Application for Planning Grant
State Water Resources Control Board Drinking Water State Revolving Fund
San Lucas Water District Public Water Supply Project

SCOPE & BUDGET

In order to assist the San Lucas County Water District ("SLCWD") to achieve a permanent long-term public water supply for its customers, the County of Monterey ("County") is applying for grant funding through the California State Water Resources Control Board ("SWRCB") Safe Drinking Water State Revolving Fund ("SDWSRF") to implement the engineering, environmental, and permitting tasks necessary to develop the new water source.

The purpose of this scope of work is to complete all necessary tasks to compare three alternatives that result in a permitted water supply for the customers of SLCWD, choose the preferred alternative, and design the implementation of the chosen alternative. The alternatives were identified in the 2014 Feasibility Study completed by Amec Foster Wheeler and SRT Consultants for the County. The three alternatives from that study that remain under consideration are: Alternative 2 – New Groundwater Source; Alternative 4 – Water Importation from King City; and Alternative 5 – Consolidation with King City. A draft preliminary design report (PDR) was completed in 2016 for a water supply pipeline connecting the SLCWD service area to the King City treated water supply line. The PDR includes the most feasible pipeline alignment and estimates the cost of construction of the pipeline required to pursue Alternatives 4 and 5.

TASK 1. PROJECT MANAGEMENT

Work under this task shall include:

- Grant administration, reporting, and invoicing.
- Management of consultant agreements and coordination with consultant team.
- Facilitating communication with technical experts, regulatory agencies, San Lucas Water District representatives, community members, landowners, and other stakeholders as necessary.
- Legal review of documents, agreements.
- General project administration and management tasks.

Task 1 Deliverables

- *Grant reports and invoices*
- *Consultant agreements*
- *Meeting agendas*

TASK 2. FEASIBILITY STUDY FOR TREATED GROUNDWATER (Alternative 2 – New Groundwater Source)

Work under this task shall include:
Documenting water supply demand and water quality requirements and considerations.

- Evaluation of potential groundwater supply sources and selection of a preferred source.
- Evaluating potential water treatment methods and options, considering the likely water supply source, and selection of a preferred treatment approach.
- Evaluating treatment wastes handling and disposal options and selection of a recommended approach.
- Estimating the capital and operational costs of the recommended approach.
- Preparation of a Treated Groundwater Supply Feasibility Study Report.

Task 2.1. Anticipated Water Demand
Summarize the amount of water that is and will be required for the community of San Lucas. Previously-developed Maximum Daily Demand (MDD) values shall be utilized. The task shall include development of the future demand values consistent with the Monterey County 2010 General Plan, year 2030 MDD, and shall include the future 33-unit housing development proposed by CHISPA. Water and growth demand from the 2014 Feasibility Study will be used and are assumed applicable for this analysis.

Task 2.2. Water Supply: Water Quality Requirements and Constraints
A previously prepared Technical Memorandum titled *San Lucas Water District Condition Assessment Summary* dated June 13, 2014, that included available water quality data as of early 2014 shall be updated with additional more-recent groundwater quality data from the SLCWD and the COUNTY to develop an increased understanding of groundwater quality in the San Lucas area, including water produced by the "interim well" constructed by Mission Ranches. The water quality data for groundwater wells in the area and the SLCWD interim supply well shall be compared to State of California primary and secondary water quality standards for potable water. The suitability for potable use of groundwater from various locations shall be evaluated and types of treatment that would be required for potable use of the water shall be identified.

A portion of the water supplied by SLCWD to the community of San Lucas ends up as wastewater treated at the San Lucas wastewater treatment plant (WWTP), which is also owned and operated by SLCWD. Treated wastewater from the plant is disposed of by spraying onto fields owned by the SLCWD. At various times in the past, the TDS content of the effluent has exceeded this regulatory standard, primarily because of the TDS of the potable water used by San Lucas residents. An estimate shall be made of the maximum water supply TDS that will allow for wastewater effluent that complies with applicable regulations.

Task 2.3. Water Supply Well Evaluation and Recommended Alternative
Review the most current and historical groundwater quality and water production data, in coordination with the Monterey County Environmental Health Bureau, the Monterey County Water Resources Agency, and other technical experts to obtain existing data. Water quality data from Task 2.2 shall be utilized for this task. To the degree possible, the review shall incorporate data from recent test holes drilled at or near San Lucas by others.

This task shall include:
- Evaluation of groundwater quality and potability, well production information, and options for a long-term groundwater supply for areas near San Lucas, particularly near

the Salinas River, where groundwater quality is generally better than further from the river.

- General considerations shall include potential future drought conditions effects, water rights issues relative to groundwater near the Salinas River, past and future water quality, the possibility of groundwater being under the direct influence of surface water, possibility of groundwater contamination by percolation of agricultural irrigation water (i.e. proximity of proposed well sites to existing cultivated property), the degree of water treatment required for potable use, well production capacity, and land ownership and access issues.
- In consultation with SLCWD and SWRCB, if the existing available data and information does not provide sufficient information to evaluate the treated groundwater alternative, additional task work may be conducted including push-probe groundwater sampling or groundwater sampling through hollow-stem augers. Additional work could include:
    - Sampling the water from wells on the Mission Ranches property, and possibly other properties near the existing SLCWD interim well and near San Lucas. The water samples would be analyzed for general water quality parameters including TDS, calcium, potassium, sodium, magnesium, nitrate, sulfate, carbonate, bicarbonate, iron, and manganese.
    - Sampling of groundwater at up to six additional locations and assessment of groundwater quality. Sampling would be performed using a push-probe tool, with samples collected at 2 or 3 depths at each location, depending on the thickness of the saturated alluvial sediments. At each location, a cone-penetration test (CPT) would be performed to collect data on soil type and then a push-probe tool would be used to collect grab groundwater samples. Alternatively, and depending on price and availability of equipment, a hollow-stem auger drilling rig could be used to drill, log soil types, and collect grab water samples. The anticipated maximum depth of the drilling and sampling would be 75 feet. Groundwater samples would be analyzed for TDS and nitrate. CPT or borehole drilling results would be used to estimate what the yield of a well at that location might be.

Task 2.4. Groundwater Treatment Evaluation and Recommended Alternative

The results of Tasks 2.1 through 2.3 shall be used to conduct a planning level evaluation of treatment options for groundwater treatment alternatives, waste disposal alternatives, and costs. Treatment requirements shall be developed for the groundwater source recommended in Task 2.3. It is anticipated that source water may need to be treated for TDS, nitrate, iron and manganese and possibly as groundwater under the direct influence of surface water. Treatment requirements will depend on the groundwater source selected.

County Department of Health Environmental Health Bureau, State Water Resources Control Board, and Central Coast Regional Water Quality Control Board will be consulted regarding treatment system requirements and design and permitting requirements. Work on this task shall include consideration of California Water Works Standards, including consideration of pipeline routings (Section 64572).

Task work shall include:

- Identify and evaluate treatment alternatives for nitrate and TDS. Summarize alternatives

and related costs. Evaluation shall consider if the existing iron and manganese treatment facility can be retained or relocated in conjunction with any new nitrate and TDS treatment facility.

- Evaluate handling and disposal of brine or waste ion-exchange resin that would be generated from treatment processes. Options considered shall include how brine treatment/handling might be integrated with processes at the existing San Lucas WWTP. Sizes and possible locations for ponds shall be considered and possible locations shall be identified, including property near the WWTP.
- Rank the various treatment possibilities according to various characteristics and select a preferred approach. Factors considered in the ranking shall include: system capital and O&M costs, footprint, waste generation and waste handling and disposal, and regulatory feasibility.

Task 2.5. Pipeline Considerations and Recommendations

Pipeline requirements shall be evaluated for the preferred treatment approach, including but not limited to:

- Raw Water: well to treatment plant
- Treated water: treatment plant to water storage tank
- Treatment effluent to disposal location

Evaluation shall include planning level review of pipeline alignments, sizing, and materials, including consideration of waterworks standards Title 22 Sections 64570 and 64572, and other considerations.

Task 2.6. Project Location, Rights of Way

Results of Tasks 2.1 through 2.5 will be considered and options evaluated for the for a general planning level analysis of project location, including the amount of land needed for the treatment plant and waste disposal, pipelines and other facilities. Depending on the locations of the facilities, permit requirements for construction shall be determined by contacting relevant agencies including but not limited to California Department of Fish and Wildlife, Union Pacific Railroad, and Caltrans. Where property may need to be acquired, and issues including possible eminent domain costs and other costs will be identified.

Task 2.7. Project Costs

The results of Tasks 2.1 through 2.6 shall be used to develop an estimated capital cost and O&M cost for the preferred source and treatment. The cost estimate shall build on cost estimates prepared for the 2014 Feasibility Study. Once capital and O&M costs are developed, the impact on SLCWD customer rates shall be estimated.

Task 2.8. Treated Groundwater Feasibility Study Report

The results of Tasks 2.1 through 2.7 shall be summarized in a *Treated Groundwater Feasibility Study Report*. The report shall summarize the work by task, including the system requirements (water production and quality), factors considered and support for the preferred groundwater source location, groundwater treatment process, waste stream disposal, and piping and facilities locations. Similar to the 2014 Feasibility Study, the report shall summarize the following for the preferred approach: benefits, challenges, estimated monthly water rate, annual O&M costs,

capital cost, and estimated time to implement. It shall include tables and figures documenting the work performed and showing the locations of the preferred facilities. Appendices to the report shall provide supporting data collected as part of the study as appropriate.

Task 2 Deliverables

- Treated Groundwater Supply Feasibility Study Report

TASK 3. FEASIBILITY STUDY FOR CONSOLIDATION (Alternative 5 – Consolidation with King City)

Work under this task shall include identifying the changes and updates that will be required to meet the requirements for consolidation with King City. This task will also include establishing a preliminary administrative consolidation plan to analyze the administrative and managerial activities needed to turn over ownership and operation of the SLCWD distribution system.

Task 3.1 Distribution System Updates

Identify the changes and updates that will be required of the SLCWD to be consolidated with King City. The King City water provider, CalWater, may impose specific criteria on SLCWD, such as fire flow minimums, water age minimums, distribution system condition assessments, etc. Develop planning-level cost estimates for each update by comparing the existing system with the requirements and use engineering best judgement where information is unknown (e.g. physical condition of pipelines).

Task 3.2 Administrative Consolidation Plan

SLCWD and CalWater will need to execute administrative and managerial activities to turn over ownership and operation of the SLCWD distribution system. Working with both water districts, a preliminary consolidation plan will be developed, including expected timelines and cost estimates for each administrative milestone.

Task 3 Deliverables

- Consolidation with King City Feasibility Study Report

TASK 4. COMPARE ALTERNATIVES AND SELECT PREFERRED ALTERNATIVE

Task 4.1. Compare Alternatives

Prepare a technical evaluation and comparison of the benefits and costs for implementation of the three alternatives under consideration to provide a reliable long-term water supply for the San Lucas County Water District.

The basis of comparison shall include, but not be limited to:

- Long term reliability of water source (i.e. possible future droughts, climate change due to global warming, etc.)
- Degree of technical expertise required by operation and maintenance staff.
- Capital cost for construction
- Annual cost for operation and maintenance, and impact to customer water rates.
- Difficulty or cost to acquire necessary County, state and/or federal permits, and water rights

Task 4.2. Evaluation of Alternatives and Selection of Preferred Alternative
In coordination with SLWD and SWRCB, review the above Alternatives and determine a Preferred Alternative to be used as a basis for the environmental analysis and next steps in the planning process.

Task 4 Deliverables

- Meeting Agendas
- Preferred Alternative Selected

TASK 5. WATER DISTRIBUTION SYSTEM CAPACITY IMPROVEMENTS FOR FUTURE CHISPA DEVELOPMENT

Evaluate the Water District's existing water distribution system to determine what, if any, system improvements may be needed to provide adequate hydraulic capacity for required domestic and fire flows resulting from the proposed Community Housing Improvement Systems and Planning Associates, Inc. (CHISPA), a non-profit affordable housing developer, planned new 33-unit residential housing development in San Lucas, in combination with proposed future development of the community as described in the Monterey County General Plan. This task will also include the preparation of engineering plans, specifications, and cost estimates for said water system improvements assuming approximately 2000 linear feet of existing pipeline replacements (20% of the existing distribution system not including the well transmission line) and shall incorporate these plans into the bid documents for the proposed water supply replacement project.

Task 5 Deliverables

- Plans, Specifications and Cost Estimates

TASK 6. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)/ NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

Conduct environmental review of the Preferred Alternative as required by the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The scope of this analysis may vary depending on the outcomes of the feasibility studies and selected preferred alternative. The scope and cost estimate of this task has been developed to the best of our knowledge at this time and assumes that an Initial Study/Mitigated Negative Declaration (IS/MND) will be appropriate for the CEQA review and an Environmental Assessment (EA) appropriate for NEPA review. Upon selection of a completion of Task 4 to select a preferred alternative, the assumptions, tasks and costs associated with environmental review will be re-evaluated. Based upon initial scoping with regulatory agencies and stakeholders, together with the findings of the IS and/or EA, determine if additional investigations related to biological and cultural resources or other resources are required.

Task 6.1. CEQA-Compliant Initial Study (IS) / Mitigated Negative Declaration (MND)
Conduct initial meetings and site visit, to scope the environmental document and review process. Prepare Administrative Draft IS/MND and Public Draft IS/MND documents, and conduct public

hearing if deemed necessary. Review, organize and respond to comments, and prepare Final IS/MND.

Task 6.2. NEPA Environmental Assessment (EA) and Finding of No Significant Impact (FONSI)
Prepare Administrative Draft EA and Public Draft EA documents. Information gathered and analyses performed during the IS development will be used in the preparation of the EA, as applicable. Review, organize and respond to comments, and prepare Final EA and Draft and Final Finding of No Significant Impact (FONSI), as applicable.

Task 6.3. Biological Letter Report
Review existing documentation including the Final IS and EA and prepare a letter report documenting literature review for the potential species of concern with recommendations on how to proceed with each species in relation to the proposed project. The letter report will be provided to California Department of Fish and Wildlife (CDFW), the U.S. Fish and Wildlife Service (USFWS), and other agencies as needed.

Task 6.4. Archaeological and Cultural Resources Investigation and Consultation
Research formal records at the appropriate California Historical Resource Information System (CHRIS) Information Center and conduct a file search at the Northwest Information Center (NWIC) located at the Sonoma State University campus to gather information on known archaeological sites, previously conducted archaeological surveys, and regional overviews for other projects that may have been conducted within or near the proposed project area. Review previously conducted cultural studies completed in the vicinity of the project site and request access to confidential appendices regarding cultural resources, if available. Consult, as necessary, with Salinan Tribe to satisfy AB52 requirements.

Based on the data gathered during the records search, examine the archaeological study Area of Interest (AOI) for cultural resources that may be affected by the proposed project. Previously recorded cultural resources, if any, located within the project area shall be updated and newly identified resources shall be recorded according to current professional standards and procedures. Photographs shall be taken of the site and its surroundings to document the environment within the study area.

Task 6 Deliverables

- Public Notices and Meeting Agendas
- Public Draft CEQA IS/MND
- Final Draft CEQA IS/MND
- Draft NEPA Environmental Assessment
- Final NEPA Environmental Assessment
- Final Finding of No Significant Impact (FONSI)
- Biological Resources Letter Report
- Cultural Resources Report

TASK 7. DESIGN - PLANS, SPECIFICATIONS, AND BID DOCUMENTS

Work under this task shall include the preparation of a set of plans and specifications suitable for public bidding for the Preferred Alternative project. The scope and cost of this task may vary based on the Preferred Alternative and completion of environmental.

Prepare a set of plans and specifications suitable for public bidding for the Preferred Alternative project, and not including the CHISPA related improvements summarized in Task 5. It is anticipated that the development of final plans and specifications shall include the following subtasks:

- Detailed construction surveys, including aerial mapping (1' intervals), locating all existing improvements, utilities, and delineation of private property lines and/or rights-of-way for facilities and pipeline alignments to be constructed by the Project.
- Development of a plan set for construction of the facilities and pipelines to be constructed.
- Development of specifications associated with the plan set.

The following design components shall be included for Alternative 2, New Groundwater Source:

- New treatment plant to provide permitted potable water to San Lucas, up to 250 gpm capacity
- New transmission pipeline, with booster pump as needed, from the new well supply to the existing tank, subject to the assumptions listed in Tasks 2.4 and 2.5
- New brine waste pipeline subject to the assumptions listed in Tasks 2.4 and 2.5
- Distribution system updates to serve the CHISPA development, as detailed in Task 5

The plans and specifications shall be prepared in accordance with applicable provisions of:

- Standard Specifications for Public Works Construction (Green Book),
- American Water Works Association (AWWA) Standards,
- National Electrical Code,
- Local permit requirements if not related to the supply, production, treatment, and distribution of water, and
- Uniform Plumbing Code.

Task 7 Deliverables

- 50-percent design plans and Estimate of Probable Cost
- 100-percent design Plans and Specifications, and Estimate of Probable Cost
- Final Plans and Specifications and Engineer's Estimate of Probable Cost

TASK 8. ACQUISITION OF PROPERTY, EASEMENTS, RIGHTS OF ENTRY, AND ENCROACHMENT PERMITS

Work under this task shall include the purchase of all necessary properties, easements, rights of entry, and approval of any State or County encroachment permits for construction of the Project. The scope and cost of this task may vary based on the Preferred Alternative and completion of environmental review.

Task 8 Deliverables

- Easements, Rights of Entry, Approval Documents, Encroachment Permits

TASK 9. ENVIRONMENTAL PERMITS AND/OR WATER RIGHTS

Work under this task shall include obtaining the environmental permits and/or water rights necessary to construct the Project. Scope and budget for this task will depend on the number and nature of required permits and the number of entities involved, which are unknown until after the CEQA/NEPA work is completed.

Task 9 Deliverables

- Permits and Water Rights Documents

ESTIMATED TASK BUDGETS

Task	Description	Budget
1	Project Administration	$150,000
2	Feasibility Study - Treated Groundwater Alternative	$178,800
3	Feasibility Study – Consolidation with King City	$28,100
4	Compare Alternatives & Select Preferred Alternative	$31,500
5	Water Distribution System Capacity Improvements	$100,500
6	Environmental Analysis – CEQA/NEPA	$105,000
7	Design - Plans, Specifications, Bid Documents	$494,700
8	Property, Easements, Rights of Entry, Encroachment Permits	$100,000
9	Environmental Permits, Water Rights	$100,000
	TOTAL BUDGET	**$1,288,600**