

ANTELOPE VALLEY-EAST KERN WATER AGENCY



REQUEST FOR PROPOSALS (RFP) FOR ENGINEERING DESIGN AND HYDROGEOLOGY SERVICES for THE HIGH DESERT WATER BANK PROJECT

FINAL

Request for Proposals Issued: October 4th, 2019

Proposals Due: November 27th, 2019

Antelope Valley-East Kern Water Agency
6500 West Avenue N
Palmdale, CA 93551
661-943-3201

30 September 2019

Section 1. Introduction

The Antelope Valley-East Kern Water Agency (AVEK) invites qualified consulting firms to submit a proposal for the purpose of providing engineering design and hydrogeological services for the High Desert Water Bank Project (the Project). A list of invited consulting firms is provided in Attachment D.

This RFP consists of five (5) sections and four (4) attachments.

- Section 1: Introduction
- Section 2: Project Overview
- Section 3: Scope of Work
- Section 4: Submittal Requirements and Evaluation Process
- Section 5: Limitations
- Attachment A: Sample Professional Services Agreement
- Attachment B: Previous Project Studies
- Attachment C: Department of Water Resources Water Quality Policy and Implementation Process for Acceptance of Non-Project Water into the State Water Project (October 2012)
- Attachment D: RFP Distribution List

Section 2. Project Overview

Project Background

The Project is a groundwater recharge and recovery water banking program located in an unincorporated portion of Los Angeles County in the Antelope Valley. AVEK is partnering with Metropolitan Water District of Southern California (Metropolitan) for development and operation of the Project. AVEK proposes the implementation of a 280,000-acre foot capacity groundwater bank that will store SWP water for future recovery. The Project goal is to store approximately 70,000 acre feet per year (AFY) of SWP surface water conveyed to the site via the adjoining California Aqueduct. Recharge operations are planned during wet weather years when SWP allocations exceed demands. AVEK's goal is to recover an estimated 70,000 AFY during dry and critical weather years when SWP allocations are low or disrupted.

The AVEK Board of Directors adopted a CEQA Mitigated Negative Declaration for the Project on December 19, 2017.

Project Site and Location

The Project is proposed to be implemented on an approximately 1,500-acre site (see Figure 1, "Proposed Project Facilities Schematic") in Los Angeles County bounded by:

- Avenue A (Kern/Los Angeles County Line) on the north
- 300th Street West on the west
- 280th Street West on the east
- The California Aqueduct on the south

The proposed Project area consists of undeveloped and fallowed agricultural land. With the exception of some isolated residential homes within and to the east of the Project area, the nearest residential communities are located one-half mile south and 2 miles east of the Project area. Several active and abandoned water wells exist within the Project area. The Project's southern boundary is the California Aqueduct, which is the backbone of the SWP. The California Aqueduct will be the source of water for

recharge operations and the point of delivery for return flow operations for the Project. The slope of the land generally falls to the east with an approximately 50-foot drop over a 2-mile section.

AVEK owns a majority of the parcels within the Project boundary and has been legally granted immediate possession for the remaining parcels.

Project Components

Based on previous studies, the Project is anticipated to include the elements listed below (though subject to change following further investigation). A list of previous Project studies and instructions on downloading the studies can be found in Attachment B.

1. Aqueduct Turnouts

Rehabilitation and expansion of existing 280th Street turnout to provide 150 cubic feet per second (cfs) of capacity and construction of one new turnout on 294th Street to provide 150 cfs of capacity from the California Aqueduct. Both turnouts are anticipated to provide SWP water supply to the recharge area, as well as return recovery water to the California Aqueduct.

2. Recharge Basins

Given the proposed recharge operations of 70,000 AFY (year round) and an assumed recharge infiltration rate of one-half foot per day (anticipated to decrease over time), approximately 1,200 acres of recharge basins are proposed to be constructed throughout the Project site and cycled to maintain recharge efficiency. Approximately 211,000 linear feet of berms are required to construction the recharge areas.

3. Bi-directional Recharge and Recovery Transmission Main

Approximately 2 to 4 miles of bi-directional recharge and recovery transmission main (ranging from 36-inch to 72-inch in diameter) are proposed to be constructed to convey SWP water to the recharge basins and recovery water back to the California Aqueduct.

4. Recharge Distribution Pipelines

Approximately 2 to 4 miles of recharge distribution pipelines (ranging in diameter from 12 inches to 48 inches) are proposed to connect from the bi-directional transmission mains to the recharge area.

5. Well Collection Pipelines

Approximately 5 to 10 miles of well collection pipelines (ranging in diameter from 12 inches to 48 inches) are anticipated to connect from the groundwater recovery wells to convey recovered water to the bi-directional transmission mains and then to the California Aqueduct.

6. Recovery Wells

An estimated 23 recovery wells are proposed to provide recovered water from the bank to the California Aqueduct. The final number of recovery wells is to be determined as part of the subject work.

7. Booster Pump Station

One booster pump station located at 294th Street Turnout may be required to convey SWP water from the Aqueduct to a portion of the recharge site. Note that one of recommendations in the *Value Engineering Study Report* (See Attachment B) is to eliminate this pump station.

8. Maintenance Facilities

Maintenance facilities are anticipated to be provided to accommodate operations at the Project Site.

9. Electrical Infrastructure

One Southern California Edison meter/transformer to distribute power to the Project Site via a 12kV distribution system using two overhead power loops. The Project facilities will be controlled via a SCADA system. An existing residential facility will be converted into an operational center for the Project, including SCADA central workspace.

See **Figure 1** for a schematic layout of the proposed Project facilities.

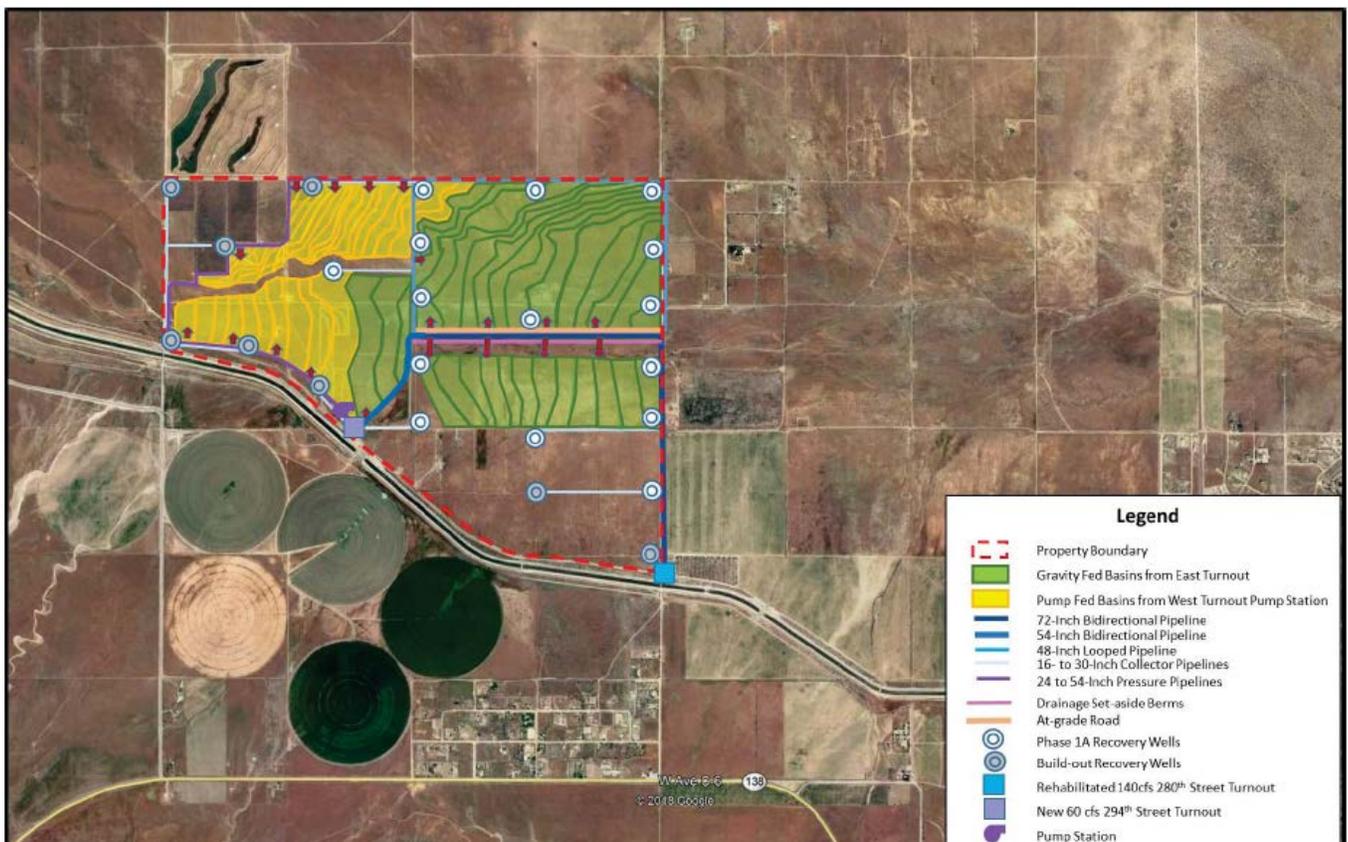


Figure 1 - Proposed Project Facilities Schematic

Project Budget/Funding

The total capital budget for the Project is \$131 million, which is inclusive of all project-related costs. Capital costs of this Project will be funded in whole by Metropolitan.

Section 3. Scope of Work

The following Scope of Work is provided as a guideline and is intended to identify AVEK's expectations and requirements associated with the hydrogeologic and engineering design efforts required for the Project. Consultants may suggest modifications to the proposed Scope of Work as necessary and are encouraged to expand their scope of work to include additional/optional tasks if deemed necessary for

completion of this Project. At a minimum, the specific tasks listed below are to be included in the proposed Scope of Work.

In addition, the Consultant is encouraged to recommend alternative facilities or project implementation strategies that provide more benefit or value to AVEK. Groundwater treatment can be utilized if needed to meet the Project objectives. See Attachment C for the DWR pump back water quality requirements. The Consultant is not required to adhere to the Project recommendations provided in previous studies or described in this RFP, except for the construction packaging described in the following paragraph.

As the initial stage of construction, facilities to allow AVEK to recharge 10,000-20,000 AFY as quickly as possible will be implemented, which are anticipated to include a portion of the overall Project piping and recharge area, while utilizing the existing 280th Street turnout. The second stage of construction will consist of the turnouts, remaining recharge area, and large-diameter bi-directional transmission piping packaged as a separate, single stand-alone construction contract. The goal is to maximize recharge operations as quickly as possible, while the facilities associated with water recovery (Recovery Package) are being designed and constructed. The Consultant is free to recommend packaging and phasing of the facilities associated with the Recovery Package. The general facility phasing program is summarized below. The Consultant is free to recommend specific facility phasing that better accomplishes the goals described for each stage.

- **Stage 1**
Goal: Recharge 10,000-20,000 AFY as quickly as possible
Facilities: a portion of overall piping and recharge area; utilize existing 280th Street Turnout
- **Stage 2**
Goal: Maximize recharge operation, while recovery facilities are implemented
Facilities: turnouts, large-diameter transmission piping, recharge piping, recharge area
- **Stage 3**
Goal: Implement water recovery facilities
Facilities: recovery wells, well collection pipelines, electrical infrastructure, pumping facilities (if required), groundwater treatment (if required)

The Consultant is expected to provide engineering services during construction as part of a future authorization, but not construction management.

Task 1. Project Management

- Project kick-off meeting with AVEK
- Provide electronic project design schedule (baseline and monthly progress updates) in searchable pdf and MS Project format. At a minimum, the design schedule shall include all submittals, meetings, workshops, and milestones, and should incorporate a minimum 3-week period for each AVEK submittal review.
- Monthly coordination and progress meetings with AVEK. Consultant shall prepare agenda, meeting minutes, and PowerPoint presentations (if required) for all meetings for the duration of the design phase of the Project.
- Conduct and demonstrate an effective quality assurance and quality control program.
- Monthly report summarizing progress to date, pending action items, project budget, areas of concern, and updated schedule. Consultant shall maintain and consistently update the project design schedule as required.
- Consultant shall submit project deliverables via e-mail or ftp site followed-up with requested hard copies via overnight mail. Review period will commence when hard copies

are received.

- Consultant shall notify AVEK of any out of scope work items and obtain AVEK approval prior to proceeding with any such work.

Task 2. Field Exploration Program & Groundwater Modeling

- Develop a field hydrogeologic exploration program and groundwater model that would address the following objectives, at a minimum:
 - Confirm recharge and recovery capacities of the Project site
 - The number and location of proposed recovery wells
 - The depth and diameter of proposed recovery wells
 - Expected water quality of recovered water
 - Proposed future use and/or permanent destruction of existing water wells
 - Operational plan for wet and dry conditions
 - Compatibility of the recharge water with the existing groundwater quality
- Review available hydrogeological data provided by AVEK. As part of ongoing review and testing of existing wells within the Project area, AVEK expects to provide the following data (as derived by their hydrogeologic consultant) to the Project design consultant:
 - A summary of the existing water wells and groundwater monitoring wells on the Project site, including construction details and well status, as available.
 - Water level data collected from the existing groundwater monitoring wells since their construction in 2017.
 - Data derived from aquifer testing of at least one existing water well constructed to a depth of at least 1,000 ft below ground surface, including:
 - Water level data from the pumping well and nearby water level observation wells, including frequent, transducer-based measurements, as developed during the aquifer test.
 - Calculations of aquifer transmissivity, hydraulic conductivity, and storativity (if possible).
 - Results of a dynamic flow meter survey of the existing well that was subjected to that aquifer test
 - Groundwater quality data (both field measurements and laboratory analyses) collected during depth-discrete sampling and from the final wellblend sampling of the existing water well that was subjected to the aquifer test
 - A current, site specific groundwater elevation map (if sufficient data are available) to help define the current groundwater gradient and groundwater flow direction;
 - Field water quality data, transducer data, and laboratory test data
- Develop a field exploration program work plan that describes the required data gathering and field work, including locations, required permits, and permissions for access. The Consultant shall provide a draft and final work plan.
- Develop technical specifications and bid sheets for public bidding by AVEK for any anticipated field work. The Consultant shall provide draft and final specifications.
- The Consultant shall include soil and water quality laboratory analyses, as needed.
- A sub-regional hydrogeological MODFLOW flow model of the Project site shall be developed based on the USGS Antelope Valley Groundwater Basin model. A groundwater quality model shall also be developed. The Consultant shall determine the appropriate level of granularity and detail for the model. The groundwater models shall be utilized to address the objectives listed in

the first bullet for this task. The Consultant shall provide draft and final technical memoranda (TM) that describe the groundwater model development and analysis.

Task 3. 10% Basis of Design

- A 10%-level Basis of Design Report shall be developed that describes the design criteria for the all of the Project facilities and incorporates the results of the Task 2 field exploration program and groundwater modeling results to provide a conceptual design of the Project facilities. It is anticipated that the Basis of Design Report will be developed in stages, consistent with the phasing program for the Project. The Basis of Design Report shall include the following, at a minimum:
 - Overall site layout
 - Recharge area layout
 - Recovery well layout
 - Recovery well diameter, depth, and type of casing materials and perforation intervals
 - Preliminary pump design, including pump type, design capacity and depth setting
 - Pipe alignment and sizing
 - Pump station layout, if required
 - Groundwater treatment train and layout, if required
 - Electrical facility layout
 - Overall control strategy
 - Construction cost estimate (AACE OPCC Level 4)
 - Implementation schedule
 - Packaging and phasing of construction contracts
 - Identification of applicable permits, including Watermaster storage agreement
- The Consultant shall provide draft and final Basis of Design Reports.

Task 4. Surveying

- Perform a field topographic survey of the Project site, the types and locations of existing site utilities to be abandoned/demolished, and all adjacent right-of-ways. The survey shall identify all existing easements, identify all street monuments, surface features of the affected project areas and descriptions, assessor parcel numbers, and verify locations of all existing underground utilities on or adjacent to the proposed site. The locations of existing water wells to be destroyed shall be identified. High resolution aerial photography shall be provided.
- Plans shall identify and incorporate site contours, proposed site contours, and local improvements.
- Survey ground control shall be NAD83 coordinates and NAVD88 benchmark elevations. Field topographic survey shall be integrated with Consultant-acquired base mapping information (aerial, utility, topographic, geologic, environmental, etc.).
- Obtain the latest title reports/grant deeds for the existing and proposed properties (as applicable). Consultant shall provide updated survey information for proposed facilities as required.
- Define the quantity and location of onsite utility potholing efforts required for preliminary design. Upon AVEK's review and acceptance of Consultant's proposed utility potholing plan, all utility potholing efforts shall be coordinated with field surveying and final base mapping efforts.
- Provide potholing services (estimated up to 20 potholes at an average depth of 6 feet) and report for the project.

- Consultant shall provide the aerial photography, topographical mapping, and utility potholing survey to AVEK electronically on CD. Provide original files, searchable pdf, and AutoCAD formats.

Task 5. Geotechnical Investigation

- Provide a geotechnical investigation for the Project site. The Geotechnical Report shall include all necessary design and construction issues including regional seismicity, seismic parameters, groundwater presence and level, liquefaction potential, construction dewatering requirements (if applicable), site preparation and earthwork, trenching, trench stability and excavation, shoring, bedding, backfill, excavatability of soils, suitability of excavated materials for backfill and compaction, collapsible soil tests, settlement potential, bedding requirements, pavement section recommendations (assuming aggregate base paving), soil bearing strength, R-values, moisture content, density, gradation, consolidation, expansion, shear resistance, sand equivalence, soil corrosivity, corrosion protection and control requirements/recommendations, location(s) of rock or other encumbrances, and additional criteria as identified and recommended by the geotechnical engineer associated with the proposed improvements. Borings shall be provided at intervals sufficient to achieve the required information.
- Review published geologic maps, aerial photographs, and other information pertaining to the site and pipeline alignments to assist in the evaluation of geologic hazards that may exist for the existing and proposed sites.
- Incorporate all geotechnical requirements into the Project design documents, as applicable. Geotechnical engineer of record shall review applicable design documents to ensure geotechnical considerations and recommendations are characterized and incorporated accurately.
- Coordinate conclusions for soil corrosivity and corrosion protection as needed to provide a final recommendation.
- Deliverable: Consultant shall summarize findings, results and recommendations into a report. Three (3) hard copies and one (1) electronic copy (searchable pdf) of the draft geotechnical report shall be submitted for review. AVEK comments shall be incorporated and three (3) hard copies and one (1) electronic copy (searchable pdf) of the final geotechnical report shall be submitted (wet signed and sealed by a licensed geotechnical engineer in the State of California).

Task 6. Stage 1 Recharge Design

- Prepare Contract Bid Documents consisting of plans and specifications for facilities to allow AVEK to recharge 10,000-20,000 AFY as soon as possible. It is anticipated that the existing 280th Street turnout will initially be utilized to deliver SWP water for recharge. Once the new 294th Street turnout is constructed, SWP water can be delivered by the new turnout and the 280th Street turnout can then be expanded to 150 cfs capacity per Task 7. Facilities are anticipated to include a portion of the overall Project pipelines and recharge area. The recharge area consists of using low earthen berms for flood irrigation. The berms are constructed of pushed up dirt with minimal compaction. The recharge area is similar in design to AVEK's existing Westside Water Bank. The design shall include distribution pipelines to deliver SWP water from the large-diameter transmission pipelines to the recharge area.
- The Consultant shall submit design documents for 60%, 90%, and 100% design levels.
- Consultant shall prepare complete specifications, including General Provisions, Special Provisions, Technical Specifications, and detailed Bidding Sheets. AVEK will provide

specifications for General Provisions and Special Provisions for review and incorporation by the Consultant.

- The Consultant shall provide design engineering resources and participate in a Reliability Centered Design 1-day collaborative group workshop that assesses the 60% design packages with key AVEK operations and maintenance staff (assume one 8-hr day). The workshop will be led by AVEK's asset management engineer.
- The Consultant shall provide design engineering resources to collaboratively review the results from the Reliability Centered Design assessment (assume 4 hours). Consultant shall assign equipment tag numbers and/or asset location identification numbers for each asset type. Equipment tagging convention shall comply with AVEK data management standards.
- Consultant shall develop a mechanical equipment list or asset register with all associate asset attribute data associated with each asset type. The asset attributes shall comply with AVEK asset management data standards, which will be provided to the Consultant at a later date. The project assets shall be allocated in a building information model (BIM).
- Plans shall be prepared consistent with NAD83 coordinates and NAVD88 survey standards.
- Provide all final detailed design calculations including hydraulic calculations, structural calculations, noise, etc.
- Prepare a detailed and itemized opinion of probable construction cost. Each design level submittal shall include an appropriate draft cost estimate.
- Develop a refined time schedule of project milestones and construction completion sequence. Assume a three-week turnaround to obtain comments from AVEK staff.
- All drawing submittals shall be sealed by discipline engineers and responsible charge per the business and professions code.
- Deliverable – At each design level, the Consultant shall submit five (5) hard copy sets of plans (11"x17") and specifications and all documents in searchable electronic format. For the 100% designs submittal, the Consultant shall provide an additional two (2) hard copies of the plans in full-size format (22"x34").

Task 7. Stage 2 Turnout Design

- Prepare Contract Bid Documents consisting of plans and specifications for a new 150-cfs State Water Project turnout at 294th Street and rehabilitation and expansion of the 280th Street turnout to 150 cfs. Each turnout shall include a traveling screen and California Department of Water Resources (DWR)-approved bi-directional meter with telemetry reporting.
- The Consultant shall submit design documents for 60%, 90%, and 100% design levels.
- The Consultant shall provide design engineering resources and participate in a Reliability Centered Design 1-day collaborative group workshop that assesses the 60% design packages with key AVEK operations and maintenance staff (assume one 8-hr day). The workshop will be led by AVEK's asset management engineer.
- The Consultant shall provide design engineering resources to collaboratively review the results from the Reliability Centered Design assessment (assume 4 hours). Consultant shall assign equipment tag numbers and/or asset location identification numbers for each asset type. Equipment tagging convention shall comply with AVEK data management standards.
- Consultant shall develop a mechanical equipment list or asset register with all associate asset attribute data associated with each asset type. The asset attributes shall comply with AVEK asset management data standards, which will be provided to the Consultant at a later date. The project assets shall be allocated in a building information model (BIM).

- Prepare contract documents in accordance with State Water Project turnout design guidelines provided by the Department of Water Resources. Consultant shall prepare complete specifications, including General Provisions, Special Provisions, Technical Specifications, and detailed Bidding Sheets. AVEK will provide specifications for General Provisions and Special Provisions for review and incorporation by the Consultant.
- Plans shall be prepared consistent with NAD83 coordinates and NAVD88 survey standards.
- Provide all final detailed design calculations including hydraulic calculations, structural calculations, noise, etc.
- Prepare a detailed and itemized opinion of probable construction cost. Each design level submittal shall include an appropriate draft cost estimate.
- Develop a refined time schedule of project milestones and construction completion sequence. Assume a three-week turnaround to obtain comments from AVEK staff.
- All drawing submittals shall be sealed by discipline engineers and responsible charge per the business and professions code.
- Deliverable – At each design level, the Consultant shall submit five (5) hard copy sets of plans (11"x17") and specifications and all documents in searchable electronic format. For the 100% designs submittal, the Consultant shall provide an additional two (2) hard copies of the plans in full-size format (22"x34").

Task 8. Stage 2 Recharge Area Design

- Prepare Contract Bid Documents consisting of plans and specifications for the recharge area within the Project site. The Consultant shall initiate work on this task as soon as possible. The recharge area consists of using low earthen berms for flood irrigation. The berms are constructed of pushed up dirt with minimal compaction. The recharge area is similar in design to AVEK's existing Westside Water Bank. The design shall include distribution pipelines to deliver State Water Project water from the large-diameter transmission pipelines to the recharge area.
- The Consultant shall submit design documents for 60%, 90%, and 100% design levels.
- Consultant shall prepare complete specifications, including General Provisions, Special Provisions, Technical Specifications, and detailed Bidding Sheets. AVEK will provide specifications for General Provisions and Special Provisions for review and incorporation by the Consultant.
- The Consultant shall provide design engineering resources and participate in a Reliability Centered Design 1-day collaborative group workshop that assesses the 60% design packages with key AVEK operations and maintenance staff (assume one 8-hr day). The workshop will be led by AVEK's asset management engineer.
- The Consultant shall provide design engineering resources to collaboratively review the results from the Reliability Centered Design assessment (assume 4 hours). Consultant shall assign equipment tag numbers and/or asset location identification numbers for each asset type. Equipment tagging convention shall comply with AVEK data management standards.
- Consultant shall develop a mechanical equipment list or asset register with all associate asset attribute data associated with each asset type. The asset attributes shall comply with AVEK asset management data standards, which will be provided to the Consultant at a later date. The project assets shall be allocated in a building information model (BIM).
- Plans shall be prepared consistent with NAD83 coordinates and NAVD88 survey standards.
- Provide all final detailed design calculations including hydraulic calculations, structural calculations, noise, etc.

- Prepare a detailed and itemized opinion of probable construction cost. Each design level submittal shall include an appropriate draft cost estimate.
- Develop a refined time schedule of project milestones and construction completion sequence. Assume a three-week turnaround to obtain comments from AVEK staff.
- All drawing submittals shall be sealed by discipline engineers and responsible charge per the business and professions code.
- Deliverable – At each design level, the Consultant shall submit five (5) hard copy sets of plans (11"x17") and specifications and all documents in searchable electronic format. For the 100% designs submittal, the Consultant shall provide an additional two (2) hard copies of the plans in full-size format (22"x34").

Task 9. Stage 2 Large-Diameter Transmission Pipeline Design

- Prepare Contract Bid Documents consisting of plans and specifications for the large-diameter bi-directional transmission pipelines. The Consultant shall initiate work on this task as soon as possible. The transmission pipelines convey State Water Project water from the East Branch turnouts to the recharge area pipelines and recovered groundwater from the well collection pipelines to the East Branch turnouts.
- The Consultant shall submit design documents for 60%, 90%, and 100% design levels.
- Consultant shall prepare complete specifications, including General Provisions, Special Provisions, Technical Specifications, and detailed Bidding Sheets. AVEK will provide specifications for General Provisions and Special Provisions for review and incorporation by the Consultant.
- Plans shall be prepared consistent with NAD83 coordinates and NAVD88 survey standards.
- Provide all final detailed design calculations including hydraulic calculations, structural calculations, noise, etc.
- Prepare a detailed and itemized opinion of probable construction cost. Each design level submittal shall include an appropriate draft cost estimate.
- Develop a refined time schedule of project milestones and construction completion sequence. Assume a three-week turnaround to obtain comments from AVEK staff.
- All drawing submittals shall be sealed by discipline engineers and responsible charge per the business and professions code.
- Deliverable – At each design level, the Consultant shall submit five (5) hard copy sets of plans (11"x17") and specifications and all documents in searchable electronic format. For the 100% designs submittal, the Consultant shall provide an additional two (2) hard copies of the plans in full-size format (22"x34").

Task 10. Stage 3 Recovery Package 30% Preliminary Design

- The Recovery Package is defined as the recovery wells (drilling and equipping), well collection piping, pumping facilities, groundwater treatment facilities, and electrical & instrumentation facilities.
- Prepare a Preliminary Design Report (PDR) that documents the basis of design and presents the design criteria associated with each of the Recovery Package facilities, including the information and results from the Scope of Work tasks described above. The PDR shall represent a 30% design-level effort. At a minimum, the PDR shall include:
 - The (30% design level) site layout drawings shall also include the following disciplines: civil plans and sections, mechanical plans and sections, structural plans and sections,

instrumentation and control diagrams, electrical single-line diagrams, and architectural elevations.

- Preliminary work sequence and operational control strategy addressing the following key aspects: purpose, facility/system overview, Project features, anticipated operating conditions, constraints, controls, and initial set points
- Provide a list of anticipated construction drawings, technical specifications (by discipline), and supplemental technical specifications (custom by Consultant) including any special conditions for construction.
- Preliminary list of real property, easements, permits, and other agency clearances.
- Budgetary level estimate of probable construction costs (AACE Class 3) and a detailed construction schedule
- Provide all backup data, calculations, layout drawings, equipment catalogue data/cut-sheets, pump performance curves, etc. as an appendix to the PDR.
- Conduct a preliminary design workshop to discuss and confirm the Project design basis (number and locations of recovery wells, diameter depth and type of well casing, type of casing perforations, hydraulics, site layouts, selection and layout of facilities, materials of construction, equipment selection and specifications, construction schedule, estimated costs, constraints, transition plan to final design, etc.).
- Incorporate all comments received in the Draft PDR presentation workshop into the Final PDR document.
- Deliverables – The Consultant shall submit five (5) hard copies of the Draft PDR including one (1) electronic copy (searchable pdf) for AVEK review. AVEK comments on the Draft PDR shall be incorporated into a Final PDR. The Consultant shall submit to AVEK five (5) hard copies of the Final PDR including one (1) electronic copy (searchable pdf) and supplementary files in original format.

Task 11. Stage 3 Recovery Package Final Design

- Prepare Contract Bid Documents consisting of plans and specifications for the Recovery Package. The design shall be based on the results of the 30% preliminary design. The Consultant shall provide recommendations on packaging and phasing of the Recovery Package facilities.
- The Consultant shall submit design documents for 60%, 90%, and 100% design levels.
- Consultant shall prepare complete specifications, including General Provisions, Special Provisions, Technical Specifications, and detailed Bidding Sheets. AVEK will provide specifications for General Provisions and Special Provisions for review and incorporation by the Consultant.
- The Consultant shall provide design engineering resources and participate in a Reliability Centered Design 4-day collaborative group workshop that assesses the 60% design packages with key AVEK operations and maintenance staff (assume four 8-hr days). The workshop will be led by AVEK's asset management engineer.
- The Consultant shall provide design engineering resources to collaboratively review the results from the Reliability Centered Design assessment (assume two 8-hr days). Consultant shall assign equipment tag numbers and/or asset location identification numbers for each asset type. Equipment tagging convention shall comply with AVEK data management standards.
- Consultant shall develop a mechanical equipment list or asset register with all associate asset attribute data associated with each asset type. The asset attributes shall comply with AVEK

asset management data standards, which will be provided to the Consultant at a later date. The project assets shall be allocated in a building information model (BIM).

- The Consultant shall participate in a 5-day value engineering workshop that will be led by AVEK's value engineering consultant.
- The Consultant shall prepare a Drinking Water Source Assessment and Protection plan (DWSAP) compliant with Section 11672.60 of the California Health and Safety Code for each recovery well. The Consultant shall submit the draft DWSAP reports for review. Upon receipt and incorporation of AVEK's review comments, the preliminary DWSAP reports will be submitted to DDW. After approval by DDW, the preliminary DWSAP reports will be finalized and submitted to DDW. Upon completion of the DWSAP, a copy will be provided to AVEK for records. The DWSAP assessment shall include:
 - Delineation of the area around a drinking water source through which contaminants might move and reach that drinking water supply;
 - Inventory of possible contaminating activities (PCAs) that might lead to the release of microbiological or chemical contaminants within the delineated area;
 - Determination of the PCAs to which the drinking water source is most vulnerable;
 - Review the proposed well operating scenarios under both a recharge/recovery condition and a simple recovery condition to develop estimates of the area of influence to include the 2-, 5-, and 10-year capture zone estimates and potential groundwater protection zones. The data collection will include the following sources:
 - Existing available geologic and hydrogeologic data;
 - The proposed well construction design;
 - Potential and known contaminating activities within the vicinity as inventoried by Environmental Data Resources (EDR);
 - Geotracker data for sites identified by EDR; and
 - Groundwater quality data from existing wells in the vicinity.
- Plans shall be prepared consistent with NAD83 coordinates and NAVD88 survey standards.
- Provide all final detailed design calculations including hydraulic calculations, potential water level drawdown interference between the recovery wells when pumping, drawdown interference on nearby offsite wells, structural calculations, calculations for pump sizing and selection, noise, etc.
- Prepare a detailed and itemized opinion of probable construction cost. Each design level submittal shall include an appropriate draft cost estimate.
- Develop a refined time schedule of project milestones and construction completion sequence. Assume a three-week turnaround to obtain comments from AVEK staff.
- All drawing submittals shall be sealed by discipline engineers and responsible charge per the business and professions code.
- Deliverable – At each design level, the Consultant shall submit five (5) hard copy sets of plans (11"x17") and specifications and all documents in searchable electronic format. For the 100% designs submittal, the Consultant shall provide an additional two (2) hard copies of the plans in full-size format (22"x34").

Task 12. Storage Agreement Application

- The Consultant shall prepare a Watermaster Application for Storage Agreement for Banking and Recovery.

- The Consultant shall utilize the Project sub-regional-scale (“local-scale”) groundwater flow model, developed as part of Task 2, to address the proposed recharge to the underlying subbasin(s) and recovery of banked water through the Project wells.
- The local-scale groundwater model can be used to assess travel time, groundwater mounding and drawdown, and overall water balances with respect to stored water and banking credit. The model should be modified, if necessary, to perform the required Material Injury Analysis required by the Watermaster under the Judgment. The Consultant shall evaluate if a 10% leave behind does not produce a Material Harm for the groundwater basin.
- Model construction, key assumptions, and results will be discussed in a Technical Memorandum (submitted electronically) as the final work product associated with this task. This Technical Memorandum will serve as the Material Injury Analysis required in the Watermaster Application for Storage Agreement and will be attached as an Appendix to the Narrative Report described below. AVEK will complete and submit the required application form with the Narrative Report and Appendix A - Groundwater Flow Model and Material Injury Analysis and submit the required fee for the Watermaster’s technical review.
- Prepare a Narrative Report that describes the water source, banking operation, recovery operation, estimated losses, material injury analysis, and monitoring program.

Task 13. Permitting Support

- The Consultant shall obtain on behalf of AVEK, permits and/or easements necessary for construction, development and operation of the proposed facilities. This should include, but not be limited to, the well permits required by the County of Los Angeles, recharge permit (as required) by the Regional Water Quality Control Board, and a State Water Project turnout permit from DWR. The Consultant shall provide hard copies of design documents for submittal to permitting agencies as required.
- For the State Water Project turnout permit, the Consultant shall utilize and revise AVEK’s existing mass balance water quality model to evaluate impact of Project recovery flows on the East Branch.
- Preparation and submittal of a new service application with Southern California Edison (SCE) for one (1) new utility-owned transformer and meter for the Project site. SCE will be responsible for the power transmission to a new transformer. The SCE service application shall include load calculations, single line diagrams, and preliminary site plans. Include six (6) meetings with SCE to review service requirements and discuss the schedule for providing service. Document the existing conditions and critical coordination efforts necessary to complete securing the SCE service.

Task 14. Bidding Support

- Provide technical support to AVEK staff relative to contractor questions during bidding and respond to any questions within four (4) working days during the bidding period for each construction bidding period. Prepare up to ten (10) addenda, collectively for all construction packages.
- Consultant shall analyze the bid and provide the rationale for final bid selection in the event the recommended lowest and responsive bid is greater than (above 10%) the engineer’s estimate for each construction package.

Section 4. Evaluation Process

Contact Information

Matthew Knudson will be the Owner Contact for the purposes of this RFP and will facilitate the RFP process. All communications, including Requests for Information (RFIs), shall be submitted in writing by email and shall specifically reference this RFP. All questions or comments shall be directed to the Owner Contact as follows:

Matthew Knudson
Assistant General Manager
Email Address: mknudson@avek.org

Oral communication with the Owner Contact or other individual shall not be binding. Contact with any Public Official, AVEK board member, Owner's Advisor (OA), or Owner's staff outside of the Owner Contact shall not be permitted. Failure to comply may result in disqualification of the Respondent.

Evaluation Process and Procurement Schedule

AVEK will evaluate the proposals submitted in response to this RFP and develop a short list of teams for interview. A Consultant will be selected to provide the services described in this RFP based on the evaluation of the proposals and interviews and successful negotiation of the Contract. A sample professional services agreement is provided Attachment A.

Dates shown for the Project are indicated below. Dates will be changed only by written addenda as described herein.

EVENT	DATE
Issue RFP	October 4, 2019
Pre-Proposal Meeting	October 15, 2019
Deadline for RFIs	November 8, 2019
Responses to RFIs Issued	November 15, 2019
Proposals Due	November 27, 2019
Interviews	January 2020
Selection of Preferred Proposer	January 2020
Notice of Award and Signed Contract	March 2020

Submittal Requirements

RFP responses shall be printed on 8½-inch by 11-inch pages. 11-inch by 17-inch pages may be used, but their use should be minimized. The minimum suggested font size for the body of this response is 11-point, but smaller fonts may be used for graphics or tables at a Respondent's discretion.

Except where noted, there is no page limitation on the RFP response. However, Respondents are strongly encouraged to be concise in their submittals and to avoid excessive narrative or additional "boilerplate" items that are not directly relevant to the evaluation criteria. Supplemental marketing materials, brochures, or attachments are not desired. AVEK, at its sole discretion, may disqualify any

respondent that does not follow the required format and page size requirements or that submits excessive, extraneous, or illegible materials.

Respondents shall submit five (5) hard-copies (one marked original and four copies) and one electronic format Portable Document Format (PDF) file on a USB flash-drive no later than the required response date and time at the location noted herein. The PDF file shall be formatted to be read electronically and to easily accommodate color printing on standard page sizes of 8.5-inches by 11-inches and 11-inches by 17-inches. The PDF file shall be bookmarked by section and text-searchable by Adobe Acrobat software. This file shall not be use-restricted or password protected.

Responses to this RFP are due at the following address no later than **3 PM, PST on November 27th, 2019**. Delivery time will be based on physical acceptance. Postmarks, facsimiles, or electronic submittals will not be accepted. Responses received after the date and time specified will not be considered. AVEK will not be liable for costs incurred by the Respondents in preparing a response to this RFP.

Responses to this RFP must be delivered to this address:

**Antelope Valley-East Kern Water Agency
Attention: Matthew Knudson
6500 West Avenue N
Palmdale, CA 93551**

Required Proposal Organization and Scoring Criteria

AVEK will establish an evaluation committee to review and score proposals and recommend a short-list of Respondents for interview. The evaluation committee will include representatives from engineering, operations and/or finance. AVEK reserves the right to modify evaluation committee membership at any time, including between short-listing and proposal evaluation.

Each proposal will be initially reviewed to determine whether it is responsive to the RFP. Failure to comply with the requirements of this RFP may result in a proposal being rejected as non-responsive. At its sole discretion, however, the evaluation committee may waive any minor irregularity in the proposal and may request clarification or additional information to remedy a failure. At its sole discretion, the selection committee may also reject all proposals.

The evaluation committee will evaluate, score and rank the responsive proposals using the scoring criteria set forth herein. The response to the RFP will be weighted as follows according to the scoring criteria noted in the section below.

1. Transmittal Letter (2-page limit)

Instructions

The transmittal letter must be signed by an authorized representative of the Respondent. In addition to the authorized signatory, the letter shall include:

- The name, title, email, and phone number for the Respondent's preferred single point of contact for all procurement-related communication.
- Acknowledgment of all Addenda.

- A clear description of the design team, including the prime contracting entity (and its members, if applicable) and all named subconsultants and their areas of expertise (if any).
- Certify under penalty of perjury that the information provided in the proposal is true and correct.

2. Qualifications of Project Team (25 points)

Instructions

Provide a project organization chart featuring key project team members deemed important by Respondent. Identify the firm affiliation and specific expertise of all proposed personnel. Provide a narrative description of the Respondent's project organization.

Provide a biographical summary of each key project team member. Respondent shall include two-page resumes for each key project team member as an appendix to its proposal.

Scoring Criteria

- Organization chart demonstrates clear lines of reporting and responsibility.
- Respondent organization demonstrates how it adapts to change over time.
- Affirmation that Respondent will retain proposed key staff for the duration of the project.
- Technical design experience and effectiveness of the project team.
- Project team members link to the projects featured in the Project Experience section and relevance of that experience to this project.

3. Project Experience (25 points)

Instructions

Provide the following information regarding Respondent's experience delivering relevant projects of this type and size:

- An overview narrative of all Respondent's experience with projects of similar type and/or in the geographic area of the project with a focus on designing recharge facilities, groundwater wells, pumps, conveyance systems, groundwater treatment, and associated facilities. Describe project experience utilizing proposed project approach.
- Provide project descriptions for the relevant projects listed, including the following:
 - A description of the specific scope performed by the Respondent's team
 - Highlight project features relevant to AVEK's Project and how the Respondent's experience benefits AVEK
 - Highlight similarities to Respondent's proposed Project approach and scope of work
 - Highlight any groundwater recharge, groundwater treatment, and California State Water Project turnout experience
 - Highlight DWR water quality standards experience
 - Highlight electrical infrastructure experience

- The total installed cost of the project; accompanied by a discussion of any change orders. Provide a comparison of the engineer's cost estimate and the final cost of the project.
- The current status of the project.
- Minimum of 3 Owner/Client references (name, role/title, organization, address, telephone number, and email address).
- References may be contacted by AVEK and AVEK may request that Respondents organize a site visit and meeting to discuss the Respondent's delivery of featured projects

Scoring Criteria

- Demonstrate the collective team's technical design experience on similar projects and experience working together on those previous projects.
- Similarity and relevance of experience and how that experience will produce successful delivery of this project.

4. Project Understanding (5 points)

Describe the Respondent's understanding of the Project requirements.

Scoring Criteria

- Thoroughness of the Respondent's understanding of the Project, including all cost, schedule, and regulatory factors.

5. Project Approach and Scope of Work (35 points)

Instructions

Describe the Respondent's overall approach and proposed scope of work to delivering the project. Describe the Respondent's approach to maintaining the overall Project schedule.

Scoring Criteria

- Thoroughness and innovation of the Respondent's approach and scope of work, including ability to provide cost savings, time savings, and/or reduced risk for AVEK

6. Fee Estimate (10 points)

Instructions

The Consultant will be compensated on a time and materials basis. Respondents shall provide an hourly rate schedule for all proposed staff, including subconsultants. **A fee estimate shall be provided organized by scope of work tasks and team rate schedule for Tasks 1 through 9.** Tasks 10 through 14 will be authorized at a future date. Markup for subconsultant fees shall be limited to 5%. Direct expenses shall have zero markup. Annual rate escalation shall not exceed 3%.

Scoring Criteria

- Reasonableness of fee estimate for proposed scope of work

Section 5. Limitations

1. Restricted Parties

Kennedy Jenks is AVEK's Owner's Advisor for the High Desert Water Bank Project. As such, Kennedy Jenks is explicitly prohibited from participating in this solicitation in any manner.

Additional firms are supporting the Project in various capacities. It should be assumed that any entity directly supporting the Project or Kennedy Jenks is restricted from participating on a Respondent's team. For the High Desert Water Bank Project, the following firms currently supporting the Project either directly to AVEK or via Kennedy Jenks are:

- Todd Groundwater
- Richard C. Slade & Associates LLC

The Respondent shall not communicate with the Antelope Valley Watermaster.

2. Proprietary and Confidential Information

All proposals submitted in response to this RFP become property of AVEK and will be kept confidential until award of a contract. Thereafter, except for financial statements, proposals are subject to public inspection and disclosure under the California Public Records Act. (Government Code Section 6250 et seq.) Therefore, unless the information is exempt from disclosure by law, the content of any proposal, or related submission, between AVEK and any Respondent regarding the procurement, shall be available to the public.

If a Respondent believes any portion of its proposal or related communication contains trade secrets or other proprietary information that the Respondent believes would cause substantial injury to the Respondent's competitive position if disclosed, the Respondent may request that AVEK withhold from disclosure the proprietary information by marking each page containing such proprietary information as confidential. By submitting a proposal with portions marked "Confidential", a Respondent represents it has determined such portions qualify for exemption from disclosure under the California Public Records Act. A Respondent may not designate its entire proposal as confidential. AVEK will not honor such designations and will disclose submittals so designated to the public. The foregoing statement does not impact the fact that AVEK will treat proposals as confidential during the RFP evaluation and selection process.

If a Respondent requests that AVEK withhold from disclosure information identified as confidential, and AVEK complies with the Respondent's request, Respondent shall assume all responsibility for any challenges resulting from the non-disclosure, shall indemnify and hold harmless AVEK from and against all damages (including but not limited to attorneys' fees that may be awarded to the party requesting the Respondent information), and pay any and all costs and expenses related to the withholding of Respondent information. Respondent shall not make a claim, sue, or maintain any legal action against AVEK or its directors, officers, employees, or agents concerning the withholding from disclosure of Respondent information. If Respondent does not request that AVEK withhold from disclosure information identified as confidential, AVEK shall have no obligation to withhold the information from disclosure and may release the information sought without any liability to AVEK.

3. Protest Procedures

Appeals may be based upon restrictive requirements or alleged improprieties in the RFP that are apparent or reasonably should have been discovered prior to AVEK's receipt of proposals. Such appeals shall be filed in writing with the Owner's Contact, at least fourteen (14) calendar days prior to

AVEK's receipt of proposals. The appeal must clearly specify in writing the grounds and evidence on which the appeal is based. The appeal will be decided by AVEK.

Appeals may also be based upon alleged improprieties that are not apparent in the RFP or that could not reasonably have been discovered prior to AVEK's receipt of the proposals. Such appeals are limited to procedural errors in the RFP process. The appeal must clearly specify in writing the grounds and evidence on which the appeal is based. Such appeals must be submitted in writing to AVEK within three (3) working days from receipt of the short-list announcement. In order to prevail on an appeal based on alleged improprieties not apparent in the RFP, a Respondent must demonstrate that an error was prejudicial to the Respondent's effort to become short-listed for participation in the Project. In other words, in order to prevail, the Respondent must demonstrate that but for AVEK's error, the Respondent would have been short-listed.

AVEK will not entertain appeals regarding, or reconsider, substantive scores or determinations made in the evaluation process.

AVEK will respond to an appeal in writing within seven (7) calendar days of receipt, and AVEK's determination shall be final.

The appeal procedures summarized in this Section comprise the sole appeal procedures for this RFP. A Respondent's failure to comply with the procedures set forth herein is grounds for rejection of the appeal.

4. Obligation to Keep Project Team Intact

Respondents are advised that all firms and key project team members identified in the proposal shall remain on the Project Team for the duration of the procurement process and execution of the Project. If extraordinary circumstances require a change, it must be submitted in writing to AVEK, which at its sole discretion, will determine whether to authorize a change, recognizing that certain circumstances (such as termination of employment) may occur that are beyond the Respondent's control. Unauthorized changes to the Project Team at any time during the procurement process may result in elimination of the Respondent from further consideration.

5. Agency Rights

In connection with this procurement, AVEK reserves to itself all rights (which rights shall be exercisable by AVEK in its sole discretion) available to it under the Public Contract Code and applicable law, including without limitation, the following, with or without cause and with or without notice:

1. Cancel, modify, or withdraw the RFP without incurring cost obligations or liabilities.
2. Issue a new RFP or modify dates set or projected in the RFP.
3. Accept or reject any or all proposals or information submitted related to a proposal.
4. Issue Addenda, supplements and modifications to the RFP.
5. Modify the procurement process with appropriate notice to Respondents as applicable.
6. Solicit Best and Final Offers (BAFO) from all Proposers short-listed.
7. Appoint an Evaluation Committee and evaluation teams to review proposals and consider the advice and assistance of non-AVEK experts in evaluations.
8. Approve or disapprove particular subcontractors, substitutions of subcontractors, changes in project team members submitted proposal.

9. Seek or obtain data from any source that has the potential to improve the understanding and evaluation of the proposals.
10. Revise and modify, at any time before the proposal deadline, the factors it will consider in evaluating proposals and to otherwise revise or expand its evaluation methodology.
11. Conduct interviews and/or discussions with Respondents.
12. Waive any weaknesses, informalities, irregularities, or omissions, permit corrections, and seek and receive clarifications.
13. Disqualify any Respondent that changes its organization or other information included in the proposal without AVEK written approval.
14. Hold the proposals under consideration for the maximum duration of the proposal validity period specified in the RFP or longer if there is a mutual agreement.
15. Award the Contract, with or without negotiations, to the Respondent determined by AVEK to have offered the best value to AVEK.
16. Disclose information contained in the Proposals to the public as described in the RFP.
17. Not issue a Notice to Proceed after execution of the Contract if specific contractual requirements are not met by the Consultant.
18. Terminate evaluations of proposals received at any time.
19. Require confirmation of information, additional information concerning a proposal, or require additional evidence of qualifications to perform the work described in this RFP.
20. Contact and ask questions of contact persons.
21. Short-list, hold discussions and/or request BAFOs.
22. Approve or disapprove changes to the Respondent Teams.
23. Add or delete Contract work.
24. Negotiate with one or more Respondent.
25. Suspend and/or terminate negotiations, engage in negotiations with other than the highest ranked Respondent if negotiations with the highest ranked Respondent prove to be unsuccessful.
26. Retain ownership of all proposals and materials submitted in hard-copy and/or electronic format.
27. Exercise any other right reserved or afforded to AVEK under the RFP.
28. Reject or refuse to consider a submitted proposal if such refusal or rejection is based upon listed circumstances:
 - a. Submittal by the Respondent of more than one proposal for the same work under the Respondent's own name or under a different name;
 - b. Participation by a prime Respondent in more than one proposal in response to the RFP;
 - c. Evidence of collusion between a prospective Respondent, any Principal Participant or Lead Designer and other Respondents, Principal Participants or Lead Designers in the preparation of a proposal, or any pricing for the Project;
 - d. Failure to obtain required insurance for this Project;
 - e. Respondent's refusal to further negotiate pricing, or Contract terms and conditions, in advance of execution of the Contract;
 - f. Evidence of Respondent or Principal Participant noncompliance with any federal, state or local laws or regulations; or
 - g. By virtue of AVEK exercising any other right reserved or afforded to AVEK under the RFP or under the Public Contract Code and applicable law.

6. Disclaimers

In issuing this RFP and undertaking the procurement process specified herein, AVEK disclaims the following:

- a. Any liability or commitment to provide other revenues to assist in carrying out any and all phases of the Contract.
- b. Any obligation, responsibility or liability, fiscal or otherwise, to reimburse a Respondent for all or part of the costs incurred or allegedly incurred by parties considering a response to and/or in responding to the RFP.
- c. Any obligation to Award the Contract to the Respondent submitting the lowest priced proposal.
- d. Any obligation to Award the Contract.
- e. Any contractual obligation or liability for, any obligations with respect to the Project until such time (if at all) as a contract, in form and substance satisfactory to AVEK, has been authorized and executed.

The Respondent acknowledges that, by submitting a proposal in response to the RFP, it accepts these disclaimers and waives any right whatsoever to legally challenge or protest any of AVEK's actions that exercise these disclaimers.

Attachment A. Sample Professional Services Agreement
See following pages.

PROFESSIONAL SERVICES AGREEMENT

NO. _____

DATE: _____

PROJECT: Professional Engineering, Design, and Hydrogeology Services for the Development and Construction of the High Desert Water Bank Project

PARTIES TO THE AGREEMENT:

ANTELOPE VALLEY - EAST KERN WATER AGENCY, a California public water agency

Designated Official: Name: _____

Title: _____

Telephone: _____

Mailing Address:

CONSULTANT

Name of Business

Representative:

Name: _____

Title: _____

Telephone: _____

Address:

Mailing Address:

TERM OF SERVICE:

Commencement Date:

Completion Date:

CONTRACT AMOUNT:

PROFESSIONAL SERVICES AGREEMENT

This Professional Services Agreement (“Agreement”) is dated _____, 20__, and is between _____, [Legal Form of Entity, e.g., California corporation, limited partnership, limited liability company] (“CONSULTANT” or “Consultant”) and the Antelope Valley - East Kern Water Agency, a California public water agency (“AGENCY” or “AVEK”). The CONSULTANT and the AGENCY are sometimes referred to herein collectively as the “Parties” and singularly as “Party”.

A. Recitals.

(i) The AGENCY desires to enter into this Agreement with CONSULTANT as an independent contractor to perform the following services:

(ii) The CONSULTANT represents and warrants that it is fully qualified to perform the services required herein by virtue of its experience and the training, education and expertise of its principals and employees.

B. Agreement.

NOW, THEREFORE, the Parties agree as follows:

1.0 EMPLOYMENT OF CONSULTANT. The AGENCY hereby engages the CONSULTANT and the CONSULTANT shall perform the services required under this Agreement. Consultant has represented to AVEK that certain key personnel will perform and coordinate the Services under this Agreement. Should one or more of such personnel become unavailable, Consultant may substitute other personnel of at least equal competence upon written approval of AVEK. In the event that AVEK and Consultant cannot agree as to the substitution of key personnel, AVEK shall be entitled to terminate this Agreement for cause. Any personnel who fail or refuse to perform the Services in a manner acceptable to AVEK, or who are determined by AVEK to be uncooperative, incompetent, a threat to the adequate or timely completion of the Project or a threat to the safety of persons or property, or any employee who fails or refuses to perform the Services in a manner acceptable to AVEK, shall be promptly removed from the Project by the Consultant at the request of AVEK and shall not be re-employed to perform any of the Services or to work on the Project. The key personnel for performance of this Agreement are as follows:_____.

2.0 SCOPE OF SERVICES. The CONSULTANT shall perform during the term of this Agreement, those services set forth in the Agency’s Request for Proposals for Professional Engineering, Design, and Hydrogeological Services for the Development and Construction of the High Desert Water Bank Project dated _____, 2019 and incorporated by reference herein, and as further set forth in Exhibit “A” attached hereto, all to AGENCY’s reasonable satisfaction (collectively, the “Services”). The CONSULTANT shall commence performance of

the Services upon receipt of a written notice from _____ the Designated Agency Official authorizing the CONSULTANT to proceed, and only to the extent of such authorization. Consultant hereby designates _____ or his or her designee, to act as its representative for the performance of this Agreement ("Consultant's Representative"). Consultant's Representative shall have full authority to represent and act on behalf of the Consultant for all purposes under this Agreement. The Consultant's Representative shall supervise and direct the Services, using his or her best skill and attention, and shall be responsible for all means, methods, techniques, sequences and procedures and for the satisfactory coordination of all portions of the Services under this Agreement.

The AGENCY may, from time to time, request changes in the scope of Services of the CONSULTANT to be performed under this Agreement. Such changes shall be in the form of a written amendment to this Agreement signed by both Parties and shall include any additional compensation agreed to by the Parties.

3.0 TIME OF PERFORMANCE. The CONSULTANT shall commence performance of the Services immediately upon receipt of a written notice from the Designated Official and shall perform the Services in a timely, diligent manner in accordance with the Schedule of Performance included in Exhibit A. Consultant represents that it has the professional and technical personnel required to perform the Services in conformance with such conditions. In order to facilitate Consultant's conformance with the Schedule of Performance, AVEK shall respond to Consultant's submittals in a timely manner. Upon request of AVEK, Consultant shall provide a more detailed schedule of anticipated performance to meet the Schedule of Performance.

4.0 TERM. The term of this Agreement shall commence on _____, and shall remain in full force and effect until _____, unless sooner terminated as provided in Section 10 of this Agreement.

5.0 COMPENSATION. Subject to the maximum compensation amount hereafter provided, the AGENCY shall compensate the CONSULTANT for the term of this Agreement based on the hourly rates set forth in the CONSULTANT's Proposal, attached hereto as Exhibit "B.". The maximum, "NOT-TO-EXCEED" compensation amount, including reimbursement for expenses, if any, that the CONSULTANT is entitled to receive pursuant to this Agreement is \$_____. No claims for additional compensation shall be allowed unless authorized in advance by the AGENCY in writing. Any additional work or expenses authorized by the AGENCY shall be compensated at the rates set forth in Exhibit B, or, if not specified, at a rate agreed to by the Parties. The AGENCY shall make payment for additional services and expenses in accordance with Section 6.0 of this Agreement.

6.0 PAYMENT. Each month the CONSULTANT shall submit invoices to the AGENCY for the services performed and any authorized reimbursable expenses incurred. The invoices shall describe in detail the services rendered during each day of the period, and shall show the days worked, personnel performing the services, number of hours worked, the hourly rates charged, milestone achievements, and, if applicable, reimbursable expenses incurred. The CONSULTANT shall remit the invoices to the address for the AGENCY specified on page one of this Agreement. The AGENCY shall review all invoices and notify the CONSULTANT in writing within ten (10) business days of any disputed amounts. The AGENCY shall pay all undisputed portions of the invoice within thirty (30) calendar days after receipt, up to the maximum compensation amount set forth in Section 5.0 of this Agreement. The AGENCY shall not withhold federal or state payroll or other taxes, or make deductions, from payments made to the CONSULTANT.

7.0 STANDARD OF SKILL. The CONSULTANT warrants that it possesses the professional expertise necessary to perform the Services. The AGENCY relies upon the skill of the CONSULTANT, and the CONSULTANT's staff, if any, to do and perform the Services in a skillful, competent, and professional manner, and the CONSULTANT and CONSULTANT's staff, shall perform the Services in such manner. The CONSULTANT shall, at all times, meet or exceed any and all applicable professional standards of care. The acceptance of the CONSULTANT's work by the AGENCY shall not operate as a release of the CONSULTANT from such standard of care and workmanship. Consultant represents that it, its employees and subcontractors have all licenses, permits, qualifications and approvals of whatever nature that are legally required to perform the Services, and that such licenses and approvals shall be maintained throughout the term of this Agreement. Without waiving any rights under the indemnification provisions of this Agreement, Consultant shall perform, at its own cost and expense and without reimbursement from AVEK, any services necessary to correct errors or omissions which are caused by the Consultant's failure to comply with the standard of care provided for herein.

At all times herein, CONSULTANT shall assign as key personnel for the performance of the Services required under this Agreement, a duly qualified State of California licensed Civil Engineer (s) and a duly qualified State of California certified Hydrogeologist. Consultant shall keep itself fully informed of and in compliance with all local, state and federal laws, rules and regulations in any manner affecting the performance of the Project or the Services, including all Cal/OSHA and California Labor Code and Public Contract Code requirements, and shall give all notices required by law. Consultant shall be liable for all violations of such laws and regulations in connection with Services. If the Consultant performs any work knowing it to be contrary to such laws, rules and regulations and without giving written notice to AVEK, Consultant shall be solely responsible for all costs arising therefrom. Consultant shall defend, indemnify and hold AVEK, its officials, directors, officers, employees and agents free and harmless, pursuant to the indemnification provisions of this Agreement, from any claim or liability arising out of any failure or alleged failure to comply with such laws, rules or regulations.

8.0 INDEPENDENT CONTRACTOR. The CONSULTANT is retained by the AGENCY only to the extent set forth in this Agreement, and the CONSULTANT's relationship to the AGENCY is that of an independent contractor. The CONSULTANT shall be free to dispose of all portions of the CONSULTANT's time and activities that the CONSULTANT is not obligated to devote to the AGENCY in such a manner, and to such persons, firms or corporations, as the CONSULTANT sees fit except as expressly provided in this Agreement. Neither the AGENCY nor any of its agents shall have control over the conduct of the CONSULTANT or any of the CONSULTANT's employees, except as set forth in this Agreement. The CONSULTANT shall not have the status of an employee under this Agreement, or be entitled to participate in any insurance, medical care, vacation, sick leave or other benefits provided for the AGENCY's officers or employees. The CONSULTANT shall have no power to incur any debt, obligation or liability on behalf of the AGENCY or otherwise act on behalf of the AGENCY as an agent. The CONSULTANT shall not, at any time, or in any manner, represent that it or any of its agents or employees are in any manner agents or employees of the AGENCY. The CONSULTANT shall pay all required taxes on amounts paid to the CONSULTANT under this Agreement, and indemnify and hold the AGENCY harmless from any and all taxes, assessments, penalties and interest asserted against the AGENCY by reason of the independent contractor relationship created by this Agreement. The CONSULTANT shall fully comply with applicable workers' compensation laws regarding the CONSULTANT and the CONSULTANT's employees. The CONSULTANT shall indemnify and hold the AGENCY harmless from any failure of the CONSULTANT to comply with applicable workers' compensation laws. The AGENCY may offset against the amount of any compensation due to the CONSULTANT under this Agreement any

amount due to the AGENCY from the CONSULTANT as a result of the CONSULTANT's failure to promptly pay to the AGENCY any reimbursement or indemnification arising under this Section 8.0.

9.0 INDEMNIFICATION. The CONSULTANT and the AGENCY agree that the AGENCY, its employees, agents and officials should, to the fullest extent permitted by law, be fully protected from any loss, injury, damage, claim, liability, lawsuit, cost, expense, attorneys fees, litigation costs, defense costs, court costs and/or any other cost arising out of or in any way related to the performance of this Agreement. Accordingly, the provisions of this indemnity provision are intended by the Parties to be interpreted and construed to provide the fullest protection possible under the law to the AGENCY and the Indemnitees. The CONSULTANT acknowledges that the AGENCY would not have entered into this Agreement in the absence of the commitment of the CONSULTANT to indemnify and protect the AGENCY and the Indemnitees, as set forth in this Agreement.

9.1 Indemnity for Design Professional Services. To the fullest extent permitted by law, the CONSULTANT shall, at its sole cost and expense, indemnify and hold harmless the AGENCY, its elected officials, officers, attorneys, agents, employees, designated volunteers, successors, assigns and those AGENCY agents serving as independent contractors in the role of AGENCY officials (collectively "Indemnitees" in this Section 9.0), from and against any and all damages, costs, expenses, liabilities, claims, demands, causes of action, proceedings, judgments, penalties, liens, and losses of any nature whatsoever, including fees of accountants and other professionals, and all costs associated therewith, and reimbursement of attorneys' fees and costs of defense (collectively "Claims"), whether actual, alleged or threatened, to the extent arising out of, pertaining to, or relating to, in whole or in part, the negligence, recklessness or willful misconduct of the CONSULTANT, and/or its officers, agents, servants, employees, subcontractors, contractors or their officers, agents, servants or employees (or any entity or individual for whom the CONSULTANT shall bear legal liability) in the performance of design professional services under this Agreement by a "design professional," as the term is defined under California Civil Code § 2782.8(c). Notwithstanding the foregoing and as required by Civil Code § 2782.8(a), in no event shall the cost to defend the Indemnitees that is charged to CONSULTANT exceed CONSULTANT's proportionate percentage of fault.

9.2 Other Indemnities. Other than in the performance of design professional services, and to the fullest extent permitted by law, CONSULTANT shall, at its sole cost and expense, protect, defend, hold harmless and indemnify the Indemnitees from and against any and all damages, costs, expenses, liabilities, claims, demands, causes of action, proceedings, judgments, penalties, liens and losses of any nature whatsoever, including fees of accountants, attorneys and other professionals, and all costs associated therewith, and the payment of all consequential damages (collectively "Damages"), in law or equity, whether actual, alleged or threatened, which arise out of, pertain to, or relate to the acts or omissions of CONSULTANT, its officers, agents, servants, employees, subcontractors, materialmen, suppliers, or contractors, or their officers, agents, servants or employees (or any entity or individual for whom CONSULTANT shall bear legal liability) in the performance of this Agreement, including the Indemnitees' active or passive negligence, except for Damages arising from the sole negligence or willful misconduct of the Indemnitees, as determined by final arbitration or court decision or by the agreement of the Parties. CONSULTANT shall defend the Indemnitees in any action or actions filed in connection with any Damages with counsel of the Indemnitees' choice, and shall pay all

costs and expenses, including all attorneys' fees and experts' costs actually incurred in connection with such defense. CONSULTANT shall reimburse the Indemnitees for any and all legal expenses and costs incurred by the Indemnitees in connection therewith.

9.3 The obligations of the CONSULTANT under this or any other provision of this Agreement shall not be limited by the provisions of any workers' compensation act or similar act. The CONSULTANT expressly waives any statutory immunity under such statutes or laws as to the Indemnitees. The CONSULTANT's indemnity obligation set forth in this Section 9.0 shall not be limited by the limits of any policies of insurance required or provided by the CONSULTANT pursuant to this Agreement.

9.4 The CONSULTANT's covenant under this Section 9.0 shall survive the expiration or termination of this Agreement.

10.0 TERMINATION OF AGREEMENT. The AGENCY may terminate this Agreement at any time during the term of the Agreement by giving the CONSULTANT not less than thirty (30) calendar days' prior written notice. The CONSULTANT may only terminate this Agreement for cause, and by giving the AGENCY prior notice in writing with a reasonable opportunity to cure any purported default. If the Agreement is terminated by the AGENCY, and provided CONSULTANT is not then in breach, the CONSULTANT shall be paid for services satisfactorily rendered to the last working day the Agreement is in effect, and the CONSULTANT shall have no other claim against the AGENCY by reason of such termination. This Agreement may be extended beyond the term only by the written agreement of both Parties prior to the expiration of the term of the Agreement.

11.0 SAFETY REQUIREMENTS. All work performed under this Agreement shall be performed in such a manner as to provide safety to the public and to meet or exceed the safety standards outlined by CAL OSHA. The AGENCY may issue restraint or cease and desist orders to the CONSULTANT when unsafe or harmful acts are observed or reported relative to the performance of the Services. The CONSULTANT shall maintain the work sites free of hazards to persons and property resulting from its operations. The CONSULTANT shall immediately report to the AGENCY any hazardous condition noted by the CONSULTANT.

12.0 MANDATORY INSURANCE. The CONSULTANT shall maintain the following insurance coverage throughout the term of this Agreement, and, upon the AGENCY's request, the CONSULTANT shall provide the AGENCY with evidence of such coverage, which may include visual inspection of all policies, copies of declarations page, endorsements signed by an authorized representative of the underwriting company, or certificates of insurance. Insurance coverage shall be provided in the forms and coverage amounts set forth in this Section 12.0.

12.1 Minimum Scope of Insurance. The CONSULTANT shall maintain policies with coverage at least as broad as:

(a) Insurance Services Office Commercial General Liability insurance (occurrence Form Number CG 00 01).

(b) Automobile Liability insurance with coverage at least as broad as Insurance Services Office Form Number CA 0001 covering "Any Auto" (Symbol 1).

(c) Workers Compensation insurance as required by the State of California, and Employer's Liability insurance. NOTE: CONSULTANT may be exempt if there are no employees.

(d) Professional Liability Insurance.

12.2 Minimum Limits of Insurance. The CONSULTANT shall maintain insurance coverage limits not less than:

(a) General Liability: \$2,000,000 per occurrence for bodily injury, personal injury, and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to the Services and/or this project/location or the general aggregate limit shall be twice the required occurrence limit, and shall contain specific language creating a duty to defend against any suit seeking damages.

(b) Automobile Liability: \$1,000,000 per accident for bodily injury and property damage.

(c) Employer's Liability: \$1,000,000 per accident for bodily injury or disease.

(d) Professional liability: \$10,000,000 per claim/aggregate, with an extended reporting period of not less than five (5) years, unless alternative coverage is approved in writing by the AGENCY .

12.3 Deductibles and Self-insured Retentions: Any deductibles or self-insured retentions must be declared to and approved by the AGENCY prior to the CONSULTANT commencing any work under this Agreement. At the AGENCY's option, either: (i) the insurer shall reduce or eliminate the deductibles or self-insured retentions with respect to the AGENCY, its elected officials, officers, attorneys, agents, employees and designated volunteers; or (ii) the CONSULTANT shall provide a bond or other financial guarantee, satisfactory to the AGENCY, guaranteeing payment of losses and related investigations, claim administration and defense expenses.

12.4 Required Endorsements. Each insurance policy required by this Section 12.0 shall be endorsed as follows:

(a) Except with respect to any employer's liability or professional liability policies required by this Section 12.0, the AGENCY, its elected officials, officers, attorneys, agents, employees, independent contractors serving in the role of Agency officials and designated volunteers shall be named as additional insureds (collectively, "Additional Insureds" sometimes hereafter in this Section 12.0).

(b) Additional Insured endorsements shall not:

(1) Be limited to "Ongoing Operations";

(2) Exclude "Contractual Operations";

CONSULTANT; or (3) Restrict coverage to the "Sole" liability of the

(4) Contain any other exclusion contrary to this Agreement.

(c) For any claims related to the Services, this Agreement or the services performed under this Agreement, the CONSULTANT's insurance coverage shall be primary to any other similar insurance carried by the AGENCY. Any insurance or self-insurance maintained by the AGENCY or any of the Additional Insureds, shall be in excess of the CONSULTANT's insurance and shall not be called upon to contribute with it.

(d) All insurance coverage shall contain a provision that prohibits cancellation, modification or lapse without thirty (30) calendar days' prior written notice from insurer to the AGENCY. The notice shall be provided via certified mail, return receipt requested. The CONSULTANT shall require its insurer to modify the applicable policy and all certificates of insurance to delete any exculpatory wording stating that failure of the insurer to mail written notice of cancellation imposes no obligation, and to delete the word "endeavor" with regard to any notice provisions.

(e) Each policy shall be endorsed to state that the insurer waives the right of subrogation against the AGENCY and its officers, employees, agents, independent contractors serving in the role of Agency officials and designated volunteers.

12.5 Other Insurance Provisions. The CONSULTANT and the AGENCY further agree as follows:

(a) All insurance coverage and limits provided pursuant to this Agreement shall apply to the full extent of the policies involved, available or applicable. Nothing contained in this Agreement or any other agreement relating to the AGENCY or its operations limits the application of the insurance coverage.

(b) Requirements of specific coverage features or limits contained in this Section 12.0 are not intended as a limitation on coverage, limits or other requirements, or a waiver of any coverage normally provided by any insurance. Specific reference to a given coverage feature is for purposes of clarification only and is not intended by any Party to be all inclusive, or to the exclusion of other coverage, or a waiver of any type.

(c) All insurance coverage shall cover the CONSULTANT's operations pursuant to the terms of this Agreement.

(d) Any actual or alleged failure on the part of the AGENCY or any other additional insured under these requirements to obtain proof of insurance required under this Agreement in no way waives any right or remedy of the AGENCY or any additional insured, in this or any other regard.

(e) In the event any policy of insurance required under this Agreement does not comply with these requirements or is canceled and not replaced, the AGENCY has the right, but not the duty, to obtain the insurance it deems necessary and the CONSULTANT shall promptly reimburse to the AGENCY any premium paid by the AGENCY.

(f) The CONSULTANT shall provide immediate notice to the AGENCY of any claim or loss against the CONSULTANT that includes the AGENCY or any of the Additional Insureds as a defendant. The AGENCY assumes no obligation or liability from the notice. The AGENCY shall have the right, but not the duty, to monitor the handling of the claim or claims if they are likely to involve the AGENCY.

12.6 Acceptability of Insurers. All insurance coverage required by this Section 12.0 shall be written by insurers admitted to conduct business in the State of California by the Department of Insurance and rated "A:VIII" in the most recent A.M. Best's Insurance Rating Guide.

12.7 Verification of Coverage. The CONSULTANT shall furnish the AGENCY with evidence of the insurance required by this Section 12.0, satisfactory to the AGENCY. The evidence shall consist of original certificates of insurance and amendatory endorsements, including an additional insured endorsement. The endorsements shall be on forms provided by the AGENCY or on such other forms approved by the AGENCY in writing, and amended to conform to the AGENCY's requirements. The CONSULTANT shall file all certificates of insurance and fully executed endorsements with the AGENCY before commencing performance of the Services. Thereafter, the CONSULTANT shall provide proof that the policies of insurance required under this Agreement and expiring during the term of this Agreement have been renewed or replaced with other policies providing at least the same coverage. The CONSULTANT shall furnish such proof to the AGENCY prior to the expiration of the affected coverages. The AGENCY may require complete, certified copies of all required insurance policies, including endorsements effecting the coverage required by these specifications at any time. The CONSULTANT shall provide complete copies of policies to the AGENCY upon request.

12.8 Subcontractors. The CONSULTANT shall include all subcontractors, and/or any other party involved in the performance of the Services, as insureds under its policies or shall require subcontractors or any other party involved in providing the Services to carry the same insurance as required in this Section 12.0, except with the prior written approval of the AGENCY. The CONSULTANT shall obtain certificates evidencing the coverage and make reasonable efforts to ensure that the coverage is provided as required in this Section 12.0. The CONSULTANT shall require that no contract used by any subcontractor, or contract the CONSULTANT enters into on behalf of the AGENCY, shall reserve the right to charge back to the AGENCY the cost of insurance required by this Agreement. The CONSULTANT shall, upon request, submit to the AGENCY for review, all agreements with subcontractors or others with whom the CONSULTANT contracts with on behalf of the AGENCY, and all certificates of insurance obtained in compliance with this Section 12.8. The AGENCY's failure to request copies of the documents shall not impose any liability on the AGENCY, or its employees, or be deemed a waiver of any of the AGENCY's rights.

13.0 WORK PRODUCT.

13.1 Deliverables. The CONSULTANT shall, in such time and in such form as the AGENCY may require, furnish reports concerning the status of services required under this Agreement. The CONSULTANT shall, upon request by the AGENCY and upon completion or termination of this Agreement, deliver to the AGENCY all material furnished to the CONSULTANT by the AGENCY.

13.2 Ownership.

(a) Unless otherwise agreed upon in writing, all draft and final reports, documents, and other written material, and any and all images, ideas, concepts, designs including website designs, source code, object code, electronic data and files, and/or other media whatsoever created or developed by CONSULTANT in the performance of this Agreement (collectively, "Work Product") shall be considered to be "works made for hire" for the benefit of AGENCY. All Work Product and any and all intellectual property rights arising from their creation, including, but not limited to, all copyrights and other proprietary rights, shall be and remain the property of AGENCY without restriction or limitation upon their use, duplication or dissemination by AGENCY upon final payment being made. CONSULTANT shall not obtain or attempt to obtain copyright protection as to any of the Work Product.

(b) CONSULTANT hereby assigns to AGENCY all rights of ownership to the Work Product, including any and all related intellectual property and proprietary rights, that are not otherwise vested in the AGENCY pursuant to subsection (a), above.

(c) CONSULTANT warrants and represents that it has secured all necessary licenses, consents or approvals necessary to the production of the Work Product, and that upon final payment, AGENCY shall have full legal title to the Work Product, and full legal authority and the right to use and reproduce the Work Product for any purpose. CONSULTANT shall defend, indemnify and hold AGENCY, and its elected officials, officers, employees, servants, attorneys, designated volunteers, and agents serving as independent contractors in the role of Agency officials, harmless from any loss, claim or liability in any way related to a claim that AGENCY's use of any of the Work Product is violating federal, state or local laws, or any contractual provisions, or any rights or laws relating to trade names, licenses, franchises, copyrights, patents or other means of protecting intellectual property rights and/or interests in products, ideas or inventions. Consultant shall bear all costs arising from the use of patented, copyrighted, trade secret or trademarked documents, materials, equipment, devices or processes in connection with its provision of the Work Product produced under this Agreement. In the event any the use of any of the Work Product or other deliverables hereunder by AGENCY is held to constitute an infringement and the use of any of the same is enjoined, CONSULTANT, at its expense, shall: (a) secure for AGENCY the right to continue using the Work Product and other deliverables by suspension of any injunction, or by procuring a license or licenses for AGENCY; or (b) modify the Work Product and other deliverables so that they become non-infringing while remaining in compliance with the requirements of this Agreement. This covenant shall survive the termination of this Agreement.

13.3 Confidentiality. Except as otherwise required by law, the CONSULTANT shall not disclose, publish or authorize others to disclose or publish, design data, drawings, specifications, reports or other information pertaining to the Services or other Agency information to which the CONSULTANT has had access during the term of this Agreement without the Designated Official's prior written approval. The CONSULTANT's covenant under this Section 13.3 shall survive the expiration or termination of this Agreement.

13.4 Records. The CONSULTANT shall maintain complete and accurate records with respect to sales, costs, expenses, receipts and other such information relating to the Services, as required by the AGENCY or the Designated Official. The CONSULTANT

shall maintain adequate records on services provided in sufficient detail to permit an evaluation of the Services. All such records shall be maintained in accordance with generally accepted accounting principles and shall be clearly identified and readily accessible. At all times during regular business hours, the CONSULTANT shall provide access to such books and records to the Designated Official, or his or her designees, and shall give the Designated Official, or his or her designees, the right to examine and audit such books and records and to make transcripts as necessary, and shall allow inspection of all work, data, documents, proceedings and activities related to this Agreement.

14.0 ASSIGNMENT AND SUBCONTRACTING. This Agreement is personal to the CONSULTANT, and the AGENCY has entered this Agreement in reliance on CONSULTANT's skill, competence and experience. The CONSULTANT shall not assign any of its rights or delegate any of its duties under this Agreement, either in whole or in part, without the AGENCY's prior written consent, by and through the Designated Official. The AGENCY's consent to an assignment of rights under this Agreement shall not release the CONSULTANT from any of its obligations or alter any of its obligations to be performed under this Agreement. Any attempt at assignment or delegation by the CONSULTANT in violation of this Section 14.0 shall be void and of no effect and shall entitle the AGENCY to immediately terminate this Agreement for cause. The CONSULTANT's services under to this Agreement shall be provided by the Representative or directly under the supervision of the Representative and the CONSULTANT shall not assign another to supervise the CONSULTANT's performance of this Agreement without the AGENCY's prior written approval, by and through the Designated Official. As used in this Section 14.0, "assignment" and "delegation" means any sale, gift, pledge, hypothecation, encumbrance or other transfer of all or any portion of the rights, obligations or liabilities in or arising from this Agreement to any person or entity, whether by operation of law or otherwise, and regardless of the legal form of the transaction in which the attempted transfer occurs. The CONSULTANT shall not subcontract any performance required under this Agreement without the AGENCY's prior written consent.

15.0 MISCELLANEOUS TERMS.

15.1 Nuisance. The CONSULTANT shall not maintain, commit or permit the maintenance or commission of any nuisance in connection with the performance of services under this Agreement.

15.2 Permits and Licenses. The CONSULTANT, at its sole expense, shall obtain and maintain during the term of this Agreement, all appropriate permits, licenses, and certificates that may be required in connection with the performance of services under this Agreement.

15.3 Conflicts of Interest. The CONSULTANT shall comply with all applicable federal, state and local conflict of Interest laws, including the Political Reform Act (Cal. Gov. Code, § 81000 *et seq.*) and California Government Code Section 1090. During the term of this Agreement, the CONSULTANT may perform similar services for other clients, but the CONSULTANT and its officers, employees, associates and subconsultants shall not, without the Agency's prior written approval, perform work for another person or entity for whom the CONSULTANT is not currently performing work that would require the CONSULTANT, or one of its officers, employees, associates or subconsultants, to abstain from a decision under this Agreement pursuant to a conflict of interest statute.

Consultant maintains and warrants that it has not employed nor retained any company or person, other than a bona fide employee working solely for Consultant, to solicit or secure this Agreement. Further, Consultant warrants that it has not paid nor has it agreed to pay any company or person, other than a bona fide employee working solely for Consultant, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this Agreement. For breach or violation of this warranty, AVEK shall have the right to rescind this Agreement without liability.

Consultant agrees that during the term of this Agreement, it will not engage, in any activity that materially and adversely affects AVEK ("Conflict of Interest") such as ownership of a material interest in a supplier, contractor, distributor, subcontractor, or other entity that is a bidder or contractor for the Project or accepting any material payment, service, loan, gift, trip, entertainment, or other favor from a supplier, contractor, distributor, subcontractor, or other entity that is a bidder or contractor for the Project.

15.4 Waiver. No delay or omission to exercise any right, power or remedy accruing to the AGENCY under this Agreement shall impair any right, power or remedy of the AGENCY, nor shall it be construed as a waiver of, or consent to, any breach or default. No waiver by the AGENCY of any breach, any failure of a condition, or any right or remedy under this Agreement shall be (1) effective unless it is in writing and signed by the Party making the waiver; (2) deemed to be a waiver of, or consent to, any other breach, failure of a condition, or right or remedy; or (3) deemed to constitute a continuing waiver unless the writing expressly so states.

15.5 Completion of Services. The CONSULTANT shall commence, carry on and complete its assignments with all practicable dispatch, in a sound, economical, and efficient manner in accordance with all applicable laws and generally accepted industry and applicable professional standards.

15.6 Captions for Convenience Only. The titles of the sections, subsections and paragraphs set forth in this Agreement are inserted for convenience and reference only and shall be disregarded in construing or interpreting any of the provisions of this Agreement and the rights or obligations of the Parties to this Agreement.

15.7 Word Usage. Unless the context clearly requires otherwise, (a) the word "shall" is mandatory and "may" is permissive; (b) "or" is not exclusive; and (c) "includes" or "including" are not limiting.

15.8 Notices. Any notice, consent, request, demand, bill, invoice, report or other communication required or permitted under this Agreement shall be given in writing to the person at the addresses specified on first page of this Agreement and deemed effective: (a) on personal delivery, (b) on confirmed delivery by courier service during the CONSULTANT's and the AGENCY's regular business hours, or (c) three business days after deposit in the United States mail, by first class mail, postage prepaid. Either Party may change the specified person or address at which it is to receive notices by advising the other Party in writing.

15.9 No Third Party Beneficiaries. This Agreement is made solely for the benefit of the Parties to this Agreement and their respective successors and assigns, and no other person or entity may have or acquire a right by virtue of this Agreement.

15.10 When Rights and Remedies Not Waived. In no event shall the making by the AGENCY of any payment to the CONSULTANT constitute or be construed as a waiver by the AGENCY of any breach of covenant, or any default that may then exist, on the part of the CONSULTANT, and the making of any such payment by the AGENCY while any such breach or default shall exist shall in no way impair or prejudice any right or remedy available to the AGENCY with regard to such breach or default.

15.11 Cost of Litigation. If any legal action is necessary to enforce any provision of this Agreement or for damages by reason of an alleged breach of any provisions of this Agreement (whether in contract, tort or both), the prevailing Party shall be entitled to receive from the losing Party all attorneys' fees, costs and expenses in such amount as the courts may determine to be reasonable. In awarding the cost of litigation, the court shall not be bound by any court fee schedule, but shall, if it is in the interest of justice to do so, award the full amount of costs, expenses and attorneys' fees paid or incurred in good faith.

15.12 Compliance with Laws. In the performance of the work required by this Agreement, the CONSULTANT shall abide by and conform with and to any and all local, State and federal laws, regulations, orders, ordinances including applicable laws of the United States and the State of California, and with the AGENCY's regulations and policies. Further, this Agreement may call for services that, in whole or in part, constitute "public works" as defined in the California Labor Code. Therefore, as to those services that are "public works," the CONSULTANT shall comply in all respects with all applicable provisions of the California Labor Code, including those set forth in Exhibit C, attached hereto.

15.13 Severability. If any part, term or provision of this Agreement shall be held illegal, unenforceable or in conflict with any law of a federal, state, or local government having jurisdiction over this Agreement, the validity of the remaining portions or provisions shall not be affected by such holding.

15.14 Governing Law. The terms of this Agreement, and any dispute arising from the relationship between the Parties to this Agreement, shall be governed by and construed in accordance with the laws of the State of California, without regard for its conflicts of laws principles, except that any rule of construction to the effect that ambiguities are to be resolved against the drafting party shall not be applied in interpreting this Agreement. Any dispute that arises under or relates to this Agreement (whether contract, tort or both) shall be resolved in the County of Los Angeles Superior Court or United States District Court, Central District.

15.15 Integrated Agreement. This Agreement, and all exhibits referred to herein, constitutes the final, complete and exclusive statement of the terms of the agreement between the AGENCY and the CONSULTANT with respect to the subject matter herein. This Agreement supersedes all prior or contemporaneous oral or written negotiations, representations or agreements of the Parties. No verbal agreement or implied covenant shall be held to vary the provisions of this Agreement. No Party has been induced to enter into this Agreement by, nor is any Party relying on, any representation or warranty except those expressly set forth in this Agreement. This Agreement may be modified only by a writing signed by both Parties.

15.16 Authority to Bind Parties. Each of the undersigned hereby represents that he or she has the authority to execute this Agreement on behalf of his or her contracting Party.

EXHIBIT A

EXHIBIT B

EXHIBIT C

[THIS FORM TO BE USED IF CONSULTANT'S SERVICES INCLUDE ANY "PUBLIC WORKS" - SEE LABOR CODE SECTION 1720]

CALIFORNIA LABOR CODE COMPLIANCE

1. CONSULTANT ("Contractor" in this Exhibit) acknowledges that this contract is subject to the provisions of Division 2, Part 7, Chapter 1 (commencing with Section 1720) of the California Labor Code relating to public works and the awarding public agency ("Agency"), and agrees to be bound by all the provisions thereof as though set forth in full herein.
2. This is a public work and requires the payment of prevailing wages for the work or craft in which the worker is employed for any public work done under the contract by Contractor or by any subcontractor pursuant to Section 1771 of the Labor Code. Pursuant to the provisions of Section 1773 of the Labor Code of the State of California, the Agency has obtained the general prevailing rate of per diem wages and the general rate for holiday and overtime work in this locality for each craft, classification, or type of workman needed to execute this contract from the Director of the Department of Industrial Relations. These rates are on file with the Agency Clerk or may be obtained at <http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>.

Copies may be obtained at cost at the Agency Clerk's office. Contractor shall post a copy of such wage rates at the job site and shall pay the adopted prevailing wage rates as a minimum. Contractor shall comply with the provisions of Sections 1775, 1776, 1777.5, 1777.6, and 1813 of the Labor Code. Pursuant to the provisions of 1775 of the Labor Code, Contractor shall forfeit to the Agency, as a penalty, not more than \$200.00 for each calendar day, or portion thereof, for each laborer, worker, or mechanic employed, paid less than the stipulated prevailing rates for any work done under this contract, by him or by any subcontractor under him, in violation of the provisions of this Agreement.

3. In accordance with Labor Code Sections 1725.5 and 1771.1, no contractor or subcontractor shall be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, unless currently registered and qualified to perform public work pursuant to Section 1725.5 [with limited exceptions for bid purposes only under Labor Code Section 1771.1(a)].
4. Pursuant to Labor Code Section 1776, Contractor shall maintain and make available an accurate record showing the name of each worker and hours worked each day and each week by each worker employed by Contractor performing services covered by this Agreement. Contractor and its subcontractors shall furnish electronic certified payroll records to the Labor Commissioner in accordance with Labor Code Section 1771.4. The project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. The Contractor is responsible for compliance with Section 1776 by itself and all of its subcontractors.
5. Contractor agrees to comply with the provisions of California Labor Code Section 1777.5 concerning the employment of apprentices on public works projects, and further agrees

that Contractor is responsible for compliance with Section 1777.5 by itself and all of its subcontractors.

6. Contractor agrees to comply with the provisions of California Labor Code Section 1813 concerning penalties for workers who work excess hours. The Contractor shall, as a penalty to the Agency, forfeit twenty-five dollars (\$25) for each worker employed in the execution of the contract by the Contractor or by any subcontractor for each calendar day during which such worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of Division 2, Part 7, Chapter 1, Article 3 of the California Labor Code.
7. California Labor Code Sections 1860 and 3700 provide that every contractor will be required to secure the payment of compensation to its employees. In accordance with the provisions of California Labor Code Section 1861, Contractor hereby certifies as follows:

“I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers’ compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.”

Date _____ Signature _____

Attachment B. Previous Project Studies

Previous Project studies are made available to the Respondents via this FTP site link:

https://avek-my.sharepoint.com/:f:/g/personal/jlivesay_avek_org/EtaxKlhixQ9Fv1LDjJ4KZVIB2sgcZST72VO8QBvZLCaVHA?e=034xQd

The following documents are made available:

- AECOM, *High Desert Water Bank CEQA Initial Study*, May 2017
- AVEK, *CEQA Mitigated Negative Declaration SCH No. 2017061030 Mitigation Monitoring and Report Program*, December 2017
- Carollo Engineers, *Independent Cost Opinion and Evaluation*, prepared for West Water Research, May 2018
- Carollo Engineers, *Independent Cost Opinion for Electrical, I&C, and SCADA System Infrastructure at the High Desert Water Bank*, July 2018
- Eurofins, *Laboratory Report for AVEK* (groundwater quality data), July 2018
(Excel spreadsheet prepared by AVEK summarizing water quality data is also provided)
- Kenneth D. Schmidt & Associates, *Report on Test Well Installation and Testing for Antelope Valley-East Kern Water Agency High Desert Water Bank*, June 2017
- Montgomery & Associates, *Groundwater Recharge Testing and Monitoring*, January 2019
- RHA, *Value Engineering Study Report*, April 2019
- West Water Research, *Financial Feasibility Assessment of Developing Enterprise Water Bank Capacity at the Far West Site*, April 2017

Attachment C. Department of Water Resources Water Quality Policy and Implementation Process for Acceptance of Non-Project Water into the State Water Project (October 2012)

The following excerpt is Appendix A from the *Water Quality Assessment of Non-Project Turn-ins to the California Aqueduct, 2016* prepared by the DWR in November 2017. It describes the last published water quality policy and implementation process for acceptance of non-project water in the SWP.

Appendix A. Department of Water Resources Water Quality Policy and Implementation Process for Acceptance of Non-Project Water into the State Water Project (October 2012)

It is the Department of Water Resources (DWR) policy to assist with the conveyance of water to provide water supply, and to protect the State Water Project (SWP) water quality within the California Aqueduct. To facilitate this policy DWR provides the following implementation process for accepting non-project water into the SWP (Policy). For purposes of this document, SWP and California Aqueduct are interchangeable and the same.

POLICY PROVISIONS

DWR shall consider and evaluate all requests for Non-Project (NP) water input directly into the SWP conveyance facilities based upon the criteria established in this document. NP water shall be considered to be any water input into the SWP for conveyance by the SWP that is not directly diverted from the Sacramento-San Joaquin Delta or natural inflow into SWP reservoirs.

The proponent of any NP water input proposal shall demonstrate that the water is of consistent, predictable, and acceptable quality.

DWR will consult with State Water Project (Contractors), existing NP participants and the Department of Public Health (DPH) on drinking water quality issues relating to NP water as needed to assure the protection of SWP water quality.

Nothing in this document shall be construed as authorizing the objectives of Article 19 of the SWP water supply contracts or DPH drinking water maximum contaminant levels to be exceeded. This Policy shall not constrain the ability of DWR to operate the SWP for its intended purposes and shall not adversely impact SWP water deliveries, operation or facilities.

EVALUATING NP WATER PROPOSALS

DWR shall use a two-tiered approach for evaluating NP water for input into the California Aqueduct.

NP Tier 1

Tier 1 NP pump-in proposals (PIP) shall exhibit water quality that is essentially the same, or better, than what occurs in the California Aqueduct. PIP's considered to be tier 1 shall be approved by DWR (see baseline water quality tables 1 through 4).

NP Tier 2

Tier 2 PIP's are those that exhibit water quality that is different and possibly worse than in the California Aqueduct and/or have the potential to cause adverse impacts to the Contractors. Tier 2 PIP's shall be referred to a NP Facilitation Group (FG), which would review the project and if needed make recommendations to DWR in consideration of the PIP.

SWC Facilitation Group

This advisory group consists of representatives from each Contractor that chooses to participate and DWR. The group shall review tier 2 PIP's based on the merits, impacts, mitigation, water quality monitoring, cost/benefits or other issues of each PIP and provide recommendations to DWR. Upon initial review of tier 2 PIP by DWR, it shall then be submitted to the FG for review. A consensus recommendation from the FG would be sought regarding approval of the PIP. DWR shall base its decision on the merits of the PIP, recommendations of the FG and the PIP's ability to provide overall benefits to the SWP and the State of California.

Blending Water Sources

Blending of multiple water sources prior to inflow into the SWP is acceptable and may be preferred depending upon water quality of the PIP. Blending of water in this manner may be used to qualify a project as NP Tier 1.

Mixing (blending) within the California aqueduct can be considered but shall not be adjacent to municipal and industrial (M&I) delivery locations. PIP's that are coordinating water discharged to maintain or improve SWP water quality are an example of the mixing approach. The PIP shall demonstrate by model or an approach acceptable to DWR and the FG that the water is adequately mixed before reaching the first M&I customer. Generally NP PIP's that involve mixing with SWP water shall be considered NP Tier 2.

Baseline Water Quality

To aid in developing and evaluating PIP's both historical and current SWP water quality levels shall be considered. A representative baseline water quality summary is shown in Tables 1 through 4 by using historical SWP water quality records at O'Neill Forebay.

NP IMPLEMENTATION PROCESS

Project Proposals

The NP project proponent requesting to introduce water into the SWP shall submit a detailed PIP to DWR. The proponent shall demonstrate that the NP water is of consistent, predictable and reliable quality, and is responsible for preparing and complying with any and all contracts, environmental documents, permits or licenses that are necessary consistent with applicable laws, regulations, agreements, procedures, or policies.

Project Description

The proponent will submit to DWR a PIP describing the proposed program, identifying the water source(s), planned operation, characterizing the inflow water quality and any anticipated impacts to SWP water quality and/or operations. The PIP should be submitted at least one month prior to proposed start up to allow for DWR and FG review. The PIP shall include:

- Project proponent names, locations, addresses, and contact person(s).
- Maps identifying all sources of water, point of inflow to the SWP and ultimate fate of the introduced water.
- Terms and conditions of inflow, timing, rates and volumes of inflow, pumping, conveyance and storage requirements.

- Construction details of any facilities located adjacent to the SWP including valves, meters, and pump and piping size.
- All potential impacts and/or benefits to downstream SWP water contractors.
- Detailed water quality data for all sources of water and any blend of sources that will be introduced into the SWP.
- Identify anticipated water quality changes within the SWP.
- Identify other relevant environmental issues such as subsidence, ground water overdraft or, presents of endangered species.
- Provide performance measures and remedial actions that will be taken in the event projected SWP water quality levels are not met.
- Reference an existing contract or indicate that one is in process with DWR to conduct a PIP.

Water Quality Monitoring

In order to demonstrate that the water source(s) are of consistent, predictable, and acceptable quality the NP proponent shall monitor water quality. The proponent shall, for the duration of the program, regularly report on operations as they affect water quality, monitoring data and water quality changes. Both DPH title 22 and a short list of Constituents of Concern (COC) shall be monitored for based upon one of the following water quality monitoring options.

Constituents of Concern. Current COC are Arsenic, Bromide, Chloride, Nitrate, Sulfate, Organic Carbon, and Total Dissolved Solids. These COC's may be changed as needed.

Water Quality Monitoring Options. NP proponents shall select one of the testing options below and perform all water quality testing and provide analytical results in a timely manner as described herein. Monitoring shall be conducted for initial well start-up, periodic well re-testing and on-going testing during operation. Well data should be no more than three years old. Title 22 results should be provided to DWR and the FG within two weeks of testing and COC results within one week of testing, unless other schedules are agreed upon by DWR and the FG.

Option 1 - Baseline tests for Individual Wells

Well Start-up: Title 22 tests are required for all wells participating in the program prior to start-up. An existing title 22 test that is no more than three years old may be used. A Title 22 test may be substituted for any well near a similar well with a Title 22 test of record.

Well Re-testing: Title 22 test for all wells participating every three years.

Ongoing Monitoring: COC tests are required for all discharge locations to the SWP at start up and quarterly thereafter for new programs and resumption of established programs. New programs or those with constituents that may potentially degrade the SWP shall conduct at least weekly COC sampling of all discharge locations until the proponent demonstrates that the NP water is of consistent, predictable and reliable quality. Once the nature of the discharge has been clearly established, the COC tests are required quarterly for each discharge point.

Option 2 - Baseline tests for Representative Wells

Well Start-up: COC tests of record are required for all wells participating in the program and Title 22 tests of record are required for representative wells comprising a subset of all wells. This would

typically be a group of wells that are manifold together and discharge to one pipe. Representative wells shall be identified on a case-by-case basis to be representative of the manifold area, well proximity, and water levels.

Well Re-testing: Same as required in Option 1.

On-going Monitoring: COC tests are required for all discharge locations to the SWP at start up and monthly thereafter for the duration of the program and annually at each well. New programs or those with constituents that may potentially degrade the SWP shall conduct weekly COC sampling of all discharge locations until the proponent demonstrates that the NP water is of consistent, predictable and reliable quality.

Option 3 – Self Directed

A PIP may propose a water quality monitoring program for approval by DWR and the FG that is different from options 1 or 2. It must include COC and title 22 testing that will fully characterize water pumped into the SWP and be at an interval to show a consistent, predictable and reliable quality.

Analytical Methods

Analytical laboratories used by project proponents shall be DPH certified by the Environmental Laboratory Accreditation Program (ELAP) and use EPA prescribed and ELAP accredited methods for drinking water analysis. Minimum Reporting Levels must be at least as low as the DPH required detection limits for purposes of reporting (DLR). The current DLRs are listed on the DPH website at [Http://www.cdph.ca.gov/certlic/drinkingwater/Pages/MCLsandPHGs](http://www.cdph.ca.gov/certlic/drinkingwater/Pages/MCLsandPHGs). DWR shall continue to use Bryte Chemical Laboratory as it's analytical and reference lab.

Flow Measurements

The project proponent shall maintain current, accurate records of water production rate and volume from each source, as well as, each point of discharge into the SWP. All flow measurements shall be submitted to regularly to DWR.

RECONSIDERATION

If an NP proponent disagrees with the FG or DWR decision or feels that there is an overriding benefit of the proposal, the proponent may request reconsideration from DWR on the basis of overriding public benefit or water supply deficiency. DWR shall consider these requests on a case-by-case basis.

ONGOING PROGRAM

Any NP Proponent who has successfully established a NP water inflow program (Including existing Kern Fan Banking Projects, Kern Water Bank, Pioneer and Berrenda Mesa Projects, Semitropic Water Storage District Wheeler Ridge Mariposa Water Storage District and Arvin Edison Water Storage District) may reinstate the program by notifying DWR at least ten days before inflow is scheduled to begin and provide the following information:

- Updated water quality data and/or updated modeling that adequately reflects the quality of water to be introduced into the SWP.
- Turn-in location.

- Expected rate and duration of inflow. DWR shall notify the FG of this reinitiating of inflow.
- Water quality monitoring schedule that meets the objective of this policy.

FUTURE NP PROGRAMS

Future NP projects should be planned and designed considering the following items:

- Projects involving water quality exceeding primary drinking water standards shall show that the water shall be treated or blended before it enters the SWP to prevent water quality impacts.
- The project proponent of a Tier 2 proposal should clearly identify and establish that water inflow shall be managed and operated such that poor quality water will be blended with better quality water so that SWP water quality will not be degraded upon acceptable levels as determined by the FG and DWR.
- If a significant water supply deficiency exists and it is recommended by the FG that raw water quality criteria be set aside to ensure adequate supply, such action shall be subject to approval by the DPH.
- The project proponent of a NP inflow program which degrades SWP water quality shall identify mitigation to downstream water contractors for water quality impacts associated with increased water supply or treatment costs.

DWR ROLE

DWR shall seek, as needed, DPH or SWC recommendations on changes or additions to this document governing the NP water quality projects. The FG shall review proposed changes or additions prior to implementation by DWR, as needed.

DWR and or the United States Bureau of Reclamation (for San Luis Canal inflow) shall have ultimate responsibility for approving the water quality of all NP inflow, as well as, the oversight of monitoring and tracking the water quality of operating programs. DWR shall also ensure that the proponents of the NP inflow program perform according to their proposals, and will take appropriate action in the event of non-conformance.

Project Proposal Review Process

Upon receipt of a proposal for PIP, DWR shall review it for adequacy. DWR shall consider all PIPs based upon these guidelines. Review shall take no more than one month after receiving a complete program proposal. If necessary, DWR will convene timely meetings with the FG during the review.

At a minimum the review will include

- Examination of all documents and data for completeness of the PIP.
- Notification of the affected Field Divisions, and the FG has been received by DWR.
- Consideration by DWR of comments from all parties before the final decision.
- Upon completion of the review DWR will notify the proponent and FG of the acceptance of the PIP or explain the reason(s) for rejecting it.
- DWR may reconsider a decision on a PIP based upon a recommendation from the FG. Reconsideration by DWR will be on a case-by-case basis.

Periodic Review

DWR may schedule periodic reviews of each operating NP inflow with input from the FG. As part of the review, program proponents shall provide the following information:

- Summary of deliveries to the Aqueduct.
- Water quality monitoring results.
- Proposed changes in the program operation.

The review may result in changes in monitoring and testing required of the program proponent as a result of;

- New constituents being added to the EPA /DPH list of drinking water standards.
- Changes in the maximum contaminant levels for the EPA/DPH list of drinking water standards.
- Identification of new constituents of concern.
- Changes in the water quality provided by the program.
- Changes in constituent background levels in the California Aqueduct.

This procedure shall recognize emerging contaminants and/or those detrimental to agricultural viability as they are identified by the regulatory agencies and shall set appropriate standards for water introduction based upon ambient levels in the California Aqueduct or State Notification Levels. Emerging contaminants are those that may pose significant risk to public health, but as yet do not have an MCL. Currently the Office of Environmental Health Hazard Assessment and the DPH establish Public Health Goals and Notification Levels, respectively. These levels, though not regulated, do provide health-based guidance to water utilities and can require public notification if exceeded.

Water Quality Review

DWR shall track and periodically report to the FG on water quality monitoring results on the SWP from NP water inflow and make all water quality data available to the public upon request.

- DWR shall review analyze and maintain all records of water quality testing conducted by the proponent of the well(s), source(s) and discharge(s) into the SWP.
- DWR shall determine what additional water quality monitoring, if any, is necessary within the SWP to ensure adequate protection of SWP water quality. DWR shall conduct all water quality monitoring within the SWP.
- DWR may prepare periodic reports of NP projects.

On-site Surveillance

The appropriate Field Division within DWR will be responsible for review and approval of all construction activities within the SWP right-of-way. Plans showing the discharge system piping, valves, sampling point, meters and locations must be submitted and approved prior to any construction. In addition, the appropriate Field Division will be responsible for confirmation of all meter readings and water quality monitoring conducted by the proponent.

- Field division staff may visit, inspect, and calibrate meters and measure flow conditions at each source or point of inflow into the SWP.

- Flow meters, sampling ports and anti-siphon valves must be conveniently located near the SWP right-of-way.
- Field division staff may collect water samples at each source or point of discharge into the SWP.
- The appropriate Field Division shall conduct additional water quality monitoring within the SWP, if deemed necessary, to assure compliance with the NP Inflow Criteria.
- DWR shall monitor aqueduct water quality and analyze several “split samples” of the water at the point of introduction into the aqueduct to ensure consistent analytical results.

Table A1 HISTORICAL WATER QUALITY CONDITIONS 1988 TO 2011 AT O'NEILL FOREBAY OUTLET (mg/L)

Parameter	Mean	Min.	Max.	Std. Dev.
Aluminum	0.03	0.01	0.527	0.05
Antimony	0.002	0.001*	0.005	0.002
Arsenic	0.002	0.001	0.004	0.001
Barium	0.05	0.05	0.068	0.002
Beryllium	0.001*	0.001*	0.001*	0.000
Bromide	0.22	0.04	0.54	0.16
Cadmium	0.003	0.001	0.005	0.002
Chromium	0.004	0.001	0.011	0.002
Copper	0.004	0.001	0.028	0.003
Fluoride	0.1	0.1	0.5	0.1
Iron	0.037	0.005	0.416	0.050
Manganese	0.009	0.005	0.06	0.007
Mercury	0.001	0.0002	0.001	0.0004
Nickel	0.001	0.001	0.004	0.0005
Nitrate	2.9	0.2	8.1	1.6
Selenium	0.001	0.001	0.002	0.0001
Silver	0.003	0.001	0.005	0.002
Sulfate	42	14	99	15
Total Organic Carbon	4.0	0.8	12.6	1.6
Zinc	0.007	0.005	0.21	0.01

*These values represent reporting limits. Actual values would be lower

Water Quality Assessment of Non-Project Turn-ins to the California Aqueduct, 2016

Table A2 O'Neill Forebay Outlet Total Dissolved Solids Criteria by Water Year Classification, 1988-2011 (mg/L)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Wet	227.2	262.5	295.4	228.9	213.8	231.2	184.4	226.5	181.5	171.4	195.7	157.3
Near Normal	317.9	324.7	351.7	295.4	268.1	302.7	270.0	285.1	230.1	211.9	170.9	202.6
Dry	286.4	319.6	370.0	362.0	344.2	305.2	240.4	278.2	307.3	234.8	269.0	336.6
Critical	256.6	312.9	372.9	367.0	361.0	335.0	307.1	291.8	335.1	325.7	339.4	328.8

* Year type is based on water year classification. Below normal and above normal year types have been combined into one designation called "near normal."

Table A3 O'Neill Forebay Outlet Bromide Criteria by Water Year Classification, 1988-2011 (mg/L)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Wet	0.19	0.24	0.28	0.13	0.10	0.12	0.12	0.17	0.12	0.12	0.13	0.10
Near Normal	0.31	0.31	0.34	0.21	0.15	0.15	0.18	0.22	0.15	0.15	0.14	0.19
Dry	0.25	0.29	0.35	0.35	0.24	0.20	0.17	0.24	0.27	0.13	0.29	0.41
Critical	0.26	0.28	0.32	0.37	0.33	0.27	0.22	0.22	0.28	0.28	0.32	0.37

* Year type is based on water year classification. Below normal and above normal year types have been combined into one designation called "near normal."

Table A4 O'Neill Forebay Outlet Total Organic Carbon Criteria by Water Year Classification, 1988-2011 (mg/L)

Year Type*	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Wet	2.8	2.9	3.9	5.2	4.8	3.8	3.9	3.4	3.1	3.2	3.1	2.7
Near Normal	3.7	4.1	4.0	7.0	6.3	5.6	4.7	4.4	4.0	3.3	3.3	3.4
Dry	3.0	3.0	4.0	5.7	4.8	5.7	4.5	3.6	3.7	2.9	2.9	2.7
Critical	2.8	3.1	3.3	4.9	6.0	5.7	4.7	4.0	3.8	3.9	4.0	3.5

* Year type is based on water year classification. Below normal and above normal year types have been combined into one designation called "near normal."

Attachment D. RFP Distribution List

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