufficient quantity and adequate quality to serve the existing and future water supply needs based on projected water demands associated with Squaw Valley General Plan & Land Use Ordinance;
- Provide a supplemental source of water supply for Olympic Valley to allow for reliable quantity and quality that is geographically diverse from the aquifer currently used as the primary source of potable water, and to provide redundancy from a secondary source for improved emergency preparedness;

Reference: Scope of Work – Redundant Water Supply – Preferred Alternative Evaluation

- Investigate the possibility of developing a utility corridor between Truckee and Squaw Valley, including the opportunity to provide natural gas and fiber optic communications capabilities, and a Class I bike trail.

Specific objectives of the project include:

- Summarize previous water supply studies; identify data gaps and update, as necessary;
- Quantify existing and future water demand scenarios and establish supplemental and redundant water supply needs to meet the anticipated future water supply needs of the District;
- Evaluate the availability of groundwater from other areas within the Olympic Valley, including the upper mountain watershed and horizontal wells;
- Verify the availability of groundwater available in the Martis Valley as a supply for the Olympic Valley;
- Evaluate water supply and transmission alternatives and identify a preferred water supply project;
- Define the environmental constraints and permitting process for the water supply project;
- Develop a project description that would be used to support moving forward with the CEQA process, public outreach program, planning, permitting, and design of the water supply project.

Details of each phase are presented below.

PHASE I – WATER SUPPLY FEASIBILITY SUMMARY AND GAP ANALYSIS

This phase includes the preparation of a technical memorandum summarizing work completed to date assessing the feasibility of water supply options available to the District to meet current and future water demands as well as provide a safe level of redundancy. The *Water Supply Feasibility Summary and Gap Analysis* will include a summary of current and past studies prepared by the District and others evaluating alternative/additional water supplies and establishing supplemental and redundant water supply needs to meet the anticipated future water supply needs of the District. Both redundancy and supplemental water supply needs will be defined and quantified as part of the phase.

In the District's 5-Year Strategic Work Plan, a top priority was identified as developing a feasibility study of water supply options that addresses available water supplies from within the Olympic Valley watershed, as well as address potentially available water supplies that can be imported from outside the watershed.

To that end, the *Water Supply Feasibility Summary and Gap Analysis* will summarize the District's efforts and assumptions to identify a feasible water supply project that achieves the District's goals of providing a safe and adequate water supply to its customers. This includes identification of additional/supplemental water sources to meet future water demands as well as providing redundancy to the existing supply through water sources with geographic diversity from within the Olympic Valley watershed or importing water from outside the area.

PREVIOUS/CURRENT WATER SUPPLY STUDIES SUMMARY

Reference: Scope of Work – Redundant Water Supply – Preferred Alternative Evaluation

The District has expended an enormous amount of resources over the past 20 years assessing the Olympic Valley aquifer and its ability to meet current and estimated future water demands within the Valley. These studies include, but are not limited to:

- Squaw Valley Groundwater Development & Utilization Feasibility Study and associated update,
- Olympic Valley Groundwater Management Plan and associated updates,
- Aquifer storage and recovery study,
- Water treatment plant siting and process evaluation,
- Alternative/Supplemental Water Supply and Enhanced Utilities Feasibility Study,
- Creek/Aquifer Interaction study

The District is also currently preparing a Water Supply Assessment for the proposed Village at Squaw Valley Specific Plan development.

The *Water Supply Feasibility Summary and Gap Analysis* will identify the studies that have evaluated additional water supply sources for the District and summarize the key reports and their findings. The summary will also identify any gaps in information, including identifying potential water sources not previously evaluated (i.e. north and south fork of Squaw Creek, etc.). These additional potential water sources will be evaluated at a feasibility level in Phase II of the project.

WATER DEMANDS AND SUPPLY SCENARIOS

Understanding the current and future water demands and supply requirements for the Valley has been studied thoroughly in the recent months. This task will include incorporating this more accurate estimate of current and future water demands, as well as increased knowledge of the available water supplies in Olympic Valley. Much of this effort has taken place as part of the District's SB 610 Water Supply Assessment currently being prepared for proposed development in the Valley. This effort has included a 20-year projection and General Plan buildout estimate of water demands, as well as extensive numeric groundwater modeling defining the availability of water supply in normal, single- and multiple-dry year scenarios.

This information will be used to define the need for a redundant water supply to increase reliability, a supplemental water supply for providing peak flows during the summer months as well as providing the ability to “rest” the Olympic Valley aquifer, and/or an alternative water supply in lieu of drilling numerous new wells in Olympic Valley.

Deliverables/Action Items

- Draft *Water Supply Feasibility Summary and Gap Analysis* memorandum
- Final *Water Supply Feasibility Summary and Gap Analysis* memorandum
- Attend Board meeting to discuss memorandum

Reference: Scope of Work – Redundant Water Supply – Preferred Alternative Evaluation

PHASE II – EVALUATION OF WATER SUPPLY SOURCE(S) IDENTIFIED IN GAP ANALYSIS

This phase includes a further feasibility level evaluation, as necessary, of potential water sources not previously addressed. Some of these sources are already known, including the north and south forks of Squaw Creek (Shirley Canyon and SVR Ski Area), as well as the potential for additional horizontal wells along the north and south flanking hillsides of the valley. Based on the summary evaluation in Phase I, further evaluation may be necessary on previously performed work.

Either way, this phase includes a literature level hydrogeologic feasibility evaluation of additional potential water sources in or near the Valley. Hydrogeologic tasks will be performed by both Todd Engineers and Hydrometrics, as they have a substantial amount of current and local experience with the valley and surrounding area.

Todd Engineers will provide an analysis of potentially available water supply from the mountain wells along the north and south forks of Squaw Creek. This analysis will include evaluating existing mounting wells and geology of the area with the intent of indicating potential production capacities of bedrock wells in the area. With this information, as well as the quantity of supplemental/redundant water supply necessary for the District, the feasibility of drilling the number of wells necessary, as well as the space available to do so, will be presented.

Hydrometrics will provide a feasibility level analysis of additional horizontal wells on the north and south flanks of the valley, as well as discuss the applicability of additional production groundwater wells in the eastern meadow which would require treatment.

Phase II is a feasibility level hydrogeologic evaluation of additionally identified water sources. If efforts beyond a feasibility level are required, then the District will need to redirect budget from subsequent tasks to complete the additional analysis.

Deliverables/Action Items

- Draft *Evaluation of Water Supply Source(s) Identified in Gap Analysis* memorandum
- Final *Evaluation of Water Supply Source(s) Identified in Gap Analysis* memorandum
- Attend Board meeting to discuss memorandum

PHASE III – PREFERRED ALTERNATIVE EVALUATION

This phase includes the preferred alternative evaluation and selection of supplemental and redundant water supply project for the District. As it is defined below, the work plan for this Phase includes an update to the 2009 Alternative/Supplemental Water Supply and Enhanced Utilities Feasibility Study as well as an alternatives evaluation and preparation of a project description. The alternatives evaluation will include all water supply options that have been identified as feasible in Phases I and II described above.

Reference: Scope of Work – Redundant Water Supply – Preferred Alternative Evaluation

If, during Phase II of the project, other water supplies more locally available are determined feasible and that further evaluation is necessary to assess those water supplies as part of Phase III, the scope will be amended as necessary. This would include additional work to assess environmental constraints, infrastructure and transmission alternatives, and planning level cost estimates.

UPDATE 2009 ALTERNATIVE/SUPPLEMENTAL WATER SUPPLY AND ENHANCED UTILITIES FEASIBILITY STUDY

Work on the District's Alternative/Supplemental Water Supply and Enhanced Utilities Feasibility Study was completed between 2007-2009, with the final report presented to the Board in September 2009. This study included a broad-brush approach at investigating the feasibility of importing water supplies from outside the District boundaries as a redundant and supplemental/alternative water supply for the Valley's current and future water supply customers. The 2009 Feasibility Study addressed:

- Estimation of water demands to be met through a secondary supply source;
- Investigation of water supply alternatives available in the side drainages to the Truckee River, including Silver Creek, Deer Creek, Pole Creek, Deep Creek, and Cabin Creek;
- Investigation of groundwater availability in the Martis Valley;
- Coordination with other water purveyors in the area to determine potentially available water supplies;
- Coordination with other utilities, such as natural gas and fiber optic, that may be interested in constructing facilities in a common trench;
- Investigation of alternative water transmission alignments;
- Identification of potential direct and indirect environmental impacts of water supply and transmission alternatives; and
- Estimation of costs for required project facilities.

The District put substantial effort into developing the water importation project concept with many of the local agencies, including Truckee Donner PUD (TDPUD), Northstar CSD (NCSD), North Tahoe PUD (NTPUD), Tahoe City PUD (TCPUD), and Placer County Water Agency (PCWA). The District also investigated potential transmission main alignments, either along Highway 89 from Truckee, or over the ridges through National Forest Service land between Martis and Olympic Valleys.

Much time has expired since completion of the 2009 Feasibility Study and prior to moving forward to a formal alternatives analysis for a water supply project (Task 3 of this project), it is necessary to update the previous study. This task includes preparing an updated Feasibility Study to include:

- Water demands and supply scenarios
- Martis Valley groundwater availability
- Export water supply alternatives
- Transmission main alignment alternatives
- Potential joint trench utility partners
- Environmental constraints analysis
- Planning level cost estimates

Martis Valley Groundwater Availability

Reference: Scope of Work – Redundant Water Supply – Preferred Alternative Evaluation

The Martis Valley groundwater users recently collaborated on the completion of the 2013 Martis Valley Groundwater Management Plan. Other studies in the area, including TDPUD's 2010 Urban Water Management Plan update, have provided new information on the supply availability and ultimate water demands in the Martis Valley area.

This task will include updating the groundwater availability section of the Feasibility Study based on this new information.

Export Water Supply Alternatives

The 2009 Feasibility Study included close coordination with the local area water purveyors, TDPUD, PCWA, and NCSD, as to the feasibility of various export water supply alternatives. The alternatives included excess water supply availability from these agencies, as well as construction of a new source in the Martis Valley. The previous study also identified a couple of potential areas for a new source. Farr West and the District will revisit the export water supply alternatives with the area water suppliers to understand if these options remain feasible. Based on this collaboration, the export water supply alternatives section of the Feasibility Study will be updated.

Infrastructure and Transmission Main Alignment Alternatives

Whether redundant water supplies come from within the Olympic Valley watershed or from Martis Valley, extensive infrastructure improvements will be necessary. Infrastructure may include new water supply sources, pump stations, tanks, and pipelines.

Infrastructure improvements, as well as two water supply transmission main corridors were identified in the previous work. The District worked closely with both CalTrans and the US Forest Service to understand the feasibility of constructing a utility corridor within the Highway 89 and US Forest Service Road 6 corridors. The selection of the transmission main will largely be determined by the source water location. As part of this task, Farr West will meet with both CalTrans and US Forrest Service staff to review the feasibility of these alignment corridors.

Placer County is also developing a bike trail project along the Truckee River/Highway 89 corridor. The alignment was not evaluated previously. This task will include a thorough evaluation of the proposed bike trail alignment to determine the feasibility of constructing the transmission main within the bike trail right of way. Farr West and the District will meet with Placer County planners to explore this option.

Potential Joint Trench Utility Partners

Previously, the District met with Suddenlink Communications and Southwest Gas to discuss their desire to participate in the project as a joint utility project. Both parties expressed interest with varying conditions. The concept of bringing natural gas and fiber optic communications up the Highway 89 corridor to Olympic Valley would provide enormous benefits to many, including Squaw Valley and Alpine Meadows, as well as residences and businesses along the Truckee River.

Reference: Scope of Work – Redundant Water Supply – Preferred Alternative Evaluation

Farr West and the District will meet with Southwest Gas and Suddenlink Communications, ATT, as well as other potential joint utility partners as part of this task. The results of these discussions will be presented in the updated Feasibility Study.

Environmental Constraints Analysis

The purpose of the environmental constraints analysis was to determine whether there are any major liabilities or fatal flaws that would severely constrain the intended use of the transmission alignment alternatives and to assess the routes from an environmental permitting/compliance perspective. The 2009 Feasibility Study indicated the appearance of no “fatal flaws” associated with the use of the CalTrans or US Forest Service property for the water supply pipeline.

This task will include an update to the 2009 environmental constraints analysis using 2013 environmental baseline information regarding wetlands, waters of the US, waters of the State, state and federally listed species, and state, federal and local regulations.

Specifically, the environmental constraints analysis will be updated with current GIS data from the US Forest Service, California Department of Forestry, the US Fish and Wildlife Services, the US Geological Survey, California Department of Fish and Wildlife, and Placer and Nevada Counties. This data will be used to overlay the current and additional alternative alignments to quantify potential resource impact issues.

Using this information; assessments of potential compliance requirements for federal, state, and local regulations will be updated. As with the original document this task will focus on key hot-button topics of potential Land Use, Biological, and Cultural Recourse Impacts.

The information will be drafted such that it can readily be rolled into a future California Environmental Quality Act or National Environmental Policy Act (NEPA) alternatives analyses document.

This task will also include a similar analysis of the Placer County bike trail corridor alignment.

Planning Level Cost Estimates

Finally, updated planning level cost estimates will be provided for the facilities necessary for each of the potential water supply and pipeline alignment corridors, including the Placer County bike trail alignment. The estimates will include:

- Well construction
- Transmission main
- Booster pump station
- Terminal water storage tank
-

The estimates will also include CEQA, permitting, design, and construction management amounts.

Prepare Feasibility Study Update

This task includes an updated Feasibility Study incorporating the work described above. Farr West will provide a draft update to the District for review and comment. This will be followed by a review

Reference: Scope of Work – Redundant Water Supply – Preferred Alternative Evaluation

workshop at the District to discuss the comments. Based on the comments, a final update will be provided to the District. This task also includes a SVPSD Board presentation of the Feasibility Study Update. The Board presentation will be provided by appropriate members of the Farr West team.

Deliverables/Action Items

- Draft Feasibility Study Update – 5 bound and 1 unbound copy, pdf format electronic version;
- Final Feasibility Study Update – 10 bound and 1 unbound copy, pdf format electronic version, and
- Board presentation (PowerPoint), pdf format electronic version.

ALTERNATIVES EVALUATION AND PROJECT DESCRIPTION

This task includes an evaluation of the water supply and transmission alternatives developed in the previous task. This process includes an interactive decision making workshop with District staff based on evaluation criteria developed for the alternatives. The design criteria will be conformed into a matrix type evaluation table and used to evaluate, rank, and ultimately select the preferred water supply and transmission alternative. Farr West has used this alternatives evaluation process successfully on a number of previous projects similar in nature to this project. This process results in a fair and unbiased assessment of alternatives, and ultimately a well-defined project.

With the selection of a project alternative, Farr West and team will develop a project description. The preferred project description will be an important document for project planning, for public outreach, and environmental compliance documents and permit applications.

Design Criteria Summary

The purpose of this task is to identify and describe the design criteria that will be used to evaluate, rank, and select the preferred water supply and transmission options. The Farr West team will develop a preliminary list of design criteria, which will then be reviewed in detail with District staff. The design criteria will be broken down into categories based on the type of issues/topics to which they pertain. Examples of this include:

- Operations and Maintenance – These criteria address factors that affect the day to day operation and maintenance of the facilities, as well as O&M costs;
- Engineering – These criteria address design capacity, production well design, transmission main design and construction constraints and challenges, regulatory compliance, capital costs;
- Environmental Permitting – These criteria address and consider issues related to the CEQA permitting process that will need to be addressed as part of the project, and should be considered early in the evaluation and comparison process, and
- Public Outreach - These criteria acknowledge and consider the potential sensitivity and concerns of the general public and stakeholders throughout the region which may require outreach and education to communicate the benefits and potential impacts of the project.

Reference: Scope of Work – Redundant Water Supply – Preferred Alternative Evaluation

This task is important to establish the preferences and ultimate objectives for the new facilities with District personnel to ensure that those criteria are incorporated in the final project. Other criteria will be identified as the project moves forward. Feedback from the District will be key in establishing and prioritizing the most important aspects of the project to the District.

Farr West will prepare a Design Criteria Memorandum to document the preferred design criteria that will be used to evaluate alternative water supply and transmission alignments, and will be used as the basis for the comparative analyses.

Deliverables/Action Items

- Draft Design Criteria Memorandum – 5 bound copies, 1 unbound copy, pdf format electronic version;
- Meeting to discuss preliminary evaluation criteria, and
- Final Design Criteria Memorandum – 10 bound copies, 1 unbound copy, pdf format electronic version.

Alternatives Evaluation

The preferred combination water supply and transmission corridor alternatives will be evaluated thoroughly using the alternatives developed in the Feasibility Study, with the results identifying a preferred project. The identified project will be used as the basis for developing the project description and moving forward with the environmental permitting and design of the project.

Water supply and transmission alignment combinations will be evaluated based upon the design criteria defined previously in this task. This evaluation includes an interactive decision making process conducted at a workshop with the District. District staff, and the Board if desired, along with the Farr West team, will participate in the evaluation and ranking of the water supply and transmission main combinations. Evaluation factors will include the prioritized design criteria as well as other key factors identified during this process. An outline of the recommended evaluation criteria and Farr West's "first cut" at the relative importance of these criteria will be provided to the District prior to the workshop. Examples of key factors to be considered in the comparison include:

- Capital costs
- O&M costs
- Location of facilities
- Complexity and operator attention
- Access to facilities for day to day O&M
- Constructability
- Land acquisition and easements
- Timing and implementation
- Financing
- Integration into existing system
- Community acceptance/opposition

Reference: Scope of Work – Redundant Water Supply – Preferred Alternative Evaluation

- Permitting complexity

After the evaluation and ranking workshop, Farr West will prepare an Alternatives Evaluation Memorandum to document the evaluation process and the preferred alternative.

Deliverables/Action Items

- Evaluation and ranking workshop;
- Draft Alternatives Evaluation Memorandum – 5 bound copies, 1 unbound copy, pdf format electronic version;
- Meeting to discuss review comments on memorandum, and
- Final Alternatives Evaluation Memorandum – 10 bound copies, 1 unbound copy, pdf format electronic version.

Project Description (Preferred Alternative)

With the selection of a preferred project alternative, Farr West and the team will develop a project description. The preferred project description will be an important document for project planning, for public outreach, and the environmental compliance documents and permit applications. A strategic and well written project description will help avoid or minimize costly compliance and mitigation requirements. The project description will be written such that it can easily “dove-tail” into a CEQA, NEPA, or environmental permit application project description, as well as provide the District and the Board with a clear vision of the continued development of the project.

Preliminary Public Outreach Plan

Public perception and understanding of the proposed project may require the development of a public outreach plan for the District to implement in preparation for the subsequent permitting and design phases of the project.

The intent of a public outreach plan is to effectively keep the public informed about the project while creating a way for information and comments to flow to and from the public. A well-designed and executed communication plan ensures that public concerns are heard and addressed while maintaining project progress.

J Harrison Public Relations Group, led by Jennifer Harrison, will write a public outreach plan which includes the detailed description of the process to complete these task items: stakeholder list; internal documents (key messages, FAQ, Q&A, talking points); direct mail/email plan relative to events and benchmarks; advertising plan; media relations plan (procedures, press releases, editorials); public meetings protocol; document plan for public access; website plan (including whether to use existing agency site or a dedicated project site); and social media plan (if deemed appropriate). This plan will include enough description that it can be executed by existing project staff or an outside consultant.

Reference: Scope of Work – Redundant Water Supply – Preferred Alternative Evaluation

Summary Memorandum

This task includes the preparation of a Summary Memorandum which will summarize the alternatives evaluation process and the selected project. It will include the design criteria, evaluation process results, preferred alternative, project description, and public outreach program. This memorandum will serve as the basis for moving the project forward into the CEQA and design phases.

Farr West will provide a draft memorandum to the District for review and comment. This will be followed by a SVPSD Board presentation to highlight the results of the study. Based on the comments received from the Board and District staff, a final memorandum will be provided to the District.

Deliverables

- Draft Alternatives Evaluation Memorandum– 10 bound and 1 unbound copy, pdf format electronic version;
- Board Presentation (PowerPoint), pdf format electronic version, and
- Final Alternatives Evaluation Memorandum – 5 bound and 1 unbound copy, pdf format electronic version.

PROJECT MANAGEMENT AND MEETINGS

Project Management

Project management for this will include coordination with staff and consultants, management of the project scope, budget and schedule, as well as preparing and submitting monthly invoices and project update summaries. These project management tasks will continue throughout the duration of the project.

This task also includes close coordination with consultants that will receive funding from this grant. Work will involve preparation of agreements with all consultants, including Farr West Engineering (Farr West), Stantec Consulting (Stantec), and J Harrison Public Relations Group. This task will additionally involve reviewing and approving contractor invoices, as they are submitted.

Project management will additionally include tracking and updating the progress and schedule of the project. All reimbursable time spent on this project will be recorded in standard accounting software, such as Ajera, and the project schedule will be updated monthly using Microsoft Excel or Project. Any project delays or out of scope work will immediately be brought to the attention of the District and the California Department of Water Resources (DWR), and the budget and schedule will be modified to reflect the current status. This will ensure that the project is completed on time and within budget.

The budget for this project will be managed at two levels: the District will track budgets in their internal accounting system, and the District's prime consultant, Farr West Engineering, will track budgets independently. Budgets and schedules will be updated monthly based on Farr West's monthly

Reference: Scope of Work – Redundant Water Supply – Preferred Alternative Evaluation

invoices. Budget and schedule management will also be tied to the quarterly reporting plan. The quarterly reports will be assembled by the District and will identify progress to date, compare progress with schedule, identify changes to the budget as well as scheduled milestones, and propose methods for addressing any issues pertaining to the budget and schedule.

Meetings

The success of this project relies on the close communication of a number of parties. This task includes regular interaction with the District, as well as periodic meetings with the projects various stakeholders.

This task includes an initial project Kickoff Meeting to be attended by District Staff and appropriate members of the Farr West team. The purpose of the Kickoff Meeting is to review the project objectives and develop clear lines of communication. At this stage of the project, it will be important to define a clear response protocol for public inquiry. Jennifer Harrison will introduce a key message document, specifying the response chain and protocol for inquiries about the project in general without detailing any specifics beyond the scope and purpose. Jennifer will also advise on tactics to maintain positive public relations throughout the early stages of the project's development.

The project will require interaction with a number of stakeholder's throughout the process. Stakeholder's include, but are not limited to:

- Truckee Donner PUD, Placer County Water Agency, Northstar CSD (local area water suppliers)
- California Department of Transportation (CalTrans), US Forest Service (permitting agencies)
- Southwest Gas, Suddenlink, ATT (joint utility partners)
- Placer County, Squaw Valley Resort, KSL, Resort at Squaw Creek, Martis Valley Groundwater Management Plan stakeholder group, and others.

This task assumes a single meeting with each stakeholder group to address applicable project tasks. For instance, meetings with the local area water suppliers will include a discussion of water supply and transmission alternatives. Meetings with CalTrans and the USFS will include discussions of the feasibility of the utility corridor as well as permitting issues. Meetings with the potential joint utility partners will include a discussion of the interest in developing a utility corridor to include natural gas and communications between Truckee and Squaw Valley. The meeting with the Squaw Valley Resort will include a discussion of water supply options from on mountain wells. And, meetings with Placer County and the other stakeholders will include discussions of the various project issues that pertain directly to each party (i.e Placer County and the bike trail).

Finally, this task includes monthly project progress and task update meetings between the District and Farr West.

Deliverables/Action Items

- *Quarterly Report* – Given the anticipated project duration of 52 weeks, four quarterly progress reports will be prepared and submitted. The reports will demonstrate that the project is proceeding as planned, and that the grant funding is being expended in accordance with the

Reference: Scope of Work – Redundant Water Supply – Preferred Alternative Evaluation

grant requirements. The report will include a description of progress made for the reported quarter, an update on the budget for each project task, an update on the status of each project task, and a description of work expected to be completed by the end of the project.

SCHEDULE

The proposed schedule for the project is as follows:

Phase I – Water Supply Feasibility Summary and Gap Analysis

- Prepare Summary Memorandum – November 1 – December 15, 2013
- Review Summary Memorandum Water & Sewer Committee Meeting – December 16, 2013
- Board Meeting Presentation – December 17, 2013

Phase II – Evaluation of Water Supply Source(s) from Gap Analysis

The schedule for Phase II is based on commencing work on the associated tasks immediately following presentation of the Phase I memorandum to the Board on December 17, 2013. It is estimated that the Phase II tasks will be completed 4-6 weeks after the Board meeting.

- Hydrogeologic feasibility evaluation of additional water sources – January 1 – February 15, 2014
- Submit Memorandum – February 14, 2014
- Board Presentation – February 25, 2014

Phase III – Preferred Alternative Evaluation

Commencement of the Phase III tasks is dependent upon completion and acceptance of the Phase I and II tasks. If the Phase III work proceeds as presented in this scope of work, it is estimated that the duration of this Phase will be 12 months. An updated Phase II schedule will be provided after completion of Phase II.

BUDGET

Farr West proposes to perform the above scope of services for an estimated fee as follows:

Phase I – Water Supply Feasibility Summary and Gap Analysis

- **\$15,000**

Phase II – Evaluation of Water Supply Source(s) from Gap Analysis (as necessary)

- **\$20,000**

Phase III – Preferred Alternative Evaluation

- **\$190,000**

October 14, 2013

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Reference: Scope of Work – Redundant Water Supply – Preferred Alternative Evaluation

The total budget for all phases will not exceed \$225,000. The estimated fee will not be exceeded without prior authorization. Attached as Exhibit A is the spreadsheet of our estimated staff hours with costs broken down by Phase. The work will be billed on a time and expense basis according to the 2013 Farr West Rate Schedule (Exhibit B).

Please contact me at (775) 853-7263 if you have any questions regarding this SOW. We are prepared to commence work immediately upon your authorization.

As always, I look forward to working with you on this project.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. Hunt". The signature is stylized and cursive.

David T. Hunt, P.E.
Principal Civil Engineer

Attachments:

Exhibit A – Fee Estimate

Exhibit B - Farr West 2013 Rate Schedule

SVPSD Redundant Water Supply - Preferred Alternative Evaluation Project

LGA Grant

Fee Estimate and Task Breakdown

	Far West Engineering										Subconsultants					Estimated Fee			
	Principal Engineer - Brent	Principal Engineer/Project Manager - Dave Hunt	Engineering Manager - Greg Lyman	Engineer - Matt Van Dyne, Lucas Tipton, Chuck Reno	Electrical/SCADA Engineer - Bill Cassidy	Senior Hydrogeologist - Kirk Swanson	Hydrogeologist - Zach Walter	GIS Analyst - Matt Forrest	GIS Technician - Michael Rall	CAD Designer	Administration	Total Labor	Expenses	Stantec	Jennifer Harrison Public Relations	Hydrometrics WRC	Todd Engineers	Total	
	\$130	\$130	\$115	\$100	\$150	\$125	\$90	\$95	\$75	\$85	\$60	Hours	\$	\$	\$	\$	\$	\$	
PHASE I - WATER SUPPLY FEASIBILITY SUMMARY AND GAP ANALYSIS																			
Previous/Current Water Supply Studies Summary		40										40	\$ 5,200					\$ 5,200	
Water Demands and Supply Scenarios		24										24	\$ 3,120					\$ 3,120	
<i>Draft Memorandum</i>	2	24									6	32	\$ 3,740		\$ 500			\$ 4,240	
<i>Review Meeting at District</i>		6										6	\$ 780	\$ 50				\$ 830	
<i>Final Memorandum</i>		6									4	10	\$ 1,020					\$ 1,020	
<i>Board Presentation</i>		4										4	\$ 520	\$ 50				\$ 570	
Total Phase I	2	104									10	116	\$ 14,380	\$ 100	\$ -	\$ 500		\$ 15,000.00	
PHASE II - EVALUATION OF WATER SUPPLY SOURCES FROM GAP ANALYSIS																			
North/South Fork Squaw Creek Hydrogeologic Evaluation		4				2						6	\$ 770				\$ 6,400	\$ 7,170	
Horizontal Well/Meadow Wells Evaluation		4				2						6	\$ 770		\$ 7,500			\$ 8,270	
Additional Source Evaluation		8				4						12	\$ 1,540					\$ 1,540	
<i>Draft Memorandum</i>	2	8				2					4	16	\$ 1,790					\$ 1,790	
<i>Final Memorandum</i>		4									2	6	\$ 640					\$ 640	
<i>Board Presentation</i>		4										4	\$ 520	\$ 50				\$ 570	
Total Phase II	2	32				10					6	50	\$ 6,030	\$ 50	\$ -	\$ -	\$ 7,500	\$ 6,400	\$ 20,000.00
PHASE III - PREFERRED ALTERNATIVE EVALUATION																			
Update 2009 Alternative/Supplemental Water Supply and Enhanced Utilities Feasibility Study																			
Martis Valley Groundwater Availability																		\$ -	
Collect and review new data (2013 MVGMP, 2010 TDPUD UWMP, etc.)		8				16						24	\$ 3,040					\$ 3,040	
Update groundwater availability discussion		2				30	8	8				48	\$ 5,490	\$ 50				\$ 5,540	
Update SVPSD rights to Martis Valley groundwater		8										8	\$ 1,040					\$ 1,040	
Update side drainage water supply analysis (as necessary)		2				12						14	\$ 1,760					\$ 1,760	
Export Water Supply Alternatives																		\$ -	
TDPUD alternatives update		8										8	\$ 1,040					\$ 1,040	
PCWA alternatives update		8										8	\$ 1,040					\$ 1,040	
NCSD alternatives update		8										8	\$ 1,040					\$ 1,040	
Potential well sites for District owned well		8				12						20	\$ 2,540					\$ 2,540	
Alignment Alternatives																		\$ -	
USFS corridor alignment update		2		6				4				12	\$ 1,240					\$ 1,240	
Highway 89 corridor update		2		6				4				12	\$ 1,240					\$ 1,240	
New Placer County bike trail alternative analysis		4		8				8				20	\$ 2,080					\$ 2,080	
Potential Joint Trench Partners																		\$ -	
SW Gas		6		4								10	\$ 1,180					\$ 1,180	
Fiber/communication		6		4								10	\$ 1,180					\$ 1,180	
Environmental Constraints Analysis																		\$ -	
Update existing alternatives analysis, as required		4										4	\$ 520	\$ 5,500				\$ 6,020	
Conduct analysis on PC bike trail alignment		4										4	\$ 520	\$ 10,500				\$ 11,020	
Planning Level Cost Estimates																		\$ -	
Update cost estimate for USFS and Highway 89 corridors			8	10								18	\$ 1,920					\$ 1,920	
Provide cost estimate for PC bike trail alignment			4	10								14	\$ 1,460					\$ 1,460	
Prepare Feasibility Study Update																		\$ -	
<i>Draft Update</i>	4	40						8			8	60	\$ 6,960	\$ 200				\$ 7,160	
<i>Review Meeting at District</i>		6										6	\$ 780	\$ 50				\$ 830	
<i>Final Update</i>	2	16						4				22	\$ 2,720	\$ 350				\$ 3,070	
<i>Board Presentation</i>		6										6	\$ 780	\$ 100				\$ 880	
Subtotal	6	148	12	48		70	8	36			8	336	\$ 39,570	\$ 750	\$ 16,000	\$ -	\$ -	\$ -	\$ 56,320

SVPSD Redundant Water Supply - Preferred Alternative Evaluation Project

LGA Grant

Fee Estimate and Task Breakdown

	Far West Engineering										Subconsultants						Estimated Fee	
	Principal Engineer - Brent	Principal Engineer/Project Manager - Dave Hunt	Engineering Manager - Greg Lyman	Engineer - Matt Van Dyne, Lucas Tipton, Chuck Reno	Electrical/SCADA Engineer - Bill Cassidy	Senior Hydrogeologist - Kirk Swanson	Hydrogeologist - Zach Walter	GIS Analyst - Matt Forrest	GIS Technician - Michael Rall	CAD Designer	Administration	Total Labor	Expenses	Stantec	Jennifer Harrison Public Relations	Hydrometrics WRC	Todd Engineers	Total
	\$130	\$130	\$115	\$100	\$150	\$125	\$90	\$95	\$75	\$85	\$60	Hours	\$	\$	\$	\$		\$
Alternatives Evaluation and Project Description																		
Design Criteria Summary																		
Summarize project design criteria (water demand, pipeline size/material, well and booster pump station capacity, terminal tank size/location, electrical/SCADA, etc.)											34	\$ 4,410						\$ 4,410
<i>Design Criteria Memorandum</i>		24	6		4						18	\$ 2,210		\$ 2,970				\$ 5,180
Alternatives Evaluation																		
Develop alternative assessment evaluation criteria and approach		24									24	\$ 3,120		\$ 1,980				\$ 5,100
Identify water supply and transmission combinations		36		16		20					72	\$ 8,780		\$ 3,960				\$ 12,740
Evaluation and ranking workshop with District		20									20	\$ 2,600	\$ 100	\$ 2,475				\$ 5,175
<i>Draft Alternatives Evaluation Memorandum</i>	2	40	4	24		4		24			114	\$ 12,060		\$ 4,970				\$ 17,030
<i>Review Meeting</i>		12									12	\$ 1,560		\$ 495				\$ 2,055
<i>Final Alternatives Evaluation Memorandum</i>		20	2	8		2		12			60	\$ 5,980		\$ 990				\$ 6,970
Preferred Alternative (Project Description)																		
Project description based on selected project alternative	2	20			2	8					32	\$ 4,160		\$ 4,480				\$ 8,640
Environmental permitting process summary(EIR costs and schedule)		4									4	\$ 520		\$ 3,500				\$ 4,020
Preliminary Schedule - (design, permitting, construction)		8		12							20	\$ 2,240		\$ 495				\$ 2,735
Opinion of probable cost		8	8	20		2					38	\$ 4,210		\$ 495				\$ 4,705
Preliminary Public Outreach Plan																		
Develop a public outreach plan and approach		8									8	\$ 1,040			\$ 1,500			\$ 2,540
Summary Memorandum																		
<i>Prepare Draft Summary Memorandum (criteria, evaluation, preferred alternative, PR plan)</i>	8	40	8	16	2	8		32		8	122	\$ 13,580	\$ 200	\$ 1,980				\$ 15,760
<i>Board Presentation</i>		12				6					18	\$ 2,310	\$ 100	\$ 2,000	\$ 1,500			\$ 5,910
<i>Prepare Final Summary Memorandum</i>	4	20	8	8		4		16		8	68	\$ 7,340	\$ 350	\$ 1,485				\$ 9,175
Subtotal	16	308	38	104	10	54	0	84		50	664	\$ 76,120	\$ 750	\$ 32,275	\$ 3,000	\$ -	\$ -	\$ 112,145
Total Phase III	22	456	50	152	10	124	8	120		58	1000	\$ 115,690	\$ 1,500	\$ 48,275	\$ 3,000	\$ -	\$ -	\$ 168,465
PROJECT MANAGEMENT AND MEETINGS																		
Project Management																		
Coordination of staff and subconsultants											16	\$ 2,080						\$ 2,080
Management of scope, budget, and schedule											40	\$ 5,200						\$ 5,200
Monthly invoice and misc. administration tasks										16	26	\$ 2,260						\$ 2,260
Meetings																		
Kickoff Meeting, including preliminary public outreach & communication program		6									6	\$ 780	\$ 55	\$ 1,500	\$ 1,500			\$ 3,835
Stakeholder Meetings (TDPUD, PCWA, NCS, etc.)		16									16	\$ 2,080	\$ 400					\$ 2,480
Stakeholder Meetings (CalTrans, USFS, SW Gas, ATT)		16									16	\$ 2,080						\$ 2,080
Stakeholder Meetings (Placer County, KSL, R@SC, MVGMP stakeholders, etc.)		16									16	\$ 2,080	\$ 200					\$ 2,280
Monthly project update meetings w/ District (GoTo)		10									10	\$ 1,300						\$ 1,300
Total Project Management and Meetings		130								16	146	\$ 17,860	\$ 655	\$ 1,500	\$ 1,500	\$ -	\$ -	\$ 21,515
TOTAL ALL PHASES	26	722	50	152	10	134	8	120		90	1,312	\$ 153,960	\$ 2,305	\$ 49,775	\$ 5,000	\$ 7,500	\$ 6,400	\$ 225,000